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# Global Change and Ecosystems EU Research for the Environment

Catalogue of FP6 Projects



SUSTAINABLE DEVELOPMENT,  
GLOBAL CHANGE AND ECOSYSTEMS

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European Commission

# Global Change and Ecosystems

Catalogue of projects funded during the Sixth Framework Programme

Edited by the Environment Directorate

Directorate-General for Research  
Sustainable Development, Global Change and Ecosystems

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## Foreword

The surge in public debate and political action for a greener, more eco-friendly planet is the result of years of fruitful cooperation between scientists and politicians. Never before has the importance of sustainable development hit home with so many people. The message that pervades all levels of policy-making at the start of the 21<sup>st</sup> century is hard-hitting, but long overdue: if we don't take action now, our planet will succumb to unyielding pressure on the environment and on natural resources.

The Lisbon Strategy focuses on growth and jobs in a knowledge-based Europe. But only by putting sustainable development at the heart of policies, can the European Union achieve the Lisbon targets. The European Union's economic, social and environmental policies should reinforce each other; one need not exclude the other. Research is crucial to the twinning of economic growth and sustainable development, and the Seventh Framework Programme for Research (FP7) is set to contribute to further progress on the Lisbon Strategy.

This new focus is particularly underlined in the renewed Strategy for Sustainable Development (June 2006), building on the achievements of the Gothenburg Strategy of 2001, recognising the need to change behaviours for a sustainable planet. The Strategy outlines a coherent approach to managing and using resources effectively. It also details steps to streamline European Union and Member-State policies on sustainable development.

Environmental issues have been reflected in the European Union's Framework Programmes for Research since the 1980s. FP5 (1998-2002) already attached great importance to sustainable development in energy and transport. In FP6 (2002-2006) this became a thematic priority, and environmental issues will continue to be an important part of the work carried out under FP7 (2007-2013), not only in the dedicated environmental theme, but also imbedded under other themes.

Focusing on important areas such as climate change, natural resources, land and urban management, the marine environment or the quality of life for European citizens, European environmental research provides crucial data to support policy-making. Impact assessment and monitoring efforts inform the European Union's negotiation of international conventions and form the basis of sustainable policies in areas as diverse as energy, tourism, industry, health and transport.

This publication provides a comprehensive overview of the work that was launched under the FP6 banner between 2002 and 2006. The Global Change and Ecosystems research on greenhouse gas emissions, the water cycle, biodiversity, desertification, sustainable land management and climate modelling has been groundbreaking for its science. It is contributing to a cleaner and healthier environment for our children and grandchildren.

Manuela Soares  
Director

## Introduction

The start of the Sixth Framework Programme for Research (FP6) in 2002 coincided with the Johannesburg Earth Summit, which drew the world's attention to the importance of sustainable development. Since then, progress towards gaining a better understanding of the mechanisms of global change has been achieved.

## Improving our natural surroundings

The Sixth Framework programme's priority on **Global Change and Ecosystems** supports **280 projects** selected between 2002 and 2006. Trans-national project teams work together to gain better understanding of global change and its prediction, prevention and mitigation as well as to preserve the ecosystems and protect biodiversity, including sustainable use of land and marine resources.

These research teams study for example the impact and mechanisms of greenhouse gas emissions and atmospheric pollutant on climate, ozone depletion and carbon sinks (oceans and inland waters, forests and soil). They do research to understand the mechanisms and assess the impact of global change on the water cycle, water quality and availability, as well as soil functions and quality to provide the bases for management tools for sustainable water systems. Biodiversity and ecosystems are analysed to understand and minimise the negative impacts of human activities. The mechanisms of desertification and natural hazards, such as earth quakes, tsunamis and volcanic activity, are being elucidated to improve risk assessment, forecasting, prevention and mitigation. Efforts are also deployed to improve, integrate and use Earth Observation systems which are ground-based, airborne and space observing systems, crucial for example in monitoring climate change or for enabling early warning of natural hazards. In addition, strategies and tools for sustainable use of land, with emphasis on coastal zones, agricultural lands and forests are developed to ensure sustainable development at economic, social and environmental levels.

In 2004, the Global Change and Ecosystems priority was oriented to also support the Commission's Action Plans regarding Environmental technologies and Environment and health.

European research is thus delivering sustainable solutions to societal and industrial problems. The 'problem solving' approach combines scientific expertise with industrial involvement to secure reliable and exploitable results with highly marketable potential. Green technologies create a real opportunity to combine long-term economic growth with a better environment. The development of technologies includes reducing the degree of pollution in soil, rivers, lakes and the atmosphere, as well as minimising waste.

Within the 280 projects of the Global Change and Ecosystems priority, a total of 83 projects carry out research directly linked to policy-making, assessing – for example – the impact of environmental issues on health. These projects are part of the **Scientific Support to Policies** (SSP) activities, which aim to help politicians to make effective policies based on sound evidence. Commission services, outside the Directorate General for Research, with a clear interest in SSP activities (mainly from environment, enterprise, agriculture and regional policy areas) were consulted to establish a list of research topics high on the agenda of EU policy-making.

FP6 research activities aim to strengthen and integrate the **European Research Area** (ERA). As a novelty within FP6, two new funding instruments, the Networks of Excellence (NoE) and the Integrated Projects (IP), were developed to serve this purpose. These instruments encourage collaboration among European researchers from institutes, companies or universities. In addition, the ERA-NET scheme was designed to support the long-lasting coordination of European research programmes across national boundaries, with the participation of funders and managers of national and regional research programmes.

### **The calls for proposals for “Global Change and Ecosystems”**

A wide consultation process was initiated by the European Commission, involving notably the scientific community, enterprises and the Member States, helped in defining the research areas to be covered by this priority. On this basis, calls for proposals were published by the European Commission in the Official Journal and on the CORDIS website.

**Four calls for proposals** were launched, as well as one targeted call for Specific Support Actions for Associated Candidate Countries. This helped to prepare the accession of the new 10 Member States and simplified their integration into the European Research Area. In addition, a top-up call was launched to extend ongoing projects with Third Country partners.

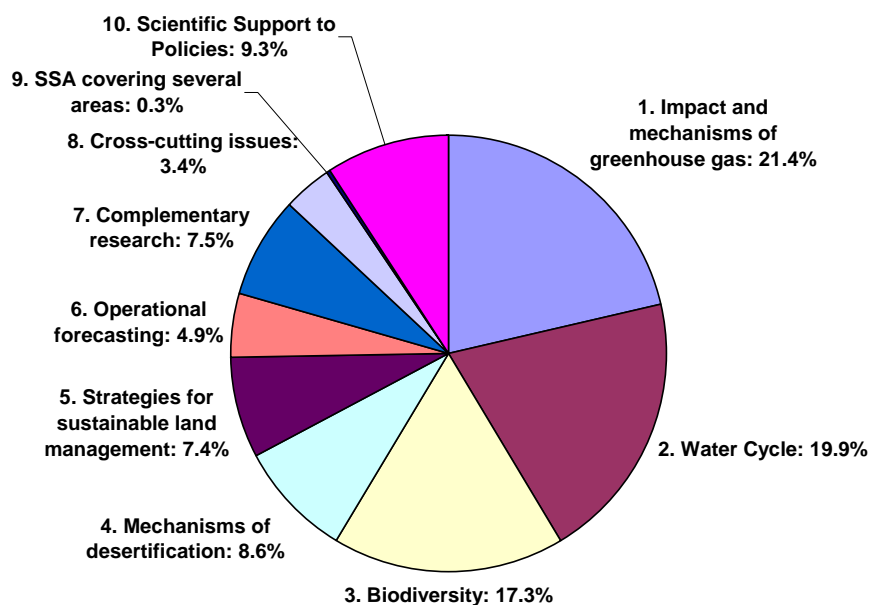
These calls have generated high interest within the scientific community of the European Union and also from many Third Countries which were motivated to participate in the environmental research of the Community. In total, more than **1 200 proposals** have been submitted to the calls. Based upon independent evaluation procedures, **280 contracts** have been or are being signed (data as of January 2007), connecting more than **4 660 partners** from all over Europe and the world.

The new instruments and initiative were welcomed. A total of **47 IPs** and **8 NoEs** were selected and each of them has in average 40 partners! Around 20% of all ERA-NETs are dealing with environmental topics. It demonstrates the importance of this thematic area among the ERA-NETs.

These new instruments are complemented by Specific Targeted Research Projects (**STREPs, 146 projects**), Co-ordination Actions (**CA, 17 projects**) and Specific Support Actions (**SSA, 62 projects**). Financial breakdown per funding instrument is presented in the table below.



**Major challenges for environmental research in  
the Sixth Framework Programme for Research (FP6)  
and EU financial contribution**



1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks:	182.2 million €
2. Water cycle, including soil-related aspects:	169.4 million €
3. Biodiversity and ecosystems:	147.4 million €
4. Mechanisms of desertification and natural disasters:	73.6 million €
5. Strategies for sustainable land management, including coastal zones, agricultural land and forests:	63.2 million €
6. Operational forecasting and modelling including global climatic change observation systems:	41.9 million €
7. Complementary research:	63.8 million €
8. Cross-cutting issue: Sustainable Development concepts and tools:	29.0 million €
9. Specific support actions covering several areas (SSA)	2.2 million €
10. Scientific Support to Policies:	78.9 million €

**Small and medium enterprises (SMEs)** were particularly encouraged to participate in FP6 as partners within projects. The possibilities for SME participation are in particular enhanced with the Environmental Technologies Action Plan (ETAP). It seeks to exploit their potential to improve both the environment and their competitiveness, thus contributing to growth and creating jobs.



A total of **105 countries** are joining forces in research projects for the environment, including the 27 European Union countries. Within these, 42 countries are eligible for international cooperation funding. Common interest and mutual benefits are the two key words in these partnerships, which are so evident when the concerns are major environmental challenges.

With a **total projects cost of 1 318 million EUR**, the **EU contributed** with close to **852 million EUR** to the Global Change and Ecosystems priority and the relevant Scientific Support to Policies projects.

Funding Instrument	Number of selected projects	Average number of partners per project	EU contribution (in million €)	Projects total costs (in million €)
Networks of Excellence (NoE)	8	40	83	207
Integrated Projects (IP)	47	40	487	718
Specific Targeted Research Projects (STREP)	146	12	237	343
Specific Support Actions (SSA)	62	8	23	27
Co-ordination Actions (CA)	17	16	22	23
<b>TOTAL</b>	<b>280</b>	<b>17</b>	<b>852</b>	<b>1 318</b>

***NB:** This publication presents summary information on the 280 projects funded during FP6 under the "Global change and ecosystems" priority and the relevant Scientific Support to Policies research activities as of January 2007 (a number of projects presented in this catalogue are still under negotiation). Please note that updated version of this catalogue can be found on EUROPA, research web site for the environment: [http://ec.europa.eu/research/environment/pdf/global\\_change\\_ecosystem.pdf](http://ec.europa.eu/research/environment/pdf/global_change_ecosystem.pdf)*



## FP6 - List of funded Projects by Research Areas

### Global change and ecosystems (GCE)

#### 1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks

##### 1.1 Carbon and Nitrogen cycles: sources and sinks

CARBOAFRICA	Quantification, understanding and prediction of carbon cycle, and other GHG gases, in Sub-Saharan Africa	31
CARBOEUROPE-IP	Assessment of the European Terrestrial Carbon Balance	32
CARBO-NORTH	Quantifying the Carbon budget in Northern Russia: past, present and future	34
CARBOOCEAN	Marine carbon sources and sinks assessment	35
NEU-CO2-III	Continuation of the "International Network Non-energy use and CO <sub>2</sub> emissions (NEU-CO <sub>2</sub> )", Phase III	37
NITROEUROPE IP	The nitrogen cycle and its influence on the European greenhouse gas balance.	38
PAN-AMAZONIA	Project for the Advancement of Networked Science in Amazonia	41

##### 1.2 Atmospheric pollutants and their regional impacts

ACCENT	Atmospheric Composition Change: an European Network	43
EUCAARI	European Integrated project on Aerosol Cloud Climate and Air Quality interactions	45
EUROHYDROS	A European Network for Atmospheric Hydrogen observations and studies	47
HYMN	HYdrogen, Methane and Nitrous oxide: Trend variability, budgets and interactions with the biosphere	49
MAP	Secondary Marine Aerosol Production from Natural Sources	50
OOMP	Organics over the Ocean Modifying Particles in both Hemispheres	51

##### 1.3 Climate dynamics and variability

ADAM	Adaptation and Mitigation Strategies: Supporting European climate policy	53
DYNAMITE	Understanding the Dynamics of the Coupled Climate System	55
ENHANCE	Enhancing the European Participation in Living with Climate Variability and Change: Understanding the Uncertainties and Managing the Risks	56
EPICA-MIS	New Paleoreconstructions from Antarctic Ice and Marine Records	57
IPY-CARE	Climate of the Arctic and its Role for Europe (CARE) - a European component of the International Polar Year.	58
MILLENNIUM	European climate of the last millennium	60

##### 1.4 Prediction of climatic change and its impacts

AMMA	African Monsoon Multidisciplinary Analysis	63
AMMA TTC	African Monsoon Multidisciplinary Analysis Extension	65
CECILIA	Central and Eastern Europe Climate Change Impact and Vulnerability Assessment	67
CIRCE	Climate Change and Impact Research: the Mediterranean Environment	68
CLARIS	A Europe-South America Network for Climate Change Assessment and Impact Studies	70
CLAVIER	CLimate ChAnge and Variability: Impact on Central and Eastern Europe	71
ENSEMBLES	ENSEMBLE-based Predictions of Climate Changes and their Impacts	72



## FP6 - List of funded Projects by Research Areas

### 1.5 Stratospheric ozone and climate interactions

ATTICA	European Assessment of the Transport Impacts on Climate Change and Ozone Depletion	76
QUANTIFY	Quantifying the Climate Impact of Global and European Transport Systems	77
QUANTIFY TTC	Quantify Extension	79
SCOUT-O3	Stratosphere-Climate Links With Emphasis On The UTLS	80
THE MAIN AIM QOS2004	Quadrennial Ozone Symposium 2004	82

## 2. Water cycle including soil-related aspects

### 2.1 Hydrology and climate processes

ETP-SC	A European Technology Platform for Sustainable Chemistry	84
FLASH	Observations, Analysis and Modeling of Lightning Activity in Thunderstorms, for use in Short Term Forecasting of Flash Floods	85
HYDRATE	Hydrometeorological data resources and technologies for effective flash flood forecasting	86
WATCH	WATer and global CHange	87

### 2.2 Ecological impact of global change, soil functioning and water quality

AQUATERRA	Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin & catchment areas)	90
BIOTOOL	Biological procedures for diagnosing the status and predicting evolution of polluted environments	92
EURODEMO	European Platform for Demonstration of Efficient Soil and Groundwater Remediation	93
EURO-LIMPACS	Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems	95
RAMWASS	Integrated Decision Support System for Risk Assessment and Management of the Water-Sediment-Soil System at River Basin Scale in Fluvial Ecosystems	97
RISK-BASE	Coordination Action on Risk Based Management of River Basins	98
SEDBARCAH	SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons in groundwater reaching surface water	99
STRESOIL	In Situ Stimulation and Remediation of Contaminated Fractured Soils	100

### 2.3 Integrated management strategies and mitigation technologies

AFRICAN WATER	Action to promote involvement of African water researchers in the Framework Programme	103
ALERT	Sustainable Management of Water Resources by Automated Real-Time Monitoring	104
AMEDEUS	Accelerate Membrane Development for Urban Sewage Purification	105
ANTINOMOS	A knowledge Network for solving real-life water problems in developing countries: Bridging contrasts	106
AQUASTRESS	Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments	107
AQUATEST	Low cost water test for developing countries - a preparatory study	109
BRAHMATWINN	Twinning European and South Asian river basins to enhance capacity and implement adaptive integrated water resources management approaches	110
EUROMBRA	Membrane bioreactor technology (MBR) with an EU perspective for advanced municipal wastewater treatment strategies for the 21st century	112
FLOW-AID	Farm Level Optimal Water Management: Assistant for Irrigation under Deficit	114
GABARDINE	Groundwater Artificial recharge Based on Alternative sources of water: aDvanced	115



## FP6 - List of funded Projects by Research Areas

	INtegrated technologies and managEment	
IASON	International Action for Sustainability of the Mediterranean and Black Sea EnvirOnmeNt (IASON)	116
INNOWATECH	Innovative and integrated technologies for the treatment of industrial wastewater	118
INTEGRATION 4 WATER	Initiative 4 Facilitating integration of Research Potential from the Accession Candidate countries with the Potential of the Member States in the Area of Water Cycle including Soil Related Issues of t	119
KNAPPE	Knowledge and Need Assessment on Pharmaceutical Product in Environmental Waters	120
MEDESOL	Seawater desalination by innovative solar-powered membrane-distillation system	121
MEDINA	MEmbrane-based Desalination: an INtegrated Approach	122
NEPTUNE	New sustainable concepts and processes for optimization and upgrading municipal wastewater and sludge treatment	123
NETSSAF	Network for the Development of Sustainable Approaches for Large Scale Implementation of Sanitation in Africa	125
NEWATER	New Approaches to Adaptive Water Management under Uncertainty	127
ORFEUS	Optimised Radar to Find Every buried Utility in the street	129
PLEIADES	Participatory multi-Level EO-assisted tools for Irrigation water management and Agricultural Decision-Support	130
RECLAIM WATER	Water reclamation technologies for safe artificial groundwater recharge	132
RECLAIM WATER TTC	Water reclamation technologies for safe artificial groundwater recharge - Extension	133
REMOVALS	Reduction, modification and valorisation of sludge	134
RIVERTWIN	A Regional Model for Integrated Water Management in Twinned River Basins	135
ROSA	Resource-Oriented Sanitation concepts for peri-urban areas in Africa	136
SCOREPP	Source Control Options for Reducing Emissions of Priority Pollutants	137
SOCOPSE	Source control of priority substances in Europe	138
STRIVER	Strategy and methodology for improved IWRM - An Integrated Interdisciplinary Assessment in Four Twinning River Basins in Europe and Asia	139
SUSAN	Sustainable and Safe Re-use of Municipal Sewage Sludge for Nutrient Recovery	141
SWITCH	Sustainable Water management Improves Tomorrow's Cities'Health	142
TECHNEAU	TECHNEAU: technology enabled universal access to safe water	144
TWINBAS	Twinning European and third countries river basins for development of integrated water resources management methods	146
TWINBASINXN	TWINBASINXN : Promoting Twinning of River Basins for Developing Integrated Water Resources Management Practices	147
TWINLATIN	Twinning European and Latin-American River Basins for Research Enabling Sustainable Water Resources Management	149
WADE	Floodwater Recharge of Alluvial Aquifers in Dryland Environments	150
WATERPIPE	Integrated High Resolution Imaging Ground Penetrating Radar and Decision Support System for WATER PIPEline Rehabilitation	151
WSSTP	Water Supply and Sanitation Technology Platform	152

### 2.4 Scenarios of water demand and availability

SCENES	Water Scenarios for Europe and for Neighbouring States	154
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## 3. Biodiversity and ecosystems

### 3.0 Biodiversity and ecosystems

BIOSCORE	Biodiversity impact assessment using species sensitivity scores	157
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## FP6 - List of funded Projects by Research Areas

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BIOSTRAT	Developing the EU Biodiversity Research Strategy	158
EUMON	EUMON: EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest	160
GLOCHAMORE	Global Change in Mountain Regions: An Integrated Assessment of Causes and Consequences	161
PROBIOPRISE	Creating a European platform for SMEs and other stakeholders to develop a research programme for pro-biodiversity business	162

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### 3.1 Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning

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ALTER-NET	A Long-term Biodiversity, Ecosystem and Awareness Research Network	164
COBO	Integrating new technologies for the study of benthic ecosystem response to human activity: towards a Coastal Ocean Benthic Observatory (COBO)	166
ECOCHANGE	Challenges in assessing and forecasting biodiversity and ecosystem changes in Europe	167
EDIT	Toward the European Distributed Institute of Taxonomy	169
EPRECOT	Effects of precipitation change on terrestrial ecosystems - a workshop and networking activity.	171
EVOLTREE	EVOLution of TREEs as drivers of terrestrial biodiversity	172
EXOCET/D	Extreme ecosystems studies in the deep ocean: technological developments	174
FISH & CHIPS	Towards DNA chip technology as a standard analytical tool for the identification of marine organisms in biodiversity and ecosystem science	175
HERMES	Hotspot Ecosystem Research on the Margins of European Seas	176
HERMES TTC	Hotspot Ecosystems Research on the Margins of European Seas - Extension	178
INTRABIODIV	Tracking surrogates for intraspecific biodiversity: towards efficient selection strategies for the conservation of natural genetic resources using comparative mapping and modelling approaches	179
MARBEF	Marine Biodiversity and Ecosystem Functioning	181
MARINE GENOMICS	Implementation of high-throughput genomic approaches to investigate the functioning of marine ecosystems and the biology of marine organisms.	183
SESAME	Southern European Seas: Assessing and Modelling Ecosystem Changes	185
SHARING	International Conference on "Integrative Approaches Towards Sustainability" (Baltic Sea Region sharing knowledge internally, across Europe, and world-wide)	187

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### 3.2 Relationships between society, economy, biodiversity and habitats

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ELME	European Lifestyles and Marine Ecosystems	189
RUBICODE	Rationalising Biodiversity Conservation in Dynamic Ecosystems	191
SOBIO	Mobilising the European Social Research Potential in Support of Biodiversity and Ecosystem Management	193

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### 3.3 Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options

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COCONUT	Understanding effects of land use changes on ecosystems to halt loss of biodiversity due to habitat destruction, fragmentation and degradation	195
ECODIS	Dynamic Sensing of Chemical Pollution Disasters and Predictive Modelling of Their Spread and Ecological Impact	196
EUR-OCEANS	EURopean network of excellence for OCean Ecosystems ANalysis	197
FACEIT	Fast Advanced Cellular and Ecosystems Information Technologies	200
MACIS	Minimisation of and Adaptation to Climate change: Impacts on biodiverSity	201



## FP6 - List of funded Projects by Research Areas

### 3.4 Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems

ALARM	Assessing LArge-scale environmental Risks with tested Methods	203
ALARM TTC	Assessing LArge-scale environmental Risks with tested Methods	205
BASIN	Resolving the impact of climatic processes on ecosystems of the North Atlantic basin and shelf seas: Integrating and advancing observation, monitoring, and prediction	206
DAISIE	Delivering Alien Invasive Species Inventories for Europe	207
ESTTAL	Expressed Sequence Tags (ESTS) of Toxic Algae	209
HABIT	Harmful Algal Bloom species in Thin Layers	210
MODELKEY	Models for Assessing and Forecasting the Impact of Environmental Key Pollutants on Marine and Freshwater Ecosystems and Biodiversity	211
RIOS	Reducing the impact of oil spills	213
SEED	Life history transformations among HAB species, and the environmental and physiological factors that regulate them	214
SoilCritZone	Soil sustainability in Europe as deduced from investigation of the Critical Zone	215

## 4. Mechanisms of desertification and natural disasters

### 4.1 Mechanisms of desertification

DESERTSTOP	Remote Sensing and Geo information processing in the assessment and monitoring of land degradation and desertification in support of the UNCCD. State of the art and operational perspectives	217
DESIRE	Desertification Mitigation and Remediation of Land - a global approach for local solutions -	218
DESURVEY	A Surveillance System for Assessing and Monitoring of Desertification	220
INDEX	Indicators and thresholds for desertification, soil quality, and remediation	222
LUCINDA	Land care in desertification affected areas: from science towards application	223
RECONDES	Conditions for Restoration and Mitigation of Desertified Areas Using Vegetation	224

### 4.2 Natural Disasters

3HAZ-CORINTH	Earthquakes, tsunamis and landslides in the Corinth rift, Greece A multidisciplinary approach for measuring, modelling, and predicting their triggering mode and their effects.	226
ARMONIA	Applied multi Risk Mapping of Natural Hazards for Impact Assessment	227
EU-MEDIN COMPANIONS	Supporting publications on Natural Hazards Research	228
FIRE PARADOX	An innovative approach of Integrated Wildland Fire Management regulating the wildfire problem by the wise use of fire: solving the FIRE PARADOX	229
FIRE PARADOX TTC	An Innovative Approach of Integrated Wildland Fire Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox Extension	231
FLOODSITE	Integrated Flood Risk Analysis and Management Methodologies	232
FORESIGHT	Frequent Observation-driven Realistic Evaluation and Simulation of Interaction of Geophysical Hazard Triggers	234
GALAHAD	Advanced Remote Monitoring Techniques for Glaciers, Avalanches and Landslides Hazard Mitigation	235
IRASMOS	Integral Risk Management of Extremely Rapid Mass Movements	236
LESSLOSS	Risk Mitigation for Earthquakes and Landslides	237
MEDIGRID	Mediterranean Grid of Multi-Risk Data and Models	239
NA.R.AS.	Natural risks assessment harmonisation of procedures, quantification and information	240



## FP6 - List of funded Projects by Research Areas

NEAREST	Integrated Observations from Near Shore Sources of Tsunamis: Towards an Early Warning System	241
NOVAC	Network for Observation of Volcanic and Atmospheric Change	269
NOVAC TTC	Network for Observation of Volcanic and Atmospheric Change Extension	243
SAFER	Seismic eArly warning For EuRope	244
SCENARIO	Support on Common European Strategy for sustainable natural and induced technological hazards mitigation	246
SEHELLARC	SEismic and tsunami risk Assessment and mitigation scenarios in the western HELLenic ARC	247
TRANSFER	Tsunami Risk ANd Strategies For the European Region	248
VOLUME	VOLcanoes: Understanding subsurface mass moveMEnt	250
VOLUME TTC	VOLcanoes: Understanding sub-surface mass movement-Extension	251

### 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests

#### 5.1 Sustainable use of land

ATLAS	Action for Training in Land use And Sustainability	253
E-LUP	Simulating land-use processes - an interactive e-tool for SIA	254
ENCORA	European Network on Coastal Research	255
ENCORA TTC	European Network for Coastal Research - Extension	257
EUROWET	Integration of European Wetland research in a sustainable management of water cycle	258
INNOVAWOOD SSA	An Innovation Strategy to integrate industry needs and research capability in the European Forestry-Wood Chain	259
KASSA	Knowledge Assessment and Sharing on Sustainable Agriculture	261
LUPIS	Land Use Policies and Sustainable Development in Developing Countries	263
PLUREL	Peri-urban Land Use Relationships – Strategies and Sustainability Assessment Tools for urban-rural linkages	265
RAISE	Raising citizens and stakeholders awareness, acceptance and use of new regional and urban sustainability approaches in Europe	267
RELAY	Research for Local Action towards Sustainable Human Settlements	268
SENSOR	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions	269
SENSOR TTC	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions - Extension	271
SPICOSA	Science and Policy Integration for COastal System Assessment	272
SUSTAINFO	Information System for Sustainable Development for EU and UN-Habitat	274

#### 5.2 Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain

AGRIDEMA	Introducing Tools for Agricultural Decision-Making under Climate Change Conditions by Connecting Users and Tool-Providers	276
EFORWOOD	Tools for Sustainability Impact Assessment of the Forestry-Wood Chain	277
MULTAGRI	Capitalisation of Research Results on the Multifunctionality of Agriculture and Rural Areas	279
SEAMLESS	System for Environmental and Agricultural Modelling; Linking European Science and Society	280





## FP6 - List of funded Projects by Research Areas

### 6. Operational forecasting and modeling including global climatic change observation systems

#### 6.1 Development of observing and forecasting systems

ASCABOS	A Supporting Programme for Capacity Building in the Black Sea Region towards Operational Status of Oceanographic Services	283
DAMOCLES	Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies	285
DAMOCLES TTC	Developing Arctic Modelling and Observing Capabilities for Long-term Environment Studies Extension	287
ECOOP	European COastal-shelf sea OPERational observing and forecasting system	288
ESONET	European Seas Observatory NETwork	291
ESONIM	European Seafloor Observatory Network Implementation Model	293
GAGOS	Assessing and forward planning of the Geodetic And Geohazard Observing Systems for GMES applications	294
GEOMON	Global Earth Observation and Monitoring	295
GRAND	GRAND GOOS Regional Alliances Network Development	297
SEARCH FOR DAMOCLES	Study of Environmental Arctic Change - Developing Arctic Modelling and Observing Capability for Long-term Environment Studies	298
SEPRISE	Sustained, Efficient Production of Required Information and Services within Europe is our only justification	299
SIMORC	Proposal to establish a System of Industry Metocean data for the Offshore and Research Communities	300
SOGE-A	System for Observation of halogenated Greenhouse gases in Europe and Asia	301
STAR	Support for Tropical Atmospheric Research	302
TENATSO	Tropical Eastern North Atlantic Time-Series Observatory	303
YEOS	YEllow Sea Observation, forecasting and information system	304

### 7. Complementary Research

#### 7.1 Development of advanced methodologies for risk assessment

ERAPHARM	Environmental risk assessment of pharmaceuticals	306
INTARESE	Integrated Assessment of Health Risks from Environmental Stressors in Europe	307
NOMIRACLE	Novel Methods for Integrated Risk Assessment of Cumulative Stressors in Europe	309
NORMAN	Network of reference laboratories and related organisations for monitoring and bio-monitoring of emerging environmental pollutants	311
OSIRIS	Optimized Strategies for Risk assessment of chemicals based on Intelligent testing	313

#### 7.2 Appraisal of environmental quality, population health and monitoring tools

2-FUN	Full-chain and UNcertainty approaches for assessing health risks in FUture eNvironmental scenarios	316
CAIR4HEALTH	Clean Air for Health – research needs for sustainable development policies	317
EDEN	Emerging Diseases in a Changing European Environment	318
HEIMTSA	Health and Environment Integrated Methodology and Toolbox for Scenario Assessment	320
HENVINET	Health and Environment Network	322
MICRODIS	Integrated Health, Social and Economic Impacts of Extreme Events: Evidence, Methods and Tools	324



## FP6 - List of funded Projects by Research Areas

### 8. Cross-cutting issue: Sustainable Development concepts and tools

#### 8.1 Estimating thresholds of sustainability and externalities

AIRTV	Testing network for verification of air emissions abatement technologies	326
EXIOPOL	A New Environmental Accounting Framework Using Externality Data and Input-Output Tools for Policy Analysis	327
METHODEX	Methods and data on environmental and health externalities: harmonising and sharing of operational estimates	329
PROMOTE	Efficiency control and performance verification of improved approaches for soil-groundwater protection and rehabilitation	330
TESTNET	Towards European Sectorial Testing Networks for Environmental Technologies	331
THRESHOLDS	Thresholds of Environmental Sustainability	332

#### 8.2 Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes

CALCAS	Co-ordination Action to define new research lines on Life-Cycle Analysis for sustainability	335
GEO-BENE	Global Earth Observation - Benefit Estimation: Now, Next and Emerging	336
INSURE	Flexible framework for Indicators for Sustainability in Regions using system dynamics modelling	337
MATISSE	Methods and Tools for Integrated Sustainability Assessment (MATISSE)	338
NATURNET	New Model Supporting Active Behaviour in Environmental Protection Based on Innovative Web Services	340
SUSTAINABILITYA-TEST	Advanced - Techniques for Evaluation of Sustainability Assessment Tools	342

### 9. Specific support actions (covering several areas)

#### 9. Specific support actions (covering several areas)

BTG2004 CONFERENCE	Organisation and hosting of the EU Presidency Conference Bridging the Gap 2004: Information for Action.	345
ECONETUS	Support for Networks Creation in the Field of Global Change and ECOSystems - from idea through proposal submission and project managing till completion and successful audit	346
ERA-ENV	Integration of Associated Candidate Countries and New EU Member States in European Research Area by Environmental approaches	347
GLOBALCHANGE-TV	Enhancing public awareness on the results of Global Change and Ecosystems research actions through television media	348
INT-ER-LINK	Promoting International Cooperation for Environmental Research Through Dissemination and Networking Activities	349
SAFE	SME Action For the Environment in Candidate Countries	351
SME ENVIRONMENT	Supporting the Participation of Environmental SMEs from Associated Candidate Countries in the 6th Framework Programme	352



## FP6 - List of funded Projects by Research Areas

### Scientific Support to Policies (SSP)

#### 1. Sustainable management of Europe's natural resources

##### 1.5 Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

AIR4EU	Air Quality Assessment for Europe: from Local to Continental Scale	354
AQUAMONEY	Development and Testing of Practical Guidelines for the Assessment of Environmental and Resource Costs and Benefits in the WFD	355
BRIDGE	Background cRiteria for the IDentification of Groundwater thrEsholds	356
CAESAR	Computer-Assisted Evaluation of industrial chemical Substances According to Regulations	358
EAQC-WISE	European Analytical Quality Control in support of the Water Framework Directive via the Water Information System for Europe	359
EFI+	Improvement and spatial extension of the European Fish Index	361
ENVASSO	Environmental Assessment of Soil for Monitoring	362
ENVIRISK	Assessing the risks of environmental stressors: Contribution to the development of integrating methodology	364
EPIBATHE	Assessment of human health effects caused by bathing waters	365
EPIC-ICT	Development of Environmental Performance Indicators for ICT Products on the example of Personal Computers	366
FOOTPRINT	FuncTional tOols for Pesticide RiSk assessmeNt and managemenT	367
HCFCWORKSHOPS	International Workshop on HCFC Alternatives and Intermediate Reduction Steps for Developing Countries	368
HORIZONTAL-HYG	Horizontal Standards on Hygienic parameters for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	369
HORIZONTAL-ORG	Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	370
IMAGINE	Improved Methods for the Assessment of the Generic Impact of Noise in the Environment	371
INSEA	Integrated Sink Enhancement Assessment	373
NATAIR	Improving and Applying Methods for the Calculation of Natural and Biogenic Emissions and Assessment of Impacts on Air Quality	374
REBECCA	Relationships between ecological and chemical status of surface waters	375
REMEDE	Resource Equivalency Methods for assessing Environmental Damage in the EU	377
SAFEMANMIN	Safe Management of Mining Waste and Waste Facilities	378
SERPEC-CC	Sectoral Emission Reduction Potentials and Economic Costs for Climate Change	379
SPI-WATER	Science-Policy Interfacing in support of the Water Framework Directive implementation	380
SWIFT-WFD	Screening method for Water data Information in support of the implementation of the Water Framework Directive	381
TOCSIN	Technology-Oriented Cooperation and Strategies in India and China: Reinforcing the EU dialogue with Developing Countries on Climate Change Mitigation	383
VIROBATHE	Methods for the Concentration and Detection of Adenoviruses and Noroviruses in European Bathing Waters with Reference to the Revision of the Bathing Water Directive 76/160/EEC	384

##### 1.6 Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation

ECODRIVE	Measuring ECO-innovation: ecological and economic performance and DeRIVED indicators	387
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ESPREME	Estimation of willingness-to-pay to reduce risks of exposure to heavy metals and cost-benefit analysis for reducing heavy metals occurrence in Europe	388
ETTAR	Identification and assessment of training needs, methods and activities for the wider use of environmental technologies in key sectors	389
FORASSET	Foresight and Assessment for Environmental Technologies	390
FUNDETEC	Comparison and Assessment of Funding Schemes for the Development of New Activities and Investments in Environmental Technologies.	391
HOLIWAST	Holistic assessment of waste management technologies	392
MEI	Measuring Eco-innovation	393
POPA-CTDA	Policy pathways to promote the development and adoption cleaner technologies	394
SUBAT	Sustainable batteries	395
TETRIS	Technology Transfer and Investment Risk in International Emissions Trading	396

## 2. Providing health, security and opportunity to the people of Europe

### 2.3 The impact of environmental issues on health (including safety at work and methods for risk assessment and the mitigation of risks of natural disasters to people)

PRIMA-EF	Development of a European Psychosocial Risk Management Framework	398
PRONET	Pollution Reduction Options Network	399

## 3. Underpinning the economic potential and cohesion of a larger and more integrated European Union

### 3.4 Forecasting and developing innovative policies for sustainability in the medium and long term

(IMP)	Improving the Implementation of Environmental Impact Assessment (IMP)	401
ACTOR	Aalborg Commitments Tools and Resources	402
ASCEE	Assessing the potential of various instruments for sustainable consumption practises and greening of the market	403
CONSCIENCE	Concepts and Science for Coastal Erosion Management	404
DECOIN	Development and Comparison of Sustainability Indicators	405
DROPS	Development of macro and sectoral economic models aiming to evaluate the role of public health externalities on society	406
FORESCENE	Development of a Forecasting Framework and Scenarios to Support the EU Sustainable Development Strategy	407
FORWAST	Overall Mapping of Physical Flows and Stocks of Resources to Forecast Waste Quantities in Europe and Identify Life-Cycle Environmental Stakes of Waste Prevention and Recycling	408
GAINS-ASIA	Greenhouse Gas and Air Pollution Interactions and Synergies	409
I.Q.TOOLS	Indicators and Quantitative Tools for Improving the Process of Sustainability Impact Assessment	410
INDI-LINK	Indicator-based evaluation of interlinkages between different sustainable development objectives	411
LENSE	Methodology Development towards a Label for Environmental, Social and Economic Buildings	412
MODELS	Model Development for the Evaluation of Lisbon Strategies	413
SCOPE2	Sustainable Consumption Policies Efficiency Evaluation - SCOPE2	414



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SIAMETHOD	Development of methodologies and tools to assess links between trade, environment and policies	415
STATUS	Sustainability Tools and Targets for the Urban Thematic Strategy	416
TISSUE	Trends and Indicators for Monitoring the EU Thematic Strategy on Sustainable Development of Urban Environment	417
TRANSUST.SCAN	Scanning Policy Scenarios for the Transition to Sustainable Economic Structures	418
URBAN MATRIX	URBAN MATRIX - Targeted Knowledge Exchange on Urban Sustainability	419

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### 3.6 The protection of cultural heritage and associated conservation strategies

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ARCHAEOMAP	Archaeological Management Policies	421
ARCHAIA	ARCHAIA. Training Seminars on Research Planning, Conservation, Characterisation and Management in Archaeological Sites	422
AUTHENTICO	Authentication methodologies for metal artefacts based on material composition and manufacturing techniques	423
CHEF	Cultural Heritage Protection against Flood	424
CHRAF	Priorities and strategies to support Cultural Heritage Research Activities within ECTP and future FP7 activities	425
COINS	Combat Online Illicit Numismatic Sales - Preventing Illicit Coin Trade through Unsupervised Retrieval E-services (ex-PICTURE)	426
CONSIST	Comparison of Conservation Materials and Strategies for Sustainable Exploitation of Immovable Industrial Cultural Heritage made of Iron and Steel	427
CONSTGLASS	Conservation materials for stained glass windows - assessment of treatments, studies on reversibility, and performance of innovative restoration strategies and products	428
CULT-STRAT	Assessment of Air Pollution Effects on Cultural Heritage - Management Strategies	429
DESALINATION	Assessment of Desalination Mortars and Poultrices for Historic Masonry	430
FING-ART-PRINT	Fingerprinting Art and Cultural Heritage - In Situ 3D Non-Contact Microscale Documentation and Identification of Paintings and Polychrome Objects	431
GRAFFITAGE	Development of a New Antigrffiti System, based on Traditional Concepts, Preventing Damage of Architectural Heritage Materials	432
MULTI-ENCODE	Multifunctional Encoding System for Assessment of Movable Cultural Heritage	434
NOAHS ARK	Global Climate Change Impact on Built Heritage and Cultural Landscapes	435
PAPERTREAT	Evaluation of mass deacidification processes	436
PICTURE	Pro-active management of the Impact of Cultural Tourism upon Urban Resources and Economies	437
PROPAIN	Improved Protection of Paintings During Exhibition, Storage and Transit	438
SALTCONTROL	Prevention of salt damage to the built cultural heritage by the use of crystallisation inhibitors	439
SAUVEUR	Safeguarded Cultural Heritage-Understanding and Viability for the Enlarged Europe	440
SENSORGAN	Sensor system for detection of harmful environments for pipe organs	441
SPRECOMAH	Seminars preventive conservation and monitoring of the architectural heritage	442
SURVENIR	Near Infrared Spectroscopy Tool for Collection Surveying	443
SUSTAINING HERITAGE	Sustaining Europe's Cultural Heritage: From Research to Policy'	444



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(IMP)	Improving the Implementation of Environmental Impact Assessment (IMP)	401
2-FUN	Full-chain and UNcertainty approaches for assessing health risks in FUTURE eNvironmental scenarios	316
3HAZ-CORINTH	Earthquakes, tsunamis and landslides in the Corinth rift, Greece A multidisciplinary approach for measuring, modelling, and predicting their triggering mode and their effects.	226
ACCENT	Atmospheric Composition Change: an European Network	43
ACTOR	Aalborg Commitments Tools and Resources	402
ADAM	Adaptation and Mitigation Strategies: Supporting European climate policy	53
AFRICAN WATER	Action to promote involvement of African water researchers in the Framework Programme	103
AGRIDEMA	Introducing Tools for Agricultural Decision-Making under Climate Change Conditions by Connecting Users and Tool-Providers	276
AIR4EU	Air Quality Assessment for Europe: from Local to Continental Scale	354
AIRTV	Testing network for verification of air emissions abatement technologies	326
ALARM	Assessing Large-scale environmental Risks with tested Methods	203
ALARM TTC	Assessing Large-scale environmental Risks with tested Methods	205
ALERT	Sustainable Management of Water Resources by Automated Real-Time Monitoring	104
ALTER-NET	A Long-term Biodiversity, Ecosystem and Awareness Research Network	164
AMEDEUS	Accelerate Membrane Development for Urban Sewage Purification	105
AMMA	African Monsoon Multidisciplinary Analysis	63
AMMA TTC	African Monsoon Multidisciplinary Analysis Extension	65
ANTINOMOS	A knowledge Network for solving real-life water problems in developing countries: Bridging contrasts	106
AQUAMONEY	Development and Testing of Practical Guidelines for the Assessment of Environmental and Resource Costs and Benefits in the WFD	355
AQUASTRESS	Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments	107
AQUATERRA	Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin & catchment areas)	90
AQUATEST	Low cost water test for developing countries - a preparatory study	109
ARCHAEOMAP	Archaeological Management Policies	421
ARCHAIA	ARCHAIA. Training Seminars on Research Planning, Conservation, Characterisation and Management in Archaeological Sites	422
ARMONIA	Applied multi Risk Mapping of Natural Hazards for Impact Assessment	227
ASCABOS	A Supporting Programme for Capacity Building in the Black Sea Region towards Operational Status of Oceanographic Services	283
ASCEE	Assessing the potential of various instruments for sustainable consumption practices and greening of the market	403
ATLAS	Action for Training in Land use And Sustainability	253
ATTICA	European Assessment of the Transport Impacts on Climate Change and Ozone Depletion	76
AUTHENTICO	Authentication methodologies for metal artefacts based on material composition and manufacturing techniques	423
BASIN	Resolving the impact of climatic processes on ecosystems of the North Atlantic basin and shelf seas: Integrating and advancing observation, monitoring, and prediction	206
BIOSCORE	Biodiversity impact assessment using species sensitivity scores	157
BIOSTRAT	Developing the EU Biodiversity Research Strategy	158
BIOTOOL	Biological procedures for diagnosing the status and predicting evolution of polluted environments	92
BRAHMATWINN	Twinning European and South Asian river basins to enhance capacity and implement adaptive integrated water resources management approaches	110



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BRIDGE	Background cRiteria for the IDentification of Groundwater thrEsholds	356
BTG2004 CONFERENCE	Organisation and hosting of the EU Presidency Conference Bridging the Gap 2004: Information for Action.	345
CAESAR	Computer-Assisted Evaluation of industrial chemical Substances According to Regulations	358
CAIR4HEALTH	Clean Air for Health – research needs for sustainable development policies	317
CALCAS	Co-ordination Action to define new research lines on Life-Cycle Analysis for sustainability	335
CARBOAFRICA	Quantification, understanding and prediction of carbon cycle, and other GHG gases, in Sub-Saharan Africa	31
CARBOEUROPE-IP	Assessment of the European Terrestrial Carbon Balance	32
CARBO-NORTH	Quantifying the Carbon budget in Northern Russia: past, present and future	34
CARBOOCEAN	Marine carbon sources and sinks assessment	35
CECILIA	Central and Eastern Europe Climate Change Impact and Vulnerability Assessment	67
CHEF	Cultural Heritage Protection against Flood	424
CHRAF	Priorities and strategies to support Cultural Heritage Research Activities within ECTP and future FP7 activities	425
CIRCE	Climate Change and Impact Research: the Mediterranean Environment	68
CLARIS	A Europe-South America Network for Climate Change Assessment and Impact Studies	70
CLAVIER	CLimate ChAnge and Variability: Impact on Central and Eastern EuRope	71
COBO	Integrating new technologies for the study of benthic ecosystem response to human activity: towards a Coastal Ocean Benthic Observatory (COBO)	166
COCONUT	Understanding effects of land use changes on ecosystems to halt loss of biodiversity due to habitat destruction, fragmentation and degradation	195
COINS	Combat Online Illicit Numismatic Sales - Preventing Illicit Coin Trade through Unsupervised Retrieval E-services (ex-PICTURE)	426
CONSCIENCE	Concepts and Science for Coastal Erosion Management	404
CONSIST	Comparison of Conservation Materials and Strategies for Sustainable Exploitation of Immovable Industrial Cultural Heritage made of Iron and Steel	427
CONSTGLASS	Conservation materials for stained glass windows - assessment of treatments, studies on reversibility, and performance of innovative restoration strategies and products	428
CULT-STRAT	Assessment of Air Pollution Effects on Cultural Heritage - Management Strategies	429
DAISIE	Delivering Alien Invasive Species Inventories for Europe	207
DAMOCLES	Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies	285
DAMOCLES TTC	Developing Arctic Modelling and Observing Capabilities for Long-term Environment Studies Extension	287
DECOIN	Development and Comparison of Sustainability Indicators	405
DESALINATION	Assessment of Desalination Mortars and Poutices for Historic Masonry	430
DESERTSTOP	Remote Sensing and Geo information processing in the assessment and monitoring of land degradation and desertification in support of the UNCCD. State of the art and operational perspectives	217
DESIRE	Desertification Mitigation and Remediation of Land - a global approach for local solutions -	218
DESURVEY	A Surveillance System for Assessing and Monitoring of Desertification	220
DROPS	Development of macro and sectoral economic models aiming to evaluate the role of public health externalities on society	406
DYNAMITE	Understanding the Dynamics of the Coupled Climate System	55
EAQC-WISE	European Analytical Quality Control in support of the Water Framework Directive via the Water Information System for Europe	359
ECOCHANGE	Challenges in assessing and forecasting biodiversity and ecosystem changes in Europe	167





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ECODIS	Dynamic Sensing of Chemical Pollution Disasters and Predictive Modelling of Their Spread and Ecological Impact	196
ECODRIVE	Measuring ECO-innovation: ecological and economic performance and DeRIVED indicators	387
ECONETUS	Support for Networks Creation in the Field of Global Change and ECOSystems - from idea through proposal submission and project managing till completion and successful audit	346
ECOOOP	European COastal-shelf sea OPerational observing and forecasting system	288
EDEN	Emerging Diseases in a Changing European Environment	318
EDIT	Toward the European Distributed Institute of Taxonomy	169
EFI+	Improvement and spatial extension of the European Fish Index	361
EFORWOOD	Tools for Sustainability Impact Assessment of the Forestry-Wood Chain	277
ELME	European Lifestyles and Marine Ecosystems	189
E-LUP	Simulating land-use processes - an interactive e-tool for SIA	254
ENCORA	European Network on Coastal Research	255
ENCORA TTC	European Network for Coastal Research - Extension	257
ENHANCE	Enhancing the European Participation in Living with Climate Variability and Change: Understanding the Uncertainties and Managing the Risks	56
ENSEMBLES	ENSEMBLE-based Predictions of Climate Changes and their Impacts	72
ENVASSO	Environmental Assessment of Soil for Monitoring	362
ENVIRISK	Assessing the risks of environmental stressors: Contribution to the development of integrating methodology	364
EPIBATHE	Assessment of human health effects caused by bathing waters	365
EPICA-MIS	New Paleoreconstructions from Antarctic Ice and Marine Records	57
EPIC-ICT	Development of Environmental Performance Indicators for ICT Products on the example of Personal Computers	366
EPRECOT	Effects of precipitation change on terrestrial ecosystems - a workshop and networking activity.	171
ERA-ENV	Integration of Associated Candidate Countries and New EU Member States in European Research Area by Environmental approaches	347
ERAPHARM	Environmental risk assessment of pharmaceuticals	306
ESONET	European Seas Observatory NETwork	291
ESONIM	European Seafloor Observatory Network Implementation Model	293
ESPREME	Estimation of willingness-to-pay to reduce risks of exposure to heavy metals and cost-benefit analysis for reducing heavy metals occurrence in Europe	388
ESTTAL	Expressed Sequence Tags (ESTS) of Toxic Algae	209
ETP-SC	A European Technology Platform for Sustainable Chemistry	84
ETTAR	Identification and assessment of training needs, methods and activities for the wider use of environmental technologies in key sectors	389
EUCAARI	European Integrated project on Aerosol Cloud Climate and Air Quality interactions	45
EU-MEDIN COMPANIONS	Supporting publications on Natural Hazards Research	228
EUMON	EUMON: EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest	160
EUR-OCEANS	EUROpean network of excellence for OCean Ecosystems ANalysiS	197
EURODEMO	European Platform for Demonstration of Efficient Soil and Groundwater Remediation	93
EUROHYDROS	A European Network for Atmospheric Hydrogen observations and studies	47
EURO-LIMPACS	Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems	95
EUROMBRA	Membrane bioreactor technology (MBR) with an EU perspective for advanced municipal	112



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	wastewater treatment strategies for the 21st century	
EUROWET	Integration of European Wetland research in a sustainable management of water cycle	258
EVOLTREE	EVOLution of TREES as drivers of terrestrial biodiversity	172
EXIOPOL	A New Environmental Accounting Framework Using Externality Data and Input-Output Tools for Policy Analysis	327
EXOCET/D	Extreme ecosystems studies in the deep ocean: technological developments	174
FACEIT	Fast Advanced Cellular and Ecosystems Information Technologies	200
FING-ART-PRINT	Fingerprinting Art and Cultural Heritage - In Situ 3D Non-Contact Microscale Documentation and Identification of Paintings and Polychrome Objects	431
FIRE PARADOX	An innovative approach of Integrated Wildland Fire Management regulating the wildfire problem by the wise use of fire: solving the FIRE PARADOX	229
FIRE PARADOX TTC	An Innovative Approach of Integrated Wildland Fire Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox Extension	231
FISH & CHIPS	Towards DNA chip technology as a standard analytical tool for the identification of marine organisms in biodiversity and ecosystem science	175
FLASH	Observations, Analysis and Modeling of Lightning Activity in Thunderstorms, for use in Short Term Forecasting of Flash Floods	85
FLOODSITE	Integrated Flood Risk Analysis and Management Methodologies	232
FLOW-AID	Farm Level Optimal Water Management: Assistant for Irrigation under Deficit	114
FOOTPRINT	FuncTional tOOls for Pesticide Risk assessmeNt and managemenT	367
FORASSET	Foresight and Assessment for Environmental Technologies	390
FORESCENE	Development of a Forecasting Framework and Scenarios to Support the EU Sustainable Development Strategy	407
FORESIGHT	Frequent Observation-driven Realistic Evaluation and Simulation of Interaction of Geophysical Hazard Triggers	234
FORWAST	Overall Mapping of Physical Flows and Stocks of Resources to Forecast Waste Quantities in Europe and Identify Life-Cycle Environmental Stakes of Waste Prevention and Recycling	408
FUNDETEC	Comparison and Assessment of Funding Schemes for the Development of New Activities and Investments in Environmental Technologies.	391
GABARDINE	Groundwater Artificial recharge Based on Alternative sources of water: aDvanced INtegrated technologies and managEment	115
GAGOS	Assessing and forward planning of the Geodetic And Geohazard Observing Systems for GMES applications	294
GAINS-ASIA	Greenhouse Gas and Air Pollution Interactions and Synergies	409
GALAHAD	Advanced Remote Monitoring Techniques for Glaciers, Avalanches and Landslides Hazard Mitigation	235
GEO-BENE	Global Earth Observation - Benefit Estimation: Now, Next and Emerging	336
GEOMON	Global Earth Observation and Monitoring	295
GLOBALCHANGE-TV	Enhancing public awareness on the results of Global Change and Ecosystems research actions through television media	348
GLOCHAMORE	Global Change in Mountain Regions: An Integrated Assessment of Causes and Consequences	161
GRAFFITAGE	Development of a New Antigrffiti System, based on Traditional Concepts, Preventing Damage of Architectural Heritage Materials	432
GRAND	GRAND GOOS Regional Alliances Network Development	297
HABIT	Harmful Algal Bloom species in Thin Layers	210
HCFCWORKSHOPS	International Workshop on HCFC Alternatives and Intermediate Reduction Steps for Developing Countries	368
HEIMTSA	Health and Environment Integrated Methodology and Toolbox for Scenario Assessment	320
HENVINET	Health and Environment Network	322



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HERMES	Hotspot Ecosystem Research on the Margins of European Seas	176
HERMES TTC	Hotspot Ecosystems Research on the Margins of European Seas - Extension	178
HOLIWAST	Holistic assessment of waste management technologies	392
HORIZONTAL-HYG	Horizontal Standards on Hygienic parameters for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	369
HORIZONTAL-ORG	Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	370
HYDRATE	Hydrometeorological data resources and technologies for effective flash flood forecasting	86
HYMN	HYdrogen, Methane and Nitrous oxide: Trend variability, budgets and interactions with the biosphere	49
I.Q.TOOLS	Indicators and Quantitative Tools for Improving the Process of Sustainability Impact Assessment	410
IASON	International Action for Sustainability of the Mediterranean and Black Sea Environment (IASON)	116
IMAGINE	Improved Methods for the Assessment of the Generic Impact of Noise in the Environment	371
INDEX	Indicators and thresholds for desertification, soil quality, and remediation	222
INDI-LINK	Indicator-based evaluation of interlinkages between different sustainable development objectives	411
INNOVAWOOD SSA	An Innovation Strategy to integrate industry needs and research capability in the European Forestry-Wood Chain	259
INNOWATECH	Innovative and integrated technologies for the treatment of industrial wastewater	118
INSEA	Integrated Sink Enhancement Assessment	373
INSURE	Flexible framework for Indicators for Sustainability in Regions using system dynamics modelling	337
INTARESE	Integrated Assessment of Health Risks from Environmental Stressors in Europe	307
INTEGRATION 4 WATER	Initiative 4 Facilitating integration of Research Potential from the Accession Candidate countries with the Potential of the Member States in the Area of Water Cycle including Soil Related Issues of t	119
INT-ER-LINK	Promoting International Cooperation for Environmental Research Through Dissemination and Networking Activities	349
INTRABIODIV	Tracking surrogates for intraspecific biodiversity: towards efficient selection strategies for the conservation of natural genetic resources using comparative mapping and modelling approaches	179
IPY-CARE	Climate of the Arctic and its Role for Europe (CARE) - a European component of the International Polar Year.	58
IRASMOS	Integral Risk Management of Extremely Rapid Mass Movements	236
KASSA	Knowledge Assessment and Sharing on Sustainable Agriculture	261
KNAPPE	Knowledge and Need Assessment on Pharmaceutical Product in Environmental Waters	120
LENSE	Methodology Development towards a Label for Environmental, Social and Economic Buildings	412
LESSLOSS	Risk Mitigation for Earthquakes and Landslides	237
LUCINDA	Land care in desertification affected areas: from science towards application	223
LUPIS	Land Use Policies and Sustainable Development in Developing Countries	263
MACIS	Minimisation of and Adaptation to Climate change: Impacts on biodiversity	201
MAP	Secondary Marine Aerosol Production from Natural Sources	50
MARBEF	Marine Biodiversity and Ecosystem Functioning	181
MARINE GENOMICS	Implementation of high-throughput genomic approaches to investigate the functioning of marine ecosystems and the biology of marine organisms.	183
MATISSE	Methods and Tools for Integrated Sustainability Assessment (MATISSE)	338
MEDESOL	Seawater desalination by innovative solar-powered membrane-distillation system	121



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MEDIGRID	Mediterranean Grid of Multi-Risk Data and Models	239
MEDINA	MEbrane-based Desalination: an INtegrated Approach	122
MEI	Measuring Eco-innovation	393
METHODEX	Methods and data on environmental and health externalities: harmonising and sharing of operational estimates	329
MICRODIS	Integrated Health, Social and Economic Impacts of Extreme Events: Evidence, Methods and Tools	324
MILLENNIUM	European climate of the last millennium	60
MODELKEY	Models for Assessing and Forecasting the Impact of Environmental Key Pollutants on Marine and Freshwater Ecosystems and Biodiversity	211
MODELS	Model Development for the Evaluation of Lisbon Strategies	413
MULTAGRI	Capitalisation of Research Results on the Multifunctionality of Agriculture and Rural Areas	279
MULTI-ENCODE	Multifunctional Encoding System for Assessment of Movable Cultural Heritage	434
NA.R.AS.	Natural risks assessment harmonisation of procedures, quantification and information	240
NATAIR	Improving and Applying Methods for the Calculation of Natural and Biogenic Emissions and Assessment of Impacts on Air Quality	374
NATURNET	New Model Supporting Active Behaviour in Environmental Protection Based on Innovative Web Services	340
NEAREST	Integrated Observations from Near Shore Sources of Tsunamis: Towards an Early Warning System	241
NEPTUNE	New sustainable concepts and processes for optimization and upgrading municipal wastewater and sludge treatment	123
NETSSAF	Network for the Development of Sustainable Approaches for Large Scale Implementation of Sanitation in Africa	125
NEU-CO2-III	Continuation of the "International Network Non-energy use and CO2 emissions (NEU-CO2)", Phase III	37
NEWATER	New Approaches to Adaptive Water Management under Uncertainty	127
NITROEUROPE IP	The nitrogen cycle and its influence on the European greenhouse gas balance.	38
NOAHS ARK	Global Climate Change Impact on Built Heritage and Cultural Landscapes	435
NOMIRACLE	Novel Methods for Integrated Risk Assessment of Cumulative Stressors in Europe	309
NORMAN	Network of reference laboratories and related organisations for monitoring and bio-monitoring of emerging environmental pollutants	311
NOVAC	Network for Observation of Volcanic and Atmospheric Change	269
NOVAC TTC	Network for Observation of Volcanic and Atmospheric Change Extension	243
OOMPH	Organics over the Ocean Modifying Particles in both Hemispheres	51
ORFEUS	Optimised Radar to Find Every buried Utility in the street	129
OSIRIS	Optimized Strategies for Risk assessment of chemicals based on Intelligent testing	313
PAN-AMAZONIA	Project for the Advancement of Networked Science in Amazonia	41
PAPERTREAT	Evaluation of mass deacidification processes	436
PICTURE	Pro-active management of the Impact of Cultural Tourism upon Urban Resources and Economies	437
PLEIADES	Participatory multi-Level EO-assisted tools for Irrigation water management and Agricultural Decision-Support	130
PLUREL	Peri-urban Land Use Relationships – Strategies and Sustainability Assessment Tools for urban-rural linkages	265
POPA-CTDA	Policy pathways to promote the development and adoption cleaner technologies	394
PRIMA-EF	Development of a European Psychosocial Risk Management Framework	398
PROBIOPRISE	Creating a European platform for SMEs and other stakeholders to develop a research programme for pro-biodiversity business	162

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PROMOTE	Efficiency control and performance verification of improved approaches for soil-groundwater protection and rehabilitation	330
PRONET	Pollution Reduction Options Network	399
PROPAINIT	Improved Protection of Paintings During Exhibition, Storage and Transit	438
QUANTIFY	Quantifying the Climate Impact of Global and European Transport Systems	77
QUANTIFY TTC	Quantify Extension	79
RAISE	Raising citizens and stakeholders awareness, acceptance and use of new regional and urban sustainability approaches in Europe	267
RAMWASS	Integrated Decision Support System for Risk Assessment and Management of the Water-Sediment-Soil System at River Basin Scale in Fluvial Ecosystems	97
REBECCA	Relationships between ecological and chemical status of surface waters	375
RECLAIM WATER	Water reclamation technologies for safe artificial groundwater recharge	132
RECLAIM WATER TTC	Water reclamation technologies for safe artificial groundwater recharge - Extension	133
RECONDES	Conditions for Restoration and Mitigation of Desertified Areas Using Vegetation	224
RELAY	Research for Local Action towards Sustainable Human Settlements	268
REMEDE	Resource Equivalency Methods for assessing Environmental Damage in the EU	377
REMOVALS	Reduction, modification and valorisation of sludge	134
RIOS	Reducing the impact of oil spills	213
RISK-BASE	Coordination Action on Risk Based Management of River Basins	98
RIVERTWIN	A Regional Model for Integrated Water Management in Twinned River Basins	135
ROSA	Resource-Oriented Sanitation concepts for peri-urban areas in Africa	136
RUBICODE	Rationalising Biodiversity Conservation in Dynamic Ecosystems	191
SAFE	SME Action For the Environment in Candidate Countries	351
SAFEMANMIN	Safe Management of Mining Waste and Waste Facilities	378
SAFER	Seismic eArly warning For EuRope	244
SALTCONTROL	Prevention of salt damage to the built cultural heritage by the use of crystallisation inhibitors	439
SAUVEUR	Safeguarded Cultural Heritage-Understanding and Viability for the Enlarged Europe	440
SCENARIO	Support on Common European Strategy for sustainable natural and induced technological hazards mitigation	246
SCENES	Water Scenarios for Europe and for Neighbouring States	154
SCOPE2	Sustainable Consumption Policies Efficiency Evaluation - SCOPE2	414
SCOREPP	Source Control Options for Reducing Emissions of Priority Pollutants	137
SCOUT-O3	Stratosphere-Climate Links With Emphasis On The UTLS	80
SEAHELLARC	SEismic and tsunami risk Assessment and mitigation scenarios in the western HELLenic ARC	247
SEAMLESS	System for Environmental and Agricultural Modelling; Linking European Science and Society	280
SEARCH FOR DAMOCLES	Study of Environmental Arctic Change - Developing Arctic Modelling and Observing Capability for Long-term Environment Studies	298
SEDBARCAH	SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons in groundwater reaching surface water	99
SEED	Life history transformations among HAB species, and the environmental and physiological factors that regulate them	214
SENSOR	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions	269
SENSOR TTC	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions - Extension	271

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SEPRISE	Sustained, Efficient Production of Required Information and Services within Europe is our only justification	299
SERPEC-CC	Sectoral Emission Reduction Potentials and Economic Costs for Climate Change	379
SESAME	Southern European Seas: Assessing and Modelling Ecosystem Changes	185
SHARING	International Conference on "Integrative Approaches Towards Sustainability" (Baltic Sea Region sharing knowledge internally, across Europe, and world-wide)	187
SIAMETHOD	Development of methodologies and tools to assess links between trade, environment and policies	415
SIMORC	Proposal to establish a System of Industry Metocean data for the Offshore and Research Communities	300
SME ENVIRONMENT	Supporting the Participation of Environmental SMEs from Associated Candidate Countries in the 6th Framework Programme	352
SOBIO	Mobilising the European Social Research Potential in Support of Biodiversity and Ecosystem Management	193
SOCOPSE	Source control of priority substances in Europe	138
SOGE-A	System for Observation of halogenated Greenhouse gases in Europe and Asia	301
SoilCritZone	Soil sustainability in Europe as deduced from investigation of the Critical Zone	215
SPICOSA	Science and Policy Integration for COastal System Assessment	272
SPI-WATER	Science-Policy Interfacing in support of the Water Framework Directive implementation	380
SPRECOMAH	Seminars preventive conservation and monitoring of the architectural heritage	442
STAR	Support for Tropical Atmospheric Research	302
STATUS	Sustainability Tools and Targets for the Urban Thematic Strategy	416
STRESOIL	In Situ Stimulation and Remediation of Contaminated Fractured Soils	100
STRIVER	Strategy and methodology for improved IWRM - An Integrated Interdisciplinary Assessment in Four Twinning River Basins in Europe and Asia	139
SUBAT	Sustainable batteries	395
SURVENIR	Near Infrared Spectroscopy Tool for Collection Surveying	443
SUSAN	Sustainable and Safe Re-use of Municipal Sewage Sludge for Nutrient Recovery	141
SUSTAINABILITYA-TEST	Advanced - Techniques for Evaluation of Sustainability Assessment Tools	342
SUSTAINFO	Information System for Sustainable Development for EU and UN-Habitat	274
SUSTAINING HERITAGE	Sustaining Europe's Cultural Heritage: From Research to Policy'	444
SWIFT-WFD	Screening method for Water data Information in support of the implementation of the Water Framework Directive	381
SWITCH	Sustainable Water management Improves Tomorrow's Cities'Health	142
TECHNEAU	TECHNEAU: technology enabled universal access to safe water	144
TENATSO	Tropical Eastern North Atlantic Time-Series Observatory	303
TESTNET	Towards European Sectorial Testing Networks for Environmental Technologies	331
TETRIS	Technology Transfer and Investment Risk in International Emissions Trading	396
THE MAIN AIM QOS2004	Quadrennial Ozone Symposium 2004	82
THRESHOLDS	Thresholds of Environmental Sustainability	332
TISSUE	Trends and Indicators for Monitoring the EU Thematic Strategy on Sustainable Development of Urban Environment	417
TOCSIN	Technology-Oriented Cooperation and Strategies in India and China: Reinforcing the EU dialogue with Developing Countries on Climate Change Mitigation	383
TRANSFER	Tsunami Risk ANd Strategies For the European Region	248
TRANSUST.SCAN	Scanning Policy Scenarios for the Transition to Sustainable Economic Structures	418
TWINBAS	Twinning European and third countries river basins for development of integrated water	146



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VOLUME TTC	VOLcanoes: Understanding sub-surface mass movement-Extension	251
WADE	Floodwater Recharge of Alluvial Aquifers in Dryland Environments	150
WATCH	WATER and global CHange	87
WATERPIPE	Integrated High Resolution Imaging Ground Penetrating Radar and Decision Support System for WATER PIPEline Rehabilitation	151
WSSTP	Water Supply and Sanitation Technology Platform	152
YEOS	YEllow Sea Observation, forecasting and information system	304





# **1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks**

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## **1.1. Carbon and Nitrogen cycles: sources and sinks**

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CARBOAFRICA	Quantification, understanding and prediction of carbon cycle, and other GHG gases, in Sub-Saharan Africa	31
CARBOEUROPE-IP	Assessment of the European Terrestrial Carbon Balance	32
CARBO-NORTH	Quantifying the Carbon budget in Northern Russia: past, present and future	34
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NEU-CO2-III	Continuation of the "International Network Non-energy use and CO2 emissions (NEU-CO2)", Phase III	37
NITROEUROPE IP	The nitrogen cycle and its influence on the European greenhouse gas balance.	38
PAN-AMAZONIA	Project for the Advancement of Networked Science in Amazonia	41

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Title:	Quantification, understanding and prediction of carbon cycle, and other GHG gases, in Sub-Saharan Africa		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.808.758 €	Project start date:	1/10/2006
EU Contribution:	2.810.044 €	Duration:	36 months
Organisation:	Universita degli Studi della Tuscia	Viterbo	Italy

## Abstract

Africa is a region highly vulnerable to climatic change due to both ecological and socio-economic factors; however it is the least well-covered region by studies on climate change. For these reasons, the overarching goal of this project is to set up a first attempt of a GHG fluxes monitoring network of Africa, in order to quantify, understand and predict, by a multi-disciplinary integrated approach, GHG emissions in Sub-Saharan Africa and its associated spatial and temporal variability. We will start building on the state of the art of the carbon studies in Africa, filling the gaps of knowledge, and then we will utilize and expand existing carbon observing systems, together with the establishment of new infrastructures, improving the required monitoring systems. We also conduct specific regional studies in key areas, considering both carbon sources and sinks. The components of the African greenhouse gas budget have so far not been adequately determined, and the implementation of the Kyoto Protocol requirements is far to be achieved. There is consequently a significant need for an assessment of the current land use change, evaluating the potential for carbon sequestration in Sub-Saharan Africa in the context of the Kyoto Protocol. The existing GHG observations capabilities for fluxes and stocks of carbon, their geographical distribution, the end users requirements for UNFCCC and IPCC guidelines implementation, will be used to design an optimal monitoring system network and the identification of its components. The CARBOAFRICA network will contribute to the enhancement of an Earth observations system, strengthening the capacity of Europe to understand global change process. The scientific and technological results, in addition to the capacity building activities foreseen by this project, will promote the integration of the environmental dimension in the social and economic context, supporting Sub-Saharan African countries on the path of a sustainable development.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA DEGLI STUDI DELLA TUSCIA	Viterbo	Italy
2	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
3	LUNDS UNIVERSITET	Lund	Sweden
4	FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS (FAO)	Roma	Italy
5	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
6	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
7	Consiglio Nazionale delle Ricerche	Roma	Italy
8	ISTITUTO AGRONOMO PER L'OLTREMARE	Firenze	Italy
9	SECONDA UNIVERSITA DEGLI STUDI DI NAPOLI	Caserta	Italy
10	CSIR - COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH	Pretoria	South Africa
11	UNITE DE RECHERCHE SUR LA PRODUCTIVITE DES PLANTATIONS INDUSTRIELLES	Pointe Noire	Congo
12	Agricultural Research Corporation	Wad Medani	Sudan
13	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
15	KING'S COLLEGE LONDON	London	United Kingdom
16	UNIVERSITY OF LEICESTER	Leicester	United Kingdom



Title:	Assessment of the European Terrestrial Carbon Balance		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Integrated Project		
Project Total Cost:	23.770.780 €	Project start date:	1/01/2004
EU Contribution:	16.310.000 €	Duration:	60 months
Organisation:	Max Planck Gesellschaft zur Förderung der Wissenschaften e.V.	München	Germany

## Abstract

The overarching aim of the CarboEurope-IP is to understand, quantify and predict the terrestrial carbon balance of Europe and the uncertainty at local, regional and continental scale. This is achieved by

- (1) executing a strategically focussed set of surface based ecological measurements of carbon pools and CO<sub>2</sub> exchange,
- (2) further enhancement of an atmospheric high precision observation system for CO<sub>2</sub> and other trace gases, (3) execution of a regional high spatial resolution experiment and
- (4) integration of these components by means of innovative data assimilation systems and modelling.

The key innovation of the CarboEurope-IP is solving the scientific challenge of quantifying the terrestrial carbon balance at different scales and with known, acceptable uncertainties. The increase in spatial and temporal resolution of the observational and modelling program will allow for the first time a consistent application of a multiple constraint approach of bottom-up and top-down estimates to determine the terrestrial carbon balance of Europe with the geographical patterns and variability of sources and sinks. CarboEurope-IP aims at providing a system for carbon accounting for the European continent, and it will further investigate the main controlling mechanisms of carbon cycling in European ecosystems. CarboEurope-IP integrates and expands the research efforts of 95 European institutes. CarboEurope-IP addresses basic scientific questions of high political relevance.

## Partners

Num.	Partner Legal Name	City	Country
1	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
2	UNIVERSITA DEGLI STUDI DELLA TUSCIA	Viterbo	Italy
3	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
4	COMMISSARIAT A L'ENERGIE ATOMIQUE'	Paris	France
5	UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
6	THE UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
7	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
8	FACULTE UNIVERSITAIRE DES SCIENCES AGRONOMIQUES	Gembloux	Belgium
9	METEO-FRANCE	Paris	France
10	Consiglio Nazionale delle Ricerche	Roma	Italy
11	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
12	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG	Heidelberg	Germany
13	Alterra b.v.	Wageningen	Netherlands
14	COMMISSION OF THE EUROPEAN COMMUNITIES - DG JOINT RESEARCH CENTRE	Brussels	Belgium
15	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT M.B.H.	Graz	Austria
16	MET OFFICE	Exeter	United Kingdom
17	POSTDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
18	PROVINCIA AUTONOMA DI BOLZANO	Bolzano	Italy
19	CENTRO DI ECOLOGIA ALPINA	Trento	Italy
20	FUNDACION CENTRO DE ESTUDIOS AMBIENTALES DEL MEDITERRANEO	Paterna, Valencia	Spain

21	NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)	Swindon Wiltshire	United Kingdom
22	Centre National de al Recherche Scientifique (CNRS)	Paris	France
23	CENTRE TECNOLOGIC FORESTAL DE CATALUNYA	Solsona	Spain
24	EIDGENOESSISCHE FORSCHUNGSANSTALT FUER AGRAROEKOLOGIE UND LANDBAU	Zurich	Switzerland
25	ILMATIETEEN LAITOS	Helsinki	Finland
26	INSTITUTE OF LANDSCAPE ECOLOGY ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Ceske Budejovice	Czech Republic
27	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
28	LUNDS UNIVERSITET	Lund	Sweden
29	OM FORSKNINGSCENTER RIS?	Roskilde	Denmark
30	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
33	SPACE RESEARCH ORGANISATION NETHERLANDS	Utrecht	Netherlands
34	SECONDA UNIVERSITA DEGLI STUDI DI NAPOLI	Caserta	Italy
35	THE PROVOST FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN HEREAFTER TCD	Dublin	Ireland
36	TECHNISCHE UNIVERSITAET DRESDEN	Dresden	Germany
37	TECHNISCHE UNIVERSITAT MUNCHEN	Muenchen	Germany
38	UNIVERSITEIT ANTWERPEN	Wilrijk	Belgium
39	UNIVERSITAT BAYREUTH	Bayreuth	Germany
41	UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK	Cork	Ireland
42	SZENT ISTVAN UNIVERSITY OF GOGOLLO	Godollo	Hungary
43	HELSINGIN YLIOPISTO	Helsinki	Finland
44	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
45	The August Cieszkowski Agricultural University of Poznan	Poznan	Poland
46	UNIVERSITE PARIS-SUD (XI) ORSAY	Orsay	France
47	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
48	MARTIN-LUTHER-UNIVERSITAT HALLE-WITTENBERG	Halle (saale)	Germany
50	UNIVERSITE DE LIEGE	Liege	Belgium
52	CESI - CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO GIACINTO MOTTA SPA	Milano	Italy
53	RIJKS-UNIVERSITEIT GRONINGEN	Groningen	Netherlands
54	EOTVOS LORAND UNIVERSITY	Budapest	Hungary
55	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
56	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
57	UNIVERSITAT DE BARCELONA	Barcelona	Spain
58	UNIVERSITAT BERN	Bern	Switzerland
59	Akademia Gorniczo-Hutnicza	Krakow	Poland
61	UNIVERSITAT STUTTGART	Stuttgart	Germany
62	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
63	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
64	THURINGER LANDESANSTALT FUR WALD, JAGD UND FISCHEREI	Gotha	Germany
65	SAUGIER PHILIPPE INGENEIEUR-CONSEIL	Veynes	France
66	UNIVERSITY OF COPENHAGEN	Kobenhavn	Denmark
67	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal



Title:	Quantifying the Carbon budget in Northern Russia: past, present and future		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.622.074 €	Project start date:	1/11/2006
EU Contribution:	3.099.822 €	Duration:	42 months
Organisation:	Stockholms Universitet	Stockholm	Sweden

## Abstract

CARBO-North aims at quantifying the carbon budget in Northern Russia across temporal and spatial scales. Activities address rates of ecosystem change, effects on the carbon budget (radiative forcing), and global climate and policy implications (Kyoto). Recent research on the impacts of climate change in high latitude regions has mostly assessed the equilibrium response of ecosystems, for instance what is the potential location of the arctic treeline or the southern limit of permafrost under conditions of global warming. However, transient responses are of much greater importance from a policy perspective.

How quickly will the arctic treeline migrate?

How quickly will permafrost thaw?

How quickly will enhanced soil organic matter decay result in increased greenhouse gas emissions and leaching?

Different time lags in these processes will cause significant deviations from equilibrium response. Proposed field study areas in Northeast European Russia are characterized by gradual lowland transitions in vegetation and permafrost conditions. Dedicated climate models will provide requested variables and time slices as input to ecosystem studies.

Analyses will be conducted to assess the sensitivity of climate model output to a suite of land cover, ground and permafrost schemes. Proxydata will be used to evaluate rates of ecosystem change under past climatic changes. The present environment will be studied from the plot to landscape scales with a variety of approaches, including assessments of human-induced and natural disturbances. Detailed monitoring and mapping of vegetation, soil and permafrost will provide input for process-oriented studies (treeline patch dynamics; tundra/forest/river carbon fluxes; ground subsidence, etc) and GIS-based upscaling to regional levels. Results are used for integrated ecosystem modeling, calculation of net radiative effects and assessment of the sensitivity of climate model predictions to transient environmental changes.

## Partners

Num.	Partner Legal Name	City	Country
1	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
2	LUNDS UNIVERSITET	Lund	Sweden
3	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
4	ERNST-MORITZ-ARNDT-UNIVERSITY OF GREIFSWALD	Greifswald	Germany
5	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
6	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
7	INSTITUTE OF BIOLOGY OF KOMI SCIENTIFIC CENTER OF THE URAL BRANCH OF THE RUSSIAN ACADEMY OF SCIENCES	Syktyvkar	Russian Federation
8	MET OFFICE	Exeter	United Kingdom
9	UNIVERSITY COLLEGE LONDON.	London	United Kingdom
10	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
11	HELSINGIN YLIOPISTO	Helsinki	Finland
12	KUOPIO YLIOPISTO	Kuopio	Finland
13	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
14	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
15	ENSIS LTD	London	United Kingdom
16	CHERMET	Syktyvkar	Russian Federation



Title:	Marine carbon sources and sinks assessment		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Integrated Project		
Project Total Cost:	19.271.618 €	Project start date:	1/01/2005
EU Contribution:	14.499.600 €	Duration:	60 months
Organisation:	Universitetet i Bergen	Bergen	Norway

## Abstract

CARBOOCEAN IP aims at an accurate assessment of the marine carbon sources and sinks. Target is to reduce the present uncertainties in the quantification of net annual air-sea CO<sub>2</sub> fluxes by a factor of 2 for the world ocean and by a factor of 4 for the Atlantic Ocean. The IP will deliver description, process-oriented understanding and prediction of the marine carbon sources and sinks with special emphasis on the Atlantic and Southern Oceans on a time scale -200 to +200 years from now. Expected breakthroughs by CARBOOCEAN IP will be firm answers to the following as yet unresolved questions:

How large are the Atlantic and Southern Ocean CO<sub>2</sub> sinks precisely, i.e. how efficient is the downward transport of carbon in the deep-water production areas of the world ocean?

What do European rivers and shelf seas contribute to the large scale CO<sub>2</sub> sources and sinks pattern of the North Atlantic Ocean in relation to uptake within Western Europe ?

What are the key biogeochemical feedbacks that can affect ocean carbon uptake and how do they operate?

What is the quantitative global and regional impact of such feedbacks when forced by climatic change in the next 200 years?

CARBOOCEAN IP will answer these questions through basic research in a strategic combination of extensive large-scale observations, process studies and advanced computer models focusing on all quantitatively important aspects to the problem. The project is based on three elements - observations, process studies, and integrative modelling - equivalent to description, understanding and prediction: A marine carbon balance for the last 200 years based on high quality observations. A process-based understanding of the marine carbon cycle response to a change in forcing as derived from process studies in the field, in the laboratory, and through modelling. Integrated carbon budgets for the interval -200 to +200 years from now by synthesis of a modelling framework with observations and new feedback.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITETET I BERGEN	Bergen	Norway
2	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
3	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
4	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN	Kiel	Germany
5	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
6	COMMISARIAT A L'ENERGIE ATOMIQUE	Paris	France
7	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
8	STICHTING NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	Den Hoorn Texel	Netherlands
9	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
10	UNIVERSITE DE LIEGE	Liege	Belgium
11	UNIVERSITAET BERN	Bern	Switzerland
12	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
14	TECHNISCHE UNIVERSITAET HAMBURG HARBURG	Hamburg	Germany
16	UNIVERSITAET BREMEN	Bremen	Germany
17	DANMARKS MILJOEUNDERSOEGELSER	Roskilde	Denmark
18	UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA	Las Palmas De Gran Canaria	Spain

19	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
20	Centre National de al Recherche Scientifique (CNRS)	Paris	France
22	UNIVERSITE DE PERPIGNAN	Perpignan	France
23	HAFRANNSOKNASTOFNUNIN	Reykjavik	Iceland
24	INSTITUT NATIONAL DE RECHERCHE HALIEUTIQUE	Casablanca	Morocco
25	RIKSUNIVERSITEIT GRONINGEN	Groningen	Netherlands
26	KONINKLIJKE NEDERLANDSE AKADEMIE VAN WETENSCHAPPEN	Amsterdam	Netherlands
28	STIFTELSEN NANSEN SENTER FOR FJERNMAALING	Bergen	Norway
29	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
31	INSTYTUT OCANOLOGII - POLSKIEJ AKADEMII NAUK	Sopot	Poland
32	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
33	MET OFFICE	Exeter	United Kingdom
34	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
35	UNIVERSITY OF ESSEX	Colchester	United Kingdom
36	FASTOPT GBR	Hamburg	Germany
37	INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO	Paris	France
38	NILU POLSKA LTD.	Katowice	Poland
39	PHILIPPE SAUGIER INTERNATIONAL EDUCATIONAL PROJECTS	Veynes	France
44	PRINCETON UNIVERSITY	Princeton, Nj	United States





Title:	Continuation of the "International Network Non-energy use and CO2 emissions (NEU-CO2)", Phase III		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks 1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Specific Support Action		
Project Total Cost:	289.656 €	Project start date:	1/09/2004
EU Contribution:	289.656 €	Duration:	24 months
Organisation:	Universiteit Utrecht	Utrecht	Netherlands

## Abstract

A significant fraction of fossil fuels is consumed as non-energy use, i.e. as feedstock for the manufacture of synthetic materials and chemical products, e.g. plastics, paints, solvents, lubricants and bitumen. In the long run, these products contribute substantially to CO2 emissions. In Western Europe, non-energy use represents 11-12% of the total amount of fossil fuels for final consumption. In other parts of the world, the manufacture of non-energy products is increasing very rapidly, e.g. in China. CO2 emissions from non-energy use continue to be a major source of uncertainty in national greenhouse gas (GHG) emission accounting. The NEU-CO2 network has been working on this issue since 1999. In this proposal the continuation of the network is applied for (Phase III). Given the success of the network to date, the goals of Phase III are:

- to expand the existing network by a Chinese, German, South Korean & South African partner,
- to develop the so-called Simplified Approach, which requires much less data than the NEAT model (developed in Phase I&II) and can hence be applied worldwide more easily, to apply it to all countries represented in the NEU-CO2 network and to evaluate the accuracy of the results by comparison with detailed country-specific estimation methods,
- to pool bottom-up information on materials with complicated pathways in production, use and waste management such as solvents and lubricants,
- to monitor the experience made with the improved IEA/EUROSTAT energy balance questionnaire and to make further steps towards harmonisation,
- to initiate and accompany national analyses similar to those for the Netherlands, Austria & Flanders in Belgium,
- to contribute to rewriting of the IPCC Guidelines for National GHG emission inventories in order to improve the terminology, remove ambiguity & contradictions and to introduce improved estimation methods,
- to disseminate the results by two workshops, the website & other means.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
3	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	Roma	Italy
4	Avonlog Ltd	Brentwood	United Kingdom
5	INSTITUT FUER INDUSTRIELLE OEKOLOGIE	St.poelten	Austria
6	RISOE NATIONAL LABORATORY	Roskilde	Denmark
7	CENTRE INTERPROFESSIONNEL TECHNIQUE D' ETUDES DE LA POLLUTION ATMOSPHERIQUE	Paris	France
8	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK	Mol	Belgium
9	CENTER FOR ENERGY EFFICIENCY	Moscow	Russian Federation
10	ECOFYS POLSKA SP Z.O.O.	Poznan	Poland
11	THE ENERGY AND RESOURCES INSTITUTE	New Delhi	India
13	INHA UNIVERSITY	Incheon	Korea (Republic of)
14	ICF CONSULTING, LTD.	London	United Kingdom
15	UNIVERSITY OF CAPE TOWN.	Rondenbosch,cape Town	South Africa
16	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
17	INTERNATIONAL ENERGY AGENCY	Paris	France



Title:	The nitrogen cycle and its influence on the European greenhouse gas balance.		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Integrated Project		
Project Total Cost:	27.094.000 €	Project start date:	1/02/2006
EU Contribution:	16.600.000 €	Duration:	60 months
Organisation:	Natural Environment Research Council	Swindon Wiltshire	United Kingdom

## Abstract

The NitroEurope IP (or NEU for short) addresses the major question: What is the effect of reactive nitrogen (Nr) supply on net greenhouse gas budgets for Europe?

The objectives are to:

- 1) establish robust datasets of N fluxes and net greenhouse-gas exchange (NGE) in relation to C-N cycling of representative European ecosystems, as a basis to investigate interactions and assess long-term change,
- 2) quantify the effects of past and present global changes (climate, atmospheric composition, land-use/land-management) on C-N cycling and NGE,
- 3) simulate the observed fluxes of N and NGE, their interactions and responses to global change/land-management decisions, through refinement of plot-scale models,
- 4) quantify multiple N and C fluxes for contrasting European landscapes, including interactions between farm-scale management, atmospheric and water dispersion, and consideration of the implications for net fluxes and strategies,
- 5) scale up Nr and NGE fluxes for terrestrial ecosystems to regional and European levels, considering spatial variability and allowing assessment of past, present and future changes,
- 6) assess uncertainties in the European model results and use these together with independent measurement/inverse-modelling approaches for verification of European N<sub>2</sub>O and CH<sub>4</sub> inventories and refinement of IPCC approaches.

These objectives are met by a programme that integrates:

- 1) an observing system for N fluxes and pools,
- 2) a network of manipulation experiments,
- 3) plot-scale C-N modelling,
- 4) landscape analysis,
- 5) European up-scaling and
- 6) uncertainty and verification of European estimates.

Cross-cutting activities address management, databases, training, dissemination. NEU will advance the fundamental understanding of C-N interactions at different scales and deliver: process-based models, landscape-level assessments, European maps of C-N pools, Nr fluxes and NGE, and independent verification of GHG inventories, as required under the Kyoto Protocol.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
2	STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
3	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
4	FORSKNINGSCENTER RISOE	Roskilde	Denmark
5	Alterra b.v.	Wageningen	Netherlands
6	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
7	SECONDA UNIVERSITA DEGLI STUDI DI NAPOLI	Caserta	Italy
8	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
9	EIDGENOESSISCHE FORSCHUNGSANSTALT FUER AGRAROEKOLOGIE UND LANDBAU	Zurich	Switzerland
10	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
11	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany

12	Consiglio Nazionale delle Ricerche	Roma	Italy
13	BUNDESFORSCHUNGS UND AUSBILDUNGSZENTRUM FUER WALD, NATURGEFAHREN UND LANDSCHAFT	Wien	Austria
14	HELSINGIN YLIOPISTO	Helsinki	Finland
15	DANMARKS JORDBRUGSFORSKNING	Tjele	Denmark
16	THE SCOTTISH AGRICULTURAL COLLEGE	Edinburgh	United Kingdom
17	UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
18	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
19	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
20	Akademia Rolnicza im Augusta Cieszkowskiego w Poznaniu	Poznan	Poland
21	ILMATIETEEN LAITOS	Helsinki	Finland
22	ERDESZETI TUDOMANYOS INTEZET	Budapest	Hungary
23	DRZAVNI HIDROMETEOROLOSKI ZAVOD	Zagreb	Croatia
24	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
25	SLOVENSKY HYDROMETEOROLOGICKY USTAV	Bratislava	Slovakia
26	THE PROVOST FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELISABETH NEAR DUBLIN	Dublin	Ireland
27	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK	Delft	Netherlands
28	THE UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
29	UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK	Cork	Ireland
30	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
31	UNIVERSITA DEGLI STUDI DELLA TUSCIA	Viterbo	Italy
32	ODESSA NATIONAL MECHNIKOV UNIVERSITY	Odessa	Ukraine
33	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
35	SZENT ISTVAN EGYETEM	Godollo	Hungary
36	UNIVERSITEIT GENT	Gent	Belgium
37	UNIVERSITY OF ZIMBABWE	Harare	Zimbabwe
38	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
39	KUNGLIGA TEKNISKA HOEGSKOLAN	Stockholm	Sweden
40	CHINESE ACADEMY OF SCIENCES - INSTITUTE OF ATMOSPHERIC PHYSICS (IAP, CAS)	Beijing	China (People's Republic of)
42	INSTITUTE OF PHYSICOCHEMICAL AND BIOLOGICAL PROBLEMS IN SOIL SCIENCE OF RUSSIAN ACADEMY OF SCIENCES	Puschino	Russian Federation
43	ZAKLADU BADAN SRODOWISKA ROLNICZEGO I LESNEGO POLSKIEJ AKADEEMII NAUK	Poznan	Poland
44	JUSTUS-LIEBIG-UNIVERSITAET GIESSEN	Giessen	Germany
45	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
46	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
47	DET NORSKE METEOROLOGISK INSTITUTT	Oslo	Norway
48	MET OFFICE	Exeter	United Kingdom
49	CENTRO DI ECOLOGIA ALPINA	Trento	Italy
50	FUNDACION CENTRO DE ESTUDIOS AMBIENTALES DEL MEDITERRANEO	Paterna, Valencia	Spain
51	BUNDESFORSCHUNGSANSTALT FUER LANDWIRTSCHAFT	Braunschweig	Germany
53	A.N.SEVERTSOV INSTITUTE OF ECOLOGY AND EVOLUTION - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
54	EOTVOS LORAND TUDOMANYEGYETEM.	Budapest	Hungary
55	EESTI MAUELIKOOL	Tartu	Estonia
56	CENTRO DE INVESTIGACION ECOLOGICA Y APLICACIONES FORESTALES	Bellaterra (barcelona)	Spain
57	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
58	IVL SVENSKA MILJOEINSTITUTET AB	Stockholm	Sweden
59	UNIVERSITEIT VAN AMSTERDAM	Amsterdam	Netherlands
60	LUNDS UNIVERSITET	Lund	Sweden

61	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
62	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
63	ROSKILDE UNIVERSITETSCENTER	Roskilde	Denmark
64	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
65	SZEGEDI TUDOMANYEGYETEM	Szeged	Hungary



Title:	Project for the Advancement of Networked Science in Amazonia		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.1. Carbon and Nitrogen cycles: sources and sinks		
Instrument:	Specific Support Action		
Project Total Cost:	400.000 €	Project start date:	1/01/2004
EU Contribution:	400.000 €	Duration:	36 months
Organisation:	University of Edinburgh	Edinburgh	United Kingdom

## Abstract

PAN-AMAZONIA encompasses three integrated scientific networks designed to meld together currently disparate research efforts across the Amazon Basin in terms of global change and tropical forest ecosystem function. Specifically addressing current European Union carbon cycle and biodiversity priorities, PAN-AMAZONIA will form and strengthen transnational networks covering forest diversity and dynamics, tree biodiversity and whole ecosystem physiology and carbon dynamics, involving around 70 researchers from ten Latin American countries linked together with the overall aim of advancing our long term understanding of Amazonian forest structure and function in the face of global change. With the specific support of the Inter-American Institute for Global Change Research, training of Latin American early stage researchers will form a key focus of PAN-AMAZONIA, with six Advanced Study Workshops to be held with instruction provided by leading European and South American scientists. Early on in the project exceptional students will be identified at the early post-graduate level for Investigador Pan-Amazonia Fellowships. Those selected will work in close liaison with top-level European scientists on previously identified projects that specifically address comparison and integration of research across the Amazon Basin. Integration of global change research in the Amazon will be further strengthened by producing a comprehensive set of multi-lingual manuals and by synthesizing existing knowledge of forest biodiversity, ecology and change into authoritative database products.

By forming new Regional Research Networks and strengthening European co-operation with Latin American partners, PAN-AMAZONIA will develop the critical mass of human capacity and techniques for monitoring and understanding the Amazon ecosystem's role in climate change and maintenance of biodiversity, and the effects of global change on the Amazon ecosystem. The project therefore simultaneously addresses the ENRICH objectives of strengthening co-operation with partners in the developing world on issues such as climate change, biodiversity, ecosystems, natural risks and hazards.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
2	UNIVERSITY OF LEEDS	Leeds	United Kingdom
3	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
4	Centre National de al Recherche Scientifique (CNRS)	Paris	France
5	Alterra b.v.	Wageningen	Netherlands
6	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
7	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
8	INSTITUTO NACIONAL DE PESQUISAS DA AMAZONIA	Manaus	Brazil
9	MUSEU PARAENSE EMILIO GOELDI	Belem / Para	Brazil
10	MUSEO DE HISTORIA NATURAL NOEL KEMPF MERCADO	Santa Cruz	Bolivia



## **1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks**

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### **1.2. Atmospheric pollutants and their regional impacts**

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Title:	Atmospheric Composition Change: an European Network		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Network of Excellence		
Project Total Cost:	11.220.000 €	Project start date:	1/03/2004
EU Contribution:	11.220.000 €	Duration:	60 months
Organisation:	Consiglio Nazionale delle Ricerche	Roma	Italy

## Abstract

Changes in atmospheric composition directly affect many aspects of life, determining climate, air quality and atmospheric inputs to ecosystems. In turn, these changes affect the fundamental necessities for human existence: human health, food production, ecosystem health and water. Atmospheric composition change research is therefore fundamental for the future orientation of Europe's Sustainable Development strategy. The overall goals of ACCENT are to promote a common European strategy for research on atmospheric composition change, to develop and maintain durable means of communication and collaboration within the European scientific community, to facilitate this research and to optimise two-way interactions with policy-makers and the general public. ACCENT will establish Europe as an international leader in atmospheric composition change research, able to steer research agendas through its involvement in major international programmes. ACCENT furthermore aims to become the authoritative voice in Europe on issues dealing with atmospheric composition change and sustainability.

The ACCENT joint research programme focuses on aerosols, biosphere-atmosphere interaction and transport and transformation of pollutants and it also looks for new partnership in economic and Earth System analysis. Integration will be achieved by creating common facilities and activities including: a dedicated interactive web portal, models, data-bases, measurement platforms, training and education opportunities, quality assurance procedures and facilities, integrated assessment and synthesis of scientific results and an interface with the general public. The excellence and the commitment of the ACCENT Partnership guarantee an effective and durable integration of the European atmospheric composition change research and that it becomes a pillar of the European Research Area.

## Partners

Num.	Partner Legal Name	City	Country
1	Consiglio Nazionale delle Ricerche	Roma	Italy
2	European Commission - DG Joint Research Centre		Italy
3	International Institute for Applied Systems Analysis		Austria
4	Universitat für Bodenkultur Wien		Austria
5	Institut d'Aeronomie Spatiale de Belgique		Belgium
6	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY OF THE BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
7	Risoe National laboratory		Denmark
8	University of Helsinki		Finland
9	Centre National de al Recherche Scientifique (CNRS)	Paris	France
10	Meteo France		France
11	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
12	Leibniz Institut für Troposphärenforschung		Germany
13	Max Planck Gesellschaft		Germany
15	University of Bremen		Germany
16	Ruprecht-Karls-Universität Heidelberg		Germany
17	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
18	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki		Greece
19	University of Veszprem		Hungary
20	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland

21	UNIVERSITY OF LATVIA	Bucharest 2	Latvia
22	INSTITUTE OF PHYSICS	Vilnius	Lithuania
23	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
24	University of Oslo		Norway
25	INSTITUTE OF ENVIRONMENTAL PROTECTION	Warszawa	Poland
26	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
27	FUNDACION CENTRO DE ESTUDIOS AMBIENTALES DEL MEDITERRANEO	Paterna, Valencia	Spain
28	Stockholms Universitet		Sweden
29	Institut Universitaire Kurt Bosch		Switzerland
30	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
31	Royal Netherlands Meteorological Institute		Netherlands
32	Natural Environment Research Council (Centre for Ecology and Hydrology)		United Kingdom
33	Universita degli studi di Urbino "Carlo Bo"		Italy
34	UNIVERSITY OF KUOPIO	Kuopio	Finland
35	Finnish Meteorological Institute		Finland
36	Deutsches Zentrum für Luft- und Raumfahrt e.V.		Germany
37	Netherlands Organisation for Applied Scientific Research		Netherlands
38	National Institute for Public Health and the Environment		Netherlands
39	Energy Research Centre of the Netherlands		Netherlands
40	Imperial College of Science, Technology and Medicine		United Kingdom
41	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
42	UNIVERSITY OF LEICESTER	Leicester	United Kingdom
43	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
44	University of Manchester		United Kingdom





Title:	European Integrated project on Aerosol Cloud Climate and Air Quality interactions		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Integrated Project		
Project Total Cost:	14.952.335 €	Project start date:	1/01/2007
EU Contribution:	9.999.627 €	Duration:	48 months
Organisation:	Helsingin Yliopisto	Helsinki	Finland

## Abstract

The European Integrated project on Aerosol Cloud Climate and Air Quality Interactions, EUCAARI, brings together the leading European research groups, state-of-the-art infrastructure and key players from third countries to investigate the role of aerosol on climate and air quality. The objectives of EUCAARI are

- (I) Reduction of the current uncertainty of the impact of aerosol particles on climate by 50% and quantification of the relationship between anthropogenic aerosol particles and regional air quality, and
- (II) Quantification of the side effects of European air quality directives on global and regional climate, and provide tools for future quantifications for different stakeholders.

EUCAARI will also contribute to technological developments in the aerosol measurement industry, enhancing future experiments and air-quality monitoring networks.

The project is organised into four scientific elements designed to maximize the integration of methodologies, scales and ultimately our understanding of air quality and climate. New ground-based, aircraft and satellite measurements will be integrated with existing data to produce a global consistent dataset with the highest possible accuracy. A European measurement campaign will be designed around simultaneous multi-station observations, Lagrangian aircraft measurements and carefully selected "super-sites". A hierarchy of models will be developed based on the results of the laboratory and theoretical investigations. The models will be used to interpret the measurements and will be integrated in regional air quality and global climate models.

The result will be measurable improvements in the project's climate and air quality models. The outcomes (scenarios, recommendations, models, harmonized datasets and new knowledge) will be disseminated to authorities, policy makers, the research community, industry, instrument designers, and the EU-ESA Global Monitoring for Environment and Security (GMES).

## Partners

Num.	Partner Legal Name	City	Country
1	HELSINGIN YLIOPISTO	Helsinki	Finland
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
4	LEIBNIZ INSTITUT FUER TROPOSPHAERENFORSCHUNG E.V.	Leipzig	Germany
5	Consiglio Nazionale delle Ricerche	Roma	Italy
6	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
7	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK	Delft	Netherlands
8	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT (KNMI)	De Bilt	Netherlands
10	UNIVERSITY OF LEEDS	Leeds	United Kingdom
11	LUNDS UNIVERSITET	Lund	Sweden
12	PANNON EGYETEM	Veszprem	Hungary
13	ILMATIETEEN LAITOS	Helsinki	Finland
14	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
15	MET OFFICE	Exeter	United Kingdom
16	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway

17	METEOROLOGISK INSTITUTT	Oslo	Norway
18	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
19	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
20	UNIVERSITETET I OSLO	Oslo	Norway
21	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
22	USTAV CHEMICKYCH PROCESU - AKADEMIE VED CESKE REPUBLIKY	Praha 6	Czech Republic
23	METEO-FRANCE	Paris	France
24	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
25	NOORDWES-UNIVERSITEIT	Potchefstroom	South Africa
26	THE ENERGY AND RESOURCES INSTITUTE	New Delhi	India
27	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
28	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
29	KUOPIO YLIOPISTO	Kuopio	Finland
30	THE UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
31	Associacao dos Pesquisadores do Experimento de Grande Escala da Biosfera-Atmosfera na Amazonia - APLBA	Cachoeira Paulista-sao Paulo	Brazil
32	Aktsiaselts Airel	Tartu	Estonia
33	UNIVERSITY OF BIRMINGHAM	Birmingham	United Kingdom
34	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
35	UNIVERSITY OF CRETE.	Heraklion, Crete	Greece
36	THE HEBREW UNIVERSITY OF JERUSALEM.	Jerusalem	Israel
37	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
38	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
39	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
40	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
41	TARTU UELIKOOL	Tartu	Estonia
42	JOHANNES GUTENBERG UNIVERSITAET MAINZ	Mainz	Germany
43	PEKING UNIVERSITY	Beijing	China (People's Republic of)
44	CHINESE ACADEMY OF METEOROLOGICAL SCIENCES	Beijing	China (People's Republic of)
45	PANEPISTIMIO AIGAIUO	Mytilene	Greece
46	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
47	FORSKNINGSCENTER RISOE	Roskilde	Denmark
48	DEUTSCHER WETTERDIENST	Offenbach Am Main	Germany



Title:	A European Network for Atmospheric Hydrogen observations and studies		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.528.800 €	Project start date:	1/08/2006
EU Contribution:	2.838.000 €	Duration:	36 months
Organisation:	Johann Wolfgang Goethe Universitaet Frankfurt am Main	Frankfurt Am Main	Germany

## Abstract

We propose to initialise a European Network for observations of molecular Hydrogen and to put in place a new and consistent calibration scale for molecular Hydrogen. The observational network will have 12 continuous measurements sites in Europe, 7 flask sampling sites in Europe and 6 global flask sampling sites. Concerning the European sites, a range of observation from clean air stations for measurements of atmospheric background to moderately polluted (e.g. urban outflow) and urban (i.e. polluted) sites was chosen. This will enable to improve the understanding of hydrogen in the global background atmosphere and of the impact of European emissions on the present day atmosphere, e.g. using local modelling techniques and radon flux calculations. We further propose to perform budget studies of molecular hydrogen (on a global and regional scale) and to study sinks and sources. Especially the important soil sink will be studied (mechanistically and experimentally). A first systematic study of isotopic composition of molecular hydrogen in the atmosphere is proposed, using observations from global and European flask sampling sites and global models, which hydrogen isotope fractionation processes will be incorporated. Global and regional models will be used to investigate the budget of atmospheric hydrogen, by comparing mixing ratios and isotope ratios between model and observations and by varying underlying model emission patterns. The Proposal further includes some studies to assess the impact of atmospheric hydrogen on the present day atmosphere, i.e. the influence on the oxidation capacity of the troposphere, the lifetimes of greenhouse gases like CH<sub>4</sub> and on the stratospheric budgets of water vapour and ozone. Some exploratory studies will be carried out to investigate these impacts under changed atmospheric hydrogen levels, associated with the use of hydrogen as a carrier of economy.

## Partners

Num.	Partner Legal Name	City	Country
1	JOHANN WOLFGANG GOETHE UNIVERSITAET FRANKFURT AM MAIN	Frankfurt Am Main	Germany
2	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE.	Egham, Surrey	United Kingdom
3	UNIVERSITETET I OSLO	Oslo	Norway
4	RUPRECHT-KARLS-UNIVERSITAT HEIDELBERG	Heidelberg	Germany
5	Akademia Gorniczo-Hutnicza	Krakow	Poland
6	EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT	Duebendorf	Switzerland
7	ILMATIETEEN LAITOS (FINNISH METEOROLOGICAL INSTITUTE)	Helsinki	Finland
8	Centre National de al Recherche Scientifique (CNRS)	Paris	France
9	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
10	UNIVERSITA DEGLI STUDI DI URBINO "CARLO BO"	Urbino	Italy
11	MET OFFICE	Exeter	United Kingdom
12	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
13	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
14	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
15	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
18	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
19	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany





Title:	HYdrogen, Methane and Nitrous oxide: Trend variability, budgets and interactions with the biosphere		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.325.711 €	Project start date:	1/09/2006
EU Contribution:	1.772.933 €	Duration:	36 months
Organisation:	Koninklijk Nederlands Meteorologisch Instituut	De Bilt	Netherlands

## Abstract

The global atmospheric cycles of methane, nitrous oxide and hydrogen, are coupled and include various interactions with the biosphere. Apart from classical surface observations of these gases that are part of the GAW and CMDL networks, new detailed information on the regional scale about methane and nitrous oxide can and will be obtained from recently become available satellite observations by SCIAMACHY and IASI and from remote sensing observations by FTIR. In Hymn these observational data sets will be homogenised and evaluated against each other in order to derive consistent long-term time series. The error statistics of the observations will be carefully determined. By subsequently applying advanced emission inversion and data assimilation techniques to the validated observations in atmospheric chemistry models coupled to a new biosphere model, the sources and sinks of these gases will be quantified on regional scales (up to 1x1 degree). The coupling between the cycles of these gases and OH will be investigated focussing on presently not well understood relations between variations in their trends. The new models will furthermore be applied to investigate the effects of a future transfer to a hydrogen economy and of the associated reduction in fossil fuel burning emissions (NOX, CO, VOCs) on the coupled cycles of H<sub>2</sub>, CH<sub>4</sub>, OH, and O<sub>3</sub> taking into account interactions with the biosphere.

## Partners

Num.	Partner Legal Name	City	Country
1	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT	De Bilt	Netherlands
2	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
3	UNIVERSITETET I OSLO	Oslo	Norway
4	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG.	Heidelberg	Germany
5	Centre National de al Recherche Scientifique (CNRS)	Paris	France
6	UNIVERSITAET BREMEN	Bremen	Germany
7	BELGISCH INSTITUUT VOOR RUIMTE AERONOMIE	Brussel	Belgium
8	UNIVERSITE DE LIEGE.	Liege	Belgium
9	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
10	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
11	UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	Karlsruhe	Germany
12	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France



Title:	Secondary Marine Aerosol Production from Natural Sources		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.127.181 €	Project start date:	15/09/2005
EU Contribution:	2.599.515 €	Duration:	36 months
Organisation:	National University of Ireland, Galway	Galway	Ireland

## Abstract

Marine aerosol contributes significantly to the global radiative budget and consequently, changes in marine aerosol abundance and/or chemical composition will impact on climate change. Various climate feedback mechanisms have been proposed involving the sulphur, sea-salt, iodine and organic sea-spray cycles; however, all cycles and their impacts on aerosol haze and cloud layers remains poorly quantified. MAP will consolidate the current state-of-the-art in the fields of aerosol nucleation and growth and primary marine aerosol (PMA) production to quantify the key processes associated with primary and secondary marine aerosol (SMA) production from natural sources. MAP will focus on the newly identified aerosol formation mechanisms involving iodine oxides, for secondary aerosol production, and the primary production of marine organic matter aerosols produced by plankton and transferred to the atmosphere via the bubble bursting process at the ocean surface. Key processes will be identified, parameterized and implemented in a Global/Regional-scale chemical transport model and in a regional climate model. Combining the knowledge gathered on key processes with satellite-derived information on oceanic and meteorological parameters, an algorithm will be developed to produce a Sea-Spray Source Function (S3F) which will subsequently be used in large scale models to quantify the impacts of marine aerosols. The algorithm and its application will be proposed as a service contributing to GMES/GEOSS. Similarly, an organo-iodine source function will also be developed. The impact of marine aerosol on atmospheric chemistry, radiative forcing and climate will be evaluated using the large-scale models.

## Partners

Num.	Partner Legal Name	City	Country
1	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
2	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	HELSINGIN YLIOPISTO	Helsinki	Finland
5	KUOPIO YLIOPISTO	Kuopio	Finland
6	ILMATIETEEN LAITOS	Helsinki	Finland
7	THE UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
8	UNIVERSITY OF YORK.	York	United Kingdom
9	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
10	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
11	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG.	Heidelberg	Germany
12	Max Planck Gesellschaft zur Förderung der Wissenschaften E.V.		Germany
13	JOHANNES GUTENBERG UNIVERSITAET MAINZ	Mainz	Germany
14	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
15	UNIVERSITY OF CRETE.	Heraklion, Crete	Greece
16	UNIVERSITA POLITECNICA DELLE MARCHE	Ancona	Italy



Title:	Organics over the Ocean Modifying Particles in both Hemispheres		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.2. Atmospheric pollutants and their regional impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.477.167 €	Project start date:	1/09/2005
EU Contribution:	1.931.647 €	Duration:	36 months
Organisation:	Max Planck Gesellschaft zur Förderung der Wissenschaften e.V.	München	Germany

## Abstract

Considering its size and potential importance, the ocean is surprisingly poorly characterised in terms of organic gases that play important roles in global atmospheric chemistry. In this project we aim to characterise the nature of organic trace species, in particular organic oxygenates, and the rate of emissions from marine biology. The oxidation of these compounds in air is directly linked to the global ozone budget while the oxidation pathways in seawater are largely unknown. We will conduct laboratory experiments on seawater samples and specific phytoplankton types to determine the effect of basic biophysical parameters (e.g. temperature, pH, plankton growth rate and physiological state) on the emission of organic species. The photooxidation rates and products of these species will be examined through measurements. Marine aerosols, with emphasis on the organic fraction, will also be investigated in terms of physical, chemical (mass closure), hygroscopic and optical properties. Two shipborne research cruises will be performed to assess both emission and uptake in the open ocean, and contrast the pristine tropical Southern Hemispheric with the more strongly anthropogenically affected Northern Hemisphere. Based on the laboratory and field measurements an interactive atmosphere-ocean chemistry model will be developed, basic to global Earth system simulations.

## Partners

Num.	Partner Legal Name	City	Country
1	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V	Muenchen	Germany
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
5	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
6	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN	Kiel	Germany
7	UNIVERSITEIT ANTWERPEN	Antwerpen	Belgium
8	UNIVERSITEIT GENT	Gent	Belgium
9	VESZPREMI EGYETEM	Veszprem	Hungary
10	COMMISSARIAT A L'ENERGIE ATOMIQUE	Paris	France





# 1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks

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## 1.3. Climate dynamics and variability

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Title:	Adaptation and Mitigation Strategies: Supporting European climate policy		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.3. Climate dynamics and variability		
Instrument:	Integrated Project		
Project Total Cost:	18.053.000 €	Project start date:	1/03/2006
EU Contribution:	12.905.000 €	Duration:	36 months
Organisation:	University of East Anglia	Norwich	United Kingdom

## Abstract

The core objectives of ADAM (ADaptation And Mitigation) are: To assess the extent to which existing and evolving EU (and world) mitigation and adaptation policies can achieve a tolerable transition (a 'soft landing') to a world with a global climate no warmer than 2 degrees C above pre-industrial levels, and to identify their associated costs and effectiveness, including an assessment of the damages avoided compared to a scenario where climate change continues unchecked to 5 C. To develop and appraise a portfolio of longer term strategic policy options that could contribute to addressing identified shortfalls both between existing mitigation policies and the achievement of the EU's 2 C target, and between existing adaptation policy development and implied EU goals and targets for adaptation. To develop a novel Policy-options Appraisal Framework and apply it both to existing and evolving policies, and to new, long-term strategic policy options, so as to inform: European and international climate protection strategy in post-2012 Kyoto negotiations, a restructuring of International Development Assistance, the EU electricity sector and regional spatial planning. The ADAM project will lead to a better understanding of the synergies, trade-offs and conflicts that exist between adaptation and mitigation policies at multiple scales. Crucially, ADAM will support EU policy development in the next stage of the development of the Kyoto Protocol, in particular negotiations around a post-2012 global climate policy regime, and will inform the emergence of new adaptation strategies for Europe. The main impact of the ADAM project will be to improve the quality and relevance of scientific and stakeholder contributions to the development and evaluation of climate change policy options within the European Commission. This will help the Commission to deliver on its current medium-term climate policy objectives and help inform its development of a longer-term climate strategy.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
2	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
3	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
4	CICERO SENTER FOR KLIMAFORSKNING	Oslo	Norway
5	Alterra b.v.	Wageningen	Netherlands
6	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
7	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
8	LUNDS UNIVERSITET	Lund	Sweden
9	UNIVERSITEIT MAASTRICHT	Maastricht	Netherlands
10	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (cerdanyola Del Valles)	Spain
11	ZAKLADU BADAN SRODOWISKA ROLNICZEGO I LESNEGO POLSKIEJ AKADEEMII NAUK	Poznan	Poland
12	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
13	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
14	THE CHANCELLOR, MASTER AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
15	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium

16	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
17	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
18	Centre National de al Recherche Scientifique (CNRS)	Paris	France
19	BUDAPESTI CORVINUS EGYETEM	Budapest	Hungary
20	ENERDATA SA	Gieres	France
21	DEUTSCHES INSTITUT FUER WIRTSCHAFTSFORSCHUNG E.V.	Berlin	Germany
22	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
23	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
24	CENTRE FOR EUROPEAN POLICY STUDIES	Bruxelles	Belgium
25	THE ENERGY AND RESOURCES INSTITUTE	New Delhi	India
26	CHINESE ACADEMY OF SCIENCES - INSTITUTE OF ATMOSPHERIC PHYSICS (IAP, CAS)	Beijing	China (People's Republic of)



Title:	Understanding the Dynamics of the Coupled Climate System		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.3. Climate dynamics and variability		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.122.214 €	Project start date:	1/03/2005
EU Contribution:	1.999.998 €	Duration:	36 months
Organisation:	Stiftelsen Nansen Senter for Fjernmaaling	Bergen	Norway

## Abstract

Deeper understanding of the intrinsic variability and stability properties of the main climate variability modes is needed to assess confidence in the detection, attribution and prediction of global and regional climate change, to improve seasonal predictions, and to understand the shortcomings of current prediction systems. DYNAMITE will explore the fundamental dynamical mechanisms of two of the most important modes of climate variability: the North Atlantic Oscillation/Arctic Oscillation (NAO/AO) and the El Niño-Southern Oscillation (ENSO). The project will elucidate key theoretical and practical aspects of the NAO/AO and ENSO through analyses of available observations, application of classical and new theory, and use of idealised and state-of-the-art numerical models of the atmosphere, ocean, land-surface, sea-ice, marine biology, and the coupled climate system.

Specifically, DYNAMITE will advance the understanding of strongly and weakly coupled processes underlying the natural variability of ENSO and NAO/AO; it will evaluate the representation of the coupled processes underlying ENSO and the NAO in state-of-the-art models used to predict climate change; it will advance understanding of the response of ENSO and NAO/AO to climate change; and it will assess the role of ocean biology in the variability of the tropical coupled climate system, including ENSO.

DYNAMITE will be implemented by a partnership of world class climate research institutions, including a candidate country and several SMEs. All of the results and findings gained in DYNAMITE will be transferred to the climate modelling community both in and outside Europe by bi-annual electronic newsletters and a dedicated and open DYNAMITE model workshop at the end of the project. DYNAMITE will improve the European capability to make predictions of the state of the climate system from seasons to centuries ahead, thereby contributing to the competitiveness and sustainability of the European Union.

## Partners

Num.	Partner Legal Name	City	Country
1	STIFTELSEN NANSEN SENTER FOR FJERNMAALING	Bergen	Norway
2	UNIVERSITY OF READING	Reading	United Kingdom
3	CENTRE EUROPEEN DE RECHERCHE ET DE FORMATION AVANCEE EN CALCUL SCIENTIFIQUE	Toulouse	France
4	MET OFFICE	Exeter	United Kingdom
5	Centre National de al Recherche Scientifique (CNRS)	Paris	France
6	CHINESE ACADEMY OF SCIENCES - INSTITUTE OF ATMOSPHERIC PHYSICS (IAP,CAS)	Beijing	China (People's Republic of)
7	LEIBNIZ INSTITUT FUER MEERESWISSENSCHAFTEN	Kiel	Germany
8	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
9	Administratia Nationala de Meteorologie	Bucuresti	Romania
10	VESTAS ASIA PACIFIC A/S	Randers	Denmark
11	BERGENSHALVOEENS KOMMUNALE KRAFTSELSKAP RAADGIVING AS	Bergen	Norway
12	SOCIETA GENERALE DI INGEGNERIA - S.G.I. SPA	Sarmeola Di Rubano (padova)	Italy
13	VEXCEL UK LIMITED	Newbury	United Kingdom



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Title:	Enhancing the European Participation in Living with Climate Variability and Change: Understanding the Uncertainties and Managing the Risks		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks 1.3. Climate dynamics and variability		
Instrument:	Specific Support Action		
Project Total Cost:	424.822 €	Project start date:	1/05/2006
EU Contribution:	60.000 €	Duration:	9 months
Organisation:	Ilmatieteen Laitos	Helsinki	Finland

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## Abstract

Climate change is becoming a sensitive factor in human socio-economical activities as anthropogenic activities alter the Earth system. This can entail rising losses and damage associated with climatic hazards, thus requiring urgent and purposeful adaptation to climate conditions and managing climate-related risks.

The conference "WMO Conference on Living with Climate Variability and Change: Understanding the uncertainties and managing the risks" (LWCVC) to be held in Espoo, Finland, 17- 21 July 2006, co-sponsored by the World Meteorological Organization, the Finnish Meteorological Institute, and the International Research Institute for Climate Prediction will review possibilities and constraints in integrating climate risks and uncertainties into the main decision-making areas that are critically sensitive to climate variability and change. The conference will draw on the experiences of public and private organizations worldwide that have been engaged in creating and using climate information and predictions to assess and manage related risks. Particular efforts will be devoted to the dissemination of the conference recommendations to key stake holders.

The focus of the conference is on decision-processes in a real-world context with critical climate relationships. Europe has a responsibility in global impacts but certainly much to offer world-wide in terms of political will, technological expertise and management practices. It is thus timely that Europe takes a leading role in this endeavour to harness management, technological and institutional issues at stake.

The goal of the conference is to make substantial progress in the establishment of an operative agenda for laying down adaptation measures to climate variability and change, to launch a lasting process for future initiatives and to enhance European participation in these. The conference will also contribute to the achievements of the international development goals established under the 2000 United Nations Millennium Declaration.

## Partners

Num.	Partner Legal Name	City	Country
1	ILMATIETEEN LAITOS	Helsinki	Finland



Title:	New Paleoreconstructions from Antarctic Ice and Marine Records		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.3. Climate dynamics and variability		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	5.470.257 €	Project start date:	1/12/2004
EU Contribution:	2.500.000 €	Duration:	36 months
Organisation:	Centre National de al Recherche Scientifique	Paris	France

## Abstract

The objective of the Specific Targeted Research Project EPICA-MIS is to produce palaeoreconstructions and integrated climate analysis through marine and ice core studies. It will contribute to the development of novel paleoreconstruction methods by providing unique paleorecords and developing new proxies of critical properties of the climate system. The two Antarctic deep ice cores will be completed and they will for the first time reveal atmospheric records of greenhouse gases like CO<sub>2</sub> and methane reaching 800,000 years back in time. Novel multi-parameter and high-resolution records of climate-relevant parameters like ice isotopes, greenhouse gases, dust and soluble impurities will be produced from the new Antarctic ice cores. They will be compared and correlated with palaeoreconstructions from marine, Greenland and other Antarctic reA key task here is to produce common timescales for the records by comparing the individual datings and by investigating novel tephra and paleomagnetic correlation methods. The produced multiproxy reconstructions will provide an outstanding platform for understanding and modelling the past and present climate. Because the reconstructions from both ocean and ice cores will be integrated and will use novel indicators for instance for sea ice, Antarctic insolation, iron or opal isotopes, climatic issues like the carbon cycle, sea surface temperature, and the climatic coupling between the northern and southern hemispheres can be addressed with new perspectives. As strategies for mitigation and adaptation to global change have to be based on predictions on future climate, the EPICA-MIS novel palaeoreconstructions will produce new evidence about climate dynamics and variability necessary to improve and test policy-relevant models. The Research Project described here goes a step further in integrating the European ice core research groups with marine palaeoclimate research groups, thus forming a strong European Research Area.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National de al Recherche Scientifique (CNRS)	Paris	France
2	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
4	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
5	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
6	KOEBENHAVNS UNIVERSITET	Copenhagen K	Denmark
7	INSTITUT POLAIRE FRANCAIS - PAUL EMILE VICTOR	Plouzane	France
8	UTRECHT UNIVERSITY	Utrecht	Netherlands
9	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
10	NORWEGIAN POLAR INSTITUTE	Tromsoe	Norway
11	UNIVERSITY OF BERN	Bern	Switzerland
12	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
13	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
14	COMMISSARIAT A L'ENERGIE ATOMIQUE'	Paris	France
15	CONSORZIO PER L'ATTUAZIONE DEL PROGRAMMA NAZIONALE DI RICERCHE IN ANTARTIDE SCRL	Roma	Italy



Title:	Climate of the Arctic and its Role for Europe (CARE) - a European component of the International Polar Year.		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks 1.3. Climate dynamics and variability		
Instrument:	Specific Support Action		
Project Total Cost:	409.000 €	Project start date:	1/07/2005
EU Contribution:	395.000 €	Duration:	18 months
Organisation:	Stiftelsen Nansen Senter for Fjernmaaling	Bergen	Norway

## Abstract

The overall objective of IPY-CARE is to create, co-ordinate and prepare a Pan-European science and implementation plan for Arctic climate change and ecosystems research programme as contribution to the International Polar Year. The Arctic has over the last 2-3 decades warmed more than other regions of the world, and the sea ice cover has decreased in the order of 10% in the same period. Climate models furthermore indicate that anthropogenic global warming will be enhanced in the northern high latitudes due to complex feedback mechanisms in the atmosphere-ocean-ice system. At the end of this century, the Arctic Ocean is predicted to be "a blue ocean" during summer time. The Arctic may therefore encounter the most rapid and dramatic changes during the 21st century, with significant consequences for environment and human activities.

The IPY-CARE Specific Support Action will create a coordinated plan for European Arctic climate and ecosystem research programme by organising expert groups who will develop a science and implementation plan for this project. IPY-CARE will require large and multi-disciplinary resources that can only be mobilized by a joint effort of a broad consortium, which includes all the major polar research institutions and groups in Europe. IPY-CARE will build up promotion and outreach activities to rise the awareness of the importance of the Arctic for global climate, resource exploitation and environmental vulnerability. Furthermore, IPY-CARE will develop education and training programmes in the area of Arctic climate research for young scientists in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	STIFTELSEN NANSEN SENTER FOR FJERNMAALING	Bergen	Norway
2	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
3	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
4	NORSK POLARINSTITUT - NORWEGIAN POLAR INSTITUTE	Tromsoe	Norway
5	Akademie der Wissenschaften und der Literatur, Mainz	Mainz	Germany
6	UNIVERSITETET I BERGEN	Bergen	Norway
7	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
9	FINNISH INSTITUTE OF MARINE RESEARCH MERENTUTKIMUSLAITOS	Helsinki	Finland
10	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
11	THE SCOTTISH ASSOCIATION FOR MARINE SCIENCE	Dunbeg Oban	United Kingdom
12	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
13	Arctic and Antarctic Research Institute - State Research Center of Russian Federation	Saint Petersburg	Russian Federation
14	NANSEN INTERNATIONAL ENVIRONMENTAL AND REMOTE SENSING CENTER	Sint Petersburg	Russian Federation
15	Centre National de al Recherche Scientifique (CNRS)	Paris	France
16	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
17	Administratia Nationala de Meteorologie	Bucuresti	Romania
18	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (cerdanyola Del Valles)	Spain
19	INSTYTUT OCEANOLOGII - POLSKIEJ AKADEMII NAUK	Sopot	Poland



20	THE INTERNATIONAL POLAR FOUNDATION	Bruxelles	Belgium
21	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom



Title:	European climate of the last millennium		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.3. Climate dynamics and variability		
Instrument:	Integrated Project		
Project Total Cost:	15.513.096 €	Project start date:	1/01/2006
EU Contribution:	12.600.000 €	Duration:	48 months
Organisation:	University of Wales Swansea	Swansea	United Kingdom

## Abstract

Millennium will answer one of the most critical questions in climate research: does the magnitude and rate of 20th Century climate change exceed the natural variability of European climate over the last millennium. Existing climate reconstructions rely on inadequate data and underestimate variability. Improved GCM parameterization requires more accurate reconstructions and integrated modelling. We will supply high-resolution chronologies that capture the magnitude and rate of change and the magnitude and frequency of extreme events over the last 1000 years. Our multi-disciplinary team will use innovative and developing technologies to extract quantitative palaeoclimate information from documentary and natural archives, including trees, lakes, mires and ice cores. A multi-proxy approach provides seasonal palaeoclimate signals with quantified precision. Advances in dating allow us, for the first time, to place terrestrial and marine proxy records on the same timescale, allowing lead and lag relationships in ocean-atmosphere forcing to be captured. Annually banded seashells will be cross-dated like tree rings, and tephra-rich sediments used to construct a marine chronology independent of P14PC dating. This can be used to reconstruct changes in ventilation linked directly to the strength of North Atlantic circulation. Millennial reconstructions of European climate, at a range of scales, will define whether recent climate change is unusual in the context of past variability. Millennium proxy-based reconstructions will be fused with a hierarchy of models, run over both millennium and century time scales using a purpose-built PC cluster and the huge resources of the Climateprediction.net distributed computing network. Integrated hind- and forecast modelling, (using HadCM3) will allow us to test whether current empirically reconstructed climate records based on regression methods underestimate climate sensitivity or if current GCM simulations give overestimates.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF WALES SWANSEA	Swansea	United Kingdom
2	OULUN YLIOPISTO.	Oulu	Finland
3	MASARYKOVA UNIVERZITA V BRNO	Brno	Czech Republic
4	THE UNIVERSITY COURT OF THE UNIVERSITY OF ST ANDREWS	St Andrews	United Kingdom
5	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
6	THE SCOTTISH ASSOCIATION FOR MARINE SCIENCE	Dunbeg Oban	United Kingdom
7	UNIVERSITETET I TROMSOE	Tromsoe	Norway
8	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
9	UNIVERSITAET BERN	Bern	Switzerland
10	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
11	GOZDARSKI INSTITUT SLOVENIJE	Ljubljana	Slovenia
12	DM TECHNOLOGY LIMITED	Kings Lynn - Norfolk	United Kingdom
13	COX ANALYTICAL SYSTEMS SWEDEN AB	Goeteborg	Sweden
14	Anglia Polytechnic University Higher Education Corporation	Chelmsford	United Kingdom
15	HELSINGIN YLIOPISTO	Helsinki	Finland
16	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
17	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
18	UNIVERSITY OF WALES, BANGOR.	Bangor	United Kingdom
19	UNIVERSITEIT UTRECHT	Utrecht	Netherlands

20	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
21	METSANTUTKIMUSLAITOS	Helsinki	Finland
22	NORSK POLARINSTITUT - NORWEGIAN POLAR INSTITUTE	Tromsoe	Norway
23	Aarhus Universitet	Aarhus C	Denmark
24	SCIENCE INSTITUTE - UNIVERSITY OF ICELAND	Reykjavik	Iceland
25	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
26	UMEA UNIVERSITET	Umea	Sweden
27	UNIVERSITAET HOHENHEIM	Stuttgart	Germany
28	UNIVERSITAT DE BARCELONA	Barcelona	Spain
29	UNIWERSYTET IM. ADAMA MICKIEWICZA W POZNANIU	Poznan	Poland
30	INSTITUTE OF GEOGRAPHY - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
31	Albert-Ludwigs-Universitaet Freiburg	Freiburg	Germany
32	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
33	UNIVERSITY OF SUNDERLAND.	Sunderland	United Kingdom
34	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT (KNMI)	De Bilt	Netherlands
35	INSTYTUT METEOROLOGII I GOSPODARKI WODNEJ	Warszawa	Poland
36	SZEGEDI TUDOMANYEGYETEM	Szeged	Hungary
38	THE UNIVERSITY OF EXETER.	Exeter	United Kingdom
39	Consiglio Nazionale delle Ricerche	Roma	Italy
40	LUNDS UNIVERSITET	Lund	Sweden



# 1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks

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## 1.4. Prediction of climatic change and its impacts

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AMMA	African Monsoon Multidisciplinary Analysis	63
AMMA TTC	African Monsoon Multidisciplinary Analysis Extension	65
CECILIA	Central and Eastern Europe Climate Change Impact and Vulnerability Assessment	67
CIRCE	Climate Change and Impact Research: the Mediterranean Environment	68
CLARIS	A Europe-South America Network for Climate Change Assessment and Impact Studies	70
CLAVIER	CLimate ChAnge and Variability: Impact on Central and Eastern EuRope	71
ENSEMBLES	ENSEMBLE-based Predictions of Climate Changes and their Impacts	72

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Title:	African Monsoon Multidisciplinary Analysis		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Integrated Project		
Project Total Cost:	34.962.795 €	Project start date:	1/01/2005
EU Contribution:	11.700.000 €	Duration:	60 months
Organisation:	Centre National de al Recherche Scientifique	Paris	France

## Abstract

The dramatic change in the region of the West African monsoon (WAM) from wet conditions in the 50s and 60s to much drier conditions from the 70s to the 90s represents one of the strongest inter-decadal signals on the planet in the 20th century. Marked inter-annual variations in recent decades have resulted in extremely dry years with devastating environmental and socio-economic impacts. The abrupt decrease of water resources in the Sahel divided by two the cattle population and some exportation cultures disappeared. Vulnerability of West African societies to climate variability is likely to increase in the next decades as demands on resources increase due to the rapidly growing population. The situation may be exacerbated by the effects of climate change, land degradation caused by the growing population and water pollution. Motivated by the need to develop strategies to reduce the socioeconomic impacts of climate variability and change in WAM we aim :

i) To improve our ability to predict the WAM and its impacts on intra-seasonal to decadal timescales,  
 ii) To improve our ability to predict the consequences of climate change on WAM variability and its impacts. These objectives will be achieved in the African Monsoon Multidisciplinary/ Analysis (AMMA) project by re-enforcing the regional environmental monitoring systems and conducting intensive field campaigns. This will lead to a better understanding of the mechanisms involved and in-fine improve our models and their predictive skills. The observational system will cover the regional water cycle, the atmospheric dynamics and chemistry, the land-surface and oceanic conditions. It will cover 3 time scales :

- i) a long term monitoring,
- ii) an enhanced observing period of two years and
- iii) a special observing periods over one rainy season.

In order to monitor the human dimension of the West African monsoon variability crop yields, water resources and health will be monitored with the same strategy.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National de al Recherche Scientifique (CNRS)	Paris	France
2	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
3	UNIVERSITAET ZU KOELN	Koeln	Germany
4	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
5	UNIVERSITY OF LEEDS	Leeds	United Kingdom
6	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
7	KOEBENHAVNS UNIVERSITET	Copenhagen K	Denmark
8	CENTRE NATIONAL DE RECHERCHES METEOROLOGIQUES METEO FRANCE	Toulouse	France
9	MEDIAS FRANCE	Toulouse	France
10	UNIVERSITE DE BOURGOGNE: DIJON	Dijon	France
11	UNIVERSITE PARIS XII - VAL DE MARNE	Creteil	France
12	UNIVERSITE PAUL SABATIER - TOULOUSE III	Toulouse	France
13	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
14	UNIVERSITAET BREMEN	Bremen	Germany
15	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
16	LEIBNIZ INSTITUT FUR MEERESWISSENSCHAFTEN	Kiel	Germany

17	LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN	Muenchen	Germany
18	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAET BONN	Bonn	Germany
19	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
20	THE UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
21	UNIVERSITY OF YORK	York	United Kingdom
22	UNIVERSITY OF LEICESTER	Leicester	United Kingdom
23	THE UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
24	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
25	Consiglio Nazionale delle Ricerche	Roma	Italy
26	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L' AMBIENTE	Roma	Italy
28	UNIVERSITA DEGLI STUDI DI PERUGIA	Perugia	Italy
29	UNIVERSIDAD DE CASTILLA - LA MANCHA	Ciudad Real	Spain
30	UNIVERSIDAD COMPLUTENSE DE MADRID	Madrid	Spain
31	UNIVERSIDAD POLITECNICA DE CARTAGENA	Cartagena	Spain
32	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
33	EUROPEAN CENTRE FOR MEDIUM - RANGE WEATHER FORECASTS	Reading	United Kingdom
34	CENTRE REGIONAL DE FORMATION ET D'APLICACION EN AGROMETEOROLOGIE ET HYDROLOGIE OPERATIONNELLE	Niamey	Niger
35	CENTRE DE RECHERCHE MEDICALE ET SANITAIRE	Niamey	Niger
36	ECOLE INTER-ETATS D'INGENIEURS DE L' EQUIPEMENT RURAL	Ouagadougou 01	Burkina Faso
37	African Centre for Meteorological Application for Development	Niamey	Niger
38	VAISALA OYJ	Vantaa	Finland
39	OCEAN SCIENTIFIC INTERNATIONAL	Petersfield	United Kingdom
40	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT (KNMI)	De Bilt	Netherlands
41	Agence pour la Securite de la Navigation Aerienne en Afrique et a Madagascar	Dakar	Senegal
42	UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	Karlsruhe	Germany



Title:	African Monsoon Multidisciplinary Analysis Extension		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Integrated Project		
Project Total Cost:	1.335.960 €	Project start date:	
EU Contribution:	1.251.960 €	Duration:	36 months
Organisation:	Centre National de al Recherche Scientifique	Paris	France

## Abstract

The overarching purposes of AMMA-TTC are to:

1) assist in the achievement of the UN Millenium Development Goals in Africa and the implementation of the EU Strategy for Africa, which includes action to counter the effects of climate change and the development of local capabilities to generate reliable information on the location, condition and evolution of environmental resources, food availability and crisis situations;

2) add to the African participation and ownership of AMMA research activities, and strengthen the linkages between European research institutions and the West African research community;

3) ensure that the further development of national expertise is maintained beyond the AMMA project.

To help meet these high level objectives, the specific objectives of AMMA-TTC are to:

a) identify short and longer term impacts that changes in the WAM are likely to have on agriculture and land productivity, land use, water resources, health and food security ;

b) investigate the options for adaptation to the above impacts ;

c) improve the ability of operational centres to forecast seasonal variation in the WAM;

d) compile the results of this research and communicate them to the user communities.

The overall strategy for the implementation of the extension of the project have been to define a complementary partnership with universities, research institutions and operational centers that constitute a long term knowledge base to feed expertise, methods and tools to operational centers. AMMA-results will be extended to include investigation of the impacts of changes and variability of the West African Monsoon, and also options for adaptation to the variability and changes. AMMA-TTC will promote the multidisciplinary approach to WAM research, by integrating geophysical research on biophysical processes with broader-based impacts. AMMA-knowledge will be disseminated to participating centers, allowing the services provided to decision makers to be improved.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National de al Recherche Scientifique (CNRS)	Paris	France
2	Universite Cheickh Anta Diop de Dakar	Dakar	Senegal
3	Université de Ouagadougou	Ouagadougou	Burkina Faso
4	Université de Bamako	Bamako	Mali
5	Université Abdou Moumouni	Niamey	Niger
6	Universite Abomey Calavi	Cotonou	BENIN
7	Direction Nationale de la Meteorologie du Mali	Bamako-senou	Mali
8	Direction de la Météorologie Nationale du Niger	Niamey	Niger
9	Direction de la Météorologie Nationale du Senegal	Dakar	Senegal
10	Direction Nationale de la Meteorologie de Guinee	Conakry	Guinea
11	Kwame Nkrumah University of Science and Technology	Kumasi	Ghana
12	Ghana Meteorological Agency	Accra	Ghana
13	Institut Senegalais de Recherches Agricoles	Dakar	Senegal
14	Institut de l'Environnement et de Recherches Agricoles	Ouagadougou	Burkina Faso
15	Institut d'Economie Rurale	Bamako	Mali
16	Centre de Suiivi Ecologique	Dakar	Senegal
17	University of Jos	Jos	Nigeria







Title:	Central and Eastern Europe Climate Change Impact and Vulnerability Assessment		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.367.022 €	Project start date:	1/06/2006
EU Contribution:	2.749.891 €	Duration:	36 months
Organisation:	Univerzita Karlova v Praze	Praha 1	Czech Republic

## Abstract

The main objective of CECILIA is to deliver a climate change impacts and vulnerability assessment in targeted areas of Central and Eastern Europe. Emphasis is given to applications of regional climate modelling studies at a resolution of 10 km for local impact studies in key sectors of the region. The project contains studies of hydrology, water quality and water management (focusing at medium-sized river catchments and the Black Sea coast), air quality issues in urban areas (Black Triangle - a polluted region around the common borders of the Czech Republic, Poland and Germany), agriculture (crop yield, pests and diseases, carbon cycle), and forestry (management, carbon cycle). Very high resolution simulations over this region are necessary due to the presence of complex topographical and land use features. Climate change impacts on large urban and industrial areas modulated by topographical and land-use effects which can be resolved at the 10 km scale, are investigated by CECILIA. The high spatial and temporal resolution of dense national observational networks at high temporal resolution and of the CECILIA regional model experiments will uniquely feed into investigations of climate change consequences for weather extremes in the region under study. Comparison with the results based on statistical downscaling techniques will also be provided. Statistical downscaling methods for verification localization of model output for impact studies will be performed.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
2	THE ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS	Trieste	Italy
3	METEO-FRANCE	Paris	France
4	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
5	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
6	CESKY HYDROMETEOROLOGICKY USTAV	Praha 4	Czech Republic
7	USTAV FYZIKY ATMOSFERY AV CR	Praha 4	Czech Republic
8	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
9	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
10	Administratia Nationala de Meteorologie	Bucuresti	Romania
11	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY OF THE BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
12	INSTITUTUL NATIONAL DE HIDROLOGIE SI GOSPODARIRE A APELOR	Bucharest	Romania
13	ORSZAGOS METEOROLOGIAI SZOLGALAT	Budapest	Hungary
14	NARODNE LESNICKE CENTRUM	Zvolen	Slovakia
15	POLITECHNIKA WARSZAWSKA	Warszawa	Poland
17	EOTVOS LORAND TUDOMANYEGYETEM	Budapest	Hungary



Title:	Climate Change and Impact Research: the Mediterranean Environment		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Integrated Project		
Project Total Cost:	16.554.294 €	Project start date:	
EU Contribution:	10.000.000 €	Duration:	48 months
Organisation:	Istituto Nazionale di Geofisica e Vulcanologia	Roma	Italy

## Abstract

CIRCE aims at developing for the first time an assessment of the climate change impacts in the Mediterranean area. The objectives of the project are:

- To predict and to quantify physical impacts of climate change in the Mediterranean area,
- To evaluate the consequences of climate change for the society and the economy of the populations located in the Mediterranean area,
- To develop an integrated approach to understand combined effects of climate change,
- To identify adaptation and mitigation strategies in collaboration with regional stakeholders CIRCE wants to understand and to explain how climate will change in the Mediterranean area.

The project will investigate how global and Mediterranean climates interact, how the radiative properties of the atmosphere and the radiative fluxes vary, the interaction between cloudiness and aerosol, the modifications in the water cycle. Recent observed modifications in the climate variables and detected trends will be compared.

The economic and social consequences of climate change shall be evaluated by analyzing direct impacts on migration, tourism and energy markets together with indirect impacts on the economic system. CIRCE will moreover investigate the consequences on agriculture, forests and ecosystems, human health and air quality. The variability of extreme events in the future scenario and their impacts will be assessed.

A rigorous common framework, including a set of quantitative indicators developed specifically for the Mediterranean environment will be developed and used in collaboration with regional stakeholders. The results will be incorporated in a decision support system tool and disseminated to the relevant users. Possible adaptation and mitigation strategies will be identified.

The integrated results discussed by the project CIRCE will be presented in the first Regional Assessment of Climate Change in the Mediterranean area.

## Partners

Num.	Partner Legal Name	City	Country
1	Istituto Nazionale di Geofisica e Vulcanologia	Rome	Italy
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	Fundacion Centro de Estudios Ambientales del Mediterraneo	Paterna (valencia)	Spain
4	CLU srl	Castelfranco Emilia	Italy
5	Danmarks Meteorologiske Institut	København	Denmark
6	University of Crete	Heraklion	Greece
7	Ente per le Nuove Tecnologie, l'Energia e l'Ambiente	Roma	Italy
8	Fondazione Eni Enrico Mattei	Milano	Italy
9	Universidad Complutense de Madrid	Madrid	Spain
10	GKSS Forschungszentrum Geesthacht GmbH	Geesthacht	Germany
11	Water and Environment Sustainable Solutions	Beirut	Lebanon
12	Institute of Accelerating Systems and Applications	Athens	Greece
13	Consiglio Nazionale delle Ricerche	Roma	Italy
14	Potsdam-Institut für Klimafolgenforschung e.V.	Potsdam	Germany
15	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Montpellier	France

16	Centre National de al Recherche Scientifique (CNRS)	Paris	France
17	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
18	World Health Organization, Regional Office for Europe	Copenhagen	Denmark
19	Institut du Développement Durable et des Relations Internationales	Paris	France
20	Natural Environment research Council	Southampton	United Kingdom
21	Max-Planck-Society for the Advancement of Science represented by th MPI for Chemistry	Mainz	Germany
22	National Observatory of Athens	Athens	Greece
23	Institut National des Sciences et Technologies de la Mer	Salamambo	Tunisia
24	University of Haifa	Haifa	Israel
25	Universitaet fuer Bodenkultur Wien	Wien	Austria
26	European Comission, General Directorate Joint Research Centre	Ispira	Italy
27	Parc Cientific de Barcelona	Barcelona	Spain
28	Local Health Authority Rome E (ASL RME), Department of Epidemiology	Rome	Italy
29	Météo-France / Centre National de Recherches Météorologiques	Toulouse	France
30	Met Office	Exeter	United Kingdom
31	UNIVERSITA' DEGLI STUDI DELLA TUSCIA	Viterbo	Italy
32	University of York, Stockholm Environment Institute (SEI-York)	York	United Kingdom
33	University of Birmingham	Edgbaston, Birmingham	United Kingdom
34	Universidad del País Vasco / Euskal Herriko Unibertsitatea	Leioa - Vizcaya	Spain
35	Universitat Politècnica de Catalunya	Barcelona	Spain
36	National and Kapodistrian University of Athens	Athens	Greece
37	Tel-Aviv University	Tel-aviv	Israel
38	Univerdidad de Alcala	Alcala De Henares	Spain
39	Zadigroma srl	Rome	Italy
40	University of East Anglia	Norwich	United Kingdom
41	Universitat de les Illes Balears	Palma De Mallorca	Spain
42	Instituto de Ciência Aplicada e Tecnologia da Faculdade de Ciências da Universidade de Lisboa	Lisboa	Portugal
43	Universität Hamburg	Hamburg	Germany
44	University of the Aegean	Mytilene	Greece
45	Centre For Environment and Development For Arab Region and Europe	Cairo	Egypt
46	University of Bern	Bern	Switzerland
47	Università degli Studi - L'Aquila	L'aquila	Italy
48	Freie Universität Berlin	Berlin	Germany
49	University of Lecce	Lecce	Italy
50	European Climate Forum	Ebereswalde	Germany
51	Vrije Universiteit Amsterdam	Amsterdam	Netherlands
52	The Hebrew University of Jerusalem	Jerusalem	Israel
53	UNIVERSIDADE DE SANTIAGO DE COMPOSTELA	Santiago De Compostela	Spain
54	Istituto Superiore di Sanita	Roma	Italy
55	Institut Pasteur de Tunis	Tunis	Tunisia
56	Association de Recherche sur le Climat et l'Environnement	Oran	Algeria
57	The International Center for Agricultural Research in the Dry Areas	Aleppo	Syria
58	Hellenic Centre for Marine Research	Anavyssos	Greece
59	University of Southampton	Southampton	United Kingdom



Title:	A Europe-South America Network for Climate Change Assessment and Impact Studies		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Specific Support Action		
Project Total Cost:	1.118.479 €	Project start date:	1/07/2004
EU Contribution:	499.998 €	Duration:	36 months
Organisation:	Centre National de al Recherche Scientifique	Paris	France

## Abstract

The CLARIS project aims at strengthening collaborations between Europe and South America to develop common research strategies on climate change and impact issues in the subtropical region of South America through a multi-scale integrated approach (continental-regional-local).

First, CLARIS will favour the transfer of knowledge and expertise on Earth System Models, their different components and coupling procedures. Moreover, it will offer an easy access to large scale climate data sets and climate simulations mainly obtained in the context of past, present or future European projects.

Second, CLARIS will provide to European and South American scientists involved in regional climate modelling in South America the framework to compare and exchange their methodologies (dynamical and statistical). Complementary to that modelling aspect, it is a major goal for CLARIS to initiate the setting-up of a high-quality daily climate database for temperature and precipitation. The European expertise acquired through the European Climate Assessment Project will be essential to meet this objective. The resulting database will be of great value to validate and evaluate the model skills in simulating climate trends and extreme event frequency changes.

Finally, at a local scale, CLARIS aims at promoting three pilot actions designed to integrate multi-disciplinary components and to demonstrate the potential and feasibility of using climate information in the decision-making process in three major areas: agriculture, health and pollution.

The CLARIS framework will facilitate the participation of European researchers to IAI (Inter American Institute) projects and the submission of new common research proposals. Moreover, its opening towards stakeholders (e.g. agriculture, reinsurance, hydroelectricity), associated to the project through an expert group, will promote future initiatives on climate impact analysis, thus, contributing to related sustainable development strategies.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National de al Recherche Scientifique (CNRS)	Paris	France
2	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
3	Consejo Superior de Investigaciones Cientificas Y TECNICAS	Buenos Aires	Argentina
4	UNIVERSIDAD DE BUENOS AIRES	Buenos Aires	Argentina
5	INSTITUTO NACIONAL DE PESQUISAS ESPACIAIS	Sao Jose Dos Campos	Brazil
6	UNIVERSIDADE DE SAO PAULO	Sao Paulo	Brazil
7	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
8	CONSIGLIO PER LA RICERCA E SPERIMENTAZIONE IN AGRICOLTURA - AGRICULTURE RESEARCH COUNCIL	Roma	Italy
9	UNIVERSIDAD DE CASTILLA LA MANCHA	Ciudad Real	Spain
10	UNIVERSIDAD DE LA REPUBLICA	Montevideo	Uruguay
11	PLANT RESEARCH INTERNATIONAL B. V.	Wageningen	Netherlands
12	UNIVERSIDAD DE CHILE	Santiago	Chile
13	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
14	MAX PLANCK SOCIETY FOR THE ADVANCEMENT OF SCIENCE	Muenchen	Germany



Title:	CLimate ChAnge and Variability: Impact on Central and Eastern EuRoPe		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.855.080 €	Project start date:	1/09/2006
EU Contribution:	2.020.990 €	Duration:	36 months
Organisation:	Max Planck Gesellschaft zur Förderung der Wissenschaften e.V.	München	Germany

## Abstract

Observational records show that the global climate is changing and ongoing changes are also visible in Central Eastern Europe. About 64% of all catastrophic events in Europe since 1980 can directly be attributed to weather and climate extremes. Climate change projections show even an increasing likelihood of extremes. Certainly negative impacts of climate change will involve significant economic losses in several regions of Europe, while others may bring health or welfare problems somewhere else. Within CLAVIER three representative Central and Eastern European Countries (CEEC) will be studied in detail: Hungary, Romania, and Bulgaria. Researches from 6 countries and different disciplines, will identify linkages between climate change and its impact on weather patterns with consequences on air pollution, extreme events, and on water resources. Furthermore, an evaluation of the economic impact on agriculture, tourism, energy supply and the public sector will be conducted. This is of increasing importance for CEEC, which are currently facing a rapid economic development, but also for the European Union as e.g. Romania's and Bulgaria's high vulnerability from extreme events such as floods will impact not only the respective economic goals for joining the EU but also the EU solidarity fund. CLAVIER will focus on ongoing and future climate changes in Central and Eastern European Countries using measurements and existing regional scenarios to determine possible developments of the climate and to address related uncertainty. In addition, climate projections with very high detail will be carried out for CEEC to fulfill the need for a large amount of detail in time and space which is inherent in local and regional impact assessment. CLAVIER will establish a large data base, tools and methodologies, which contribute to reasonable planning for a successful development of society and economy in Central and Eastern European countries under climate change conditions.

## Partners

Num.	Partner Legal Name	City	Country
1	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
2	ORSZAGOS METEOROLOGIAI SZOLGALAT	Budapest	Hungary
3	KARL-FRANZENS-UNIVERSITAET GRAZ.	Graz	Austria
4	Centre National de al Recherche Scientifique (CNRS)	Paris	France
5	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT GMBH.	Graz	Austria
6	VITUKI	Budapest	Hungary
7	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
8	ENV-IN-CENT KORNYEZETVEDELMI TANACSADO KFT	Budapest	Hungary
9	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY OF THE BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
10	UNIVERSITY OF NATIONAL AND WORLD ECONOMY	Sofia	Bulgaria
11	INSTITUTUL NATIONAL DE HIDROLOGIE SI GOSPODARIRE A APELOR	Bucharest	Romania
12	UNIVERSITATEA BABES BOLYAI	Cluj- napoca	Romania
13	INSTITUTE OF GEOGRAPHY OF THE ROMANIAN ACADEMY	Bucharest	Romania



Title:	ENSEMBLE-based Predictions of Climate Changes and their Impacts		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.4. Prediction of climatic change and its impacts		
Instrument:	Integrated Project		
Project Total Cost:	23.147.407 €	Project start date:	1/09/2004
EU Contribution:	15.000.000 €	Duration:	60 months
Organisation:	MET Office	Exeter	United Kingdom

## Abstract

Prediction of both natural climate variability and human impact on climate is inherently probabilistic, due to uncertainties in forecast initial conditions, representation of key processes within models, and climatic forcing factors. Hence, reliable estimates of climatic risk can only be made through ensemble integrations of Earth - System Models in which these uncertainties are explicitly incorporated.

For the first time ever, a common ensemble forecast system will be developed for use across a range of timescales (seasonal, decadal, and longer) and spatial scales (global, regional, and local). This model system will be used to construct integrated scenarios of future climate change, including both non-intervention and stabilisation scenarios. This will provide a basis for quantitative risk assessment of climate change and climate variability, with emphasis on changes in extremes, including changes in storminess and precipitation, and the severity and frequency of drought, and the effects of "surprises", such as the shutdown of the thermohaline circulation. Most importantly, the model system will be extensively validated. Hindcasts made by the model system for the 20th century will be compared against quality-controlled, high-resolution gridded datasets for Europe. Probability forecasts made with the model system on the seasonal and decadal timescales will also be validated against existing data. The exploitation of the results will be maximised by linking the outputs of the ensemble prediction system to a wide range of applications. In turn, feedbacks from these impact areas back to the climate system will also be addressed. Thus ENSEMBLES will have a structuring effect on European research by bringing together an unprecedented spectrum of world-leading expertise. This expertise will be mobilised to maintain and extend European pre-eminence in the provision of policy-relevant information on climate and climate change and its interactions with society.

## Partners

Num.	Partner Legal Name	City	Country
1	MET OFFICE	Exeter	United Kingdom
2	METEO FRANCE, CENTRE NATIONAL DE RECHERCHES METEOROLOGIQUES	Toulouse	France
3	Centre National de al Recherche Scientifique (CNRS)	Paris	France
4	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
5	EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS	Reading	United Kingdom
6	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS	Laxenburg	Austria
7	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
8	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT	De Bilt	Netherlands
9	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
10	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
11	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
12	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrkoeping	Sweden
13	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
14	UNIVERSITE DE FRIBOURG	Fribourg	Switzerland
15	UNIVERSITAT HAMBURG	Hamburg	Germany
16	UNIVERSITY OF READING	Reading	United Kingdom

17	Agenzia Regionale Prevenzione e Ambiente dell'Emilia-Romagna	Bologna	Italy
18	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
19	BUREAU OF METEOROLOGY RESEARCH CENTRE	Melbourne	Australia
20	CENTRE EUROPEAN POUR LE RECHERCHE ET LA FORMATION AVANCEE EN CALCUL SCIENTIFIQUE	Toulouse	France
21	CESKY HYDROMETEOROLOGICKY USTAV	Praha 4	Czech Republic
22	CICERO SENTER FOR KLIMAFORSKNING	Oslo	Norway
23	CLIMPACT	Paris	France
24	Consiglio Nazionale delle Ricerche	Roma	Italy
25	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
26	DANMARKS JORDBRUGSFORSKNING	Tjele	Denmark
27	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
29	DEUTSCHER WETTERDIENST	Offenbach Am Main	Germany
30	ELECTRICITE DE FRANCE	Paris	France
31	ECOLE NORMALE SUPERIEURE	Paris	France
32	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
34	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
35	FUNDACION PARA LA INVESTIGACION DEL CLIMA	Majadahonda	Spain
36	ILMATIETEEN LAITOS	Helsinki	Finland
37	FACHHOCHSCHULE FUER TECHNIK STUTTGART	Stuttgart	Germany
38	FREIE UNIVERSITAET BERLIN	Berlin	Germany
40	GKSS FORSCHUNGSZENTRUM GEESTHACHT GMBH	Geesthacht	Germany
41	USTAV FYZIKY ATMOSFERY AV CR	Praha 4	Czech Republic
42	THE ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS	Trieste	Italy
43	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN AN DER UNIVERSITAT KIEL	Kiel	Germany
44	INSTITUTO NACIONAL DE METEOROLOGIA	Madrid	Spain
45	THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	New York	United States
46	INSTITUT UNIVERSITAIRE KURT BOESCH	Sion 4	Switzerland
47	UNIVERSITAT STUTTGART	Stuttgart	Germany
48	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
49	LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE	London	United Kingdom
50	LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE	London	United Kingdom
51	METEOROLOGISK INSTITUTT	Oslo	Norway
52	METEOSCHWEIZ	Zurich	Switzerland
54	NANSEN ENVIRONMENTAL AND REMOTE SENSING CENTER	Bergen	Norway
55	INSTITUTUL NATIONAL DE HIDROLOGIE SI GOSPODARIRE A APELOR BUCURESTI	Bucharest	Romania
56	Administratia Nationala de Meteorologie	Bucuresti	Romania
57	RESEARCH CENTRE FOR AGRICULTURAL AND FOREST ENVIRONMENT, POLISH ACADEMY OF SCIENCES	Poznan	Poland
58	POTSDAM-INSTITUT FUR KLIMAFOLGENFORSCHUNG E.V.	Potsdam	Germany
59	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU	Bilthoven	Netherlands
60	SOCIETE DE MATHEMATIQUES APPLIQUEES ET DE SCIENCES HUMAINES	Paris	France
61	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
62	UNIVERSIDAD DE CANTABRIA	Santander	Spain
63	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
64	UNIVERSIDAD DE CASTILLA LA MANCHA	Ciudad Real	Spain
65	UNIVERSITETET I OSLO	Oslo	Norway
67	LUNDS UNIVERSITET	Lund	Sweden
68	UNIVERSITAT KASSEL	Kassel	Germany
69	UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
70	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom



72	WEATHER INFORMATICS LTD	Reading	United Kingdom
73	UNIVERSITE JOSEPH FOURIER GRENOBLE 1	Grenoble	France
74	MET EIREANN	Dublin	Ireland
75	UNIVERSITAET BERN	Bern	Switzerland
76	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN AN DER UNIVERSITAET KIEL	Kiel	Germany



# **1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks**

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## **1.5. Stratospheric ozone and climate interactions**

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ATTICA	European Assessment of the Transport Impacts on Climate Change and Ozone Depletion	76
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Title:	European Assessment of the Transport Impacts on Climate Change and Ozone Depletion		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks 1.5. Stratospheric ozone and climate interactions		
Instrument:	Specific Support Action		
Project Total Cost:	680.000 €	Project start date:	1/06/2006
EU Contribution:	680.000 €	Duration:	42 months
Organisation:	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany

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## Abstract

The ATTICA consortium offers to provide the European community with a coherent series of assessments of the impact of transport emissions on climate change and ozone depletion. Three assessments will cover the emissions of single transport sectors, viz. of aviation, shipping, and road and rail traffic. Another assessment deals with metrics that allow to describe, quantify, and compare in a fair way the effects of the transport emissions in the atmosphere. Finally, a synthesis of the foregoing assessments will be written that will provide the overview of the impacts of the emissions of all transport sectors on climate change and the ozone layer.

For the first time, different modes of transport will be consistently assessed. The consistent assessment allows the interested citizen to estimate in principle their own contribution to environmental problems and to compare it to that of others. Apart from policy and decision makers, the synthesis assessment will help journalists, teachers, and others, to digest the results and to present them in public media, in schools and universities, ensuring wide spread of the results. The assessments and the synthesis report will inform the EU in developing its policy and will strengthen its position in international climate conventions and other international agreements. It will help finding emission reduction and mitigation strategies, and give advice for industry on design of future engines and vehicles, thereby strengthening the European position.

## Partners

Num.	Partner Legal Name	City	Country
1	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
2	CICERO SENTER FOR KLIMAFORSKNING	Oslo	Norway
3	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
4	THE MANCHESTER METROPOLITAN UNIVERSITY	Manchester	United Kingdom
5	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
6	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
7	UNIVERSITETET I OSLO	Oslo	Norway
8	UNIVERSITA DEGLI STUDI DELL'AQUILA	Coppito, L'aquila	Italy
9	THE UNIVERSITY OF READING.	Reading	United Kingdom



Title:	Quantifying the Climate Impact of Global and European Transport Systems		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.5. Stratospheric ozone and climate interactions		
Instrument:	Integrated Project		
Project Total Cost:	12.200.000 €	Project start date:	1/03/2005
EU Contribution:	8.000.000 €	Duration:	60 months
Organisation:	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany

## Abstract

The main goal of QUANTIFY is to quantify the climate impact of global and European transport systems for the present situation and for several scenarios of future development. The climate impact of various transport modes (land surface, shipping, aviation) will be assessed, including those of long-lived greenhouse gases like CO<sub>2</sub> and N<sub>2</sub>O, and in particular the effects of emissions of ozone precursors and particles, as well as of contrails and ship tracks. The project goal includes provision of forecasts and other policy-relevant advice, which will be supplied to governments and to international assessments of climate change and ozone depletion, such as the IPCC reports (Kyoto Protocol) and WMO-UNEP ozone assessments (Montreal Protocol). Using significantly improved transport emission inventories, better evaluated and hence more reliable models, these new forecasts in QUANTIFY will represent a considerable improvement of current predictions. Long time scales are involved in the transport system and its effects on climate: Some transportation modes have long development and in-service times; some emissions have long residence times and thermal inertia of the climate system protracts possible effects. Yet the impact of short-lived species depends on location and time of the emissions. So several transport scenarios and potential mitigation options need to be assessed on a sound common basis to identify the most effective combination of short and long-term measures and to inform policymakers and industry. We aim to provide such guidance by focused field measurements, exploitation of existing data, a range of numerical models, and new policy-relevant metrics of climate change. To achieve the goal, several advances in our fundamental understanding of atmospheric processes will be required such as the mechanisms by which pollutants are transported from exhaust into the free atmosphere, the impact of pollutants on clouds and the role of absorbing aerosols.

## Partners

Num.	Partner Legal Name	City	Country
1	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
2	Airbus France SAS	Toulouse	France
3	COMMISSARIAT A L'ENERGIE ATOMIQUE'	Paris	France
4	CAMBRIDGE ENVIRONMENTAL RESEARCH CONSULTANTS	Cambridge	United Kingdom
5	CENTRE EUROPEEN DE RECHERCHE ET DE FORMATION AVANCEE EN CALCUL SCIENTIFIQUE	Toulouse	France
6	CICERO -SENTER FOR KLIMAFORSKNING	Oslo	Norway
7	METEO-FRANCE	Paris	France
8	Centre National de al Recherche Scientifique (CNRS)	Paris	France
9	UNIVERZITA KARLOVA V PRAZE (CHARLES UNIVERSITY, PRAGUE)	Praha 1	Czech Republic
10	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
11	DET NORSKE VERITAS AS	Hovik	Norway
14	EIDGENOSSISCHE TECHNISCHE HOCHSCHULE ZURICH	Zuerich	Switzerland
15	HEAVENS-ABOVE GMBH	Munich	Germany
16	Administratia Nationala de Meteorologie (National Meteorological Administration)	Bucuresti	Romania
17	UNIVERSITAT BREMEN	Bremen	Germany
18	IVL SWEDISH ENVIRONMENTAL RESEARCH INSTITUTE LTD	Stockholm	Sweden
19	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT	De Bilt	Netherlands

20	INSTITUTE FOR TRANSPORT SCIENCES NON PROFIT COMPANY, KOZLEKEDESTUDOMANYI INTEZET KHT	Budapest	Hungary
21	THE MANCHESTER METROPOLITAN UNIVERSITY	Manchester	United Kingdom
22	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN	Muenchen	Germany
24	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
26	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY OF THE BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
27	OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES'	Chatillon	France
28	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
30	UNIVERSITY OF SZEGED	Szeged	Hungary
31	TRANSPORT & MOBILITY LEUVEN	Leuven	Belgium
32	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
33	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	Davis, Ca	United States
34	UNIVERSITETET I OSLO	Oslo	Norway
35	THE REGENTS OF THE UNIVERSITY OF MICHIGAN	Ann Arbor	United States
36	UNIVERSITAT HAMBURG	Hamburg	Germany
37	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
38	THE UNIVERSITY OF READING	Reading	United Kingdom
39	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
40	UNIVERSITY OF YORK	York	United Kingdom



Title:	Quantify Extension		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.5. Stratospheric ozone and climate interactions		
Instrument:	Integrated Project		
Project Total Cost:	679.172 €	Project start date:	
EU Contribution:	388.172 €	Duration:	39 months
Organisation:	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Köln	Germany

## Abstract

The main goal of the IP QUANTIFY is to quantify the climate impact of global and European transport systems for the present situation and for several scenarios of future development. The climate impacts of various transport modes (land, shipping, and aviation) are assessed in high resolution, including long-lived greenhouse gases like CO<sub>2</sub> and N<sub>2</sub>O, and in particular the effects of emissions of ozone precursors and particles, as well as of contrails and ship tracks. The project goal includes provision of forecasts and other policy-relevant advice, which will be supplied to governments and to international assessments of climate change and ozone depletion, such as the IPCC reports and WMO-UNEP ozone assessments. Using significantly improved transport emission inventories, better evaluated and hence more reliable models, these new forecasts will represent a considerable improvement of current predictions.

Several transport scenarios and potential mitigation options need to be assessed to inform policymakers and industry. QUANTIFY provides such guidance by focused field measurements, exploitation of existing data, a range of numerical models, and new policy-relevant metrics of climate change. To achieve the goal, several advances in our fundamental understanding of atmospheric processes will be required such as the mechanisms by which pollutants are transported from exhaust into the free atmosphere, the impact of pollutants on clouds and the role of absorbing aerosols.

The QUANTIFY-TTC extension aims to enhance QUANTIFY by integrating partners from Russia, India, and China to provide transport emission and -scenario information from this rapidly developing region of the world, to obtain empirical data to significantly reduce uncertainties and to strengthen the flight campaign and cloud-aerosol interaction research by providing presently unavailable experimental data. Consequences and intervention options for European policy and technology can thus be identified.

## Partners

Num.	Partner Legal Name	City	Country
1	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Köln	Germany
2	Central Aerological Observatory	Dolgoprudny, Moscow Region	Russian Federation
3	Skobeltsyn Institute of Nuclear Physics of Moscow State University	Moscow	Russian Federation
4	State Unitary Enterprise Central Aerohydrodynamic Institute named after Prof. N.E. Zhukovsky	Zhukovsky, Moscow Reg.	Russian Federation
5	Center for Sustainable Transportation, China Academy of Transportation Sciences, Ministry of Communications, P.R.China	Beijing	China
6	Department of Environmental Sciences and Engineering, Tsinghua University	Beijing	China
7	Central Institute of Road Transport, Pune	Pune	India



Title:	Stratosphere-Climate Links With Emphasis On The UTLS		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.5. Stratospheric ozone and climate interactions		
Instrument:	Integrated Project		
Project Total Cost:	23.379.970 €	Project start date:	1/05/2004
EU Contribution:	15.000.000 €	Duration:	60 months
Organisation:	The Chancellor, Master and Scholars of the University of Cambridge	Cambridge	United Kingdom

## Abstract

Reliable prediction of the future evolution of the ozone layer and surface UV is urgently required as a basis for informed decisions by European policy makers. The state of the ozone layer over the next decades will depend on the interplay between climate change and the impact and evolution of ozone depleting substances such as CFCs. The Montreal Protocol has successfully in reduced emissions and atmospheric concentrations of CFCs, which should return to their pre-ozone hole concentrations by about 2050. However, the ozone layer will most likely not return to its pre-ozone hole state and so the central question of the Montreal process - how and when will ozone and UV radiation recover as CFC concentrations fall? - remains. Indeed, in order to provide essential advice to policy makers, the answer to that question is required within the next years. In this ambitious integrated project, the European predictive capability will be strengthened by focusing effort on 6 main interlinked areas of research: coupled chemistry/climate models; the tropical UTLS; extratropical ozone and water vapour; UV radiation; global modelling; and fundamental chemical and microphysical processes. Strong scientific management, built on Europe's excellent previous experience in stratospheric science, will bring together a critical mass of European experts in laboratory studies, atmospheric measurements and modelling. It will exploit new satellite data, such as from ENVISAT, and new modelling approaches (e.g. fully-coupled chemistry-climate models; and the growing interaction with the numerical weather forecasting community), and take advantage of new and existing research facilities being developed at the national level. Valuable information for the assessment of the atmospheric impact of aviation will be obtained. This integrated project will thus provide essential information to European government and industry and will maintain Europe's leading position.

## Partners

Num.	Partner Legal Name	City	Country
1	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
2	Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung in der Helmholtz-Gemeinschaft	Bremerhaven	Germany
3	BELGISCH INSTITUUT VOOR RUIMTE AERONOMIE	Brussel	Belgium
4	CENTRAL AEROLOGICAL OBSERVATORY	Dolgoprudny	Russian Federation
5	Centre National de al Recherche Scientifique (CNRS)	Paris	France
6	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
7	A MAGYAR TUDOMANYOS AKADEMIA KEMIAI KUTATOKOZPONTJA	Budapest	Hungary
8	Consiglio Nazionale delle Ricerche	Roma	Italy
10	CESKY HYDROMETEOROLOGICKY USTAV	Praha 4	Czech Republic
11	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
12	PHYSIKALISCH-METEOROLOGISCHES OBSERVATORIUM DAVOS UND WELTSTRAHLUNGSZENTRUM	Davos Dorf	Switzerland
13	DEMOKRITUS UNIVERSITY OF THRACE (RESEARCH COMMITTEE)	Xanthi	Greece
14	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
15	DEUTSCHER WETTERDIENST	Offenbach Am Main	Germany
16	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
17	EIDGERNOSSISCHE TECHNISCHE HOCHSHUTE ZURICH	Zuerich	Switzerland
18	ILMATIETEEN IAITOS	Helsinki	Finland

19	FREIE UNIVERSITAET BERLIN	Berlin	Germany
20	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
21	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
22	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	London	United Kingdom
23	INSTITUTO NACIONAL DE TECNICA AEROSPAIAL ESTEBAN TERRADAS	Torreon De Ardoz - Madrid	Spain
24	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
25	ISTITUTO NAZIONALE DI OTTICA APPLICATA / CONSIGLIO NATIONALE DE LA RICERCA	Firenze	Italy
26	JOHANNES GUTENBERG UNIVERSITAT MAINZ	Mainz	Germany
27	UNIVERSITAT GRAZ	Graz	Austria
30	MAX PLANCK GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V	Muenchen	Germany
33	METEO-FRANCE, CENTRE NATIONAL DE RECHERCHES METEOROLOGIQUES	Paris	France
34	NATIONAL AND KAPODISTRIAN UNIVESRSITY OF ATHENS	Athina	Greece
35	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
36	OBSERVATOIRE CANTONAL DE NEUCHATEL	Neuchatel	Switzerland
37	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland
38	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU	Bilthoven	Netherlands
39	KONINKLIJK NEDERLANDS MEEOROLOGISCH INSTITUUT	De Bilt	Netherlands
40	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrkoeping	Sweden
41	STRATOSPHERE-M, LTD.	Dolgoprudnyi / Moscow	Russian Federation
42	UNIVERSITAT BERN	Bern	Switzerland
43	UNIVERSITAT BREMEN	Bremen	Germany
44	RECTORADO DE LA UNIVERSIDAD DE BUENOS AIRES	Buenos Aires	Argentina
45	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
46	JOHANN WOLFGANG GOETHE-UNIVERSITAT FRANKFURT	Frankfurt Am Main	Germany
47	GOTEBORGS UNIVERSITET	Goeteborg	Sweden
48	UNIVERSITAT HANNOVER	Hannover	Germany
49	RUPRECHT-KARLS-UNIVERSITAT HEIDELBERG	Heidelberg	Germany
50	MEDIZINISCHE UNIVERSITAT INNSBRUCK, INSTITUT FUR MEDIZINSCHES PHYSIK	Innsbruck	Austria
51	UNIVERSITAET KARLSRUHE (TH)	Karlsruhe	Germany
52	LANCASTER UNIVERSITY	Lancaster	United Kingdom
53	UNIVERSITA' DEGLI STUDI DE L'AQUILA	Coppito, L'aquila	Italy
54	UNIVERSITY OF LEEDS	Leeds	United Kingdom
55	UNIVERSITY OF LEICESTER	Leicester	United Kingdom
56	UMIST	Manchester	United Kingdom
57	UNIVERSITETET I OSLO	Oslo	Norway
58	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
59	UNIVERSITY OF WYOMING	Laramie, Wyoming	United States
60	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA	Davis, Ca	United States
61	METEOROLOGICAL OFFICE	Exeter	United Kingdom
62	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
63	UNIVERSITAT FUR BODENKULTUR	Wien	Austria
64	WEATHER INFORMATICS LTD	Reading	United Kingdom
65	CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS	Thermi-thessaloniki	Greece
66	UNIVERSIDAD CATOLICA ARGENTINA SANTA MARIA DE LOS BUENOS AIRES	Buenos Aires	Argentina
67	UNIVERSITY OF UTRECHT	Utrecht	Netherlands
68	UNIVERSITY OF MANCHESTER	Manchester	United Kingdom





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Title:	Quadrennial Ozone Symposium 2004		
Area:	1. Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks		
	1.5. Stratospheric ozone and climate interactions		
Instrument:	Specific Support Action		
Project Total Cost:	232.000 €	Project start date:	1/10/2003
EU Contribution:	63.000 €	Duration:	12 months
Organisation:	National and Kapodistrian University of Athens	Athina	Greece

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## Abstract

The project aims to support preparation and organisation of the next Quadrennial Ozone Symposium (QOS2004). This will be achieved through making local arrangements and providing support for young scientists and for scientists from accession countries to attend. A well-organised meeting is planned in which all current issues in stratospheric research are discussed. EU and other countries are supporting substantial programmes of research on stratospheric ozone and related issues (UV) and it is important to ensure that maximum benefit is gained from this research. The relevance and innovative nature of future work will be promoted through the discussions between scientists from all over the world, enhancing also cooperation of EU with other international projects. The Symposium provides an excellent forum for researchers carrying out innovative work in the areas of field measurements, laboratory measurements, modelling and theoretical research in the ozone layer, which ensures that the latest findings will be widely discussed and disseminated. As such it will facilitate communication between researchers, in each area covered by the Symposium, so promoting exchange of knowledge, encourage scientific collaboration across the sub-disciplines of the field and world-wide, assist in the early identification of key concepts and questions and so help to direct resources and research towards the critical issues in the field. At the QOS2004 the discussions and presentations will include research on future stratospheric ozone levels affected by halogens, aerosols, water and greenhouse gas emissions and how physical, radiative and chemical changes in the global stratosphere will be affected by climate change. Therefore, the Symposium falls within the objectives and the Work Programme of the 6th Framework, sub-priority 1.1.6.3 under the activity code SUSTDEV-3.1.5 (Stratospheric ozone - climate interactions).

## Partners

Num.	Partner Legal Name	City	Country
1	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece



## **2. Water cycle including soil-related aspects**

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### **2.1. Hydrology and climate processes**

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ETP-SC	A European Technology Platform for Sustainable Chemistry	84
FLASH	Observations, Analysis and Modeling of Lightning Activity in Thunderstorms, for use in Short Term Forecasting of Flash Floods	85
HYDRATE	Hydrometeorological data resources and technologies for effective flash flood forecasting	86
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Title: A European Technology Platform for Sustainable Chemistry  
Area: 2. Water cycle including soil-related aspects  
2.1. Hydrology and climate processes

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Instrument: Specific Support Action  
Project Total Cost: 948.875 € Project start date: 1/01/2005  
EU Contribution: 784.998 € Duration: 27 months  
Organisation: Conseil Europeen de l'Industrie Chimique AISBL Bruxelles Belgium

## Abstract

Innovative chemistry will contribute largely to our innovation demands. The challenge is, in concert with other scientific disciplines, to nurture and support the required transformation of chemistry science and its industrial application, in order to deliver future options and new technologies that are intrinsically sustainable, also enabling competitiveness of the EU chemical industry.

This SSA aims to support and increase sustainable chemistry innovation in Europe, by facilitating a European Technology Platform for Sustainable Chemistry (SusChem ETP). The SusChem ETP will be a multi-stakeholder activity that will involve all relevant stakeholders from e.g. industry, academia, policy makers and regulators, financial community, societal organisations. The SSA will organise general as well as expert workshops, to identify where Europe wants to be with regards to sustainable chemistry in the next 15-20 years (vision paper), what science gaps and barriers exist to reach that vision (Strategic Research Agenda, SRA), how to fill the science gaps by means of collaborative R&D, both on European and national levels, and how to remove the barriers to sustainable chemistry innovation (SRA implementation plan). An extensive communication plan will ensure engagement and open communication with stakeholders.

The SSA will make a significant contribution to the EU's 'Lisbon' and 'sustainable development' strategies. The SusChem ETP work will be framed within established EU policy with respect to the Framework Programmes, Sustainable Development, Biotechnology and Nanotechnology, Materials and Processes' priorities. Several themes are directly contributing to the Environmental Technologies Action Plan (ETAP) and the European Strategy for Environment and Health.

The SSA is about setting up the SusChem ETP and will put in place the processes by which progress will be monitored and plans and policy recommendations are revised, in future years beyond the duration of the SSA.

## Partners

Num.	Partner Legal Name	City	Country
1	CONSEIL EUROPEEN DE L'INDUSTRIE CHIMIQUE AISBL	Bruxelles	Belgium
3	DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE E.V.	Frankfurt Am-main	Germany
4	GESELLSCHAFT DEUTSCHER CHEMIKER	Frankfurt Am Main	Germany
5	ROYAL SOCIETY OF CHEMISTRY	Cambridge	United Kingdom



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Title: Observations, Analysis and Modeling of Lightning Activity in Thunderstorms, for use in Short Term Forecasting of Flash Floods

Area: 2. Water cycle including soil-related aspects  
2.1. Hydrology and climate processes

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Instrument: Specific Targeted Research Project

Project Total Cost:	1.639.354 €	Project start date:	1/09/2006
EU Contribution:	1.207.138 €	Duration:	36 months
Organisation:	Tel Aviv University	Tel Aviv	Israel

## Abstract

Flash floods are a serious problem in the Mediterranean region in particular, and in Europe in general. Floods result from large weather systems with embedded severe thunderstorms that deposit large amounts of rainfall in short periods of time. Since lightning activity can be detected and monitored continuously from thousands of kilometers away, we propose the use of lightning data to better nowcast (3-hour prediction) and forecast (24-48 hour prediction) the location, intensity and timing of heavy convective precipitation events. For this we plan to develop rainfall-lightning relationships using lightning and precipitation data sets in the Mediterranean region, and to use lightning information in conjunction with infrared / microwave observations from geostationary / low Earth orbiting satellites to improve cloud characterization, convection detection and precipitation retrieval from space. With the help of cloud and meso-scale models we plan to simulate numerous cases studies of past flash flood events in Europe to better understand the connection between intense precipitation and lightning activity. The rainfall estimates for past and future floods will be input into hydrology models to investigate the ability to predict regions of flooding on the ground, together with the time lags between heavy rainfall and flooding. Once we have established a methodology to use lightning to help estimate rainfall location and intensity, we plan to develop algorithms for short-term nowcasting, to allow for the short-term flash flood warnings via the internet for the entire Mediterranean region, and perhaps later Europe. Furthermore, using assimilated lightning data in mesoscale meteorological models we plan to investigate the possibility of improving the 24-48 hour forecasts of severe precipitation events. The societal benefits of such advanced warnings will be investigated, especially in relation to risk management.

## Partners

Num.	Partner Legal Name	City	Country
1	TEL AVIV UNIVERSITY	Tel Aviv	Israel
2	THE OPEN UNIVERSITY OF ISRAEL	Raanana	Israel
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
5	UNIVERSITAT DE BARCELONA	Barcelona	Spain
6	MINISTRY OF AGRICULTURE, NATURAL RESOURCES AND ENVIRONMENT OF CYPRUS	Nicosia	Cyprus



Title: Hydrometeorological data resources and technologies for effective flash flood forecasting

Area: 2. Water cycle including soil-related aspects  
2.1. Hydrology and climate processes

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.422.060 €	Project start date:	1/09/2006
EU Contribution:	2.350.000 €	Duration:	36 months
Organisation:	Universita degli Studi di Padova	Padova	Italy

## Abstract

The management of flash flood hazards and risks is a critical component of public safety and quality of life. Flash-floods develop at space and time scales that conventional observation systems are not able to monitor for rainfall and river discharge. Consequently, the atmospheric and hydrological generating mechanisms of flash-floods are poorly understood, leading to highly uncertain forecasts of these events. The HYDRATE objective is to improve the scientific basis of flash flood forecasting by extending the understanding of past flash flood events, advancing and harmonising a European-wide innovative flash flood observation strategy and developing a coherent set of technologies and tools for effective early warning systems. To this end, the project includes actions on the organization of the existing flash flood data patrimony across Europe. The observation strategy proposed in HYDRATE has the objective to collect flash flood data by combining hydrometeorological monitoring and the acquisition of complementary information from post-event surveys. This will involve a network of existing Hydrometeorological Observatories; all placed in high flash flood potential regions. HYDRATE will develop a freely-accessible European Flash Flood Database to make available the collected hydrometeorological data to the international research community. The final aim of HYDRATE is to enhance the capability of flash flood forecasting in ungauged basins by exploiting the extended availability of flash flood data and the improved process understanding. The Partners include nine universities, seven government research centres, and one SME. These represent eight Member States, one Associated Candidate State and three third-countries. Thus the results of HYDRATE will benefit from assembling international knowledge and scientific expertise and lead to advancements in observation strategy for implementation not only in Europe but internationally.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA DEGLI STUDI DI PADOVA	Padova	Italy
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	TECHNISCHE UNIVERSITAET WIEN	Wien	Austria
5	ECOLE NATIONALE DES PONTS ET CHAUSSEES (ENPC)	Marne-la-vallee	France
6	UNIVERSITAT POLITECNICA DE CATALUNYA	Barcelona	Spain
7	TECHNICAL UNIVERSITY OF CRETE	Chania - Crete	Greece
8	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
9	SLOVENSKA TECHNICKA UNIVERZITA V BRATISLAVE	Bratislava	Slovakia
10	Administratia Nationala de Meteorologie R.A.	Bucuresti	Romania
11	INSTITUTUL NATIONAL DE HIDROLOGIE SI GOSPODARIRE A APELOR	Bucharest	Romania
12	HR WALLINGFORD LTD	Wallingford	United Kingdom
13	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
14	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
15	WUHAN UNIVERSITY	Wuhan	China (People's Republic of)
16	UNIVERSITY OF KWAZULU-NATAL	Westville	South Africa
17	UNIVERSITY OF WYOMING	Laramie, Wyoming	United States



Title: WATER and global CHange  
 Area: 2. Water cycle including soil-related aspects  
 2.1. Hydrology and climate processes

Instrument: Integrated Project  
 Project Total Cost: 13.897.779 € Project start date: 1/02/2007  
 EU Contribution: 9.980.096 € Duration: 48 months  
 Organisation: Natural Environment Research Council Swindon Wiltshire United Kingdom

## Abstract

The Integrated Project (WATCH) which will bring together the hydrological, water resources and climate communities to analyse, quantify and predict the components of the current and future global water cycles and related water resources states, evaluate their uncertainties and clarify the overall vulnerability of global water resources related to the main societal and economic sectors.

WATCH project will:

- analyse and describe the current global water cycle, especially causal chains leading to observable changes in extremes (droughts and floods),
- evaluate how the global water cycle and its extremes respond to future drivers of global change (including greenhouse gas release and land cover change),
- evaluate feedbacks in the coupled system as they affect the global water cycle,
- evaluate the uncertainties in the predictions of coupled climate-hydrological- land-use models using a combination of model ensembles and observations,
- develop an enhanced (modelling) framework to assess the future vulnerability of water as a resource, and in relation to water/climate related vulnerabilities and risks of the major water related sectors, such as agriculture, nature and utilities (energy, industry and drinking water sector),
- provide comprehensive quantitative and qualitative assessments and predictions of the vulnerability of the water resources and water-/climate-related vulnerabilities and risks for the 21st century,
- collaborate intensively with the key leading research groups on water cycle and water resources in USA and Japan,
- collaborate intensively in dissemination of its scientific results with major research programmes worldwide (WCRP, IGBP),
- collaborate intensively in dissemination of its practical and applied results with major water resources and water management platforms and professional organisations worldwide (WWC, IWA) and at a scale of 5 selected river basins in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
2	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
3	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
4	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
5	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
6	JOHANN WOLFGANG GOETHE UNIVERSITAET FRANKFURT AM MAIN	Frankfurt Am Main	Germany
7	THE ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS	Trieste	Italy
8	MET OFFICE	Exeter	United Kingdom
9	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
10	ZAKLADU BADAN SRODOWISKA ROLNICZEGO I LESNEGO POLSKEJ AKADEEMII NAUK	Poznan	Poland
11	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
12	TECHNICAL UNIVERSITY OF CRETE	Chania - Crete	Greece
13	UNIVERSITETET I OSLO	Oslo	Norway

14	UNIVERSITAT DE VALENCIA	Valencia	Spain
15	THE CHANCELLOR, MASTER AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
16	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
17	Centre National de al Recherche Scientifique (CNRS)	Paris	France
18	FUNDACAO DA FACULDADE DE CIENCIAS DA UNIVERSIDADE DE LISBOA	Lisboa	Portugal
19	UNIVERZITA KOMENSKEHO V BRATISLAVE	Bratislava	Slovakia
20	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
21	UNIVERSITAET KASSEL	Kassel	Germany
22	KIWA NV	Rijswijk Zh	Netherlands
23	OBSERVATOIRE DE PARIS	Paris	France
24	VYZKUMNY USTAV VODOHOSPODARSKY T.G. MASARYKA	Praha 6	Czech Republic
25	NOREGS VASSDRAGS- OG ENERGIDIREKTORAT	Oslo	Norway



## **2. Water cycle including soil-related aspects**

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### **2.2. Ecological impact of global change, soil functioning and water quality**

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AQUATERRA	Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin & catchment areas)	90
BIOTOOL	Biological procedures for diagnosing the status and predicting evolution of polluted environments	92
EURODEMO	European Platform for Demonstration of Efficient Soil and Groundwater Remediation	93
EURO-LIMPACS	Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems	95
RAMWASS	Integrated Decision Support System for Risk Assessment and Management of the Water-Sediment-Soil System at River Basin Scale in Fluvial Ecosystems	97
RISK-BASE	Coordination Action on Risk Based Management of River Basins	98
SEDBARCAH	SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons in groundwater reaching surface water	99
STRESOIL	In Situ Stimulation and Remediation of Contaminated Fractured Soils	100

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Title:	Understanding river-sediment-soil-groundwater interactions for support of management of waterbodies (river basin & catchment areas)		
Area:	2. Water cycle including soil-related aspects		
	2.2. Ecological impact of global change, soil functioning and water quality		

Instrument:	Integrated Project		
Project Total Cost:	20.222.364 €	Project start date:	1/06/2004
EU Contribution:	12.999.992 €	Duration:	60 months
Organisation:	Attempto Service GmbH	Tübingen	Germany

## Abstract

Changes in climatic conditions, land use practices and soil and sediment pollution have large scale adverse impacts on water quantity and quality. The current knowledge base in river basin management is not adequate to deal with these impacts. AquaTerra is both integrating and developing knowledge to resolve this and disseminating it to stakeholders. In the water cycle, soil is a key element affecting groundwater recharge and the chemical composition of both subsurface and surface waters (the latter is additionally affected by sediments). The proper functioning of the river-sediment-soil-groundwater system is linked to key biogeochemical processes determining the filter, buffer and transformation capacity of soils and sediments. AquaTerra aims at a better understanding of the system as a whole by identifying relevant processes, quantifying the associated parameters and developing numerical models of the groundwater-soil-sediment-river system to identify adverse trends in soil functioning, water quantity and quality. The modelling addresses all relevant scales starting from micro-scale water/solid interactions, the transport of dissolved species, pollutants as well as suspended matter in soil and groundwater systems at the catchment scale, and finally the regional scale, with case studies located in major river basins in Europe. With this integrated modelling system, AquaTerra provides the basis for improved river basin management, enhanced soil and groundwater monitoring programs and the early identification and forecasting of impacts on water quantity and quality during this century. AquaTerra is committed to the dissemination and exploitation of project results through structured workshops, dedicated short courses, and the active participation of consortium partners in national and international conferences. The quality and direction of the project is supervised by a peer review panel.

## Partners

Num.	Partner Legal Name	City	Country
1	Attempto Service GmbH	Tuebingen	Germany
2	EBERHARD KARLS UNIVERSITAET TUEBINGEN	Tuebingen	Germany
3	Bureau de Recherches Geologiques et Minières	Paris	France
4	NETHERLANDS ORGANISATION FOR APPLIED SCIENTIFIC RESEARCH	Delft	Netherlands
5	UNIVERSITY OF NEWCASTLE UPON TYNE	Newcastle Upon Tyne	United Kingdom
6	LANCASTER UNIVERSITY	Lancaster	United Kingdom
7	CZECH TECHNICAL UNIVERSITY IN PRAGUE	Praha 6	Czech Republic
8	DANMARKS TEKNISKE UNIVERSITET (TECHNICAL UNIVERSITY OF DENMARK)	Kongens Lyngby	Denmark
9	Consejo Superior de Investigaciones Científicas	Madrid	Spain
10	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
11	UMWELTFORSCHUNGSZENTRUM HALLE LEIPZIG GMBH	Leipzig	Germany
12	TECHNISCHE UNIVERSITAT HAMBURG-HARBURG REPRESENTED BY TUHH-TECHNOLOGIE GMBH	Hamburg	Germany
13	EIDGENOSSISCHE TECHNISCHE HOCHSCHULE ZURICH	Zuerich	Switzerland
14	INSTITUTE FOR ECOLOGY OF INDUSTRIAL AREAS	Katowice	Poland
15	UNIVERSITE DE NEUCHATEL	Neuchatel	Switzerland
16	Agencia Catalana de l'Aigua	Barcelona	Spain
17	Akademia Gorniczo-Hutnicza	Krakow	Poland
18	EUROPA FACHHOCHSCHULE FRESENIUS	Idstein	Germany

19	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK	Kosice	Belgium
20	BOKU - UNIVERSITY OF NATURAL RESOURCES AND APPLIED LIFE SCIENCES, VIENNA	Wien	Austria
21	UTRECHT UNIVERSITY	Utrecht	Netherlands
22	UNIVERSITY OF LIEGE	Liege	Belgium
23	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
24	UNIVERSITE HENRI POINCARÉ NANCY 1	Nancy	France
25	FACULTE UNIVERSITAIRE AGRONOMIQUES DE GEMBLoux	Gembloux	Belgium
26	UNIVERSITE D'AVIGNON ET DES PAYS DE VAUCLUSE'	Avignon	France
27	Vereniging voor Christelijk Hoger Onderwijs Wetenschappelijk Onderzoek en Patientenzorg		Netherlands
28	UNIVERSITA DEGLI STUDI DI TRENTO - DIPARTIMENTO DI INGEGNERIA CIVILE ED AMBIENTALE	Trento	Italy
29	UNIVERSITA DEGLI STUDI PADOVA	Padova	Italy
30	VYZKUMNY USTAV VODOHOSPODARSKY T.G.MASARYKA	Praha 6	Czech Republic
31	INSTITUT SCIENTIFIQUE DE SERVICE PUBLIC	Liege	Belgium
32	INSTITUTE FOR INLAND WATER MANAGEMENT AND WASTE WATER TREATMENT	Lelystad	Netherlands
33	PROVINCIE NOORD-BRABANT	's Hertogenbosch	Netherlands
34	INSTITUT NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI - ICIM BUCURESTI	Bucuresti	Romania
35	MINISTRY FOR PROTECTION OF NATURAL RESOURCES AND ENVIRONMENT REPUBLIC OF SERBIA	Belgrade	Serbia and Montenegro
36	WATER RESEARCH INSTITUTE	Bratislava	Slovakia
37	TECHNICAL UNIVERSITY OF MUNICH	Muenchen	Germany
38	ACTEON	Orbey	France
39	LAOP CONSULTING & RESEARCH - LABORATORIES FOR APPLIED ORGANIC PETROLOGY	Lauta	Germany
40	R3 ENVIRONMENTAL TECHNOLOGY LIMITED	Reading	United Kingdom
41	Aguas de Barcelona	Barcelona	Spain
42	GOBIO GMBH - INSTITUT FUR GEWASSEROEKOLOGIE UND ANGEWANDTE BIOLOGIE	Hohenstein	Germany
43	Aquatest A.S.	Praha 5	Czech Republic
44	ENVIRONMENTAL INSTITUTE	Kos	Slovakia
45	WASY GESELLSCHAFT FUR WASSERWIRTSCHAFTLICHE PLANUNG UND SYSTEMFORSCHUNG MBH	Berlin	Germany



Title:	Biological procedures for diagnosing the status and predicting evolution of polluted environments		
Area:	2. Water cycle including soil-related aspects		
	2.2. Ecological impact of global change, soil functioning and water quality		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.665.000 €	Project start date:	1/09/2004
EU Contribution:	1.800.000 €	Duration:	36 months
Organisation:	Gesellschaft für Biotechnologische Forschung MbH	Braunschweig	Germany

## Abstract

The objective of BIOTOOL is the generation and validation of novel conceptual and material instruments, rooted in biological processes, for diagnosing soil status and predicting evolution of contaminated soil and groundwater. The focus is on the assessment and evaluation of natural attenuation processes. This will require benchmarked monitoring tools and warning criteria to implement natural attenuation as the key groundwater and soil remediation strategy in Europe. It will be materialized through the application of a suite of state-of-the-art genomic, proteomic and analytical technologies to environmental samples and sites themselves. We will exploit the translocation of indicator chemicals from below ground into above-ground vegetation as a cheap and rapid monitoring tool for subsurface contamination. Diagnosis of the biological status and evolution models for polluted environments will be achieved through [i] the design and utilization of DNA and specifically DNA-array technology for examining the catabolic potential of any given particulate sample and [ii] the identification of protein biomarkers as descriptors of soil and groundwater quality and biological attenuation clocks.

The progress in microbial community functional genomics and proteomics will be employed to gain a mechanistic understanding of prevailing stresses, global responses to chemical insults, plant/microbe interactions and microbial community adaptations that determine microbial-driven soil and groundwater processes. This will add a considerable predictive power to the genomic and proteomic approaches mentioned above. Determining the links between environmental factors and expression of degradation abilities will be crucial for strategies aiming at an optimal expression of the catalytic power of the indigenous microbial community. The robustness of diagnostic instruments for future normative applications will be validated in microcosms and used for ass

## Partners

Num.	Partner Legal Name	City	Country
1	GESELLSCHAFT FUR BIOTECHNOLOGISCHE FORSCHUNG MBH	Braunschweig	Germany
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	TECHNICAL UNIVERSITY OF DENMAK	Kongens Lyngby	Denmark
4	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Lausanne	Switzerland
5	INSTITUTE OF MICROBIOLOGY, AS CR	Praha 4	Czech Republic
6	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
7	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH	Leipzig	Germany
8	KAP LTD	Prague 7	Czech Republic
9	BIONOSTRA, S.L.	Tres Cantos	Spain



Title: European Platform for Demonstration of Efficient Soil and Groundwater Remediation

Area: 2. Water cycle including soil-related aspects  
2.2. Ecological impact of global change, soil functioning and water quality

Instrument:	Concerted Action		
Project Total Cost:	988.899 €	Project start date:	1/01/2005
EU Contribution:	988.899 €	Duration:	36 months
Organisation:	Umweltbundesamt GmbH	Wien	Austria

## Abstract

EURODEMO aims to be the principal co-ordination activity concerning technology demonstration in the field of soil and groundwater management in the European Union. EURODEMO aims to achieve more efficiency with regard to funding targeted to technology demonstration, to improve the access to results from demonstration projects and to establish harmonised protocols for the documentation of demonstration results and the verification of demonstrated technology.

Key activities will include

- (i) the co-ordination of scattered co-existing European funding programmes,
- (ii) the optimisation of demonstration funding by avoiding duplications and overlaps,
- (iii) the establishment of harmonised protocols for the documentation of demonstration results and for verification of technology efficiency and performance.

Key clients benefiting from EURODEMO will be

- funding organisations who can target their funds more efficiently by avoiding overlaps, by receiving reliable information on (European/global) demonstration demands, by establishing joint funding programmes,
- potential technology demonstrators who can benefit from the better overview of funding opportunities, and
- end users by having more confidence in demonstration results due to harmonised verification of and by having better access to demonstration results.

## Partners

Num.	Partner Legal Name	City	Country
1	UMWELTBUNDESAMT GMBH	Wien	Austria
2	CONTAMINATED LAND: APPLICATIONS IN REAL ENVIRONMENTS	London	United Kingdom
3	Bureau de Recherches Geologiques et Minières	Paris	France
4	EXSITE RESEARCH LIMITED	Hilliam, Leeds	United Kingdom
5	Netherlands Organisation for Applied Scientific Research		Netherlands
6	OPENBARE AFVALSTOFFENMAATSCHAPPIJ VOOR HET VLAAMSE GEWEST	Mechelen	Belgium
7	R3 ENVIRONMENTAL TECHNOLOGY LIMITED	Reading	United Kingdom
8	LAND QUALITY MANAGEMENT LTD	Nottingham	United Kingdom
9	INSTITUT PRO UDRZITELNY ROZVOJ SIDEL O.S. INSTITUTE FOR SUSTAINABLE DEVELOPMENT OF SETTLEMENTS	Praha 10	Czech Republic
10	UNIVERSITAT STUTTGART	Stuttgart	Germany
11	FACHHOCHSCHULE NORDOSTNIEDERSACHSEN	Lueneburg	Germany
12	LATVIJAS UNIVERSITATE	Riga	Latvia
13	BUNDESMINISTERIUM FUR LAND UND FORSTWIRTSCHAFT, UMWELT UND WASSERWIRTSCHAFT	Wien	Austria
14	Institute for Ecology of Industrial Areas/Polish Thematic Network for Environmental Technologies		Poland
15	Agence de l'Environnement et de la Maîtrise de l'Energie	Angers	France
16	DEKONTA, A.S.	Usti Nad Labem	Czech Republic
17	LIETUVOS GEOLOGIJOS TARNYBA	Vilnius	Lithuania
18	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
19	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy

20	Budapest University of Technology and Economics		Hungary
21	CONSORZIO VENEZIA RICERCHE	Marghera Venezia	Italy
22	Consiglio Nazionale delle Ricerche	Roma	Italy
23	Federal Environmental Agency, Germany (Umweltbundesamt)		Germany
24	STICHTING KENNISONTWIKKELING KENNISOVERDRACHT BODEM	Gouda	Netherlands
25	MINISTERSTVO ZIVOTNIHO PROSTREDI CESKE REPUBLIKY (MINISTRY OF THE ENVIRONMENT OF THE CZECH REPUBLIC)	Prague 10	Czech Republic
26	Universitaet Lüneburg		Germany



Title: Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems

Area: 2. Water cycle including soil-related aspects  
2.2. Ecological impact of global change, soil functioning and water quality

Instrument:	Integrated Project		
Project Total Cost:	19.154.659 €	Project start date:	1/02/2004
EU Contribution:	12.647.141 €	Duration:	60 months
Organisation:	University College London	London	United Kingdom

## Abstract

Freshwater ecosystems, under stress from land-use change and pollution, face additional pressures from climate change, directly and through interaction with other drivers of change. Euro-limpacs is concerned with the science required to understand and manage the ecological consequences of these interactions. It is relevant to the Water Framework Directive and other international directives and protocols and supports the EU's Charter on Sustainable Development. The Project comprises a consortium of leading scientists to integrate river, lake and wetland ecosystem science at the catchment scale. It focuses on the key drivers of aquatic ecosystem change (land-use, nutrients, acid deposition and toxic substances) and examines their interactions with global, especially climate, change using time-series analysis, space-for-time substitution, palaeolimnology, experiments and process modelling. It considers these interactions at 3 critical time-scales:

- (I) hours/days, concerned with changes in the magnitude and frequency of extreme events;
- (ii) seasons, concerned with changes in ecosystem function and life-cycle strategies of freshwater biota;
- (iii) years/decades, concerned with ecological response to environmental pressure, including stress reduction and ecosystem recovery.

An innovative toolkit for integrated catchment analysis and modelling will be developed to simulate hydrological, hydrochemical and ecological processes at the catchment scale for use in assessing the potential impact of global change under different climate and socio-economic scenarios. A unified system of ecological indicators for monitoring freshwater ecosystem health, and new methods for defining reference conditions and restoration strategies will be developed. These will take into account the probable impacts of future climate change and the need for a holistic approach to restoration based on habitat connectivity.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY COLLEGE LONDON	London	United Kingdom
2	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
3	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE	Egham, Surrey	United Kingdom
4	UNIVERSITÄT DUISBURG-ESSEN	Duisburg	Germany
5	UNIVERSITY OF READING	Reading	United Kingdom
6	Alterra b.v.	Wageningen	Netherlands
7	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
8	Consejo Superior de Investigaciones Científicas	Madrid	Spain
9	IVL SWEDISH ENVIRONMENTAL RESEARCH INSTITUTE	Stockholm	Sweden
10	NORWEGIAN INSTITUTE FOR WATER RESEARCH	Oslo	Norway
11	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
12	FINNISH ENVIRONMENT INSTITUTE	Helsinki	Finland
13	LEOPOLD FRANZENS UNIVERSITÄT INNSBRUCK	Innsbruck	Austria
14	UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
15	UNIVERSITÄT FUER BODENKULTUR	Wien	Austria
16	Consiglio Nazionale delle Ricerche	Roma	Italy
17	Centre National de al Recherche Scientifique	Paris	France
18	EIDGENÖSSISCHE ANSTALT FÜR WASSERVERSORGUNG, ABWASSERREINIGUNG UND GEWASSERSCHUTZ	Duebendorf	Switzerland

19	GOULANDRIS NATURAL HISTORY MUSEUM	Kifissia	Greece
20	ENTERA INGENIEURGESELLSCHAFT FUR PLANNUNG UND INFORMATIONSTECHNOLOGIE GBR	Hannover	Germany
21	HYDROBIOLOGICKY USTAV AKADEMIE VID EESKE REPUBLIKY	Ceske Budejovice	Czech Republic
22	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
23	HYDROMOD DR. K DUWE, K. PFEIFFER, J. POST, G. DUNKEL, DR. DR. H. BAUMERT GBR	Wedel	Germany
24	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
25	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
26	MASARYKOVA UNIVERZITA V BRNE	Brno	Czech Republic
27	UNIVERSITAT DE BARCELONA	Barcelona	Spain
28	UMWELTFORSCHUNGSZENTRUM GMBH	Leipzig	Germany
29	UNIVERSIDAD DE GRANADA	Granada	Spain
30	UNIVERSITY OF ICELAND	Reykjavik	Iceland
31	UNIVERSITY OF BUCHAREST	Bucuresti	Romania
32	UNIVERSITE DE RENNES 1	Rennes	France
33	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
34	WATER PROBLEMS INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
35	TRENT UNIVERSITY	Petersborough, Ontario	Canada
36	CESKA GEOLOGICKA SLUZBA	Prague	Czech Republic
37	MACAULAY INSTITUTE	Aberdeen	United Kingdom
38	BIOLOGICKE CENTRUM AKADEMIE VID CESKE REPUBLIKY	Ceske Budejovice	Czech Republic



Title: Integrated Decision Support System for Risk Assessment and Management of the Water-Sediment-Soil System at River Basin Scale in Fluvial Ecosystems

Area: 2. Water cycle including soil-related aspects  
2.2. Ecological impact of global change, soil functioning and water quality

Instrument: Specific Targeted Research Project

Project Total Cost: 2.431.940 € Project start date: 1/09/2006

EU Contribution: 1.665.040 € Duration: 30 months

Organisation: Centre Internacional de Metodes Numerics en Enginyeria Barcelona Spain

## Abstract

The objective of the project is to develop and validate a new DSS for the risk assessment and management for the prevention and/or reduction of the negative impacts caused by global change and human activities on the water/sediment/soil system at river basin scale in fluvial ecosystems. The DSS will combine and integrate environmental and geo-physical data from earth observation systems, in-situ sensors and geo-referenced information, advanced computer simulation and graphical visualisation methods and artificial intelligence tools for generating knowledge contributing to the assessment of the ecological impact and the design of effective response actions maximising the integrity and safety of the ecosystem and human life.

The RAMWASS DSS will be the result of the development, integration and validation of the essential technologies provided by the project partners:

- Technology for the transfer of high resolution data emanating from earth observation systems and in-situ sensors into classified and usable information to be ingested as input data for the WASS simulation system (CIMNE)
- Advanced computational methods for the fast and accurate simulation of different WASS situations and for evaluating the effect of alternative response scenarios (UPC, CIMNE, CISM, U.Hannover, U.Lneburg)
- Innovative ICT tools for the 3D visualisation of the environment hazard simulations (CIMNE)
- An artificial neural network (ANN) based decision model educated using innovative Monte Carlo simulation tools developed by CIMNE12/09/2006.

A crucial activity of the project will be the in-depth calibration, validation and assessment of the performance, scalability and effectiveness of the DSS in its application to at three relevant aquatic and wetland ecosystems adjacent to river basins in Europe:

- 1) The marsh area of the Doana Park in Spain;
- 2) the biosphere reserve Elbe Riverland in the Elbe river valley in Germany and
- 3) the marshland and lagoons of the Po river delta in Italy.

## Partners

Num.	Partner Legal Name	City	Country
1	CENTRE INTERNACIONAL DE METODES NUMERICIS EN ENGINYERIA	Barcelona	Spain
2	UNIVERSITAT POLITECNICA DE CATALUNYA	Barcelona	Spain
3	CONFEDERACION HIDROGRAFICA DEL GUADALQUIVIR	Sevilla	Spain
4	UNIVERSITAET HANNOVER	Hannover	Germany
5	UNIVERSITAET LUENEBURG	Lueneburg	Germany
6	BIOSPHERENRESERVATSVERWALTUNG NIEDERSAESISCHE ELBTALAE	Hitzacker	Germany
7	CENTRO INTERNAZIONALE DI SCIENZE MECCANICHE	Udine	Italy
8	STAR ENGINEERING SRL	Padova	Italy





Title:	Coordination Action on Risk Based Management of River Basins		
Area:	2. Water cycle including soil-related aspects 2.2. Ecological impact of global change, soil functioning and water quality		
Instrument:	Concerted Action		
Project Total Cost:	1.612.298 €	Project start date:	1/09/2006
EU Contribution:	1.612.298 €	Duration:	36 months
Organisation:	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - TNO	Delft	Netherlands

## Abstract

In RISKBASE leading European scientists and representatives of major, European stakeholder groups will review and synthesise the outcome of EC RTD Framework Program projects, and other major initiatives, related to integrated risk assessment-based management of the water/sediment/soil system at the river-basin scale. The synthesis leads to the development of integrated risk assessment-based management approaches enabling the prevention and/or reduction of the negative impacts caused by human activities on that system.

RISKBASE delivers:

- 1) An overarching concept, generic approach and guiding principles to integrated risk based management of river basins;
- 2) Recommendations towards evolution and implementation of risk based management in national and community policies and towards implementation in management and
- 3) A proposal for the European research agenda related to risk based management.

Based upon ample experience in previous EC CAs, Thematic Networks and/or Accompanying Measures, a simple project structure is chosen, with only a minimum number of Work Packages (WP). Each WP is managed by one WP-leader, supported by a few other partners (contractors) in the project. The WPs organise several workshops dedicated to specific issues related to risk based management at the river-basin scale. Furthermore, RISKBASE annually organises a General Assembly (GA) and makes use of EUGRIS as web-based information exchange structure. The workshops, GA and the website are open to all who are interested and willing to contribute to achieve the RISKBASE goals and objectives. Furthermore, during the project, each WP selects core-team members to assist the WP-leader in reviewing, synthesising and then reporting of the outcome of WP-workshops. Thus an open, transparent and flexible structure is created ensuring the integration of all essential knowledge, expertise and experience in order to make RISKBASE a success.

## Partners

Num.	Partner Legal Name	City	Country
1	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
2	DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE E.V.	Frankfurt Am-main	Germany
3	Bureau de Recherches Geologiques et Minières	Paris	France
4	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
5	UMWELTBUNDESAMT GMBH	Wien	Austria
6	Consejo Superior de Investigaciones Científicas	Madrid	Spain
7	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
8	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
9	JOHANNES JAN VEGTER	Amstelveen	Netherlands
10	UNIVERSITY OF BRISTOL	Bristol	United Kingdom



Title: SEDiment bioBARriers for Chlorinated Aliphatic Hydrocarbons  
in groundwater reaching surface water

Area: 2. Water cycle including soil-related aspects  
2.2. Ecological impact of global change, soil functioning and water quality

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.679.758 €	Project start date:	1/01/2005
EU Contribution:	1.098.691 €	Duration:	24 months
Organisation:	Vlaamse Instelling voor Technologisch Onderzoek	Mol	Belgium

## Abstract

Polluted groundwater in urban and industrial areas often represents a continuous source of (diffuse) contamination of surface waters. However, the fate of infiltrating groundwater pollutants might be influenced by the sediment in eutrophic water bodies. Such sediments form an interface between groundwater and surface water and possesses characteristic biological and physico-chemical degradation properties. Knowledge on natural attenuation of passing pollutants and the potential to stimulate and sustain occurring degradation processes are however scarce or non-existent. This is especially due to the lack of appropriate monitoring devices and tools to measure in situ mass balances of pollutants and reactants. In the SEDBARCAH project, we want to investigate the boundaries of the sediment zone as a barrier against the infiltration of chlorinated aliphatic hydrocarbons (CAH) into surface water and how we can turn this zone into a sustainable and efficient (stimulated) biobarrier technology for protection of surface waters from groundwater contamination. We will (i) determine the role of the microbial community present in sediments in the biodegradation of groundwater pollutants infiltrating a river bed, (ii) explore the boundary conditions and the possibility to increase and sustain removal activities in the sediment zone and, (iii) select tools to follow such removal activities in situ. Therefore, a thorough investigation both in the field and in the laboratory of the physico-chemical and microbial processes occurring in these sediments will be performed and coupled to the CAH-degradation potential present in the sediment interface of two selected contaminated areas. In addition, methodologies to increase this degradation will be examined. The final goal of SEDBARCAH is to investigate the potentials of these (stimulated) sediment biobarriers as a groundwater remediation technology and a surface water pollution and risk prevention technology.

## Partners

Num.	Partner Legal Name	City	Country
1	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK	Mol	Belgium
2	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
3	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
4	Aquatest A.S.	Praha 5	Czech Republic
5	GSF - FORSCHUNGSZENTRUM FUER UMWELT UND GESUNDHEIT GMBH	Muenchen Neuherberg	Germany
6	CONSULTING UND ENGINEERING GMBH	Chemnitz	Germany
7	UMWELT- UND INGENIEURTECHNIK GMBH DRESDEN	Dresden	Germany
8	AUA-AGRAR-UND UMWELTTANALYTIK GMBH	Jena	Germany



Title: In Situ Stimulation and Remediation of Contaminated Fractured Soils

Area: 2. Water cycle including soil-related aspects  
2.2. Ecological impact of global change, soil functioning and water quality

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.124.429 €	Project start date:	1/06/2004
EU Contribution:	1.100.000 €	Duration:	36 months
Organisation:	Geological Survey of Denmark and Greenland	Holbaek	Denmark

## Abstract

This project proposes pre-normative work aiming to design on site soil stimulation techniques for the cost-effective in situ remediation of NAPL-contaminated fractured soils of low permeability. Field-scale studies will be performed on fractured clay till site that has been heavily contaminated by NAPL. Integrated methods of multiscale characterisation of fractured media will be employed to establish regional and local hydrological/geological models, and quantify the existing fracture networks. Chemical analyses on soil and groundwater samples and predictions of an existing macroscopic simulator of NAPL transport in fractured media (SIMUSCOPP) will set the initial conditions of contamination. The microbiological activity will be identified to evaluate the soil/water capacity for NAPL biodegradation. Hydraulic fracturing on three sites will be made and three soil stimulation scenarios differing with respect to the remediation methodology, will be carried out on all sites. The most adequate strategy will be recommended. From micro-structural properties/hydrodynamic conditions /fluid properties, and using lab-scale techniques/computational methods of the statistical physics of disordered media, the effective transport coefficients of four soil components will be determined: clay till, sand, natural fractures, artificial hydraulic fractures. From the local properties, the up-scaled transport coefficients will be determined and introduced as input data in the SIMUSCOPP simulator. The SIMUSCOPP will be extended to take into account

- (i) the artificial hydraulic fractures, and
- (ii) various remediation scenarios.

Monitoring of the chemical status of soil and groundwater, and numerical predictions of the updated simulator will form databases which, in combination with cost benefit analysis, will enable us to set the criteria for the selection of the most cost-effective strategy of stimulation/remediation on similar NAPL contaminated sites.

## Partners

Num.	Partner Legal Name	City	Country
1	GEOLOGICAL SURVEY OF DENMARK AND GREENLAND	Holbaek	Denmark
2	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
3	INSTITUT FRANCAIS DU PETROLE	Copenhagen	France
4	BR?NDBOREFIRMAET BR?KER	Kielce	Denmark
5	HYDROGEOTECHNIKA SP. Z O. O.	Rueil Malmaison	Poland



## 2. Water cycle including soil-related aspects

### 2.3. Integrated management strategies and mitigation technologies

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Title: Action to promote involvement of African water researchers in the Framework Programme

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Support Action		
Project Total Cost:	231.600 €	Project start date:	1/07/2005
EU Contribution:	231.600 €	Duration:	24 months
Organisation:	Natural Environment Research Council	Swindon Wiltshire	United Kingdom

## Abstract

The "African Water" SSA will take immediate action, and establish a framework, for long term improvement in the involvement of African researchers in the water research components of the Framework Programme. The "African Water" SSA is a vital component in the delivery of major EU and member state political commitments to strengthen African water research capacity. This SSA underpins the delivery of water specific commitments made at the Johannesburg WSSD and UN 12th Commission on Sustainable Development (New York 2004). In particular this SSA is an integral part of the EU Water Initiative, to deliver research capacity building in Africa. The "African Water" SSA will undertake a range of actions, developed by and in partnership with, African researchers. The SSA will bring together information, key researchers and research administrators in a targeted programme to provide African researchers with the knowledge and tools to more actively participate in all aspects of the Framework Programme. A key output of this SSA will be for Africans to define their own research priorities and to feed these topics through to the FP7 programme. This SSA will have the catalytic effect of increasing African involvement in other research programmes (member states, international agencies, etc). Actions to be undertaken as part of this SSA will include : information dissemination through workshops, conference presentations, publicity actions, email bulletins, focussed explanatory guidance documents. All will be made accessible through the web and as hard copy. Actions will also be taken to increase European awareness of African research capacity in order to foster outreach to Africa from EU researchers. The "African Water" SSA will increase cost effectiveness by working in partnership with complementary action being undertaken by donors, international agencies, NGO's, charitable foundations and the private sector.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
2	WATER RESEARCH COMMISSION	Rietfontein - Pretoria	South Africa
3	LOUGHBOROUGH UNIVERSITY	Loughborough	United Kingdom
4	HYDROPHIL - CONSULTING & KNOWLEDGE DEVELOPMENT GMBH	Vienna	Austria



Title: Sustainable Management of Water Resources by Automated Real-Time Monitoring

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.475.818 €	Project start date:	1/06/2004
EU Contribution:	2.400.000 €	Duration:	43 months
Organisation:	Natural Environment Research Council (NERC)	Swindon Wiltshire	United Kingdom

## Abstract

ALERT aims to develop a radically different strategy for monitoring and managing the impact of climatic change and land-use practice on scarce water resources. Innovative ALERT technology will be designed that will allow the near real-time measurement of geoelectric, hydrology and hydrochemical properties, virtually "on demand", thereby giving early warning of potential threats to ecosystems, and vulnerable water systems. The project will focus primarily on coastal zones where aquifers are under threat from over-exploitation, rising sea levels, anthropogenic pollutants and seawater intrusion. New and proven sensors and data capture devices will be permanently deployed in-situ, within a unified platform (ALERT hydro-station) at a test site in Almeria, Spain. The site will be interrogated from the office by novel modem/telemetric and satellite links to provide volumetric images of the subsurface at regular intervals; thereby obviating the need for expensive repeat surveys and manual intervention. New 3D/4D time-lapse image reconstruction algorithms will be developed for distributed buried and borehole arrays. The volumetric electrical images (in space and time) will be transformed into hydrology properties and processes through the further development of mathematical relationships, derived from controlled laboratory studies. These datasets will be used to constrain a predictive hydrogeological modelling capability. Innovative statistical techniques will be developed to assist up-scaling from the site model to catchment scale. A web-based GIS will be designed with new data fusion, risk analysis and decision support tools to facilitate the sustainable management of water resources in coastal zones. Scenario modelling based on stochastic and Bayesian networks will address the wider societal implications of the proposed work, including the economic, cultural and political issues, in the context of current and planned EU directives.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)	Swindon Wiltshire	United Kingdom
2	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
3	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
4	UNIVERSIDAD DE ALMERIA	Almeria	Spain
5	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	INDUSTRIAL RESEARCH INSTITUTE FOR AUTOMATION AND MEASUREMENTS	Warsaw	Poland
8	ESCO SP. Z O.O	Warsaw	Poland
9	GEOTOMOGRAPHIE	Neuwied	Germany
10	UNIVERSITY CADI AYYAD OF MARRAKECH	Marrakech	Morocco



Title: Accelerate Membrane Development for Urban Sewage Purification

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	5.478.669 €	Project start date:	1/10/2005
EU Contribution:	3.034.663 €	Duration:	36 months
Organisation:	Kompetenzzentrum Wasser Berlin Gemeinnutzige GmbH	Berlin	Germany

## Abstract

Over the past decade, membrane bioreactors have been increasingly implemented to purify municipal wastewater. However, even with submerged membranes which offer the lowest costs, the MBR technology remains in most cases more expensive than conventional processes. In addition, the European municipal MBR market is to date a duopoly of two non-European producers, despite many initiatives to develop local MBR filtration systems. The proposed AMEDEUS research project aims at tackling both issues, accelerating the development of competitive European MBR filtration technologies, as well as increasing acceptance of the MBR process through decreased capital and operation costs. The project will target the two markets for MBR technology in Europe: the construction of small plants (semi-central, 50 to 2,000pe, standardized and autonomous), and the medium-size plants (central, up to 100.000pe) for plant upgrade. Technological development of new MBR systems will be fostered by a consortium composed of 12 partners, of which five SMEs proposing novel concepts of low-cost and high-performance filtration systems. Two end-users, three non-profit institutions and two universities, all of them well versed in R&D in the MBR field, will investigate solutions to reduce operation costs such as fouling control, membrane cleaning optimisation, aeration decrease, or optimise capital costs through improved implementation of membrane bioreactor process. Furthermore, an analysis of the potential for standardisation will be performed, and a technology transfer towards Southern and Eastern Europe will be organised in order to facilitate the penetration of these new markets. AMEDEUS will achieve concrete and realistic technological breakthroughs for the MBR technology, and improve the current process engineering and operation practices. It will improve the competitiveness of the MBR European market and render common this high-tech process for municipal wastewater treatment.

## Partners

Num.	Partner Legal Name	City	Country
1	KOMPENTENTZZENTRUM WASSER BERLIN GEMEINNUTZIGE GMBH	Berlin	Germany
2	A3 ABFALL- ABWASSER- ANLAGENTECHNIK GMBH	Gelsenkirchen	Germany
3	Anjou Recherche	Paris	France
4	Aquafin N.V.	Roma	Belgium
5	ENVI-PUR, S.R.O.	Tabor	Czech Republic
6	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
7	INGE AG	Greifenberg	Germany
8	MILLENNIUMPORE LIMITED	Washington, Tyne & Wear	United Kingdom
9	POLYMEM SA	Toulouse	France
10	TECHNISCHE UNIVERSITAET BERLIN * TUB	Berlin	Germany
11	TECNOTESSILE - SOCIETA NAZIONALE DI RICERCA TECNOLOGICA R.L.	Prato	Italy
12	UNIVERSITY OF NEW SOUTH WALES.	Sydney	Australia





Title: A knowledge Network for solving real-life water problems in developing countries: Bridging contrasts

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Concerted Action		
Project Total Cost:	1.149.420 €	Project start date:	
EU Contribution:	1.149.420 €	Duration:	36 months
Organisation:	Dipartimento di Architettura e Urbanistica, Politecnico di Bari	Bari	Italy

## Abstract

The proposal aims at contributing to global and local knowledge networks for solving real life water supply and sanitation (WSS) problems in developing countries in view of reaching the MDGs. Based on an account of failures of WSS interventions in the last decades, ANTINOMOS aims at making an impact through bridging contrasts (between conceptual approaches, or between perceptions of global and local knowledge networks) and knowledge gaps (between knowledge areas which have only recently been recognized by decision makers as a key issue in reaching the MDGs). The core part of the proposal will be devoted to try to bridge these contrasts and knowledge gaps. For this purpose, special attention will be devoted to link state-of-the-art technological advancement in WSS with local resources and grassroots innovations, in order to enable context-specific learning opportunities for more sustainable solutions to real water problems.

First, based on a systems approach, a number of technological systems and practices for WSS will be studied and analysed. Both technological systems based on 'outside knowledge', i.e. 'expert knowledge' as well as systems based on 'inside', i.e. 'indigenous knowledge', will be studied. Then, special learning devices and knowledge management tools will be developed (where feasible in cooperation with international and local knowledge networks) and applied, in order to foster cross-fertilization between knowledge frames and global-local interaction. Involvement of key decision-makers and change agents at the local level will be a key step to facilitate uptake and integration of solutions in real life. In this perspective, the two primary objectives of the proposal will be:

1. Bridging contrasts and antinomies through the development of learning spaces across individual disciplines
2. Support both international and local knowledge networks through the generation of new knowledge and the development of innovative knowledge management tools.

## Partners

Num.	Partner Legal Name	City	Country
1	Dipartimento di Architettura e Urbanistica, Politecnico di Bari	Bari	Italy
2	Centre for Environmental Management and Decision Support	Vienna	Austria
3	Lettinga Associates Foundation	Wageningen	Netherlands
4	Cranfield University	Cranfield	United Kingdom
5	Swedish Institute for Infectious Disease Control	Solna	Sweden
6	Ecole Nationale du Genie Rural, des Eaux et des Forets	Montpellier	France
7	University of KwaZulu-Natal	Durban	South Africa
8	Instituto Mexicano de Tecnología del Agua (Mexican Institute of Water Technology)	Jiutepec	Mexico
9	Facultad Latinoamericana de Ciencias Sociales	México D.f.	Mexico
10	Centre for Science and Environment	New Delhi	India
11	Indian Institute of Management, Ahmedabad	Ahmedabad	India
12	Reforms Support & Project Management Unit of the Department of Water Supply and Sanitation, Government of Maharashtra	Navi Mumbai	India
13	UNESCO-Institute for Water Education	Delft	Netherlands



Title:	Mitigation of Water Stress through new Approaches to Integrating Management, Technical, Economic and Institutional Instruments		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Integrated Project		
Project Total Cost:	14.054.258 €	Project start date:	1/02/2005
EU Contribution:	10.300.000 €	Duration:	48 months
Organisation:	Consiglio Nazionale delle Ricerche	Roma	Italy

## Abstract

Water stress is a global problem with far-reaching economic and social implications. The mitigation of water stress at regional scale depends not just on technological innovations, but also on the development of new integrated water management tools and decision-making practices.

The AquaStress IP delivers enhanced interdisciplinary methodologies enabling actors at different levels of involvement and at different stages of the planning process to mitigate water stress problems. This IP draws on both academic and practitioner skills to generate knowledge in technological, operational management, policy, socio-economic, and environmental domains. Contributions come from 36 renowned organizations from 17 Countries, including 6 SMEs. The IP will generate scientific innovations to improve the understanding of water stress from an integrated multisectoral perspective to support:

- diagnosis and characterisation of sources and causes of water stress
- assessment of the effectiveness of water stress management measures and development of new tailored options
- development of supporting methods and tools to evaluate different mitigation options and their potential interactions
- development and dissemination of guidelines, protocols, and policies
- development of a participatory process to implement solutions tailored to environmental, cultural, economic and institutional settings
- identification of barriers to policy mechanism implementation
- continuous involvement of citizens and institutions within a social learning process that promotes new forms of water culture and nurtures long-term change and social adaptivity.

The IP adopts a Case Study stakeholder driven approach and is organised in three phases;

- (i) characterisation of selected reference sites and relative water stress problems,
- (ii) collaborative identification of preferred solution options, (iii) testing of solutions according to stakeholder interests and expectations.

## Partners

Num.	Partner Legal Name	City	Country
1	Consiglio Nazionale delle Ricerche	Roma	Italy
2	UNIVERSITY OF READING	Reading	United Kingdom
3	RIJKSINSTITUUT VOOR INTEGRAL ZWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
4	Cranfield University	Cranfield - Bedfordshire	United Kingdom
5	UNIVERSITY OF PIRAEUS	Piraeus	Greece
6	UNIVERSITY COLLEGE LONDON	London	United Kingdom
7	UNIVERSITAET OSNABRUECK	Osnabrueck	Germany
8	Alterra b.v.	Wageningen	Netherlands
9	RHEINISCH - WESTFALISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
10	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
11	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
13	UNIVERSITAET HANNOVER	Hannover	Germany
14	UNIVERSITY OF EXETER	Exeter	United Kingdom

15	UNIVERSITAT DE BARCELONA	Barcelona	Spain
16	SC APA NOVA BUCURESTI SA	Bucharest	Romania
17	GEONARDO ENVIRONMENTAL TECHNOLOGIES LTD	Budapest	Hungary
18	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
19	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
20	Agenzia per la Promozione della Ricerca Europea	Roma	Italy
21	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Zografou	Greece
22	ISTITUTO AGRONOMICO MEDITERRANEO DE BARI	Valenzano	Italy
23	HYDRODATA SPA	Torino	Italy
24	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
25	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
26	HIDROMOD - MODELACAO EM ENGENHARIA LDA	Lisboa	Portugal
27	DHI - INSTITUT FOR VAND OG MILJOE	Hoersholm	Denmark
28	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
29	INNOVATION & DEVELOPMENT CONSULTING	Brussels	Belgium
30	FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO	Porto	Portugal
31	HYDROCONTROL - CENTRO DI RICERCA E FORMAZIONE PER IL CONTROLLO DEI SISTEMI IDRICI	Cagliari	Italy
32	POLITECHNIKA KRAKOWSKA	Krakow	Poland
33	UNIVERSITY OF ARCHITECTURE, CIVIL ENGINEERING AND GEODESY	Sofia	Bulgaria
34	Aeoliki Foundation	Nicosia	Cyprus
35	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	Tunis Mahrajene (cite El)	Tunisia
36	INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II	Rabat / Agdal	Morocco



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Title: Low cost water test for developing countries - a preparatory study

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

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Instrument: Specific Support Action

Project Total Cost: 446.000 € Project start date: 1/07/2006

EU Contribution: 446.000 € Duration: 18 months

Organisation: University of Bristol Bristol United Kingdom

## Abstract

This project is a preparatory study for the development of a low-cost water quality test and associated management systems for use in developing countries and in disasters/emergencies. Contaminated drinking water remains a major cause of morbidity and mortality in developing countries, with 1.8 million deaths per year being attributed to water-borne disease. In addition, following major disasters such as hurricanes or earthquakes, many deaths result not from the disaster itself but from subsequent outbreaks of disease caused by contaminated drinking water. Existing water tests are largely designed for use in developed countries and not in situations where laboratory infra-structure, resources and trained personnel are lacking. There is thus a need for more appropriate water testing technology for use in resource-poor and disaster settings. This support action will lay the foundations for a subsequent grant application to develop a water test, with associated management systems, for use in developing countries and in emergency situations. The project will demonstrate to policymakers, donors and research funding organisations that there is an urgent and clear need to provide a low cost water test. Following an assessment of developing country and disaster relief agency needs, a network of experts will be formed to address these needs. This network will meet with stakeholders at the World Water Congress in Beijing. The project will establish how an appropriate water test can be developed from existing technologies within the near term. A follow-on funding application to develop this water test will then be submitted based on these activities. The principal delivery of this preparatory activity is therefore a carefully specified bid for further research funding based on a needs assessment and review of existing water test technology, supported by a high quality international consortium.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
2	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
3	AES Chemunex SA	Combourg	France
4	ROYAL COLLEGE OF SURGEONS IN IRELAND	Dublin	Ireland
6	UNIVERSITY OF CAPE TOWN	Rondenbosch,cape Town	South Africa
7	WORLD HEALTH ORGANIZATION	Geneve	Switzerland



Title:	Twinning European and South Asian river basins to enhance capacity and implement adaptive integrated water resources management approaches		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.035.004 €	Project start date:	1/06/2006
EU Contribution:	2.871.492 €	Duration:	36 months
Organisation:	Friedrich-Schiller-Universitaet Jena	Jena	Germany

## Abstract

BRAHMATWINN will enhance capacity to carry out a harmonised integrated water resources management (IWRM) approach as addressed by the European Water Initiative (EWI) in headwater river systems of alpine mountain massifs already impacted from climate change, and to establish transfer of professional IWRM expertise, approaches and tools based on case studies carried out in twinning European and Asian river basins. With altogether eleven work packages (WP) the project addresses all important IWRM issues in a balanced way, including conflict resolution in the trans-boundary twinning Upper Danube River Basin (UDRB) and the Upper Brahmaputra River Basins (UBRB) in Europe and South Asia respectively.

In altogether seventy work tasks of the jointly identified WP social and natural scientists in cooperation with water law experts and local stakeholders will realize the project outcomes:

- (i) an integrated holistic approach and assessment of the transboundary UDRB and UBRB for sustainable IWRM;
- (ii) integrated indicators to quantify the natural environment and human dimension, selected to assess IWRM vulnerabilities;
- (iii) an integrated water resources management system (IWRMS) comprising the DANUBIA hydrological model, the river basin information system (RBIS) and the network analysis, creative modelling decision support system NetSyMod;
- (iv) a set of what-if? scenarios, evaluated using the DPSIR approach, and associated adaptive IWRM options tested by means of the IWRMS to mitigate impacts of likely climate change; and (v) IWRM action plans based on the stakeholder negotiation and the governance assessment.

The project consortium of altogether fifteen partners from Europe (10 partner) and Asia (5 partner) shares the financial grant requested proportionally and will guarantee the generation of the necessary synergism required to represent the complex system component interaction and to carry out the required knowledge transfer between Europe and Asia.

## Partners

Num.	Partner Legal Name	City	Country
1	FRIEDRICH-SCHILLER-UNIVERSITAET JENA	Jena	Germany
2	LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN	Muenchen	Germany
3	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZURICH	Zuerich	Switzerland
4	UNIVERSITAET SALZBURG	Salzburg	Austria
5	UNIVERSITAET WIEN	Wien	Austria
6	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
7	UNIVERSITY OF DUNDEE	Dundee	United Kingdom
8	UNIVERSITETET I OSLO	Oslo	Norway
9	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
11	INDIAN INSTITUTE OF TECHNOLOGY KANPUR	Kanpur	India
12	INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT	Kathmandu	Nepal
13	ROYAL UNIVERSITY OF BHUTAN	Phuentsholing	Bhutan
14	INSTITUTE OF TIBETAN PLATEAU RESEARCH, CHINESE ACADEMY OF SCIENCES	Beijing	China (People's Republic of)
15	CENTER FOR AGRICULTURAL RESOURCES RESEARCH - INSTITUTE OF GENETIC AND DEVELOPMENT BIOLOGY - CHINESE ACADEMY OF SCIENCES	Shijiazhuang	China (People's Republic of)

16	H.G. GEO DATA SOLUTIONS GMBH	Jena	Germany
17	3KON- Gesellschaft für Konstruktion, Planung und Softwareentwicklung MbH	Jena	Germany
18	VODNI ZDROJE, A.S.	Praha 7	Czech Republic



Title:	Membrane bioreactor technology (MBR) with an EU perspective for advanced municipal wastewater treatment strategies for the 21st century		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.226.206 €	Project start date:	1/10/2005
EU Contribution:	2.998.969 €	Duration:	36 months
Organisation:	Norges Teknisk - Naturvitenskapelige Universitet	Trondheim	Norway

## Abstract

The World is running out of clean, safe, fresh water. By 2025 one third of humanity (ca. 3 billion people) will face severe water scarcity. This has been described as the "single greatest threat to health, the environment and global food security". Water is essential and preservation of its safety in quantity and in quality is critical to the sustainable development of any society. The goal of this project is to make a contribution to meet this challenge. The protection of water in the European Union has been encouraged through the Water Framework Directive (WFD). The intention of WFD is to protect water resources (quality and quantity) through an integrated water resource management policy. Wastewater treatment is an important aspect of water management. Efficient, cost effective treatment processes are needed for transforming wastewater into water free from contamination which can be returned to the hydrological cycle without detrimental effects. The development and application of MBR for full scale municipal wastewater treatment is the most important recent technical advance in terms of biological wastewater treatment. It represents a decisive step further concerning effluent quality by delivering a hygienically pure effluent and by exhibiting a very high operational reliability. The overall objective of EUROMBRA is to develop a cost-effective, sustainable solution for new, efficient and advanced municipal wastewater treatment based on MBR technology. This will be achieved through a multi-faceted, concerted and cohesive research programme explicitly linking key limiting phenomena (fouling, clogging) observed and quantified on the micro-, meso- and macro-scale. Key to the success of the programme is the harnessing specialist knowledge, conducting of dedicated yet interlinked experiments and incorporating key aspects of both system design and operational facets, the latter encompassing hydrodynamics and mass transfer, foulant speciation and dynamic impacts.

## Partners

Num.	Partner Legal Name	City	Country
1	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
2	Cranfield University	Cranfield - Bedfordshire	United Kingdom
3	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
4	INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLOGICA	Oeiras	Portugal
5	INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE TOULOUSE	Toulouse	France
6	UNIVERSITE MONTPELLIER II	Montpellier	France
7	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
8	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
9	UNIVERSITA' DEGLI STUDI DI TRENTO	Trento	Italy
10	UNIVERSITY OF TECHNOLOGY, SYDNEY	Sydney	Australia
11	UNIVERSITY OF KWAZULU-NATAL	Westville	South Africa
12	POLYMEM S.A.	Toulouse	France
13	KOCH MEMBRANE SYSTEMS GMBH	Aachen	Germany
14	FLOWCONCEPT GMBH	Hannover	Germany
15	MILLENNIUMPORE LIMITED	Washington, Tyne & Wear	United Kingdom
16	WATERSCHAP HOLLANDSE DELTA	Dordrecht	Netherlands

17	ERFTVERBAND	Bergheim	Germany
18	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	Delft	Netherlands





Title:	Farm Level Optimal Water Management: Assistant for Irrigation under Deficit		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.533.142 €	Project start date:	1/10/2006
EU Contribution:	1.021.000 €	Duration:	36 months
Organisation:	Plant Research International B.V.	Wageningen	Netherlands

## Abstract

The objective of FLOW-AID is to contribute to sustainability of irrigated agriculture by developing, testing in relevant conditions, and fine-tuning through feed-back, an irrigation management system that can be used at farm level in situations where there is a limited water supply and water quality. The project integrates innovative sensor technologies into a decision support system for irrigation management, taking into consideration relevant factors in a number of third country partners.

The specific objectives are to develop and test new and innovative, but simple and affordable, technical concepts (hardware and software) for irrigation under deficit at farms in a large variety of set-ups and constraints, particularly a maintenance free tensiometer; wireless, low-power data networks; an expert system to assist in farm zoning and crop planning, in view of expected water availability (amount and quality); a short-term irrigation scheduling module that allocates available water among several plots and schedules irrigation for each one.

The scientific results from the research will be evaluated in four test-sites, three of them located in Mediterranean Party Countries (Turkey, Lebanon and Jordan), where the large future market for deficit irrigation systems will be. The test-sites are chosen in such a way that they differ in the type of constraints, irrigation structures, crop types, local water supplies, availability of water and water sources in amount and quality, the local goals, and their complexity. The SME partners will take up research results and build prototypes, which will be installed at the test-sites. In close co-operation all partners will adapt the general concepts of water management to the local situation, by using appropriate parts of it, based upon the test-results. The involvement of SME-partners will ensure that the results will be implemented in a short time into adequate and appropriate products for the end-user irrigation market.

## Partners

Num.	Partner Legal Name	City	Country
1	PLANT RESEARCH INTERNATIONAL B.V.	Wageningen	Netherlands
2	ROTHAMSTED RESEARCH LIMITED	Harpenden	United Kingdom
3	LEBANESE AGRICULTURAL RESEARCH INSTITUTE	Zahle	Lebanon
4	UNIVERSIDAD DE CASTILLA - LA MANCHA	Ciudad Real	Spain
5	EGE UNIVERSITESI	Bornova, Izmir	Turkey
6	UNIVERSITA DI PISA	Pisa	Italy
7	DELTA-T DEVICES LTD	Cambridge	United Kingdom
8	GEOMATIONS SA	Athens	Greece
9	SPAGNOL SRL	Vidor - Treviso	Italy
10	JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY	Irbid	Jordan



Title: Groundwater Artificial recharge Based on Alternative sources of water: aDvAnced INtegrated technologies and manAgement

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.358.729 €	Project start date:	1/11/2005
EU Contribution:	2.499.770 €	Duration:	36 months
Organisation:	Georg-August-Universität Göttingen	Göteborg	Germany

## Abstract

Aquifers are the main source of water in most semi-arid areas of the Mediterranean basin. As a result of over-exploitation hydrologic deficits of varying acuity prevail in these areas. Seawater intrusion and pollution have been identified as the primary factors for quality degradation. Further deterioration can be expected based on trends in the precipitation regime attributed to climate change. The objective of this project is to identify alternative sources of water and to investigate the feasibility, both environmental and economic of their utilization. Alternative water sources to be artificially recharged comprise: surface water runoff, treated effluent, and imported water. Furthermore, brackish water bodies, present in many aquifers could be utilised after desalination. The project structured into eight work-packages comprehensively addresses all issues related to the problem: expected precipitation rates, recharge and water budgets, identification of potential alternative water sources and technologies for their utilization, development of tools for the management of groundwater resources under artificial recharge conditions, aquifer vulnerability assessment, characterization of the unsaturated zone, and mixing effects. Four test sites have been selected for practical application of the approach. Substantial field testing, integration of technologies and findings to ensure optimal implementations of aquifer recharge alternatives, quantification of socio-economic impacts and development of dissemination platform are planned. Finally a carefully designed project management shall drive and accompany the project execution in order to ascertain consistency and efficiency.

## Partners

Num.	Partner Legal Name	City	Country
1	GEORG-AUGUST-UNIVERSITAET GOETTINGEN	Goettingen	Germany
2	UNIVERSITAT POLITECNICA DE CATALUNYA	Barcelona	Spain
3	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	Lisboa	Portugal
4	TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY.	Haifa	Israel
5	UNIVERSITE DE LIEGE	Liege	Belgium
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	GEOLOGICAL AND GEOPHYSICAL CONSULTANTS - GEOSERVICE	Athens	Greece
8	THESSALONIKI WATER SUPPLY AND SEWERAGE COMPANY S.A.	Thessaloniki	Greece
9	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
10	PALESTINIAN HYDROLOGY GROUP FOR WATER AND ENVIRONMENTAL RESOURCES DEVELOPMENT	Ramallah	Gaza Strip and the Wes Bank
11	PALESTINIAN WATER AUTHORITY	Ramallah-west Bank	Gaza Strip and the Wes Bank
12	ENVIRONMENTAL & WATER RESSOURCES ENGINEERING LTD	Haifa	Israel
13	ISRAEL WATER COMMISSION	Tel-aviv	Israel
14	CENTRUL PENTRU DEZVOLTARE ECONOMICA	Bucharest	Romania



Title: International Action for Sustainability of the Mediterranean and Black Sea Environment (IASON)

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Support Action		
Project Total Cost:	613.550 €	Project start date:	1/01/2005
EU Contribution:	452.550 €	Duration:	18 months
Organisation:	Hellenic Centre for Marine Research	Anavissos Attiki	Greece

## Abstract

Under the 2003 EU Greek presidency, cooperation with Balkan countries on environmental issues was identified as a priority of the EU/Balkan Action Plan. Large-scale co-operation is essential for effective action in the vulnerable Mediterranean and Black Sea coastal zones.

During the last 50 years both areas suffered major changes; as semi-enclosed basins, both Seas are ultra-sensitive to anthropogenic stress and to climate change. An EU Presidency Conference on Sustainable Development in the Mediterranean/Black Sea (May 2003), revealed major gaps in management structures, scientific strategies and identified a diversity of environmental issues to be resolved through priority-focused RTD cooperation. Yet, while pressure on the resources of the two seas increases and the potential impact of climate change on coastal and deep-sea resources remains unknown, the two seas have never been jointly studied as systems of interacting basins and ecosystems. The proposal outlines collaboration and clustering schemes involving environmental, economic and scientific organisations in Mediterranean, Black Sea and other EU nations, in order to create synergies in networking and exchanges at several levels, addressing for the first time the system of interconnected basins as one, based on the integration of, both horizontally and vertically, natural scientists and economists. These will:

- 1) Create an international, interdisciplinary platform coordinating the region's scientific potential in order to prepare RTD projects, based on a Science Plan for the region, securing sustainable development;
- 2) Focus on natural and anthropogenic pressures exerted upon the functioning of the ecosystem;
- 3) Reinforce RTD capacity by setting up an environment/resource monitoring network in the light of existing observation networks of different scopes.

## Partners

Num.	Partner Legal Name	City	Country
1	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
2	MIDDLE EAST TECHNICAL UNIVERSITY	Ankara	Turkey
3	INSTITUTE OF ACCELERATING SYSTEMS AND APPLICATIONS	Athina	Greece
4	University of Tromso/Norwegian College of Fishery Science		Norway
5	INSTITUTE OF FISHERIES AND AQUACULTURE-VARNA	Varna	Bulgaria
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	SENCKENBERGISCHE NATURFORSCHENDE GESELLSCHAFT	Frankfurt Am-main	Germany
8	UNIVERSITAT STUTTGART	Stuttgart	Germany
9	UNIVERSITY OF READING	Reading	United Kingdom
10	NATIONAL INSTITUTE OF MARINE GEOLOGY AND GEO-ECOLOG	Bucuresti	Romania
11	INSTITUTE OF OCEANOLOGY, BULGARIAN ACADEMY OF SCIENCES	Varna	Bulgaria
12	UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
13	UNIVERSITY OF PLYMOUTH	Plymouth, Devon	United Kingdom
14	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
15	P.P.SHIRSHOV INSTITUTE OF OCEANOLOGY RAS	Moscow	Russian Federation
16	ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH	Haifa	Israel
17	PERMANENT SECRETARIAT OF THE COMMISSION ON THE PROTECTION OF THE BLACK SEA AGAINST POLLUTION	Istanbul	Turkey

18	SYDDANSK UNIVERSITET	Odense M	Denmark
19	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
20	TRITON CONSULTANTS (CYPRUS) LTD	Nicosia	Cyprus
21	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
22	UNITED NATIONS ENVIRONMENT PROGRAMME/MEDITERRANEAN ACTION PLAN (MED POL PROGRAMME)	Athens	Greece
23	SOUTHERN SCIENTIFIC CENTRE OF THE RUSSIAN ACADEMY OF SCIENCES	Rostov-on-don	Russian Federation
24	MARINE HYDROPHYSICAL INSTITUTE	Sevastopol	Ukraine
25	UNIVERSITY OF RHODE ISLAND	Narragansett, Rhode Island	United States
26	NATIONAL INSTITUTE FOR MARINE RESEARCH AND DEVELOPMENT "GRIGORE ANTIPA"	Constanta	Romania



Title: Innovative and integrated technologies for the treatment of industrial wastewater

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.802.811 €	Project start date:	1/11/2006
EU Contribution:	2.750.000 €	Duration:	36 months
Organisation:	Consiglio Nazionale delle Ricerche	Roma	Italy

## Abstract

The main objective of the proposed project is to investigate, assess and significantly enhance the potentiality of promising technological options (i.e., technologies, processes and concepts) for the treatment of industrial wastewater with the specific aim to provide tailor-made solutions to end-users for a wide range of wastewaters. Such solutions will be essentially based on the improved integration of the investigated options and on technological improvements with respect to treatment system components, operation and control.

Referring to the investigated options and the envisaged technological solutions, the project's goals are:

- 1) Detailed investigation and performance enhancement of promising wastewater treatment options such as aerobic granulation, advanced oxidation processes (AOP) and membrane-based hybrid processes;
- 2) Achieving fundamental and technological knowledge advancements necessary for advanced wastewater treatment application in different industrial sectors;
- 3) Assessing the economic and environmental sustainability of promising wastewater treatment options;
- 4) Developing integrated tailor-made solutions for end-users in different industrial sectors;
- 5) Transferring the developed know-how to potential end-users inside and outside the project;
- 6) Favoring their actual implementation for enhancing the EU Water Industry competitiveness. In order to achieve such goals, coordinated research activities will be carried out on selected options treating different types of wastewater.

The experiences from such activities will be merged to define tailor-made solutions for end-users in different industrial sectors. A major goal will be the definition of treatment needs and framework conditions for a wide range of wastewaters based on the features of the options investigated (i.e., aerobic granulation, AOP combined processes, membrane contactors, membrane chemical reactors).

## Partners

Num.	Partner Legal Name	City	Country
1	Consiglio Nazionale delle Ricerche	Roma	Italy
2	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
3	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
4	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
5	Cranfield University	Cranfield - Bedfordshire	United Kingdom
6	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Lausanne	Switzerland
7	CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS	Madrid	Spain
8	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway
9	SOLSEP BV	Apeldoorn	Netherlands
10	BAYER MATERIALSCIENCE AG	Leverkusen	Germany
11	WEDECO GMBH	Herford	Germany
12	AUSTEP - Austeam Environmental Protection SRL	Milano	Italy
13	Albaida Recursos Naturales y Medio Ambiente S.A.	Almeria	Spain
14	Anoxkaldnes Ab	Lund	Sweden
15	WATER INNOVATE LIMITED	Buckinghamshire	United Kingdom
16	DHV B.V.	Amersfoort	Netherlands
17	THE UNIVERSITY OF QUEENSLAND	Queensland	Australia



Title:	Initiative 4 Facilitating integration of Research Potential from the Accession Candidate countries with the Potential of the Member States in the Area of Water Cycle including Soil Related Issues of t		
Area:	2. Water cycle including soil-related aspects 2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Support Action		
Project Total Cost:	246.015 €	Project start date:	1/05/2005
EU Contribution:	246.015 €	Duration:	20 months
Organisation:	Institute for Ecology of Industrial Areas	Katowice	Poland

## Abstract

The project is aimed at supporting integration of ACC and MS research teams in ERA through facilitating participation of ACC research organizations in FP projects in the area Water cycle including soil-related aspects and actively support implementation of the workprogramme of sub-priority 1.6.3. The goals will be achieved through: development of a multifunctional, internet-based information service aimed as a "one-stop-shop" for dissemination and exchange of information on water research conducted by ACC and MS organizations and for project dissemination, database of ACC organizations incl. SMEs active in water research, structured for FP projects development needs and combined with a dedicated partner search engine accessible through the service web page; 3 day event comprising 3 concurrent workshops with panel sessions addressing 3 topics from the area Water Cycle including soil related aspects: hydrology and climate change, ecological impact of global change, soil functioning and water quality, integrated management strategies and mitigation technologies. Specific topics and number of panel sessions will be tailored to the 4 call of priority 1.1.6.3. The event is aimed at training ACC researchers in the strategy of developing proposals (especially IP/NoE) with ACC potential integrated as contribution and forming ACC/MS Topical Expert Groups as project subconsortia capable to contribute to and/or develop FP proposals on selected panel sessions topics. Workshops participants will be 117 representatives of ACC organizations selected from the proposed database. Moderators will be selected 9 ACC and 9 MS researchers - recognized European leaders in water research. Project direct outcomes: an internet service and ACC organizations database are designed as sustainable mechanisms and will be maintained upon project completion together with the Expert Groups and the dedicated web pages set-up for them as platform to sustain ACC/MS Groups integration.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTE FOR ECOLOGY OF INDUSTRIAL AREAS	Katowice	Poland
2	INSTYTUT PODSTAWOWYCH PROBLEMOW TECHNIKI POLSKIEJ AKADEMII NAUK	Warsaw	Poland
3	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH	Leipzig	Germany
4	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
5	INTERNATIONAL CENTRE FOR ECOLOGY POLISH ACADEMY OF SCIENCES	Lodz	Poland



Title: Knowledge and Need Assessment on Pharmaceutical Product in Environmental Waters

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument: Specific Support Action

Project Total Cost: 877.012 € Project start date:

EU Contribution: 630.000 € Duration: 18 months

Organisation: Association pour la Recherche et le Développement des Méthodes et Processus Industriels Paris France

## Abstract

The presence of pharmaceutical and veterinary products or even illicit drugs in the environment provokes harmful and very worrisome consequences. During the last decade, the consumption of these substances reached '12500' tons and their use does not stop increasing. These substances are partially metabolised by the body, but thousand tons are rejected in the environment, every year, by way of human or animal excretions. The rates of elimination of these various products and their metabolites by classic wastewaters treatments are variable, and some actual techniques are not effective enough to insure their total elimination. On the basis of European projects and dedicated literature, the objectives of this project is to provide a holistic assessment of the impacts of PPs on the European environment by pulling together results of previous and ongoing EU projects and published data. More precisely, it aims to aggregate the knowledge available on pharmaceutical products (PP) in environment and to propose priority actions to be taken in order to limit the environmental and health effects of these molecules. The knowledge concerns the identification of all pharmaceutical molecules founded in European water, their described impact on ecosystems and aquatic and terrestrial organisms, their elimination, the current analytical methods of control and finally the new development in detection. A typology of pharmaceutical products according to environmental management and risk assessment of PP will be proposed. This approach can be considered as a decision making tool and appears to be relevant for stakeholders such as environmental managers, regulatory institutions and industrials.

## Partners

Num.	Partner Legal Name	City	Country
1	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
2	University of Portsmouth Higher Education Corporation	Portsmouth	United Kingdom
3	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
4	Bureau de Recherches Geologiques et Minières	Paris	France
5	University of York	York	United Kingdom
6	Bundesanstalt für Gewässerkunde (Federal Institute of Hydrology)	Koblenz	Germany
7	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
8	Ecologic- Institute for International and European Environmental Policy GmbH	Berlin	Germany
9	Université de Sherbrooke	Sherbrooke, Québec	Canada
10	Politechnika Slaska	Gliwice	Poland



Title:	Seawater desalination by innovative solar-powered membrane-distillation system		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.146.112 €	Project start date:	1/10/2006
EU Contribution:	1.385.000 €	Duration:	36 months
Organisation:	Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas-Ciemat	Madrid	Spain

## Abstract

Despite the advantages of solar membrane distillation (MD) systems very few experimental systems have been developed as opposed to the mature technologies solar PV-driven RO and solar distillation. Therefore, main objective of MEDESOL Project is the development of an environmentally friendly improved-cost desalination technology to fresh water supply in arid and semi-arid regions in EU and Third Countries based on solar MD. The layout involves the innovative concept of multistage MD in order to minimize specific energy and membrane area required and also to substantially reduce the brine generation. The aim of this work was to evaluate the technical feasibility of producing potable water from seawater by integrating several membrane distillation modules (Multi-step Membrane Distillation System). The aim is to develop systems for a capacity ranging from 0.5 to 50 m<sup>3</sup>/day. Technical simplicity, long maintenance-free operation periods and high-quality potable water output are the very important aims which will enable successful application of the systems that are based in membrane distillation. The heat source will proceed from an advanced compound parabolic solar concentrator, developed to the specific concentration ratio to achieve the specific needed range of temperatures (90°C) and the seawater heater will include the development of an advanced non-fouling surface coatings to avoid the deposit formation (i.e. scaling) at such temperature. Laboratory tests under defined testing conditions of all components are very important for the preparation of successful field tests under real conditions.

## Partners

Num.	Partner Legal Name	City	Country
1	CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS-CIEMAT	Madrid	Spain
2	UNIVERSIDAD DE LA LAGUNA	La Laguna - Santa Cruz De Tenerife	Spain
3	Acciona Infraestructuras S.A.	Madrid (alcobendas)	Spain
4	Aguas de las Cuencas Mediterraneas SA	Madrid	Spain
5	AO Sol Energias Renovaveis Limitada	Samora Correia	Portugal
6	UNIVERSITAET STUTTGART	Stuttgart	Germany
7	TINEP, S.A. DE C.V.	San Andres Atenco - Tlalnepantla De Baz	Mexico
8	UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO	Mexico Distrito Federal	Mexico
9	KUNGLIGA TEKNISKA HOEGSKOLAN	Stockholm	Sweden
10	SCARAB DEVELOPMENT AB	Stockholm	Sweden
11	IBERICA DE ESTUDIOS E INGENIERIA SA	Madrid	Spain





Title: MEmbrane-based Desalination: an INtegrated Approach  
 Area: 2. Water cycle including soil-related aspects  
 2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	5.500.402 €	Project start date:	15/10/2006
EU Contribution:	3.295.848 €	Duration:	36 months
Organisation:	Universita della Calabria	Arcavacata Di Rende	Italy

## Abstract

RO is today the dominant technology in water desalination. However, some critical issues remain open: improvement of water quality, enhancement of the recovery factor, reduction of the unit water cost, minimizing the brine disposal impact. With the aim to solve these problems, an innovative approach based on the integration of different membrane operations in pre-treatment and post-treatment stages is proposed. Expected outcomes and contributions of the research are:

- i) the development of advanced analytical methods for feedwater characterization, appropriate fouling indicators and prediction tools, procedures and protocols at full-scale desalination facilities;
- ii) identification of optimal seawater pre-treatment strategies by designing advanced hybrid membrane processes (submerged hollow fiber filtration/reaction, adsorption/ion exchange/ozonation) and comparison with conventional methods;
- iii) the optimization of RO membrane module configuration, cleaning strategies, reduction of scaling potential by NF;
- iv) the development of strategies aiming to approach the concept of Zero Liquid Discharge (increasing the water recovery factor up to 95% by using Membrane Distillation - MD;bringing concentrates to solids by Membrane Crystallization or Wind Intensified Enhanced Evaporation) and to reduce the brine disposal environmental impact and cost;
- v) increase the sustainability of desalination process by reducing energy consumption(evaluation of MD, demonstration of a new energy recovery device for SWRO installations)and use of renewable energy (wind and solar).

The research team embodies science and engineering from both the practitioner and academic perspectives. Potential end-users and participating utilities will be involved in research activities and applications. Linkages with ongoing research activities and demonstration studies at full-scale desalination plants will be conducted to ensure the applicability and transfer of the findings of the proposed research project.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA DELLA CALABRIA	Arcavacata Di Rende	Italy
2	Anjou Recherche	Paris	France
3	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	Delft	Netherlands
4	KIWA WATER RESEARCH B.V.	Rijswijk Zh	Netherlands
5	RHEINISCH-WESTFAELISCHES INSTITUTE FUER WASSERFORSCHUNG GEMEINNUETZIGE GMBH	Muelheim An Der Ruhr	Germany
6	BEN GURION UNIVERSITY OF THE NEGEV.	Beer Sheva	Israel
7	Centre National de al Recherche Scientifique (CNRS)	Paris	France
8	INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE TOULOUSE	Toulouse	France
9	OCTAVE SAS	Chateaurenard	France
10	GVS S.P.A.	Zola Predosa	Italy
11	UNIVERSITY OF TECHNOLOGY, SYDNEY	Sydney	Australia
12	UNIVERSITY OF NEW SOUTH WALES.	Sydney	Australia
13	CARL VON OSSIETZKY UNIVERSITAET OLDENBURG,	Oldenburg	Germany
14	ECOLE NATIONALE D'INGENIEURS DE GABES	Gabes	Tunisia



Title: New sustainable concepts and processes for optimization and upgrading municipal wastewater and sludge treatment

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument: Specific Targeted Research Project

Project Total Cost: 4.275.259 € Project start date: 1/11/2006

EU Contribution: 2.799.323 € Duration: 36 months

Organisation: EAWAG - Eidgenoessische Anstalt fur Wasserversorgung, Abwasserreinigung und Gewaesserschutz Duebendorf Switzerland

## Abstract

The scope of sewage treatment is changing: Up to date municipal wastewater treatment plants (WWTP) were seen as an end-of-pipe treatment just before discharge, having the aim to avoid eutrophication and hygienic health hazard in surface water. Due to the global demographic trends as well as new legislations (e.g. the Water Framework Directive, WFD) increased focus is put on quantity and quality of effluents: WWTP are more and more seen as interface between sanitation and environment, delivering resources to the environment or human activities (recharge of drinking water reservoirs, recycling of nutrient, efficient energy use).

This focus shift has implications on the quality goals set for WWTP products: land requirement, effluent N, P load, effluent pathogen load, energy optimization. New focus: nutrient recycling, micropollutants: ecotoxicology of the effluent energy production.

NEPTUNE is focusing on technology solutions allowing to meet present and future standards via upgrading of existing infrastructure (new control strategies with online sensors; effluent upgrading with oxidation, activated carbon or wetland treatment; sludge processing for safe nutrient recycle) as well as via new techniques (fuel cell applications; new oxidative agents; polymer production from sludge). By including pathogen and ecotoxicity aspects into life cycle assessment studies (LCA), the project is helping improve the comparability of various technical options and propose a suitability ranking. The new focus given by the WFD and the emerging interest on organic (eco-)toxic compounds requires characterizing treated effluent and treatment technologies concerning ecotoxicologic aspects and micropollutants. The project is contributing to this discussion by ecotoxicity assessment and micropollutant fate studies.

## Partners

Num.	Partner Legal Name	City	Country
1	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG, ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
2	BUNDESANSTALT FUER GEWAESSERKUNDE	Koblenz	Germany
3	UNIVERSITEIT GENT	Gent	Belgium
4	Consiglio Nazionale delle Ricerche	Roma	Italy
5	JOHANN WOLFGANG GOETHE UNIVERSITAET FRANKFURT AM MAIN	Frankfurt Am Main	Germany
6	DANMARKS TEKNISKE UNIVERSITET	Kongens Lyngby	Denmark
7	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU TEHNOLOGII IZOTOPICE SI MOLECULARE-I.N.C.D.T.I.M. CLUJ-NAPOCA	Cluj - Napoca	Romania
8	Aquafin N.V.	Aartselaar	Belgium
9	DEUTSCHE PROJEKT UNION GMBH	Koln	Germany
10	INSTITUTTET FOR PRODUKTUDVIKLING	Kgs. Lyngby	Denmark
11	SILUET B-BLAGA PETROVA	Varna	Bulgaria
12	PYROMEX PLC	London	United Kingdom
13	GEBRUDER HUNZIKER AG	Winterthur	Switzerland
14	SCAN MESSTECHNIK GMBH	Wien	Austria
15	CAMBI AS	Asker	Norway
16	Anoxkaldnes Ab	Lund	Sweden

17 UNIVERSITE LAVAL

Sainte-foy, Quebec

Canada

18 THE UNIVERSITY OF QUEENSLAND

Queensland

Australia



Title:	Network for the Development of Sustainable Approaches for Large Scale Implementation of Sanitation in Africa		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Concerted Action		
Project Total Cost:	1.541.800 €	Project start date:	1/06/2006
EU Contribution:	1.541.800 €	Duration:	30 months
Organisation:	Verein zur Förderung des Technologietransfers an der Hochschule Bremerhaven E.V.	Bremerhaven	Germany

## Abstract

Without a sharp acceleration in the rate of progress, the world will miss the MDG sanitation target by half a billion people. For instance, in sub-Saharan Africa almost two-thirds of the population (64%) are lacking adequate access to excreta disposal facilities. In African countries the sanitation coverage varies from 84% in urban areas to 45% in rural areas. To achieve the year 2015 goal for urban water supply coverage an additional 210 million (194 in rural areas) people over the next 15 years will have to be provided with service.

The proposed Coordination Action, aims to congregate the most relevant stakeholders in the field of sustainable sanitation in the Sub-Saharan African and European frame. NETSSAF will promote international cooperation between research organisations, associations, universities and social and governmental stakeholders in a European and Sub-Saharan African context, focussed in particular in the West African countries.

A sustainable sanitation expert and research co-ordination platform and an expertise network will be established, in order to co-ordinate, assess and guide suitable research and strategic activities with the aim of identifying best practices, gaps in knowledge and barriers to further execution and to propose directions for futures research. The aim of the proposed network will be to develop a variety of innovative, adaptable and replicable approaches to sustainable sanitation, integrating appropriate low cost technologies in the context of community based management and their relevant governance, institutional frameworks and socio-economic constraints. The main outcome will be the development of a Participative Multi-stakeholder Sanitation Management Support Tool aimed for the end-users to be able to apply large scale sanitation concepts and technologies adapted to the different conditions prevailing in Africa.

## Partners

Num.	Partner Legal Name	City	Country
1	VEREIN ZUR FOERDERUNG DES TECHNOLOGIETRANSFERS AN DER HOCHSCHULE BREMERHAVEN E.V.	Bremerhaven	Germany
2	TECHNISCHE UNIVERSITAET HAMBURG HARBURG	Hamburg	Germany
3	CENTRE REGIONAL POUR L'EAU POTABLE ET L'ASSAINISSEMENT A FAIBLE COUT-CREPA	Ouagadougou	Burkina Faso
4	BIOAZUL S. L.	Campanillas (malaga)	Spain
5	BUREAU OUEST AFRICAIN D'APPUI ORGANISATIONNEL ET DE TECHNOLOGIES APPROPRIEES-BOATA	Bamako	Mali
6	INTERNATIONAL ECOLOGICAL ENGINEERING SOCIETY	Wolhusen	Switzerland
7	WATER AND SANITATION PROGRAM - AFRICA	Nairobi	Kenya
8	INTERNATIONAL WATER ASSOCIATION	London	United Kingdom
9	UNIVERSITE D'ABOBO-ADJAME	Abidjan	Cote d'Ivoire
10	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
11	COMMUNE DE MATAM	Matam	Senegal
12	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
13	COMMUNE DE BOBO-DIOULASSO	Bobo-dioulasso	Burkina Faso
14	ECOSAN CLUB	Wien	Austria
15	KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI	Kumasi	Ghana
16	UNIVERSITY OF LEEDS	Leeds	United Kingdom

17	UNIVERSITE DE OUAGADOUGOU	Ouagadougou	Burkina Faso
18	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
19	DEUTSCHE GESELLSCHAFT FUER TECHNISCHE ZUSAMMENARBEIT GMBH	Eschborn	Germany
20	TAMPEREEN TEKNILLINEN YLIOPISTO	Tampere	Finland



Title: New Approaches to Adaptive Water Management under Uncertainty

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Integrated Project		
Project Total Cost:	15.914.530 €	Project start date:	1/01/2005
EU Contribution:	11.999.961 €	Duration:	48 months
Organisation:	University of Osnabrück	Osnabrueck	Germany

## Abstract

The central tenet of the NeWater project is a transition from currently prevailing regimes of river basin water management into more adaptive regimes in the future. This transition calls for a highly integrated water resources management concept. NeWater identifies key typical elements of the current water management system and focuses its research on processes of transition of these elements to adaptive IWRM. Each key element is studied by novel approaches. Key IWRM areas where NeWater is expected to deliver breakthrough results include:

1. governance in water management (methods to arrive at polycentric, horizontal broad stakeholder participation in IWRM)
2. sectoral integration (integration of IWRM and spatial planning; integration with climate change adaptation strategies, cross-sectoral optimisation and cost-benefit analysis)
3. scales of analysis in IWRM (methods to resolve resource use conflicts; transboundary issues)
4. information management (multi stakeholder dialogue, multi-agent systems modelling; role of games in decision making; novel monitoring systems for decision systems in water management)
5. infrastructure (innovative methods for river basin buffering capacity; role of storage in adaptation to climate variability and climate extremes)
6. finances and risk mitigation strategies in water management (new instruments, role of public-private arrangements in risk-sharing)
7. stakeholder participation; promoting new ways of bridging between science, policy and implementation. The development of concepts and tools that guide an integrated analysis and support a stepwise process of change in water management is the corner-stone of research activities in the NeWater project. To achieve its objectives the project is structured into six work blocks, and it adopts a management structure that allows effective exchange between innovative and cutting edge research on integrative water management concepts.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF OSNABRUECK	Osnabrueck	Germany
2	Alterra b.v.	Wageningen	Netherlands
3	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
4	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
5	GEOLOGICAL SURVEY OF DENMARK AND GREENLAND	Copenhagen	Denmark
6	HR WALLINGFORD LTD	Wallingford	United Kingdom
7	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS	Laxenburg	Austria
8	YORK UNIVERSITY	York	United Kingdom
9	TASHKENT INSTITUTE OF IRRIGATION AND MELIORATION	Tashkent	Uzbekistan
11	UNIVERSITAET KASSEL	Kassel	Germany
12	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
13	Cranfield University	Cranfield - Bedfordshire	United Kingdom
14	ECOLOGIC- INSTITUTE FOR INTERNATIONAL AND EUROPEAN ENVIRONMENTAL POLICY	Berlin	Germany
15	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
17	MAASTRICHT UNIVERSITY	Maastricht	Netherlands

18	INSTITUTE OF HYDRODYNAMICS, ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Praha 6	Czech Republic
19	INSTITUTE OF NATURAL RESOURCES	Pietermaritzburg	South Africa
20	NATIONAL RESEARCH COUNCIL	Roma	Italy
21	INSTITUTO DE SOLDADURA E QUALIDADE	Porto Salvo (oeiras)	Portugal
22	IUCN - INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE AND NATURAL RESOURCES	Gland	Switzerland
24	MANCHESTER METROPOLITAN UNIVERSITY	Manchester	United Kingdom
25	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E. V.	Muenchen	Germany
26	NATIONAL SCIENTIFIC CENTRE FOR MEDICAL AND BIOTECHNICAL RESEARCH/NATIONAL ACADEMY OF SCIENCES OF UKRAINE	Kiev	Ukraine
27	POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH	Potsdam	Germany
28	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
29	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
30	SEECON DEUTSCHLAND GMBH	Osnabrueck	Germany
32	VYZKUMNY USTAV VODOHOSPODARSKY T.G. MASARYKA (T.G. MASARYK WATER RESEARCH INSTITUTE)	Praha 6	Czech Republic
33	UNIVERSIDAD COMPLUTENSE DE MADRID	Madrid	Spain
34	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
36	UMEA UNIVERSITY	Umea	Sweden
37	UNIVERSITY OF EXETER	Exeter	United Kingdom
38	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
39	UNIVERSITY OF TWENTE	Enschede	Netherlands
40	VRIJE UNIVERSITEIT AMSTERDAM - INSTITUTE FOR ENVIRONMENTAL STUDIES	Amsterdam	Netherlands
42	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
43	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAT	Bonn	Germany



Title:	Optimised Radar to Find Every buried Utility in the street		
Area:	2. Water cycle including soil-related aspects 2.3. Integrated management strategies and mitigation technologies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.897.479 €	Project start date:	1/11/2006
EU Contribution:	2.697.814 €	Duration:	36 months
Organisation:	Osys Technology Limited	Newcastle Upon Tyne	United Kingdom

## Abstract

This project addresses the requirement for advanced technologies for locating, maintaining and rehabilitating buried infrastructures (area II.3.3). Specifically it fulfils the requirement for locating buried assets. Ground Penetrating Radar (GPR) is the only known non-invasive technique that can detect metallic and non-metallic buried objects, but conventional pulse time-domain technology has reached the limit of its development potential. This project will use innovative techniques to provide a clear advance in the state of the art.

The project has three major objectives:

- To provide a step change in the depth penetration and spatial resolution of GPR used for surveys carried out from the ground surface. This will be achieved by increasing the frequency and dynamic range of the radar by researching and developing Stepped Frequency Continuous Wave techniques and ultra wide-band antennas whose performance is independent of ground characteristics.

- To prototype an innovative GPR-based real-time obstacle detection system for steerable bore- heads of Horizontal Directional Drilling (HDD) pipe and cable laying systems so that they can operate more safely below ground. This will require new antenna designs to be developed to provide a look-ahead capability and robust systems to be designed to protect against the hostile mechanical environment.

- To increase knowledge of the electrical behaviour of the ground, by means of in-situ measurements to enhance understanding of the sub-soil electrical environment, and to provide information for scientifically based antenna design. The project will lead to practical solutions that can be implemented cost-effectively to provide a capability to locate buried infrastructure with accuracy and reliability. This will reduce the need for excavations in the highway, thus minimising direct and indirect costs, reducing the incidence of pollution and enhancing safety.

## Partners

Num.	Partner Legal Name	City	Country
1	OSYS TECHNOLOGY LIMITED	Newcastle Upon Tyne	United Kingdom
2	IDS INGEGNERIA DEI SISTEMI SPA	Pisa	Italy
3	GAZ DE FRANCE	Paris	France
4	TRACTO-TECHNIK GMBH	LenneStadt	Germany
5	UK WATER INDUSTRY RESEARCH LIMITED	London	United Kingdom
6	EUROPEAN UNION OF THE NATURAL GAS INDUSTRY	Bruxelles	Belgium
7	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
8	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
9	VYSOKE UCENI TECHNICKE V BRNE	Brno	Czech Republic





Title:	Participatory multi-Level EO-assisted tools for Irrigation water management and Agricultural Decision-Support		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.222.460 €	Project start date:	15/09/2006
EU Contribution:	2.697.000 €	Duration:	36 months
Organisation:	Universidad de Castilla - La Mancha	Ciudad Real	Spain

## Abstract

This project addresses the efficient and sustainable use of water for food production in water-scarce environments. It aims at improving the technical, environmental and economic performance of irrigation schemes by means of a range of measures. Major technical innovation is made possible by the comprehensive space-time coverage of Earth observation (EO) data and the interactive networking/connecting capabilities of Information and Communication Technologies (ICT). Therefore, a key feature will be a set of EO- and ICT-assisted integrated systems and services which are the fundament for integrated water resources management of river basins, irrigation schemes, and farms. It also is the basis for technical and social learning that enables farmers to act responsibly by fine-tuning their on-farm irrigation management in accordance with the river-basin water status and management decisions. We consider the economic, environmental, technical, social, and political dimensions and pursue a synergy of leading-edge technological innovation (that facilitates active participation) with participatory approaches (that require distributed spatial information and networking technology). A set of pilot Case Studies has been selected to represent a sample of the wide range of conditions found in the European and Southern Mediterranean and in Latin America, covering Portugal, Spain, Italy, Greece, Turkey, Morocco, Mexico, Peru, and Brazil. We will benchmark the technical, environmental, and economic performance of irrigation systems in our pilot river-basins, conduct trial campaigns with EO- and ICT-assisted products in a participatory evaluation with stakeholders, and assess the effect of the new tools on water productivity and performance of our pilot irrigation systems.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSIDAD DE CASTILLA - LA MANCHA	Ciudad Real	Spain
2	JUNTA DE EXTREMADURA	Merida (badajoz)	Spain
3	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
4	MINISTERIO DA AGRICULTURA, DO DESENVOLVIMENTO RURAL E DAS PESCAS	Lisboa	Portugal
5	Associacao de Beneficiarios do Caia	Elvas	Portugal
6	UNIVERSIDADE NOVA DE LISBOA, FACULDADE DE CIENCIAS E TECNOLOGIA	Caparica	Portugal
7	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
8	ISTITUTO NAZIONALE DI ECONOMIA AGRARIA	Roma	Italy
9	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II	Napoli	Italy
10	Ariespace SRL	Ercolano	Italy
11	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
12	PANEPISTIMIO THESSALIAS	Volos	Greece
13	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Athens	Greece
14	INTEGRATED RESOURCES MANAGEMENT (IRM) COMPANY LIMITED	Senglea	Malta
15	TARIMSAL HIDROLOGI ARASTIRMA VE EGITIM MERKEZI	Menemen	Turkey
16	UNIVERSITE CADI AYYAD	Marrakech	Morocco
17	INSTITUTO DE PROMOCION PARA LA GESTION DEL AGUA	Santiago De Surco Lima 33	Peru
18	INSTITUTO TECNOLOGICO DE SONORA	Ciudad Obregon, Sonora	Mexico
19	UNIVERSIDAD DE SONORA	Hermosillo	Mexico

20	COLEGIO DE POSTGRADUADOS	Montecillo	Mexico
21	EMPRESA BRASILEIRA DE PESQUISA AGROPECUARIA - EMBRAPA	Brasilia	Brazil
22	Dokuz Eylul University	Inciralti - Izmir	Turkey



Title:	Water reclamation technologies for safe artificial groundwater recharge		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	5.214.732 €	Project start date:	1/10/2005
EU Contribution:	3.000.000 €	Duration:	36 months
Organisation:	Rheinisch-Westfaelische Technische Hochschule Aachen	Aachen	Germany

## Abstract

Solutions to global water stress problems are urgently needed yet must be sustainable, economical and safe. The utilisation of alternative water sources like reclaimed municipal wastewater is one of the most obvious and promising options in integrated water management. Among the various beneficial uses of reclaimed wastewater Aquifer Recharge (AR) receives growing attention because it features advantages such as additional natural treatment, storage capacity to buffer seasonal variations of supply and demand as well as mixing with natural water bodies which promotes the acceptance of further uses, particularly indirect potable use. Major concerns about the safety of this exploitation route of an alternative water source are connected to microbial and chemical contaminants occurring in wastewater, among which are emerging trace organics like endocrine disrupters and pharmaceuticals. The strategic objective of this proposal is to develop hazard mitigation technologies for water reclamation providing safe and cost effective routes for artificial groundwater recharge. The proposed work will assess different treatment applications in terms of behaviour of key microbial and chemical contaminants. The knowledge generated in the project and the technologies developed will also be suited to the needs of developing countries, which have a growing need of supplementation of freshwater resources. The participation of partners from China and Australia demonstrate the anticipation of the global dimension of the water reclamation and aquifer recharge issue. The proposed project will strategically support the competitiveness of European technology suppliers and water services in the context of water reclamation and groundwater recharge.

## Partners

Num.	Partner Legal Name	City	Country
1	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
2	Consiglio Nazionale delle Ricerche	Roma	Italy
3	TECHNISCHE UNIVERSITAET BERLIN	Berlin	Germany
4	EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
5	Cranfield University	Cranfield - Bedfordshire	United Kingdom
6	UNIVERSITAT DE BARCELONA	Barcelona	Spain
7	DHI - INSTITUT FOR VAND OG MILJOE	Hoersholm	Denmark
8	INSTITUT ZA EKOLOGSKI INZENIRING D.O.O.	Maribor	Slovenia
9	LODE DIAGNOSTICS BV	Groningen	Netherlands
10	MEKOROT WATER COMPANY ISRAEL	Tel Aviv	Israel
11	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	Delft	Netherlands
12	BUNDESANSTALT FUER GEWAESSERKUNDE	Koblenz	Germany
13	TSINGHUA UNIVERSITY	Beijing	China (People's Republic of)
14	Bureau de Recherches Geologiques et Minières	Paris	France
15	Aquafin N.V.	Aartselaar	Belgium
16	UNITED WATER INTERNATIONAL PTY. LTD.	Adelaide	Australia



Title: Water reclamation technologies for safe artificial groundwater recharge - Extension

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	807.080 €	Project start date:	
EU Contribution:	560.440 €	Duration:	21 months
Organisation:	Rheinisch Westfaelische Technische Hochschule Aachen	Aachen	Germany

## Abstract

The utilisation of alternative water sources like reclamation of municipal wastewater is one of the most obvious and promising options in integrated water management. Among the various beneficial uses of reclaimed wastewater Aquifer Recharge (AR) receives growing attention because it features advantages such as additional natural treatment, storage capacity to buffer seasonal variations of supply and demand as well as mixing with natural water bodies which promotes the acceptance of further uses, particularly indirect potable use. Major concerns about the safety of this exploitation route of an alternative water source are connected to microbial and chemical contaminants occurring in wastewater, among which are emerging trace organics like endocrine disrupters and pharmaceuticals.

Augmentation of aquifers by wastewater reclamation has a particular importance in developing and emerging countries, especially in metropolitan cities with limited water resources. Unlike in industrialised rich countries the application of wastewater reclamation still faces many uncertainties due to simple pre-treatment prior to recharge.

Therefore the extension of RECLAIM WATER focuses on case studies where artificial groundwater recharge is already practised for a long period of time (e.g. in Mexico City since 100 years or in South Africa since almost 30 years) with technologies which are affordable and manageable in many developing countries.

The extension aims further towards a deeper understanding of simple technologies prior to recharge like advanced primary treatment (Mexico) or extensive systems like maturation ponds (South Africa).

NEWATER, the site in Singapore, represents the other extreme of a most advanced system for water reclamation with application of a dual membrane system (microfiltration and reverse osmosis). These systems still lack a proper brine treatment which shall be the main emphasis of the investigation within RECLAIM WATER TTC.

## Partners

Num.	Partner Legal Name	City	Country
1	Rheinisch Westfaelische Technische Hochschule Aachen	Aachen	Germany
2	Universidad Nacional Autonoma de Mexico	Mexico, D.f.	Mexico
3	CSIR (Council for Scientific and Industrial Research)	Pretoria	South Africa
4	Public Utilities Board	Singapore	Singapore
5	National University of Singapore	Singapore	Singapore



## REMOVALS

018525

FP6-2004-Global-3

[www.etseq.urv.es/removals/index.html](http://www.etseq.urv.es/removals/index.html)

Title: Reduction, modification and valorisation of sludge  
 Area: 2. Water cycle including soil-related aspects  
 2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.121.221 €	Project start date:	1/07/2006
EU Contribution:	3.053.512 €	Duration:	36 months
Organisation:	Universitat Rovira i Virgili	Tarragona	Spain

## Abstract

The adoption of the Urban Waste Water Treatment Directive 91/271/EEC imposes the sewage sludge to be subsequently treated so it is expected by 2005 to increase twofold in comparison with 1992. However, classical incineration to treat this vast amount of sludge must be no longer accepted from an environmental point of view. In addition, the Sewage Sludge Directive 86/278/EEC regulates the uses and properties of stabilised sludge for being either recycled or disposed. Both directives drive specific actions in two complementary ways. Firstly, a deep knowledge of current sludge treatment, such as mesophilic, thermophilic or autothermophilic processes, must be promoted to solve that problem in the UE ambit, taking in account the particular considerations of each treatment facility. In second place, the development of new processes must be supported to open new alternatives that could valorise that waste. The proposal aims at developing strategies for the disposal and reuse of waste sludge. The scope envisages to develop several processes for reducing both amount and toxicity of sludge, with simultaneous transformation into green energy vectors such as methane or hydrogen. In outline, mesophilic and mainly thermophilic and autothermophilic conditions will be deeply explored as classical alternatives for sludge stabilisation, assuring sanitary conditions of the treated sludge. Also, valuable materials will be obtained from sludge, such as activated carbons, which will be used in conventional adsorption processes and in innovative advanced oxidation processes. The main outcomes expected at the end of the projects are guidelines for technology selection in agreement with the geographic, economic and technical characteristics of the sewage plants, demonstration of the feasibility of new applications for the sewage sludge, manufacturing of activated carbon from sludge sewage as innovative recycling of sludge waste, and a deep understanding of the methods involved.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAT ROVIRA I VIRGILI	Tarragona	Spain
2	UNIVERSITE DE NANTES - UN	Nantes	France
3	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (Cerdanyola Del Valles)	Spain
4	UNIVERSITY OF GLAMORGAN.	Pontypridd Wales	United Kingdom
5	INSTITUT NATIONAL POLYTECHNIQUE DE TOULOUSE.	Toulouse	France
6	GESTIO AMBIENTAL I ABASTAMENT SA	Reus	Spain
7	TRATAMIENTOS Y RECUPERACIONES INDUSTRIALES SA	Barcelona	Spain
8	VYSOK SKOLA CHEMICKO-TECHNOLOGICKA V PRAZE	Praha 6	Czech Republic
9	POLITECHNIKA LODZKA	Lodz	Poland
10	TECHNISCHE UNIVERSITAET BERLIN	Berlin	Germany
11	FACULDADE DE CIENCIAS E TECNOLOGIA DA UNIVERSIDADE DE COIMBRA	Coimbra	Portugal
12	COSVALADO-INDUSTRIA, COMERCIO E SERVICOS VITIVINICOLAS E ALIMENTARES, SA	Aveiro	Portugal
13	Centre National de al Recherche Scientifique (CNRS)	Paris	France
14	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE.	London	United Kingdom
15	SALSNES FILTER AS	Namsos	Norway
16	CHEMVIRON CARBON LIMITED	Ashton In Makerfield	United Kingdom
17	SEEN TECHNOLOGIE SP. ZOO	Warszawa	Poland
18	K&H KINETIC A.S.	Klatovy	Czech Republic



Title: A Regional Model for Integrated Water Management in Twinned River Basins

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.964.140 €	Project start date:	1/03/2004
EU Contribution:	2.460.160 €	Duration:	36 months
Organisation:	Universität Hohenheim	Stuttgart	Germany

## Abstract

The project "RIVERTWIN" aims in adjusting, testing and implementing an integrated regional model for the strategic planning of water resources management in twinned river basins under contrasting ecological, social and economic conditions. The regional model will take into account the impacts of demographic trends, economic and technological development, the effects of global climate and land use changes on the availability and quality of water bodies in humid temperate, subhumid tropical as well as semiarid regions. The existing integration framework will be first tested in a European river basin with high data availability and data density. The Transferability of the model to other regions with different economic level, ecological standards and with low data availability will be jointly tested by the project team and river basin organisations in two river basins in Westafrica and Uzbekistan. Here, the problem of adequate human resources and the uncertainties of input data for the implementation of computer based decision support tools will be addressed. Capacity building through training of end users supports the transfer of the research results into application. In cooperation with stakeholders and potential users integrated scenarios of economic growth, land use and climate change will be developed and the model will be used to assess the implications for water management under the respective scenario assumptions. The twinning of river basins will promote mutual transfer of know-how and technology between European and Third countries. Based on the results, river basin management plans can be prepared. Through its holistic basin wide approach, the project contributes to the EU water directive, the Millennium Goals defined by the WSSD and the EU water initiative for Africa and Newly Independent States.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET HOHENHEIM	Stuttgart	Germany
2	UNIVERSITAET STUTTGART	Stuttgart	Germany
3	STICHTING ONDERZOEK WERELDVOEDSELVOORZIENING VAN DE VRIJE UNIVERSITEIT	Amsterdam	Netherlands
4	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
5	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
6	INSTITUT NATIONAL DES RECHERCHES AGRICOLES DU BENIN	Cotonou	Benin
7	DIRECTION DE L'HYDRAULIQUE	Cotonou	Benin
8	UNIVERSITE D' ABOMEY CALAVI	Abomey Calavi	Benin
9	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	Tashkent	Uzbekistan
10	SJE - SCHNEIDER & JORDE ECOLOGICAL ENGINEERING GMBH	Stuttgart	Germany
11	TERRA FUSCA, MAROHN & LANGE GBR	Stuttgart	Germany



Title:	Resource-Oriented Sanitation concepts for peri-urban areas in Africa		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.900.000 €	Project start date:	1/10/2006
EU Contribution:	2.900.000 €	Duration:	36 months
Organisation:	Universität für Bodenkultur Wien	Wien	Austria

## Abstract

The UN Millennium Development Goals (MDGs, target 10) call for halving the proportion of people without access to safe drinking water and basic sanitation by 2015. ROSA promotes resource-oriented sanitation concepts as a route to sustainable and ecologically sound sanitation in order to meet the MDGs. These concepts shall be applied in four cities in East-Africa, namely Arbaminch (Ethiopia), Nakuru (Kenya), Arusha (Tanzania) and Kitgum (Uganda). The consortium comprises 2 partners from each of these countries, a university and an end-user. For the model cities strategic sanitation & waste plans (SSWPs) will be developed for the whole city area. These SSWPs will come up with the best solution for the city combining several techniques (resulting in hybrid systems) according to the local requirements. Within the project a part of the SSWPs will be developed in peri-urban areas, where there is a lot of research need for resource-oriented sanitation. Research topics addressed within ROSA are targeting the gaps for the implementation of these concepts in peri-urban areas. They include e.g. an implementation study of the updated WHO-guidelines for use of waste and excreta, the improvement/adaptation of resource-oriented sanitation technologies and the development of community based operation and management strategies. For the implementation of the complete SSWPs the ROSA consortium will develop possibilities for financing. This will be facilitated by the already existing international network of the consortium and the strong link of the activities to on-going programmes/projects in East Africa (e.g. the "Lake Victoria Initiative" of the UN Habitat, the WSP of the Worldbank, the Dutch ISSUE Programme, the Swedish EcoSanRes Programme, etc.). Dissemination activities will be focused on establishing the local East African network between universities, end-users, etc. This network will ensure the consolidation and the replication of the knowledge gained within the region.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
2	TECHNISCHE UNIVERSITAET HAMBURG HARBURG	Hamburg	Germany
3	ECOSAN CLUB	Wien	Austria
4	STICHTING WASTE	Gouda	Netherlands
5	LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE	London	United Kingdom
6	MAKERERE UNIVERSITY	Kampala	Uganda
7	UNIVERSITY OF DAR ES SALAAM	Dar Es Salaam	Tanzania (United Republic of)
8	EGERTON UNIVERSITY	Njoro	Kenya
9	Arba Minch University	Arbaminch	Ethiopia
10	KITGUM TOWN COUNCIL	Kitgum	Uganda
11	Arusha City Council	Arusha	Tanzania (United Republic of)
12	MUNICIPAL COUNCIL OF NAKURU	Nakuru	Kenya
13	Arba Minch Town Water Service	Arbaminch	Ethiopia



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Title: Source Control Options for Reducing Emissions of Priority Pollutants

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

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Instrument: Specific Targeted Research Project

Project Total Cost: 3.578.750 €      Project start date: 1/10/2006

EU Contribution: 2.600.000 €      Duration: 36 months

Organisation: Danmarks Tekniske Universitet      Kongens Lyngby      Denmark

## Abstract

The overall aim of the SCOREPP project is to develop comprehensive and appropriate source control strategies that authorities, cities, water utilities and chemical industry can employ to reduce emissions of priority pollutants (PPs) from urban areas into the receiving water environment. The SCOREPP project focuses on the 33 priority substances identified in the Water Framework Directive (WFD), and specifically on the 11 priority hazardous substances. However, this list may be expanded to include emerging pollutants or reduced if appropriate model compounds can be identified, depending on the local context.

The specific scientific objectives of the SCOREPP project are to identify the sources of PPs in urban areas, to identify and assess appropriate strategies for limiting the release of PPs from urban sources and for treating PPs on a variety of spatial scales. Furthermore to develop GIS-based spatial decision support tools for identification of appropriate emission control measures, to develop integrated dynamic urban scale source-and-flux models that can be used to assess the effect of source control options on PP-emissions and to optimise monitoring programmes, and to assess the direct and indirect costs, the cost-effectiveness and the wider societal implications of source control strategies. The developed approaches, models and assessments will be used to formulate a set of appropriate PP-emission reducing strategies, and a multi-criteria approach will be used to compare and evaluate these strategies in relation to their economic, societal and environmental impacts. The SCOREPP project will interact with the European chemical industry and water utility trade associations together with representatives from ministerial, regional, municipal and community organisations to ensure that these key urban stakeholders can provide input to framing the scope of the project, adapting the project outcomes and communicating the results of the project to a wide audience.

## Partners

Num.	Partner Legal Name	City	Country
1	DANMARKS TEKNISKE UNIVERSITET	Kongens Lyngby	Denmark
2	MIDDLESEX UNIVERSITY HIGHER EDUCATION CORPORATION	London	United Kingdom
3	UNIVERSITEIT GENT	Gent	Belgium
4	Anjou Recherche	Paris	France
5	ENVICAT CONSULTING SPRL	Wavre	Belgium
6	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
7	DESENVOLUPAMENT I SOCIETAT ESTUDIS SA	Barcelona	Spain
8	STOCKHOLMS STAD	Stockholm	Sweden
9	UNIVERSITE LAVAL	Sainte-foy, Quebec	Canada





Title: Source control of priority substances in Europe  
Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument: Specific Targeted Research Project  
Project Total Cost: 3.158.254 € Project start date: 1/11/2006  
EU Contribution: 1.720.000 € Duration: 36 months  
Organisation: IVL Svenska Miljöinstitutet Ab Stockholm Sweden

## Abstract

With the new regulations included in the Water Framework Directive (WFD) (2000/60/EC), new strategies are needed for control of Priority pollutants (PP). For decision making and implementation of the WFD, the industrial sector, local water authorities and EU policy makers need guidelines for the selection and introduction of feasible and cost-effective measures. The overall objective of this project is to support the implementation process for the WFD by providing guidelines and decision support tools for the management of priority pollutants.

To fulfil this overall objective the following activities are proposed:

- To conduct a material flow analysis for selected priority pollutants.
- To evaluate available and emerging measures and management options for PPs.
- To develop a decision support tool for identification and selection of relevant measures on European, national and regional level.
- To evaluate different potential measures by applying the decision support tools in case studies.
- To facilitate the development of collective action plans (i.e. river basin management plans) involving all stakeholders (industries, authorities, citizens, NGOs).
- To disseminate results to stake-holders and to strongly interact with industrial organisations, research networks, authorities and NGOs.

A Stakeholder Advisory Group (SAG) will be formed with representatives from industries, authorities and NGOs. The SAG will be consulted during all steps in the process of collecting information, developing the decision support tool and the suggested set of management measures. The cooperation with the industrial sector, the different authorities and other stakeholders (public, NGOs) will ensure the accuracy and relevance of basic data collection, as well as the applicability, acceptance and relevance of the results from this project.

## Partners

Num.	Partner Legal Name	City	Country
1	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
2	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
3	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	Verneuil En Halatte	France
4	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
5	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
6	INSTYTUT EKOLOGII TERENOW UPZEMYSLOWIONYCH	Katowice	Poland
7	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
8	VYSKUMNY USTAV VODNEHO HOSPODARSTVA	Bratislava	Slovakia
9	KIWA WATER RESEARCH B.V.	Rijswijk Zh	Netherlands
10	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
11	ENVIRONMENTAL INSTITUTE, S.R.O.	Kos	Slovakia



Title:	Strategy and methodology for improved IWRM - An Integrated Interdisciplinary Assessment in Four Twinning River Basins in Europe and Asia		
Area:	2. Water cycle including soil-related aspects		
	2.3. Integrated management strategies and mitigation technologies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.739.400 €	Project start date:	1/07/2006
EU Contribution:	2.489.650 €	Duration:	36 months
Organisation:	Norsk Institutt for Vannforskning (NIVA)	Oslo	Norway

## Abstract

The point of departure for STRIVER is the lack of clear methodologies and problems in operationalisation of IWRM as pointed out by both the scientific and management communities. STRIVER will develop interdisciplinary methods to assess and implement IWRM. Based on the development of a multidisciplinary knowledge base assessment in all case studies (policy, social and natural sciences) and an early stage development of IWRM conceptual framework, the project will undertake IWRM in the four selected twinned catchments covering six countries in Europe and Asia. Twinning activities based on a problem-based approach will be performed in four case river basins:

- Tunga Bahdra (2 states in India),
- Sesan (Vietnam/Cambodia),
- Glomma (Norway),
- Tejo/Tagus (Spain/Portugal)

Under the IWRM framework, the problems to be covered are

- (i) water regimes in transboundary regulated rivers,
- (ii) environmental flow,
- (iii) land and water use interaction, and
- (iv) pollution.

The research will use sub-basins of each river basin in all cases to allow more detailed studies and easier integration of all stakeholders, for transferability purposes. STRIVER will contribute towards improved interdisciplinary IWRM, based on the coupling and balancing of ecological, social-economic and policy variables in all the four case-basins by twinning activities. To that end, the project will:

- develop guidelines for interdisciplinary methods to assess and implement IWRM,
- assess the transferability of case study results,
- enhance the dialogue between decision-makers, stakeholders and scientists,
- disseminate data and information to stakeholders to promote participatory planning and integrated decision-making, taking adequate account of the rights of poor people and gender roles,
- ensure that project results will benefit all parties also after the end of the project.

## Partners

Num.	Partner Legal Name	City	Country
1	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTER	Brussels	Belgium
3	UNIVERSITY OF DUNDEE	Dundee	United Kingdom
4	INSTITUTE OF GEOGRAPHY/VAST	Hanoi	Viet Nam
5	MINISTRY OF WATER RESOURCES AND METEOROLOGY	Phnom Penh	Cambodia
6	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
7	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
8	UNIVERSITETET I OSLO	Oslo	Norway
9	INSTITUTE FOR SOCIAL AND ECONOMIC CHANGE, BANGALORE	Bangalore	India
10	SOCIETY FOR PROMOTING PARTICIPATIVE ECOSYSTEM MANAGEMENT	Pune	India
11	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAET BONN	Bonn	Germany
12	LINKOEPINGS UNIVERSITET	Linkoeeping	Sweden





Title: Sustainable and Safe Re-use of Municipal Sewage Sludge for Nutrient Recovery

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

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Instrument:	Specific Targeted Research Project	Project start date:	1/11/2005
Project Total Cost:	1.556.520 €	Duration:	36 months
EU Contribution:	1.159.800 €	Organisation:	Berlin Germany
Organisation:	Bundesanstalt für Materialforschung und -prüfung		

## Abstract

Municipal sewage sludge (MSS) is a carrier of nutrients but is often contaminated by hazardous organic and inorganic pollutants. Therefore, it must be disposed of or the pollutants must be removed before agricultural use to protect farmland and human health. Disposal or immobilisation results in an irreversible loss of nutrients. The project is aimed to develop a sustainable and safe strategy for nutrient recovery from sewage sludges using thermal treatment. Mono-incineration of the sludges will completely destruct the organic pollutants in a first step. The incineration residues are ashes with a high phosphorus (P) content that still contain heavy metal compounds above the limits for agricultural use. Phosphorus in the ashes exhibits low bioavailability - a disadvantage in farming. Therefore, in a second thermochemical step heavy metals will be removed and P transferred into mineral phases available for plants. First investigations have shown that volatile heavy metal chlorides are formed by adding magnesium chloride at temperatures of 900-1000 °C and can be separated. Additionally, magnesium phosphates are built up resulting in P-bioavailability of up to 100%. These technologies will be developed and improved with focus on large-scale application aiming at P-fertiliser products. Intense agricultural investigations will guarantee marketability of the fertiliser. Advantages and disadvantages of the proposed technology will be analysed and compared to other treatment and management options. The comparison will be based on energy, material and substance balances as well as established evaluation methods and will quantify the contribution of all options to environmental protection and resource recovery. The method is both technically and economically feasible, it will solve an environmental protection problem and utilize a potential raw material. As a result, approx. 300,000 tonnes of phosphorus can be recovered as fertiliser in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	BUNDESANSTALT FUER MATERIALFORSCHUNG UND -PRUEFUNG	Berlin	Germany
2	TECHNISCHE UNIVERSITAET WIEN	Wien	Austria
3	BUNDESFORSCHUNGSANSTALT FUER LANDWIRTSCHAFT	Braunschweig	Germany
4	ASH DEC Umwelt AG	Wien	Austria
5	BAMAG GMBH	Butzbach	Germany
6	SLIBVERWERKING NOORD-BRABANT N.V.	Moerdijk	Netherlands
7	KEMIRA GROWHOW OYJ	Helsinki	Finland



Title: Sustainable Water management Improves Tomorrow's Cities'Health

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Integrated Project		
Project Total Cost:	22.253.171 €	Project start date:	1/02/2006
EU Contribution:	14.749.996 €	Duration:	60 months
Organisation:	UNESCO-IHE Institute for Water Education	Delft	Netherlands

## Abstract

Context: With increasing global change pressures, and due to existing limitations, and un-sustainability factors and risks of conventional urban water management (UWM), cities experience difficulties in efficiently managing the ever scarcer water resources, their uses/services, and their after-use disposal, without creating environmental, social and/or economic damage. In order to meet these challenges, SWITCH calls for a paradigm shift in UWM. There is a need to convert ad-hoc actions (problem/incident driven) into a coherent and consolidated approach (sustainability driven). This calls for an IP Approach. Research concept SWITCH therefore proposes an action research project which has as a main objective: The development, application and demonstration of a range of tested scientific, technological and socio-economic solutions and approaches that contribute to the achievement of sustainable and effective UWM schemes in 'The City of the future'. The project will be implemented by different combinations of consortium partners, along the lines of seven complementary and interactive themes. The research approach is innovative for the combination of: action research: address problems through innovation based upon involvement of users. learning alliances: to link up stakeholders to interact productively and to create win-win solutions along the water chain; multiple-way learning: European cities learn from each other and from developing countries, and vice versa. multiple-level or integrated approach: to consider the urban water system and its components (city level) in relation to its impacts on, and dependency of, the natural environment in the river basin (river basin level), and in relation to Global Change pressures (global level). Instruments and scope An IP with 30 partners, their resources, and a total budget of 25,191,396 EURO including budget for demonstration activities in 9 Cities in Europe and developing countries.

## Partners

Num.	Partner Legal Name	City	Country
1	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	Delft	Netherlands
2	STICHTING INTERNATIONAL REFERENCE CENTRE FOR COMMUNITY WATER SUPPLY AND SANITATION (IRC)	Delft	Netherlands
3	STICHTING ETC	Leusden	Netherlands
4	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
5	MIDDLESEX UNIVERSITY HIGHER EDUCATION CORPORATION	London	United Kingdom
6	UNIVERSITY OF BIRMINGHAM	Birmingham	United Kingdom
7	OVE ARUP & PARTNERS LIMITED	London	United Kingdom
8	UGMT LIMITED	Greenwich - London	United Kingdom
9	TECHNISCHE UNIVERSITAET HAMBURG HARBURG	Hamburg	Germany
10	MEKOROT WATER COMPANY ISRAEL	Tel Aviv	Israel
11	THE HEBREW UNIVERSITY OF JERUSALEM.	Jerusalem	Israel
12	CHONGQING UNIVERSITY	Chongqing	China (People's Republic of)
13	INSTITUTE OF GEOGRAPHICAL SCIENCES AND NATURAL RESOURCES RESEARCH, CHINESE ACADEMY OF SCIENCES	Beijing	China (People's Republic of)
14	Ayuntamiento de Zaragoza	Zaragoza	Spain
15	UNIWERSYTET LODZKI	Lodz	Poland
16	INTERNATIONAL WATER MANAGEMENT INSTITUTE	Colombo	Sri Lanka
17	KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI	Kumasi	Ghana
18	BELO HORIZONTE PREFEITURA	Belo Horizonte	Brazil

19	UNIVERSIDADE FEDERAL DE MINAS GERAIS	Belo Horizonte	Brazil
20	ICLEI EUROPEAN SECRETARIAT GMBH	Freiburg	Germany
21	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Lausanne	Switzerland
22	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Zografou	Greece
23	UNIVERSIDAD DEL VALLE	Cali	Colombia
24	IPES - PROMOCION DEL DESARROLLO SOSTENIBLE	Lima	Peru
25	INGENIEURGESELLSCHAFT PROF. DR. SIEKER. MBH	Dahlwitz-hoppegarten	Germany
26	TECHNISCHE UNIVERSITAET BERLIN	Berlin	Germany
27	LOUGHBOROUGH UNIVERSITY	Loughborough	United Kingdom
28	HOUSE OF WATER AND ENVIRONMENT	Al Bireh-ramallah	Gaza Strip and the Wes Bank
29	CENTRE FOR ENVIRONMENT AND DEVELOPMENT FOR THE ARAB REGION AND EUROPE	Cairo	Egypt
30	UNIVERSIDAD NACIONAL DE COLOMBIA	Bogota	Colombia
31	UNIVERSITY OF ABERTAY DUNDEE	Dundee	United Kingdom
32	FREIE UND HANSESTADT HAMBURG	Hamburg	Germany



Title: TECHNEAU: technology enabled universal access to safe water

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Integrated Project		
Project Total Cost:	19.233.315 €	Project start date:	1/01/2006
EU Contribution:	13.242.749 €	Duration:	60 months
Organisation:	KIWA NV	Rijswijk Zh	Netherlands

## Abstract

Many of the numerous small supply systems in rural areas in Europe and developing countries do not comply with regulations. Large centralised supply systems in industrialized regions are struggling to meet the challenge of a reliable, uninterrupted supply of water with a high level of compliance with standards and of minimal risk to human health, including the risk from deliberate contamination of water, whilst being accepted and trusted by consumers. It is the vision of TECHNEAU that, in order to cope with present and future challenges, water supply systems should consider a transformation from mono-scale to flexible multi-scale systems i.e. interlinked centralised and decentralised satellite treatment, monitoring and control systems. TECHNEAU will develop and demonstrate adaptive supply system options and new and improved supply and monitoring technologies and management practices. Treatment strategies will be based on robust multi-barrier schemes and control methodologies, providing safety against a broad spectrum of chemical and microbiological contaminants and avoiding organoleptic problems at the tap. Monitoring technologies will provide on-line and at the site information on water quality including parameters that relate to malicious contamination. Practices for risk assessment/risk management, operation and maintenance, and models for consumer acceptance will constitute the framework for these technologies. These technologies and management practices will enable end-users to make informed choices, appropriate to their own circumstances and constraints, for cost-effective and sustainable source-to-tap solutions for the provision of safe high quality drinking water that has the trust of the consumer. This step-change will be achieved by a critical mass of researchers, technology developers and users from across Europe and developing countries.

## Partners

Num.	Partner Legal Name	City	Country
1	KIWA NV	Rijswijk Zh	Netherlands
2	SINTEF - STIFTELSEN FOR INDUSTRIELL OG TEKNISK FORSKNING VED NORGES TEKNISKE HOEGSKOLE AS	Trondheim	Norway
3	RIGAS TEHNISKA UNIVERSITATE	Riga	Latvia
4	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
5	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
6	DVGW DEUTSCHE VEREINIGUNG DES GAS-UND WASSERFACHES-TECNISCH-WISSENS CHAFDICHER VEREIN EV	Karlsruhe	Germany
7	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	Lisboa	Portugal
8	UNESCO-IHE INSTITUTE FOR WATER EDUCATION	Delft	Netherlands
9	WRC PLC	Swindon	United Kingdom
10	UNIVERSITY OF SURREY	Guildford Surrey	United Kingdom
11	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	Bruxelles	Belgium
12	BIODETECTION SYSTEMS BV	Amsterdam	Netherlands
13	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
14	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
15	Alpha Mos S.A.	Toulouse	France
16	SCAN MESSTECHNIK GMBH	Wien	Austria
17	VERMICON AKTIENGESELLSCHAFT	Muenchen	Germany

18	Anjou Recherche	Paris	France
19	MEKOROT WATER COMPANY ISRAEL	Tel Aviv	Israel
20	KOMPENTENTZZENTRUM WASSER BERLIN GEMEINNUETZIGE GMBH	Berlin	Germany
21	WATER RESEARCH COMMISSION	Rietfontein - Pretoria	South Africa
22	BBE MOLDAENKE GMBH	Kronshagen	Germany
23	FORSCHUNGSVERBUND BERLIN E.V.	Berlin	Germany
24	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
25	Aqualyng AS	Vanvikan	Norway
26	CHRIS SWARTZ WATER UTILIZATION ENGINEERS	Mossel Bay	South Africa
27	FREIE UNIVERSITAET BERLIN.	Berlin	Germany
28	INDIAN INSTITUTE OF TECHNOLOGY - DELHI	New Delhi	India
29	STATNI ZDRAVOTNI USTAV	Praha 10	Czech Republic
30	OPALIUM	Fontenay-sous-bois	France





Title: Twinning European and third countries river basins for development of integrated water resources management methods

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.155.388 €	Project start date:	1/12/2003
EU Contribution:	1.389.893 €	Duration:	36 months
Organisation:	IVL Svenska Miljöinstitutet Ab	Stockholm	Sweden

## Abstract

### Strategic objectives:

1. To fill gaps in knowledge and methods in order to enable implementation of a harmonised IWRM approach that addresses the European Water Initiative, in five river basins.
2. To enable and perform assessment of vulnerability to climate change and anthropogenic development, and produce integrated river basin management plans, that includes optimal combinations of actions.

To reach the strategic objectives of TWINBAS, a number of research tasks on hydrology, modelling of pollution flow, impact assessment, socio-economics, scenario analyses and action efficiency have to be carried through. For all these activity areas, the goal is to bring knowledge to a level where IWRM can be implemented for the five twinned river basins; Okavango (Botswana), Nura (Kazakhstan), Bio Bio (Chile) Thames (UK) and Norrstrom (Sweden). TWINBAS will have an important strategic impact by creating the practical means for implementing the EU Water Initiative 'Water for Life'. The nature and width of the gaps in knowledge vary between the different case study rivers, and therefore the research required differs between the river basins.

The research and the IWRM components of TWINBAS are organised according to the EU Water Framework Directive (WFD) so that the WFD guideline documents can be utilised. The proposal also addresses the EU Water Initiative, which promotes development that is demand led from the less developed countries. The strong component of public participation and stakeholder involvement will ensure that each component has local ownership and addresses priorities identified within the region. The river basins selected represent a wide variety of water use problems, and a variety of political and societal systems. Thus, the applicability of the WFD approach will vary for the third country basins, and methodology applied will be a modification of the WFD process. TWINBAS aims at enabling development of water management action plans that have been thoroughly analysed taking all fields of water issues into account, and have been found to give good or at least acceptable results for all stakeholders. The proposal is designed to enable and facilitate twinning in all fields of activity and utilisation of expertise and experience from all the five river basins.

## Partners

Num.	Partner Legal Name	City	Country
1	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
2	DHI - INSTITUT FOR VAND OG MILJÖE	Hoersholm	Denmark
3	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
4	COMISION NACIONAL DEL MEDIO AMBIENTE	Santiago De Chile	Chile
5	Almaty Institute of Power Engineering and Telecommunications	Almaty	Kazakhstan
6	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
7	RHODES UNIVERSITY	Grahamstown	South Africa
8	UNIVERSIDAD DE CONCEPCION	Concepcion	Chile



Title: TWINBASINXN : Promoting Twinning of River Basins for Developing Integrated Water Resources Management Practices

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Concerted Action		
Project Total Cost:	1.710.000 €	Project start date:	1/01/2004
EU Contribution:	900.000 €	Duration:	48 months
Organisation:	Office International de l'Eau	Paris	France

## Abstract

A Basin Organisation is generally regarded as one of the best solutions to adopt for developing an Integrated Water Resources Management (IWRM) at a catchment level.

There have then been many types of BO, some of them existing for several decades, and a lot in a development process; they present a great diversity of legal statutes and economic schemes. None of these examples can be regarded as a model; but, by facilitating direct exchanges on best practices, and as well on failed experiments, twinning can help Basin Organisations to improve their effectiveness: BO can profit from peers, regarding administrative, technical and institutional matters, or a quicker diffusion of the research outputs in the real life. The main goal of TWINBASINXN is to support effective use of research and development in the field of IWRM by promoting twinning of BO. This will be achieved by creating a world-wide forum dedicated to identifying and sharing knowledge and best practices.

A Memorandum of Understanding (MoU) takes the form of a co-operation framework signed by a wide range of organisations, both public and private, which have an interest in the deployment of IWRM practices; it is a voluntary agreement, entered into by organisations, prepared to be active participants in developing consensus on issues of common interest, and who are willing to commit both human and financial resources for this purpose, by participating in the operation of Specific Interest Groups (SIGs). This MoU implies public commitments from signatories, from which: to co-operate in the production of recommendations and guidelines for developing twinning and related services by co-operating in the specification of twinning activities - exchange of information, exchange of personnel - and of common knowledge representation systems and dissemination practices. The project will support staff mobility between twinned BO, for enhancing peer-to-peer exchanges and hands-on periods (0,5 to 2 months).

## Partners

Num.	Partner Legal Name	City	Country
1	OFFICE INTERNATIONAL DE L'EAU	Paris	France
2	Agence de l'Eau Seine Normandie	Nanterre	France
3	RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN	Paris	France
4	EA GROUPEMENT DES PROFESSIONNELS DU SECTEUR DE L'EAU EN PROVENCE	Aix En Provence	France
5	RED MEDITERRANEA DE ORGANISMOS DE CUENCA	Valencia	Spain
6	SECRETARIA DE RECURSOS HIDRICOS - MINISTERIO DO MEIO AMBIENTE	Brasilia - Distrito Federal	Brazil
7	GLOBAL WATER PARTNERSHIP	Stockholm	Sweden
8	TECHWARE - TECHNOLOGY FOR WATER RESOURCES	Bruxelles	Belgium
9	UNIVERSITY OF PRETORIA	Pretoria	South Africa
10	ORSZAGOS VIZUGYI FOIGAZGATOSAG	Budapest	Hungary
11	SCIENTIFIC INFORMATION CENTER OF INTERSTATE WATER COORDINATION COMMISSION OF CENTRAL ASIA	Tashkent	Uzbekistan
12	JASA TIRTA I PUBLIC CORPORATION	Malang	Indonesia
13	NIGER BASIN AUTHORITY - AFRICAN NETWORK OF BASIN ORGANISATIONS	Niamey	Niger
14	AAgence de Bassin Hydrographique Algerois - Hodna-Soummam	Kouba Alger	Algeria
15	Agence de Bassin Hydraulique du Sebou	Fez	Morocco
16	ORGANISATION POUR LA MISE EN VALEUR DU SENEGAL	Dakar	Senegal

17	COMISION NACIONAL DEL AGUA	Mexico Df	Mexico
18	THE ROMANIAN WATERS NATIONAL ADMINISTRATION	Bucharest	Romania



Title: Twinning European and Latin-American River Basins for Research Enabling Sustainable Water Resources Management

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument: Specific Targeted Research Project

Project Total Cost: 2.723.778 € Project start date: 1/09/2005

EU Contribution: 1.999.855 € Duration: 36 months

Organisation: IVL Svenska Miljöinstitutet Ab Stockholm Sweden

## Abstract

The Latin American and Caribbean region is highly heterogeneous in terms of climate zones, hydro-ecology, socio-political systems etc. Numerous problems in relation to water quality and water availability arise. Flooding occurs frequently and erosion and pollution pressures have also become major problems. Management strategies, legal framework and stakeholder involvement needs to be improved. Activities and research tasks will be conducted within several fields of IWRM; hydrology, modelling of pollution flow, impact assessment, socio-economic impacts, climate change effects, scenario analysis and action efficiency. The river basins selected are: Baker (Chile-Argentina), Catamayo-Chira (Peru-Ecuador), Cauca (Colombia), Lago de Nicaragua (Nicaragua), and Quarai/Cuareim (Uruguay-Brazil). The European river basins are Thames (UK) and Norrstrom (Sweden). The project addresses the goals of the EU WI Water for Life, and builds on the methods and guidelines developed for the EU WFD. Interfaces with international organisations have been established. The proposal is designed to enable and facilitate twinning in all fields of activity in order to fill gaps in knowledge. The strong component of public participation and stakeholder involvement will ensure that each component has local ownership. The river basins selected represent a wide variety of conditions, addressing also transboundary water problems. Thus, the applicability of the WFD approach will vary for the third country basins, and methodology applied will be a modification of the WFD process. The final step will be development of tools for the implementation and identification of priority actions analysed in terms of physical/chemical efficiency as well as socio-economic effects. Priority actions are an essential part of an RBMP, and will be a crucial input and an encouragement to the Latin American end-users of TWINLATIN to develop full RBMPs following the finalisation of the project.

## Partners

Num.	Partner Legal Name	City	Country
1	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
2	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
3	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
4	UNIVERSIDAD DE CONCEPCION	Concepcion	Chile
5	FUNDAÇÃO DE APOIO DA UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL	Porto Alegre	Brazil
6	DIRECCION NACIONAL DE HIDROGRAFIA - M.T.O.P. URUGUAY	Montevideo	Uruguay
7	UNIVERSIDAD NACIONAL DE INGENIERIA	Managua	Nicaragua
8	FONDO DE COOPERACION HISPANO PERUANO	Lima	Peru
9	CORPORACION AUTONOMA REGIONAL DEL VALLE DEL CAUCA - COLOMBIA	Santiago De Cali	Colombia



Title: Floodwater Recharge of Alluvial Aquifers in Dryland Environments

Area: 2. Water cycle including soil-related aspects  
2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.605.295 €	Project start date:	1/07/2004
EU Contribution:	1.700.000 €	Duration:	42 months
Organisation:	Consejo Superior de Investigaciones Cientificas	Madrid	Spain

## Abstract

The WADE project aims to assess long-term (decades to centuries) water resources in selected semiarid to hyperarid ephemeral river basins by determining long-term transmission losses from floods and quantifying floodwater recharge into alluvial aquifers. An innovative approach will be applied based on three principal research themes.

- 1) Palaeoflood hydrology will be used to determine long-term flood magnitude and frequency in order to quantify the frequency of recharging flood events.
- 2) Surface and sub-surface hydrology will be monitored in order to quantify transmission losses through the river bed into the alluvial aquifers. The combination of these two methodologies will be able to quantify long-term aquifer recharge through flooding.
- 3) The final research theme focuses on the socio-economic issues related to the use of alluvial aquifer groundwater within the study catchments.

The research will be undertaken in 4 research basins, twinning catchments in Spain and Israel with study catchments in Namibia and South Africa.

## Partners

Num.	Partner Legal Name	City	Country
1	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
2	THE HEBREW UNIVERSITY OF JERUSALEM	Jerusalem	Israel
3	HYDROISOTOP GMBH	Schweitenkirchen	Germany
4	DESERT RESEARCH FOUNDATION OF NAMIBIA	Windhoek	Namibia
5	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
6	UNIVERSITY OF CAPE TOWN	Rondenbosch,cape Town	South Africa
7	INSTITUT NATIONAL DE RECHERCHE SCIENTIFIQUE	Sainte-foy (quebec)	Canada
8	THE BEN GURION UNIVERSITY OF THE NEGEV	Beer Sheva	Israel
9	MINISTRY OF AGRICULTURE, WATER AND RURAL DEVELOPMENT, REPUBLIC OF NAMIBIA	Windhoek	Namibia
10	SURPLUS PEOPLE PROJECT	Athlone, Cape Town	South Africa
11	KAMIESBURG MUNICIPALITY	Garies	South Africa
12	NAMA KHOI MUNICIPALITY	Springbok	South Africa



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Title:	Integrated High Resolution Imaging Ground Penetrating Radar and Decision Support System for WATER PIPEline Rehabilitation		
Area:	2. Water cycle including soil-related aspects 2.3. Integrated management strategies and mitigation technologies		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.347.581 €	Project start date:	1/11/2006
EU Contribution:	2.154.767 €	Duration:	36 months
Organisation:	Institute of Communication and Computer Systems	Athens	Greece

## Abstract

Many EU cities are experiencing increasing problems with their water pipeline infrastructure. The cost of replacing these old, worn-out systems, if left to deteriorate beyond repair, is astronomical and clearly beyond the resources of many communities. Replacement, however, is not the only choice as many of these systems can be rehabilitated at 30 to 70 percent of the cost of replacement. Accordingly, resources are now increasingly being allocated to address pipeline rehabilitation management issues. Due to the emphasis on sustainable management, risk-based approaches for the rehabilitation management of the water supply network need to be developed. Rehabilitation decisions should be based, inter alia, on inspection and evaluation of the pipeline conditions. Yet, utilities cannot locate a number of their old pipes and current inspection technologies typically do not provide the needed detailed information on pipeline damage.

The objectives of this work are:

1. To develop a novel, high resolution imaging ground penetrating radar for the detection of pipes, leaks and damages and the imaging of the damaged region and evaluate it at a test site.
2. To produce an integrated system that will contain the equipment in '1' and a Decision-Support-System (DSS) for the rehabilitation management of the underground water pipelines that will use input from the inspections to assess, probabilistically, the time-dependent leakage and structural reliability of the pipelines and a risk-based methodology for rehabilitation decisions that considers the overall risk, including financial, social and environmental criteria.
3. To field test the equipment and the DSS.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	Athens	Greece
2	Azienda Mediterranea Gas E Acqua Spa	Genova	Italy
4	PIPEHAWK PLC	Alton	United Kingdom
5	HUBERG SAS - HUBER GUENTHER & C	Bolzano	Italy
6	HYDROSAVE UK LTD	Kettering	United Kingdom
7	TECNIC - TECNICHE E CONSULENZE NELL' INGEGNERIA CIVILE SPA - CONSULTING ENGINEERS SPA	Roma	Italy
8	RISA SICHERHEITSANALYSEN GMBH	Berlin	Germany
9	Advanced Microwave Systems Ltd	Athens	Greece
11	ISTANBUL TEKNİK UNIVERSITESI	Istanbul	Turkey
12	COMPANIA AQUASERV S.A.	Tirgu Mures	Romania



Title: Water Supply and Sanitation Technology Platform  
 Area: 2. Water cycle including soil-related aspects  
 2.3. Integrated management strategies and mitigation technologies

Instrument:	Specific Support Action		
Project Total Cost:	991.835 €	Project start date:	1/11/2004
EU Contribution:	670.000 €	Duration:	19 months
Organisation:	KIWA NV	Rijswijk Zh	Netherlands

## Abstract

This Specific Support Action concerns the Water Supply and Sanitation Technology Platform. The SSA will provide the organisational, management and scientific support necessary to facilitate the process of the Technology Platform in order to produce the deliverables: Vision Document, Strategic Research Agenda and an implementation plan for the water sector in Europe. This is done by the Secretariat a delegation of members of the WSSTP Board, together with and on behalf of the Board. The three deliverables will be used as input for FP7. The mission of the WSSTP is:

- to strengthen the competitiveness and the potential for technological innovation of the European water industry, of water professionals and research institutions through the development of a strategic science and research agenda,
  - to meet global challenges and regional demands of ensuring safe, secure and sustainable water supply for human societies and for the environment and sanitation services, within the framework of the available water resources.
- The WSSTP will contribute to the MDG's of the Johannesburg Summit and the European Union Water Initiative, through active participation of developing countries and of organisations that work in developing countries in the platform. The joint focus of the production of the three main is a very unique process of bringing together the various groups of stakeholders. The Water Supply and Sanitation Technology Platform will have a number of important measurable objectives, to which this SSA will contribute significantly:
- The production of the abovementioned documents.
  - Contributing to the European industry competitiveness, by providing a multi-stakeholder framework.
  - Wide spread consultation on and dissemination of the results of the platform.

## Partners

Num.	Partner Legal Name	City	Country
1	KIWA NV	Rijswijk Zh	Netherlands
2	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	Bruxelles	Belgium
3	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
4	UK WATER INDUSTRY RESEARCH LIMITED	London	United Kingdom
5	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
6	VEREIN ZUR FOERDERUNG WEITERGEHENDER STUDIEN ZUR NACHHALTIGKEIT E.V.	Schliersee	Germany



## **2. Water cycle including soil-related aspects**

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### **2.4. Scenarios of water demand and availability**

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SCENES

Water Scenarios for Europe and for Neighbouring States

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Title: Water Scenarios for Europe and for Neighbouring States  
 Area: 2. Water cycle including soil-related aspects  
 2.4. Scenarios of water demand and availability

Instrument: Integrated Project  
 Project Total Cost: 10.301.006 € Project start date: 1/11/2006  
 EU Contribution: 6.993.477 € Duration: 48 months  
 Organisation: Suomen Ympäristökeskus Helsinki Finland

## Abstract

The SCENES project will develop and analyse a set of comprehensive scenarios of Europe's freshwater futures up to 2025, covering all of 'Greater' Europe reaching to the Caucasus and Ural Mountains, and including the Mediterranean rim countries of north Africa and the near East. These scenarios will provide a reference point for long-term strategic planning of European water resource development, alert policymakers and stakeholders about emerging problems, and allow river basin managers to test regional and local water plans against uncertainties and surprises which are inherently embedded in a longer term strategic planning process. The scenarios developed by SCENES will be policy-relevant by identifying the requirements of stakeholders and decision makers, and including stakeholders in the scenario-building process. The SCENES project will deliver combined qualitative and quantitative scenarios. The qualitative scenarios (storylines) provide an internally-consistent picture of how water resources in different parts of Europe may develop up to 2025. The quantitative scenarios, produced by state-of-the art models, complement the story-lines by providing numerical information, and by 'enriching' the qualitative scenarios by showing trends and dynamics not apparent in the storylines. The qualitative scenario analysis will also focus on water quality, ecological and hydrological aspects, with special regard to the requirements of the WFD. Scenarios will be interactive and adaptive in the sense that they will be developed through a three phase approach. The first phase will be a 'fast track' pan-European scenario exercise using existing information. The second phase will involve regional and pilot area scenario enrichment. The final phase will be the drawing together of results and dissemination of the scenario outputs.

## Partners

Num.	Partner Legal Name	City	Country
1	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
2	UNIVERSITAET KASSEL	Kassel	Germany
3	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS	Laxenburg	Austria
4	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
5	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
6	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
7	Alterra b.v.	Wageningen	Netherlands
8	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Warszawa	Poland
9	BALTIJAS VIDES FORUMS	Riga	Latvia
10	TALLINNA TEHNIKAULIKOOL	Tallinn	Estonia
11	ECOLE NATIONALE DU GENIE RURAL, DES EAUX ET FORETS	Paris	France
12	CENTRO INTERNAZIONALE DI ALTI STUDI AGRONOMICI MEDITERRANEI - ISTITUTO AGRONOMICO MEDITERRANEO DI BARI	Valenzano	Italy
13	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
15	TECHNICAL UNIVERSITY OF CRETE	Chania - Crete	Greece
16	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
17	MAGYAR TUDOMANYOS AKADEMIA TALAJTANI ES AGROKEMIAI KUTATO INTEZETE	Budapest	Hungary
18	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI	Bucuresti	Romania
19	SOUTH RUSSIAN REGIONAL CENTRE FOR PREPARATION AND IMPLEMENTATION OF INTERNATIONAL PROJECTS CPPI-S LTD	Rostov-on-don	Russian Federation

20	INSTITUTE FOR HYDRAULIC ENGINEERING AND LAND RECLAMATION OF UKRAINIAN ACADEMY OF AGRARIAN SCIENCE	Kiev	Ukraine
21	INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY	London	United Kingdom
23	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
26	NATURAL RESOURCES CENTRE	Rostov-on-don	Russian Federation



### **3. Biodiversity and ecosystems**

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#### **3.0. Biodiversity and ecosystems**

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Title: Biodiversity impact assessment using species sensitivity scores

Area: 3. Biodiversity and ecosystems  
3.0. Biodiversity and ecosystems

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.576.152 €	Project start date:	1/02/2006
EU Contribution:	911.169 €	Duration:	36 months
Organisation:	Stichting Europees Centrum voor Natuurbescherming (ECNC)	Tilburg	Netherlands

## Abstract

Biodiversity indicators and monitoring frameworks are currently developed at global and European levels. A key tool for monitoring progress in achieving the EU target to halt the loss of biodiversity by 2010 is the recently endorsed set of EU headline biodiversity indicators. A requirement by the EU is to complement the indicator set and the development of biodiversity monitoring frameworks with tools that are able to assess the impacts from Community policies on biodiversity. This BioScore proposal aims at satisfying this requirement by developing a tool for linking pressures from policy sectors to the (change of) state of biodiversity as measured by the presence and abundance of individual species. A database is proposed that will contain information on the ecological preferences of individual species, in relation to individual sectoral pressures and relating to selected Community policies as well as the EU headline biodiversity indicators. This tool will be applied for assessing impacts and the effectiveness of biodiversity conservation policies based on historic data as well as for forecasting future impacts based on existing scenario studies. The results of these assessments will consist of European maps.

The BioScore tool will be integrated into existing biodiversity monitoring frameworks and incentives for uptake will be formulated. Also the database will be made freely accessible on the Internet. The specific objectives of this proposal are to:

- build a cost-effective impact assessment tool in the form of a European species database with sensitivity scores; apply the tool for the purpose of assessing the impacts of key drivers and pressures on biodiversity;
- apply the tool for analysing the effectiveness of European policy responses;
- apply the tool for modelling European-wide scenarios for selected drivers;
- integrate the database into a common monitoring framework to assess the impact of selected pressures on biodiversity.

## Partners

Num.	Partner Legal Name	City	Country
1	STICHTING EUROPEES CENTRUM VOOR NATUURBESCHERMING (ECNC)	Tilburg	Netherlands
2	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
3	INSTITUUT VOOR NATUURBEHOUD	Brussel	Belgium
4	STICHTING WETLANDS INTERNATIONAL	Wageningen	Netherlands
5	Alterra b.v.	Wageningen	Netherlands
6	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING	Trondheim	Norway
7	UNIVERSITA DEGLI STUDI DI ROMA "LA SAPIENZA"	Roma	Italy
8	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
9	THE GOULANDRIS NATURAL HISTORY MUSEUM	Kifissia	Greece



Title: Developing the EU Biodiversity Research Strategy  
 Area: 3. Biodiversity and ecosystems  
 3.0. Biodiversity and ecosystems

Instrument:	Specific Support Action		
Project Total Cost:	771.000 €	Project start date:	1/11/2006
EU Contribution:	771.000 €	Duration:	36 months
Organisation:	MTA Okologiai es Botanikai Kutatointezete	Vacratot	Hungary

## Abstract

Main The main objective of BIOSTRAT is to support the further development of a European Biodiversity Research Strategy. Such Research Strategy brings together ideas on research priorities in fundamental and applied sciences to address critical gaps in knowledge on the conservation and sustainable use of biodiversity. This Strategy is intended to support the decision-making process regarding biodiversity-related research at both the European scale and in individual EU Member States by linking existing structures. Rather than developing new structures BIOSTRAT will provide specific support to EPBRS (European Platform for Biodiversity Research Strategy), which provides a representative forum for researchers, science and environmental policy makers, and National Biodiversity Platforms. At the same time BIOSTRAT will ensure that other European and international efforts to develop research strategies in different fields of biodiversity research are linked to the development of a European Research Strategy through the EPBRS forum. BIOSTRAT will, therefore, support other international initiatives to link their efforts to the European Biodiversity Research Strategy. The overall objective will be achieved by:

- Supporting the European Platform for Biodiversity Research Strategy (EPBRS) to develop and continually revise the EU Biodiversity Research Strategy
- Including the results of existing and ongoing biodiversity research projects in the development of the EU Biodiversity Research Strategy.
- Linking the EU Biodiversity Research Strategy to the national, European and international funding programmes, especially the ERA-Nets related to biodiversity issues
- Incorporating GEOSS objectives in the EU Biodiversity Research Strategy
- Linking EU Biodiversity Research Strategy with international initiatives including the multi-stakeholder consultative process of the Paris Conference, the Millennium Ecosystem assessment, the 2010 target, ESRI, GTI, GBIF, CBD, DIVERSITAS.

## Partners

Num.	Partner Legal Name	City	Country
1	MTA OKOLOGIAI ES BOTANIKAI KUTATOINTEZETE	Vacratot	Hungary
2	CENTRO INTERDISCIPLINAR DE INVESTIGACAO MARINHA E AMBIENTAL	Porto	Portugal
3	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
4	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
5	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
6	BOTANICKY USTAV, AKADEMIE VED CESKE REPUBLICKY	Pruhonice	Czech Republic
7	MEDIAN SCP	Valldoreix	Spain
8	V.I.N.C.A. - INSTITUT FUER NATURSCHUTZFORSCHUNG UND OEKOLOGIE GMBH	Vienna	Austria
9	HELSINGIN YLIOPISTO	Helsinki	Finland
10	PANEPISTIMIO AIGAIUO	Mytilene	Greece
11	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
12	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
13	NEDERLANDS INSTITUUT VOOR ECOLOGIE	Yerseke	Netherlands
14	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
15	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING	Trondheim	Norway
16	INSTITUTE OF LANDSCAPE ECOLOGY OF THE SLOVAK ACADEMY OF SCIENCES	Bratislava	Slovakia

17	SERVICE PUBLIC FEDERAL DE PROGRAMMATION POLITIQUE SCIENTIFIQUE	Brussels	Belgium
18	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK GGMBH	Berlin	Germany
19	EESTI MAAUELIKOOOL	Tartu	Estonia
20	VILNIAUS UNIVERSITETO EKOLOGIJOS INSTITUTAS	Vilnius	Lithuania
21	BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
22	INSTITUTE OF BIOLOGY OF ROMANIAN ACADEMY	Bucuresti	Romania
23	RESEARCH AND DEVELOPMENT CENTER - INTERCOLLEGE	Nicosia	Cyprus
24	DANMARKS MILJOEUNDERSOEGELSER.	Roskilde	Denmark
25	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
26	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
27	BOTANICAL ENVIRONMENTAL CONSERVATION CONSULTANTS LIMITED	Dublin	Ireland
28	MINISTRSTVO ZA OKOLJE IN PROSTOR	Ljubljana	Slovenia
29	LATVIJAS UNIVERSITATE	Riga	Latvia
30	UNIVERSITA TA MALTA	Mside	Malta
32	INSTITUTE OF PLANT AND ANIMAL ECOLOGY OF URAL DIVISION OF RUSSIAN ACADEMY OF SCIENCES	Ekaterinburg	Russian Federation
33	SVEUCILISTE U ZAGREBU	Zagreb	Croatia
34	Asociacion Instituto Nacional de Biodiversidad	Santo Domingo De Heredia	Costa Rica
36	BEATUS ADVIESDIENSTE	Pretoria	South Africa



Title: EUMON: EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest

Area: 3. Biodiversity and ecosystems  
3.0. Biodiversity and ecosystems

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.215.976 €	Project start date:	1/11/2004
EU Contribution:	1.496.238 €	Duration:	42 months
Organisation:	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany

## Abstract

To halt the decline of biodiversity by 2010 is one of the most important objectives of the European Community Biodiversity Strategy. Despite of considerable effort was put into conservation of threatened species and habitats on European and national level in recent years, no monitoring system that is able to check whether this goal has been reached, is implemented. The reason for this is not a lack of methods to measure biodiversity or missing monitoring programs, but a lack of a EU framework, that standardize, focus and coordinate existing monitoring programs towards this objective. The EUMON project will provide this framework by comparing existing methods and monitoring schemes of species and habitats of community interests. The most successful methods in terms of cost effectiveness, regional robustness will be selected and tested for their European wide applicability. EUMON will pay special attention that existing monitoring programs can incorporate these methods and will give recommendation how new and successful monitoring programs can be established. Special consideration for implementing monitoring programs will be paid by studying the social effects of monitoring regimes, because the relationship between amateurs and professionals are meant to be most important for implementing a successful monitoring regime. The establishing of the NATURA 2000 network is one of the main actions on a EU level to halt biodiversity loss. Therefore it is a prerequisite to evaluate its ability to maintain biodiversity. Additionally EUMON will develop methods to name the responsibility of EU Member states for the species and habitats of Community interests living under their protection. For information and to give policy advise a comprehensive database on monitoring schemes and recommended methods will be made accessible by an internet portal to the end users: scientists, policy makers, decision makers and nature conservators on EU, national and regional levels.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
2	UNIVERSITY OF DURHAM	Durham	United Kingdom
3	UNIVERSITE PIERRE ET MARIE CURIE	Paris	France
4	MUSUM NATIONAL D'HISTOIRE NATURELLE	Paris	France
5	ESTONIAN AGRICULTURAL UNIVERSITY	Tartu	Estonia
6	DE VLINDERSTICHTING	Wageningen	Netherlands
7	ZNANSTVENORAZISKOVALNI CENTER, SLOVENSKE AKADEMIJE ZNANOSTI IN UMETNOSTI	Ljubljana	Slovenia
8	UNIVERSITY OF DEBRECEN	Debrecen	Hungary
9	JAGIELLONIAN UNIVERSITY (UNIwersytet Jagiellonski)	Krakow	Poland
10	KLAIPEDA UNIVERSITY	Klaipeda	Lithuania
11	UNIVERZA V LJUBLJANI, FILOZOFSKA FAKULTETA	Ljubljana	Slovenia
12	SLOVENIAN FORESTRY INSTITUTE	Ljubljana	Slovenia
13	UNIVERSITY OF PATRAS, GREECE	Patras	Greece
14	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING	Trondheim	Norway
15	CENTER ZA KARTOGRAFIJO FAVNE IN FLORE	Miklavz Na Dravskem Polju	Slovenia
16	INSTITUTE OF ECOLOGY OF VILNIUS UNIVERSITY	Vilnius	Lithuania



Title: Global Change in Mountain Regions: An Integrated Assessment of Causes and Consequences

Area: 3. Biodiversity and ecosystems  
3.0. Biodiversity and ecosystems

Instrument:	Specific Support Action		
Project Total Cost:	448.265 €	Project start date:	1/11/2003
EU Contribution:	350.000 €	Duration:	24 months
Organisation:	Universität Wien	Wien	Austria

## Abstract

Many of the world's mountain ecosystems are moving along trajectories that couple high rates of environmental change with strong economic changes, whose collective effect may alter the ability of mountain regions to provide critical goods and services, both to mountain inhabitants and lowland communities. In order to address the environmental challenges facing the world's mountain regions in the 21st Century, we will develop an integrative research strategy for detecting signals of global environmental change in mountain environments, for defining the consequences of these changes for mountain regions as well as lowland areas dependent on mountain resources, and for facilitating the development of sustainable resource management regimes for mountain regions. Following a kick-off meeting, the details of the research strategy will be formulated through a series of product-oriented workshops dedicated to:

- 1) Long-term Monitoring,
- 2) Integrated Modelling,
- 3) Process Studies, and
- 4) Sustainable Development.

The concepts developed in these Thematic Workshops will be revisited, refined and synthesised during a final Open Science Conference on Global Change in Mountain Regions. By gearing the research strategy toward implementation in mountain Biosphere Reserves, the project will take advantage of the existing UNESCO infrastructure and ongoing Global Change research in these areas. The structure of UNESCO mountain Biosphere Reserves provides ideal natural Global Change laboratories with core protected mountainous areas surrounded by lower-elevation buffer zones that are more strongly influenced by human activities. European scientific participation, capacity building and leadership will be promoted by adapting the research strategy for implementation in UNESCO's mountain Biosphere Reserves in both developed and developing countries. This will be achieved through the active participation of Biosphere Reserve managers in the development of the research strategy.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAT WIEN	Wien	Austria
2	EIDGENOSSISCHE TECHNISCHE HOCHSCHULE ZURICH	Zuerich	Switzerland
3	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
4	UNIVERSITY OF ZURICH	Zurich	Switzerland
5	UNIVERSITA DEGLI STUDI-L'AQUILA'	Coppito, L'aquila	Italy
6	POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH	Potsdam	Germany
7	PERTH COLLEGE	Perth	United Kingdom
8	Centre National de al Recherche Scientifique (CNRS)	Paris	France
9	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
10	JAWAHARLAL NEHRU UNIVERSITY	New Delhi	India
11	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION	Paris	France
12	TECHNOLOGICAL AND EDUCATIONAL INSTITUTE OF LAMIA	Lamia	Greece
13	UNIVERSITAT BASEL	Basel	Switzerland
14	UNIVERSITE JOSEPH FOURIER GRENOBLE 1	Grenoble	France





Title: Creating a European platform for SMEs and other stakeholders to develop a research programme for pro-biodiversity business

Area: 3. Biodiversity and ecosystems  
3.0. Biodiversity and ecosystems

Instrument:	Specific Support Action		
Project Total Cost:	649.581 €	Project start date:	3/10/2005
EU Contribution:	649.581 €	Duration:	22 months
Organisation:	Fauna & Flora International	Cambridge	United Kingdom

## Abstract

Focussing on the use of biodiversity by Small and Medium Enterprises(SMEs), the project will propose a research agenda addressing the business instrument of the EU's Strategy for Sustainable Development, in particular the commitment to protect and restore habitats and natural systems and halt the loss of biodiversity by 2010.

### Objectives:

- 1.To identify the specific business opportunities and constraints for sustainable use of terrestrial, freshwater and marine biodiversity by SMEs especially in ecologically sensitive areas
- 2.To propose a research programme on opportunities and constraints for sustainable use of biodiversity by SMEs through a platform of practitioners and researchers.

### FP6 Programme relevance:

The project addresses the 6th Framework Programme's emphasis on strengthening SMEs, and will contribute to the Global Change and Ecosystems Sub-Priority Work Plan with regard to links between society, economy, biodiversity and habitats (Topic III: Biodiversity and Ecosystems), and to Strategies for land management (Topic V).

Methodology: Workshops and case studies will be the main instruments for achieving the objectives. Coverage of the enlarged EU in terms of business patterns and major ecosystems will be as comprehensive as possible. Experience from other parts of the world will be drawn in. Particular efforts will be made to ensure that SMEs are fully engaged and a programme for dissemination and communication will bring the results to the attention of targeted audiences.

### Outcomes:

1. Clear indications of the potential for SMEs to contribute to the EU Strategy for Sustainable Development through their commercial activities.
2. Demonstration of the practical application of knowledge to better integrate the EU enterprise strategy and the EU strategy for sustainable development.
3. Awareness raised amongst the applied research community about the potential contribution of SMEs to conservation in the EU, and key research needs identified.

## Partners

Num.	Partner Legal Name	City	Country
1	FAUNA & FLORA INTERNATIONAL	Cambridge	United Kingdom
2	EUROPEAN FOUNDATION FOR MANAGEMENT DEVELOPMENT	Brussels	Belgium
3	EUROPEAN BUREAU FOR CONSERVATION AND DEVELOPMENT	Bruxelles	Belgium



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### 3. Biodiversity and ecosystems

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#### 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning

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MARBEF	Marine Biodiversity and Ecosystem Functioning	181
MARINE GENOMICS	Implementation of high-throughput genomic approaches to investigate the functioning of marine ecosystems and the biology of marine organisms.	183
SESAME	Southern European Seas: Assessing and Modelling Ecosystem Changes	185
SHARING	International Conference on "Integrative Approaches Towards Sustainability" (Baltic Sea Region sharing knowledge internally, across Europe, and world-wide)	187

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Title:	A Long-term Biodiversity, Ecosystem and Awareness Research Network		
Area:	3. Biodiversity and ecosystems 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Network of Excellence		
Project Total Cost:	254.000.000 €	Project start date:	1/04/2004
EU Contribution:	10.000.000 €	Duration:	60 months
Organisation:	Natural Environment Research Council	Swindon Wiltshire	United Kingdom

## Abstract

This Network of Excellence (NoE) will create a European long-term inter-disciplinary research facility for research on the complex relationship between ecosystems, biodiversity and society. It will provide research support for policy assessment and development on the conservation and sustainable use of biodiversity in the European Union, and a stable facility for information retrieval and reporting on biodiversity-related issues. It will achieve this by implementing research, management and cultural changes within and between its component organisations, and through the development of integrated research agendas that will focus the research activities of its members on priority policy issues. The result will be a unique inter-disciplinary network linking a variety of stakeholders including research scientists, science communicators, policy makers and the public. In order to ensure durable integration of 24 partners from 17 countries, this NoE will build on 4 existing co-operative programmes that deal with complementary aspects of biodiversity research. These are PEER/CONNECTJLTER, ECSITE and ECNC. A novel approach to integration of ecological and socio-environmental methodologies will be developed, recognising the fact that biodiversity research should be done only in the context of ecosystems and their long-term dynamics. To achieve this, the core research undertaken by the NoE will be structured around a common framework based on the Drivers-Pressures-State-Impact-Response (DPSIR) model. This framework will ensure that research contributes directly to our understanding of the inter-relationship between biodiversity and the services it provides to society, and vice versa. The framework, and the research it supports, will also facilitate the long-term institutional changes that will be necessary to accomplish the ALTER-net objectives for durable integration.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	HYDROBIOLOGICAL INSTITUTE, CZECH ACADEMY OF SCIENCES	Ceske Budejovice	Czech Republic
4	EUROPEAN CENTRE FOR NATURE CONSERVATION	Tilburg	Netherlands
5	NORWEGIAN INSTITUTE FOR NATURE RESEARCH	Trondheim	Norway
6	MACAULAY LAND USE RESEARCH INSTITUTE	Aberdeen	United Kingdom
7	UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH	Leipzig	Germany
8	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE OF DENMARK	Roskilde	Denmark
9	Alterra b.v.	Wageningen	Netherlands
10	GEORG-AUGUST-UNIVERSITAT GOTTINGEN	Goettingen	Germany
11	CORPO FORESTALE DELLO STATO (SERVIZIO CONECOFOR)	Roma	Italy
12	UNIVERSITY OF BUCHAREST	Bucuresti	Romania
13	INSTITUTE OF LANDSCAPE ECOLOGY OF THE SLOVAK ACADEMY OF SCIENCES	Bratislava	Slovakia
14	FINNISH ENVIRONMENT INSTITUTE	Helsinki	Finland
15	INTERNATIONAL CENTRE FOR ECOLOGY, POLISH ACADEMY OF SCIENCES	Lodz	Poland
16	SVERIGES LANTBRUKSUNIVERSITET, SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES	Uppsala	Sweden
17	Consejo Superior de Investigaciones Cientificas (SPANISH COUNCIL FOR SCIENTIFIC RESEARCH)	Madrid	Spain

18	INSTITUTE OF ECOLOGY AND BOTANY OF THE HUNGARIAN ACADEMY OF SCIENCES	Vacratot	Hungary
19	INSTITUUT VOOR NATUURBEHOUD (BELGIAN INSTITUTE OF NATURE CONSERVATION)	Brussel	Belgium
20	AT-Bristol Ltd	Bristol	United Kingdom
21	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
22	UMWELTBUNDESAMT GBMH (FEDERAL ENVIRONMENT AGENCY)	Wien	Austria
23	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU - NATIONAL INSTITUTE OF PUBLIC HEALTH AND THE ENVIRONMENT	Bilthoven	Netherlands
24	POTSDAM-INSTITUT FUR KLIMAFOLGENFORSCHUNG E.V.	Potsdam	Germany



Title: Integrating new technologies for the study of benthic ecosystem response to human activity: towards a Coastal Ocean Benthic Observatory (COBO)

Area: 3. Biodiversity and ecosystems  
3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.889.410 €	Project start date:	1/03/2004
EU Contribution:	1.999.485 €	Duration:	36 months
Organisation:	Scottish Association for Marine Science	Dunberg Oban	United Kingdom

## Abstract

Coastal ecosystems are particularly vulnerable to anthropogenic perturbation, affecting biodiversity and ecosystem stability and resilience. Shallow water sediments and their associated biota represent a reservoir for biodiversity, hosting resting and reproductive stages of planktonic organisms, and regulating carbon and nutrient biogeochemical cycles. However, the relationship between tightly coupled biological and geochemical processes in this environment is poorly defined with respect to their temporal and spatial variability. The overall objective of COBO is to integrate emerging and innovative technologies from different disciplines (physics, chemistry, biology, imagery) to provide in situ monitoring of sediment habitats, a key component of coastal marine ecosystems, in order to understand complex interactions between the biota (function and diversity) and their chemical environment. Existing technologies have limited spatial and temporal sampling resolutions and this has hampered progress in determining key parameters and in explaining biogeochemical patterns / processes and in modeling ecosystem dynamics. Improved in situ technologies are required to provide rigorous scientific information on processes regulating this unique and fragile habitat and for assessing, controlling and minimising human impact on European coastal waters thus addressing societal need. Organism-sediment processes, with both enhancing and mediating effects, are still poorly understood in shallow water sediments that receive the bulk of anthropogenic disturbance. The combination of innovative instruments from the different disciplines will provide powerful tools to significantly advance our understanding of organism sediment relations under dynamic coastal conditions and enhance predictive capability. COBO represents a major step towards the development of permanently operating benthic observatories for coastal management.

## Partners

Num.	Partner Legal Name	City	Country
1	SCOTTISH ASSOCIATION FOR MARINE SCIENCE	Dunbeg Oban	United Kingdom
2	COMMISSARIAT A L'ENERGIE ATOMIQUE	Paris	France
3	KOEBENHAVNS UNIVERSITET	Kobenhavn	Denmark
4	UNIVERSITAET POTSDAM	Potsdam	Germany
5	UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
6	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
7	Siftung Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
8	MAX PLANCK GESELLSCHAFT	Muenchen	Germany
9	GOETEBORG UNIVERSITET	Goeteborg	Sweden
10	Consiglio Nazionale delle Ricerche	Roma	Italy
11	Centre National de al Recherche Scientifique (CNRS)	Paris	France
12	UNISENSE A/S	Aarhus C	Denmark
13	SEA ENVIRONMENTAL DECISIONS LTD.	Little Hadham Hertfordshire	United Kingdom
14	UNIVERSITE DE LA MEDITERRANEE - AIX MARSEILLE II	Marseille	France



Title:	Challenges in assessing and forecasting biodiversity and ecosystem changes in Europe		
Area:	3. Biodiversity and ecosystems 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Integrated Project		
Project Total Cost:	8.789.534 €	Project start date:	1/01/2007
EU Contribution:	6.999.998 €	Duration:	60 months
Organisation:	Centre National de al Recherche Scientifique	Paris	France

## Abstract

A range of advanced modelling approaches has been used so far to assess the impact of global change on biodiversity and ecosystems. These approaches yield projections of the distribution of species, communities and biomes and the functioning of ecosystems. Future goods and services are then assessed from these projections. However, four main limitations remain associated with these approaches:

1. knowledge and data of past species' distribution is still limited, yet necessary for testing them in the past before projecting them to the future;
2. we miss sound estimates of species' long distance migration rates in order to assess whether species will be able to keep pace with rapid global change;
3. some key assumptions of models, such as niche stability over time and/or space, are not well tested;
4. we need more reliable estimate of uncertainties in model predictions.

Our project specifically proposes to go one step further by:

1. integrating different modelling approaches currently in use (niche-based, dynamic, dispersal, etc.), and by developing robust methodologies to estimate uncertainties associated with these projections;
2. generating required new data (paleo & migration) by using innovative DNA-based approaches, and global change scenarios;
3. testing niche conservatism and temporal evolution of biological communities;
4. using the new data in improved and integrated models to make projections more robust and realistic;
5. testing these approaches specifically in ecosystems of Fennoscandia and the Alps and by expanding the current projections to all of Europe.

Our consortium encompasses a wide spectrum of skills required to meet these objectives. Our final goal is to provide data, scenarios and associated confidence limits so that policy makers and land managers can use them for anticipating societal problems and for designing sustainable conservation strategies by accounting the most likely global change effects on biodiversity and ecosystems.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National de al Recherche Scientifique (CNRS)	Paris	France
2	UNIVERSITE DE LAUSANNE	Lausanne	Switzerland
3	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
4	SERI - NACHHALTIGKEITSFORSCHUNGS UND - KOMMUNIKATIONS GMBH	Wien	Austria
5	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
6	UNIVERSITETET I OSLO	Oslo	Norway
7	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
8	UNIVERSITAET BASEL	Basel	Switzerland
9	INSTYTUT BOTANIKI IM. WLADYSLAWA SZAFERA, POLSKA AKADEMIA NAUK	Krakow	Poland
10	INSTITUTUL DE CERCETARI BIOLOGICE CLUJ-NAPOCA	Cluj-napoca	Romania
11	MEDIAS FRANCE	Toulouse	France
12	V.I.N.C.A. - INSTITUT FUER NATURSCHUTZFORSCHUNG UND OEKOLOGIE GMBH	Vienna	Austria
13	UNIVERSITETET I TROMSOE	Tromsoe	Norway

14	TARTU UELIKOOL	Tartu	Estonia
15	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
16	UNIwersytet im. Adama Mickiewicza w Poznaniu	Poznan	Poland
17	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
18	UNIVERSITE DE LIEGE	Liege	Belgium
19	ZOOLOGICAL INSTITUTE OF RUSSIAN ACADEMY OF SCIENCES	Sint Petersburg	Russian Federation
20	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
21	Alterra b.v.	Wageningen	Netherlands
22	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
23	LUNDS UNIVERSITET	Lund	Sweden



Title:	Toward the European Distributed Institute of Taxonomy		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Network of Excellence		
Project Total Cost:	15.000.000 €	Project start date:	1/03/2006
EU Contribution:	11.900.000 €	Duration:	60 months
Organisation:	Caisse des Depots et Consignations	Paris	France

## Abstract

The overall objective of EDIT is to integrate European taxonomic effort within the ERA and to build a world leading capacity. EDIT will create a European virtual centre of excellence, which will increase both the scientific basis and capacity for biodiversity conservation.

The operational and structural objectives of EDIT are:

- [1] To reduce fragmentation and to transform taxonomy into an integrated science,
- [2] To strengthen the scientific, technological and information capacities needed for Europe to understand how biodiversity is modified through Global change,
- [3] To progress toward a transnational entity by encouraging durable integration of the most important European taxonomic institutions, forming the nucleus of excellence around and from which institutions and taxonomists can integrate their activities,
- [4] To promote the undertaking of collaborative research developing, improving and utilising the bio-informatics technologies needed,
- [5] To create a forum for stakeholders and end-users for taxonomy in biodiversity and ecosystem research,
- [6] To promote the spreading of excellence to fulfil the needs of biodiversity and ecosystem research for taxonomy based information.

EDIT will address significant information and management of knowledge problems in a rapidly changing field. The issues to be addressed are scientific but also structural: about governance and management; about providing a suitable IT environment; about the development of new tools; and about getting taxonomists to work as one across European (and other) institutions. EDIT will bring together the leading taxonomic institutions in Europe that for historical reasons have developed independently. The association with leading North American and Russian partners will make it a worldwide leading network: the consortium so constituted unites the premier natural history collections-based institutions, to progress toward EDIT's structural and scientific objectives.

## Partners

Num.	Partner Legal Name	City	Country
1	CAISSE DES DEPOTS ET CONSIGNATIONS	Paris	France
2	MUSEUM NATIONAL D'HISTOIRE NATURELLE	Paris	France
3	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
4	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
5	UNIVERSITEIT VAN AMSTERDAM	Amsterdam	Netherlands
6	NATIONAAL HERBARIUM NEDERLAND	Leiden	Netherlands
7	NATIONAAL NATUURHISTORISCH MUSEUM - NATURALIS	Leiden	Netherlands
8	CENTRAALBUREAU VOOR SCHIMMELCULTURES	Utrecht	Netherlands
9	FREIE UNIVERSITAET BERLIN	Berlin	Germany
10	THE NATURAL HISTORY MUSEUM	London	United Kingdom
11	ROYAL BOTANIC GARDENS KEW	Richmond	United Kingdom
12	STAATLICHES MUSEUM FUR NATURKUNDE STUTTGART	Stuttgart	Germany
13	ROYAL BELGIAN INSTITUTE OF NATURAL SCIENCES	Bruxelles	Belgium
14	MUSEE ROYAL DE L'AFRIQUE CENTRALE	Tervuren	Belgium
15	NATIONAL BOTANIC GARDEN OF BELGIUM	Meise	Belgium



16	MUSEUM AND INSTITUTE OF ZOOLOGY - POLISH ACADEMY OF SCIENCES	Warszawa	Poland
17	INSTYTUT BOTANIKI IM. WLADYSLAWA SZAFERA, POLSKA AKADEMIA NAUK	Krakow	Poland
18	MAGYAR TERMESZETTUDOMANYI MUZEUM	Budapest	Hungary
19	UNIVERZITA KOMENSKEHO V BRATISLAVE	Bratislava	Slovakia
20	BOTANICKY USTAV - SLOVENSKEJ AKADEMIE VIED	Bratislava	Slovakia
21	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
22	SOCIETY FOR THE MANAGEMENT OF EUROPEAN BIODIVERSITY DATA LTD	Dublin	Ireland
23	SPECIES 2000	Reading	United Kingdom
24	KOMAROV BOTANICAL INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES	Sint Petersburg	Russian Federation
25	ZOOLOGICAL INSTITUTE OF RUSSIAN ACADEMY OF SCIENCES	Sint Petersburg	Russian Federation
26	MISSOURI BOTANICAL GARDEN	Saint Louis	United States
27	SMITHSONIAN INSTITUTION, NATIONAL MUSEUMS AND ART GALLERIES	Washington Dc	United States



Title: Effects of precipitation change on terrestrial ecosystems - a workshop and networking activity.

Area: 3. Biodiversity and ecosystems  
3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning

Instrument:	Specific Support Action		
Project Total Cost:	143.100 €	Project start date:	1/10/2005
EU Contribution:	143.100 €	Duration:	10 months
Organisation:	Forskningscenter Risoe	Roskilde	Denmark

## Abstract

EPRECOT will organise a workshop on the effects of precipitation change on terrestrial ecosystems in order to bring together international research groups and experiences from precipitation related research. The ultimate goal of the workshop will be to facilitate future international research collaboration within the field between European researchers and researchers from the US and developing countries.

The workshop will do this by evaluating our present knowledge on

- (i) the direct and indirect responses of terrestrial ecosystems to changes in the quantity and timing of precipitation, and
- (ii) how changes in water mediate ecosystem response to warming and elevated CO<sub>2</sub>.

The workshop will include 4 main activities:

- 1) present day "state of the art" and knowledge will be summarised and synthesised based on past and present ecosystem scale research projects.
- 2) future key research areas will be pinpointed by the use of ecosystem-models to generate hypotheses about the expected consequences of precipitation changes.
- 3) gaps in knowledge and new research activities will be proposed through plenary discussions and a series of working group discussions.
- 4) the results will be disseminated and distributed in a synthesis report, 2 scientific papers and a web-page summary.

## Partners

Num.	Partner Legal Name	City	Country
1	FORSKNINGSCENTER RISOE	Roskilde	Denmark
2	POTSDAM-INSTITUT FUR KLIMAFOLGENFORSCHUNG	Potsdam	Germany
3	UNIVERSITAET BASEL	Basel	Switzerland
4	CENTRO DE INVESTIGACION ECOLOGICA Y APLICACIONES FORESTALES	Bellaterra (barcelona)	Spain



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Title:	EVOLution of TREEs as drivers of terrestrial biodiversity		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
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Instrument:	Network of Excellence		
Project Total Cost:	21.690.000 €	Project start date:	1/04/2006
EU Contribution:	14.300.000 €	Duration:	48 months
Organisation:	Institut National de la Recherche Agronomique (INRA)	Paris	France

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## Abstract

Evoltree will associate four major disciplines - genomics, genetics, ecology and evolution - for understanding, monitoring and predicting genetic diversity, ecosystems structures, dynamics and processes. This strategy will be applied to three major interacting elements of terrestrial ecosystems: trees, phytophagous insects and mycorrhizal fungi. The functional role of trees as drivers of biodiversity will be deciphered by investigating their adaptive diversity, their structuring role on diversity of associated species and their own evolutionary rate in response to biotic and abiotic environmental changes. The network will integrate multidisciplinary research to dissect the structure, expression and polymorphism of genes of ecological significance, and contribute to the emergence of "ecosystem genomics". The genomic activities will be conducted within a "Laboratory without walls" where high throughput techniques will be integrated and then applied to a wide range of tree and associated species, starting with model species. Evoltree will setup the necessary experimental infrastructures, information systems and bioinformatics resources for common use by the partners. Large data sets will be compiled and made accessible by developing data mining procedures for the analysis of geographic and temporal distribution of genetic diversity. Evoltree will spread its knowledge and expertise for the purpose of education, biodiversity monitoring, and conservation. The network will develop training capacities and facilitate mobility opportunities throughout Europe. A dynamic communication strategy will disseminate its results to the scientific community, end users and the public. Evoltree will greatly contribute to the national and international efforts for preserving biodiversity, in particular, the resolutions initiated by the Pan-European Biological and Landscape Diversity Strategy initiative adopted by the Ministerial Conference on Protection of Forests in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
2	Alterra b.v.	Wageningen	Netherlands
3	ARC Seibersdorf Research GmbH	Wien	Austria
4	BUNDESFORSCHUNGSANSTALT FUER FORST- UND HOLZWIRTSCHAFT	Hamburg	Germany
5	Consiglio Nazionale delle Ricerche	Roma	Italy
6	VLAAMS INTERUNIVERSITAIR INSTITUUT VOOR BIOTECHNOLOGIE VZW	Zwijnaarde	Belgium
7	DANMARKS OG GROENLANDS GEOLOGISKE UNDERSOEGELSE	Copenhagen	Denmark
8	GEORG-AUGUST-UNIVERSITAET GOETTINGEN STIFTUNG OEFFENTLICHEN RECHTS	Goettingen	Germany
9	INRA TRANSFERT S.A.	Paris	France
10	INTERNATIONAL PLANT GENETIC RESOURCES INSTITUTE	Maccarese	Italy
11	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
12	PHILIPPS UNIVERSITAET MARBURG	Marburg	Germany
13	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
14	TECHNICKA UNIVERZITA VO ZVOLENE	Zvolen	Slovakia
15	TECHNISCHE UNIVERSITAET MUENCHEN	Muenchen	Germany
16	INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA	Madrid	Spain
17	UNIVERSITA DEGLI STUDI DI UDINE	Udine	Italy
18	Centre National de al Recherche Scientifique (CNRS)	Paris	France

19	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
20	UNIwersytet Kazimierza Wielkiego	Bydgoszcz	Poland
21	Oulun yliopisto	Oulu	Finland
22	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
23	UNIVERSITY OF WEST HUNGARY	Sopron	Hungary
24	UPPSALA UNIVERSITET	Uppsala	Sweden
25	MAX PLANCK GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V.	München	Germany



Title:	Extreme ecosystems studies in the deep ocean: technological developments		
Area:	3. Biodiversity and ecosystems 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.454.545 €	Project start date:	1/01/2004
EU Contribution:	2.000.000 €	Duration:	36 months
Organisation:	Institut Francais de Recherche pour l'Exploitation de la Mer	Athens	France

## Abstract

The aim of this proposal is the technological development of a specific instrumentation allowing the study of natural or accidentally perturbed ecosystems found in the deep ocean. These ecosystems are related to the emission of reduced fluids (cold seeps, hydrothermal vents), peculiar topographic structures (seamounts, deep corals), massive organic inputs (sunken woods) or to unpredictable events (pollution, earthquakes). Beside their insularity in the abyssal plain, the targeted ecosystems are characterised by patchy faunal distributions, unusual biological productivity, steep chemical and/or physical gradients, high perturbation levels and strong organism/habitat interactions at infra-metric scales. Their reduced size and unique biological composition and functioning make them difficult to study with conventional instrumentations deployed from surface vessels. Their study requires the use of submersibles able to work at reduced scales on the seafloor as well as the development of autonomous instruments for long-term monitoring (seafloor observatories). The general objective of EXOCET/D is to develop, implement and test specific instruments aimed at exploring, describing and quantifying biodiversity in deep-sea fragmented habitats and to identify links between community structure and environmental dynamics. Inboard experimental devices will complement the approach, enabling experiments on species physiology. The EXOCET/D working fields include: video and acoustic imagery, in situ analysis of habitat chemical and physical components; quantitative sampling of organisms, in vivo experiments; 4D integration of multidisciplinary data; implementation on European deep-submersibles; validation during demonstration actions.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER'	Athens	France
2	Stiftung Alfred-Wegener-Institut für Polar-und Meeresforschung		Germany
3	INSTITUTO DO MAR	Coimbra	Portugal
4	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
5	Universite Pierre et Marie Curie		France
6	Centre National de al Recherche Scientifiqu , UMR7127		France
7	University of Wales, Cardiff, Research and Consultancy Division		United Kingdom
8	HERIOT-WATT UNIVERSITY	Edinburgh	United Kingdom
9	CENTRO DE INVESTIGACAO TECNOLOGICA DO ALGARVE	Faro	Portugal
10	UNIVERSITAET BREMEN	Bremen	Germany
11	SEEBYTE LTD	Edinburgh	United Kingdom
12	SYSTEА- SYSTEMS TECHNOLOGY ADVANCE SRL	Roma	Italy
13	CAPSUM TECHNOLOGIE GMBH	Trittau	Germany



Title:	Towards DNA chip technology as a standard analytical tool for the identification of marine organisms in biodiversity and ecosystem science		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.245.159 €	Project start date:	1/01/2004
EU Contribution:	1.599.872 €	Duration:	39 months
Organisation:	Universität Bremen	Bremen	Germany

## Abstract

Sustainable development is a fundamental goal of the European Union and loss of biodiversity is emphasised as one of the main threats to it. However, biodiversity and ecosystems of European Seas are under human impact, such as pollution, eutrophication, and overfishing. Therefore it is necessary to monitor changes in biodiversity and ecosystem functioning. The aim of the project is the development of DNA chips for the identification of marine organisms in European Seas as a cost effective, reliable and efficient technology in biodiversity and ecosystem science. Many marine organisms, such as eggs and larvae of fishes, plankton, and benthic invertebrates, are difficult to identify by morphological characters. The classical methods are extremely time consuming and require a high degree of taxonomic expertise. Consequently, the basic step of identifying such organisms is a major bottleneck in biodiversity and ecosystem science. Therefore, the project seeks to demonstrate that DNA chips can be a new powerful and innovative tool for the identification of marine organisms. Three DNA chips for the identification of fishes, phytoplankton, and invertebrates of European Seas will be developed. These chips will facilitate research on dispersal of ichthyoplankton, monitoring of phytoplankton, and identification of bioindicators as well as prey in gut contents analysis. To achieve this goal a combined biological and technical approach has been initiated: The biological material will be sampled by marine biologists. The next step is the sequencing of suitable molecular markers for probe design. The technical part consists mainly in constructing gene probe libraries and determining their specificity. This will be done by biotech research centres in connection with SMEs engaged in bioinformatics and DNA chip technology. Therefore the project has the potential to bring Europe's marine biotechnology to the forefront of this field.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET BREMEN	Bremen	Germany
2	PICORAPID TECHNOLOGIE GMBH	Bremen	Germany
3	UNIVERSIDAD DE OVIEDO	Oviedo	Spain
4	INFOCONSULT GESELLSCHAFT FUER INFORMATIONSTECHNIK MBH	Bremen	Germany
5	PROKARIA EHF	Reykjavik	Iceland
6	INSTITUTE OF MARINE BIOLOGY OF CRETE	Iraklio, Crete	Greece
7	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
8	Centre National de al Recherche Scientifique (CNRS)	Paris	France
9	EXIQON A/S	Vedbaek	Denmark
11	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
12	MUSTAFA KEMAL UNIVERSITY	Antakya / Hatay	Turkey
13	Hellenic Centre for Marine Research		Greece



Title:	Hotspot Ecosystem Research on the Margins of European Seas		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Integrated Project		
Project Total Cost:	21.828.715 €	Project start date:	1/04/2005
EU Contribution:	14.999.974 €	Duration:	48 months
Organisation:	Natural Environment Research Council	Athens	United Kingdom

## Abstract

HERMES is designed to gain new insights into the biodiversity, structure, function and dynamics of ecosystems along Europe's deep-ocean margin. It represents the first major attempt to understand European deep-water ecosystems and their environment in an integrated way by bringing together expertise in biodiversity, geology, sedimentology, physical oceanography, microbiology and biogeochemistry, so that the generic relationship between biodiversity and ecosystem functioning can be understood. Study sites will extend from the Arctic to the Black Sea and include open slopes, where landslides and deep-ocean circulation affect ecosystem development, and biodiversity hotspots, such as cold seeps, cold-water coral mounds, canyons and anoxic environments, where the geosphere and hydrosphere influence the biosphere through escape of fluids, presence of gas hydrates and deep-water currents. These important systems require urgent study because of their possible biological fragility, unique genetic resources, global relevance to carbon cycling and possible susceptibility to global change and man-made disturbances. Past changes, including catastrophic events, will be assessed using sediment archives. We will make estimates of the flow rates of methane from the geosphere and calculate how much is utilised by benthic communities, leaving the residual contribution to reach the atmosphere as a greenhouse gas. HERMES will enable forecasting of biodiversity change in relation to natural and man-made environmental changes by developing the first comprehensive pan-European margin Geographic Information System. This will provide a framework for integrating science, environmental modelling and socio-economic indicators in ecosystem management. The results will underpin the development of a comprehensive European Ocean and Seas Integrated Governance Policy enabling risk assessment, management, conservation and rehabilitation options for margin ecosystems.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Athens	United Kingdom
2	Institut Francais de Recherche pour l'Exploitation de la Mer		France
3	STICHTING NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	Den Hoorn Texel	Netherlands
4	UNIVERSITAT DE BARCELONA	Barcelona	Spain
5	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
6	Leibniz-Institut für Meereswissenschaften		Germany
7	Consiglio Nazionale delle Ricerche		Italy
8	Alfred-Wegener-Institut für Polar- und Meeresforschung		Germany
9	UNIVERSITETET I TROMSOE	Tromsoe	Norway
10	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
11	Friedrich-Alexander Universitaet Erlangen-Nuremberg		Germany
12	UNIVERSITEIT GENT	Gent	Belgium
13	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
14	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
15	Max-Planck-Gesellschaft zur Forderung der Wissenschaften E. V.		Germany
16	Centre National de al Recherche Scientifique (CNRS)	Paris	France
17	INSTITUTO HIDROGRAFICO	Lisboa	Portugal
18	INTERNATIONAL UNIVERSITY BREMEN GMBH	Bremen	Germany
19	UNIVERSITAET BREMEN	Bremen	Germany

20	UNIVERSITY OF WALES, CARDIFF	Cardiff	United Kingdom
21	HAVFORSKNINGSINSTITUTTET (INSTITUTE OF MARINE RESEARCH)	Bergen	Norway
22	GOETEBORGS UNIVERSITET.	Goeteborg	Sweden
23	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
24	ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE	Sgonico-trieste	Italy
25	UNIVERSITY OF BIRMINGHAM	Birmingham	United Kingdom
26	KONINKLIJKE NEDERLANDSE AKADEMIE VAN WETENSCHAPPEN.	Amsterdam	Netherlands
27	UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
28	THE UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
29	DEU INSTITUTE OF MARINE SCIENCES AND TECHNOLOGY (DENIZ BILIMLERI VE TEKNOLOJISI ENSTITUSU)	Inciralti-izmir	Turkey
30	SCOTTISH ASSOCIATION FOR MARINE SCIENCE	Oban	United Kingdom
31	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
32	NATIONAL INSTITUTE OF MARINE GEOLOGY AND GEO-ECOLOGY	Bucuresti	Romania
33	INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO	Paris	France
34	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
35	Universite de Bretagne Occidentale		France
36	UNIVERSITE MOHAMMED V	Rabat	Morocco
37	Challenger Oceanic Systems & Services		United Kingdom
38	VOLCANIC BASIN PETROLEUM RESEARCH AS	Oslo	Norway
39	Praesentis, S.L.		Spain
40	MEDIAN SCP	Valldoreix	Spain
41	MMCD MULTIMEDIA CONSULTING GMBH	Dusseldorf	Germany
42	OLEX AS	Trondheim	Norway
43	Archimedix Moller, Munzel, Putschbach Gesellschat Burgerlinchen Rechts (GBR)	Ober-ramstadt	Germany
44	PROTEUS SA	Nimes	France
45	JOBIN YVON S.A.S.	Longjumeau	France





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Title:	Hotspot Ecosystems Research on the Margins of European Seas - Extension		
Area:	3. Biodiversity and ecosystems 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Integrated Project		
Project Total Cost:	563.484 €	Project start date:	
EU Contribution:	563.484 €	Duration:	28 months
Organisation:	Natural Environment Research Council	Swindon	United Kingdom

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## Abstract

HERMES is designed to gain new insights into the biodiversity, structure, function and dynamics of ecosystems along Europe's deep-ocean margin. It represents the first major attempt to understand European deep-water ecosystems and their environment in an integrated way by bringing together expertise in biodiversity, geology, sedimentology, physical oceanography, microbiology and biogeochemistry, so that the generic relationship between biodiversity and ecosystem functioning can be understood. Study sites will extend from the Arctic to the Black Sea and include open slopes, where landslides and deep-ocean circulation affect ecosystem development, and biodiversity hotspots, such as cold seeps, cold-water coral mounds, canyons and anoxic environments, where the geosphere and hydrosphere influence the biosphere through escape of fluids, presence of gas hydrates and deep-water currents. These important systems require urgent study because of their possible biological fragility, unique genetic resources, global relevance to carbon cycling and possible susceptibility to global change and man-made disturbances.

## Partners

Num.	Partner Legal Name	City	Country
1	Natural Environment Research Council	Swindon	United Kingdom
2	Institute of Biology of the Southern Seas NAS of Ukraine	Sevastopol	Ukraine
3	P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences	Moscow	Russian Federation
4	Odessa I.I.Mechnikov National University	Odessa	Ukraine
5	Lomonosov Moscow State University	Moscow	Russian Federation
6	United Nations Environment Programme	Nairobi	Kenya



Title:	Tracking surrogates for intraspecific biodiversity: towards efficient selection strategies for the conservation of natural genetic resources using comparative mapping and modelling approaches		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.996.183 €	Project start date:	1/01/2004
EU Contribution:	1.800.000 €	Duration:	36 months
Organisation:	Universite Joseph Fourier	Grenoble	France

## Abstract

Species richness is the most widely used measure for biodiversity assessment. However it is intraspecific diversity (genetic polymorphism) that represents the evolutionary and adaptive potential of each species in changing environments. We propose to study possible correlations between intraspecific diversity and species richness or habitat variation. Our objectives are:

- (i) to find and explain possible relationships among inter- and intraspecific plant diversity and habitat variation,
- (ii) to elaborate a modelling approach to predict intraspecific plant diversity, using more efficiently accessible surrogates, on a large scale,
- (iii) to establish tools for the design of a network of protected areas to effectively ensure the sustainable management of natural genetic resources.

We will ask the following questions, using the Alps and the Carpathians as model systems:

- (i) is there congruence between intra-/interspecific biodiversity?
  - (ii) do areas of high endemism, often coinciding with glacial refugia, harbour a great degree of intraspecific diversity?
  - (iii) is habitat variation, characterised by environmental parameters, a good surrogate for intra- and interspecific diversity?
- In order to accomplish our aims, we will map the intraspecific diversity by using molecular markers in 25 model species, map the species richness on the same area using mainly existing data on plant distributions, compile environmental data for a map of habitat diversity, compare these maps to find possible correlations among these variables. Based on modelling and simulation techniques, we will develop a web-based public platform for efficiently selecting nature reserve networks which comprise the highest proportion of both intra- and interspecific diversities. Our integrative approach should help to better understand and predict ecosystem patterns on a large scale. The established platform will provide an innovative and efficient technology for observing and managing biodiversity.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITE JOSEPH FOURIER	Grenoble	France
2	UNIVERSITA CATTOLICA DEL SACRO CUORE	Milano	Italy
3	UNIVERSITE DE NEUCHATEL	Neuchatel	Switzerland
4	UNIVERSITAT WIEN	Wien	Austria
5	EIDGENOSSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
6	UNIVERSITAT REGENSBURG	Regensburg	Germany
7	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
8	CONSERVATOIRE BOTANIQUE NATIONAL ALPIN	Gap	France
9	UNIVERSITA DI TRIESTE	Trieste	Italy
10	BOTANICKY USTAV SLOVENSKEJ AKADEMIE VIED	Bratislava	Slovakia
11	INSTITUTUL DE CERCETARI BIOLOGICE CLUJ-NAPOCA	Cluj-napoca	Romania
12	INSTYTUT BOTANIKI IM. W. SZAFERA, POLSKA AKADEMIA NAUK	Krakow	Poland
13	MEDIAS-FRANCE	Toulouse	France
14	PARC NATIONAL DU MERCANTOUR	Nice	France

15 PARCO NATURALE ALPI MARITTIME  
16 VITAMIB SARL

Valdieri

Italy

Meylan Cedex

France



Title:	Marine Biodiversity and Ecosystem Functioning		
Area:	3. Biodiversity and ecosystems		
	3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Network of Excellence		
Project Total Cost:	8.707.000 €	Project start date:	1/02/2004
EU Contribution:	8.707.000 €	Duration:	60 months
Organisation:	Netherlands Institute of Ecology - Centre for Estuarine and Marine Ecology	Athens	Netherlands

## Abstract

Knowledge on marine biodiversity in Europe is fragmented within and between disciplines. The approach to understanding the effects of increased anthropogenic pressure on marine biodiversity has hitherto been ad hoc and local. In particular, to understand how marine ecosystems will adapt to climate change, we need addressing especially the long-term and large-scale changes in marine biodiversity. This requires an entirely new research framework. The creation of the network of excellence MARBEF (Marine Biodiversity and Ecosystem Functioning) aims at integrating research efforts by forming a dedicated group of marine scientists and institutes and creating a virtual European institute with a long-term research programme and dedicated links with industry and the public at large. This involves besides coordination of research the training, exchange and outreach activities in several relevant fields of science, including marine ecology and biogeochemistry, fisheries biology, taxonomy and socio-economic sciences. Better integration of research is also required to support the legal obligations of the EU and its Member States and Associated States for the Convention for Biological Diversity, the OSPAR and Barcelona conventions as well as several EU directives (Bird Directive, Habitat Directive, Water Framework Directive). Society needs this information because a large and growing number of industries depend on the sustainable use and exploitation of marine biodiversity. This includes tourism, fisheries and aquaculture but also new industries that explore and commercialise marine genetic and chemical products.

## Partners

Num.	Partner Legal Name	City	Country
1	NETHERLANDS INSTITUTE OF ECOLOGY - CENTRE FOR ESTUARINE AND MARINE ECOLOGY	Athens	Netherlands
2	The Natural History Museum, London		United Kingdom
3	PLYMOUTH MARINE LABORATORY	Plymouth	United Kingdom
4	UNIVERSITAT DE LES ILLES BALEARS	Palma De Mallorca	Spain
5	University Court of the University of St Andrews		United Kingdom
6	Stazione Zoologica "Anton Dohrn"		Italy
7	Flanders Marine Institute		Belgium
8	Ecological Consultancy Services Limited		Ireland
9	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
10	SENCKENBERGISCHE NATURFORSCHENDE GESELLSCHAFT	Frankfurt Am-main	Germany
11	Max-Planck-Gesellschaft zur Foerderung der Wissenschaften e.v., Represented by Max Planck Institute for Marine		Germany
12	UNIVERSIDADE DOS ACORES	Ponta Delgada	Portugal
13	Institute of Oceanology of the Polish Academy of Sciences		Poland
14	Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung		Germany
15	Abo Akademi University	Turku / Abo	Finland
16	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
17	NACIONALNI INSTITUT ZA BIOLOGIJO	Ljubljana	Slovenia
18	Danmarks Fiskeriunders?Gelser		Denmark
19	Institut für Ostseeforschung Warnemunde		Germany
20	Consejo Superior de Investigaciones Cientificas	Madrid	Spain

21	UNIVERSITEIT GENT	Gent	Belgium
22	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
23	SIR ALISTER HARDY FOUNDATION FOR OCEAN SCIENCE	Plymouth	United Kingdom
24	NATIONAL UNIVERSITY OF IRELAND, DUBLIN	Dublin	Ireland
25	Institut für Meereskunde an der Universitat Kiel		Germany
26	RIJKSUNIVERSITEIT GRONINGEN	Groningen	Netherlands
27	Consiglio Nazionale delle Ricerche	Roma	Italy
28	UNIVERSITY OF HULL	Hull	United Kingdom
29	SYDDANSK UNIVERSITET	Odense M	Denmark
30	Akvaplan-NIVA		Norway
31	RIVO Netherlands Institute for Fisheries Research		Netherlands
32	Centro Interdisciplinar de Investigac?O Marinha e Ambiental		Portugal
33	University of Oslo		Norway
34	Klaipeda University		Lithuania
35	Institut Francais de Recherche pour l'Exploitation de la Mer		France
37	University of Amsterdam		Netherlands
38	The Centre for Environment, Fisheries and Aquaculture Science		United Kingdom
39	University of Gdansk		Poland
40	EXPERT CENTER FOR TAXONOMIC IDENTIFICATION	Amsterdam	Netherlands
41	RIJKSINSTITUUT VOOR KUST EN ZEE (NATIONAL INSTITUTE FOR COASTAL AND MARINE MANAGEMENT)	Roma	Netherlands
42	INSTITUTE OF MARINE BIOLOGY OF CRETE	Iraklio, Crete	Greece
43	The Marine Biological Association of the United Kingdom		United Kingdom
44	Centre National de al Recherche Scientifique		France
45	NATIONAAL NATUURHISTORISCH MUSEUM - NATURALIS	Leiden	Netherlands
46	Göteborg University		Sweden
49	Maastricht University, International Centre for Integrative Studies		Netherlands
50	UNIVERSITY OF WALES, BANGOR	Bangor	United Kingdom
51	Wageningen University		Netherlands
52	University of Pisa		Italy
53	STICHTING NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	Den Hoom Texel	Netherlands
56	Institute of Marine Research		Norway



Title:	Implementation of high-throughput genomic approaches to investigate the functioning of marine ecosystems and the biology of marine organisms.		
Area:	3.	Biodiversity and ecosystems	
	3.1.	Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning	

Instrument:	Network of Excellence		
Project Total Cost:	0 €	Project start date:	1/03/2004
EU Contribution:	10.000.000 €	Duration:	48 months
Organisation:	France Innovation Scientifique et Transfert	Paris	France

## Abstract

The overall aim of this project is to set up and develop a European Network of Excellence, referred to as "Marine Genomics Europe", for the implementation of high-throughput genomic approaches in the biology of marine organisms. "Marine Genomics Europe" will promote, develop, and spread throughout the European Union a broad range of genomic approaches, to investigate a wide range of questions related to the functioning of marine ecosystems and to the biology of marine organisms. With this aim in view, we propose to group and network experts in genomics, proteomics, and bioinformatics from several Centres of Excellence in genomics in Europe with marine biologists who can make use of high-throughput genomics data. This will involve the dedication and the development of common research infrastructures, both in genomics and in marine biology. Joining together these distinct scientific communities will establish Europe's lead in marine genomics.

The Jointly Executed Research (JER) of "Marine Genomics Europe" is broken down into Comparative, Functional and Environmental Genomics, three sections which structure more traditional streamlines, leading to various microbial, algal, evolution development and diversity, and fish and shellfish nodes. This research can be applied to the management of marine resources (prediction of global changes in marine populations, conservation of biodiversity, fisheries management and improvement of aquacultured species) and to gene mining for health and biotechnology.

The Integration effort of Marine Genomics Europe is based on the following strategies: i) jointly develop enabling technologies; ii) sharing existing technical platforms iii) collectively gaining access to major Genomic centres; iv) regrouping under a common Bioinformatics Centre; and v), create and develop a Knowledge and Communication System. Spreading activities will include workshops and courses implemented by a Training & Education Council.

## Partners

Num.	Partner Legal Name	City	Country
1	FRANCE INNOVATION SCIENTIFIQUE ET TRANSFERT	Paris	France
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
4	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V., REPRESENTED BY MAX PLANCK INSTITUTE FOR MARINE MICROBIOLOGY, BREMEN	Muenchen	Germany
5	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V., REPRESENTED BY MAX PLANCK INSTITUTE FOR CHEMICAL ECOLOGY	Muenchen	Germany
6	MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V. REPRESENTED BY MAX-PLANCK INSTITUTE FOR MOLECULAR GENETICS	Muenchen	Germany
7	UNIVERSITAET BIELEFELD	Bielefeld	Germany
8	HUMBOLDT UNIVERSITAET ZU BERLIN	Berlin	Germany
9	GESELLSCHAFT FUR BIOTECHNOLOGISCHE FORSCHUNG MBH	Braunschweig	Germany
10	Siftung Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
11	EUROPEAN MOLECULAR BIOLOGY LABORATORY	Heidelberg	Germany
12	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
13	THE UNIVERSITY OF BIRMINGHAM	Birmingham	United Kingdom

14	UNIVERSITY OF HULL	Hull	United Kingdom
15	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
16	MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM	Plymouth	United Kingdom
17	THE UNIVERSITY OF WARWICK	Coventry	United Kingdom
18	UNIVERSITY OF NEWCASTLE UPON TYNE	Newcastle Upon Tyne	United Kingdom
19	UNIVERSITY OF WALES, SWANSEA	Swansea	United Kingdom
20	UNIVERSITY OF WALES, CARDIFF	Cardiff	United Kingdom
21	CENTRO DE CIENCIAS DO MAR DO ALGARVE	Faro	Portugal
22	STAZIONE ZOOLOGICA "ANTON DOHRN"	Napoli	Italy
23	Consiglio Nazionale delle Ricerche	Roma	Italy
24	UNIVERSITA DEGLI STUDI DI PADOVA	Padova	Italy
25	ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH LTD.	Haifa	Israel
26	TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY	Haifa	Israel
27	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
28	RIJKSUNIVERSITEIT GRONINGEN	Groningen	Netherlands
29	UNIVERSITETET I BERGEN	Bergen	Norway
30	NORWEGIAN SCHOOL OF VETERINARY SCIENCE	Oslo	Norway
31	INSTITUTE OF OCEANOLOGY, POLISH ACADEMY OF SCIENCES	Sopot	Poland
32	DANMARKS FISKERIUNDERSOEGLSER	Lyngby	Denmark
33	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
34	INSTITUT DE RECERCA I TECNOLOGIA AGROALIMENTARIES	Barcelona	Spain
35	UNIVERSITAT DE BARCELONA	Barcelona	Spain
36	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
37	INSTITUTE OF MARINE BIOLOGY OF CRETE	Anavissos, Attikis	Greece
38	KUNGLIGA VETENSKAPSAKADEMIEN	Stockholm	Sweden
39	GOTEBORG UNIVERSITY	Goeteborg	Sweden
40	PARCO TECNOLOGICO PADANO S.R.L.	Lodi	Italy
41	PLYMOUTH MARINE LABORATORY	Plymouth	United Kingdom
42	PROKARIA EHF	Reykjavik	Iceland
43	PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE	Santiago De Chile	Chile
44	UNIVERSIDAD DE CONCEPCION	Concepcion	Chile
45	Albert-Ludwigs-Universitaet Freiburg	Freiburg	Germany
46	UNIVERSITY OF WALES, BANGOR	Bangor	United Kingdom



Title:	Southern European Seas: Assessing and Modelling Ecosystem Changes		
Area:	3. Biodiversity and ecosystems 3.1. Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning		
Instrument:	Integrated Project		
Project Total Cost:	14.806.501 €	Project start date:	1/11/2006
EU Contribution:	9.999.121 €	Duration:	48 months
Organisation:	Hellenic Centre for Marine Research	Anavissos Attiki	Greece

## Abstract

The general scientific objectives of SESAME are to assess and predict changes in the Mediterranean and Black Sea ecosystems as well as changes in the ability of these ecosystems to provide goods and services. The Mediterranean and Black Sea will be approached as a coupled climatic/ecosystem entity, with links and feedbacks to the world ocean. The assessment of ecosystem changes will be based on the identification of the major regime shifts in ecosystems that occurred during the last 50 years. Mathematical models, validated and upgraded using existing and new observations, will be used to predict ecosystem responses to changes in climate and anthropogenic forcings during the next five decades. The new data will be gathered during multidisciplinary, multiship oceanographic cruises in the Mediterranean and Black Sea. These will provide an overall picture of the Mediterranean and Black Sea that does not yet exist as well as essential data sets for model validation. SESAME will also study the effect of the ecosystem variability on key goods and services with high societal importance like tourism, fisheries, ecosystem stability though conservation of biodiversity and mitigation of climate change through carbon sequestration in water and sediments. The innovative character of SESAME is reflected in the close merging of economic and natural sciences to study the changes in the western and eastern Mediterranean and the Black Sea within the period from 50 years in the past to 50 years in the future. SESAME will create a platform for disseminating the research results to all levels of society. It will stimulate and strengthen international cooperation in the Mediterranean and Black Sea regions through the participation of research organisations from Member States, Associated States, Associated Candidate countries, non-EU Mediterranean and NIS countries as well as international organisations.

## Partners

Num.	Partner Legal Name	City	Country
1	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	P.P.SHIRSHOV INSTITUTE OF OCEANOLOGY - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
4	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
5	UNIVERSITE DE LIEGE	Liege	Belgium
6	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
7	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
8	PANEPISTIMIO AIGAIU	Mytilene	Greece
9	INSTITUTE OF OCEANOLOGY - BULGARIAN ACADEMY OF SCIENCES	Varna	Bulgaria
10	ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH LIMITED	Haifa	Israel
12	Athens University of Economics and Business Research Center	Athens	Greece
13	BOGAZICI UNIVERSITESI	Istanbul	Turkey
14	NATIONAL COUNCIL FOR SCIENTIFIC RESEARCH	Beirut	Lebanon
15	Consiglio Nazionale delle Ricerche	Roma	Italy
16	SOFIISKI UNIVERSITET "SVETI KLIMENT OHRIDSKI"	Sofia	Bulgaria
17	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
18	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy



19	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU GEOLOGIE SI GEOECOLOGIE MARINA	Bucuresti	Romania
20	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
21	A.O. KOVALEVSKIY INSTITUTE OF BIOLOGY OF SOUTHERN SEAS - UKRANIAN NATIONAL ACADEMY OF SCIENCES	Sevastopol	Ukraine
22	INSTITUT ZA OCEANOGRAFIJU I RIBARSTVO	Split	Croatia
23	ISTITUTO CENTRALE PER LA RICERCA SCIENTIFICA E TECNOLOGICA APPLICATA AL MARE	Roma	Italy
24	ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE	Sgonico-trieste	Italy
25	FONDAZIONE IMC CENTRO MARINO INTERNAZIONALE ONLUS	Oristano	Italy
26	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
27	INSTITUT NATIONAL DES SCIENCES ET TECHNOLOGIES DE LA MER	Salamambo	Tunisia
28	MARINE HYDROPHYSICAL INSTITUTE - UKRAINIAN NATIONAL ACADEMY OF SCIENCE	Sevastopol	Ukraine
29	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE MARINA "GRIGORE ANTIPA"	Constanta	Romania
30	NACIONALNI INSTITUT ZA BIOLOGIJO	Ljubljana	Slovenia
31	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
32	THE NATIONAL INSTITUTE OF OCEANOGRAPHY AND FISHERIES	Cairo	Egypt
33	PANEPISTIMIO KYPROU	Nicosia	Cyprus
34	SOUTHERN SCIENTIFIC CENTRE OF THE RUSSIAN ACADEMY OF SCIENCES	Rostov-on-don	Russian Federation
35	STAZIONE ZOOLOGICA ANTON DOHRN	Napoli	Italy
36	IVANE JAVAKHISHVILI TBILISI STATE UNIVERSITY	Tbilisi	Georgia
37	UNIVERSITAT DE BARCELONA	Barcelona	Spain
38	UNIVERSIDAD DE HUELVA	Huelva	Spain
39	UNIVERSITAET BREMEN	Bremen	Germany
40	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
41	UNIVERSITA TA MALTA	Msida	Malta
42	UNIVERSITA POLITECNICA DELLE MARCHE	Ancona	Italy
43	UNIVERSITE DU LITTORAL COTE D'OPALE	Dunkerque	France
44	CARL VON OSSIETZKY UNIVERSITAET OLDENBURG.	Oldenburg	Germany
45	UNIVERSITY OF PLYMOUTH	Plymouth, Devon	United Kingdom
46	CYPRUS INTERNATIONAL INSTITUTE OF MANAGEMENT LIMITED	Nicosia	Cyprus
47	CLU SRL	Castelfranco Emilia	Italy
48	SOPAB BREST SA	Brest	France



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Title:	International Conference on "Integrative Approaches Towards Sustainability" (Baltic Sea Region sharing knowledge internally, across Europe, and world-wide)		
Area:	3.	Biodiversity and ecosystems	
	3.1.	Assessing and forecasting changes in biodiversity, structure, function and dynamics of ecosystems and their services, with emphasis on marine ecosystems functioning	

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Instrument:	Specific Support Action	Project start date:	1/09/2004
Project Total Cost:	72.000 €	Duration:	18 months
EU Contribution:	72.000 €	Riga	Latvia
Organisation:	University of Latvia		

## Abstract

The 2nd Conference in the series of "Integrative Approaches Towards Sustainability" is a response to the request of participants of the first conference held in Latvia March 26-29, 2003 (<http://home.lanet.lv/~asi/>). An impressive forum of excellent key-note speakers was challenged by an ambitious audience of young researchers at the 1st Conference proceedings of which contain 600 pages.

The Baltic Rim, a recognised leader in integrated treatment of environmental, social, and economic problems of sustainable development (SD), is facing the challenge of full acceptance of the Baltic Countries and Poland to this world-class club. The 2nd Conference aims to strengthen the integration of the region's RTD community and promotion of sharing its knowledge and expertise internally, across Europe (including the Mediterranean and Black Sea regions) and worldwide by inviting distinguished researchers to discuss the goals defined by the EU Council in Gothenburg, science-based thresholds of sustainability and limits with focus on the Baltic Rim, the corporate responsibility for SD in regional decision making, to share knowledge and expertise with particular focus on agriculture, forestry, education, and university-municipality partnership in basic and advanced fields of SD; to train the young researchers of the region and regions of Mediterranean and Black Sea.

The 2nd Conference will contribute to creation of a "critical mass" of human potential for SD in the region and Europe. The Conference tasks will be implemented by an appropriate Agenda and composition of participant list.

It is essential for the region to organise a high level conference in a new member state on the East coast of the Baltic Sea in order to address senior researchers, to train the young ones from the Baltic countries and Poland and to encourage them to take the opportunities offered by the ERA and the EC 6th FP. The work under the project consists of 6 Work packages.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF LATVIA	Riga	Latvia
2	UPPSALA UNIVERSITY	Uppsala	Sweden
3	ZERI BALTICUM	Riga	Latvia



### **3. Biodiversity and ecosystems**

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#### **3.2. Relationships between society, economy, biodiversity and habitats**

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ELME	European Lifestyles and Marine Ecosystems	189
RUBICODE	Rationalising Biodiversity Conservation in Dynamic Ecosystems	191
SOBIO	Mobilising the European Social Research Potential in Support of Biodiversity and Ecosystem Management	193

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Title:	European Lifestyles and Marine Ecosystems		
Area:	3. Biodiversity and ecosystems		
	3.2. Relationships between society, economy, biodiversity and habitats		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.217.530 €	Project start date:	1/01/2004
EU Contribution:	2.499.990 €	Duration:	36 months
Organisation:	University of Plymouth	Plymouth, Devon	United Kingdom

## Abstract

Marine ecosystems possess great intrinsic value as reserves of biological diversity and are vital providers of goods and services to humanity. However, they are often disregarded during economic and social development. Europe's four sea areas; the Baltic, NE Atlantic, Mediterranean and Black Sea have each paid a heavy price for unsustainable development within their catchments and sea areas. Their ecosystems have suffered to differing degrees from eutrophication, chemical pollution, unsustainable fisheries and physical destruction of habitats. This damage is closely connected with human lifestyles throughout the continent. The future integrity of marine systems depends on our approach to European development in the coming decades. Bringing marine ecosystems into policies for sustainable development requires better information on the causal connections between human pressures and the changing state of the systems. This is particularly important at a time when the European Community is expanding, re-examining its agricultural and chemical policies, implementing a new fisheries policy and exploring new ways to protect marine systems.

ELME will enhance understanding of causality, forecast the impacts of divergent development scenarios and inform evolving Community policies. Current interdisciplinary knowledge linking lifestyles with their marine environmental consequences is widely dispersed. ELME brings together a necessarily large consortium, covering all relevant disciplines and regions. It integrates existing knowledge of environmental state changes, sectoral pressures and social and economic drivers using a common conceptual model. It will select contextual indicators for each causal level and model the relationships between them. These models will be applied to plausible development scenarios with particular focus on the accession process, to explore possible consequences for the stated four marine ecosystems. Results will be diffused to the various stakeholders/groups.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF PLYMOUTH	Plymouth, Devon	United Kingdom
3	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
4	THE SECRETARY OF STATE FOR ENVIRONMENT FOOD AND RURAL AFFAIRS ACTING THROUGH CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
5	EUSKAL HERRIKO UNIBERTSITATEA	Leioa Bizkaia	Spain
6	INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY	London	United Kingdom
7	Siftung Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
8	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
9	KLAIPEDOS UNIVERSITETAS	Klaipeda	Lithuania
10	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
11	UNIVERSITY OF LECCE	Lecce	Italy
12	UNIVERSITA DEGLI STUDI DI PADOVA	Padova	Italy
13	UNIVERSITY OF BERGEN	Bergen	Norway
14	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
15	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
16	POLITECHNIKA GDANSKA	Gdansk	Poland
17	Consiglio Nazionale delle Ricerche	Roma	Italy
18	INSTITUT FUER OSTSEEFORSCHUNG WARNEMUENDE	Rostock /warnemuende	Germany
19	UNIVERSITY OF HULL	Hull	United Kingdom
20	INSTITUTE OF MARINE BIOLOGY OF CRETE	Iraklio, Crete	Greece

21	INSTITUTE OF OCEANOLOGY BULGARIAN ACADEMY OF SCIENCES	Varna	Bulgaria
22	INSTYTUT OCEANOLOGII POLSKIEJ AKADEMII NAUK	Sopot	Poland
23	FUNDACION AZTI - AZTI FUNDAZIO A	Sukkarieta (bizkaia)	Spain
24	MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM	Plymouth	United Kingdom
25	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE MARINA	Constanta	Romania
26	NOTTINGHAM TRENT UNIVERSITY	Nottingham	United Kingdom
27	MORSKI INSTYTUT RYBACKI	Gdynia	Poland
28	UNIVERSITY OF BATH	Bath	United Kingdom



Title: Rationalising Biodiversity Conservation in Dynamic Ecosystems

Area: 3. Biodiversity and ecosystems  
3.2. Relationships between society, economy, biodiversity and habitats

Instrument: Concerted Action

Project Total Cost: 2.172.185 € Project start date: 1/09/2006

EU Contribution: 1.994.285 € Duration: 30 months

Organisation: The Chancellor, Master and Scholars of the University of Oxford Oxford United Kingdom

## Abstract

A key problem in developing policies to stop biodiversity loss is translating threats into a tangible factor for decision-making. RUBICODE will contribute to solving this by examining what biodiversity does for us. Biological units that provide specific services to society will be identified and their services valued, so that they can be compared with more traditional economic valuations. This will give decision-makers a more rational base and will help the understanding of the need for adequate conservation policies, which are essential to halting biodiversity loss.

Nature is fundamentally dynamic, as are the pressures of human activities on biodiversity, yet most conservation strategies still involve a static view of nature. For the realisation of future conservation objectives it is critical that new strategies and policies incorporate these dynamics. RUBICODE will address this by developing integrated dynamic concepts for conservation strategies and examples of their application at multiple scales.

RUBICODE will prioritise these strategies for the most significant European terrestrial and freshwater ecosystems by reviewing the impacts of global change on those components of biodiversity essential for maintaining ecosystem services. Important and threatened services will be identified and methods for relating biodiversity in dynamic ecosystems to the provision of these services will be compared and tested. Frameworks for linking biodiversity traits to service provision and for improving and testing indicators will be developed and used to explore management strategies and inform priorities for biodiversity conservation policy. RUBICODE will also identify current gaps in knowledge and propose a roadmap for future research.

RUBICODE will involve a large number of external experts, and stakeholders from policy and practice communities, to ensure the relevance of the new concepts, their integration into conservation and to help with their dissemination.

## Partners

Num.	Partner Legal Name	City	Country
1	THE CHANCELLOR, MASTER AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
2	Alterra b.v.	Wageningen	Netherlands
3	MEDIAN SCP	Valldoreix	Spain
4	PROSPEX BVBA	Keerbergen	Belgium
5	LUNDS UNIVERSITET	Lund	Sweden
6	PANEPISTIMIO AIGAIUO	Mytilene	Greece
7	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
8	INSTITUTE FOR FORECASTING SLOVAK ACADEMY SCIENCES	Bratislava	Slovakia
9	UNIVERSITAET DUISBURG-ESSEN	Duisburg	Germany
10	UNIVERSIDADE DE COIMBRA	Coimbra	Portugal
11	ROTHAMSTED RESEARCH LIMITED	Harpenden	United Kingdom
12	Centre National de al Recherche Scientifique (CNRS)	Paris	France
13	PARIS LODRON UNIVERSITAET SALZBURG	Salzburg	Austria
14	TARTU UELIKOOL	Tartu	Estonia
15	SZENT ISTVAN EGYETEM	Godollo	Hungary
16	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
17	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
18	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden

19	UNIVERSITY OF STELLENBOSCH	Stellenbosch	South Africa
20	Consejo Superior de Investigaciones Cientificas Y TECNICAS	Buenos Aires	Argentina
21	CHARLES STURT UNIVERSITY	Wagga Wagga Nsw	Australia
22	LINCOLN UNIVERSITY	Canterbury	New Zealand
23	UNITED STATES GEOLOGICAL SURVEY	Reston - Virginia	United States



Title: Mobilising the European Social Research Potential in Support of Biodiversity and Ecosystem Management

Area: 3. Biodiversity and ecosystems  
3.2. Relationships between society, economy, biodiversity and habitats

Instrument:	Concerted Action		
Project Total Cost:	460.000 €	Project start date:	1/02/2004
EU Contribution:	460.000 €	Duration:	24 months
Organisation:	European Centre for Nature Conservation	Tilburg	Netherlands

## Abstract

Counteracting the decline of biodiversity and ensuring the sustainable management of ecosystems requires insight into the socio-economic processes and structures which directly or indirectly impact on them. However, there is a discrepancy in the amount of research work carried out in the economic domain, and the amount of work done in the more strictly social domain. The more purely social dimension of protection of biodiversity and ecosystems is still somewhat underexplored, and it would be premature to talk about a well-established European field of social research on biodiversity and ecosystem management, or of a coordinated international research programme. Still, the work that has been done indicates that sociological knowledge and research methodologies can be successfully applied to issues concerning ecosystem and biodiversity management. Despite this obvious potential to support and enhance the effectiveness of ecosystem and biodiversity management, social research is not yet commonly integrated in the development and implementation of biodiversity policy. Many biodiversity policy makers have educational and professional backgrounds in the life sciences, appear unfamiliar or ill at ease with theoretical concepts and methodologies of the social sciences and are unsure how and where to involve social research. Furthermore, there is room for advancement in the translation of insights concerning the societal context of ecosystem and biodiversity management into policy tools, such as models. Involving leading researchers from Germany, Hungary, Norway, Spain, Romania, the Slovak Republic and the United Kingdom, the overall aim of SoBio is to stimulate relevant social research contributing to the management of biodiversity and ecosystems, and especially to the development of successful policies in this field. This will be achieved by providing an overview, assessing policy, identifying priority needs and stimulating new relevant research.

## Partners

Num.	Partner Legal Name	City	Country
1	EUROPEAN CENTRE FOR NATURE CONSERVATION	Tilburg	Netherlands
2	TERRA, CENTRO PARA LA POLITICA AMBIENTAL	La Navata (madrid)	Spain
5	NORSK INSTITUTT FOR FORSKNING OM OPPVEKST, VELFERD OG ALDRING	Oslo	Norway
6	UNIVERSITY OF CENTRAL LANCASHIRE	Preston	United Kingdom
7	UNIVERSITATEA DIN BUCURESTI	Bucuresti	Romania
8	CENTRAL EUROPEAN UNIVERSITY, BUDAPEST FOUNDATION	Budapest	Hungary
9	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
10	INSTITUTE OF LANDSCAPE ECOLOGY OF THE SLOVAK ACADEMY OF SCIENCES	Bratislava	Slovakia





### **3. Biodiversity and ecosystems**

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#### **3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options**

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COCONUT	Understanding effects of land use changes on ecosystems to halt loss of biodiversity due to habitat destruction, fragmentation and degradation	195
ECODIS	Dynamic Sensing of Chemical Pollution Disasters and Predictive Modelling of Their Spread and Ecological Impact	196
EUR-OCEANS	EUROpean network of excellence for OCean Ecosystems ANalysiS	197
FACEIT	Fast Advanced Cellular and Ecosystems Information Technologies	200
MACIS	Minimisation of and Adaptation to Climate change: Impacts on biodiverSity	201

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Title:	Understanding effects of land use changes on ecosystems to halt loss of biodiversity due to habitat destruction, fragmentation and degradation		
Area:	3. Biodiversity and ecosystems		
	3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.057.051 €	Project start date:	1/11/2006
EU Contribution:	900.000 €	Duration:	24 months
Organisation:	Sveriges Lantbruksuniversitet	Uppsala	Sweden

## Abstract

To stop biodiversity declines and meet future challenges, a better understanding is needed on how biodiversity is affected by historic and current land use changes.

In the COCONUT project we will

- (1) gather existing and new data on both historic and current species richness and land use (GIS) across Europe,
- (2) synthesise these data and perform meta-analyses to assess the extent of biodiversity loss and to understand how land use change affects biodiversity change,
- 3) use the results to parametrise predictive models to project future land use and biodiversity change in response to socio-economic scenarios,
- 4) based on these results develop policy options and decision tools for main EU-policy areas mitigating future biodiversity loss.

Detailed data will be collected in 5 case study areas to investigate extinction debt, extent of habitat loss, fragmentation and degradation and impacts on biodiversity as a result of historic land use changes dating up to 100 years back. European scale effects of habitat loss will be explored by data mining of Natura 2000 and other available data bases on biodiversity and land use. Meta-analyses of existing data on land use and diversity of plants, invertebrates and birds will be performed in synthesis workshops to which external data holders are invited. Future land use scenarios will be linked to biodiversity models that predict risk of species extinction. Scenario based modelling of future land use and organization of workshops will enable to identify policy options to minimize and mitigate biodiversity loss resulting from future land use changes. Strong links among the partners to several EU-projects (e.g. ALARM, BIOPRESS), MACIS (task 2 in this same call), and national data bases will enable access to data, tools and information critical for the development of large scale, general predictions of biodiversity effects on land use change, and development of policy options for land use management.

## Partners

Num.	Partner Legal Name	City	Country
1	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
2	UNIVERSITAET BAYREUTH.	Bayreuth	Germany
3	TARTU UELIKOOL	Tartu	Estonia
4	CENTRO DE INVESTIGACION ECOLOGICA Y APLICACIONES FORESTALES	Bellaterra (barcelona)	Spain
5	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
6	GISAT S.R.O.	Praha 10	Czech Republic
7	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
8	THE UNIVERSITY OF READING.	Reading	United Kingdom
9	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
10	PENSOFT PUBLISHERS	Sofia	Bulgaria
11	STOCKHOLMS UNIVERSITET	Stockholm	Sweden



Title:	Dynamic Sensing of Chemical Pollution Disasters and Predictive Modelling of Their Spread and Ecological Impact		
Area:	3. Biodiversity and ecosystems 3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.778.817 €	Project start date:	1/10/2005
EU Contribution:	3.499.780 €	Duration:	36 months
Organisation:	Wageningen Universiteit	Wageningen	Netherlands

## Abstract

ECODIS will develop sensor technologies for monitoring the physicochemical reactivity and biological impact of inorganic and organic pollutant species in aquatic systems. ECODIS will also apply these technologies to the study of the short and long term chemical and biological status of aquatic ecosystems following a pollution disaster. Exposure conditions experienced by organisms are defined by the temporal profiles of concentration and speciation of pollutants. These profiles will be quantitatively linked to biological effects via an innovative dynamic approach based on the flux of pollutant species as a key parameter in effective ecosystem quality. The dynamic features of pollutant species distributions over biotic and abiotic components will be a basic component of a new generic dynamic approach for any macroscopic aquatic ecosystem impacted by a pollution disaster event. This will involve the integration of the dynamic features of pollutants with their macroscale transport resulting from diffusion and flows in the water body. One of the major goals of ECODIS is to arrive at a model that includes predicted pollutant species distributions, and ensuing biological risks, in all compartments of the aquatic ecosystem as a function of time and space. Especially in disaster situations, the pollutant sink/source functioning of ecosystems under extreme load will be a key factor in the rate of spread of the disaster impact. ECODIS will couple the sink/source function with the transport modelling and derive the ensuing immediate and long term impact of a given pollution disaster. ECODIS will also open the way for developing sophisticated strategies for dynamic risk assessment and disaster management policies. One of the ultimate goals in ECODIS's action plan is the formulation of a set of guidelines for monitoring, data management, and interpretation of pollution disasters.

## Partners

Num.	Partner Legal Name	City	Country
1	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
2	SYDDANSK UNIVERSITET.	Odense M	Denmark
3	UNIVERSITE DE GENEVE	Geneve 4	Switzerland
4	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
5	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
6	MASARYKOVA UNIVERZITA V BRNO	Brno	Czech Republic
7	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
8	Aquasense Advies B.V.	Amsterdam	Netherlands



Title: European network of excellence for Ocean Ecosystems Analysis

Area: 3. Biodiversity and ecosystems  
3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options

Instrument:	Network of Excellence		
Project Total Cost:	40.000.000 €	Project start date:	1/01/2005
EU Contribution:	10.000.000 €	Duration:	48 months
Organisation:	France Innovation Scientifique et Transfert	Paris	France

## Abstract

EUR-OCEANS aims to achieve lasting integration of European research organisations on global change and pelagic marine ecosystems, and to develop models for assessing and forecasting the impacts of climate and anthropogenic forcing on food-web dynamics (structure, functioning, diversity and stability) of pelagic ecosystems in the open ocean. The NOE will favour the progressive integration of research programmes and facilities of major research Institutes all over Europe. The long-term goal of the NOE is to create a multi-site Institute for European Research on Ocean Ecosystems under Anthropogenic and Natural forcings. The international context is provided by Global Ocean Ecosystem Dynamics (GLOBEC), and the forthcoming Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) of the International Geosphere Biosphere Programme (IGBP). EUR-OCEANS' Joint Programme of Activities (JPA) comprises:

- (1) Integrating activities on: networking (data and model integration);
- (2) Jointly executed research, organised around four broad modelling tasks (together with observations and experiments) on: pelagic ecosystems end-to-end, biogeochemistry, ecosystem approach to marine resources and within-system integration;
- (3) Activities to spread excellence, including training of researchers, and spreading excellence to socio-economic users and to the European public (through the Association of Aquaria for EUR-OCEANS public outreach);
- (4) Management Activities. Administrative and Financial Coordinator: Institut Oceanographique. Governing bodies: General Assembly (Member Organisations); Executive Committee (incl. Scientific Director and the Deputy); Steering Committee (incl. Work Packages Leaders). Councils: Scientific, Intellectual, Gender Equality, and EUR-OCEANS Institute. Composition: 69 Member Organisations, from 25 states (incl. 7 Third countries); 160 PIs selected for their capacity and excellence. Close cooperation with the USA, Australia, Canada, Namibia and Japan.

## Partners

Num.	Partner Legal Name	City	Country
1	FRANCE INNOVATION SCIENTIFIQUE ET TRANSFERT	Paris	France
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
4	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
5	Sopab-Brest		France
6	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
7	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
8	UNIVERSITE DE LIEGE	Liege	Belgium
9	VRIJE UNIVERSITEIT BRUSSEL	Brussel	Belgium
10	UNIVERSITAET BERN	Bern	Switzerland
11	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
12	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN AN DER UNIVERSITAT KIEL	Kiel	Germany
13	INSTITUT FUER OSTSEEFORSCHUNG WARNEMUENDE	Rostock /warnemuende	Germany
14	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V	Muenchen	Germany
16	UNIVERSITAET BREMEN	Bremen	Germany
17	UNIVERSITAET HAMBURG.	Hamburg	Germany

18	DANMARKS FISKERIUNDERSOEGELSER	Lyngby	Denmark
19	DANMARKS MILJØUNDERSOEGELSER.	Roskilde	Denmark
20	Aarhus Universitet	Aarhus C	Denmark
21	AZTI FUNDAZIOA	Sukarieta (bizkaia)	Spain
22	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
23	INSTITUTO ESPAÑOL DE OCEANOGRAFIA	Madrid	Spain
24	UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA	Las Palmas De Gran Canaria	Spain
25	UNIVERSIDAD DE VIGO	Pontevedra, Vigo	Spain
26	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
27	FINNISH INSTITUTE OF MARINE RESEARCH - MERENTUTKIMUSLAITOS	Helsinki	Finland
28	Consiglio Nazionale delle Ricerche	Roma	Italy
29	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
30	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
31	ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE	Sgonico-trieste	Italy
32	STAZIONE ZOOLOGICA ANTON DOHRN	Napoli	Italy
33	NEDERLANDS INSTITUUT VOOR ECOLOGIE	Yerseke	Netherlands
34	STICHTING NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	Den Hoorn Texel	Netherlands
35	UNIVERSITEIT VAN AMSTERDAM	Amsterdam	Netherlands
36	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
37	HAVFORSKNINGSINSTITUTTET (INSTITUTE OF MARINE RESEARCH)	Bergen	Norway
38	UNIVERSITETET I TROMSOE	Tromsoe	Norway
39	NORSK POLARINSTITUT - NORWEGIAN POLAR INSTITUTE	Tromsoe	Norway
40	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
41	UNIVERSITETET I BERGEN	Bergen	Norway
42	INSTITUTO NACIONAL DE INVESTIGACAO AGRARIA E DAS PESCAS	Lisboa	Portugal
43	INSTYTUT OCEANOLOGII - POLSKIEJ AKADEMII NAUK	Sopot	Poland
44	MORSKI INSTYTUT RYBACKI	Gdynia	Poland
45	NATURHISTORISKA RIKSMUSEET	Stockholm	Sweden
46	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
47	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
48	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
49	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
50	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
51	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE.	London	United Kingdom
52	THE SCOTTISH MINISTERS ACTING THROUGH FISHERIES RESEARCH SERVICES	Aberdeen	United Kingdom
53	PLYMOUTH MARINE LABORATORY.	Plymouth	United Kingdom
54	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
55	RIJKSUNIVERSITEIT GRONINGEN	Groningen	Netherlands
56	UNIVERSITY OF ESSEX	Colchester	United Kingdom
57	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
59	THE UNIVERSITY OF WARWICK	Coventry	United Kingdom
61	CENTRO DE INVESTIGACION OCEANOGRAFICA EN EL PACIFICO SUR-ORIENTAL	Concepcion	Chile
62	INSTITUT NATIONAL DES SCIENCES DE LA MER ET DE L'AMENAGEMENT DU LITTORAL	Algiers	Algeria
63	TARTU UELIKOOL	Tartu	Estonia
64	LATVIAN FISHERIES RESEARCH INSTITUTE	Riga	Latvia
65	INSTITUT NATIONAL DE RECHERCHE HALIEUTIQUE	Casablanca	Morocco

66	P.P.SHIRSHOV INSTITUTE OF OCEANOLOGY - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
67	FACULTE DE SCIENCES DE BIZERTE	Zarzouna - Bizerte	Tunisia
68	O.O. KOVALEVSKIY INSTITUTE OF BIOLOGY OF SOUTHERN SEAS - UKRANIAN NATIONAL ACADEMY OF SCIENCES	Sevastopol	Ukraine
69	UNIVERSITY OF CAPE TOWN.	Rondenbosch,cape Town	South Africa



Title:	Fast Advanced Cellular and Ecosystems Information Technologies		
Area:	3. Biodiversity and ecosystems 3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	5.288.499 €	Project start date:	1/09/2005
EU Contribution:	3.694.753 €	Duration:	42 months
Organisation:	Universite de Lausanne	Lausanne	Switzerland

## Abstract

Marine and freshwater ecosystems continue to be threatened by large scale pollution disasters. Such disasters are often caused by oil-related activities, but pollution nature, magnitude and site of occurrence all can be very different, with unpredictable outcome on the responses of individual organisms, the biodiversity and the functioning of the aquatic ecosystems. The FACEiT project proposes to develop rapid, cost-effective and reliable innovative measurement technologies to analyze and predict in situ population effects and ecosystems community diversity and functioning. For this purpose, FACEiT will develop in-situ pollutant monitoring technologies with semi-continuously operated microbial reporter systems, will design and test rapid methods based on unicellular planktonic viability and cell integrity, on diversity and functional responses of the whole microbial community and on multibiomarkers in organisms at higher trophic levels. FACEiT will also develop a set of state-of-the art ex-situ sample incubation analysis methods, including a multianalyte microbial reporter platform and whole genomic tests based on pollutant-induced transcriptomic and proteomic responses in microorganisms, mammalian cell lines and fish eggs. Innovative modeling approaches will focus on understanding and predicting pollutant fate in organisms, communities and the natural environment, which will be based on metabolic pathway prediction networks, physicochemical distribution processes and biota activities. All developed measurement technologies will be extensively validated on realistic samples from contaminated sites, and coherently tested in a pollution disaster scenario. Dissemination plans include various prototype developments up to market level implementation and two advanced courses for transferring FACEiT technologies and concepts to the end-user community.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITE DE LAUSANNE	Lausanne	Switzerland
2	UNIVERSITY OF ESSEX	Colchester	United Kingdom
3	STICHTING KONINKLIJK NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	Den Hoorn Texel	Netherlands
4	UNIVERSITE DE PAU ET DES PAYS DE L'ADOUR	Pau	France
5	EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
6	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
7	BIOCLEAR BV	Groningen	Netherlands
8	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
9	UNIVERSITY OF PLYMOUTH	Plymouth, Devon	United Kingdom
10	CYBERSENSE BIOSYSTEMS LTD	London	United Kingdom
11	BIOCHEMIJOS INSTITUTAS	Vilnius	Lithuania
12	BIO DETECTION SYSTEMS B.V.	Amsterdam	Netherlands



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Title: Minimisation of and Adaptation to Climate change: Impacts on biodiversity

Area: 3. Biodiversity and ecosystems  
3.3. Integrated assessment of drivers affecting ecosystems functioning and biodiversity, and mitigation options

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Instrument: Specific Targeted Research Project

Project Total Cost: 1.213.621 € Project start date: 1/11/2006

EU Contribution: 900.000 € Duration: 24 months

Organisation: UFZ - Umweltforschungszentrum Leipzig - Halle GmbH Leipzig Germany

## Abstract

MACIS will review and meta-analyse the existing projections of climate change impacts on biodiversity. It will assess the available options to prevent and minimise negative impacts for the EU25 up to 2050 and review the state-of-the-art on methods to assess the probable future impacts of climate change on biodiversity. This includes the review of possible climate change adaptation and mitigation measures and their potential effect on future biodiversity. MACIS wants to further develop a series of biodiversity and habitat models that address biodiversity impacts, and are capable of calculating the consequences of the changes in the trends in drivers as specified by the narrative scenarios provided by the IPCC. MACIS will identify policy options at EU, MS, regional and local levels to prevent and minimise negative impacts from climate change and from climate change adaptation and mitigation measures.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	LUNDS UNIVERSITET	Lund	Sweden
4	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
5	UNIVERSITE DE LAUSANNE.	Lausanne	Switzerland
6	PENSOFT PUBLISHERS	Sofia	Bulgaria
7	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
8	UNIVERSITA DEGLI STUDI DI TORINO.	Torino	Italy
9	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
10	HELSINGIN YLIOPISTO	Helsinki	Finland
11	SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE	Cape Town	South Africa
12	OXFORD BROOKES UNIVERSITY	Oxford	United Kingdom





### **3. Biodiversity and ecosystems**

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#### **3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems**

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Title:	Assessing Large-scale environmental Risks with tested Methods		
Area:	3. Biodiversity and ecosystems 3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Integrated Project		
Project Total Cost:	16.706.720 €	Project start date:	1/02/2004
EU Contribution:	12.000.000 €	Duration:	60 months
Organisation:	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany

## Abstract

Based on a better understanding of terrestrial and freshwater biodiversity and ecosystem functioning ALARM will develop and test methods and protocols for the assessment of large-scale environmental risks in order to minimise negative direct and indirect human impacts. Research will focus on assessment and forecast of changes in biodiversity and in structure, function, and dynamics of ecosystems. This relates to ecosystem services and includes the relationship between society, economy and biodiversity.

In particular, risks arising from climate change, environmental chemicals, biological invasions and pollinator loss in the context of current and future European land use patterns will be assessed. There is an increasing number of case studies on the environmental risks subsequent to each of these impacts. This yields an improved understanding on how these act individually and affect living systems. Whereas the knowledge on how they act in concert is poor and ALARM will be the first research initiative with the critical mass needed to deal with such aspects of combined impacts and their consequences. Risk assessments in ALARM will be hierarchical and examine a range of organisational (genes, species, ecosystems), temporal (seasonal, annual, decadal) and spatial scales (habitat, region, continent) determined by the appropriate resolution of current case studies and databases. Socio-economics as a cross-cutting theme will contribute to the integration of driver-specific risk assessment tools and methods and will develop instruments to communicate risks to biodiversity to end users, and indicate policy options to mitigate such risks.

The ALARM consortium combines the expertise of 53 partners from 26 countries (14 EU, 7 NAS, Israel, Switzerland, and 3 INCO states). ALARM encompasses 7 SMEs as full partners with central responsibilities and with a share of more than 10% of the project resources.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH	Leipzig	Germany
2	LUNDS UNIVERSITET	Lund	Sweden
3	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
4	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
5	CONSORZIO INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	Roma	Italy
6	NATURAL ENVIRONMENT RESEARCH COUNCIL CENTRE FOR ECOLOGY & HYDROLOGY	Swindon Wiltshire	United Kingdom
7	INSTITUTE OF BOTANY, ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Pruhonice	Czech Republic
8	GEORG-AUGUST-UNIVERSITAT GOTTINGEN	Goettingen	Germany
9	UNIVERSITY OF THE AEGEAN	Mytilene	Greece
10	SERI NACHHALTIGKEITSFORSCHUNGS UND - KOMMUNIKATIONS GMBH	Wien	Austria
11	ESTONIAN INSTITUTE FOR SUSTAINABLE DEVELOPMENT, STOCKHOLM ENVIRONMENT INSTITUTE TALLINN CENTRE	Tallinn	Estonia
12	CENTER ZA KARTOGRAFIJO FAVNE IN FLORE	Miklavz Na Dravskem Polju	Slovenia
13	UNIVERSITY OF LEEDS	Leeds	United Kingdom
14	BIOMATHEMATICS & STATISTICS SCOTLAND	Edinburgh	United Kingdom
15	OLANIS EXPERTENSYSTEME GMBH	Leipzig	Germany
16	FINNISH ENVIRONMENT INSTITUTE	Helsinki	Finland

17	ILMATIETEEN LAITOS	Helsinki	Finland
18	UNIVERSIDAD DE CASTILLA-LA MANCHA	Ciudad Real	Spain
19	UNIVERSITY OF HANNOVER	Hannover	Germany
20	UMEÅ UNIVERSITY	Umeå	Sweden
21	EIDGENÖSSISCHE TECHNISCHE HOCHSCHULE ZÜRICH	Zürich	Switzerland
22	CREAF - CENTER FOR ECOLOGICAL RESEARCH AND FORESTRY APPLICATIONS	Bellaterra (Barcelona)	Spain
23	UNIVERSITY OF EVORA	Evora	Portugal
24	UNIVERSITY OF VIENNA	Wien	Austria
25	POTSDAM-INSTITUT FÜR KLIMAFOLGENFORSCHUNG E.V.	Potsdam	Germany
26	UNIwersytet Jagielloński	Krakow	Poland
27	BOURGAS "PROF. AS. ZLATAROV" UNIVERSITY	Burgas	Bulgaria
28	LANCASTER UNIVERSITY	Lancaster	United Kingdom
29	UTRECHT UNIVERSITY	Utrecht	Netherlands
30	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
31	UNIVERSITY OF BERN	Bern	Switzerland
32	KLAIPEDOS UNIVERSITETAS	Klaipeda	Lithuania
33	ZOOLOGICAL INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES	Sint Petersburg	Russian Federation
34	CAB INTERNATIONAL	Wallingford	United Kingdom
35	MARINE ORGANISM INVESTIGATIONS	Ballina, Killaloe, Co Clare	Ireland
36	THE UNIVERSITY OF READING	Reading	United Kingdom
37	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
38	MARTIN-LUTHER-UNIVERSITÄT HALLE-WITTENBERG	Halle (Saale)	Germany
39	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
40	UNIVERSITY OF HAIFA	Haifa	Israel
41	UNIVERSITY OF VERSAILLES SAINT-QUENTIN-EN-YVELINES	Versailles	France
42	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (Cerdanyola del Valles)	Spain
43	PENSOFT PUBLISHERS	Sofia	Bulgaria
44	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
45	INSTITUTE OF NATURE CONSERVATION, POLISH ACADEMY OF SCIENCES	Krakow	Poland
46	TARTU ÜLIKOOL	Tartu	Estonia
47	INSTITUTE OF BIOLOGICAL RESEARCH CLUJ-NAPOCA	Cluj- Napoca	Romania
48	GESELLSCHAFT FÜR ANGEWANDTE LANDSCHAFTSÖKOLOGIE UND UMWELTPLANUNG DR. OTT MBH	Trippstadt	Germany
49	CENTRE FOR ECOLOGICAL RESEARCH, POLISH ACADEMY OF SCIENCES	Lomianki	Poland
50	UNIVERSIDAD DE CONCEPCION	Concepcion	Chile
51	INSTITUTO ARGENTINO DE INVESTIGACIONES DE LAS ZONAS ÁRIDAS	Mendoza	Argentina
52	PROCTER & GAMBLE EUROCOR	Strombeek-bever	Belgium
53	THE NATURAL HISTORY MUSEUM, LONDON	London	United Kingdom
54	UNIVERSITY OF YORK	York	United Kingdom



Title:	Assessing Large-scale environmental Risks with tested Methods		
Area:	3. Biodiversity and ecosystems 3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Integrated Project		
Project Total Cost:	840.081 €	Project start date:	
EU Contribution:	798.051 €	Duration:	24 months
Organisation:	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany

## Abstract

Based on a better understanding of terrestrial and freshwater biodiversity and ecosystem functioning ALARM will develop and test methods and protocols for the assessment of large-scale environmental risks in order to minimise negative direct and indirect human impacts.

Research will focus on assessment and forecast of changes in biodiversity and in structure, function, and dynamics of ecosystems. This relates to ecosystem services and includes the relationship between society, economy and biodiversity. In particular, risks arising from climate change, environmental chemicals, biological invasions and pollinator loss in the context of current and future European land use patterns will be assessed. There is an increasing number of case studies on the environmental risks subsequent to each of these impacts. This yields an improved understanding on how these act individually and affect living systems. Whereas the knowledge on how they act in concert is poor and ALARM will be the first research initiative with the critical mass needed to deal with such aspects of combined impacts and their consequences. So far the ALARM consortium combines the expertise of 54 partners from 26 countries (19 EU, Bulgaria, Romania, Israel, Switzerland, Russia, Chile, and Argentina). Within this call we propose to include 16 new TTC partners from Russia, Belarus, China, South-Africa, India, Croatia, Ukraine, Serbia & Montenegro, The Philippines, Bolivia, Guatemala, and Mexico, in order to complement expertise and geographical coverage of the existing consortium.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - Umweltforschungszentrum Leipzig-Halle GmbH	Leipzig	Germany
2	Stellenbosch University	Stellenbosch	South Africa
3	Institute of Cytology and Genetics, Novosibirsk, Russia	Novosibirsk	Russian Federation
4	V.N.Sukachev Institute of Forest, Siberian Branch, Russian Academy of Science	Krasnoyarsk	Russian Federation
5	El Colegio de la Frontera Sur	Tapachula	Mexico
6	Centre for the Balkan Biodiversity Conservation / Department of Biology and Ecology / Faculty of Sciences / University of Novi Sad	Novi Sad	Serbia and Montenegro
7	Odessa Branch, Institute of Biology of the Southern Seas, National Academy of Sciences of Ukraine	Odessa	Ukraine
8	Institute of Zoology National Academy of Sciences	Minsk	Belarus
9	Institute for Biological Research "Sinisa Stankovic"	Belgrade	Serbia and Montenegro
10	Institute of Zoology of the Chinese Academy of Sciences	Beijing	China
11	Universidad Mayor de San Andrés	La Paz	Bolivia
12	Facultad Latinoamericana de Ciencias Sociales, Sede Académica Guatemala (Latin American Faculty of Social Sciences- Academic Centre Guatemala)	Guatemala	Guatemala
13	Faculty of Natural Sciences and Mathematics	Kosovska Mitrovica	Serbia and Montenegro
14	Croatian Natural History Museum	Zagreb	Croatia
15	"Alexanor" Company for Science Implementation	Uzhgorod	Ukraine
16	Philippine Rice Research Institute	Metro Manila	Philippines
17	Centre for Ecological Sciences, Indian Institute of Science	Bangalore	India



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Title:	Resolving the impact of climatic processes on ecosystems of the North Atlantic basin and shelf seas: Integrating and advancing observation, monitoring, and prediction		
Area:	3. Biodiversity and ecosystems		
	3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		

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Instrument:	Specific Support Action	Project start date:	1/07/2006
Project Total Cost:	133.300 €	Duration:	18 months
EU Contribution:	115.071 €	Organisation:	Hamburg Germany
Organisation:	Universität Hamburg		

## Abstract

The scale of influence of global change and the added value of co-ordinating the scientific activities of the EU and North American countries to assess, predict and mitigate the effects on marine ecosystems of the North Atlantic and their services is the justification for the development of the BASIN SSA. An important step towards such a co-ordinated approach is the development of an implementation plan where by jointly funded international projects can be supported. The development of such a plan is the first key goal of BASIN. The second goal of BASIN is to develop an integrated basin-scale North Atlantic research program, for submission to the EU 7th framework program, US NSF and Canadian NSERC for joint funding. Programmatic goals will be achieved in working groups including experts from both the EU and North America as well as delegates from funding organisations.

As a prerequisite for the development of the research proposal, this SSA will

- (1) assess the status of climate related ecosystem research in the North Atlantic basin and associated shelf seas,
- (2) identify gaps in systematic observations and process understanding of atmospheric and oceanic parameters,
- (3) identify the potential for consolidation of long-term observations from EU and international databases for modelling and prediction.

The BASIN research program will focus on: Resolving the natural variability, potential impacts and feedbacks of global change on the structure, function and dynamics of ecosystems; Improving the understanding of marine ecosystem functioning; Developing ecosystem based management strategies. Hence, BASIN will contribute significantly to the Global Earth Observation System of Systems (GEOSS) 10-Year Implementation Plan via the development of comprehensive, coordinated, and sustained observations of the Earth System, improved monitoring of the state of the Earth, increased understanding of Earth processes, and enhanced prediction.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET HAMBURG.	Hamburg	Germany
2	PLYMOUTH MARINE LABORATORY	Plymouth	United Kingdom



Title:	Delivering Alien Invasive Species Inventories for Europe		
Area:	3. Biodiversity and ecosystems		
	3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.450.131 €	Project start date:	1/02/2005
EU Contribution:	2.400.000 €	Duration:	36 months
Organisation:	Natural Environment Research Council, Centre for Ecology & Hydrology	Swindon Wiltshire	United Kingdom

## Abstract

Effective control of invasive alien species has been hampered by:

- the lack of monitoring for alien species at frequent enough intervals in regions of concern;
- a means to report, verify the identifications, and warn of new sightings; and
- risk assessments that predict the likelihood of a particular species becoming invasive.

Europe has yet to establish a programme with the primary goal of detection, quantifying the possible risk, and warning managers before a respective alien species spreads beyond its point of initial introduction. Such a programme should provide:

- a warning system to alert regional managers,
- an inventory of alien species against which invasive alien species can be determined,
- a European information dissemination system,
- an early detection and monitoring system for alien species.

In response to these requirements, DAISIE will deliver a European "one-stop-shop" for information on biological invasions in Europe. It will bring together:

- The European Alien Species Expertise Registry: a directory of researchers and research
- European Alien Species Database: including all known naturalized alien species in Europe
- European Invasive Alien Species Information System: descriptions of all naturalized alien species known to be invasive in Europe
- Species Distribution Maps and Spatial Analysis: Distribution maps of all invasive alien species in Europe known or suspected of having environmental or economic impacts.

DAISIE will be a pivotal instrument in developing a Europe-wide strategy that encompasses both the geographical scale of the problem and unites the study of different taxa in marine, freshwater and terrestrial environments. DAISIE will address the need for a regional network of invasive alien species information.

## Partners

Num.	Partner Legal Name	City	Country
1	NATURAL ENVIRONMENT RESEARCH COUNCIL CENTRE FOR ECOLOGY & HYDROLOGY	Swindon Wiltshire	United Kingdom
2	LNSTITUTE OF BOTANY, ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Pruhonice	Czech Republic
3	LNSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
4	KLAIPEDA UNIVERSITY	Klaipeda	Lithuania
5	MARINE ORGANISM LNVESTIGATIONS	Ballina, Killaloe, Co Clare	Ireland
6	NATIONAL INSTITUTE OF OCEANOGRAPHY, ISRAEL OCEANOGRAPHY & LIMNOLOGICAL RESEARCH	Haifa	Israel
7	LSTITUTO NAZIONALE PER LA FAUNA SELVATICA	Ozzano Dell'emilia	Italy
8	CENTER FOR ECOLOGICAL RESEARCH AND FORESTRY APPLICATIONS	Bellaterra (barcelona)	Spain
9	UNIVERSITY OF BERN	Bern	Switzerland
10	UFZ-UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH	Leipzig	Germany
11	UNIVERZA V LJUBLJANI (UNIVERSITY OF LJUBLJANA)	Ljubljana	Slovenia
12	ZOOLOGICAL LNSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES	Sint Petersburg	Russian Federation
13	SWEDISH ENVIRONMENTAL PROTECTION AGENCY	Stockholm	Sweden

14	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
15	THE HEBREW UNIVERSITY OF JERUSALEM	Jerusalem	Israel
16	CENTER ZA KARTOGRAFIJO FAVNE IN FLORE	Miklavz Na Dravskem Polju	Slovenia
17	UMWELTBUNDESAMT GMBH	Wien	Austria
18	GOLLASCH CONSULTING	Hamburg	Germany



Title:	Expressed Sequence Tags (ESTS) of Toxic Algae		
Area:	3. Biodiversity and ecosystems		
	3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.785.202 €	Project start date:	22/03/2005
EU Contribution:	1.399.999 €	Duration:	36 months
Organisation:	Stiftung Alfred Wegener Institut für Polar- und Meeresforschung	Bremerhaven	Germany

## Abstract

Harmful algal blooms (HABs) are caused by local proliferation of algae, with deleterious consequences, particularly in coastal waters throughout the world. Negative environmental effects include toxicity to human consumers of seafood, marine faunal mortalities or morbidity, habitat damage, disruption of marine food webs and economic losses to fishing, aquaculture, and tourism. In Europe, socio-economic factors and human health risk have led to comprehensive surveillance programmes for harmful microalgae and their toxins. Among harmful microalgae and cyanobacteria in European marine and brackish waters, many produce potent neurotoxins, ichthyotoxins or hepatotoxins. Although structural elucidation of many of these groups of toxins has advanced, much less is known about biosynthetic pathways and gene regulation in toxigenic species.

We propose a limited genomic study of expressed sequence tags (ESTs) for toxigenic representatives of major eukaryotic microalgal groups, including dinoflagellates, raphidophytes, prymnesiophytes and diatoms, and cyanobacteria. Cultures will be grown under various environmental conditions to investigate the effects of external forcing functions on gene expression linked to toxicity and growth. After cloning of cDNA of toxigenic strains pooled from cultures grown under these different conditions into plasmid vectors, about 10,000 clones from each taxon will be randomly sequenced for ESTs.

Our approach is to annotate the ESTs and attempt to identify genes associated with toxin production. DNA microarrays will be developed for screening of toxigenic and non-toxigenic strains. In addition, the sequence data will be analysed to identify other genes that may be involved in cell regulation or growth, cell cycle events, stress response and the induction of sexuality. Cultures will be grown under various environmental conditions to investigate the effects of external forcing functions on gene expression linked to toxicity and growth. Successful completion of this project will yield new information on microalgal and cyanobacterial genomic sequences for a diversity of taxa and will assist in the diagnosis of genes related to toxin biosynthesis and the formation of toxic blooms.

## Partners

Num.	Partner Legal Name	City	Country
1	Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
2	STAZIONE ZOOLOGICA "ANTON DOHRN"	Napoli	Italy
3	ECOLE NORMALE SUPERIEURE	Paris	France
4	THE UNIVERSITY OF BRISTOL	Bristol	United Kingdom
5	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
6	INSTITUTE FOR MOLEKULAR BIOTECHNOLOGY JENA	Jena	Germany





Title:	Harmful Algal Bloom species in Thin Layers		
Area:	3. Biodiversity and ecosystems		
	3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.759.344 €	Project start date:	1/06/2005
EU Contribution:	949.932 €	Duration:	36 months
Organisation:	National University of Ireland, Galway	Galway	Ireland

## Abstract

The project HABIT researches the development and dispersion of HAB populations in sub-surface micro-layers. It focuses on a genus of phytoplankton that has a serious impact on the economic development of the European coastal zone and which frequently occurs in sub-surface, thin micro-layers. The overall objectives of HABIT are to resolve fundamental patterns in the occurrences of Dinophysis and quantify the processes that are important in governing their distribution. To this end, the project HABIT will

- i) investigate the maintenance and persistence of high density thin layers through studying interactions between fine scale physical diffusion and net growth and trophic relationships within them;
- ii) investigate the precise role of small scale structures on the coastal shelf as incubators for accumulations of Dinophysis; and
- iii) utilise physical models to examine the formation and persistence of gyres on the shelf, to predict their transport, and as a consequence HAB events at the coast.

A high-resolution vertical profiler will be utilised in tandem with a moored profiling system currently in use in the US for studying HAB species occurrences. Thin layers of Dinophysis will be identified. Small-scale physical processes (vertical and horizontal diffusion) will be measured, and related to net growth. Results will allow an overview of the balance between dispersion and accumulation in the layers and the time-scale of their persistence. Retention zones and other small-scale structures on the coastal shelf will be investigated as incubators for thin layers of HABs using quality physical models to model and predict the formation, persistence and movement of these structures. In this way, potential incubator sites will be shown to depend on the hydrodynamic regime of the coastal ocean. The origins of HAB events will be identified and essential information given to managers, as the only mitigation action possible for naturally occurring events lies in their prediction.

As part of the EU-US Cooperation Agreement (US-NSF) Johns Hopkins University, Baltimore, is participating in the HABIT project.

## Partners

Num.	Partner Legal Name	City	Country
1	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
2	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLORATION DE LA MER'	Issy-les-moulineaux	France
3	INSTITUTO ESPANOL DE OCEANOGRAFIA	Madrid	Spain
4	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom



Title: Models for Assessing and Forecasting the Impact of Environmental Key Pollutants on Marine and Freshwater Ecosystems and Biodiversity

Area: 3. Biodiversity and ecosystems  
3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems

Instrument: Integrated Project

Project Total Cost: 12.442.324 € Project start date: 1/02/2005

EU Contribution: 8.400.000 € Duration: 60 months

Organisation: UFZ - Umweltforschungszentrum Leipzig - Halle GmbH Leipzig Germany

## Abstract

MODELKEY comprises a multidisciplinary approach aiming at developing interlinked and verified predictive modelling tools as well as state-of-the-art effect-assessment and analytical methods generally applicable to European freshwater and marine ecosystems:

- 1) to assess, forecast, and mitigate the risks of traditional and recently evolving pollutants on fresh water and marine ecosystems and their biodiversity at a river basin and adjacent marine environment scale,
- 2) to provide early warning strategies on the basis of sub-lethal effects *in vitro* and *in vivo*,
- 3) to provide a better understanding of cause-effect-relationships between changes in biodiversity and the ecological status, as addressed by the Water Framework Directive, and the impact of environmental pollution as causative factor,
- 4) to provide methods for state-of-the-art risk assessment and decision support systems for the selection of the most efficient management options to prevent effects on biodiversity and to prioritise contamination sources and contaminated sites,
- 5) to strengthen the scientific knowledge on an European level in the field of impact assessment of environmental pollution on aquatic eco-systems and their biodiversity by extensive training activities and knowledge dissemination to stakeholders and the scientific community.

This goal shall be achieved by combining innovative predictive tools for modelling exposure on a river basin scale including the estuary and the coastal zone, for modelling effects on higher levels of biological organisation with powerful assessment tools for the identification of key modes of action, key toxicants and key parameters determining exposure. The developed tools will be verified in case studies representing European key areas including Mediterranean, Western and Central European river basins. An end-user-directed decision support system will be provided for cost-effective tool selection and appropriate risk and site prioritisation.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
2	UNIVERSITEIT ANTWERPEN	Antwerpen	Belgium
3	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
4	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
5	CONSORZIO VENEZIA RICERCHE	Marghera Venezia	Italy
6	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
7	Centre National de al Recherche Scientifique (CNRS)	Paris	France
8	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
9	UNIVERSITAT DE GIRONA	Girona	Spain
10	UNIVERSITAET BERN	Bern	Switzerland
11	VYZKUMNY USTAV VETERINARNIHO LEKARSTVI - VETERINARY RESEARCH INSTITUTE	Brno	Czech Republic
12	USTAV BIOLOGIE OBRATLOVCU - AKADEMIE VED CESKE REPUBLIKY	Brno	Czech Republic
13	JOENSUUN YLIOPISTO	Joensuu	Finland

14	Arbeitsgemeinschaft für die Reinhaltung der Elbe	Hamburg	Germany
15	RIJKINSTITUUT VOOR KUST EN ZEE	Den Haag	Netherlands
16	NETHERLANDS INSTITUUT VOOR VISSERIJ ONDERZOEK	Ijmuiden	Netherlands
17	SLOVENSKA ZDRAVOTNICKA UNIVERZITA	Bratislava	Slovakia
18	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
19	UNIVERSITAET STUTTGART	Stuttgart	Germany
20	ST PETERSBURG STATE UNIVERSITY	Sint Petersburg	Russian Federation
21	Agencia Catalana de l'Aigua	Barcelona	Spain
22	UNIVERSITAT DE BARCELONA	Barcelona	Spain
23	ECT OEKOTOXIKOLOGIE GMBH	Floersheim	Germany
24	XENOMETRICS BY ENDOTELL GMBH	Allschwill	Switzerland
25	DONABAUM & WOLFRAM OEG	Vienna	Austria
26	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway



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Title:	Reducing the impact of oil spills		
Area:	3. Biodiversity and ecosystems		
	3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
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Instrument:	Specific Support Action		
Project Total Cost:	170.300 €	Project start date:	
EU Contribution:	170.300 €	Duration:	18 months
Organisation:	Nordeconsult Lda.	Albufeira	Portugal

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## Abstract

The problem with oil spill and the effects on the marine ecosystems is a universal problem and environmental damages usually will spread too many countries. Furthermore, large oil spill incidents could happen anywhere in Europe. The problem is certainly a problem at a European level. Unfortunately, oiled wildlife responses in the past have not always led to high rehabilitation successes. Scientific facts and figures concerning oil spills and their effects on wildlife are available, but quite scattered. Normally, scientific monitoring and evaluation of rehabilitation activities, techniques and approaches are not systematically carried out. The research is fragmented at European level and there is a need to create a critical mass of resources RIOS focus on minimising the negative impacts of oil spills on the wildlife and clearly addresses the objectives of the work programme and of specific support actions. The main objective of this specific support action (RIOS) is to develop an action plan for future research in the area of rehabilitation of oiled animals and to stimulate the contacts and future co-operation between scientists/researchers, marine wildlife rehabilitators, zoological professionals, veterinarians, biologists, NGOs, the oil industry and governmental organisations. They all have in common that they are involved or having an interest in spills where birds and mammals become oiled.

The work is divided into clearly defined work packages, which are:

WP 1 Identification of state-of-the-art and research priorities by expert group

WP 2 Compilation of a report (background document)

WP 3 Planning of a 2-day workshop in Algarve, Portugal

WP 4 2-day Workshop in Algarve, Portugal

WP 5 Dissemination activities

WP 6 Consortium Management Activities

The duration of the RIOS specific support action is 18 months and the consortium consists of three partners, which are Nordeconsult (Portugal), Zoomarine (Portugal) and Sea Alarm Foundation (Belgium).

## Partners

Num.	Partner Legal Name	City	Country
1	Nordeconsult Lda.	Albufeira	Portugal
2	Mundo Aquatico SA - Parques Oceanograficos de Entretenimento Educativo	Albufeira	Portugal
3	Sea Alarm Foundation	Leusden	Netherlands



Title:	Life history transformations among HAB species, and the environmental and physiological factors that regulate them		
Area:	3. Biodiversity and ecosystems 3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.006.215 €	Project start date:	24/03/2005
EU Contribution:	1.499.994 €	Duration:	36 months
Organisation:	Consejo Superior de Investigaciones Cientificas	Madrid	Spain

## Abstract

SEED aims to understand how and to what extent anthropogenic forces influence the non-vegetative stages of the life cycles of harmful algal species thereby contributing to the increase in harmful algal blooms in European marine, brackish and fresh waters. The overall objectives are to improve and extend our understanding of the transition between the different life history stages to identify the environmental and physiological factors that regulate those transitions, and hence the relative importance of anthropogenic vs. natural causes, and to integrate the recent, acquired knowledge in the development of a new simulation model or refining existing ones.

This will allow improved prediction, mitigation and management strategies. The approach of SEED is comparative, from species to ecosystem level. It is imperative to recognize common patterns of responses among species to facilitate the development of conceptual and numerical models of HAB dynamics. SEED will focus on an array of target HAB species, ranging from marine through brackish to fresh water organisms, and covering a broad range of phylogenetic types. SEED research is multifaceted, as the problems in life history transitions are complex and processes occur over a wide range of scales. SEED will combine field studies and laboratory experiments. Field work is centered on areas where ongoing monitoring programs and much baseline information about distribution of species and physical-chemical data already exists. The innovation is to implement the most appropriate research strategies to be applied to the non-vegetative phases which determine the success of HABs and their expansion due to anthropogenic forcing.

Moreover, a mitigation strategy, analogous to sterile insect releases that are an effective element of agricultural pest control on land, will be investigated for the dormancy stages of HABs.

As part of the EU-US Cooperation Agreement the Coastal Ocean Institute of Woods Hole Oceanographic Institution is actively participating in the SEED project and acts as coordinator of the project.

## Partners

Num.	Partner Legal Name	City	Country
1	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
2	INSTITUTO ESPAÑOL DE OCEANOGRAFIA	Madrid	Spain
3	STAZIONE ZOOLOGICA ANTON DOHRN	Napoli	Italy
4	Consiglio Nazionale delle Ricerche	Roma	Italy
5	UNIVERSITA DEGLI STUDI DI URBINO "CARLO BO"	Urbino	Italy
6	UNIVERSITY OF WESTMINSTER	London	United Kingdom
7	LUNDS UNIVERSITET	Lund	Sweden
8	HELSINGIN YLIOPISTO	Helsinki	Finland
9	TARTU ÜLIKOOL	Tartu	Estonia
10	NATIONAL UNIVERSITY OF IRELAND GALWAY	Galway	Ireland
11	FINNISH INSTITUTE OF MARINE RESEARCH - MERENTUTKIMUSLAITOS	Helsinki	Finland
12	UNIVERSITA DEGLI STUDI DI SASSARI	Sassari	Italy



Title:	Soil sustainability in Europe as deduced from investigation of the Critical Zone		
Area:	3. Biodiversity and ecosystems 3.4. Risk assessment, management, conservation and rehabilitation options in relation to terrestrial and marine ecosystems		
Instrument:	Specific Support Action		
Project Total Cost:	830.600 €	Project start date:	
EU Contribution:	707.400 €	Duration:	24 months
Organisation:	The University of Bristol	Bristol	United Kingdom

## Abstract

We propose to organise a series of workshops that will coordinate a fragmented European community that undertakes soil research so that we can fully understand what policy needs to be developed for the sustainability of European soils. Our results will directly feed into a FP7 application on the soil life cycle. Our vision is to develop integrated and quantitative models that describe the linkages between key processes at the scale of the soil profile, and are supported with fundamental understanding of biological, chemical and physical mechanisms. We have the potential to move from ecosystem-specific, empirical approaches to predictive capabilities that are established more firmly from first principles and that can be transferred across a wide range of temporal and spatial scales. This is brought about by the innovative incorporation of extant knowledge with exciting new tools such as cosmogenic isotope profiling, advanced spectroscopy, tomographic imaging, reporter genes, micro-electrodes and other sensors to collect field data at high spatial resolution and environmental informatics. Powerful new computational methods such as parallel load balancing of numerical codes can now incorporate fully coupled descriptions of solute transport and detailed reaction mechanisms while accounting for spatial variability in soil properties. These modelling approaches provide a platform to develop a detailed description of how such processes interact with soil biology and other factors. A key requirement for this development is international collaboration to develop critical data sets. This includes comprehensive field studies at highly instrumented sites using agreed state-of-the-art methodologies applied to the full depth of soil profiles. We aim to set up soil observatories to understand the life cycle of soils to underpin soil protection initiatives in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	The University of Bristol	Bristol	United Kingdom
2	Technical University of Crete	Chania	Greece
3	University of Sheffield	Sheffield	United Kingdom
4	Institut de Physique du Globe de Paris	Paris	France
5	Czech Geological Survey	Prague 1	Czech Republic
6	Netherlands Organisation for Applied Scientific Research	Delft	Netherlands
7	Nikola Poushkarov Institute of Soil Science	Sofia	Bulgaria
8	Universitaet fuer Bodenkultur, Wien	Vienna	Austria
9	University of Oslo, Department of Geosciences	Oslo	Norway
10	The Pennsylvania State University	University Park, Pa	United States



## **4. Mechanisms of desertification and natural disasters**

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### **4.1. Mechanisms of desertification**

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Title:	Remote Sensing and Geo information processing in the assessment and monitoring of land degradation and desertification in support of the UNCCD. State of the art and operational perspectives		
Area:	4. Mechanisms of desertification and natural disasters 4.1. Mechanisms of desertification		

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Instrument:	Specific Support Action	Project start date:	1/08/2004
Project Total Cost:	150.000 €	Duration:	24 months
EU Contribution:	150.000 €	Organisation:	Universität Trier
Organisation:	Universität Trier		Trier Germany

## Abstract

In the past years, the persisting threat of desertification and degradation of natural resources has resulted in a large number of initiatives and research efforts on a global scale, including the United Nations Convention to Combat Desertification. Despite significant progress, knowledge still remains fragmented in many fields, especially with respect to the definition of related indicators or early warning systems. The specific support activity "Remote Sensing and Geoinformation processing in the assessment and monitoring of land degradation and desertification in support of the UNCCD. State of the art and operational perspectives", intends to serve as a platform to bring together leading scientists working in the fields of remote sensing and geoinformatics with a focus on desertification and land degradation with potential users. A dedicated conference striving for attention on a world wide level will be the core around which various other activities are assembled. Commissioned studies in specific target fields will provide an overview on the state of the art, being complemented through methodological and application studies. Besides taking care of a sound scientific management and logistic organisation of the conference, major efforts will be dedicated towards the international visibility of the event and its results by providing for a high-level dissemination following different pathways {abstract book/CDROM, special issues of scientific journals, printed conference proceedings). A web site will provide further dissemination of the project as well as dynamic elements. Following principles set forth by the Commission under the ENRICH initiative and the quest to strengthen the European Research Area, the project will address renowned scientific experts, and support the participation of experts and stakeholders from third world and developing countries, which are often among the regions most affected from desertification and land degradation.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAT TRIER	Trier	Germany





Title: Desertification Mitigation and Remediation of Land  
- a global approach for local solutions -

Area: 4. Mechanisms of desertification and natural disasters  
4.1. Mechanisms of desertification

Instrument:	Integrated Project		
Project Total Cost:	9.035.160 €	Project start date:	1/02/2007
EU Contribution:	6.912.000 €	Duration:	60 months
Organisation:	Alterra B.V.	Wageningen	Netherlands

## Abstract

Fragile arid and semi-arid ecosystems are in urgent need of integrated conservation approaches that can contribute significantly to prevent and reduce the widespread on-going land degradation and desertification processes, such as erosion, flooding, overgrazing, drought, and salinization. The DESIRE project will establish promising alternative land use and management conservation strategies based on a close participation of scientists with stakeholder groups in the degradation and desertification hotspots around the world. This integrative participatory approach ensures both the acceptability and feasibility of conservation techniques, and a sound scientific basis for the effectiveness at various scales. DESIRE employs a bottom up approach such as is favoured by the UNCCD:

- i) degradation and desertification hotspots and stakeholder groups will be identified in all countries surrounding the Mediterranean, and in 6 external nations facing similar environmental problems,
- ii) desertification indicator sets will be defined in a participatory approach and a harmonized information system will be constructed to organize socio-economic and geoinformation data and tools for active dissemination;
- iii) new and existing conservation strategies will be defined with the stakeholder communities;
- iv) these strategies will be implemented in the field, and monitored and modeled to quantify their effectiveness at various scales;
- v) the results will be extrapolated using both the indicator sets, geoinformation data, and integrated modeling systems combining socio-economic and environmental aspects;
- vi) finally the results will be translated to a series of practical guidelines for good agricultural practices and environmental management, which will be disseminated to practitioners, agricultural extensionists, governmental authorities, policy makers, NGOs, land users, land owners, and local communities.

## Partners

Num.	Partner Legal Name	City	Country
1	Alterra b.v.	Wageningen	Netherlands
2	KATHOLIEK UNIVERSITEIT LEUVEN	Leuven	Belgium
3	UNIVERSITY OF LEEDS	Leeds	United Kingdom
4	UNIVERSITY OF WALES SWANSEA	Swansea	United Kingdom
5	UNIVERSITAET BERN	Bern	Switzerland
6	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
7	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
8	Consiglio Nazionale delle Ricerche	Roma	Italy
9	Agricultural University of Athens	Athens	Greece
10	ESKISEHIR OSMANGAZI UNIVERSITY	Eskisehir	Turkey
11	UNIVERSITE MOHAMMED V	Rabat	Morocco
12	INSTITUT DES REGIONS ARIDES	Medenine	Tunisia
13	INSTITUTE OF SOIL AND WATER CONSERVATION, CHINESE ACADEMY OF SCIENCES AND MINISTRY OF WATER RESOURCES	Yangling Shaanxi	China (People's Republic of)
14	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
15	DEMOCRITUS UNIVERSITY OF THRACE - RESEARCH COMMITTEE	Xanthi	Greece
16	STICHTING BOTH ENDS	Amsterdam	Netherlands

17	STICHTING INTERNATIONAL SOIL REFERENCE AND INFORMATION CENTRE	Wageningen	Netherlands
18	ESCOLA SUPERIOR AGRARIA DE COIMBRA	Coimbra	Portugal
19	CENTRE D'ACTIONS ET DE REALISATIONS INTERNATIONALES - CARI	Viols-le-fort	France
20	UNIVERSITY OF BOTSWANA	Gaborone	Botswana
21	STICHTING INTERNATIONAL INSTITUTE FOR GEO-INFORMATION SCIENCE AND EARTH OBSERVATION	Enschede	Netherlands
22	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
23	CORNELL UNIVERSITY	Ithaca	United States
24	DEAKIN UNIVERSITY	Geelong	Australia
25	OSSERVATORIO MEDITERRANEO PER LO STUDIO DELLE SOLUZIONI DEI PROBLEMI ECONOMICI DELLA AREE A RISCHIO DESERTIFICAZIONE	Potenza	Italy
26	MOSCOW STATE UNIVERSITY OF ENVIRONMENTAL ENGINEERING	Moscow	Russian Federation
27	INSTITUTO DE INVESTIGACIONES AGROPECUARIAS	Santiago	Chile
28	INSTITUTO NACIONAL DE INVESTIGACAO E DESENVOLVIMENTO AGRARIO	Praia	Cape Verde



Title: A Surveillance System for Assessing and Monitoring of Desertification

Area: 4. Mechanisms of desertification and natural disasters  
4.1. Mechanisms of desertification

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Instrument:	Integrated Project	Project start date:	11/03/2005
Project Total Cost:	10.295.622 €	Duration:	60 months
EU Contribution:	7.799.791 €	Organisation:	Madrid Spain
Organisation:	Consejo Superior de Investigaciones Cientificas		

## Abstract

In spite of the relevance of diagnosis to help the success of desertification treatment, there is a lack of standardized procedures to perform it at operational scales. This project offers a contribution to fill this gap by complementing assessment of desertification status with early warning of risks and vulnerability evaluation of the involved land use systems. To this purpose the interactive effects of climatic and human drivers of desertification will be taken into account in a dynamic way. The project goal is to deliver a compact set of integrated procedures, with application and tutorial examples at the EU and national scales. The performance of DeSurvey in other areas outside Europe will be further tested against other expertise and available procedures in Maghrebian and Sahelian countries as well as in central Chile and NW China. Fulfilling this objective requires the integration of a hard core of basic and application-oriented research, with the development of user-support technologies, capacity building, and a wide range of interfacing with other EU and international programmes, affected users and stakeholders, as well as data and technology providers including SMEs. A consortium of 39 Organizations with a wide range of skills, from 10 Member States and 6 Third Country States, builds the Project partnership.

## Partners

Num.	Partner Legal Name	City	Country
1	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
2	UNIVERSITAT TRIER	Trier	Germany
3	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
4	RESEARCH INSTITUUT VOOR KENNISSYSTEMEN	Maastricht	Netherlands
5	UNIVERSITY OF LEEDS	Leeds	United Kingdom
6	Cranfield University	Cranfield - Bedfordshire	United Kingdom
7	LUNDS UNIVERSITET	Lund	Sweden
8	MEDIAS-FRANCE	Toulouse	France
9	CENTRE INTERNATIONAL DE HAUTES ETUDES AGRONOMIQUES MEDITERRANEENNES	Zaragoza	Spain
10	UNIVERSIDADE DE EVORA	Evora	Portugal
11	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
12	ISTITUTO NAZIONALE DI ECONOMIA AGRARIA	Roma	Italy
13	UNIVERSIDAD CASTILLA-LA MANCHA	Ciudad Real	Spain
14	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
15	KING'S COLLEGE LONDON	London	United Kingdom
16	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
17	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
18	HUMBOLDT-UNIVERSITAT ZU BERLIN	Berlin	Germany
19	EUROPEAN COMMISSION, DIRECTORATE GENERAL JOINT RESEARCH CENTRE, INSTITUTE FOR ENVIRONMENT AND SUSTAINABILITY	Brussels	Italy
20	FREE UNIVERSITY OF BERLIN	Berlin	Germany
21	UNIVERSITAT DE VALENCIA (ESTUDI GENERAL)	Valencia	Spain

22	Agricultural University of Athens	Athens	Greece
23	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
25	UNIVERSIDAD CARLOS III DE MADRID	Getafe	Spain
26	CHINESE ACADEMY OF SCIENCES	Aichtal	China (People's Republic of)
27	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Athens	Greece
28	ENTE NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE'	Roma	Italy
29	Deutsches Zentrum für Luft- und Raumfahrt e.V.	Bonn	Germany
30	CENTRO INTERDIP.DI ATENEO NUCLEO RICERCA DESERTIFICAZIONE, C/O DIP. SC. ZOOTECHNICHE, UNIV. SASSARI	Sassari	Italy
31	UNIVERSIDADE NOVA DE LISBOA-FACULDADE DE CIENCIAS SOCIAIS E HUMANAS DEPARTAMENTO DE GEOGRAFIA E PLANEAMENTO REGIONAL	Lisboa	Portugal
32	GEOFORSCHUNGSZENTRUM (GFZ) POTSDAM	Potsdam	Germany
33	UNIVERSIDAD DE ALMERIA	Almeria	Spain
34	UNIVERSIDAD DE CHILE	Santiago	Chile
35	DIVISION DE RECHERCHE ET D'EXPERIMENTATIONS FORESTIERES'	Rabat-agdal	Morocco
36	INSTITUT DES REGIONS ARIDES	Medenine	Tunisia
37	CENTRE DE RECHERCHE SCIENTIFIQUE ET TECHNIQUE SUR LES REGIONS ARIDES	Biskra	Algeria
38	NOVELTIS	Ramonville Saint Agne	France
39	GEOAPIKONISIS LTD	Athens	Greece
40	Centre de Suivi Ecologique	Dakar	Senegal



Title: Indicators and thresholds for desertification, soil quality, and remediation

Area: 4. Mechanisms of desertification and natural disasters  
4.1. Mechanisms of desertification

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.396.136 €	Project start date:	1/01/2004
EU Contribution:	1.399.955 €	Duration:	36 months
Organisation:	GSF- Forschungszentrum für Umwelt and Gesundheit GmbH	München Neuherberg	Germany

## Abstract

Land degradation (including desertification) is a paramount international problem, and indicators have been developed to follow it. Many are based on (1) plant communities, or (2) soil loss, or (3) salinity. They tend to monitor the status quo over large time periods and are more suitable for crisis assessment than for risk prevention. They are also poorly suited for the sensitive monitoring of the success of remediation efforts. Last year the UN Convention to Combat Desertification (UNCCD) and other organisations have emphasised the continuing need for indicators. The mechanisms of land degradation are well known and have been the object of many EU studies. The prime goal of INDEX is to apply this knowledge to develop modern, rapid, sensitive, universal, multivariate indicators with which the dynamic state of land degradation as well as its remediation can be assessed. They will be based on:

- (1) microbiology including molecular biology and genetic diversity,
- (2) characteristics of the dynamic humus pool and humo-enzymes, and
- (3) soil physics including rheology. These indicators of desertification mechanisms will be developed on fields in various stages of degradation and remediation and verified on a pan European basis on sites selected with stakeholders.

Results will be extrapolated to thresholds to indicate when remediation is economically unfeasible. INDEX is innovative, since it

- (1) is based on mechanisms,
- (2) is holistic, and
- (3) introduces novel parameters.

In view of Global Change such indicators are especially needed. Changes will often be slow and subtle. An early warning system is needed to indicate the need for countermeasures, while they are still economical. INDEX will rely on previously supported Commission projects and will disseminate its results to subsequent projects. It will attempt to utilise small and medium enterprises (SMEs) as links to non-scientific institutions. The whole will be imbedded within the UNCCD and disseminated to stakeholders.

## Partners

Num.	Partner Legal Name	City	Country
1	GSF- FORSCHUNGSZENTRUM FUER UMWELT UND GESUNDHEIT GMBH	Muenchen Neuherberg	Germany
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	WPA BERATENDE INGENIEURE GMBH	Wien	Austria
4	SZENT ISTVAN UNIVERSITY	Godollo	Hungary
5	THE UNIVERSITY OF WARWICK	Coventry	United Kingdom
6	Consiglio Nazionale delle Ricerche	Roma	Italy
7	UNIVERSITY OF SZEGED	Szeged	Hungary



Title: Land care in desertification affected areas: from science towards application

Area: 4. Mechanisms of desertification and natural disasters  
4.1. Mechanisms of desertification

Instrument:	Specific Support Action		
Project Total Cost:	350.000 €	Project start date:	1/04/2006
EU Contribution:	350.000 €	Duration:	24 months
Organisation:	Faculdade de Ciencias Sociais e Humanas-Universidade Nova de Lisboa	Lisboa	Portugal

## Abstract

During recent decades great progress has been made by the scientific community in understanding the nature and complex causes of land degradation and desertification in Europe. Despite efforts (particularly in FP5) to assemble and present the results for practical application, there is still a wealth of research results that have not been fully exploited nor made accessible to those who can benefit from them.

The objectives of LUCINDA are to:

- 1) provide a concise and comprehensive information pack containing guidelines for sustainable land management in desertification-affected areas derived from the scientific results of past and on-going EU research projects;
- 2) make this information available to regional and local authorities who, through national participation in the UNCCD, have a specific mandate to combat desertification. In the information pack 20 key issues will be addressed including: desertification processes and characteristics of affected Mediterranean landscapes; indicators, monitoring, public awareness, NAPs and effects of policies.

For each issue there will be a booklet describing current scientific knowledge and guidelines for its application; a summary leaflet for use by less specialised readers; and a PowerPoint presentation. All the products, plus photos and film clips of affected areas will be made available on a website and on DVD. To write the scientific contents, 22 expert authors will draw on the results of some 28 past and on-going research projects. A communication specialist will design the layout and appearance of the pack and web site. The information pack will be disseminated both within and outside Europe through the UNCCD, National Focal Points and existing established and extensive networks of stakeholders. The complete pack will be available in five languages: Portuguese, Spanish, Italian, Greek and English.

## Partners

Num.	Partner Legal Name	City	Country
1	FACULDADE DE CIENCIAS SOCIAIS E HUMANAS-UNIVERSIDADE NOVA DE LISBOA	Lisboa	Portugal
2	STICHTING VOOR DUURZAME ONTWIKKELING	Wageningen	Netherlands
3	Agricultural University of Athens	Athens	Greece
4	UNIVERSITA DEGLI STUDI DELLA BASILICATA	Potenza	Italy
5	FUNDACION CENTRO DE ESTUDIOS AMBIENTALES DEL MEDITERRANEO	Paterna, Valencia	Spain
6	COFAC - COOPERATIVA DE FORMACAO E ANIMACAO CULTURAL C.R.L.	Lisboa	Portugal



Title: Conditions for Restoration and Mitigation of Desertified Areas Using Vegetation

Area: 4. Mechanisms of desertification and natural disasters  
4.1. Mechanisms of desertification

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.248.875 €	Project start date:	1/02/2004
EU Contribution:	950.000 €	Duration:	39 months
Organisation:	University of Portsmouth Higher Education Corporation	Portsmouth	United Kingdom

## Abstract

The focus of RECONDES is to address the mitigation of desertification processes by the means of innovative techniques using vegetation in specific landscape configurations prone to severe degradation processes. Its major objective is to produce practical guidelines on the conditions for use of vegetation in areas vulnerable to desertification, taking into account spatial variability in geomorphological and human-driven processes related to degradation and desertification. RECONDES will combine the understanding of the mechanisms of land degradation and of the critical soil conditions necessary for maintaining and restoring soil and land quality and ecosystem health to identify how and where vegetation could be used to mitigate desertification. It will identify the conditions or thresholds which have to be attained or retained for vegetation growth and survival and examine where those conditions are found. It will match those conditions against the processes of degradation to identify where treatments or restoration will be most effective. It will identify innovative measures which might be taken to create or maintain conditions. Crucially, it will examine linkages within the landscape at different scales to determine the key points for intervention. The effects of vegetation treatments will be modelled and optimal strategies produced at scales from plot to catchment. The practical guidelines produced will be disseminated to end users. RECONDES is being applied in relation to the marginal lands of the north Mediterranean, the areas of southern Europe which are vulnerable to or have suffered desertification. The research is divided into six major work packages based on a hierarchy of land /use units found in these areas: Reforested land, Rainfed cropland, Semi-natural and abandoned land, Hillslopes, River valleys, Catchments.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF PORTSMOUTH HIGHER EDUCATION CORPORATION	Portsmouth	United Kingdom
2	Universite Catholique de Louvain		Belgium
3	Consiglio Nazionale delle Ricerche	Roma	Italy
4	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
5	UNIVERSITEIT VAN AMSTERDAM	Amsterdam	Netherlands
6	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium



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## 4. Mechanisms of desertification and natural disasters

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### 4.2. Natural Disasters

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Title:	Earthquakes, tsunamis and landslides in the Corinth rift, Greece A multidisciplinary approach for measuring, modelling, and predicting their triggering mode and their effects.		
Area:	4. Mechanisms of desertification and natural disasters 4.2. Natural Disasters		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.011.390 €	Project start date:	1/12/2004
EU Contribution:	1.499.990 €	Duration:	30 months
Organisation:	Institut de Physique du Globe de Paris	Paris	France

## Abstract

The project will contribute to better measure, model, and predict the processes leading to earthquakes, andslides, submarine slides, and tsunamis, and their effect in terms of hazard. The target area is the rift of Corinth, well known for its exceptional activity with respect to these hazards. This work will focus on the western end of the rift, close to the cities of Patras and Aigion, where the risk is highest. We will study the short term seismic hazard with methods involving seismology, geodesy, geophysics, and geochemistry. In addition to strong motion analysis and prediction, transient processes (seismic swarms, "silent" earthquakes, fluid transients) will be studied, for a better modelling fault mechanics and earthquake preparation processes. In addition to the existing monitoring arrays and data base, specific new instrumentation will be built. Near-real time alarms systems for significant earthquakes will be developed and tested. For the long term seismic hazard, the seismic potential of active faults will be assessed on land and offshore. For submarine slope failures, places of past and future potential slumps will be mapped, and complemented by marine sediment coring and dating on selected places. Scenarios of slope failure and of coseismic displacement of the sea floor will be the inputs for tsunami modelling. The latter will be implemented using the existing high resolution bathymetry for modelling of the wave run up. Early warning alarms will be developed and tested. For landslides, the main objective is to monitor and model the perturbation of the sliding of a well documented active landslide, in response to ground shaking from local earthquakes. Continuous GPS, seismic and tilt monitoring, and repeated advanced geodesy, will quantify sliding rates and constrain first order models. The feasibility of alarm systems will be studied.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT DE PHYSIQUE DU GLOBE DE PARIS	Paris	France
2	Ecole Normale Supérieure		France
3	Centre National de al Recherche ScientifiquE / DELEGATION COTE D'AZUR	Paris	France
4	INSTITUT FRANCAIS DU PETROLE	Rueil Malmaison	France
5	Institut de Radioprotection et de Surete Nucleaire		France
6	Universite Pierre et Marie Curie - Paris VI		France
7	UNIVERSITY OF PATRAS	Patras	Greece
8	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
9	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
10	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
11	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
12	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
13	Alma Mater Studiorum-Universita degli Studi di Bologna		Italy
14	WORLD AGENCY OF PLANETARY MONITORING AND EARTHQUAKE RISK REDUCTION	Geneve	Switzerland
15	National University of Ireland - Dublin		Ireland
16	Univerzita Karlova v Praze		Czech Republic
17	NEURON SA	Halandri, Athens	Greece
18	Universite Blaise Pascal Clermont Ferrand II		France



Title: Applied multi Risk Mapping of Natural Hazards for Impact Assessment

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.486.137 €	Project start date:	1/10/2004
EU Contribution:	1.000.000 €	Duration:	30 months
Organisation:	T6 Societa Cooperativa	Athens	Italy

## Abstract

Natural disasters are typical examples of people living in conflict with the environment. Vulnerability of populated areas to natural disaster is partly a consequence of spatial planning policies that failed to take account of hazards and risks in land use zoning/development decisions. Thus it is important to combine knowledge, technology and actors in the field of risk assessment and land use zoning to achieve effective natural disaster prevention and mitigation.

The overall aim of ARMONIA is to provide the EU with a set of harmonised methodologies for producing integrated riskmaps to achieve effective spatial planning procedures in areas prone to natural disasters in Europe.

Objectives to be achieved by ARMONIA are:

- integration/optimisation of methodologies for hazard/risk assessment for different types of potentially disastrous events;
- harmonisation of different risk mapping processes for standardizing data collection/analysis, monitoring, outputs and terminology for end users (multi-hazard risk assessment);
- design of and proposal for a harmonised decision-making tool structure for applying hazard and risk mitigation in spatial planning and of a guideline on natural hazard mitigation in the context of the EU Environmental Assessment Directive (2001/42/EC).

ARMONIA seeks to achieve outcomes that can mitigate the adverse effects of natural phenomena through joint effort of the scientific community, technology experts and users. The target is not only a scientific output, but a measurable impact on policies/practices for disaster mitigation initiated within the period of the project.

ARMONIA fits with Europe's goals regarding sustainable development in supporting environmental and security policies by facilitating and fostering the timely provision of quality data, information and knowledge, developing tools and improving management practices.

## Partners

Num.	Partner Legal Name	City	Country
1	T6 SOCIETA COOPERATIVA	Athens	Italy
2	STAFFORDSHIRE UNIVERSITY	Stafford	United Kingdom
3	GEOLOGICAL SURVEY OF CANADA, NATURAL RESOURCES CANADA	Ottawa, Ontario	Canada
4	Ceske Centrum Pro Vedu a Spolecnost		Czech Republic
5	Universita degli studi di Napoli Federico II		Italy
6	GEOLOGIAN TUTKIMUSKESKUS	Espoo	Finland
7	HR WALLINGFORD LTD	Wallingford	United Kingdom
8	Universitat Dortmund		Germany
9	European Commission - DG Joint Research Centre		Belgium
10	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
11	POLITECNICO DI MILANO	Milano	Italy
12	Algosystems SA		Greece
13	LANCASTER UNIVERSITY	Lancaster	United Kingdom



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Title: Supporting publications on Natural Hazards Research  
Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument: Specific Support Action  
Project Total Cost: 321.600 € Project start date: 1/07/2005  
EU Contribution: 300.000 € Duration: 24 months  
Organisation: Algosystems S.A. Kalithea, Athens Greece

## Abstract

The proposed project aims basically to provide a set of publications that will be created within the scope of the Eu-Medin initiative and will be used by the stakeholders of research in the field of Natural Hazards.

The above mentioned publications include:

- a. A book on the state of the art in the various natural hazards from the research point of view. A wide board of Editors and external experts will collaborate for the preparation of this publication
- b. English glossaries of terms commonly used to describe concepts and senses used in references of various types of Natural Hazards (Forest fire, Earthquakes, Landslides, Floods, Desertification, Volcanic risk etc) and
- c. A publication including a collection of information regarding the initiatives, services and policies of the EC and International organizations to support R&D activity in the field of Natural disasters.

Furthermore the envisaged project aims to update the EU-Medin database of metadata, concerning projects results and to ensure the maintenance of the EU-Medin web portal to serve as a web platform of a virtual organization for supporting the dissemination of R&D results regarding natural disasters and for facilitating the interaction and synergy between research groups and scientists in Europe and worldwide.

## Partners

Num.	Partner Legal Name	City	Country
1	Algosystems SA	Kalithea, Athens	Greece



Title:	An innovative approach of Integrated Wildland Fire Management regulating the wildfire problem by the wise use of fire: solving the FIRE PARADOX		
Area:	4. Mechanisms of desertification and natural disasters 4.2. Natural Disasters		

Instrument:	Integrated Project		
Project Total Cost:	14.802.530 €	Project start date:	1/03/2006
EU Contribution:	11.999.860 €	Duration:	48 months
Organisation:	Instituto Superior de Agronomia	Lisboa	Portugal

## Abstract

Wildfires are a major problem for many European societies threatening human lives and property with disastrous impacts particularly at the wildland-urban interface. On the other hand humans always used fire as a tool to regulate nature and traditional use of fire is known in many regions of Europe. The understanding of this paradox, is thus essential for finding solutions for integrated wildland fire management. This concept requires considering the various aspects of fire, from its use as a planned management practice (prescribed fire) to the initiation and propagation of unplanned fires (wildfires) and to the use of fire in fighting wildfires (suppression fire). Prescribed or suppression fires will therefore set the limits for wildfires by controlling their spatial extent, intensity and impacts.

This is the main approach adopted aiming at the creation of the scientific and technological bases for new practices and policies under integrated wildland fire management and in the development of strategies for its implementation in Europe. Three major domains of related activities were considered: research, development and dissemination. In research, the project will focus on understanding the mechanisms and modelling the processes associated with fire, from physics to biology and social sciences. Experimental and sampling methods will be used. The scientific and technical knowledge gathered will allow the development of a technological platform that will integrate the fire model, the temporal and spatial variability of fuels and weather, and the potential ecological and social-economical impacts. Documentation and demonstration platforms will also be extensively used for dissemination, focusing in the development of strategies for public awareness, academic and professional training using new communication technologies and networks, and for the implementation of new practices, policies and regulations under the concept of integrated wildland fire management.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
2	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
3	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
4	MEDITERRANEAN AGRONOMIC INSTITUTE OF CHANIA	Chania - Crete	Greece
5	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
6	UNIVERSIDAD CARLOS III DE MADRID.	Getafe	Spain
7	INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA	Madrid	Spain
8	GENERALITAT DE CATALUNYA, DEPARTAMENT D'INTERIOR	Bacelona	Spain
9	UNIVERSIDAD COMPLUTENSE DE MADRID.	Madrid	Spain
10	XUNTA DE GALICIA - CONSELLERIA DE MEDIO AMBIENTE E DESENVOLVEMENT SOSTIBLE	Santiago De Compostela	Spain
11	UNIVERSIDAD DE LLEIDA	Lleida	Spain
12	CENTRE TECNOLOGIC FORESTAL DE CATALUNYA	Solsona	Spain
13	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
14	UNIVERSITE DE LA MEDITERRANEE D'AIX-MARSEILLE II	Marseille	France
15	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
16	ESPACES FORESTIERS MEDITERRANEENS	Salernes	France
17	Agence MTD SARL	Aix En Provence	France

18	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
19	UNIVERSIDADE DE TRAS-OS-MONTES E ALTO DOURO.	Vila Real	Portugal
20	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II.	Napoli	Italy
21	REGIONE AUTONOMA DELLA SARDEGNA	Cagliari	Italy
22	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
23	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
24	GOZDARSKI INSTITUT SLOVENIJE	Ljubljana	Slovenia
25	INSTYTUT BADAWCZY LESNICTWA	Warszawa 22	Poland
26	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom
27	VALTION TEKNILLINEN TUTKIMUSKESKUS (VTT)	Espoo	Finland
28	INSTITUT NATIONAL DE RECHERCHES EN GENIE RURAL, EAUX ET FORETS	Ariana	Tunisia
29	ECOLE NATIONALE FORESTIERE D'INGENIEURS	Salé	Morocco
30	OMIKRON - ENVIRONMENTAL ENGINNERING AND TECNICAL WORKS DESIGN, STUDY, MANAGEMENT - LTD.	Thessaloniki	Greece
31	UNIVERSITAET ZUERICH	Zurich	Switzerland



Title: An Innovative Approach of Integrated Wildland Fire Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox Extension

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument:	Integrated Project	Project start date:	
Project Total Cost:	1.116.090 €	Duration:	36 months
EU Contribution:	640.000 €	Lisboa	Portugal
Organisation:	Instituto Superior de Agronomia - Centro de Ecologia, Aplicada Prof. Baeta Neves		

## Abstract

The present proposal aims at extending the objectives of the ongoing project FIRE PARADOX to two countries of the Southern Hemisphere (Argentina and South Africa). Three new participants are part of the present proposal including two research & development institutions from Argentina (Centro de Investigación y Extensión Forestal Andino Patagónico-CIEFAP and the Instituto Nacional de Tecnología Agropecuária-INTA) and one consulting company for forest and fire-related issues from South Africa (Silva Forest Services). The coordination is shared between the present FIRE PARADOX coordinator (ISA-CEABN) and CIEFAP. The two major features of this extension are the possibility of using the knowledge and expertise of these countries in aspects which are already approached in the ongoing project and the possibility of adding a new research topic which is not present in FIRE PARADOX (the relationships between fire and grazing). The overall extension includes therefore 24 workpackages, from which 23 are modified workpackages of the ongoing project, adapted to the skills and conditions offered by the new participants. The remaining workpackage is the new research topic previously referred. In terms of activity domains, the overall 24 workpackages are distributed as: 17 RTD Innovation activities, 2 Demonstration activities, 4 Training activities and 1 Consortium management activity. From the original FIRE PARADOX set of 13 modules, only modules 6 (Technological development) and 12 (Decision support rules) are not represented in the present extension of FIRE PARADOX. Particular emphasis is given to Module 3. Biological mechanisms and Module 4. Academic and professional training, making use of the skill and expertise of the new partners.

## Partners

Num.	Partner Legal Name	City	Country
1	Instituto Superior de Agronomia - Centro de Ecologia, Aplicada Prof. Baeta Neves	Lisbon	Portugal
2	Centro de Investigación y Extensión Forestal Andino Patagónico	Esquel	Argentina
3	Instituto Nacional de Tecnología Agropecuaria	Buenos Aires	Argentina
4	Silva Forest Services	Sedgefield	South Africa



Title: Integrated Flood Risk Analysis and Management  
Methodologies

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Integrated Project		
Project Total Cost:	13.990.627 €	Project start date:	1/03/2004
EU Contribution:	9.680.000 €	Duration:	60 months
Organisation:	HR Wallingford Ltd	Wallingford	United Kingdom

## Abstract

The management of flood risk is a critical component of public safety and quality of life. The FLOODsite Integrated Project will produce improved understanding of specific flood processes and mechanisms and methodologies for flood risk analysis and management ranging from the high level management of risk at a river-basin, estuary and coastal process cell scale down to the detailed assessment in specific areas. It includes specific actions on the hazard of coastal extremes, coastal morphodynamics and flash flood forecasting, as well as understanding of social vulnerability and flood impacts, which are critical to improving the mitigation of flood risk from all causes. The project seeks to identify technologies and strategies for sustainable flood mitigation and defence, recognising the complex interaction between natural bio-physical systems and socio-economic systems, to support spatial and policy planning in the context of global change and societal advance. Several pilot studies are included in FLOODsite. These will identify lessons from recent floods (e.g. Elbe, 2002), and test the proposed operational use of methods on integrated risk management and sustainable flood defence (the Thames and Scheldt Estuaries and the Ebro coastal delta) or new technology for flash flood forecasting (in France and Italy). FLOODsite will also develop common language, guidance and tools for dissemination of the project results and professional training packages. FLOODsite will build upon the previous and current European and national research and practice in river and coastal flood processes and flood risk mitigation methods to promote consistency of approach. Several of the FLOODsite project partners are identified as contributors to proposals for the virtual centre on floods and droughts identified in Para 1.1.6.3.II of the work programme; this virtual centre will complement the activities of the FLOODsite project.

## Partners

Num.	Partner Legal Name	City	Country
1	HR WALLINGFORD LTD	Wallingford	United Kingdom
2	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
3	TECHNISCHE UNIVERSITAET CAROLO-WILHELMINA ZU BRAUNSCHWEIG	Braunschweig	Germany
4	LEIBNIZ-INSTITUTE OF ECOLOGICAL AND REGIONAL DEVELOPMENT - MEMBER OF DRESDEN-FRC	Dresden	Germany
5	ECOLE NATIONALE DES PONTS ET CHAUSSEES	Marne-la-vallee	France
6	GEO GROUP A.S.	Ostrava 2	Czech Republic
7	H-EURAQUA KFT	Szentendre	Hungary
8	INSTITUT NATIONAL POLYTECHNIQUE DE GRENOBLE	Grenoble	France
9	EUROPEAN COMMISSION - JOINT RESEARCH CENTRE	Brussels	Belgium
10	MIDDLESEX UNIVERSITY HIGHER EDUCATION CORPORATION	London	United Kingdom
11	UNIVERSITAET POTSDAM	Potsdam	Germany
12	TECHNISCHE UNIVERSITEIT DELFT (DELFT UNIVERSITY OF TECHNOLOGY)	Delft	Netherlands
13	UNIVERSITAT POLITECNICA DE CATALUNYA	Barcelona	Spain
15	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
16	UNIVERSITA DEGLI STUDI DI PADOVA	Padova	Italy
17	UNIVERSITY OF TWENTE	Enschede	Netherlands
18	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
19	LUNDS UNIVERSITET	Lund	Sweden

20	CHRISTIAN-ALBRECHTS-UNIVERSITAET ZU KIEL	Kiel	Germany
21	"VITUKI" ENVIRONMENTAL PROTECTION AND WATER MANAGEMENT RESEARCH INSTITUTE NON PROFIT ORGANISATION	Budapest	Hungary
22	STICHTING IHE DELFT	Delft	Netherlands
23	UNIVERSITA DEGLI STUDI ROMA TRE	Roma	Italy
24	SOGREAH	Echirolles	France
27	INSTITUTE OF HYDROENGINEERING OF THE POLISH ACADEMY OF SCIENCES	Gdansk	Poland
28	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
29	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
31	UNIVERSITY OF PLYMOUTH HIGHER EDUCATION CORPORATION	Plymouth, Devon	United Kingdom
32	CEMAGREF, CENTRE NATIONAL DU MACHINISME AGRICOLE, DU GENIE RURAL, DES EAUX ET DES FORETS	Antony	France
33	ISTITUTO DI SOCIOLOGIA INTERNAZIONALE DI GORIZIA	Gorizia	Italy
35	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
36	INFRAM INTERNATIONAL B.V.	Zeewolde	Netherlands
37	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
39	CESKE VYSOKE UCENI TECHNICKE V PRAZE	Praha 6	Czech Republic
43	DRESDEN UNIVERSITY OF TECHNOLOGY - MEMBER OF DRESDEN-FRC	Dresden	Germany
44	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH - MEMBER OF DRESDEN-FRC	Leipzig	Germany
45	UNIVERSITY OF NEWCASTLE UPON TYNE	Newcastle Upon Tyne	United Kingdom





Title: Frequent Observation-driven Realistic Evaluation and Simulation of Interaction of Geophysical Hazard Triggers

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.670.000 €	Project start date:	1/09/2004
EU Contribution:	1.080.000 €	Duration:	24 months
Organisation:	ACRI-ST S.A.S.	Sophia-antipolis	France

## Abstract

The overarching scientific objective of FORESIGHT is to understand the mechanically coupled, interrelated processes leading to the hazardous activity associated with earthquakes, volcanoes, landslides and tsunamis. To assess, mitigate and manage the risks posed by these hazards, existing and fresh data from multi-sensor surveillance networks and satellites will be combined within a time-dependent Geographic Information System (GIS). To harmonise data and methodologies for understanding geophysical processes across Europe, FORESIGHT will focus on four natural laboratories: Iceland, Azores, Alps and Turkey. FORESIGHT, like its FP5 predecessor RETINA, will emphasise the mechanical coupling and temporal interactions between geophysical processes. FORESIGHT will apply advanced methods of GIS analysis to enhance physical models for calculating, predicting, and interpreting the consequences of such geophysical activity. FORESIGHT will support the implementation of new European-scale risk management systems by civil defence participants in the project. To achieve these goals, the FORESIGHT consortium seeks to:

- 1) Recognise times of increased geophysical activity by assimilating fresh data from existing sensors;
  - 2) Locate areas of increased geophysical activity by mapping crustal deformation, seismicity, and other indicators;
  - 3) Develop exploitable models for the physical mechanisms underlying correlated events;
  - 4) Calculate stress fields to identify areas where one event may trigger another;
  - 5) Identify times and areas of increased hazard, accounting for triggered events in conditional probabilities;
  - 6) Introduce these time-dependent assessments of hazard into risk management systems;
  - 7) Share expertise and resources in risk management at the European level.
- As a result, FORESIGHT will help reduce the effects of natural disasters upon the citizens and infrastructure of Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	ACRI-ST S.A.S.	Sophia-antipolis	France
2	Centre National de al Recherche Scientifique (CNRS)	Paris	France
3	THE CHANCELLOR, MASTER AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
4	SOLVEIG THORVALDSDOTTIR	Reykjavik	Iceland
5	ICELAND GEOSURVEY	Reykjavik	Iceland
6	NATIONAL COMMISSIONER OF THE ICELANDIC POLICE	Reykjavik	Iceland
8	ICELANDIC METEOROLOGICAL OFFICE	Reykjavik	Iceland
9	SCIENCE INSTITUTE, UNIVERSITY OF ICELAND	Reykjavik	Iceland
10	UNIVERSIDADE DOS ACORES	Ponta Delgada	Portugal
11	SECRETARIA REGIONAL DA HABITACAO E EQUIPAMENTOS	Angra Do Heroismo	Portugal
12	CENTRE D'ETUDES TECHNIQUES DE L'EQUIPEMENT MEDITERRANEE	Aix En Provence	France
13	RESEAU EURO-MEDITERRANEEN D'INFORMATION ET DE FORMATION A LA GESTION DES RISQUES	Draguignan	France
15	TURKIYE BILIMSEL VE TEKNIK ARASTIRMA KURUMU	Ankara	Turkey
16	ISTANBUL BUYUKSEHIR BELEDIYESI	Istanbul	Turkey



Title: Advanced Remote Monitoring Techniques for Glaciers, Avalanches and Landslides Hazard Mitigation

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.650.152 €	Project start date:	1/06/2005
EU Contribution:	1.675.440 €	Duration:	36 months
Organisation:	CESI Ricerca SpA	Milano	Italy

## Abstract

This project addresses to landslides, avalanches and glaciers-related hazard mitigation, through the development of advanced monitoring techniques and the improvement of forecasting methods and tools. Landslides hazard is increasingly causing substantial damages in mountainous and hilly regions. Its occurrence is frequently related to human activities, which affect the land use (e.g. deforestation, urban development, etc.) and is increasing due to the continental climate changes. Analogously, climate changes are the main causes of the improved occurrence of avalanches as well as the dangerously increased movements of glaciers. The above effects largely impact on critical infrastructure safety and on social and economic activities. Their mitigation is therefore a paramount for protection of citizens and their properties. The enhancement of forecasting methods and tools plays a crucial role in this frame. This is achieved also through the development and the integration of monitoring solutions, able to provide measurements over large areas, at useful accuracies, that are affordable, reliable and operational. Remote monitoring techniques based on ground-based SAR interferometry have been already developed for investigation of landslides over extended areas. However, their reliability for the early warning still face with intrinsic limitations related to operative and interpretation issues. Laser scanning techniques, on the other hand, have found so far very limited applications in detecting landslide movements. Furthermore, the use of such techniques to study avalanches and glaciers is still under investigation. The GALAHAD project aims at developing new and fundamental functionalities of the above remote monitoring techniques, enabling the improvement of reliability, precision and operative usefulness of the measurements and of the forecasting capacity of the interpretation tools. Attention to cost-benefit considerations and to European standardisation policies.

## Partners

Num.	Partner Legal Name	City	Country
1	CESI RICERCA SPA	Milano	Italy
2	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
3	ENVEO-ENVIRONMENTAL EARTH OBSERVATION INFORMATION TECHNOLOGY GMBH	Innsbruck	Austria
4	BUNDESFORSCHUNGS UND AUSBILDUNGSZENTRUM FUER WALD, NATURGEFAHREN UND LANDSCHAFT (BFW)	Wien	Austria
5	GAMMA REMOTE SENSING RESEARCH AND CONSULTING AG	Gumligen	Switzerland
6	INSTITUTO GEOLOGICO Y MINERO DE ESPANA	Madrid	Spain
7	CONSORCI INSTITUT DE GEOMATICA	Castelldefels	Spain
8	IDS INGEGNERIA DEI SISTEMI SPA	Pisa	Italy
9	CESI - CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO 'GIACINTO MOTTA' SPA	Milano	Italy



Title: Integral Risk Management of Extremely Rapid Mass Movements

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.158.386 €	Project start date:	1/09/2005
EU Contribution:	2.424.014 €	Duration:	27 months
Organisation:	Eidgenoessische Forschungsanstalt WSL	Birmensdorf	Switzerland

## Abstract

Rock avalanches, debris flows, and snow avalanches are landslide- and landslide-related processes, subsumed under the term extremely rapid mass movements. These processes pose varying degrees of risk to land use, infrastructure, and personal security in many mountainous regions. Despite increasing efforts to quantify the risk in terms of potential damage or loss of life, most previous studies have achieved partial rather than total risk solutions. IRASMOS addresses these shortcomings by reviewing, evaluating, and augmenting methodological tools for hazard and risk assessment extremely rapid mass movements. Results will be synthesized in strategies proposed within the framework of an Integral Risk Management (IRM) in selected European mountain catchments, targeted to equally address measures pertaining to landslide- and snow-avalanche disaster prevention, response, and rehabilitation.

The proposed project adopts the character of a comprehensive take-up and feasibility study, recognizing fundamental problems of

- (a) constraints in data quality, availability, and analysis,
- (b) constraints in technical, logistical, and financial support,
- (c) integrating the synchronous or interdependent occurrence of rapid mass movements and their potential off-site and long-term effects in a multi-risk context.

Key results include a set of IRM Best Practice Handbook for quantifying and managing total risk from rapid mass movements given possible constraints set by known environmental and administrative boundary conditions. Integrated critical thresholds needed for risk-oriented planning will be quantified and tested. A comprehensive catalogue of triggers and threshold conditions for extremely rapid mass movements, countermeasures, and sensitivity of hazard, vulnerability, and risk indicators will serve as further measures for total risk assessment, allowing customized decision-support for prevention, intervention, and rehabilitation efforts in European mountain ranges.

## Partners

Num.	Partner Legal Name	City	Country
1	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
2	UNIVERSITA DEGLI STUDI DI PAVIA	Pavia	Italy
3	CENTRE NATIONAL DE RECHERCHES METEOROLOGIQUES METEO FRANCE	Toulouse	France
4	UNIVERSITA DEGLI STUDI DI TRENTO	Trento	Italy
5	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
6	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
7	POLITECNICO DI MILANO	Milano	Italy
8	NORGES GEOTEKNIKSKE INSTITUT NORWEGIAN GEOTECHNICAL INSTITUTE	Oslo	Norway



Title: Risk Mitigation for Earthquakes and Landslides  
 Area: 4. Mechanisms of desertification and natural disasters  
 4.2. Natural Disasters

Instrument:	Integrated Project		
Project Total Cost:	9.747.966 €	Project start date:	1/09/2004
EU Contribution:	6.430.000 €	Duration:	36 months
Organisation:	Universita degli Studi di Pavia	Pavia	Italy

## Abstract

Earthquake and landslide risk is a public safety issue that requires appropriate mitigation measures and means to protect citizens, property, infrastructure and the built cultural heritage. Mitigating this risk requires integrated and coordinated action that embraces a wide range of organisations and disciplines. For this reason, the LESSLOSS IP is formulated by a large number of European Centres of excellence in earthquake and geotechnical engineering integrating in the traditional fields of engineers and earth scientists some expertise of social scientists, economists, urban planners and information technologists.

The LESSLOSS project addresses natural disasters, risk and impact assessment, natural hazard monitoring, mapping and management strategies, improved disaster preparedness and mitigation, development of advanced methods for risk assessment, methods of appraising environmental quality and relevant pre-normative research.

In order for the multi-disciplinary S&T ingredients of the project to be tackled in an efficient and productive manner, the research programme has been split into three distinct areas: physical environment, urban areas and infrastructures. For each one of this areas four main types of transversal fields have been identified as fundamental and capable of producing permanent effects on risk mitigation: (i) instrumentation and monitoring, (ii) methods and technologies to reduce vulnerability, (iii) innovative approaches for design/assessment and (iv) disaster scenarios and loss modelling.

Within this general framework, specific objectives will be pursued, such as the development of innovative methods and approaches to design and assessment of structures and earth slopes for both short- and long-term implementation, the development of advanced monitoring techniques and devices, and the development, manufacturing and testing of innovative isolating and dissipating seismic devices.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA DEGLI STUDI DI PAVIA	Pavia	Italy
2	ENEL.NEWHYDRO S.R.L.	Roma	Italy
3	Alga Applicazione Lavorazione Giunti Appoggi S.P.A.	Milano	Italy
4	Algosystems SA	Kalitheia, Athens	Greece
5	OSTERREICHISCHES FORSCHUNGS- UND PRUFZENTRUM ARSENAL GES.M.B.H. (ARSENAL RESEARCH)	Wien	Austria
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	Bureau de Recherches Geologiques et Minières	Paris	France
8	COMMISSARIAT A L'ENERGIE ATOMIQUE'	Paris	France
9	CENTRE INTERNACIONAL DE METODES NUMERICS EN ENGINYERIA	Barcelona	Spain
10	DENCO DEVELOPMENT & ENGINEERING CONSULTANTS LTD	Maroussi	Greece
11	PRESIDENZA DEL CONSIGLIO DEI MINISTRI - DIPARTIMENTO DELLA PROTEZIONE CIVILE	Rome	Italy
13	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
14	FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO	Porto	Portugal
15	GEODYNAMIQUE ET STRUCTURE	Bagneux	France
16	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
17	INSTITUT NATIONAL POLYTECHNIQUE DE GRENOBLE	Grenoble	France
18	INSA-LYON-INSTITUT NATIONAL DES SCIENCES APPLIQUEES DE LYON	Villeurbanne	France

19	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
20	ISTANBUL TECHNICAL UNIVERSITY	Istanbul	Turkey
21	JOINT RESEARCH CENTRE	Brussels	Italy
22	BOGAZICI UNIVERSITY	Istanbul	Turkey
23	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	Lisboa	Portugal
24	MAURER SOEHNE GMBH & CO. KG	Muenchen	Germany
25	MIDDLE EAST TECHNICAL UNIVERSITY (DEPT. OF CIVIL ENG., DIS. MAN. RES. CTR., EARTHQUAKE ENG. RES. CTR., STRUCT. ENG. RES. UNIT)	Ankara	Turkey
26	MUNICH REINSURANCE COMPANY	Muenchen	Germany
27	NECSO ENTRECANALES CUBIERTAS, S.A.	Madrid (alcobendas)	Spain
28	NORWEGIAN GEOTECHNICAL INSTITUTE	Oslo	Norway
29	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Zografou	Greece
30	RHEINISCH-WESTFALISCHE TECHNISCHE HOCHSCHULE AACHEN	Aachen	Germany
31	STAMATOPOULOS AND ASSOCIATES CO. LTD- GEOTECHNICAL AND EARTHQUAKE ENGINEERS	Athens	Greece
32	STUDIO GEOTECNICO ITALIANO S.R.L.	Milano	Italy
33	SWEDISH GEOTECHNICAL INSTITUTE	Linkoeeping	Sweden
34	STAP - REPARACAO, CONSOLIDACAO E MODIFICACAO DE ESTRUTURAS, S.A.	Lisboa	Portugal
35	THE UNIVERSITY OF BRISTOL	Bristol	United Kingdom
36	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
37	UNIVERSITE DE LIEGE	Liege	Belgium
38	UNIVERZA V LJUBLJANI, UNIVERSITY OF LJUBLJANA, FACULTY OF CIVIL AND GEODETIC ENGINEERING	Ljubljana	Slovenia
39	UNIVERSITA DEGLI STUDI DI NAPOLI "FEDERICO II"	Napoli	Italy
40	UNIVERSITY OF NEWCASTLE UPON TYNE	Newcastle Upon Tyne	United Kingdom
41	UNIVERSITA DEGLI STUDI DI MILANO BICOCCA	Milano	Italy
42	UNIVERSITY OF PATRAS	Patras	Greece
43	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
44	UNIVERSITA DI ROMA "LA SAPIENZA"	Roma	Italy
45	THE UNIVERSITY OF SURREY	Guildford Surrey	United Kingdom
46	VCE HOLDING GMBH	Wien	Austria
47	VINCI CONSTRUCTION GRANDS PROJETS	Reuil-malmaison	France
48	CESI - CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO 'GIACINTO MOTTA' SPA	Milano	Italy



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Title: Mediterranean Grid of Multi-Risk Data and Models  
Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.359.900 €	Project start date:	1/11/2004
EU Contribution:	950.000 €	Duration:	24 months
Organisation:	Algosystems S.A.	Kalitheia, Athens	Greece

## Abstract

The MEDIGRID proposal aims to create a distributed framework of multi-risk assessment for post-fire natural disasters. In order to achieve the above strategic objective several parallel tasks must be accomplished and a number of particular objectives to be addressed. The proposal will integrate in the above framework models of forest fire behaviour, soil erosion, vegetation regeneration, flash floods and landslides, developed or elaborated in frame of previous EC projects. These models will be upgraded to web applications in order to run remotely as web services over the internet. A distributed data warehouse with EO and other digital spatial data, combined with field measurements will be created by the project partners. Data sets will refer to countries that have suffered important forest fires during the last summer and where post fire disaster occurrence is considered high for the next years. The data will be defined according to the requirements of the models that will be integrated and tested within MEDIGRID. The data structure and organization will be designed in order to comply with the concept of respective EC initiatives (INSPIRE, EU-MEDIN, ESPON) for data standardisation. These data will be also used by the individual models in the context of a models validation framework. The entire system of models and data will be shaped further as a multi-risk assessment and decision support information platform. A portal will be used as the access point to the risk assesment web services as well as to the data sets of the data warehouse.

## Partners

Num.	Partner Legal Name	City	Country
1	Algosystems SA	Kalitheia, Athens	Greece
2	Associacao para o Desenvolvimento da Aerodinamica Industrial	Coimbra	Portugal
3	ENTENTE INTERDEPARTEMENTALE EN VUE DE LA PROTECTION DE LA FORET ET DE L'ENVIRONNEMENT CONTRE L'INCENDIE'	Gardanne	France
4	TECNOMA SA	Madrid	Spain
5	USTAV INFORMATIKY, SLOVENSKA AKADEMIA VIED	Bratislava	Slovakia
6	UNIVERSITY OF NEWCASTLE UPON TYNE	Newcastle Upon Tyne	United Kingdom



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Title: Natural risks assessment harmonisation of procedures, quantification and information

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument: Specific Support Action

Project Total Cost: 322.000 € Project start date: 1/09/2004

EU Contribution: 240.000 € Duration: 26 months

Organisation: Universita di Napoli Federico II Napoli Italy

## Abstract

Mediterranean countries are subject to frequent and different natural catastrophes which pay a high toll in terms of economic loss and human life. Since some tens of years EU countries are trying to mitigate the effects of these events mainly by means of prevention. Scientific progress in natural risk assessment and mitigation has increased the capacity of public administration to cope with high risk deriving from volcanic and hydro-geological events, to use satellites for short term prediction of meteorological events and floods, to work out, refine and enforce seismic EUROCODE 8. Several research project have been supported by EU Framework Programs. In all these cases risk assessment and managing have been approached individually for each risk typology and, often, differently even for a same typology in different countries. The consequence has been that the deliverables produced for different types of hazard are often not comparable and different deliverables for the same hazard types are produced in different countries. The need of harmonisation of terms and procedures has been stressed out in different EU MEDIN and UN Workshops. The aim of this project is to contribute to harmonise the risk assessment procedures and indicate ways to quantitative evaluation of hazard and risk levels through a two years long programmed series of Workshops, seminars, meetings, formation and educational activities which involve scientists, administrators and insurance experts who have been actively working in risk assessment problems in the latest years. Regions of South Italy, Greece and France will be used as test cases. The project is divided into 4 WP, dealing with:

- (1) Dissemination, comparisons of results and harmonisation,
- (2) Risk evaluation for land, urban planning and emergency management,
- (3) Formation and education,
- (4) Publication of results.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA DI NAPOLI FEDERICO II	Napoli	Italy
2	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
3	UNIVERSITE DE NICE-SOPHIA ANTIPOLIS	Nice	France



Title: Integrated Observations from Near Shore Sources of Tsunamis: Towards an Early Warning System

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.219.779 €	Project start date:	1/10/2006
EU Contribution:	2.850.000 €	Duration:	36 months
Organisation:	Consiglio Nazionale delle Ricerche	Roma	Italy

## Abstract

NEAREST is addressed to the identification and characterisation of large potential tsunami sources located near shore in the Gulf of Cadiz; the improvement of near real-time detection of signals by a multiparameter seafloor observatory for the characterisation of potential tsunamigenic sources to be used in the development of an Early Warning System (EWS) Prototype; the improvement of integrated numerical models enabling more accurate scenarios of tsunami impact and the production of accurate inundation maps in selected areas of the Algarve (SW Portugal), highly hit by the 1755 tsunamis. In this area, highly populated and prone to devastating earthquakes and tsunamis, excellent geological/geophysical knowledge has already been acquired in the last decade.

The methodological approach will be based on the cross-checking of multiparameter time series acquired on land by seismic and tide gauge stations, on the seafloor and in the water column by broad band Ocean Bottom Seismometers and a multiparameter deep-sea platform this latter equipped with real-time communication to an onshore warning centre. Land and sea data will be integrated to be used in a prototype of EWS. NEAREST will search for sedimentological evidences of tsunamis records to improve or knowledge on the recurrence time for extreme events and will try to measure the key parameters for the comprehension of the tsunami generation mechanisms. The proposed method can be extended to other near-shore potential tsunamigenic sources, as for instance the Central Mediterranean (Western Ionian Sea), Aegean Arc and Marmara Sea.

## Partners

Num.	Partner Legal Name	City	Country
1	Consiglio Nazionale delle Ricerche	Roma	Italy
2	FUNDAÇÃO DA FACULDADE DE CIÊNCIAS DA UNIVERSIDADE DE LISBOA	Lisboa	Portugal
3	Consejo Superior de Investigaciones Científicas	Madrid	Spain
4	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
5	UNIVERSITÉ DE BRETAGNE OCCIDENTALE	Brest	France
6	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
7	TECHNISCHE HOCHSCHULE BERLIN - UNIVERSITY OF APPLIED SCIENCES	Berlin	Germany
8	UNIVERSIDAD DE GRANADA	Granada	Spain
9	INSTITUTO DE METEOROLOGIA	Lisboa	Portugal
10	CENTRE NATIONAL POUR LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE	Rabat	Morocco
11	XISTOS DEVELOPPEMENT S.A.	Paris	France





Title: Network for Observation of Volcanic and Atmospheric Change  
 Area: 4. Mechanisms of desertification and natural disasters  
 4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.755.859 €	Project start date:	1/10/2005
EU Contribution:	2.644.355 €	Duration:	48 months
Organisation:	Chalmers Tekniska Högskola Ab	Göteborg	Sweden

## Abstract

The idea of the NOVAC project is to establish a global network for measurement of volcanic gas emissions, based on the Scanning Dual-Beam mini-DOAS instrument developed in the EU project DORSIVA. Primarily the instruments will be used to provide new parameters in the toolbox of the observatories, for risk assessment, gas emission estimates and geophysical research on the local scale. In addition to this, data are exploited by the project partners for other scientific purposes then local volcanic gas emissions; large scale volcanic correlations, satellite validation, studies of climate change and studies of stratospheric ozone depletion. The Scanning Dual-Beam mini-DOAS instrument represents a major breakthrough in volcanic gas monitoring. The instrument is capable of real-time automatic unattended measurement of the total emissions of SO<sub>2</sub> and BrO from a volcano with better than 5 minutes time resolution, over the daylight day. Besides providing an accurate determination of the total emissions of SO<sub>2</sub> and BrO from the volcano, the high time-resolution of the data enables correlations with other geophysical data, e.g. seismic data. Thus significantly extending the information available for real-time risk assessment and research at the volcano. By comparing gas emission data, with emissions from neighbouring volcanoes on different geographical scales, or with other geophysical phenomena (earthquakes, tidal waves...) mechanisms of volcanic forcing may be revealed. The spectra recorded by the instrument will also be used to derive data from complement global observation systems related to climate change and stratospheric ozone research. Taking advantage of the fact that many volcanoes are located in remote areas sparsely covered by existing networks. The consortium comprises 15 volcanoes from 4 continents, including some of the most active and strongest degassing volcanoes in the world.

## Partners

Num.	Partner Legal Name	City	Country
1	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
2	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG.	Heidelberg	Germany
3	INSTITUT D'AERONOMIE SPATIALE DE BELGIQUE	Bruxelles	Belgium
4	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
5	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN AN DER UNIVERSITAT KIEL	Kiel	Germany
6	INSTITUT DE PHYSIQUE DU GLOBE DE PARIS	Paris	France
7	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
8	UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO	Mexico Distrito Federal	Mexico
9	INSTITUTO NICARAGUENSE DE ESTUDIOS TERRITORIALES	Managua	Nicaragua
10	OBSERVATORIO VULCANOLOGICO Y SISMOLOGICO DE COSTA RICA, UNIVERSIDAD NACIONAL	Heredia	Costa Rica
11	INSTITUTO COLOMBIANO DE GEOLOGIA Y MINERIA	Bogota	Colombia
12	SERVICIO NACIONAL DE ESTUDIOS TERRITORIALES	San Salvador	El Salvador
13	CENTRE DE RECHERCHE EN SCIENCES NATURELLES	South Kivu	Congo (Democratic Republic of)
14	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Cambridge	United States
15	UNIVERSITY OF MARYLAND BALTIMORE COUNTY	Baltimore	United States



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Title: Network for Observation of Volcanic and Atmospheric Change Extension

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument: Specific Targeted Research Project

Project Total Cost: 238.248 € Project start date:

EU Contribution: 238.248 € Duration: 40 months

Organisation: Chalmers Tekniska Högskola Ab Göteborg Sweden

## Abstract

The idea of the NOVAC project is to establish a global network of stations for the quantitative measurement of volcanic gas emissions by UV absorption spectroscopy making use of a novel type of instrument, the Scanning Dual-beam miniature, Differential Optical Absorption Spectrometer (Mini-DOAS) developed within the EU-project DORSIVA. Primarily the instruments will be used to provide new parameters in the toolbox of the observatories for risk assessment, gas emission estimates and geophysical research on the local scale. In addition to this, data are exploited for other scientific purposes than local volcanic gas emissions, e.g. global estimates of volcanic gas emissions, large scale volcanic correlations, studies of climate change, studies of stratospheric ozone depletion. In particular large scale validation of satellite instruments for observing volcanic gas emissions will be possible for the first time, allowing to bring observation of volcanic gas emissions from space a significant step forward.

The initial project comprises 15 volcanoes from Africa, Europe and Central America.

In the proposed extension of the project this network will be complemented with 2 volcanoes from Ecuador and 2 volcanoes from Guatemala. The volcanoes are very active volcanoes and their inclusion in the project will significantly improve the geophysical understanding of the systems and thereby improve the risk assessment of these high risk volcanoes.

## Partners

Num.	Partner Legal Name	City	Country
1	Chalmers Tekniska Högskola AB	Göteborg	Sweden
2	Departamento de Geofísica de la Escuela Politécnica Nacional	Quito	Ecuador
3	Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología	Guatemala	Guatemala



Title: Seismic eArly warning For EuRope  
 Area: 4. Mechanisms of desertification and natural disasters  
 4.2. Natural Disasters

Instrument: Specific Targeted Research Project  
 Project Total Cost: 4.880.000 € Project start date: 15/06/2006  
 EU Contribution: 3.600.000 € Duration: 30 months  
 Organisation: Geoforschungszentrum Potsdam Potsdam Germany

## Abstract

Earthquakes are a serious threat for many countries of Europe, particularly for those around the Mediterranean Sea. Early warning systems, based on real time, automated analysis of ground motion measurements, can play an important role in reducing the negative impact of catastrophic events on densely populated areas and, particularly, in mitigating the damage to strategic structures and lifelines. Europe is covered by numerous high quality seismic networks, managed by national and by European agencies, including also some local networks specifically designed for seismic early warning around large cities like Bucharest, Istanbul and Naples, respectively. This project is aimed at fully exploiting the possibilities offered by a real time analysis of the signals coming from seismic networks for a wide range of actions, performed in a time interval of a few seconds to some tens of minutes. These actions range from the shut down of critical systems of lifelines, industries, highways, railways, etc. and the activation of control systems for the protection of crucial structures, to decision support for rapid response of the emergency management (ground shaking maps, continuously expected damage scenarios, aftershocks hazard etc.).

The project is structured in 6 work-packages:

- (1) Project Coordination and Management,
- (2) Real-Time Estimation of Source Parameters,
- (3) Real-Time Damage Assessment and Reduction Strategies,
- (4) Real-Time Shake Maps,
- (5) Real-Time Aftershock Hazard Assessment,
- (6) Dissemination of Results and End User Interface.

The work-packages address all major components of an earthquake early warning system.

## Partners

Num.	Partner Legal Name	City	Country
1	GEOFORSCHUNGSZENTRUM POTSDAM.	Potsdam	Germany
2	MRA - Analisi e Monitoraggio del Rischio Ambientale - S.C.A.R.L.	Napoli	Italy
3	UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	Karlsruhe	Germany
4	BOGAZICI UNIVERSITESI	Istanbul	Turkey
5	HUMBOLDT-UNIVERSITAET ZU BERLIN	Berlin	Germany
6	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
7	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
8	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
9	Centre National de al Recherche Scientifique (CNRS)	Paris	France
10	CENTRE SISMOLOGIQUE EURO-MEDITERRANEEN	Bruyeres-le-chatel	France
11	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
12	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU FIZICA PAMANTULUI - INCDFP BUCURESTI	Bucharest - Magurele	Romania
13	STIFTELSEN NORSTAR	Kjeller	Norway
14	NORGES GEOTEKNISCHE INSTITUTT	Oslo	Norway
15	ICELANDIC METEOROLOGICAL OFFICE	Reykjavik	Iceland
16	WORLD AGENCY OF PLANETARY MONITORING AND EARTHQUAKE RISK REDUCTION	Geneve	Switzerland
18	NATIONAL TAIWAN UNIVERSITY	Taipei	Taiwan
19	SELEX COMMUNICATIONS SPA	Genova	Italy

20	NATIONAL RESEARCH INSTITUTE OF ASTRONOMY AND GEOPHYSICS	Cairo	Egypt
21	NATIONAL RESEARCH INSTITUTE FOR EARTH SCIENCE AND DISASTER PREVENTION	Tsukuba	Japan
22	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT (KNMI)	De Bilt	Netherlands
23	CEDIM AG	Karlsruhe	Germany



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Title:	Support on Common European Strategy for sustainable natural and induced technological hazards mitigation		
Area:	4. Mechanisms of desertification and natural disasters 4.2. Natural Disasters		
Instrument:	Specific Support Action		
Project Total Cost:	758.445 €	Project start date:	1/09/2006
EU Contribution:	652.000 €	Duration:	18 months
Organisation:	Politecnico di Milano	Milano	Italy

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## Abstract

Modern society is increasingly characterized by strong interactions between physical, infrastructure and human domains of the environment. Disasters are a critical collision between climatic and geophysical dynamics and are dramatic examples of people living in conflict with their environment. Disaster reduction and resilience are key priorities identified by the EC and the Hyogo Framework for Action. A sustainability framework for natural and technological hazards is of critical importance.

Therefore the main goals of SCENARIO are:

- To develop a European roadmap on sustainable mitigation of natural and induced technological hazards and risks which will support future European research priorities for the 7th framework programme, contribute to European policies on natural hazards, sustain the scientific community by providing a strategic picture and support potential end-users / stakeholders. A European roadmap may inspire a European Strategy for reduction and mitigation of effects by natural and induced technological Disasters and the building of greater resilience;
- To integrate fragmented research approaches, concepts and results by incorporating existing experiences on natural disaster projects and initiatives at European level, including important national and international initiatives;
- To assess and reorganise the Logic Value Chain of natural disasters through updating knowledge and state of the art on natural disaster prevention and mitigation in the context of modified societal and environmental features.

In order to reach the objectives, SCENARIO will set up a networking process among existing projects and activities dealing with natural disasters with several workshops and meetings for knowledge sharing and dissemination. SCENARIO fits with Europe's goals regarding sustainable development in supporting environmental policies by defining a European roadmap on sustainable mitigation of natural and induced technological hazards and risks.

## Partners

Num.	Partner Legal Name	City	Country
1	POLITECNICO DI MILANO	Milano	Italy
2	T6 ECOSYSTEMS S.R.L.	Rome	Italy
3	Algosystems SA	Kalitheia, Athens	Greece
4	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
5	Atos Origin Sociedad Anonima Espanola	Madrid	Spain
6	LANCASTER UNIVERSITY	Lancaster	United Kingdom
7	HR WALLINGFORD LTD	Wallingford	United Kingdom
8	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
9	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II.	Napoli	Italy



Title: SEismic and tsunami risk Assessment and mitigation scenarios in the western HELLENic ARC

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.321.725 €	Project start date:	1/06/2006
EU Contribution:	1.295.911 €	Duration:	36 months
Organisation:	Hellenic Centre for Marine Research	Anavissos Attiki	Greece

## Abstract

The western part of the Hellenic Arc, between Pirgos and Pylos, western Peloponnese, has been repeatedly affected by large magnitude earthquakes that have caused severe destruction and human loss. Some of the largest regional tsunamis in the Mediterranean Sea have also been reported in association with large earthquakes, affecting remote coastal areas, whereas many other earthquakes have caused local but strong tsunami waves.

This part of Greece, with its extensive coastal zones, is economically important for its touristic and agriculture activities. Despite the significant progress in construction and earthquake engineering standards, the population growth and extensive urbanization have caused the risk from earthquakes to increase significantly during the recent years. Also a large number of the existing buildings were constructed before the introduction of Greece's first building code of 1959, and are therefore very vulnerable. This situation requires urgent solutions for an effective risk management and mitigation plan. AIM of this proposal is to establish a real-time on/offshore network for simultaneous seismic and tsunami observations in the coastal zones of western Peloponnese. We will consider onshore/offshore observations and integrate offshore real-time data transmission stations in the permanent seismograph network of Greece. Such technology is still missing in Greece or elsewhere in the Mediterranean countries. By observing seismicity in real-time, early warning scenarios will be considered and their possible application will be proposed to local authorities. As a final step, we will provide a pilot study for Pylos and create a GIS database for seismic and tsunami risk and mitigation scenarios.

## Partners

Num.	Partner Legal Name	City	Country
1	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
2	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
3	UNIVERSITA DEGLI STUDI DI TRIESTE	Trieste	Italy
4	Centre National de al Recherche Scientifique (CNRS)	Paris	France
5	ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE	Sgonico-trieste	Italy
6	GESSELLSCHAFT FUER GEOPHYSIKALISCHE UNTERSUCHUNGEN MBH	Hamburg	Germany
7	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey



Title: Tsunami Risk ANd Strategies For the European Region  
 Area: 4. Mechanisms of desertification and natural disasters  
 4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.716.037 €	Project start date:	1/10/2006
EU Contribution:	3.305.685 €	Duration:	30 months
Organisation:	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy

## Abstract

The project main goal is to contribute to our understanding of tsunami processes in the Euro-Mediterranean region, to the tsunami hazard and risk assessment and to identifying the best strategies for reduction of tsunami risk. Focus will be posed on the gaps and needs for the implementation of an efficient tsunami early warning system (TEWS) in the Euro-Mediterranean area, which is a high-priority task in consideration that no tsunami early warning system is today in place in the Euro-Mediterranean countries. The main items addressed by the project may be summarised as follows. The present Europe tsunami catalogue will be improved and updated, and integrated into a world-wide catalogue (WP1). A systematic attempt will be made to identify and to characterise the tsunamigenic seismic (WP2) and non-seismic (WP3) sources throughout the Euro-Mediterranean region. An analysis of the present-day earth observing and monitoring (seismic, geodetic and marine) systems and data processing methods will be carried out in order to identify possible adjustments required for the development of a TEWS, with focus on new algorithms suited for real-time detection of tsunami sources and tsunamis (WP4). The numerical models currently used for tsunami simulations will be improved mainly to better handle the generation process and the tsunami impact at the coast (WP5). The project Consortium has selected ten test areas in different countries. Here innovative probabilistic and statistical approaches for tsunami hazard assessment (WP6), up-to-date and new methods to compute inundation maps (WP7) will be applied. Here tsunami scenario approaches will be envisaged; vulnerability and risk will be assessed; prevention and mitigation measures will be defined also by the advise of end users that are organised in an End User Group (WP8). Dissemination of data, techniques and products will be a priority of the project (WP9).

## Partners

Num.	Partner Legal Name	City	Country
1	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
2	UNIVERSIDAD DE CANTABRIA	Santander	Spain
3	STATENS KARTVERK	Hoenefoss	Norway
4	WORLD AGENCY OF PLANETARY MONITORING AND EARTHQUAKE RISK REDUCTION	Geneve	Switzerland
5	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
6	UNIVERSITAT DE BARCELONA	Barcelona	Spain
7	D'APPOLONIA SPA	Genova	Italy
8	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
9	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
10	UNIVERSITE DE PAU ET DES PAYS DE L'ADOUR	Pau	France
11	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
12	GEOFORSCHUNGSZENTRUM POTSDAM.	Potsdam	Germany
13	UNIVERSITA DEGLI STUDI DI ROMA "LA SAPIENZA"	Roma	Italy
14	UNIVERSITY OF ISTANBUL	Istanbul	Turkey
15	Centre National de al Recherche Scientifique (CNRS)	Paris	France
16	THE GEOPHYSICAL INSTITUTE OF ISRAEL	Lod	Israel
17	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
18	STIFTELSEN NORGES GEOTEKNISKE INSTITUTT	Oslo	Norway
19	FUNDA CAO DA FACULDADE DE CIENCIAS DA UNIVERSIDADE DE LISBOA	Lisboa	Portugal

20	UNITED NATIONS UNIVERSITY INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY	Bonn	Germany
21	CENTRO NACIONAL DE INFORMACION GEOGRAFICA	Madrid	Spain
22	NATIONAL OBSERVATORY OF ATHENS	Athina	Greece
23	PUERTOS DEL ESTADO	Madrid	Spain
24	MRA - Analisi e Monitoraggio del Rischio Ambientale - S.C.A.R.L.	Napoli	Italy
25	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
26	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
27	ICELANDIC METEOROLOGICAL OFFICE	Reykjavik	Iceland
29	BOGAZICI UNIVERSITESI	Istanbul	Turkey
30	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland





Title: VOLcanoes: Understanding subsurface mass moveMENT  
 Area: 4. Mechanisms of desertification and natural disasters  
 4.2. Natural Disasters

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.838.688 €	Project start date:	1/10/2005
EU Contribution:	3.102.625 €	Duration:	36 months
Organisation:	University College Dublin, National University of Ireland	Dublin	Ireland

## Abstract

Volcanic eruptions are preceded by mass migration through subsurface fracture network. A primary goal in monitoring active volcanoes is to capture, from the surface, measurements of sub surface mass movement. Such movements of multiphase fluids are generally detected at surface in terms of changes in geophysical (ground deformation, seismicity) and geochemical observables. Such variations are therefore viewed with considerable interest in term of any early recognition of precursors to an eruption.

However, changes in the seismicity, ground deformation and/or geochemical tracers are not always related to the dynamics of magma bodies alone, and therefore do not necessarily indicate an eruption onset. Modern vulcanology, even with abundant monitoring data, still does not identify diagnostic, unambiguous precursors to an eruption.

The dynamics of volcanoes result in fact from the complex interplay between tectonic forces on regional scales, gravity forces on local scales and forces related to the activity of hydrothermal and magmatic systems. Understanding the relationships between these processes is therefore one of the major goals to be attained toward a quantitative assessment of precursors to volcanic eruptions.

The rationale behind this VOLUME project is to increase our understanding of how subsurface mass movement manifests itself at the surface, in turn revealing the significance of such movements as precursors to impending eruptions. In this project we employ and integrate seismic, gravimetric, geochemical, terrestrial and spaced based deformation data. We undertake joint inversions of these datasets through iterative numerical forward modelling of coupled processes (e.g. multi-phase fluid pulses with elastic wave radiation in solids; gas and temperature with ground deformation and seismicity). We will utilise existing data for permanent installations for a suite of test sites comprising differing volcano types at different times in their activity cycle.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN	Dublin	Ireland
2	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Napoli	Italy
3	UNIVERSIDAD DE GRANADA	Granada	Spain
4	UNIVERSITE JOSEPH FOURIER GRENOBLE 1	Grenoble	France
5	UNIVERSITE DE SAVOIE	Chambery	France
6	UNIVERSIDADE DOS ACORES	Ponta Delgada	Portugal
8	ICELANDIC METEOROLOGICAL OFFICE	Reykjavik	Iceland
9	UNIVERSITA DEGLI STUDI DI SALERNO	Fisciano	Italy
10	INSTITUTE OF GEOLOGICAL AND NUCLEAR SCIENCES	Wairakey (taupo)	New Zealand
11	Advanced Computer Systems ASC S.P.A.	Roma	Italy
12	SCIENCE INSTITUTE, UNIVERSITY OF ICELAND	Reykjavik	Iceland



Title: VOLcanoes: Understanding sub-surface mass movement-  
Extension

Area: 4. Mechanisms of desertification and natural disasters  
4.2. Natural Disasters

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Instrument:	Specific Targeted Research Project	Project start date:	
Project Total Cost:	479.000 €	Duration:	26 months
EU Contribution:	443.000 €	Dublin	Ireland
Organisation:	National University of Ireland, Dublin		

## Abstract

Volcanic eruptions are preceded by mass migration through a subsurface fracture network. A primary goal in monitoring active volcanoes is to capture, from the surface, measurements of sub surface mass movement. In VOLUME we use a spectrum of geophysical techniques and modelling methods to achieve this goal. Here in VOLUME-EXTENSION we add a new dimension and look at the nature and state of sub-surface fluids based on the volcano's response to ground shaking from 'nearby' earthquakes. This gives an additional constraint on the fluids beyond what can be achieved by monitoring alone. In addition we take these new volcanoes to add to the range of activity states and volcano types addressed using the existing methods which we are employing in volume.

## Partners

Num.	Partner Legal Name	City	Country
1	National University of Ireland, Dublin	Dublin	Ireland
2	Universidad Nacional Autonoma de Mexico	Mexico D.f.	Mexico
3	Centro Nacional de Prevencion de Desastres	Mexico D.f.	Mexico
4	Universidad de Colima	Colima	Mexico
5	Universidad de Costa Rica	San José	Costa Rica
6	Instituto Geofisica del Peru	Ate-vitarte, Lima	Peru
7	Instituto Geologico Minero y Metalurgico	San Borja, Lima 41	Peru
8	Universidad de Buenos Aires	Buenos Aires	Argentina



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## 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests

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### 5.1. Sustainable use of land

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RAISE	Raising citizens and stakeholders awareness, acceptance and use of new regional and urban sustainability approaches in Europe	267
RELAY	Research for Local Action towards Sustainable Human Settlements	268
SENSOR	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions	269
SENSOR TTC	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions - Extension	271
SPICOSA	Science and Policy Integration for COastal System Assessment	272
SUSTAINFO	Information System for Sustainable Development for EU and UN-Habitat	274

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Title:	Action for Training in Land use And Sustainability		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Concerted Action		
Project Total Cost:	494.932 €	Project start date:	1/09/2005
EU Contribution:	494.932 €	Duration:	18 months
Organisation:	Tallinna Ulikool	Tallinn	Estonia

## Abstract

ATLAS brings together the expertise of the leading European research, education and training institutions in the area of land use and sustainability impact assessment, combining innovative research efforts and practical experiences, enabling an educational breakthrough required to meet the ambitions of the Sub-priority. The fragmented nature of education and training provision in sustainability impact assessment for land use planning is a major barrier to the management of rapid land use change that is now occurring in Europe. As a result the Commission wishes to:

- take stock of what educational resources exist,
- assess their adequacy; and,
- stimulate the development of appropriate strategies and initiatives for the future.

ATLAS will enable the coordination and dissemination of educational practice and the development of future training initiatives for policy and practice in this area throughout Europe. It will result in:

- A baseline description (on-line data base) of the status of educational provision at practitioner's, professional, undergraduate and Master's levels, within Europe;
- A SWOT-analysis of the extent to which this provision meets current needs, with clear recommendations for improvement; and,
- A 'road-map' for training in land use sustainability assessment providing better European organisation of the educational provision leading to appropriate professional qualifications.

ATLAS will permit the Commission to achieve the mentioned requirements, by bringing together the three leading international networks concerned with sustainable land use management in Europe, namely LANDSCAPE EUROPE, ECLAS and Landscape Tomorrow. These networks have differing focuses within this area but together have a complete coverage of the subject. They moreover benefit from direct participation in relevant IP's, such as SENSOR and SEAMLESS. Improved co-ordination of their efforts on education and training will have great benefits for the effectiveness of the policies currently developed.

## Partners

Num.	Partner Legal Name	City	Country
1	TALLINNA ULIKOOL	Tallinn	Estonia
2	Alterra b.v.	Wageningen	Netherlands
3	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
4	MENDELOVA ZEMEDELKA A LESNICKA UNIVERZITA V BRNO	Brno	Czech Republic
5	OK.EE LTD.	Tallinn	Estonia
6	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
7	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
8	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
9	SZENT ISTVAN EGYETEM	Godollo	Hungary
10	UNIVERSITAET SALZBURG	Salzburg	Austria



Title: Simulating land-use processes - an interactive e-tool for SIA  
 Area: 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests  
 5.1. Sustainable use of land

Instrument: Specific Targeted Research Project  
 Project Total Cost: 1.743.895 € Project start date: 1/09/2005  
 EU Contribution: 1.500.000 € Duration: 42 months  
 Organisation: Helsingin Yliopisto Helsinki Finland

## Abstract

The objective is to train in the use of sustainability impact and policy assessment in EU and Russia, especially in issues concerning forests, agricultural landscapes, water environments and built-up areas through the development of an innovative and interactive e-tool for multiple end users. This freeware product will be based on simulations of advanced dynamic models, incorporated into a multimedia presentation in parallel English/Russian. The e-tool will be developed base on case studies on Eurasian sites from Holland to Siberia, and within an infrastructure of Universities, research organisations, administrations, student groups within this large area.

The project has four distinct phases

- (i) case studies on ecosystem biogeochemistry, pollution effects, biodiversity, eco-technosystems, multifunctional agriculture, sustainable building etc.,
- (ii) feeding dynamic models and incorporating them into an interactive visualization software,
- (iii) combining simulations, text, videos and graphics into a e-textbook written by 30-40 experts,
- (iv) testing of the e-tool/e-textbook by policy makers (including EC staff) and stakeholders.

## Partners

Num.	Partner Legal Name	City	Country
1	HELSINGIN YLIOPISTO	Helsinki	Finland
2	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
3	STICHTING KATHOLIEKE UNIVERSITEIT	Nijmegen	Netherlands
4	LATVIJAS UNIVERSITATE	Riga	Latvia
5	ST PETERSBURG STATE UNIVERSITY	Sint Petersburg	Russian Federation
6	PERM STATE UNIVERSITY	Perm	Russian Federation
7	IRKUTSK STATE UNIVERSITY	Irkutsk	Russian Federation
8	ILMATIETEEN LAITOS	Helsinki	Finland
9	JOENSUUN YLIOPISTO	Joensuu	Finland
10	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
11	INSTYTUT GEOGRAFII I PRZESTRZENNEGO ZAGOSPODAROWANIA	Warszawa	Poland
15	MIASTA LUBLIN	Lublin	Poland
19	DANMARKS MILJÖUNDERSÖGELSE.	Roskilde	Denmark
20	ITA-UUDENMAAN JA PORVOONJOEN VESIEN JA ILMANSUOJELU YHDISTYS RY	Porvoo	Finland
21	TAMPEREEN YLIOPISTO	Tampere	Finland
22	LAENSSTYRELSEN VAESTRA GOETALANDS LAEN	Goeteborg	Sweden
23	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
24	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany



Title: European Network on Coastal Research

Area: 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests

5.1. Sustainable use of land

Instrument:	Concerted Action		
Project Total Cost:	3.000.000 €	Project start date:	1/02/2006
EU Contribution:	3.000.000 €	Duration:	36 months
Organisation:	Rijksinstituut voor Kust en Zee	Den Haag	Netherlands

## Abstract

The CA addresses 3 major causes for stagnation in the implementation of ICZM in Europe:

- (A) Fragmentation of coastal science, practice and policy;
- (B) Difficult communication between science, policy and practice;
- (C) Lack of multidisciplinary approaches.

ENCORA is a European network structure with new mechanisms for communication on shared problems within and between the communities of coastal science, policy and practice. In 13 European countries National Coastal Networks have been established; in other countries the establishment of a National Network is anticipated. Ten trans-national, cross-disciplinary Thematic Networks, led by institutions with outstanding expertise, address major ICZM issues; they include participants from all EU countries, including those where a national network is not yet established. Operational nodes are created between the National and Thematic networks and other existing coastal networks. National Network Offices take care of the process of knowledge exchange and cooperation between network participants Europe-wide. They establish through all the affiliated networks a contact search mechanism for knowledge sharing and cooperation, by raising information-exchange communities, organising an exchange-visit programme for young researchers/practitioners, by organising Communities of Practice and by project intertwining. The Thematic Networks produce a state-of-the-art overview of knowledge, tools and practices, a European ICZM training and education curriculum and a European ICZM training and education curriculum and European Action Plans for addressing priority issues for ICZM implementation. The networking structure and processes are continuously improved by an incorporated feedback-learning cycle. After 3 years the project will deliver an operational European coastal network structure supporting the exchange of knowledge and experience within and between the communities of science, policy and practice.

## Partners

Num.	Partner Legal Name	City	Country
1	RIJKSINSTITUUT VOOR KUST EN ZEE	Den Haag	Netherlands
2	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
3	DHI - WATER & ENVIRONMENT	Hoersholm	Denmark
4	CENTRE D'ETUDES TECHNIQUES MARITIMES ET FLUVIALES	Compiègne	France
5	GKSS - FORSCHUNGSZENTRUM GEESTHACHT GMBH.	Geesthacht	Germany
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK	Cork	Ireland
8	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
9	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
10	EUCC - THE COASTAL UNION	Leiden	Netherlands
11	INSTITUTE OF HYDROENGINEERING OF THE POLISH ACADEMY OF SCIENCES	Gdansk	Poland
12	INSTITUTO DE HIDRAULICA E RECURSOS HIDRICOS	Porto	Portugal
13	UNIVERSIDAD DE CANTABRIA	Santander	Spain
14	LUNDS UNIVERSITET	Lund	Sweden
15	UNIVERSITY OF PLYMOUTH	Plymouth, Devon	United Kingdom
16	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
17	VLAAMS INSTITUUT VOOR DE ZEE	Oostende	Belgium

18	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
19	CONSORTIUM FOR THE MANAGEMENT OF THE CENTRE OF COORDINATION OF RESEARCH ON THE VENICE LAGOON SYSTEM	Venice	Italy
20	UNIVERSITEIT GENT	Gent	Belgium
21	UNIVERSITY OF THESSALY	Volos	Greece
22	COASTNET - THE COASTAL NETWORK	Colchester	United Kingdom



Title: European Network for Coastal Research - Extension

Area: 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests

5.1. Sustainable use of land

Instrument:	Concerted Action		
Project Total Cost:	427.058 €	Project start date:	
EU Contribution:	427.058 €	Duration:	24 months
Organisation:	Rijksinstituut voor Kust en Zee	Den Haag	Netherlands

## Abstract

The ENCORA Coordination Action, European Network for Coastal Research, has started 1 February 2006. ENCORA will provide a European networking frame and a set of networking mechanisms, which help solving 3 major causes for stagnation in the implementation of ICZM in Europe:

- (A) Fragmentation of coastal science, practice and policy;
- (B) Difficult communication between science, policy and practise;
- (C) Lack of multidisciplinary approaches.

ENCORA will develop several services to facilitate sharing of knowledge and experience Europe-wide within and between the communities of coastal science, policy and practice. These services are delivered by National Coordination Offices in 13 European countries, which rely on National Coastal Networks established in each country, and on Thematic Networks. The trans-national cross-disciplinary Thematic Networks are led by institutions with outstanding expertise and deliver a European Directory of coastal expertise and European Action Plans to address major existing deficiencies in coastal knowledge and coastal practices. Participants from all European countries are invited to participate in the Thematic Networks.

This ENCORA-TTC proposal is to extend and strengthen the existing ENCORA network, by integrating two national coastal networks, which are being raised in Russia and Ukraine, and a North-African coastal network led by Algeria, including Morocco and Tunisia. The coastal zones of the new countries and the present ENCORA countries border the same regional seas: the Mediterranean, the Black Sea, the Baltic Sea and the Caspian Sea. Sharing expertise will contribute to harmonising coastal policies and practices and to a better understanding of mutual impacts on neighbouring coasts and seas. The ENCORA-TTC countries will contribute to the existing ENCORA workpackages WP1 (Project Coordination), WP2 (National Networks) and WP4 (Promotion, Dissemination and Exploitation), through their National and Regional Coordination Offices.

## Partners

Num.	Partner Legal Name	City	Country
1	Rijksinstituut voor Kust en Zee	Den Haag	Netherlands
2	Marine Hydrophysical Institute of Ukrainian National Academy of Sciences	Sevastopol	Ukraine
3	P.P.Shirshov Institute of Oceanology, Russian Academy of sciences	Moscow	Russian Federation
4	Laboratoire de Recherche des Sciences de l'Eau/Ecole Nationale Polytechnique	Alger	Algeria





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Title:	Integration of European Wetland research in a sustainable management of water cycle		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Specific Support Action		
Project Total Cost:	529.958 €	Project start date:	1/01/2004
EU Contribution:	529.958 €	Duration:	16 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

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## Abstract

The final goal of the EUROWET project is to integrate the substantial multidisciplinary European research in wetlands to help attain the sustainable management of the water cycle. This will be achieved by the translation of state-of-the art science developed at both national and European levels, into practical guidance for end-users. This will be achieved by a comprehensive review, expert assessment and a focussed dissemination strategy. There is considerable scientific knowledge and technical experience gained in diverse aspects of wetland science and management including hydrology, biogeochemistry, ecology restoration, socio-economic and policy analysis. However the results of research and management experience are still too fragmentary and not sufficiently orientated to problem-solving or simply inadequately framed to be effectively transferred to, or used by, stakeholders and policy-makers. Simultaneously the general outcome of the scientific research has been increased awareness of the significance of wetlands in delivering goods and services important for human welfare including quality of life, biodiversity conservation and maintenance or enhancement of environment quality. Despite this wetlands continue to be degraded and lost throughout Europe without adequate consideration of the wider benefits to be achieved from this management. The new Water Framework Directive (WFD) promotes a unique opportunity to redress this problem by means of the holistic, integrated approach to water management. There is currently in preparation horizontal guidance on Wetlands as part of the Common Implementation Strategy (CIS) process. There is however work still to be done on providing more specific scientific and technical guidance on the effective implementation of the Directive with respect to wetlands. This is particularly the case in relation to Integrated River Management, the CIS cluster within which wetlands are being considered in the WFD.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Geologiques et Minières	Paris	France
2	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE	Egham, Surrey	United Kingdom



Title:	An Innovation Strategy to integrate industry needs and research capability in the European Forestry-Wood Chain		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Specific Support Action		
Project Total Cost:	596.341 €	Project start date:	1/09/2005
EU Contribution:	439.994 €	Duration:	30 months
Organisation:	Innovawood Ltd	Dublin	Ireland

## Abstract

The enlargement of the European Union will lead to a substantial expansion of the forestry/ wood sector. There will be a significant increase in the number of candidate countries (+10), the land mass (+34%), the population (+105 million inhabitants), the total forest area (+25%), the number of private forest owners (+4 million). The main problems facing the forest industries relate to the fragmented industry structure with very many SMEs and its nearly 4 million employees, and the need to improve the level of competitiveness (innovation, technology, resources and know-how). Along with that, environmental protection and production technology need to be improved. Main aim: Matching industry needs and research capabilities through an integrated strategy for innovation in the European forestry wood chain (FWC).

### Objectives:

1. To link research to innovation through increased and more efficient linkages between knowledge and skill producers with the industries in the FWC.
2. To increase international cooperation in the FWC through fostering innovation, relevant sciences and knowledge dissemination with particular consideration of the nature and needs of SMEs in the EU-25.

### Tools:

- 1) Contact databases of: - knowledge and skills provider community (EU-25) - industrially performing community (EU-25),
- 2) Extensive (EU-25) capability and needs register of:- provider community's capability - industrial community's needs,
- 3) Match analysis "capabilities vs. needs" in the FWC of the enlarged EU,
- 4) Gap analysis "capabilities vs. needs" in the FWC of the enlarged EU,
- 5) Development of integrated innovation strategies for: RTD and innovation / Environment and Sustainability / Training and Education /Knowledge Transfer /FWC,
- 6) To ensure more active linkages between industry and provider communities by creating enhanced communication and dissemination tools (newsletters, European conferences and demonstration workshops, Portal and Website,...).

## Partners

Num.	Partner Legal Name	City	Country
1	INNOVAWOOD LTD	Dublin	Ireland
2	THE DEPARTMENT OF AGRICULTURE AND FOOD	Dublin 2	Ireland
3	AIDIMA - Asociacion de Investigacion y Desarrollo en la Industria del Mueble y Afines	Paterna	Spain
4	BERNER FACHHOCHSCHULE - HOCHSCHULE FUR ARCHITEKTUR, BAU UND HOLZ	Biel	Switzerland
5	BUNDESFORSCHUNGSANSTALT FUER FORST - UND HOLZWIRTSCHAFT	Hamburg	Germany
6	Consiglio Nazionale delle Ricerche	Roma	Italy
7	CONFEDERATION EUROPEENNE DES PROPRIETAIRES FORESTIERS CEPF	Luxembourg	Luxembourg
8	FEDERATION EUROPEENNE DE PANNEAUX A BASE DE BOIS - EPF	Bruxelles	Belgium
9	UEA COMMUNICATIONS ASBL	Bruxelles	Belgium
10	CENTRE TECHNIQUE DU BOIS ET DE L'AMEUBLEMENT.	Paris	France
11	CENTRE TECHNIQUE ET SCIENTIFIQUE DE L'INDUSTRIE TRANSFORMATRICE DU BOIS ET DES MATIERES CONNEXES - CTIB	Bruxelles	Belgium

12	LINKOEPINGS UNIVERSITET	Linköeping	Sweden
13	TECHNICKA UNIVERZITA VO ZVOLENE	Zvolen	Slovakia
14	INSTYTUT TECHNOLOGII DREWNA	Poznan	Poland



Title: Knowledge Assessment and Sharing on Sustainable Agriculture

Area: 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests  
5.1. Sustainable use of land

Instrument:	Specific Support Action		
Project Total Cost:	906.700 €	Project start date:	1/09/2004
EU Contribution:	750.000 €	Duration:	18 months
Organisation:	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	Paris	France

## Abstract

Conventional agriculture encompasses about half of the agricultural land territory of the UE countries; its negative impacts on the environment and the basic natural resources are recognised. Growing concerns of the society related to the environment deterioration such as water and food contaminations, livestock epidemics... compel to explore new ways able to improve the sustainability of the current farming systems. Alternative agricultural practices, technologies and approaches in support of sustainable agriculture have already been researched, developed, tested and implemented during the second half of the 20th century, in Europe but mainly in North and South America and Australia; they span million hectares. Learning from the results of these experiences and researches and sharing lessons will undoubtedly contribute to define ways and tools able to orient European policy on sustainable agriculture development. KASSA proposal intends to build up a comprehensive knowledge base on sustainable agricultural practices, approaches and systems in support of European stakeholders: farmers and professionals, researchers and policy makers at local, national, European and global level. KASSA involves a critical mass of skilled partners dispatched up into four platforms: Europe, the Mediterranean, Asia and Latin America. It will be achieved through successive work sequences starting with a comprehensive inventory of existing results then continuing with a progressive refinement of the findings that alternate critical analysis and sharing of the results of each platform.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
2	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
5	FONDATION NATIONALE POUR UNE AGRICULTURE DE CONSERVATION DES SOLS	Genainville	France
6	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
9	JUSTUS-LIEBIG-UNIVERSITAET GIESSEN	Giessen	Germany
10	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
11	NORSK INSTITUTT FOR PLANTEFORSKING	Aas	Norway
12	ENVIRONMENTAL NETWORK LIMITED	Aboyne	United Kingdom
13	EESTI POLLUMAJANDUSUELIKOOL	Tartu	Estonia
14	VYZKUMNY USTAV ROSTLINNE VYROBY	Praha	Czech Republic
15	NATIONAL SCIENTIFIC CENTRE "INSTITUTE FOR SOIL SCIENCE AND AGROCHEMISTRY RESEARCH"	Kharkiv	Ukraine
16	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
17	UNIVERSIDAD DE LLEIDA	Lleida	Spain
18	INSTITUTO TECNOLÓGICO AGRARIO DE LA JUNTA DE CASTILLA Y LEÓN	Valladolid	Spain
19	INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA	Madrid	Spain
20	INSTITUTO TECNICO Y DE GESTION AGRICOLA S.A.	Villava (navarra)	Spain
21	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE.	Rabat R.p.	Morocco

22	CENTRO INTERNAZIONALE CROCEVIA	Roma	Italy
23	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Athens	Greece
24	CENTRO INTERNATIONAL DE MEJOMIENTO DE MAIZ Y TRIGO	Mexico Df	Mexico
27	CENTRE FOR ADVANCEMENT OF SUSTAINABLE AGRICULTURE	New Delhi	India
28	VIETNAM AGRICULTURAL SCIENCE INSTITUTE	Ha Noi	Viet Nam
29	INSTITUTO AGRONIMICO DO PARANA	Londrina	Brazil
30	FUNDACAO DE APOIO AO ENSINO, PESQUISA E EXTENSAO	Lavras-mg	Brazil
31	UNIVERSIDADE FEDERAL DE GOIAS	Goiania - Goias	Brazil
32	EMPRESA BRASILEIRA DE PESQUISA AGROPECUARIA -CENTRO NACIONAL DE PESQUISA DE TRIGO	Brasilia	Brazil
33	Asociacion de Productores de Oleaginosas y Trigo	Santa Cruz De La Sierra	Bolivia
35	Asociacion Argentina de Productores en Siembra Directa	Rosario	Argentina



Title:	Land Use Policies and Sustainable Development in Developing Countries		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.675.400 €	Project start date:	1/02/2007
EU Contribution:	2.100.000 €	Duration:	42 months
Organisation:	Landbouw-Economisch Instituut B.V.	Den Haag ('s-gravenhage)	Netherlands

## Abstract

The proposed project will develop integrated assessment tools for sustainable development for application by scientists in a selected number of developing countries. Attention will be given to both natural and agricultural ecosystems. The project provides assessment procedures that enable documentation and understanding on impacts of land use policies on sustainable development, taking into account multi-functionalities and European policy options on biodiversity, climate and trade.

More, specifically, the project will include the following actions:

- Design of an analytical framework to assess the impact of land use policies on the sustainable development of developing countries;- Identify the key driving forces for the utilization of land and their impacts on sustainable development and externalities;
- Tools developed in SENSOR and SEAMLESS will be used both as building blocks in and guidelines for this project;
- Select, adapt and apply tools for understanding, planning and forecasting the impacts of land use policies. Their generic nature will be assessed. Multifunctional land use and European and developing country policy options are taken into consideration. Links between competitiveness, global agreements and land use in the EU will be analysed;
- Define indicators and explore their thresholds in the context of sustainable development. This will be done at regional and national levels. The analysis will include multiple sectors and attention will be given to biodiversity, supply of public goods and services;
- Enhance existing knowledge in the field of data management.

## Partners

Num.	Partner Legal Name	City	Country
1	LANDBOUW-ECONOMISCH INSTITUUT B.V.	Den Haag ('s-gravenhage)	Netherlands
2	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
3	UNIVERSITETET I OSLO	Oslo	Norway
4	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
5	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTSFORSCHUNG (ZALF) E.V.	Muencheberg	Germany
6	INSTITUT DES REGIONS ARIDES	Medenine	Tunisia
7	KENYA AGRICULTURAL RESEARCH INSTITUTE	Nairobi	Kenya
8	Ashoka Trust for Research in Ecology and the Environment	Bangalore	India
9	NANJING AGRICULTURAL UNIVERSITY	Nanjing	China (People's Republic of)
10	INSTITUT D'ECONOMIE RURALE	Bamako	Mali
11	GADJAH MADA UNIVERSITY	Yogyakarta	Indonesia
12	FUNDAÇÃO UNIVERSIDADE DE BRASÍLIA	Brasília-df	Brazil
13	EMPRESA BRASILEIRA DE PESQUISA AGROPECUÁRIA - EMBRAPA	Brasília	Brazil
14	UNIVERSITE GASTON BERGER DE SAINT-LOUIS	Saint-louis	Senegal
15	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE DU NIGER - INRAN	Niamey	Niger





Title:	Peri-urban Land Use Relationships – Strategies and Sustainability Assessment Tools for urban-rural linkages		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Integrated Project		
Project Total Cost:	10.818.692 €	Project start date:	
EU Contribution:	7.000.000 €	Duration:	48 months
Organisation:	The Royal Veterinary and Agricultural University	Frederiksberg C	Denmark

## Abstract

PLUREL will develop new outward looking strategies for sustainable urban, peri-urban and rural land use relationships. New planning and forecasting tools will support the analysis of urbanisation trends in a range of different economic, social and environmental contexts. The aims are to identify optimal strategies to support these interactions on a mutually beneficial basis, minimise their negative impacts, and improve the quality of life of the urban population.

The analysis will consider the impact of forecasted and scenarios based demographic changes and migration patterns and examine social, economic and ecological relations, linkages and impacts. A key focus will be the innovative integration of both quantitative and qualitative aspects of the interactions between expanding urban areas, and the peri-urban and rural land uses.

The strategies and tools will be validated against representative case studies, be robust and usable by policy-makers and provide the greater operational understanding essential for planning and optimizing these complex interactions between cities and their peri-urban and rural areas to improve both the physical living environment and the overall quality of life of their citizens.

The benefits and costs of different strategies for urban development will be evaluated and this will enable key stakeholders to take better informed decisions. Stakeholder involvement throughout the research process and the case studies will, as well as training courses, contribute to the practical adoption and dissemination of the research products.

PLUREL will produce new and improved integrated planning and assessment tools including problem-oriented handbooks, land use impact response functions and software, and GEO-compatible databases. These new decision-support tools will help policy makers at the EU, national, regional and local levels with the ex-ante assessment of the impacts of their policy options in physical, economic and social terms.

## Partners

Num.	Partner Legal Name	City	Country
1	The Royal Veterinary and Agricultural University	Frederiksberg C	Denmark
2	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany
3	Leibniz-Centre for Agricultural Landscape Research (ZALF) e.V., Muencheberg	Muencheberg	Germany
4	Alterra b.v.	Wageningen	Netherlands
5	International Institute for Applied Systems Analysis	Laxenburg	Austria
6	ARC Systems Research GmbH	Vienna	Austria
7	Université catholique de Louvain	Louvain-la-neuve	Belgium
8	Institute of Local Government Studies	Copenhagen	Denmark
9	Suomen ympäristökeskus	Helsinki	Finland
10	Centre d'Observation Economique-Chambre de Commerce et d'Industrie de Paris	Paris	France
11	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony Cedex	France
12	Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW) Mannheim	Mannheim	Germany
13	University of Kiel	Kiel	Germany
14	University of Thessaly, Department of Planning and Regional Development	Volos	Greece
15	Metropolitan Research Institute	Budapest	Hungary



16	School of Geography, Planning & Environmental Policy, University College Dublin	Dublin	Ireland
17	Joint Research Centre - Institute for Environment and Sustainability, Land Management Unit, European Commission.	Ispra (va)	Italy
18	Polish Academy of Sciences, Stanislaw Leszczycki Institute of Geography and Spatial Organization	Warszawa	Poland
19	University of Ljubljana, Biotechnical faculty	Ljubljana	Slovenia
20	University of Bath	Bath	United Kingdom
21	University of Manchester	Manchester	United Kingdom
22	Edinburgh College of Art	Edinburgh	United Kingdom
23	Scandinavian Branding A/S	Copenhagen Ö	Denmark
24	Büro für urbane Projekte	Leipzig	Germany
25	Studio Mediterana d.o.o.	Izola	Slovenia
26	Munich design international	München	Germany
27	RAL2005 Architects	Rotterdam	Netherlands



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Title:	Raising citizens and stakeholders awareness, acceptance and use of new regional and urban sustainability approaches in Europe		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests 5.1. Sustainable use of land		
Instrument:	Specific Support Action		
Project Total Cost:	400.171 €	Project start date:	1/10/2004
EU Contribution:	400.171 €	Duration:	18 months
Organisation:	Istituto di Studi per l'Integrazione dei Sistemi	Roma	Italy

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## Abstract

RAISE is a Specific Support Action included in the FP6 Sub-priority 1.1.6.3 Global Change and Ecosystems, whose objectives were set out in the Work-Programme as follows:

i) consolidation and impact assessment of results achieved in EU research projects relating to regional and urban sustainability aspects;

ii) exploitation of these results in the context of a "citizens conference" aiming to test the acceptability of new sustainability approaches and technologies by the user community.

These objectives will be achieved by RAISE by arranging a citizens' conference process centred on a bundle of new sustainability approaches and technologies which have been identified by projects selected among those funded within the 5th Framework KA City of Tomorrow and Cultural Heritage or pertaining to the cross-cutting issues of sustainable development: estimating thresholds of sustainability and externalities, tools integrated sustainability assessment. The projects will be selected from a list of projects provided by the Commission. RAISE will concentrate on the areas of city planning and management, built environment and urban transport. The RAISE citizens conference will involve 25 randomly selected citizens from the 25 EU member states. They shall represent the "average citizens" from the different countries of Europe. They will be asked to formulate their view on the acceptance and use of selected urban sustainability approaches, technologies and solutions coming from EU research findings in a sequence of three preparatory meetings, whose final results will be reported to a final Conference event in Brussels, involving also stakeholder representatives and politicians. The citizens conference will be supported by a RAISE participatory assessment framework prepared by the experts, adapted from more general methodologies of PTA. The project is carried out by 7 partners: ISIS (I) Coordinator ICCR (A) OGM (BE) IC(RO) CIMPAN (PL) RMB (BE) and FEWN(PO).

## Partners

Num.	Partner Legal Name	City	Country
1	ISTITUTO DI STUDI PER L'INTEGRAZIONE DEI SISTEMI'	Roma	Italy
2	INTERDISCIPLINARY CENTRE FOR COMPARATIVE RESEARCH IN THE SOCIAL SCIENCES	Wien	Austria
4	IMPACT CONSULTING	Bucharest	Romania
6	RAMBOLL MANAGEMENT BRUSSELS	Bruxelles	Belgium
7	FUNDACJA EUROPEJSKIEJ WSPOLPRACY NAUKOWEJ	Jablonna	Poland



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Title:	Research for Local Action towards Sustainable Human Settlements		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Specific Support Action		
Project Total Cost:	411.522 €	Project start date:	15/05/2005
EU Contribution:	299.900 €	Duration:	14 months
Organisation:	ICLEI European Secretariat GmbH	Freiburg	Germany

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## Abstract

The RELAY project will coordinate an international exchange between researchers with outstanding experience in the field of sustainable human settlements and local leaders, and their multipliers, for exchanging how research results can be best brought to the local level and serve for improving local policy implementation. A conference in Nanjing, China in November 2005 is planned as the core activity. The conference and its preparation will support the development of mutual understanding between researchers and local actors. It will mainly lead to designing cooperation models that are not only beneficial for researchers and local leaders but first of all for improving urban sustainable development and human settlements. The project will be an element of the EU and UN-HABITAT research initiative in support of sustainable human settlements.

## Partners

Num.	Partner Legal Name	City	Country
1	ICLEI EUROPEAN SECRETARIAT GMBH	Freiburg	Germany
2	UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME (UN-HABITAT)	Nairobi	Kenya
3	Asian Institute of Technology	Pathumtani	Thailand
4	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH - SWISS FEDERAL INSTITUTE OF TECHNOLOGY	Zuerich	Switzerland
5	UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE.	Newcastle Upon Tyne	United Kingdom



Title:	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		

Instrument:	Integrated Project		
Project Total Cost:	12.351.870 €	Project start date:	1/12/2004
EU Contribution:	9.299.437 €	Duration:	48 months
Organisation:	Leibniz-Zentrum für Agrarlandschafts- und Landnutzungsforschung e.V.	Müncheberg	Germany

## Abstract

Sustainability of land use in European regions is a central point of policy and management decisions at different levels of governance. Implementation of European policies designed to promote and protect multifunctional land use requires the urgent development of robust tools for the assessment of different scenarios' impacts on the environmental and socio-economic sustainability. The technical objective of SENSOR is to build, validate and implement sustainability impact assessment tools (SIAT), including databases and spatial reference frameworks for the analysis of land and human resources in the context of agricultural, regional and environmental policies. The scientific challenge is to establish relationships between different environmental and socio-economic processes as characterised by indicators considered to be quantitative measures of sustainability. Scenario techniques will be used within an integrated modelling framework, reflecting various aspects of multifunctionality and their interactions. The focus will be on European sensitive regions, particularly those in accession countries, since accession poses significant questions for policy makers regarding the socio-economic and environmental effect of existing and proposed land use policies. SIAT will utilise the statistical and spatial data continuously collected by European and regional agencies. SENSOR will deliver novel solutions for integrated modelling, spatial and temporal scaling and aggregation of data, selection of indicators, database management, analysis and prediction of trends, education and implementation. SIAT will be made available to decision makers at the European and regional level, providing user-friendly interfaces and scientifically sound procedures for the assessment of environmental and monetary responses of policy options. Cost-benefit and cost-effectiveness analysis of policy implementation will be an integral part of the SIAT's functions.

## Partners

Num.	Partner Legal Name	City	Country
1	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
2	Alterra b.v.	Wageningen	Netherlands
3	BRANDENBURGISCHE TECHNISCHE UNIVERSITAT COTTBUS	Cottbus	Germany
4	ARC Systems Research GmbH	Wien	Austria
5	UNIVERSITAET WIEN	Wien	Austria
6	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
8	EIDGENOESSISCHE FORSCHUNGSANSTALT WSL	Birmensdorf	Switzerland
9	HUMBOLDT UNIVERSITAET ZU BERLIN	Berlin	Germany
10	TECHNISCHE UNIVERSITAET MUENCHEN	Muenchen	Germany
11	DANMARKS MILJOEUNDERSOEGELSER.	Roskilde	Denmark
12	CENTER FOR SKOV, LANDSKAB OG PLANRHININ, KVL	Horsholm	Denmark
13	DANMARKS JORDBRUGSFORSKNING	Tjele	Denmark
14	TARTU UELIKOOL	Tartu	Estonia
15	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
16	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
17	CHAMBRE DE COMMERCE ET D'INDUSTRIE DE PARIS	Paris Cedex 08	France

18	UNIVERSITY OF WEST HUNGARY	Sopron	Hungary
19	SZENT ISTVAN EGYETEM	Godollo	Hungary
20	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
21	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy
22	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
23	MALTA ENVIRONMENT AND PLANNING AUTHORITY	Floriana	Malta
24	LANDBOUW-ECONOMISCH INSTITUUT B.V.	Den Haag (s-gravenhage)	Netherlands
25	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
26	INSTYTUT UPRAWY NAWOZENIA I GLEBOZNAWSTWA	Pulawy	Poland
27	INSTITUTE OF LANDSCAPE ECOLOGY OF THE SLOVAK ACADEMY OF SCIENCES	Bratislava	Slovakia
28	LUNDS UNIVERSITET	Lund	Sweden
30	FORESTRY COMMISSION RESEARCH AGENCY	Edinburgh	United Kingdom
31	MACAULAY INSTITUTE	Aberdeen	United Kingdom
32	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
33	UNIVERSITY OF BATH	Bath	United Kingdom
34	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
35	UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
36	EUROPEAN FOREST INSTITUTE.	Joensuu	Finland



Title:	Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions - Extension		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		

Instrument:	Integrated Project		
Project Total Cost:	1.110.146 €	Project start date:	
EU Contribution:	910.000 €	Duration:	24 months
Organisation:	Leibniz-Zentrum für Agrarlandschaftsforschung e.V.	Müncheberg	Germany

## Abstract

Decision makers face significant difficulties in anticipating the complex interlinkages of driving forces of land use as well as the possible future impacts of land use policies on sustainable development options. The design of policies aiming at supporting sustainable land use requires robust tools for the ex-ante assessment of different scenarios' impacts on the environmental and socio-economic sustainability. The Integrated Project SENSOR develops ex-ante Sustainability Impact Assessment Tools (SIAT) to support decision making on policies related to multifunctional land use in European regions. SENSOR TTC aims at international cooperation to adapt the European approach on ex-ante sustainability impact assessment to extra European conditions in Targeted Third Countries (TTC). With China, Brazil, Argentina and Uruguay, SENSOR TTC focuses on those countries, whose land use sectors are highly dynamic and of particular importance for the world's sustainable development.

SENSOR TTC will benefit from scientific knowledge and expertise of its third country partners to develop a transferability analysis framework for the tools developed in SENSOR for adaptation to third countries. Respective conditions of European and third country policy options will be considered in the light of multifunctional land use. The SENSOR TTC approach comprises the adaptation of the three SENSOR assessment streams:

- (a) driving force analysis on the basis of various land use and policy scenarios,
- (b) problem identification and risk analysis,
- (c) case study based sensitive area studies.

SENSOR TTC presents an innovative concept for the identification of policy scenarios among completely different circumstances at extra-European level and therefore significantly augment the relevance of knowledge rule based tools for sustainability impact assessment. SENSOR TTC will deliver

- a) a methodological framework for the adaptation of sustainability impact assessment to important countries Brazil, Argentina, Uruguay and China and
- b) a functional demonstration SIAT. SENSOR TTC is based on equitable partnership and will integrated researchers from different disciplines and countries to find novel solutions for integrated modelling, spatial and temporal scaling and aggregation of data, selection of indicators, database management, analysis and prediction of trends, education and implementation.

## Partners

Num.	Partner Legal Name	City	Country
1	Leibniz-Zentrum für Agrarlandschaftsforschung e.V.	Müncheberg	Germany
2	Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences	Beijing	China
3	CASS (Chinese Academy of Social Sciences) Research Centre for Sustainable Development	Beijing	China
4	Centro Nacional de Pesquisa de Solos - Empresa Brasileira de Pesquisa Agropecuária	Rio De Janeiro	Brazil
5	Universidade Federal de Santa Catarina - Núcleo de Estudos em Monitoramento e Avaliação Ambiental	Florianópolis	Brazil
6	Universidad de Buenos Aires - Facultad de Agronomía	Ciudad De Buenos Aires	Argentina
7	Universidad de la República, Uruguay. Facultad de Ciencias	Montevideo	Uruguay



Title: Science and Policy Integration for COastal System Assessment

Area: 5. Strategies for sustainable land management, including coastal zones, agricultural land and forests  
5.1. Sustainable use of land

Instrument: Integrated Project

Project Total Cost: 14.580.200 € Project start date:

EU Contribution: 10.000.000 € Duration: 48 months

Organisation: Institut Francais de Recherche pour l'Exploitation de la Mer Issy Les France  
Moulineaux

## Abstract

The overall objective of SPICOSA is to develop a self-evolving, holistic research approach and decision-support tools for the assessment of policy options aiming at improving the sustainability of Coastal Systems by implementing Integrated Coastal Zone Management policies. Based on a system approach, a multidisciplinary assessment framework will be developed with a balanced consideration of the Ecological, Social and Economic aspects (ESE) of Coastal Systems. Achieving this objective will require a restructuring of the science needed to understand the interactions between complex natural and social systems at different spatial and temporal scales including the overall economic evaluation of alternative policies and contribute to international programmes to which the European Union is committed.

This translates into six major objectives:

- 1) Create an operational Systems Approach Framework (SAF) for CZ System assessments of policy alternative objectives and instruments. The SAF must emerge from existing knowledge and evolve with new knowledge.
- 2) Overcome two critical challenges facing multidisciplinary science, that of creating a working science-policy interface and that of qualifying and quantifying complex systems, in order that the SAF is scientifically credible and operationally functional.
- 3) Implement and test the SAF over eighteen diverse Study Site Applications throughout the European region, such that its operational use is not limited to any specific policy issue, socio-economic condition, or Coastal Zone type.
- 4) Generate SAF Portfolio consisting of generic assessment methodologies, specific tools, models, and new knowledge useful for ICZM, in a manner that is user-friendly and updateable.
- 5) Improve the Communication and Integration among the main actors and infrastructures of CZ Systems that promote Sustainable Development in a manner that is self-perpetuating,
- 6) Generate new opportunities for academic and professional Training in ICZM.

## Partners

Num.	Partner Legal Name	City	Country
1	Institut Francais de Recherche pour l'Exploitation de la Mer	Issy Les Moulineaux	France
2	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
3	Istituto per l'Ambiente Marino Costiero del Consiglio Nazionale delle Ricerche	Napoli	Italy
4	University of Versailles Saint-Quentin-en-Yvelines	Versailles	France
5	Consortium for the Management of the Center of Coordination of Research Venice Lagoon (CORILA)	Venice	Italy
6	Vlaamse Instelling voor Technologisch Onderzoek	Mol	Belgium
7	EUCC - The Coastal Union	Leiden	Netherlands
8	Høgskolen i Bodø	Bodøi	Norway
9	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
10	Marmara Research Center of Turkish Scientific and Technological Research Council	Gebze-kocaeli	Turkey
11	Universidade do Algarve	Farol	Portugal
12	Université de Bretagne Occidentale	Brest	France
13	University College Cork, National University of Ireland, Cork	Cork	Ireland
14	University of East Anglia	Norwich	United Kingdom

15	Cardiff University	Cardiff	United Kingdom
16	University of Plymouth	Plymouth (devon)	United Kingdom
17	Napier University	Edinburgh	United Kingdom
18	Stockholm University	Stockholm	Sweden
19	Université Libre de Bruxelles - CESE	Brussels	Belgium
20	Hellenic Center for Marine Research	Anavissos, Attikis	Greece
21	Maritime Institute in Gdansk	Gdansk	Poland
22	The Scottish Association for Marine Science	Oban, Argyll	United Kingdom
23	disy Informationssysteme GmbH	Karlsruhe	Germany
24	Kolleg für Management und Gestaltung nachhaltiger Entwicklung gGmbH	Berlin	Germany
25	SOGREAH Consultants SAS	Echirolles	France
26	Institute for Environmental Studies Vrije Universiteit Amsterdam	Amsterdam	Netherlands
27	Department of Experimental Ecology of Marine Organisms at University of Gdansk	Gdynia	Poland
28	Institute of Marine Research	Bergen	Norway
29	Baltic Sea Research Institute - Leibniz Institut für Ostseeforschung Warnemünde	Rostock	Germany
30	Danish Institute for Fisheries Research	Charlottenlund	Denmark
31	Estonian Marine Institute of the University of Tartu	Tallinn	Estonia
32	Middlesex University Higher Education Corporation	London	United Kingdom
33	National Environmental Research Institute, Denmark	Roskilde	Denmark
34	Institute for Ecological Economy Research	Berlin	Germany
35	University of Bremen	Bremen	Germany
36	Institute of Oceanology, Bulgarian Academy of Sciences	Varna	Bulgaria
37	Stichting Waterloopkundig Laboratorium	Delft	Netherlands
38	Institute of Aquatic Ecology, University of Latvia	Salaspils	Latvia
39	Norwegian College of Fishery Science, University of Tromsø	Tromsø	Norway
40	National Institute for Marine Research and Development "Grigore Antipa"	Constanta	Romania
41	European Commission - Joint Research Centre	Ispira (va)i	Italy
42	University of Haifa	Haifa	Israel
43	Envision Partners L.L.P	Hexhami	United Kingdom
44	University of Aegean - Laboratory of Applied Environmental Economics	Mytilini	Greece
45	PCRaster Environmental Software	Utrecht	Netherlands
46	Universidad de Sevilla	Sevilla	Spain
47	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
48	Enveco Miljöekonomi	Sorunda	Sweden
49	Rijksinstituut voor Kust & Zee	The Hague	Netherlands
50	Sagremarisco-Viveiros de Marisco Lda	Budens	Portugal
51	P.P.Shirshov Institute of Oceanology of Russian Academy of Sciences	Moscow	Russian Federation





Title:	Information System for Sustainable Development for EU and UN-Habitat		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.1. Sustainable use of land		
Instrument:	Specific Support Action		
Project Total Cost:	483.500 €	Project start date:	1/02/2006
EU Contribution:	483.500 €	Duration:	24 months
Organisation:	Goudappel Coffeng BV	Deventer	Netherlands

## Abstract

Susta.Info will enable local authorities and experts to attain sustainable development, by establishing a portal and web based database of which the usefulness and continuity is ensured. Practitioners in Europe and beyond will have unconstrained access to information on sustainable development from the UN Habitat Best Practices and the EU's City of Tomorrow and 6FP land management projects. Projects will be abstracted and validated, so that they can be searched and accessed in a standard and comparable way. State-of-the-art information retrieval technology guarantees both good search results and access for all types of computer users. Dissemination activities will make Susta.Info known to at least 6,000 target users. Susta.info is a well-organised project involving information suppliers and users in the development of the system. The project will stimulate international co-operation among the UN and European Commission on the one hand and among local practitioners on the other. The work is organised into four work packages concentrating on Content, System Development, Dissemination and Co-ordination.

## Partners

Num.	Partner Legal Name	City	Country
1	GOUDAPPEL COFFENG BV	Deventer	Netherlands
2	MASTER PLAN BV	Amsterdam	Netherlands
3	GHK CONSULTING LIMITED	London	United Kingdom
4	COLLEXIS B.V.	Geldermalsen	Netherlands
5	INTERNATIONAL COUNCIL FOR LOCAL ENVIRONMENTAL INITIATIVES - CANADA	Toronto Ontario	Canada
6	POLIS - PROMOTION OF OPERATIONAL LINKS WITH INTEGRATED SERVICES, ASSOCIATION INTERNATIONALE	Bruxelles	Belgium
7	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium



## **5. Strategies for sustainable land management, including coastal zones, agricultural land and forests**

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### **5.2. Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain**

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AGRIDEMA	Introducing Tools for Agricultural Decision-Making under Climate Change Conditions by Connecting Users and Tool-Providers	276
EFORWOOD	Tools for Sustainability Impact Assessment of the Forestry-Wood Chain	277
MULTAGRI	Capitalisation of Research Results on the Multifunctionality of Agriculture and Rural Areas	279
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Title:	Introducing Tools for Agricultural Decision-Making under Climate Change Conditions by Connecting Users and Tool-Providers		
Area:	5.	Strategies for sustainable land management, including coastal zones, agricultural land and forests	
	5.2.	Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain	

Instrument:	Specific Support Action		
Project Total Cost:	230.279 €	Project start date:	1/01/2005
EU Contribution:	230.279 €	Duration:	30 months
Organisation:	Instituto Tecnológico Agrario de Castilla y Leon	Valladolid	Spain

## Abstract

New policies must be adopted under climate change conditions to secure sustainability of agricultural crop production. Despite of the recognised relevance of the European-provided modelling tools for climate risk assessments, they have been not noticeable applied for supporting agricultural decision-making within Europe, neither worldwide. On the other hand, the European research funds concerning agricultural climate-change impact assessments have been addressed mainly to theoretical issues rather than to research-results applications; although climate change and particularly its linked climate variability could lead to significant damages and yield losses in the next decades.

Researchers and farmer advisers from local agricultural-services can effectively realize which practical decisions should be taken for mitigating the possible climate risks on their local conditions. However, those local institutions are not usually connected to high-level researches neither to EU funding procedures and they need support before being able to use the European-provided modelling tools.

According to the above, present Specific Support Action (SSA) is addressed to establish connections and feedback mechanisms between high level research centres of Europe; where modelling tools have been developed and tested ("developers"); with their potential users from local agricultural decision-making ("users"). It will be done through initial contacts, short courses and pilot primary assessments. The local researchers to be initially supported by the SSA should be those located in the EU and EU-associated countries where global-change and weather extreme-events could bring the most negative consequences. The SSA should establish a continuous acting information network, comprising several European "developers" and "users".

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTO TECNOLÓGICO AGRARIO DE CASTILLA Y LEON	Valladolid	Spain
2	UNIVERSITY OF NATURAL RESOURCES AND APPLIED LIFE SCIENCES	Wien	Austria
3	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY ? BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria



Title:	Tools for Sustainability Impact Assessment of the Forestry-Wood Chain		
Area:	5.	Strategies for sustainable land management, including coastal zones, agricultural land and forests	
	5.2.	Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain	

Instrument:	Integrated Project		
Project Total Cost:	20.608.411 €	Project start date:	1/11/2005
EU Contribution:	12.944.060 €	Duration:	48 months
Organisation:	Stiftelsen Skogsbrukets Forskningsinstitut - Skogforsk	Uppsala	Sweden

## Abstract

The objective of EFORWOOD is to develop a quantitative decision support tool for Sustainability Impact Assessment of the European Forestry-Wood Chain (FWC) and subsets thereof (e.g. regional), covering forestry, industrial manufacturing, consumption and recycling. The objective will be achieved by: a) defining economic, environmental and social sustainability indicators, b) developing a tool for Sustainability Impact Assessment by integrating a set of models, c) supplying the tool with real data, aggregated as needed and appropriate, d) testing the tool in a stepwise procedure allowing adjustments to be made according to the experiences gained, e) applying the tool to assess the sustainability of the present European FWC (and subsets thereof) as well the impacts of potential major changes based on scenarios, f) making the adapted versions of the tool available to stakeholder groupings (industrial, political and others). The multi-functionality of the FWC is taken into account by using indicators to assess the sustainability of production processes and by including in the analysis the various products and services of the FWC. Wide stakeholder consultations will be used throughout the process to reach the objective. EFORWOOD will contribute to EU policies connected to the FWC, especially to the Sustainable Development Strategy. It will provide policy-makers, forest owners, the related industries and other stakeholders with a tool to strengthen the forest-based sector's contribution towards a more sustainable Europe, thereby also improving its competitiveness. To achieve this, EFORWOOD gathers a consortium of highest-class experts, including the most representative forest-based sector confederations. EFORWOOD addresses with a high degree of relevance the objectives set out in the 3rd call for proposals addressing Thematic Sub-priority 1.1.6.3 Global Change and Ecosystems, topic V.2.1. Forestry/wood chain for Sustainable Development.

## Partners

Num.	Partner Legal Name	City	Country
1	STIFTELSEN SKOGSBRUKETS FORSKNING SINSTITUT - SKOGFORSK	Uppsala	Sweden
2	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
3	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
4	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
5	Albert-Ludwigs-Universitaet Freiburg	Freiburg	Germany
6	STICHTING KENNISCENTRUM PAPIER EN KARTON	Arnhem	Netherlands
7	STFI-PACKFORSK AB	Stockholm	Sweden
8	INNOVAWOOD LTD	Dublin	Ireland
9	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Warszawa	Poland
10	IFER - USTAV PRO VYZKUM LESNICH EKOSYSTEMU	Strasice	Czech Republic
11	BOKU - UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
12	UNIVERSITETET FOR MILJO- OG BIOVITENSKAP	Aas	Norway
13	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
14	FORESTRY COMMISSION RESEARCH AGENCY	Edinburgh	United Kingdom
15	VALTION TEKNILLINEN TUTKIMUSKESKUS (VTT)	Espoo	Finland
16	BUILDING RESEARCH ESTABLISHMENT LIMITED	Watford	United Kingdom
17	AIDIMA - Asociacion de Investigacion y Desarrollo en la Industria del Mueble y Afines	Paterna	Spain

18	JP MANAGEMENT CONSULTING (EUROPE) OY	Vantaa	Finland
19	Association Foret Cellulose	Paris	France
20	CENTRE TECNOLOGIC FORESTAL DE CATALUNYA	Solsona	Spain
21	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
22	Alterra b.v.	Wageningen	Netherlands
23	CONFEDERATION EUROPEENNE DES INDUSTRIES DU BOIS	Bruxelles	Belgium
24	CONFEDERATION DES INDUSTRIES PAPETIERES EUROPEENNES - CEPI	Bruxelles	Belgium
25	CONFEDERATION EUROPEENNE DES PROPRIETAIRES FORESTIERS CEPF	Luxembourg	Luxembourg
26	OY KESKUSLABORATORIO - CENTRALLABORATORIUM AB	Espoo	Finland
27	FORSTLICHE VERSUCHS - UND FORSCHUNGSANSTALT BADEN- WUERTTEMBERG	Freiburg	Germany
28	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
29	BUNDESFORSCHUNGSANSTALT FUER FORST- UND HOLZWIRTSCHAFT	Hamburg	Germany
30	GOZDARSKI INSTITUT SLOVENIJE	Ljubljana	Slovenia
31	SAVCOR INDUFOR OY	Helsinki	Finland
32	INSTYTUT BADAWCZY LESNICTWA	Warszawa 22	Poland
33	TECHNICKA UNIVERZITA VO ZVOLENE	Zvolen	Slovakia
34	LATVIJAS VALSTS MEZZINATNES INSTITUTS "SILAVA"	Salaspils 1	Latvia
35	MENDELOVA ZEMEDELSKA A LESNICKA UNIVERZITA BRNO	Brno	Czech Republic
36	CENTRE FOR INTERNATIONAL FORESTRY RESEARCH	Bogor	Indonesia
37	UNITE DE RECHERCHE SUR LA PRODUCTIVITE DES PLANTATIONS INDUSTRIELLES	Pointe Noire	Congo
38	CENTRO AGRONOMOICO TROPICAL DE INVESTIGACION Y ENSEÑANZA	Turrialba	Costa Rica



Title:	Capitalisation of Research Results on the Multifunctionality of Agriculture and Rural Areas		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.2. Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain		
Instrument:	Specific Support Action		
Project Total Cost:	1.000.443 €	Project start date:	1/02/2004
EU Contribution:	899.999 €	Duration:	18 months
Organisation:	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forets	Antony	France

## Abstract

One of the guiding principles of Priority 6.3 Global Change and Ecosystems is to promote scientific research to provide support to the EU Strategy for Sustainable Development. The capitalisation process, in the way that it has been conceived in Multagri SSA, addresses several aspects directly related with the objectives of this Strategy.

The aim of this proposal is to provide a complete overview of the research that has been done, particularly in Europe, in the different aspects related to Multifunctionality of agriculture. The essential approach adopted in this initiative is founded on the premise that for agriculture to be sustainable its multifunctional dimension must be acknowledged and promoted. Previous works have permitted the identification of the main axes in which the state-of-the-art review will be developed. The proposed framework of analysis has considered multiple topics that are the subject of research on multifunctionality of agriculture and shape some of the current debates on this notion, such as definitions and interpretations of this term, production systems that privilege the provision of certain functions, methodologies and tools to assess the different roles of agriculture, institutional settings to acknowledge them, societal demands for additional goods and services from agriculture and related policy making and evaluation.

Issues such as equitable regional development, food security and safety, natural resource conservation, rural income generation and global sustainability - explicitly revealed in the Strategy for Sustainable Development as key concerns - , are covered by the concept of Multifunctionality of agriculture, and therefore, make part of the analysis of the state-of-the-art proposed by Multagri SSA. By providing a set of recommendations on futur research, this proposal will contribute to strengthen the necessary scientific knowledge for the future orientation of the SD strategy and the 6th FP.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
2	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
3	INSTITUTE OF LANDSCAPE ECOLOGY OF THE CZECH ACADEMY OF SCIENCES	Ceske Budejovice	Czech Republic
4	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
5	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
6	HELSINGIN YLIOPISTO	Helsinki	Finland
7	INSTITUT FUER LAENDLICHE STRUKTURFORSCHUNG AN DER JOHANN WOLFGANG GOETHE UNIVERSITAET, FRANKFURT AM MAIN	Frankfurt Am Main	Germany
8	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France



Title:	System for Environmental and Agricultural Modelling; Linking European Science and Society		
Area:	5. Strategies for sustainable land management, including coastal zones, agricultural land and forests		
	5.2. Qualitative and quantitative aspects of multi-functionality of agriculture and forest/wood chain		
Instrument:	Integrated Project		
Project Total Cost:	15.121.394 €	Project start date:	1/01/2005
EU Contribution:	11.499.972 €	Duration:	48 months
Organisation:	Wageningen Universiteit	Wageningen	Netherlands

## Abstract

The project will develop an integrated framework (SEAMLESS-IF) which integrates approaches from economic, environmental and social sciences to enable assessment of the impact of policy and behavioural changes and innovations in agriculture and agroforestry. Contributions of agriculture to sustainable development and multifunctionality will be assessed at different spatial scales from farm to global, allowing consideration of both top-down and bottom-up approaches to land management change. Innovative software architecture will be used to facilitate the use of quantitative biophysical and economic models and databases in combination, and to ensure re-usability of these tools well beyond the lifetime of the project. Indicators will be operationalised to communicate key information to users and between scales or disciplines, and methods for establishing threshold values for these indicators will be clarified. Qualitative tools will also be integrated into SEAMLESS-IF, to take into account institutional and social contexts. SEAMLESS-IF will be developed reflexively, using selected test cases to evaluate and improve the tools and assess utility. The development of SEAMLESS-IF will use participatory approaches to user involvement and dissemination, and to ensure applicability for prime users (EC DGs Research, Agriculture and Environment) and other users. SEAMLESS-IF will allow ex-ante analyses of the impacts of policy and behavioural changes, through clarification of the benefits, costs, and externalities associated with farming system management. Interactions between the EU, associated candidate countries and the rest of the world will be assessed by incorporating appropriate models. SEAMLESS-IF will rapidly become essential for integrated assessment of agricultural systems in the context of agro-ecological innovations, rural development, sustainability, agricultural policy reform, EU enlargement, and world trade liberalisation.

## Partners

Num.	Partner Legal Name	City	Country
1	WAGENINGEN UNIVERSITEIT.	Wageningen	Netherlands
2	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
3	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
4	HUMBOLDT UNIVERSITAET ZU BERLIN	Berlin	Germany
5	LEIBNIZ-ZENTRUM FUER AGRARLANDSCHAFTS- UND LANDNUTZUNGSFORSCHUNG E.V.	Muencheberg	Germany
8	CONSIGLIO PER LA RICERCA E SPERIMENTAZIONE IN AGRICOLTURA	Roma	Italy
9	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
10	NORGES LANDBRUKSHOEGSKOLE	Aas	Norway
11	LUNDS UNIVERSITET	Lund	Sweden
12	SCUOLA UNIVERSITARIA PROFESSIONALE DELLA SVIZZERA ITALIANA (SUPSI)	Manno	Switzerland
13	PLANT RESEARCH INTERNATIONAL B.V.	Wageningen	Netherlands
14	LANDBOUW-ECONOMISCH INSTITUUT B.V.	Den Haag (s-gravenhage)	Netherlands
15	Alterra b.v.	Wageningen	Netherlands
16	UNIVERSITY OF NEWCASTLE UPON TYNE.	Newcastle Upon Tyne	United Kingdom
17	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	Warsaw	Poland

18	INSTITUTE OF LANDSCAPE ECOLOGY OF THE CZECH ACADEMY OF SCIENCES	Ceske Budejovice	Czech Republic
19	RESEARCH INSTITUTE FOR AGRICULTURAL ECONOMICS	Praha	Czech Republic
20	LUND UNIVERSITY EDUCATION AB	Lund	Sweden
21	SIMILISTICS LIMITED	Roslin	United Kingdom
22	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAET BONN	Bonn	Germany
23	CENTER FOR SKOV, LANDSKAB OG PLANRHININ, KVL (DANISH CENTRE FOR FOREST LANDSCAPE AND PLANNING, KVL)	Horsholm	Denmark
24	CENTRE INTERNATIONAL DE HAUTES ETUDES AGRONOMIQUES MEDITERRANEENNES	Paris	France
25	UNIVERSIDADE DE EVORA.	Evora	Portugal
26	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
27	Antoptima SA	Lugano	Switzerland
28	INSTITUT D'ECONOMIE RURALE	Bamako	Mali
29	UNIVERSITY OF VERMONT	Burlington, Vermont	United States
30	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
31	UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
32	THE UNIVERSITY OF EDINBURGH	Edinburgh	United Kingdom





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## 6. Operational forecasting and modeling including global climatic change observation systems

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### 6.1. Development of observing and forecasting systems

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ASCABOS	A Supporting Programme for Capacity Building in the Black Sea Region towards Operational Status of Oceanographic Services	283
DAMOCLES	Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies	285
DAMOCLES TTC	Developing Arctic Modelling and Observing Capabilities for Long-term Environment Studies Extension	287
ECOOP	European COastal-shelf sea OPerational observing and forecasting system	288
ESONET	European Seas Observatory NETWORK	291
ESONIM	European Seafloor Observatory Network Implementation Model	293
GAGOS	Assessing and forward planning of the Geodetic And Geohazard Observing Systems for GMES applications	294
GEOMON	Global Earth Observation and Monitoring	295
GRAND	GRAND GOOS Regional Alliances Network Development	297
SEARCH FOR DAMOCLES	Study of Environmental Arctic Change - Developing Arctic Modelling and Observing Capability for Long-term Environment Studies	298
SEPRISE	Sustained, Efficient Production of Required Information and Services within Europe is our only justification	299
SIMORC	Proposal to establish a System of Industry Metocean data for the Offshore and Research Communities	300
SOGE-A	System for Observation of halogenated Greenhouse gases in Europe and Asia	301
STAR	Support for Tropical Atmospheric Research	302
TENATSO	Tropical Eastern North Atlantic Time-Series Observatory	303
YEOS	YEllow Sea Observation, forecasting and information system	304

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Title:	A Supporting Programme for Capacity Building in the Black Sea Region towards Operational Status of Oceanographic Services		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		

Instrument:	Specific Support Action		
Project Total Cost:	459.996 €	Project start date:	1/11/2005
EU Contribution:	459.996 €	Duration:	36 months
Organisation:	Institute of Oceanology - Bulgarian Academy of Sciences	Varna	Bulgaria

## Abstract

Communications, data and information exchange are the key elements of the operational ocean monitoring and forecasting networks, defined in the Global Ocean Observing System (GOOS). Development of observing and closely related operational forecasting system in the Black Sea region requires the exchange of significant data and information volumes. ASCABOS is designed to strengthen the communication system ensuring flexible and operative infrastructure for data and information exchange between partners and end users.

ASCABOS aims to increase public awareness and to stimulate and motivate the utilization of operational oceanographic information in management and decision-making practices. In the same time, high level of the operational services must be built and retained. ASCABOS will support achievement of these crucial objectives by initiating an educational and training programme designed for young scientists and wide spectrum of end users.

Considerable work has been performed on compiling meta-databases on the Black Sea environmental data, information and research within previous international initiatives and projects. To support and to strengthen the exchange between scientists, governmental managers and other users ASCABOS is planning to combine experiences and instruments in order to develop a Black Sea information system, containing all available metadata, validated and efficiently updated through the Internet.

ASCABOS plans to organize and realize a cost-effective VOS pilot programme, applying modern technologies and developments for data collection, transmission, storage, use and dissemination. The VOS programme will provide data for model assimilation and respond to the GOOS demand for long-term monitoring of the marine ecosystems.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTE OF OCEANOLOGY - BULGARIAN ACADEMY OF SCIENCES	Varna	Bulgaria
2	NATIONAL INSTITUTE OF METEOROLOGY AND HYDROLOGY OF THE BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
3	IV. JAVAKHISHVILI TBILISI STATE UNIVERSITY	Tbilisi	Georgia
4	THE SERVICE OF HYDROMETEOROLOGICAL PROVISION AND ENVIRONMENTAL MONITORING OF THE MINISTRY OF ENVIRONMENT OF GEORGIA	Tbilisi	Georgia
5	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE MARINA	Constanta	Romania
6	National Meteorological Administration	Bucuresti	Romania
7	P.P.SHIRSHOV INSTITUTE OF OCEANOLOGY - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
8	HYDROMETEOROLOGICAL RESEARCH CENTER OF RUSSIAN FEDERATION	Moscow	Russian Federation
9	STATE OCEANOGRAPHIC INSTITUTE	Moscow	Russian Federation
10	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
11	UNIVERSITY OF ONDOKUZ MAYIS	Akliman-sinop	Turkey
12	MARINE HYDROPHYSICAL INSTITUTE OF NATIONAL ACADEMY OF SCIENCES OF UKRAINE	Sevastopol	Ukraine
13	MARINE BRANCH OF UKRAINIAN HYDROMETEOROLOGICAL INSTITUTE	Sevastopol	Ukraine

14	MARINE INFORMATION SERVICE MARIS B.V.	Leidschendam	Netherlands
15	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrkoeping	Sweden
16	INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO	Paris	France
17	WORLD METEOROLOGICAL ORGANIZATION	Geneve	Switzerland



Title:	Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies		
Area:	6. Operational forecasting and modeling including global climatic change observation systems 6.1. Development of observing and forecasting systems		
Instrument:	Integrated Project		
Project Total Cost:	24.817.021 €	Project start date:	1/12/2005
EU Contribution:	16.099.700 €	Duration:	48 months
Organisation:	Universite Pierre et Marie Curie - Paris VI	Paris	France

## Abstract

All state-of-the-art climate models predict that the perennial sea-ice of the Arctic Ocean will disappear within a few decades or less. Important questions remain as to whether this expectation is justified, and if so when this change will take place and what effect it will have on climate on a regional-to-global scale. Such a dramatic physical affront to the ocean-atmosphere-cryosphere system in northern latitudes which corresponds to a change in surface albedo from more than 0.8 to less than 0.3 over a surface larger than Europe, is bound to have radical effects on human activities with immediate impacts on the indigenous inhabitants of the circum-Arctic region and the ecosystem on which they depend, and widespread effects on socio-economic activity on hemispheric scale.

We propose an Integrated Project for Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies (DAMOCLES) with the following objectives:

- (1) identify and understand the changes occurring in the Sea-Ice, Atmosphere and Ocean of the Arctic and Subarctic domain,
- (2) improve the realism by which these changes are simulated in models, thus extending the lead-time prior to the onset of extreme climate events,
- (3) determine appropriate adaptation strategies for a range of anticipated socio-economic impacts following the disappearance of the perennial Sea-Ice.

At a time when the International Polar Year (IPY) will focus on the science of the polar regions and on the human dimension of polar change, DAMOCLES will provide a contribution to reflect both the skills of European Sciences and the importance to European interests. DAMOCLES represents the integrated efforts of 45 European research institutions including 10 SMEs distributed among 12 European countries, and coordinated with the USA, Russia, Canada and Japan.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
2	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
3	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrköping	Sweden
4	STIFTELSEN NANSEN SENTER FOR FJERNMAALING	Bergen	Norway
5	FINNISH INSTITUTE OF MARINE RESEARCH - MERENTUTKIMUSLAITOS	Helsinki	Finland
6	METEOROLOGISK INSTITUTT	Oslo	Norway
7	NORSK POLARINSTITUT - NORWEGIAN POLAR INSTITUTE	Tromsø	Norway
8	UNIVERSITY OF LAPLAND.	Rovaniemi	Finland
9	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
10	HAVFORSKNINGSINSTITUTTET (INSTITUTE OF MARINE RESEARCH)	Bergen	Norway
11	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
12	Danmarks Meteorologiske Institut	København	Denmark
13	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
14	UNIVERSITÄT BREMEN	Bremen	Germany
15	UNIVERSITY COLLEGE LONDON.	London	United Kingdom

16	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
17	UNIVERSITETET I BERGEN	Bergen	Norway
18	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
19	UNIVERSITAET HAMBURG.	Hamburg	Germany
20	INSTYTUT OCEANOLOGII - POLSKIEJ AKADEMII NAUK	Sopot	Poland
21	OPTIMARE SENSORSYSTEME AG	Bremerhaven	Germany
22	ILMATIETEEN LAITOS	Helsinki	Finland
23	THE UNIVERSITY CENTRE IN SVALBARD	Longyearbyen	Norway
24	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
25	Centre National de al Recherche Scientifique (CNRS)	Paris	France
26	UNIVERSITE DE SAVOIE	Chambery	France
27	INSTITUT POLAIRE FRANCAIS PAUL EMILE VICTOR	Plouzane	France
28	DANMARKS TEKNISKE UNIVERSITET	Kongens Lyngby	Denmark
29	DANMARKS RUMCENTER	Kobenhavn	Denmark
30	Arctic and Antarctic Research Institute of Roshydromet - State Research Center of Russian Federation	Saint Petersburg	Russian Federation
31	TARTU UELIKOOL	Tartu	Estonia
32	P.P.SHIRSHOV INSTITUTE OF OCEANOLOGY - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
33	THE UNIVERSITY OF READING.	Reading	United Kingdom
34	ECOLE NATIONALE SUPERIEURE DES INGENIEURS DES ETUDES ET TECHNIQUES D'ARMEMENT	Brest	France
35	THE SCOTTISH ASSOCIATION FOR MARINE SCIENCE	Dunbeg Oban	United Kingdom
36	O.A. SYS - OCEAN ATMOSPHERE SYSTEMS GBR	Hamburg	Germany
37	THE INTERNATIONAL POLAR FOUNDATION	Bruxelles	Belgium
38	CICERO SENTER FOR KLIMAFORSKNING	Oslo	Norway
39	MARTEC SERPE IESM	Guidel	France
40	FASTOPT GBR	Hamburg	Germany
41	NAXIS AS	Bergen	Norway
42	TEKNILLINEN KORKEAKOULU	Espoo	Finland
43	Aanderaa Data Instruments AS	Bergen	Norway
44	Aquatec Telemetry Limited	Hartley Wintney	United Kingdom
45	CERPOLEX	Paris	France



Title:	Developing Arctic Modelling and Observing Capabilities for Long-term Environment Studies Extension		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Integrated Project		
Project Total Cost:	422.914 €	Project start date:	
EU Contribution:	422.914 €	Duration:	36 months
Organisation:	Universié Pierre et Marie Curie	Paris	France

## Abstract

DAMOCLES IP aims at reducing the uncertainties in our understanding of climate change in the Arctic and their impacts. Over the last 3 decades, the Arctic has warmed more than any other regions of the world, and the sea-ice cover has decreased significantly. DAMOCLES is the largest ever effort to assemble simultaneous observations of the Arctic atmosphere-ice-ocean system. The observational time period coincides with the International Polar Year and DAMOCLES will be an outstanding contribution, from the European Community to the IPY. The DAMOCLES data set will be assimilated in models for quantitative estimates of circulation and used for

- (1) validating and improving numerical models;
- (2) increasing our understanding of the processes and mechanisms underpinning the Arctic climate system,
- (3) initialising ensemble forecasts of the future state of the Arctic DAMOCLES Extension (DAMOCLES TTC) programme will enhance quite significantly 2 major issues of DAMOCLES IP undertaken by 4 new TTC partners.

It concerns directly and specifically 3 DAMOCLES WPs:

WP1 including sea-ice thickness, ice types, snow and sea-ice thermodynamics,

WP4 concerning modelling, data assimilation and integration and

WP7.3 dedicated to training for young Russian scientists.

DAMOCLES TTC will also impact on several other DAMOCLES WPs:

WP5 (Impacts and Assessments),

WP6 (data management) and

WP7 (public outreach and plan for dissemination of knowledge).

One of the main objectives of the DAMOCLES Extension proposal is to investigate the Arctic sea ice by means of extensive data archives from Russian satellites and Arctic expeditions, as well as from new observations by Russian satellites and field experiments in 2007 - 2009. Satellite data archive and in situ measurements from expeditions, represent a unique wealth of information about the Arctic. Russian and Belarus experts involved in sea-ice, satellite remote sensing and modelling will provide high value data sets and analyses for DAMOCLES.

## Partners

Num.	Partner Legal Name	City	Country
1	Universié Pierre et Marie Curie	Paris	France
2	B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus	Minsk	Belarus
3	Institute of Numerical Mathematics Russian Academy of Sciences	Moscow	Russian Federation
4	Nansen International Environmental and Remote Sensing Center	St.petersburg	Russian Federation
5	Research Centre for Earth Operative Monitoring	Moscow	Russian Federation



Title:	European COastal-shelf sea OPerational observing and forecasting system		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Integrated Project		
Project Total Cost:	11.238.655 €	Project start date:	1/02/2007
EU Contribution:	6.990.251 €	Duration:	36 months
Organisation:	Danmarks Meteorologiske Institut	Kobenhavn	Denmark

## Abstract

The overall goal of ECOOP is to: Consolidate, integrate and further develop existing European coastal and regional seas operational observing and forecasting systems into an integrated pan-European system targeted at detecting environmental and climate changes, predicting their evolution, producing timely and quality assured forecasts, providing marine information service's (including data, information products, knowledge and scientific advices) and facilitate decision support needs.

This is to be attained through the following activities:

1. Integrate existing coastal and regional sea observing (remote sensing, in-situ) networks into a pan-European observing system,
2. Integrate existing coastal and regional sea forecasting systems into a pan-European forecasting system and assimilate pan-European observation database into the system,
3. Assess the quality of pan-European observing and forecasting system,
4. Advance key technologies for the current and next generation pan-European observing and forecasting system,
5. Develop and generate value-added products for detecting environment and climate change signals
6. Integrate and implement a pan-European Marine Information System of Systems (EuroMISS) for general end user needs,
7. Develop methodology and demonstrate an European Decision Support System for coastal and regional seas (EuroDeSS) that responds to the needs from targeted end users, as emphasized in the GEOSS and GMES initiatives,
8. Carry out technology transfer both in Europe and at intercontinental level, establish education and training capacities to meet the need for ocean forecasters 12/09/2006.

## Partners

Num.	Partner Legal Name	City	Country
1	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
2	BUNDESAMT FUR SEESCHIFFFAHRT UND HYDROGRAPHIE	Hamburg	Germany
3	HELLENIC CENTRE FOR MARINE RESEARCH	Anavissos, Attikis	Greece
4	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
5	HAVFORSKNINGSINSTITUTTET	Bergen	Norway
6	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
7	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	Roma	Italy
8	GIP MERCATOR OCEAN	Ramondville St Agne	France
9	MET OFFICE	Exeter	United Kingdom
10	MARINE HYDROPHYSICAL INSTITUTE - UKRAINIAN NATIONAL ACADEMY OF SCIENCE	Sevastopol	Ukraine
11	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
12	SOFIISKI UNIVERSITET "SVETI KLIMENT OHRIDSKI"	Sofia	Bulgaria
13	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
14	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
15	FUNDACION AZTI/AZTI FUNDAZIOA	Sukkarieta (bizkaia)	Spain
16	BOLDING AND BURCHARD HYDRODYNAMICS	Asperup	Denmark

17	BAR ILAN UNIVERSITY	Ramat Gan	Israel
18	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS ACTING THROUGH THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE	Lowestoft	United Kingdom
19	COLLECTE LOCALISATION SATELLITES SA	Ramonville St Agne	France
20	CLU SRL	Castelfranco Emilia	Italy
21	UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK	Cork	Ireland
22	Consiglio Nazionale delle Ricerche	Roma	Italy
23	DANMARKS MILJOEUNDERSOEGELSER.	Roskilde	Denmark
24	DANMARKS RUMCENTER	Kobenhavn	Denmark
25	MERENTUTKIMUSLAITOS	Helsinki	Finland
26	MIKHEIL NODIA INSTITUTE OF GEOPHYSICS	Tbilisi	Georgia
27	UNIVERSITY OF ZAGREB	Zagreb	Croatia
28	GKSS - FORSCHUNGSZENTRUM GEESTHACHT GMBH.	Geesthacht	Germany
29	HR WALLINGFORD LTD	Wallingford	United Kingdom
30	CARL VON OSSIETZKY UNIVERSITAET OLDENBURG.	Oldenburg	Germany
31	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
32	INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE	Tunis Mahrajene (cite El)	Tunisia
33	INSTITUT NATIONAL DE RECHERCHE HALIEUTIQUE	Casablanca	Morocco
34	INSTITUTE OF OCEANOLOGY - BULGARIAN ACADEMY OF SCIENCES	Varna	Bulgaria
35	ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH LIMITED	Haifa	Israel
36	INSTITUT FUER OSTSEEFORSCHUNG WARNEMUENDE	Rostock /warnemuende	Germany
37	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
38	MARIENE INFORMATIE SERVICE "MARIS" B.V.	Leidschendam	Netherlands
39	METEOROLOGISK INSTITUTT	Oslo	Norway
40	METEO-FRANCE	Paris	France
41	TALLINNA TEHNIKAULIKOOL	Tallinn	Estonia
42	INSTITUT ROYAL DES SCIENCES NATURELLES DE BELGIQUE	Bruxelles	Belgium
43	STIFTELSEN NANSEN SENTER FOR FJERNMAALING	Bergen	Norway
44	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway
45	PLYMOUTH MARINE LABORATORY.	Plymouth	United Kingdom
46	PUERTOS DEL ESTADO	Madrid	Spain
47	RIKSWATERSTAAT, RIJKSINSTITUUT VOOR KUST EN ZEE	Den Haag	Netherlands
48	RUSSIAN STATE HYDROMETEOROLOGICAL UNIVERSITY	Sint Petersburg	Russian Federation
49	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrkoeping	Sweden
50	STATE OCEANOGRAPHIC INSTITUTE	Moscow	Russian Federation
51	TECHWORKS MARINE LIMITED	Dun Laoghaire (dublin)	Ireland
52	TECHNISCHE UNIVERSITEIT DELFT	Delft	Netherlands
53	PANEPISTIMIO KYPROU	Nicosia	Cyprus
54	UNIVERSITE DE LIEGE	Liege	Belgium
55	UNIVERSITY OF ALEXANDRIA	Alexandria	Egypt
56	INSTITUTE OF ACCELERATING SYSTEMS AND APPLICATIONS	Athina	Greece
57	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
58	UNIWERSYTET GDANSKI	Gdansk	Poland
59	UNIVERSITAT POLITECNICA DE CATALUNYA	Barcelona	Spain
60	THE UNIVERSITY OF READING.	Reading	United Kingdom
61	Centre National de al Recherche Scientifique (CNRS)	Paris	France
62	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
63	MARINE INSTITUTE	Galway	Ireland
64	XUNTA DE GALICIA - CONSELLERIA DE MEDIO AMBIENTE E DESENVOLVEMENTO SOSTIBLE	Santiago De Compostela	Spain
65	NOVELTIS	Ramonville Saint Agne	France



66	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
67	CHINESE ACADEMY OF SCIENCES - INSTITUTE OF ATMOSPHERIC PHYSICS (IAP, CAS)	Beijing	China (People's Republic of)
68	FONDAZIONE IMC CENTRO MARINO INTERNAZIONALE ONLUS	Oristano	Italy
69	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE MARINA "GRIGORE ANTIPA"	Constanta	Romania
70	UNIVERSITETET I BERGEN	Bergen	Norway
71	UNIVERSITA TA MALTA	Msida	Malta
72	INSTITUTO ESPANOL DE OCEANOGRAFIA	Madrid	Spain



Title:	European Seas Observatory NETWORK		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Network of Excellence		
Project Total Cost:		Project start date:	
EU Contribution:	0 €	Duration:	48 months
Organisation:	Institut Francais de Recherche pour l'Exploitation de la Mer	Issy-les-moulineaux	France

## Abstract

The aim of ESONET is to create an organisation capable of implementing, operating and maintaining a network of ocean observatories in deep waters around Europe from the Arctic Ocean to the Black Sea connected to shore with data and power links via fibre optic cables.

The fundamental scientific objective is to make continuous real-time observations of environmental variables over decadal, annual, seasonal, diel and tidal time scales. Constant vigilance will allow resolution of quasi-instantaneous hazardous events such as slides, earthquakes, tsunamis and benthic storms. ESONET will form a sub sea segment of the GMES (Global Monitoring for Environment and Security) with sensors extending from the sub sea floor, through the water column to sub-surface sensors providing calibration of satellite borne sensors.

ESONET brings together leading oceanographic and geosciences institutes in Europe together with universities, industry and regional agencies. It will provide integration across disciplines from geosciences, through physical, chemical and biological oceanography to technologies of instrumentation, cables, data processing and archiving.

Jointly executed research will demonstrate functioning observatories at several cabled and non-cabled sites around Europe. Existing deep-sea cables installed for neutrino telescopes will be utilised in the Mediterranean sea and shallower tests sites will be established elsewhere. Principles of sensor management, calibration, metadata and data quality will be established with real-time dissemination and generation of hazard warning. ESONET will run a training and education program through courses, scholarships, exchange of personnel between participating institutes, and outreach to the general public. Dissemination will also include a web portal, with links to the INSPIRE Geo-Portal, and with all sub sea observatory projects worldwide, enabling the widest possible access to information.

## Partners

Num.	Partner Legal Name	City	Country
1	Institut Français de recherche pour l'exploitation de la mer	Issy-les-moulineaux	France
2	Institut de Physique du Globe de Paris	Paris	France
3	Université Bretagne Occidentale	Brest	France
4	Centre National de al Recherche Scientifique (CNRS)	Paris	France
5	SOPAB/Océanopolis	Brest	France
6	Konsortium Deutsche Meeresforschung e.V.	Berlin	Germany
7	Leibniz-Institut für Meereswissenschaften	Kiel	Germany
8	Alfred Wegener Institute for Polar and Marine Research	Bremerhaven	Germany
9	International University Bremen GmbH	Bremen	Germany
10	Max Planck Gesellschaft zur Foerderung der Wissenschaften e.V.	Muenchen	Germany
11	University of Bremen	Bremen	Germany
12	Istituto Nazionale di Geofisica e Vulcanologia	Roma	Italy
13	Consiglio Nazionale delle Ricerche	Roma	Italy
14	Istituto Nazionale di Fisica Nucleare	Frascati (roma)	Italy
15	Tecnomare SpA	Venezia	Italy
16	Natural Environment Research Council	Swindon	United Kingdom
17	Hellenic Center for Marine Research	Anavyssos	Greece
18	Foundation for Research and Technology - Hellas	Heraklion	Greece
19	Stichting Koninklijk Nederlands Instituut voor Onderzoek der Zee	Den Burg	Netherlands

20	Marine Institute	Galway	Ireland
21	University of Azores	Horta	Portugal
22	Universidade do Algarve	Faro	Portugal
23	Fundacao da Faculdade de Ciencias da Universidade de Lisboa	Lisboa	Portugal
24	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
25	University of TromsøUniversity of Tromsø	Tromsøe	Norway
26	Norwegian Geotechnical Institute	Oslo	Norway
27	Nansen Environmental and Remote Sensing Center	Bergen	Norway
28	Université Libre de Bruxelles	Bruxelles	Belgium
29	Göteborgs Universitet	Göteborg	Norway
30	Stockholm University	Stockholm	Sweden
31	Technische Fachhochschule Berlin - University of Applied Sciences - FB VIII	Berlin	Germany
32	Institute of Oceanology, Bulgarian Academy of Sciences	Varna	Bulgaria
33	Istanbul Teknik Universitesi	Istanbul	Turkey
34	Bogazici University Kandilli Observatory and Earthquake Research Institute	Istanbul	Turkey
35	Dokuz Eylul University - Institute of Marine Sciences and Technology	Inciralti/izmir	Turkey
36	Alcatel Submarine Networks Ltd	La Ville Du Bois	France
37	Fugro Engineers BV	Leidschendam	Netherlands
38	CSA Group Ltd	Dublin 14	Ireland
39	Sercel Underwater Acoustic Division	Brest	France
40	NKE	Hennebont	France
41	Guralp Systems Limited	Reading - Berkshire	United Kingdom
42	Atlantide SAS	Brest	France
43	SIS Sensoren Instrumente Systeme GmbH	Klausdorf/schw	Germany
44	The University Court of the University of Aberdeen	Aberdeen	United Kingdom
45	Norddeutsche Seekabelwerke GmbH & Co KG	Nordenham	Germany
46	GISMA Steckverbinder GmbH	Neumunster	Germany
47	Teseo S.r.l.	Catania	Italy
48	SEND Signal Elektronik GmbH	Hamburg	Germany
49	DBSCALE SLNE	Telde	Spain
50	Centre de Investigacao Tecnologica do Algarve	Faro	Portugal
51	Centre National de la Recherche Scientifique / Institut National de Physique Nucléaire et de Physique des Particules	Paris	France



Title: European Seafloor Observatory Network Implementation Model

Area: 6. Operational forecasting and modeling including global climatic change observation systems

6.1. Development of observing and forecasting systems

Instrument:	Specific Support Action	Project start date:	1/09/2004
Project Total Cost:	428.401 €	Duration:	18 months
EU Contribution:	426.900 €	Organisation:	Galway Ireland
Organisation:	Marine Institute		

## Abstract

ESONIM will identify the best technical solution, provide the economic justification and suggest the appropriate legal structures to establish a seafloor observatory that conforms to the model defined by ESONET. ESONET established the basis for a marine component of GMES consisting of a network of long term, seafloor, multidisciplinary observatories at key locations on the European margin providing continuous vigilance in relation to geophysical, biogeochemical, oceanographic and biological phenomena. ESONIM provides convincing reasons and the methodology required for national governments to implement seafloor observatories offshore Europe. ESONIM will select an ESONET site as a model to demonstrate a transferable methodology to implement any of the ten selected ESONET sites. The observatory architecture proposed by ESONET will be tested by an engineering design team who will select the best technical implementation solution for the CELTNET site. Using data provided by the engineering design team a business development team of financial and legal consultants will calculate the capital cost of installation, the running costs, the potential revenues, sources of funding and the cost of financing. Legal consultants will address insurance and indemnity issues, propose model contracts and suggest partnership agreements. Public private partnerships will be considered. The business development team will present a business model with a projected ten year cash flow forecast for the CELTNET site. The deliverables from ESONIM will be used by ESONET partners to petition their respective governments for support to establish seafloor observatories. ESONIM will promote and facilitate the take up of the results of ESONET and will contribute to the implementation of observing and forecasting systems to make long-term systematic observations of marine parameters necessary for global change research and management strategies.

## Partners

Num.	Partner Legal Name	City	Country
1	MARINE INSTITUTE	Galway	Ireland
2	CSA GROUP LTD	Dublin 14	Ireland
3	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN	Kiel	Germany
4	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
5	Alcatel Submarine Networks Ltd	Greenwich - London	United Kingdom
6	UNIVERSITY OF ABERDEEN	Aberdeen	United Kingdom
7	GOODBODYS STOCKBROKERS	Dublin 4	Ireland
8	PHILIP LEE SOLICITORS	Dublin 2	Ireland
9	GOETEBORGS UNIVERSITET.	Goeteborg	Sweden



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Title:	Assessing and forward planning of the Geodetic And Geohazard Observing Systems for GMES applications		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	229.620 €	Project start date:	1/02/2005
EU Contribution:	229.620 €	Duration:	24 months
Organisation:	Geoforschungszentrum Potsdam	Potsdam	Germany

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## Abstract

Substantial improvement of our present knowledge of Earth System dynamics is paramount for the development of reliable strategies for actions vital to the human society in terms of achieving sustainable development and ensuring security. This requires for the various system components long-term integrated global data series from a large variety of sensors and networks combined with high performance rapid computing and a uniform and efficient access to distributed data archives and data information systems.

The SSA proposed here aims

(1) at assessing the status quo situation of two major components of the Earth observing system, namely the global geodetic and global geohazards observing systems as indispensable prerequisites for the consistent global monitoring of the Earth system environment and security aspects of population and

(2) identifying deficiencies and gaps in both components and providing advice for the implementation of necessary adaptations and potential new developments in network-, shared computing-, and information/data management task for the observing techniques involved.

## Partners

Num.	Partner Legal Name	City	Country
1	GEOFORSCHUNGSZENTRUM POTSDAM	Potsdam	Germany
2	DEUTSCHES GEODATISCHES FORSCHUNGSINSTITUT	Muenchen	Germany
3	STATENS KARTVERK	Hoenefoss	Norway



Title:	Global Earth Observation and Monitoring		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Integrated Project		
Project Total Cost:	10.450.650 €	Project start date:	1/02/2007
EU Contribution:	6.621.740 €	Duration:	48 months
Organisation:	Commissariat a l'Energie Atomique (CEA)	Paris	France

## Abstract

The overall goal of the GEOMON project is to sustain and analyze European ground-based observations of atmospheric composition, complementary with satellite measurements, in order to quantify and understand the ongoing changes. GEOMON is a first step to build a future integrated pan-European Atmospheric Observing System dealing with systematic observations of long-lived greenhouse gases, reactive gases, aerosols, and stratospheric ozone. This will lay the foundations for a European contribution to GEOSS and optimize the European strategy of environmental monitoring in the field of atmospheric composition observations. Specifically, we will unify and harmonize the main European networks of surface and aircraft-based measurements of atmospheric composition parameters and integrate these measurements with those of satellites. The access to data and data-products will be coordinated at a common data centre for more efficient use. GEOMON will support data gathering at existing networks if necessary, rescue and compile existing ground-based data, and develop new methodologies to use these data for satellite validation and interpretation.. In addition, GEOMON will enable innovative ground-based measurements complementary to satellites, made by upward looking ground based remote sensing instruments Max-DOAS, FTIR, and LIDAR and by systematic measurement programmes of upper-tropospheric composition using passenger aircrafts CARIBIC and MOZAIC. These data will serve to reduce biases and random errors in satellite observations and facilitate interpretation of the columnar measurements in combination with surface data. This will result in a significant improvement in the use of existing and future satellite data. Common techniques and modelling tools will be used in order to add value to the GEOMON data observations, to facilitate their use in satellite validation and help design an optimal network.

## Partners

Num.	Partner Legal Name	City	Country
1	COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA)	Paris	France
2	ILMATIETEEN LAITOS	Helsinki	Finland
3	ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE.	Egham, Surrey	United Kingdom
4	STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
5	UNIVERSITAET BREMEN	Bremen	Germany
6	UNIVERSITY OF LEICESTER	Leicester	United Kingdom
7	EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS.	Reading	United Kingdom
8	EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT	Duebendorf	Switzerland
9	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
10	INSTITUT D'AERONOMIE SPATIALE DE BELGIQUE.	Brussel	Belgium
11	WORLD METEOROLOGICAL ORGANIZATION	Geneve	Switzerland
12	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
13	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
14	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG.	Heidelberg	Germany
15	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT (KNMI)	De Bilt	Netherlands
16	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
17	PAUL SCHERRER INSTITUT	Villigen Psi	Switzerland

18	Consiglio Nazionale delle Ricerche	Roma	Italy
19	NATIONAL UNIVERSITY OF IRELAND, GALWAY	Galway	Ireland
20	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
21	UNIVERSITAET BERN	Bern	Switzerland
22	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
23	Danmarks Meteorologiske Institut	Kobenhavn	Denmark
24	INSTITUTO NACIONAL DE TECNICA AEROESPACIAL	Torreon De Ardoz - Madrid	Spain
25	UNIVERSITE DE LIEGE	Liege	Belgium
26	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
27	UNIVERSITY OF LEEDS	Leeds	United Kingdom
28	UNIVERSITETET I OSLO	Oslo	Norway
29	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	Verneuil En Halatte	France
30	UNIVERSITE DES SCIENCES ET TECHNOLOGIES DE LILLE	Villeneuve D'ascq	France
31	UNIVERSITE DE VERSAILLES SAINT-QUENTIN-EN-YVELINES.	Versailles	France
32	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
33	UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	Karlsruhe	Germany
34	FUNDACIO PRIVADA PARC CIENTIFIC DE BARCELONA	Barcelona	Spain
35	A.N. SEVERTSOV INSTITUTE OF ECOLOGY AND EVOLUTION - RUSSIAN ACADEMY OF SCIENCES	Moscow	Russian Federation
36	Centre National de al Recherche Scientifique (CNRS)	Paris	France
37	CENTRE NATIONAL D'ETUDES SPATIALES	Paris	France
38	HELSINGIN YLIOPISTO	Helsinki	Finland



Title:	GRAND GOOS Regional Alliances Network Development		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	529.000 €	Project start date:	1/02/2004
EU Contribution:	520.000 €	Duration:	30 months
Organisation:	University of Malta	Msida	Malta

## Abstract

Large-scale operational ocean monitoring and forecasting networks, defined in the international programme Global Ocean Observing System (GOOS), are needed to implement many global conventions and agreements signed by the EU and its Member states, including the Convention on the Law of the Sea, International Convention for the Safety of Life at Sea, Convention on Biodiversity, Framework Convention on Climate Change, Programme of Action for Sustainable Development.

GOOS Regional Alliances co-ordinate the efforts of states around the world to implement GOOS. They have different capacities, resources and level of activity, but all seek to establish a global sustained system of observations to predict the state of the marine environment, to fulfil their duties in international agreements and to gain practical benefits for a variety of end-users and for public good.

Europe (EuroGOOS, MedGOOS) has world leadership. EC RTD projects such as MAMA, PAPA and ARENA support international co-operation for GOOS, and participate in the initial phase of the Global Monitoring of Environment and Security, the European contribution to global monitoring systems.

GRAND brings together all the GOOS Regional Alliances (GRAs) and is supported by the major international organisations related to GOOS (IOC, JCOMM, I-GOOS). The partnership covers all the oceans on Earth to provide a forum, led by Europe, to harmonise the diverse regional systems within GOOS, while advancing the European contribution to the global system.

GRAND will facilitate the dissemination of best practice, technology transfer, development of international co-operation, establishment of observing systems in developing countries, application of results of EU projects to the broader international community active in the GRAs. This will help to strengthen the role of the EU on the international stage while contributing to the integration and strengthening of the ERA.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF MALTA	Msida	Malta
2	Consiglio Nazionale delle Ricerche	Roma	Italy
3	SWEDISH METEOROLOGICAL AND HYDROLOGICAL INSTITUTE	Norrkoeping	Sweden
4	MIDDLE EAST TECHNICAL UNIVERSITY	Ankara	Turkey
5	MINISTRY OF FOOD AND AGRICULTURE	Accra	Ghana
6	INDIAN NATIONAL CENTRE FOR OCEAN INFORMATION SERVICES	Hyderabad	India
7	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION	Paris	France
8	V.L.L'ICHEV PACIFIC OCEANOLOGICAL INSTITUTE	Vladivostok	Russian Federation
9	SOUTH PACIFIC APPLIED GEOSCIENCE COMMISSION	Suva	Fiji
10	CHULALONGKORN UNIVERSITY	Bangkok	Thailand
11	SERVICIO HIDROGRAFICO Y OCEANOGRAFICO DE LA ARMADA	Playa Ancha Valparaiso	Chile
12	IMPERIAL COLLEGE FOR SCIENCE, TECHNOLOGY AND MEDICINE	London	United Kingdom
13	Acrosslimits Limited	Birkirkara	Malta
14	INSTITUTE OF OCEANOLOGY OF THE POLISH ACADEMY OF SCIENCES	Sopot	Poland
15	Astrakhan State Technical University	Astrakhan	Russian Federation





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Title:	Study of Environmental Arctic Change - Developing Arctic Modelling and Observing Capability for Long-term Environment Studies		
Area:	6. Operational forecasting and modeling including global climatic change observation systems 6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	605.000 €	Project start date:	1/10/2006
EU Contribution:	605.000 €	Duration:	36 months
Organisation:	Universite Pierre et Marie Curie - Paris VI	Paris	France

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## Abstract

We are proposing an SSA "SEARCH for DAMOCLES" that is based on recent initiatives started in Europe and the USA in the field of Arctic marine ecosystems and Global change, with specific emphasis on Arctic Ocean long-term observatories. The SSA will capitalize on opportunities and significant benefits arising from coordination of large scale research programmes such as the European Integrated Project DAMOCLES (Developing Arctic Modelling and Observing Capabilities for Long-term Environmental studies) and the US research program SEARCH (Study of Environmental Arctic Change). "SEARCH for DAMOCLES", positioned in the domain of Arctic Science, will be particularly timely in the context of the International Polar Year and will significantly contribute to the coordinated implementation of the DAMOCLES and SEARCH work programmes in the field of Global Change and Ecosystems. Close synchronization of these programmes will enhance the acquisition of pan-arctic data sets, and their analysis, the dissemination and archiving of results, as well as heightening public awareness. International workshops and conferences including other partners such as Canada, Russia, and Asian countries (Japan, China, and South Korea), will enable translation of the results into planning of integrated, future activities that will be based on the SSA "SEARCH for DAMOCLES". The coordination and synchronization of Arctic programs such as DAMOCLES and SEARCH, through an SSA is a unique opportunity to ensure the necessary pan-arctic coverage of observations and data evaluation for understanding Arctic system variability, avoiding major gaps and unnecessary overlaps. This EU-US SSA will also contribute to promotion and facilitation of future RTD activities via prospective studies, exploratory measures and pilot actions. The EU-US SSA "SEARCH for DAMOCLES" is proposed for 3 years covering the 3 last years of the 4-year DAMOCLES Integrated Project (2006-2009) and the 2 years of the IPY (2007-2008).

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
3	METEOROLOGISK INSTITUTT	Oslo	Norway
5	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrkoeping	Sweden
7	CICERO SENTER FOR KLIMAFORSKNING	Oslo	Norway
9	Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany



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Title:	Sustained, Efficient Production of Required Information and Services within Europe is our only justification		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	347.834 €	Project start date:	1/11/2004
EU Contribution:	330.000 €	Duration:	30 months
Organisation:	Sveriges Meteorologiska och Hydrologiska Institut	Norrköping	Sweden

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## Abstract

The overall objective of the project is to discern and enable methods of increasing, improving and coordinating production of European scale Operational Ocean Forecasting Products and Services. This will be achieved by reviewing and then ensuring that, as far as possible, the findings and experience gained from the so-called Operational Forecasting Cluster of Projects funded under MAST III and FP-5, and other relevant sources, are pulled through into sustained, efficient operational oceanographic services. Recommendations for the future structure and functionalities of an integrated initial European coastal ocean observing and forecasting system will be made and a design plan to implement this will be prepared. Care will be taken to ensure that proposals are compatible with the wider implementation of GMES, in particular to ensure interoperability with similar initiatives outside the marine theme.

## Partners

Num.	Partner Legal Name	City	Country
1	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	Norrköping	Sweden
2	UNIVERSITA TA' MALTA	Msida	Malta
3	ORTA DOGU TEKNIK UNIVERSITESI	Ankara	Turkey
4	METEO-FRANCE	Paris	France
5	MET OFFICE	Exeter	United Kingdom



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Title:	Proposal to establish a System of Industry Metocean data for the Offshore and Research Communities		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	500.000 €	Project start date:	1/06/2005
EU Contribution:	500.000 €	Duration:	24 months
Organisation:	Mariene Informatie Service "Maris" b.v.	Leidschendam	Netherlands

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## Abstract

Strategic objectives addressed: To create an Internet central index and database of metocean data sets, collected by the oil and gas industry at various sites on the globe in the past and continuing at present. To facilitate harmonisation in quality and formats, storing and retrieving of these industry metocean datasets for use by industry partners and scientific users. Proposal abstract: A very substantial volume of metocean in situ data is collected by or under contract to major oil and gas companies. This is done all over the world and over many years a large volume of data sets has been acquired, often at substantial cost and in remote areas. These are managed by the metocean departments of the oil and gas companies and stored in various formats and are only exchanged on a limited scale between companies. Despite various industry co-operative joint projects, there is not yet a common awareness of available data sets and no systematic indexing and archival of these data sets within the industry. Furthermore there is only limited reporting and access to these data sets and results of field studies for other parties, in particular the scientific community. Opening up these data sets for further use will provide favourable conditions for creating highly valuable extra knowledge of both local and regional ocean and marine systems. There are many projects and research groups within the EU Framework programme 'Sustainable development, global change and ecosystems' that would immediately make good use of the data and see wide applications for these data sets, if available and accessible. To stimulate and support a wider application of these industry metocean datasets it is proposed to establish a System of Industry Metocean data for the Offshore and Research Communities (SIMORC). This will consist of a public domain index metadatabase and a database of actual data sets, that together will be accessible through the Internet. Access to data will be regulated by a protocol.

## Partners

Num.	Partner Legal Name	City	Country
1	MARIENE INFORMATIE SERVICE "MARIS" B.V.	Leidschendam	Netherlands
2	INTERNATIONAL ASSOCIATION OF OIL AND GAS PRODUCERS	London	United Kingdom
3	NATURAL ENVIRONMENT RESEARCH COUNCIL.	Swindon Wiltshire	United Kingdom
4	INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO	Paris	France



Title:	System for Observation of halogenated Greenhouse gases in Europe and Asia		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	828.500 €	Project start date:	1/06/2004
EU Contribution:	380.000 €	Duration:	36 months
Organisation:	Norsk institutt for Luftforskning	Kjeller	Norway

## Abstract

SOGE-A will provide a European contribution to extension of an international observation system for greenhouse gases by setting up a Chinese measurement system. The project builds upon SOGE, an existing integrated system for observation of halogenated greenhouse gases in Europe, funded through the Energy, Environment and Sustainable Development Program (FP5) and national contributions. The gases that are in focus, CFCs, HCFCs and HFCs, are included in the Montreal and the Kyoto protocols, as they contribute to depletion of the stratospheric ozone layer as well as global warming.

The setting-up of a measurement system in China includes installing in instrument for measurements of halogenated compounds, linking and harmonization of the Chinese station to SOGE, and estimation of emissions by combining measurements with meteorological data and model tools. The project also focuses on teaching, training and dissemination of results to end-users. China still (legally) emits significant amounts of CFCs. China's importance as a source of HCFC and HFC is increasing rapidly.

SOGE-A will be linked to the SOGE network that has been developed between four stations in Europe with full intercalibration. SOGE is collaborating with the international network of Advanced Global Atmospheric Gases Experiment (AGAGE), which is funded partly by NASA in the US and partly by the governments of Australia, United Kingdom and Japan. AGAGE collaborates with the network of National Ocean and Atmosphere Administration (NOAA) in the US. NASA and NOAA, and also the Global Atmosphere Watch (GAW) program, support the establishment of observations in China, due to significant emissions and missing observations in the region.

## Partners

Num.	Partner Legal Name	City	Country
1	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
2	CHINESE ACADEMY OF METEOROLOGICAL SCIENCES	Beijing	China (People's Republic of)
3	UNIVERSITY OF BRISTOL	Bristol	United Kingdom
4	EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT	Duebendorf	Switzerland
5	UNIVERSITA DEGLI STUDI DI URBINO "CARLO BO"	Urbino	Italy



Title:	Support for Tropical Atmospheric Research		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	448.216 €	Project start date:	1/03/2004
EU Contribution:	310.000 €	Duration:	30 months
Organisation:	Koninklijk Nederlands Meteorologisch Instituut	De Bilt	Netherlands

## Abstract

The objective of the proposed STAR project (Support for Tropical Atmospheric Research) is to strengthen the European contribution to the global observation system, and to support international cooperation in setting up these observation systems in the tropics. It is a joint effort of European, Japanese, and American research groups to establish a shared atmospheric observatory in Paramaribo, Suriname at the northern coast of South America at 5.8°N and 55.2°W. The location of the observatory is unique because of the fact that it lies very close to the Equator, at a location in the middle of the annual migration range of the Inter-Tropical Convergence Zone (ITCZ). Hence air from both hemispheres can be sampled at different times of the year. The station fills in an important gap in the global atmospheric observatory network. The proposed project will facilitate access of European and other research groups to the observatory, enhance the technical capabilities of the site, build capacity for global change research in the tropics and improve the conditions for the execution of a long-term observational program. The project will contribute to the implementation of the FP6 work program and support international networks and programs like the WMO Global Atmosphere Watch (GAW) program, GCOS, the WCRP SPARC project, and the NDSC and SHADOZ networks. The proposed STAR project involves

- (1) a significant upgrading of the site to be able to host additional instruments and visiting scientist,
- (2) development of a site coordination plan,
- (3) short pilot studies to assess the feasibility and requirements of operating several additional instruments at the site;
- (4) the development of a program to intensify the collaboration between local scientists and the other partners of the Paramaribo observatory, and
- (5) the retrieval and homogenisation of historical observational data from the region.

## Partners

Num.	Partner Legal Name	City	Country
1	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT	De Bilt	Netherlands
2	METEOROLOGISCHE DIENST SURINAME	Paramaribo	Suriname
3	BELGISCH INSTITUUT VOOR RUIMTE AERONOMIE	Brussel	Belgium
4	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG	Heidelberg	Germany
5	UNIVERSITAET BREMEN	Bremen	Germany
6	TECHNISCHE UNIVERSITEIT EINDHOVEN	Eindhoven	Netherlands
7	Anton de Kom Universiteit van Suriname	Paramaribo	Suriname
8	Siftung Alfred-Wegener-Institut für Polar- und Meeresforschung	Bremerhaven	Germany
9	HOKKAIDO UNIVERSITY	Sapporo	Japan



Title:	Tropical Eastern North Atlantic Time-Series Observatory		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	549.760 €	Project start date:	1/10/2006
EU Contribution:	549.760 €	Duration:	24 months
Organisation:	Leibniz-Institut für Meereswissenschaften an der Universität Kiel	Kiel	Germany

## Abstract

Observation is fundamental to understanding global change. Atmospheric change impacts marine ecosystems, and the atmosphere is influenced by ocean physical and biogeochemical processes. Many impacts/feedbacks are focussed in the Tropics. TENATSO will support pre-operational atmosphere and ocean observation capability in the tropical Eastern North Atlantic Ocean, specifically at Cape Verde (17°36'N, 24°16'W). The entire region is data poor but plays a key role in air-sea interaction. Cape Verde is ideally located for both atmosphere and ocean observation. Being downwind of the Mauritanian upwelling, the Observatory will provide unique information linking biological productivity and atmospheric composition. The location is critical for climate and greenhouse gas studies and for investigating dust impacts on marine ecosystems. The Observatory can contribute data for assessment of major marine biological resources. This Action proposes no research or monitoring; rather it supports transfer of European technology/expertise to a developing country with strong ties to Europe. The Action is leveraged on financial support by the Partners and the Observatory is of use to European programmes. The atmospheric site will measure meteorological parameters, greenhouse and short-lived gases, and aerosols. Data links to the Global Atmospheric Watch of the WMO will be established. The ocean site will include a mooring for temperature, salinity, current and oxygen measurements and establish data links to international observing programmes. Cape Verde's vessel will be equipped to collect samples for marine parameters. The data will contribute to GEOSS. The co-location of atmospheric and ocean Observatories is unique. The Observatory will support additional research measurements by international investigators and become a resource to European and international projects.

## Partners

Num.	Partner Legal Name	City	Country
1	LEIBNIZ-INSTITUT FUER MEERESWISSENSCHAFTEN AN DER UNIVERSITAT KIEL	Kiel	Germany
2	UNIVERSITY OF YORK	York	United Kingdom
3	INSTITUTO NACIONAL DE METEROLOGIA E GEOFISICA	Espargos	Cape Verde
4	INSTITUTO NACIONAL DE DESENVOLVIMENTO DAS PESCAS	Mindelo - San Vicente	Cape Verde
5	MAX-PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	Muenchen	Germany
6	LEIBNIZ-INSTITUT FUER TROPOSPHAERENFORSCHUNG E.V.	Leipzig	Germany



Title:	YELlow Sea Observation, forecasting and information system		
Area:	6. Operational forecasting and modeling including global climatic change observation systems		
	6.1. Development of observing and forecasting systems		
Instrument:	Specific Support Action		
Project Total Cost:	477.180 €	Project start date:	
EU Contribution:	446.680 €	Duration:	30 months
Organisation:	Danmarks Meteorologiske Institut	Copenhagen	Denmark

## Abstract

The purpose of YEOS is to strengthen the GEOSS cooperation between EU and other key GEOSS players, by a two-step, bottom-up approach. The 1st step is to demonstrate benefits and build up confidence through a solid cooperation in national level (i.e., EU States-China-South Korea) and regional level (i.e., BOOS - Yellow Sea OOS). The 2nd step is to enlarge the cooperation to EuroGOOS & NearGOOS level. In practice the 2nd stage will be between GMES/GEOSS Projects in EU (e.g., MERSEA/ECOOP) and in NE Asia countries China-Korea-Japan-Russia. This includes, e.g., sharing satellite/in-situ data and best practice, and using MERSEA global forecast as boundary condition for NE Asia forecasting system etc. YEOS will fulfil the 1st step GEOSS cooperation by

- 1) jointly building up a proto-type Yellow Sea observation, forecasting and information system;
- 2) demonstrating the system in a period around August 2008, when all Yacht Games of 2008 Olympic Game will be performed in Yellow Sea waters;
- 3) disseminating YEOS products in different user levels especially to stake-holders and policy makers, and carry out international cooperation between regional Operational Oceanography Systems (OOSs) in Baltic and Yellow Sea (BOOS-YOOS).

The YEOS observation system will be based on the integration of existing China-Korea monitoring system in Yellow Sea. YEOS forecasting system is built on advanced and matured European-Chinese operational modelling technology, including coupled ocean-ice and sediment transport forecasting system from Denmark and Germany (with ECMWF weather forcing), wave forecasting system and variational assimilation from China. YEOS, as a seed, will initiate the 2nd stage GEOSS cooperation through a forum which consists of YEOS consortium and the key players in European-NE Asia GEOSS projects, who will be invited as YEOS Advisory Group member. The outcome from the forum will be the 2nd stage GEOOS cooperation plan between EU and NE Asia countries.

## Partners

Num.	Partner Legal Name	City	Country
1	Danmarks Meteorologiske Institut	Copenhagen Ø	Denmark
2	China-Korea Joint Ocean Research Center	Qingdao	China
3	FIRST INSTITUTE OF OCEANOGRAPHY-STATE OCEANIC ADMINISTRATION	Qingdao	China
4	GKSS - FORSCHUNGSZENTRUM GEESTHACHT GMBH	Geesthacht	Germany
5	CHINESE ACADEMY OF SCIENCES - INSTITUTE OF ATMOSPHERIC PHYSICS (IAP, CAS)	Beijing	China
6	Korea Ocean Research and Development Institute	Ansan	Korea (Republic of)
7	North China Sea Branch of the State Oceanic Adimistration	Qingdao	China
8	OCEAN UNIVERSITY OF CHINA	Qingdao	China



## **7. Complementary Research**

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### **7.1. Development of advanced methodologies for risk assessment**

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INTARESE	Integrated Assessment of Health Risks from Environmental Stressors in Europe	307
NOMIRACLE	Novel Methods for Integrated Risk Assessment of Cumulative Stressors in Europe	309
NORMAN	Network of reference laboratories and related organisations for monitoring and bio-monitoring of emerging environmental pollutants	311
OSIRIS	Optimized Strategies for Risk assessment of chemicals based on Intelligent testing	313

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Title: Environmental risk assessment of pharmaceuticals  
 Area: 7. Complementary Research  
 7.1. Development of advanced methodologies for risk assessment

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.710.298 €	Project start date:	1/10/2004
EU Contribution:	2.797.198 €	Duration:	36 months
Organisation:	ECT Ökotoxikologie GmbH	Floersheim	Germany

## Abstract

The overall objective of ERAPharm is to improve and complement existing knowledge and procedures for the environmental risk assessment (ERA) of human and veterinary pharmaceuticals. Based on EU regulatory frameworks on the ERA of pharmaceuticals and on the outcome of previous projects ERAPharm will address the following aspects: It will investigate previously unstudied major routes leading to exposure of the terrestrial and aquatic environment and subsequent fate of pharmaceuticals in surface water and sediment. Factors and processes affecting the behaviour of pharmaceuticals in the environment will be studied on the laboratory, semi-field and field scale. A scenario-based exposure assessment system will be developed for predicting concentrations of pharmaceuticals in soils, surface waters and sediments and leaching to groundwater. It will be investigated if environmentally relevant concentrations of pharmaceuticals pose a risk to aquatic and terrestrial organisms. Pharmaceuticals and selected transformation products will be screened using in vitro and low complexity bioanalytical tests in order to provide a first hazard characterisation and to target higher tier testing. Higher tier test methods will be improved and applied for detecting the effects of long-term, low-level exposure to pharmaceuticals on aquatic and terrestrial invertebrates and fish. It will be evaluated if information on pharmaco- and toxicodynamics in mammalian species can be used to predict effects of pharmaceuticals on environmental organisms. Moreover, the effects of antibiotics on microbial communities will be studied with a main focus on the spread of genetically encoded resistance. Based on the developed approaches recommendations will be provided on how to improve the ERA procedures for pharmaceuticals. A guidance document will be compiled that will be made available to regulators, industry and the scientific community.

## Partners

Num.	Partner Legal Name	City	Country
1	ECT OEKOTOXIKOLOGIE GMBH	Floersheim	Germany
2	Astrazeneca UK Ltd (Astrazeneca PLC)	London	United Kingdom
3	BRUNEL UNIVERSITY	Uxbridge	United Kingdom
4	Bundesanstalt für Gewässerkunde	Koblenz	Germany
5	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
6	UNIVERSITY OF YORK	York	United Kingdom
7	THE DANISH UNIVERSITY OF PHARMACEUTICAL SCIENCES	Copenhagen	Denmark
8	EIDGENOSSISCHE ANSTALT FÜR WASSERVERSORGUNG, ABWASSERREINIGUNG UND GEWASSERSCHUTZ	Duebendorf	Switzerland
9	GEOTECHNISCHES INSTITUT AG	Bern	Switzerland
10	UTRECHT UNIVERSITY	Utrecht	Netherlands
11	INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA	Madrid	Spain
12	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
15	UMWELTBUNDESAMT	Dessau	Germany
16	CANADIAN WATER NETWORK	Waterloo, Ontario	Canada



Title:	Integrated Assessment of Health Risks from Environmental Stressors in Europe		
Area:	7. Complementary Research 7.1. Development of advanced methodologies for risk assessment		
Instrument:	Integrated Project		
Project Total Cost:	17.341.696 €	Project start date:	1/11/2005
EU Contribution:	12.379.832 €	Duration:	60 months
Organisation:	Imperial College of Science, Technology and Medicine	London	United Kingdom

## Abstract

This study is designed to support implementation of the European Environment and Health Action Plan, by providing the methods and tools that are essential to enable integrated assessment of environmental health risks. Drawing upon the large range of studies carried out in Europe over recent years (many led by the study partners) and the advances made in specific areas of toxicology and epidemiology (especially air pollution), and in close collaboration with users, it will develop a methodological framework and set of tools and indicators for integrated assessment that can be applied across different environmental stressors (including pollutants and physical hazards), exposure pathways (air, water, soil, food) and policy areas. It will review, bring together and enhance the monitoring systems needed to support such analyses, including routine environmental monitoring (ground-based and Earth observation), biomonitoring and health surveillance. The framework, tools and data will be tested and demonstrated through integrated assessments of exposures and health risks in a number of specific policy areas, including transport, housing, agriculture, water, wastes, household chemicals and climate. Results from these will be used both to refine the assessment methods and to provide specific information on health implications of current, and potential future, policies. Based on the results, a toolbox for integrated environmental health risk assessment will be developed, which will be further tested and demonstrated through a series of higher level policy analyses. Particular attention will be given throughout to issues of uncertainty, sensitive or susceptible groups, and possible interactive and cumulative effects of different stressors. Deliverables will include new, integrated methods and indicators for environmental health risk assessment and monitoring, an operational assessment toolbox, and a set of validated assessments that can directly inform policy.

## Partners

Num.	Partner Legal Name	City	Country
1	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE.	London	United Kingdom
2	LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE	London	United Kingdom
3	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
4	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
5	Agence Francaise de Securite Sanitaire Environnementale	Maisons-alfort	France
6	KANSANTERVEYSLAITOS	Helsinki	Finland
7	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
8	Agenzia Sanitaria Locale Roma E	Roma	Italy
9	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS	Athina	Greece
10	GSF - FORSCHUNGSZENTRUM FUER UMWELT UND GESUNDHEIT GMBH	Muenchen Neuherberg	Germany
11	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
12	KAROLINSKA INSTITUTET	Stockholm	Sweden
13	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
14	WORLD HEALTH ORGANISATION REGIONAL OFFICE FOR EUROPE	Kobenhavn	Denmark
15	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
16	FUNDACIO IMIM	Barcelona	Spain
17	UNIVERSITEIT MAASTRICHT	Maastricht	Netherlands
18	HEALTH PROTECTION AGENCY	London	United Kingdom

19	INSTITUTE OF EXPERIMENTAL MEDICINE - ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Praha 4	Czech Republic
20	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
21	STATNI ZDRAVOTNI USTAV	Praha 10	Czech Republic
22	INSTITUT ZA NUKLEARNE NAUKE VINCAS	Belgrade	Serbia and Montenegro
23	SLOVENSKA ZDRAVOTNICKA UNIVERZITA	Bratislava	Slovakia
24	UNIVERSITAET STUTTGART	Stuttgart	Germany
25	INSTITUT DE VEILLE SANITAIRE	St.maurice	France
26	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	Verneuil En Halatte	France
27	PRESIDENZA DEL CONSIGLIO DEI MINISTRI - DIPARTIMENTO DELLA PROTEZIONE CIVILE	Rome	Italy
28	CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS	Thermi-thessaloniki	Greece
29	CONSEIL EUROPEEN DE L'INDUSTRIE CHIMIQUE AISBL	Bruxelles	Belgium
30	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	Champs Sur Marne	France
31	FUNDACIO PRIVADA PARC CIENTIFIC DE BARCELONA	Barcelona	Spain
32	IC CONSULTANTS LTD	London	United Kingdom



Title: Novel Methods for Integrated Risk Assessment of Cumulative Stressors in Europe

Area: 7. Complementary Research  
7.1. Development of advanced methodologies for risk assessment

Instrument:	Integrated Project		
Project Total Cost:	14.406.885 €	Project start date:	1/11/2004
EU Contribution:	10.000.000 €	Duration:	60 months
Organisation:	National Environmental Research Institute	Roskilde	Denmark

## Abstract

To support current and future European strategies, in particular for environment and health, there is an urgent need for development of methods for assessing the cumulative risks from combined exposures to multiple stressors including from complex mixtures of chemical, physical, and biological agents. This presented IP will help support the development and improvement of a coherent series of methodologies that will be underpinned by mechanistic understanding, while integrating the risk analysis approaches of environmental and human health. The project will deliver understanding and tools for sound risk assessment, developing a research framework for the description and interpretation of combined stressor effects that leads to the identification of biomarkers and other indicators of cumulative impacts. The IP will help increase knowledge on the transfer of pollutants between different environmental compartments, including how these processes are influenced by natural stressors such as climate, and on the impact of cumulative stressors, including chemical mixtures. This will facilitate the link information concerning the condition of air, water, soil and the built environment with human and ecosystem health monitoring data. By developing and using improved assessment tools and novel models, the project will quantify and aim at reducing uncertainty in current risk assessment and screening methodologies, e.g. by improving the scientific basis for setting safety factors. The new methods will take into account geographical, ecological, social and cultural differences across Europe. The IP consortium is highly competent in the relevant areas, counting leading scientists within human toxicology and epidemiology, aquatic and terrestrial ecotoxicology, environmental chemistry/biochemistry, toxicogenomics, physics, mathematical modelling, geographic informatics, and socio-economic science.

## Partners

Num.	Partner Legal Name	City	Country
1	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
2	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
3	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG - HALLE GMBH	Leipzig	Germany
4	STICHTING KATHOLIEKE UNIVERSITEIT	Nijmegen	Netherlands
5	UNIVERSITA DEGLI STUDI DEL PIEMONTE ORIENTALE "AMEDEO AVOGADRO" DIPARTIMENTO DI SCIENZE DELL'AMBIENTE E DELLA VITA	Vercelli	Italy
6	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
7	NATIONAL INSTITUTE OF PUBLIC HEALTH	Praha 10	Czech Republic
8	KING' COLLEGE LONDON	London	United Kingdom
9	THE CHANCELLORS, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
10	JAGIELLONIAN UNIVERSITY (UNIwersytet Jagiellonski)	Krakow	Poland
11	EBERHARD KARLS UNIVERSITAET TUEBINGEN	Tuebingen	Germany
12	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
13	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
14	UNIVERSITEIT ANTWERPEN	Antwerpen	Belgium
15	WRC-NSF LTD.	Swindon	United Kingdom
16	LEMNATEC GMBH	Wuerselen	Germany
17	PARIS LODRON UNIVERSITY OF SALZBURG	Salzburg	Austria

18	EUROPEAN COMMISSION, DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
19	SUOMEN YMPARISTOKESKUS (FINNISH ENVIRONMENT INSTITUTE)	Helsinki	Finland
20	INSTITUTE OF ENVIRONMENTAL ENGINEERING, KAUNAS UNIVERSITY OF TECHNOLOGY	Kaunas	Lithuania
21	Alterra b.v.	Wageningen	Netherlands
22	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
23	NATIONAL INSTITUTE OF PUBLIC HEALTH AND THE ENVIRONMENT	Bilthoven	Netherlands
24	LIMCO INTERNATIONAL	Ibbenbueren	Germany
25	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN AACHEN UNIVERSITY OF TECHNOLOGY	Aachen	Germany
26	ECT OEKOTOXIKOLOGIE GMBH	Floersheim	Germany
27	CONSORZIO INTERUNIVERSITARIO SCIENZE DEL MARE - ULR MI BICOCCA	Roma	Italy
28	ENVIRONMENT PARK S.P.A.	Torino	Italy
29	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Lausanne	Switzerland
30	LANCASTER UNIVERSITY	Lancaster	United Kingdom
31	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
32	DIALOGIK GGMBH	Stuttgart	Germany
33	UNIVERSITAT ROVIRA I VIRGILI	Tarragona	Spain
34	LHASA LIMITED	Leeds	United Kingdom
35	UNIVERSITY "PROF. AS. ZLATAROV"	Bourgas	Bulgaria
36	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
37	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
38	INSTITUT SYMLOG DE FRANCE	Cachan	France



Title:	Network of reference laboratories and related organisations for monitoring and bio-monitoring of emerging environmental pollutants		
Area:	7. Complementary Research		
	7.1. Development of advanced methodologies for risk assessment		

Instrument:	Concerted Action		
Project Total Cost:	1.899.831 €	Project start date:	1/09/2005
EU Contribution:	1.899.831 €	Duration:	36 months
Organisation:	Institut National de l'Environnement Industriel et des Risques'	Verneuil En Halatte	France

## Abstract

NORMAN co-ordination action will develop and implement a methodology within a network of reference laboratories and related organisations (including standardisation bodies) to enable and improve EU capabilities for monitoring emerging pollutants, thereby ensuring the production of data that are valid, comparable and fit for purpose across EU25. The project will align the activities of the network with the requirements of organisations / stakeholders in charge of risk assessment and management. It will organise, via workshops, the EU-wide exchange of information between monitoring experts, environmental agencies and standardisation and regulatory bodies. NORMAN will facilitate access to existing data / information from research programmes by developing a database of

- i) leading European experts, organisations and projects dealing with emerging pollutants;
- ii) geo-referenced monitoring data;
- iii) mass spectrometric information on provisionally identified and unknown substances.

Particular effort will be made to enable the final user to interpret the data and judge their representativeness, quality and comparability. Moreover, protocols for validation, harmonisation and dissemination of chemical and biological monitoring methods (including sampling methodology) will be provided. These protocols will be developed into technical guidelines / reports (e.g. CEN TR). To test these protocols and the ability of the network to meet EU demands for monitoring emerging pollutants, three case studies will be undertaken, involving partners from a wide selection of Member States, including New Member States. This will enable benchmarking of the competencies and expertise and foster the transfer of knowledge and techniques. The final goal of the project is the implementation of a network operating after the end of the project. The organisation of the follow-up of the network will therefore be one of the main tasks of the project.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	Verneuil En Halatte	France
2	Bureau de Recherches Geologiques et Minières	Paris	France
3	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
4	NETHERLANDS INSTITUTE FOR FISHERIES RESEARCH	Ijmuiden	Netherlands
5	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
6	UMWELTBUNDESAMT	Dessau	Germany
7	RHEINISCH-WESTFAELISCHES INSTITUT FUER WASSERFORSCHUNG GEMEINNUETZIGE GMBH	Muelheim An Der Ruhr	Germany
8	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
9	JOZEF STEFAN INSTITUTE	Ljubljana	Slovenia
10	BIOSENSE LABORATORIES A/S	Bergen	Norway
11	STOCKHOLMS UNIVERSITET	Stockholm	Sweden
12	ENVIRONMENT AGENCY OF ENGLAND AND WALES	Almondsbury, Bristol	United Kingdom
13	VYSKUMNY USTAV VODNEHO HOSPODARSTVA	Bratislava	Slovakia
14	ENVIRONMENTAL INSTITUTE, S.R.O.	Kos	Slovakia
15	NPL MANAGEMENT LIMITED	Hook - Hampshire	United Kingdom
16	EUROPEAN COMMISSION 6 DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium

17	FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
18	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands



Title: Optimized Strategies for Risk assessment of chemicals based on Intelligent testing

Area: 7. Complementary Research  
7.1. Development of advanced methodologies for risk assessment

Instrument: Integrated Project

Project Total Cost: 14.884.640 € Project start date:

EU Contribution: 10.000.000 € Duration: 48 months

Organisation: UFZ - Umweltforschungszentrum Leipzig - Halle GmbH Leipzig Germany

## Abstract

The proposed regulation concerning the registration, evaluation, authorisation and restriction of chemicals (REACH) requires demonstration of the safe manufacture of chemicals and their safe use throughout the supply chain. There is therefore a strong need to strengthen and advance human and environmental risk assessment knowledge and practices with regard to chemicals, in accord with the precautionary principle. The goal of the project OSIRIS is to develop integrated testing strategies (ITS) fit for REACH that enable to significantly increase the use of non-testing information for regulatory decision making, and thus minimise the need for animal testing. To this end, operational procedures will be developed, tested and disseminated that guide a transparent and scientifically sound evaluation of chemical substances in a risk-driven, context-specific and substance-tailored (RCS) manner. The envisaged decision theory framework includes alternative methods such as chemical and biological read-across, in vitro results, in vivo information on analogues, qualitative and quantitative structure-activity relationships, thresholds of toxicological concern and exposure-based waiving, and takes into account cost-benefit analyses as well as societal risk perception. It is based on the new REACH paradigm to move away from extensive standard testing to a more intelligent, substance-tailored approach. The work will be organised in five interlinked research pillars (chemical domain, biological domain, exposure, integration strategies and tools, case studies), with a particular focus on more complex, long-term and high-cost endpoints. Case studies will demonstrate the feasibility and effectiveness of the new ITS methodologies, and provide guidance in concrete form. To ensure optimal uptake of the results obtained in this project, end-users in industry and regulatory authorities will be closely involved in monitoring and in providing specific technical contributions to this project.

## Partners

Num.	Partner Legal Name	City	Country
1	UFZ - Umweltforschungszentrum Leipzig - Halle GmbH	Leipzig	Germany
2	Universitat Rovira i Virgili FeT research group	Tarragona	Spain
3	Liverpool John Moores University	Liverpool	United Kingdom
4	University of Berne	Bern	Switzerland
5	National Institute of Public Health and the Environment	Bilthoven	Netherlands
6	Technical University of Denmark	Kongens Lyngby	Denmark
7	Netherlands Organisation for Applied Scientific Research (TNO)	Delft	Netherlands
8	Istituto di Ricerche Farmacologiche "Mario Negri"	Milan	Italy
9	Procter & Gamble Eurocore	Strombeek-bever	Belgium
10	Swiss Federal Institut of Technology, Zürich	Zürich	Switzerland
11	Istituto Superiore di Sanita	Rome	Italy
12	University of Antwerp	Antwerpen	Belgium
13	Vrije Universiteit Amsterdam	Amsterdam	Netherlands
14	Simpple S.L.	Tarragona	Spain
15	Kiwa N.V.	Rijswijk	Netherlands
16	Institut of Public Health of the Republic of Slovenia	Ljubljana	Slovenia
17	National Institute of Chemical Physics and Biophysics	Tallinn	Estonia
18	ECT Oekotoxikologie GmbH	Floersheim Am Main	Germany
19	Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.V.	München	Germany



20	National Environmental Research Institute	Roskilde	Denmark
21	Stockholms Universitet	Stockholm	Sweden
22	Laboratory of Mathematical Chemistry, Bourgas University "Prof. As. Zlatarov"	Bourgas	Bulgaria
23	Merck KGaA	Darmstadt	Germany
24	Centre National de al Recherche Scientifique (CNRS)	Villeurbanne	France
25	Nofer Institute of Occupational Medicine	Lodz	Poland
26	European Commission, Joint Research Centre	Bruxelles	Belgium
27	Syngenta	Bracknell	United Kingdom
28	Analytisches Laboratorium Luhnstedt	Luhnstedt	Germany
29	DIALOGIK gemeinnützige Gesellschaft für Kommunikations- und Kooperationsforschung mbH	Stuttgart	Germany
30	Cyprotex plc	Macclesfield	United Kingdom
31	Wageningen Universiteit	Wageningen	Netherlands
32	Intertek Testing Services Ltd. Shanghai	Shanghai	China



## 7. Complementary Research

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### 7.2. Appraisal of environmental quality, population health and monitoring tools

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Title: Full-chain and UNcertainty approaches for assessing health risks in FUTURE eNvironmental scenarios

Area: 7. Complementary Research  
7.2. Appraisal of environmental quality, population health and monitoring tools

Instrument: Integrated Project

Project Total Cost: Project start date:

EU Contribution: Duration: 60 months

Organisation: Institut National de l'Environnement Industriel et des Risques' Paris France

## Abstract

The aim of 2-FUN is to provide decision-makers with a Decision Support System (DSS) that supports the analysis of current and future trends in environmental conditions and pressures causing health problems, and to evaluate and rank the management options of the composing risk factors using a cost-benefit evaluation. The DSS and its associated Geographical Information System (GIS) will offer a wide range of functionalities allowing the generation of results of high concern for health risk assessment: building of long-term environmental and socio-economic scenarios, exposure and effects mapping, provision of uncertainty margins, identification of sensitive pathways and risks, integrated risk indices and monetary values mapping, ranking of risk factors.

Specific scientific actions will be set up to feed the DSS with methodologies/databases/models/ software on the following topics:

- Building future realistic socio-economic, environmental and health scenarios;
- Integrated exposure, effect and monetary assessment of multi-stressors and multi-routes; •Integration of children's issues in health risk assessments;
- Environment-related health indicators for relevant ranking and comparison of risk factors and monetary valuation of health effects;
- Development of uncertainty models for further health management;
- Implementation of a full-chain approach for health risk assessment and cost-benefit analysis.

2-FUN also proposes to engage in a structural dialogue with all interested parties (stakeholders, policy-makers and researchers) to monitor large environment- and health-focused scientific initiatives and to incorporate stakeholders' vision and needs regarding the development of tools for health risk assessment. The DSS will be tested on contrasted case studies covering a wide range of temporal, spatial, sectorial, environmental, societal contexts requiring comprehensive cost-benefit analysis and able to provide policy-makers with relevant and easy-to-use information.

## Partners

Num.	Partner Legal Name	City	Country
1	Institut National de l'Environnement Industriel et des Risques	Verneuil En Halatte	France
2	Technical University of Denmark	Kongens Lyngby	Denmark
3	Electricité de France	Paris	France
4	Facilia Ab	Stockholm	Sweden
5	Fundação da Faculdade de Ciências da Universidade de Lisboa	Lisboa	Portugal
6	Instytut Ekologii Terenow Uprzemyslowionych	Katowice	Poland
7	Institute of Public Health Ostrava	Ostrava	Czech Republic
8	European Commission – Joint Research Centre	Brussels	Belgium
9	Università Cattolica del Sacro Cuore	Milano	Italy
10	Umweltforschungszentrum Leipzig – Halle GmbH	Leipzig	Germany
11	Università Cà Foscari Venezia	Venezia	Italy
12	Vlaamse Instelling voor Technologisch Onderzoek	Mol	Belgium
13	ACIES	Lyon	France



Title: Clean Air for Health – research needs for sustainable development policies

Area: 7. Complementary Research  
7.2. Appraisal of environmental quality, population health and monitoring tools

Instrument: Specific Support Action

Project Total Cost: 1.347.601 € Project start date:

EU Contribution: 491.948 € Duration: 24 months

Organisation: University of Hertfordshire Hatfield United Kingdom

## Abstract

The overall aim of CAIR4HEALTH is to strengthen and exploit research results obtained by European and other projects related to air quality and health impact in relation to key European sustainable development action plans and strategies. In so doing CAIR4HEALTH will aid the review and horizon scanning process for key action plans including the Environment and Health Action Plan. It will examine the research and policy-related outputs from clusters, networks, projects and expert groups including those represented by CLEAR and AIRNET.

The aim will be achieved through the following specific objectives:

1. To identify the remaining knowledge gaps in the field of air pollution and health in relation to the objectives of Environment & Health Action Plan.
2. To identify the technology development and deployment needs in the area of air pollution and health impact mitigation, in the context of implementation of the Environmental Technology Action Plan.
3. To identify the R&D needs to facilitate the implementation of the Thematic Strategy on the Urban Environment for improving the quality of life in urban areas in the context of air quality and health impact.
4. To identify research needs and knowledge gaps in relation to the CAFÉ Thematic Strategy on Air Quality and its future requirements.
5. To support the Commission by providing advice on its R&D priorities to be implemented through mechanisms such as the forthcoming 7th Framework programme.
6. To facilitate the interaction, dissemination and future development of air quality and health programmes, clusters and networks.
7. To enhance the global dissemination of air quality and health results for all European stakeholders.

## Partners

Num.	Partner Legal Name	City	Country
1	University of Hertfordshire	Hatfield	United Kingdom
2	Netherlands Organisation for Applied Scientific Research	Delft	Netherlands
3	Finnish Meteorological Institute	Helsinki	Finland
4	Joint Research Centre	Ispra	Italy
5	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
6	Universiteit Utrecht Faculteit Diergeneeskunde	Utrecht	Netherlands



Title: Emerging Diseases in a Changing European Environment  
 Area: 7. Complementary Research  
 7.2. Appraisal of environmental quality, population health and monitoring tools

Instrument: Integrated Project  
 Project Total Cost: 15.325.900 € Project start date: 1/11/2004  
 EU Contribution: 11.497.856 € Duration: 60 months  
 Organisation: Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement Paris France

## Abstract

These last years, several vector-borne, parasitic or zoonotic diseases have (re)-emerged and spread in the European territory with major health, ecological, socio-economical and political consequences. Most of these outbreaks are linked to global and local changes resulting of climatic changes or activities of human populations. Europe must anticipate, prevent and control new emergences to avoid major societal and economical crisis (cf. SARS in Asia, West Nile in US). EDEN (Emerging Diseases in a changing European Environment) offers a unique opportunity to prepare for uncertainties about the future of the European environment and its impact on human health. EDEN's aim is to increase preparedness by developing and coordinating at European level a set of generic investigative methods, tools and skills within a common scientific framework (Landscapes, Vector and Parasite bionomics, Public Health, Animal Reservoirs). EDEN has therefore selected for study a range of diseases that are especially sensitive to environmental changes. Some of these diseases are already present in Europe (West Nile, Rodent-borne, Tick-borne, Leishmaniosis), others were present historically (Malaria) and so may re-emerge, whilst finally Rift Valley Fever is either on the fringes of Europe. EDEN integrates research between 42 leading institutes from 23 countries with the combined experience and skills to reach their common goals. EDEN is organised into a series of vertical Sub-Projects led and managed by an internationally recognised expert and linked by a series of Integrative Activities that include biodiversity monitoring, environmental change detection, disease modelling, remote sensing and image interpretation, information and communication. The proposed management structure, including a Scientific Board and a User Forum, takes into account both the diversity of the partners and the size of the project. Specific links with third world countries will be achieved through an Africa platform.

## Partners

Num.	Partner Legal Name	City	Country
1	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
2	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
3	UNIVERSITE CATHOLIQUE DE LOUVAIN	Louvain-la-neuve	Belgium
4	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
5	EUROPEAN AGRO-ENVIRONMENTAL HEALTH ASSOCIATES EEIG	Zoersel	Belgium
6	DEPARTMENT OF PUBLIC HEALTH SCIENCE, UNIVERSITY LA SAPIENZA, ROMA	Roma	Italy
7	ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELL'ABRUZZO' E DEL MOLISE "G. CAPORALE"	Teramo	Italy
8	INSTITUT PASTEUR	Paris	France
9	INSTITUTO DE SALUD CARLOS III	Madrid	Spain
10	ENTENTE INTERDEPARTEMENTALE POUR LA DEMOUSTICATION DU LITTORAL MEDITERRANEEN	Montpellier	France
11	INSTITUTE OF VERTEBRATE BIOLOGY, ACADEMY OF SCIENCES OF THE CZECH REPUBLIC	Brno	Czech Republic
12	ISTITUTO SUPERIORE DI SANITA	Roma	Italy
13	INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	Paris	France
14	HACETTEPE UNIVERSITY FACULTY OF SCIENCE	Ankara	Turkey
15	UNIVERSIDADE NOVA DE LISBOA - INSTITUTO DE HIGIENE E MEDICINA TROPICAL	Lisboa	Portugal
16	INSTITUT NATIONAL D'HYGIENE	Rabat	Morocco

17	UNIVERSITAT DE VALENCIA. ESTUDI GENERAL	Valencia	Spain
18	CENTRO DI ECOLOGIA ALPINA	Trento	Italy
19	MEDICAL UNIVERSITY OF BIALYSTOK, POLAND, DEPARTMENT OF INFECTIOUS DISEASES AND NEUROINFECTIONS	Bialystok	Poland
20	LUDWIG-MAXIMILIANS-UNIVERSITAET MUNCHEN	Muenchen	Germany
21	INSTITUTE OF ZOOLOGY, SLOVAK ACADEMY OF SCIENCES	Bratislava	Slovakia
22	NATIONAL HEALTH DEVELOPMENT INSTITUTE	Tallinn	Estonia
23	INSTITUTE FOR MICROBIOLOGY AND IMMUNOLOGY, MEDICAL FACULTY OF LJUBLJANA	Ljubljana	Slovenia
24	INSTITUTO VASCO DE INVESTIGACION Y DESARROLLO AGRARIO	Derio	Spain
25	JOHAN BELA NATIONAL CENTRE FOR EPIDEMIOLOGY	Budapest	Hungary
26	STATE AGENCY "PUBLIC HEALTH AGENCY"	Riga	Latvia
27	CENTRE FOR COMMUNICABLE DISEASES PREVENTION AND CONTROL	Vilnius	Lithuania
28	FINNISH FOREST RESEARCH INSTITUTE, VANTAA RESEARCH CENTRE	Helsinki	Finland
29	INSITUT NATIONAL DE RECHERCHE AGRONOMIQUE	Paris	France
30	SWEDISH INSTITUTE FOR INFECTIOUS DISEASE CONTROL	Solna	Sweden
31	UNIVERSITY OF ANTWERPEN	Antwerpen	Belgium
32	HELSINGIN YLIOPISTO	Helsinki	Finland
33	UNIVERSITY OF LIVERPOOL	Liverpool	United Kingdom
34	NATURAL HISTORY MUSEUM	London	United Kingdom
35	EGE UNIVERSITY MEDICAL SCHOOL DEPARTMENT OF PARASITOLOGY	Bornova - Izmir	Turkey
36	LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE	London	United Kingdom
37	SZENT ISTVAN UNIVERSITY, FAC OF VETERINARY SCIENCE	Godollo	Hungary
38	UNIVERSITY OF BARCELONA	Barcelona	Spain
39	UNIVERSITE MONTPELLIER I	Montpellier	France
40	UNIVERSITY OF CRETE	Heraklion, Crete	Greece
41	INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II	Rabat / Agdal	Morocco
42	INSTITUT SENEGALAIS DE RECHERCHES AGRICOLES	Dakar	Senegal
43	NATIONAL INSTITUTE OF RESEARCH-DEVELOPMENT FOR MICROBIOLOGY AND IMMUNOLOGY "CANTACUZINO"	Bucharest	Romania
44	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE DELTA DUNARI	Tulcea	Romania
45	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
46	INSTITUT PASTEUR D'ALGERIE	Alger	Algeria
47	MTA ALLATORVOS-TUDOMANYI KUTATO INTEZETE	Budapest	Hungary
48	INSTITUT PASTEUR DE DAKAR	Dakar	Senegal



Title: Health and Environment Integrated Methodology and Toolbox for Scenario Assessment

Area: 7. Complementary Research  
7.2. Appraisal of environmental quality, population health and monitoring tools

Instrument: Integrated Project

Project Total Cost: 7.138.904 € Project start date: 1/02/2007

EU Contribution: 4.999.780 € Duration: 48 months

Organisation: Institute of Occupational Medicine Edinburgh United Kingdom

## Abstract

The Commission has for many years supported the development of methods and tools for health impact assessment (HIA) using the impact pathway approach. The main focus has been on outdoor air pollution and health where HIA methods, developed initially through projects such as ExternE and APHEIS, were extended and used to support policy in many applications, notably via cost-benefit analysis (CBA) for the CAFE programme of DG Environment. ExternE and other projects (HEARTS, METHODEX, INTARESE) have been extending HIA methods into wider aspects of environment and health, e.g. noise, with local case study applications. The aim of HEIMTSA is to support policy for evaluating scenarios at the European level in various industry sectors (transport, agriculture, waste disposal etc.).

It will do this by

(i) extending HIA methods and tools to tackle a wider range of environmental health issues, including pollution from multiple sources and mixtures of pollutants, and

(ii) applying the methods and tools to baseline and prospective future scenarios Europe-wide in the various sectors.

The focus will include effects on children and the priority health endpoints as identified in the European Environment and Health Action Plan, but it will not be restricted to them. The actual work will involve methods and tools for scenario development, integrated modelling from emissions to exposure, new dose-response functions, monetary valuation, practical applications, demonstration and training. HEIMTSA will include integrally the evaluation of uncertainty, and close integration across disciplines.

Benefits will include

(i) new integrated methods and tools

(ii) applications to policy-relevant Europe-wide scenarios and (

iii) new knowledge about which issues of environment and health really matter, and what gaps need to be filled as priority, to enable fully comprehensive evaluations.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUTE OF OCCUPATIONAL MEDICINE	Edinburgh	United Kingdom
2	UNIVERSITAET STUTTGART	Stuttgart	Germany
3	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
4	UNIVERSITY OF BATH	Bath	United Kingdom
5	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	London	United Kingdom
6	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
7	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
8	NILU POLSKA LTD	Katowice	Poland
9	METEOROLOGISK INSTITUTT	Oslo	Norway
10	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
11	CESKY HYDROMETEOROLOGICKY USTAV	Praha 4	Czech Republic
12	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	Zuerich	Switzerland
13	METEOROLOGICAL SYNTHESIZING CENTRE - EAST OF THE CO-OPERATIVE PROGRAMME FOR MONITORING AND EVALUATION OF THE LONG-RANGE TRANSMISSION OF AIR POLLUTANTS IN EUROPE	Moscow	Russian Federation

14	KURATORIUM FUER TECHNIK UND BAUWESEN IN DER LANDWIRTSCHAFT .E.V. (KTBL)	Darmstadt	Germany
15	DANMARKS TEKNISKE UNIVERSITET	Kongens Lyngby	Denmark
16	ECOLE NATIONALE DES PONTS ET CHAUSSEES (ENPC)	Marne-la-vallee	France
17	UNIVERSITEIT UTRECHT	Utrecht	Netherlands
18	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
19	SWECO GROENER AS	Lysaker	Norway
20	SLOVENSKA ZDRAVOTNICKA UNIVERZITA	Bratislava	Slovakia
21	KANSANTERVEYSLAITOS	Helsinki	Finland





Title:	Health and Environment Network		
Area:	7. Complementary Research		
	7.2. Appraisal of environmental quality, population health and monitoring tools		
Instrument:	Concerted Action		
Project Total Cost:	3.209.528 €	Project start date:	1/11/2006
EU Contribution:	3.209.528 €	Duration:	42 months
Organisation:	Norsk institutt for Luftforskning	Kjeller	Norway

## Abstract

To protect the health of populations and individuals, policies need to integrate environmental and health issues. The aim of HENVINET is to support such informed policy making. HENVINET will review, exploit and disseminate knowledge on environmental health issues based on research and practices, for wider use by relevant stakeholders. Further, it will lead to validation of tools and results with emphasis on the four priority health endpoints of the EHAP 2004-2010, and will provide structured information overview that may be utilized by other actors relevant to Environment and Health Strategy. Building on activities such as AirNET, CLEAR, PINCHE, INTARESE and SCALE, HENVINET will collect, structure and evaluate new material and present it in a consistent manner, which will lend itself to transparency and identification of knowledge gaps. HENVINET will establish an overview of results, activities, projects and tools existing in Europe and will promote stakeholder networking through workshops and conferences. Knowledge, best practices and decision support tools will be reviewed to allow wider exploitation by the relevant stakeholders such as policy makers. Recognizing that dissemination of knowledge, best practices and decision support tools is crucial in supporting the implementation of the European EHAP, the project will define ways to disseminate information in collaboration with main stakeholders, with emphasis on the needs of users of information, more than of those producing it. To allow for efficient data gathering, information exchanges, and targeted dissemination, the project will utilize state-of-the-art internet solutions and methodologies. To further promote interactions with stakeholders and relevant international organisations, an external Reference group will be set up.

## Partners

Num.	Partner Legal Name	City	Country
1	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
2	VETERINAERINSTITUTTET	Oslo	Norway
3	STICHTING ECOBABY	Loenersloot	Netherlands
4	UNITED BRISTOL HEALTHCARE NHS TRUST	Bristol	United Kingdom
5	HULPVERLENING GELDERLAND MIDDEN	Arnhem	Netherlands
6	CENTRAL SCIENCE LABORATORY	York	United Kingdom
7	SLOVAK MEDICAL UNIVERSITY	Bratislava	Slovakia
8	INSTITUTE OF FOOD BIORESOURCES	Bucharest 2	Romania
9	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	Roma	Italy
10	WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR EUROPE	Kobenhavn	Denmark
11	UNIVERSITY OF HERTFORDSHIRE	Hatfield	United Kingdom
12	NETHERLANDS ORGANISATION FOR APPLIED SCIENTIFIC RESEARCH (TNO)	Delft	Netherlands
13	ILMATIETEEN LAITOS	Helsinki	Finland
14	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
15	REGIONE PIEMONTE	Torino	Italy
17	INSTITUTE FOR MEDICAL RESEARCH AND OCCUPATIONAL HEALTH	Zagreb	Croatia
18	UMEA UNIVERSITET	Umea	Sweden
20	SLOVENSKA TECHNICKA UNIVERZITA V BRATISLAVE	Bratislava	Slovakia
21	NORGES VETERINAERHOGSKOLE	Bucharest 2	Norway

22	Stockholms Universitet		Sweden
23	SYDDANSK UNIVERSITET	Odense	Denmark
24	WAGENINGEN UNIVERSITY	Wageningen	Netherlands
25	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	Aghia Paraskevi	Greece
26	UNIVERSITETET I OSLO	Oslo	Norway
27	Asociacion Argentina de Medicos por el Medio Ambiente	Buenos Aires	Argentina
28	PEKING UNIVERSITY	Beijing	China (People's Republic of)
29	INTEGRAL UNIVERSITY	Lucknow	India
30	E THEKWINI MUNICIPALITY	Durban	South Africa
31	INSTITUTO NACIONAL DE SALUD PUBLICA	Cuernavaca Morelos	Mexico
32	ISTITUTO SUPERIORE DI SANITA	Roma	Italy



Title: Integrated Health, Social and Economic Impacts of Extreme Events: Evidence, Methods and Tools

Area: 7. Complementary Research  
7.2. Appraisal of environmental quality, population health and monitoring tools

Instrument:	Integrated Project		
Project Total Cost:	5.278.650 €	Project start date:	
EU Contribution:	5.000.000 €	Duration:	36 months
Organisation:	Université Catholique de Louvain	Louvain-la-neuve	Belgium

## Abstract

Recent events such as the Pakistan earthquake, Hurricane Katrina, the Indian Ocean tsunami and the European heat waves of 2003 reveal the vulnerability of societies to extreme events. The goal of this project is to strengthen prevention, mitigation and preparedness strategies in order to reduce the health, social and economic impacts of extreme events on communities. The objectives of the MICRODIS project are to strengthen the scientific and empirical foundation on the relationship between extreme events and their impacts; to develop and integrate knowledge, concepts, methods and databases towards a common global approach and to improve human resources and coping capacity in Asia and Europe through training and knowledge sharing.

This integrated project involves 19 partners from Asia and Europe, including research, policy and ground roots institutions. The outputs will include an evidence-base on impacts, field methodologies and tools for data compilation, impact models, and integrated vulnerability assessments. It will also strengthen standardised data collection of extreme events and their impacts at local, regional and global levels.

## Partners

Num.	Partner Legal Name	City	Country
1	Université catholique de Louvain	Louvain-la-neuve	Belgium
2	Université de Savoie	Le Bourget-du-lac	France
3	University of Greenwich	London	United Kingdom
4	University of Northumbria at Newcastle	Newcastle Upon Tyre	United Kingdom
5	Finnish Institute of Occupation Health	Helsinki	Finland
6	Jadavpur University	Calcutta	India
7	University of Delhi	Delhi	India
8	Hanoi School of Public Health	Hanoi	Viet Nam
9	University of Indonesia	Depok	Indonesia
10	Xavier University	Cagayan De Oro	Philippines
11	National Institute of Disaster Management	New Delhi	India
12	United Nations International Strategy for Disaster Reduction	Geneva 10	Switzerland
13	The World Bank Group	Washington Dc	United States
14	Asian Development Bank	Mandaluyong City	Philippines
15	Evaplan Ltd at the University Medical Centre Heidelberg	Heidelberg	Germany
16	Sweco Grøner	Lysaker	Norway
17	Voluntary Health Association of India	New Delhi	India
18	Citizens' Disaster Response Center	Quezon City	Philippines
19	HealthNet International	Amsterdam	Netherlands



## **8. Cross-cutting issue: Sustainable Development concepts and tools**

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### **8.1. Estimating thresholds of sustainability and externalities**

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AIRTV	Testing network for verification of air emissions abatement technologies	326
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Title: Testing network for verification of air emissions abatement technologies

Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
8.1. Estimating thresholds of sustainability and externalities

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.162.413 €	Project start date:	15/11/2006
EU Contribution:	1.378.812 €	Duration:	36 months
Organisation:	Fundacion Leia Centro de Desarrollo Tecnologico	Milano Mayor - Alava	Spain

## Abstract

The European Commission adopted an ambitious Action Plan (COM (2004) 38) to improve the development and wider use of environmental technologies. Many new environmental technologies have great potential to improve the environment and, at the same time, boost the competitiveness of companies. The main objectives of the Action Plan are:

- To remove the obstacles so as to tap the full potential of environmental technologies for protecting the environment while contributing to competitiveness and economic growth.

- To ensure that over the coming years the EU takes a leading role in developing and applying environmental technologies.

- To mobilise all stakeholders in support of these objectives. One of the actions included in this Action Plan is the improvement of testing, performance verification and standardisation related to environmental technologies, with the aim of providing a European instrument for verifying through commonly recognised and transparent protocols the performance characteristics of environmentally sound technologies (EsT).

The results of the verification should be reported to decision makers, regulators, buyers and to the general public through appropriate information means, with the aim to accelerate the penetration of new technologies in the market. The Action Plan proposes the creation of networks of specialised centres to carry out the testing and assessment of clean technologies based around families of technology sectors. AIRTV will become a powerful tool for the efficient implementation of this Action Plan. The overall, strategic objective of AIRTV is to speed up the implementation of EsT in Europe by establishing a system of their verification, proving the benefits of EsT's use for environment and human life conditions AIRTV will provide reliable and independent performance data for EsT in the field of air emissions reduction technologies.

## Partners

Num.	Partner Legal Name	City	Country
1	FUNDACION LEIA CENTRO DE DESARROLLO TECNOLOGICO	Minano Mayor - Alava	Spain
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
3	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
4	INSTYTUT GORNICITWA NAFTOWEGO I GAZOWNICTWA	Krakow	Poland
5	UMWELTBUNDESAMT GMBH	Wien	Austria
6	UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE)	Karlsruhe	Germany
7	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
8	IVL SVENSKA MILJOEINSTITUTET AB	Stockholm	Sweden
9	DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE E.V.	Frankfurt Am-main	Germany
10	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	Bruxelles	Belgium
11	COMITE EUROPEEN DE NORMALISATION	Bruxelles	Belgium



Title: A New Environmental Accounting Framework Using  
Externality Data and Input-Output Tools for Policy Analysis

Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
8.1. Estimating thresholds of sustainability and externalities

Instrument:	Integrated Project		
Project Total Cost:	6.595.157 €	Project start date:	1/01/2007
EU Contribution:	5.000.000 €	Duration:	48 months
Organisation:	Fondazione Eni Enrico Mattei	Milano	Italy

## Abstract

The EXIOPOL Integrated Project has three principal objectives:

I. To synthesize and develop comprehensive estimates of the external costs for Europe of a broad set of economic activities (far beyond the existing ones for energy and transport);

II. To set up a detailed environmentally extended (EE) Input-Output (I-O) framework, with links to other socio-economic models, in which as many of these estimates as possible are included. Such an EE I-O table for the EU 25 does not exist. This will allow for the estimation of environmental impacts and external costs of different economic sector activities, final consumption activities and resource consumption for countries in the EU;

III. To apply the results of the external cost estimates and EE I-O analysis for the analysis of policy questions of importance, as well as to evaluate the value and impact of past research on external costs on policy-making in the EU.

The IP creates hence a novel toolbox supportive to a great variety of EU policy fields, such as Integrated Product Policy, the Strategy on Natural Resources, the Environmental Technologies Action Plan (ETAP), Sustainable Consumption and Production, the relation between sustainability and the Lisbon strategy, and impact assessment of sustainability policies in general.

The objectives reflect those of the Global Change and Ecosystem Work Programme which emphasises the importance of a quantitative analysis of external effects, and the elaboration of new accounting frameworks for sustainability assessment at the micro, sectoral and macro levels. As the Work Programme requires, the structure and outputs of EXIOPOL are very much geared to provide a basis for these new policy analytical tools as well as to strengthen the existing tools of cost benefit and cost effectiveness analysis. This strengthening will come from better quantitative information on the external costs associated with pollutants that have hitherto not been analyzed in much detail.

## Partners

Num.	Partner Legal Name	City	Country
1	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
2	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
3	UNIVERSITY OF BATH	Bath	United Kingdom
4	UNIVERSITEIT LEIDEN.	Leiden	Netherlands
5	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
6	WUPPERTAL INSTITUT FUER KLIMA, UMWELT, ENERGIE GMBH	Wuppertal	Germany
7	DANMARKS MILJØUNDERSOEGELSER.	Roskilde	Denmark
8	CENTRE TECNOLOGIC FORESTAL DE CATALUNYA	Solsona	Spain
9	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
10	QUEEN'S UNIVERSITY BELFAST	Belfast	United Kingdom
11	UNIVERSITAET STUTTGART	Stuttgart	Germany
12	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
13	SERI - NACHHALTIGKEITSFORSCHUNGS UND - KOMMUNIKATIONS GMBH	Wien	Austria
14	UNIVERSITA DEGLI STUDI DI PARMA.	Parma	Italy
15	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK GGMBH	Berlin	Germany
16	UNIVERSITY COLLEGE LONDON.	London	United Kingdom

17	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
18	INSTITUTE OF OCCUPATIONAL MEDICINE	Edinburgh	United Kingdom
19	SWECO GROENER AS	Lysaker	Norway
20	WAGENINGEN UNIVERSITEIT	Wageningen	Netherlands
21	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
22	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
23	CHINESE ACADEMY OF SOCIAL SCIENCES	Beijing	China (People's Republic of)
24	EUROPEAN FOREST INSTITUTE	Joensuu	Finland
25	UNIVERSITA DEGLI STUDI DI PADOVA	Padova	Italy
27	UNIVERSITY OF DELHI	New Delhi	India
28	INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY	London	United Kingdom
29	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway
30	ZENTRUM FUER EUROPAEISCHE WIRTSCHAFTSFORSCHUNG GMBH	Mannheim	Germany
31	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
32	CLEAN AIR ACTION GROUP	Budapest	Hungary
33	GESELLSCHAFT FUER WIRTSCHAFTLICHE STRUKTURFORSCHUNG MBH	Osnabrueck	Germany
34	SOCIETE POUR LA PROMOTION INTERNALE DES INDUSTRIES AROMATIQUES ET DE LA SENTIQUE	Evreux	France
35	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
36	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
37	RIJKSUNIVERSITEIT GRONINGEN	Groningen	Netherlands
38	ECOLE NATIONALE DES PONTS ET CHAUSSEES	Marne-la-vallee	France



Title: Methods and data on environmental and health externalities:  
harmonising and sharing of operational estimates

Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
8.1. Estimating thresholds of sustainability and externalities

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.895.802 €	Project start date:	1/01/2004
EU Contribution:	1.200.000 €	Duration:	36 months
Organisation:	AEA Technology PLC	Didcot	United Kingdom

## Abstract

The objectives of the proposed project are to advance best practice in external cost assessment, extending the analysis to agriculture, industry, waste and other sectors, and to assist the use of externality studies by incorporating this information into the 'Review of Externalities Data' database (RED). The project will review existing environmental and health externality studies for these sectors. It will provide, for the first time, an integrated methodology to a high standard across all areas by a) harmonising information with existing approaches for the energy and transport sectors (already in RED) and b) where necessary and practicable, extending the methodology for these new sectors. The project will also undertake case studies using the harmonised approach to increase the number of consistent studies. The project will investigate data transferability, and along with the broadening of the project team into accession countries, this will permit wider application of the resulting methods, data and information. The study will compile research recommendations to inform where further development is needed to improve methods. The project will obtain feedback from policy makers mid-way through the project to improve the development of the database and tools. This will ensure the usefulness of the study output. This input, and the harmonised values from the review and case studies, will be fed into the RED database. To facilitate use of the data, the study will develop a 'toolbox' to assist in interpretation and estimation of external costs in new situations and in treatment of uncertainty. This will be backed up with guidance on data use and limitations of current approaches. The work will be disseminated through reports, the RED internet site and workshops with key stakeholders. The study outputs will be useful to policy makers and researchers in relation to agriculture, industry, waste management and other areas where externalities are important.

## Partners

Num.	Partner Legal Name	City	Country
1	AEA Technology Plc	Didcot	United Kingdom
2	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
3	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
4	E-CO TECH AS	Oslo	Norway
5	EMRC	Reading	United Kingdom
6	UNIVERSITAET STUTTGART	Stuttgart	Germany
7	INSTITUTE OF OCCUPATIONAL MEDICINE	Edinburgh	United Kingdom
8	ISTITUTO DI STUDI PER L'INTEGRAZIONE DEI SISTEMI'	Roma	Italy
9	UNIVERSITY OF BATH	Bath	United Kingdom
10	UNIVERSITAT HAMBURG	Hamburg	Germany
11	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
12	LEVEGO MUNKACSOPORT	Budapest	Hungary





Title: Efficiency control and performance verification of improved approaches for soil-groundwater protection and rehabilitation

Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
8.1. Estimating thresholds of sustainability and externalities

Instrument: Specific Targeted Research Project

Project Total Cost: 2.370.583 € Project start date: 1/09/2005

EU Contribution: 1.543.374 € Duration: 36 months

Organisation: Dechema Gesellschaft für Chemische Technik und Biotechnologie E.V. Edinburgh Germany

## Abstract

The overall aim of PROMOTE is to set up an efficiency control and performance verification (ECV) system for soil-groundwater protection and rehabilitation based on a more generic testing and performance verification concept, in a network of testing centres. This is in direct accordance with the ETAP procedure. A strong impact of PROMOTE is to be expected concerning a faster market introduction of novel techniques hence strengthening the competitiveness of technology developers in Europe. This guaranteed by an extensive integration of SME's and Eastern European partners. PROMOTE will gain the potential to act as a germ cell of a pre-normative verification system, overcoming implementation barriers and bridging the gap between innovative and standardised techniques. Main scientific-technical objectives are:- Assessment of existing verification tools and identification of demands on techniques to support the implementation of the WFD, the GWD and the evolving Soil Protection Strategy-Elaboration of a generic testing and performance verification concept designed to be basically applicable to a broad range of environmental technologies-ECV system development for remediation and monitoring approaches in soil-groundwater systems-ECV system verification on a reference and a field site-ECV system transfer to related environmental technologies-Establishing a ECV platform by including the "CEN Workshop" tool beyond the project. The ECV system set-up is divided in four phases:

- (1) Organisational phase,
  - (2) Operational phase,
  - (3) Assessment and verification phase and
  - (4) ECV establishment and dissemination strategy, comprises a conceptual review and testing of the ECV applicability, the ECV general validity, comparison of ECV with other systems and stakeholder consultation.
- Phase (4) includes the ECV transfer to improved remediation technologies, the elaboration of standardisation related issues and the establishment of a common ECV with other testing networks.

## Partners

Num.	Partner Legal Name	City	Country
1	DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE E.V.	Frankfurt Am-main	Germany
2	DR THOMAS ERTEL	Esslingen	Germany
3	STICHTING GEODELFT	Delft	Netherlands
4	PANSTWOWY INSTYTUT GEOLOGICZNY - POLISH GEOLOGICAL INSTITUTE	Warszawa	Poland
5	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
6	UNIVERSITAET STUTTGART	Stuttgart	Germany
7	INNOVATIVE MESSTECHNIK WEISS	Tubingen	Germany
8	MIASTO BYDGOSZCZ	Bydgoszcz	Poland
9	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
10	COMITE EUROPEEN DE NORMALISATION	Bruxelles	Belgium
11	UNIVERSITE LOUIS PASTEUR	Strasbourg	France
12	SLANDI SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA	Michalowice	Poland



Title: Towards European Sectorial Testing Networks for Environmental Technologies

Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
8.1. Estimating thresholds of sustainability and externalities

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.927.103 €	Project start date:	1/09/2005
EU Contribution:	1.562.357 €	Duration:	36 months
Organisation:	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - TNO	Delft	Netherlands

## Abstract

Given that the market for environmentally sound technologies (EsTs) is an international one and that the verification and testing of these technologies occur only to a limited extent, there is an urgent need to set up verification and testing centres for EsTs. TESTNET aims to enhance the application of EsTs through the development of a European structure for the production of reliable and independent performance data for EsTs. TESTNET will cover two technology areas: "water technologies" and "clean production", while environmental monitoring will be included in these technologies.

The strategic objective of TESTNET will be met through:

- the identification of promising EsTs and innovative solutions for verification;
- the design of a system for testing and verifying new and existing EsTs;
- validation of the functionality of the verification system for the selected technology areas and for different types of organisational solutions;
- a sustainable follow-up of the verification system and networks, including a financially sound and reliable structure and organisation as well as the involvement of relevant stakeholders in the networks.

TESTNET will provide a powerful boost to the execution of the actual Environmental Technologies Action Plan (ETAP), in which one of the priorities is to launch testing networks for EsTs. The European Commission is currently examining the best concept for a European EsT testing programme. The outcome of this study will be analysed and used as input in TESTNET. Lessons learned from the EPA Environmental Technology Verification programme in the United States will also be incorporated in the project. A consortium of European sector organisations and leading research institutes in the field of EsTs has been composed to ensure that the tasks of TESTNET are completed. The consortium spans the EU-25, including representation from the new member states, and has considerable participation among SME's (26%).

## Partners

Num.	Partner Legal Name	City	Country
1	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
2	NATIONAL CENTRE FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	Aghia Paraskevi	Greece
3	DHI - INSTITUT FOR VAND OG MILJØ	Hoersholm	Denmark
4	GLOWNY INSTYTUT GORNICITWA	Katowice	Poland
5	IVL SVENSKA MILJØINSTITUTET AB	Stockholm	Sweden
6	KIWA NV	Rijswijk Zh	Netherlands
7	FUNDACION INASMET	San Sebastian	Spain
8	VALTION TEKNILLINEN TUTKIMUSKESKUS (VTT)	Espoo	Finland
9	Agence de l'Environnement et de la Maîtrise de l'Energie	Angers	France
10	Association des Exploitants d'Equipements de Mesure, de Regulation et d'Automatisme - EXERA	Paris	France
11	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
12	THE EUROPEAN COMMITTEE OF ENVIRONMENTAL TECHNOLOGY SUPPLIERS ASSOCIATIONS	Bruxelles	Belgium



Title: Thresholds of Environmental Sustainability  
 Area: 8. Cross-cutting issue: Sustainable Development concepts and tools  
 8.1. Estimating thresholds of sustainability and externalities

Instrument:	Integrated Project		
Project Total Cost:	7.875.237 €	Project start date:	1/01/2005
EU Contribution:	4.998.288 €	Duration:	48 months
Organisation:	Consejo Superior de Investigaciones Cientificas	Madrid	Spain

## Abstract

THRESHOLDS seeks to contribute to the development of Sustainability Science and through the implementation of a procedure for policy formulation based on the development of a target setting process that integrates scientific knowledge on thresholds of indicators of environmental sustainability, the socio-economic activities that impinge in these indicators and the components of their vulnerability, and the evaluation of the resulting externalities associated with these socioeconomic activities. THRESHOLDS carries out innovative crosscutting research to develop, improve and integrate tools and methods to provide the basis to formulate sustainable strategies through research to deliver the scientific tools to identify Thresholds and Points of No-return of Environmental Sustainability and externality valuations required to define targets for the development of the European Sustainable Development Strategy. The THRESHOLDS IP will confront complex behaviour of ecosystems, such as regime shifts between alternative stable states, and complexity in valuation of the sectors affecting environmental quality, such as non-linear cost-pressure relationships and multi-sectorial situations to develop procedures that accommodate to the complexity of the socio-economic and environmental systems. The tools developed will be applied to case studies in the European coastal zone, where policy needs are pressing, involving increasing levels of complexity, from local to pan-European.

THRESHOLDS IP will draw on the extensive data sets and research results produced on the basis of national efforts as well as previous framework programmes, which have focussed on major environmental problems and have delivered models and data which can be used to define Thresholds and Points of No Return. The THRESHOLDS IP, will, therefore, build on the European Research Area concept and add value to the applications of results derived from national and FP 6-funded research.

## Partners

Num.	Partner Legal Name	City	Country
1	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
2	ISTITUTO DI STUDI PER L'INTEGRAZIONE DEI SISTEMI'	Roma	Italy
3	UNIVERSITAET STUTTGART	Stuttgart	Germany
4	UPPSALA UNIVERSITY	Uppsala	Sweden
5	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
6	EUROPEAN COMMISSION, GENERAL DIRECTORATE JOINT RESEARCH CENTRE	Brussels	Belgium
7	SUOMEN YMPARISTOKESKUS (FINNISH ENVIRONMENT INSTITUTE)	Helsinki	Finland
8	INSTITUTE OF BIOLOGY UNIVERSITY OF SOUTHERN DENMARK	Odense M	Denmark
9	UNIVERSITY OF KALMAR	Kalmar	Sweden
10	UNIVERSITAT DE LES ILLES BALEARS	Palma De Mallorca	Spain
11	UNIVERSITE PIERRE ET MARIE CURIE	Paris	France
12	NORSK INSTITUTT FOR VANNFORSKNING	Oslo	Norway
13	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	Issy-les-moulineaux	France
14	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
15	UNIVERSITY OF OSLO	Oslo	Norway
16	RINGKJOEBING COUNTY	Ringkoebing	Denmark
17	UNIVERSITY OF BATH	Bath	United Kingdom
18	TERRAQUAT	Stuttgart	Germany

19	CENTRALE RECHERCHE SA	Chatenay-malabry	France
20	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
22	INSTITUTE OF OCEANOLOGY - BAS	Varna	Bulgaria
23	UNIVERSITY OF TARTU	Tartu	Estonia



## **8. Cross-cutting issue: Sustainable Development concepts and tools**

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### **8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes**

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CALCAS	Co-ordination Action to define new research lines on Life-Cycle Analysis for sustainability	335
GEO-BENE	Global Earth Observation - Benefit Estimation: Now, Next and Emerging	336
INSURE	Flexible framework for Indicators for Sustainability in Regions using system dynamics modelling	337
MATISSE	Methods and Tools for Integrated Sustainability Assessment (MATISSE)	338
NATURNET	New Model Supporting Active Behaviour in Environmental Protection Based on Innovative Web Services	340
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Title:	Co-ordination Action to define new research lines on Life-Cycle Analysis for sustainability		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools 8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		
Instrument:	Concerted Action		
Project Total Cost:	1.478.432 €	Project start date:	1/09/2006
EU Contribution:	1.399.972 €	Duration:	30 months
Organisation:	Ente per le Nuove Tecnologie, l'Energia e l'Ambiente	Roma	Italy

## Abstract

LCA approaches are part of the broader field of sustainability assessment often connected to different disciplines. To increase the efficacy of sustainability decision making, LCA is to take into account broader externalities, broader interrelations and different application/user needs with often conflicting requirements (dynamic models; integration of environmental, economic, and social aspects; accessibility and user friendliness, etc). Roughly, development should be oriented to:

- "deepening", to improve reliability and usability by more adequately incorporating empirical mechanisms
- "broadening", to improve the significance, by expanding the scope of sustainability impacts and better linking to neighbouring models
- "leaping forward" by a revision/enrichment of foundations, through the crossing with other disciplines for sustainability evaluation.

CALCAS develops analysis and development along two lines: 1 science framework; 2 user needs (Industry, Research organisations, Government, Consumers, NGOs); the results, are crossed to draw up mid- long-term research lines and road maps, including measures for implementation. Advanced results will often not be in line with the current ISO14040 series definitions and requirements on LCA, creating a need for reformulation. Partnership combines LCA "producers" and "users" and involves, with different responsibilities, a significant and highly qualified part of European scientists. Thus, the project promotes the networking both "cross", among the scientific sectors, and "vertical" between them and users. Expert working groups, cross-fertilisation workshops, and an open consultation of all scientific sectors and users, based on a Blue Paper combining intermediate proposals are inputs to the final results, both as described models and tools and as research tasks to be accomplished. They also promote dissemination and joint actions for training, knowledge exchanges and common projects.

## Partners

Num.	Partner Legal Name	City	Country
1	ENTE PER LE NUOVE TECNOLOGIE, L' ENERGIA E L'AMBIENTE	Roma	Italy
2	UNIVERSITEIT LEIDEN.	Leiden	Netherlands
3	IVL SVENSKA MILJÖINSTITUTET AB	Stockholm	Sweden
4	WUPPERTAL INSTITUT FUER KLIMA, UMWELT, ENERGIE GMBH.	Wuppertal	Germany
5	UNITED NATIONS ENVIRONMENT PROGRAMME	Nairobi	Kenya
6	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
7	THE UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
8	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
9	FREIE UNIVERSITAET BERLIN	Berlin	Germany
10	INSTITUTO SUPERIOR TECNICO	Lisboa	Portugal
11	FONDATION EUROPEENNE DE LA SCIENCE	Strasbourg Cedex	France
12	THE CRYSTAL FARADAY PARTNERSHIP	Rubgy	United Kingdom
13	INSTITUT FUER OEKOLOGISCHE WIRTSCHAFTSFORSCHUNG GGMBH	Berlin	Germany



Title:	Global Earth Observation - Benefit Estimation: Now, Next and Emerging		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools 8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.384.500 €	Project start date:	1/07/2006
EU Contribution:	2.499.583 €	Duration:	36 months
Organisation:	International Institute for Applied System Analysis - IIASA	Laxenburg	Austria

## Abstract

Global Earth Observations are instrumental to attain sustainable development goals and are major drivers of how the society-technology-environment system is managed. An integrated economic, social and environmental assessment of the nine benefit areas of GEO has not yet been carried out. These benefit areas are: Disaster, Health, Energy, Climate, Water, Weather, Ecosystems, Agriculture and Biodiversity. In order to support the international negotiation processes connected to these areas and for the development of good policies the Global Earth Observation - Benefit Estimation: Now, Next and Emerging (GEO-BENE) project's objective is to develop methodologies and analytical tools to assess societal benefits of GEO. The assessment will be carried out using quantitative and qualitative information. Benefit assessment tools are centered around spatially explicit information applying deterministic and stochastic approaches. The various model structures will be applied to global data sets assessing benefit functions using harmonized socio-economic and technology scenarios. Concise policy conclusions from the modeling exercise will aim at supporting the implementation of international agreements. In the proposal we advocate a spatially explicit approach for benefit estimation motivated by the fact that activities underlying the nine benefit areas of GEO are by their very nature spatial entities and aggregate non-spatial treatment could, according to our experience, lead to serious biases in the assessment. We propose a simple and easily tractable static and deterministic approach for the aggregate benefit calculation and also more comprehensive, dynamic, and uncertainty augmented assessment. We believe that such a multi-dimensional approach is necessary since the underlying processes of the benefits areas are complex and consistency across a variety of decision rules should guarantee robustness of the final aggregate benefit estimates.

## Partners

Num.	Partner Legal Name	City	Country
1	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
2	UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
3	EAWAG - EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
4	Albert-Ludwigs-Universitaet Freiburg	Freiburg	Germany
5	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
6	KANSANTERVEYSLAITOS	Helsinki	Finland
7	POTSDAM INSTITUTE FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
8	VYSKUMNY USTAV PODOZNALECTVA A OCHRANY PODY	Bratislava	Slovakia
9	UNIVERZITA KOMENSKOHO V BRATISLAVE.	Bratislava	Slovakia
10	UNIVERSITAET HAMBURG.	Hamburg	Germany
11	COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH	Pretoria	South Africa



Title:	Flexible framework for Indicators for Sustainability in Regions using system dynamics modelling		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools 8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.132.094 €	Project start date:	1/04/2004
EU Contribution:	899.465 €	Duration:	34 months
Organisation:	TAU Consultora Ambiental, S.L.	Madrid	Spain

## Abstract

Current limitations in sustainability indicators' system development derive from (Eurostat): lack of (sectoral) integration; lack of data; sectoral barriers; lack of consensus; difficulties for an index definition; lack of comparability.

The project pretends to overcome the main obstacles indicators currently faces. Thus, three research lines will be faced:

i) Place the sustainability concept in the middle of the indicator system: The hypothesis proposed is to define sustainability in a well-structured hierarchy in order to make the system as independent as possible from the indicators and the data available. Comparability is usually identified with the use of identical algorithms for each indicator in different regions. Could we search for a more logical comparability framework among regions? Equivalent concepts do not necessarily mean identical methods for indicator's calculation. We are interested in investigating the suitability of referring comparability among regions based on a basic common framework.

ii) Integrate the information for indicator calculation by means of System Dynamics: System Dynamics offers a very suitable tool for the development of a formalised heuristic description for sustainability, capable of developing an integrated and autonomous information system for indicator development. There are two features that make SD suitable for sustainability aspects: the study of trends and the integration of local and universal knowledge.

iii) Using the existing network for regional sustainability indicator development: There are several efforts at European level to create regional networks of European interest. It will be very useful to investigate the feasibility of using some of these European institutions and networks to consistently develop a regional sustainability indicator system. Collaboration with regional or national institutions should provide the project with the necessary link with real problems at regional/national level.

## Partners

Num.	Partner Legal Name	City	Country
1	TAU CONSULTORA AMBIENTAL, S.L.	Madrid	Spain
2	UNIVERSITEIT MAASTRICHT	Maastricht	Netherlands
3	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
4	JOINT RESEARCH CENTRE	Brussels	Belgium
5	UNIVERSITAET KARLSRUHE (TH)	Karlsruhe	Germany
6	THE VICTORIA UNIVERSITY OF MANCHESTER	Manchester	United Kingdom
7	MIDDLE EAST TECHNICAL UNIVERSITY	Ankara	Turkey
8	INSTITUTE FOR STRUCTURAL POLICY	Prague 6	Czech Republic
9	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany





Title:	Methods and Tools for Integrated Sustainability Assessment (MATISSE)		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools 8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		
Instrument:	Integrated Project		
Project Total Cost:	6.773.000 €	Project start date:	1/04/2005
EU Contribution:	5.300.000 €	Duration:	36 months
Organisation:	Erasmus Universiteit Rotterdam	Rotterdam	Netherlands

## Abstract

The objective of MATISSE is to achieve a step-wise advance in the science and application of Integrated Sustainability Assessment (ISA) of EU policies. In order to reach this objective the core activity of the MATISSE project is to improve the tool kit available for conducting Integrated Sustainability Assessments, resulting in four main project activities:

1. A common conceptual framework for ISA development, implementation and evaluation will be developed. This will be related to the assessment of the current status of ISA and its pattern of use in relation to different domains and contexts.
2. MATISSE will deliver a future tool portfolio for ISA. It will improve and interlink existing tools and methods for ISA with the focus on quantitative tools. In addition, new methods and tools will be developed that capture the multi-domain, multi-level and multi-actor complexity of ISA.

3. In four case studies the improved and new ISA tools will be applied and tested. The case studies are designed to cover the broad spectrum of domains and contexts of ISA in the EU. The themes are:

- i) agriculture, forestry and land-use,

- ii) resource use, waste and dematerialisation,

- iii) water, and,

- iv) sustainable environmental technology development.

4. The involvement and engagement of stakeholders and policy makers will be secured throughout all activities of the project. This covers crosscutting capacity-building, communications and outreach tasks. To this purpose, external guidelines for ISA will be developed that will support the future use and application of tools and methods for ISA across a wide range of contexts. The resulting improved tools portfolio and ISA Guidelines will form the primary deliverables of the project. The major focus will be on ISA-modelling tools in relation to ISA-participatory methods, which will be made suitable for use by the European Commission and other actors that seek to apply ISA through a comprehensive dissemination programme.

## Partners

Num.	Partner Legal Name	City	Country
1	ERASMUS UNIVERSITEIT ROTTERDAM	Rotterdam	Netherlands
2	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
3	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
4	INSTITUTE OF COMMUNICATION AND COMPUTERS SYSTEMS	Athens	Greece
5	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
6	CENTRALE RECHERCHE SA	Chatenay-malabry	France
7	WUPPERTAL INSTITUT FUER KLIMA, UMWELT, ENERGIE GMBH.	Wuppertal	Germany
8	UNIVERSITY OF DURHAM	Durham	United Kingdom
9	LUNDS UNIVERSITET	Lund	Sweden
10	UNIVERSITAET KLAGENFURT.	Klagenfurt	Austria
11	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (cerdanyola Del Valles)	Spain
12	SERI - NACHHALTIGKEITSFORSCHUNGS UND - KOMMUNIKATIONS GMBH	Wien	Austria
13	CAMBRIDGE ECONOMETRICS	Cambridge	United Kingdom
14	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany

18	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary
19	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
20	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG	Muenchen	Germany
24	UNIVERSITETET FOR MILJO OG BIOVITENSKAP	Aas	Norway
25	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
27	UNIVERSITEIT MAASTRICHT	Maastricht	Netherlands
28	UNIVERSITY OF SUSSEX	Falmer, Brighton	United Kingdom



Title:	New Model Supporting Active Behaviour in Environmental Protection Based on Innovative Web Services		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools		
	8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.356.581 €	Project start date:	1/03/2005
EU Contribution:	1.900.000 €	Duration:	30 months
Organisation:	Ceske Centrum Pro Vedu a Spolecnost	Praha 5	Czech Republic

## Abstract

NaturNet-Redime will develop educational programmes towards implementing the European Union's Strategy for Sustainable Development (SSD). The prototype technology produced will demonstrate the utility of our approach for developing educational programmes that will increase understanding of the various factors that affect sustainable development. Example content will stress ecological, environmental, economic, and cultural factors. As recognized by the SSD, this increased understanding will allow more informed and equitable decisions to be made by increasing public involvement in the decision-making process. NaturNet-Redime is the result of the merger of two projects that each sought to use web and computer technologies to disseminate knowledge about sustainability. The NaturNet aspects of the project focus on building an interoperable Internet architecture, where users can access and visualise much of the data on sustainable development that currently exists in scattered, non-integrated form throughout the world. Mobile Internet technologies will allow users to access location-specific information in the terrain, wherever they are. Redime aspects of the project focus on learning through modelling. People learn about system behaviour best when they can construct mental models of how the system works. We will use this approach to develop tools for the public to learn about sustainable development. This will be made possible by enhancing Qualitative Reasoning (QR) modelling tools to make them easy and interesting to use. A team of sustainability experts will organise and explicate cause-effect processes into the new QR workbench, allowing this knowledge to be transferred and re-used. Thus, users will assemble these pieces of knowledge like building blocks to create and run simulations. In contrast to passive learning by traditional lecture or reading formats, a deeper understanding of cause and effect will be facilitated.

## Partners

Num.	Partner Legal Name	City	Country
1	CESKE CENTRUM PRO VEDU A SPOLECNOST	Praha 5	Czech Republic
2	ENVIRONMENTAL NETWORK LIMITED	Aboyne	United Kingdom
3	Albert-Ludwigs-Universitaet Freiburg	Freiburg	Germany
4	COMUNE DI FRANCAVILLA DI SICILIA	Francavilla Di Sicilia (me)	Italy
5	GYMNAZIUM BOZENY NEMCOVE	Hradec Kralove	Czech Republic
6	INNOVATION. GRENZUBERSCHREITENDES NETZWERK FUR EUROREGIONALE BILDUNG UND ENTWICKLUNG E.V.	Dresden	Germany
7	LATVIJAS UNIVERSITATES MATEMATIKAS UN INFORMATIKAS INSTITUTS	Riga	Latvia
8	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH	Graz	Austria
9	KRIMULDAS PAGASTA PADOME	Ragana	Latvia
10	Apif Moviquity S.A.	Madrid	Spain
11	SOCIETE - INFORMATIQUE TELEMATIQUE CORSO	Ajaccio	France
12	HYDROMELIORACIE, S.P.	Bratislava	Slovakia
13	KRAJ VYSOCINA	Jihlava	Czech Republic
14	FRIEDRICH-SCHILLER-UNIVERSITY IN JENA	Jena	Germany
15	UNIVERSITEIT VAN AMSTERDAM	Amsterdam	Netherlands
16	ZENTRALNA LABORATORIYA PO OBSCHTA EKOLOGIYA	Sofia	Bulgaria
17	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE DELTA DUNARII	Tulcea	Romania

18	FUNDACAO UNIVERSIDADE DE BRASILIA	Brasilia-df	Brazil
19	UNIVERSITY OF HULL	Hull	United Kingdom
20	UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
21	COLLECTIVITE TERRITORIALE DE CORSE	Ajaccio	France



Title:	Advanced - Techniques for Evaluation of Sustainability Assessment Tools		
Area:	8. Cross-cutting issue: Sustainable Development concepts and tools 8.2. Developing tools for integrated sustainability assessment and for the incorporation of sustainability in decision making processes		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.642.274 €	Project start date:	1/03/2004
EU Contribution:	1.299.874 €	Duration:	30 months
Organisation:	Vrije Universiteit Amsterdam	Amsterdam	Netherlands

## Abstract

To realize progress towards the ambitions on Sustainable Development (SD) the EU and others should set wise objectives and ensure effective implementation. This requires proper policies and a consistent implementation process. To make equitable and ambitious decisions on which policies to develop and to review the progress made towards the SD goals, tools (i.e. methods, models, approaches and appraisals) are needed that support strategy development, ex ante sustainability impact assessments (SIAs) as well as policy reviews.

This project will assist in improving both SIAs and the SD strategy definition, by high level validation of the tools using a consistent and comprehensive evaluation framework. First, a draft evaluation framework and key aspects of SD will be formulated. Then a catalogue of state of the art tools will be made and a preliminary evaluation of the tools in the context of different policy questions will be carried out based on literature reviews. In this phase the project will focus on water, climate and agriculture & land-use policy questions. Then an array of tools will be tested in one case study on agriculture & land-use. This will lead to a final evaluation framework that indicates how the tools relate, the merits of each tool, the circumstances under which they can be used, the pros and cons and the extent to which they integrate externalities of policies. Moreover, the evaluation framework will show which tools are useful for answering which key aspects of SD and will identify the trade-offs of using the different tools for addressing the three pillars of SD.

After this project there will be a better insight for policy-makers and those carrying out SIAs, what tools they can best use in decision-making or assessment processes, given the available resources and the desired scope of the process. This can clearly improve the quality of the decision-making or assessment process, and thus improve SIAs and SD strategy definition.

## Partners

Num.	Partner Legal Name	City	Country
1	VRIJE UNIVERSITEIT AMSTERDAM	Amsterdam	Netherlands
2	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
3	Universitat Osnabruck		Germany
4	Institut für Landliche Strukturforchung an der Johann Wolfgang Goethe Universität		Germany
5	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU	Bilthoven	Netherlands
6	Cesky Ekologicky Ustav		Czech Republic
7	Potsdam-Institut für Klimafolgenforschung		Germany
8	Joint Research Centre		Belgium
9	STOCKHOLM ENVIRONMENT INSTITUTE	Stockholm	Sweden
10	UNIVERSITEIT MAASTRICHT	Maastricht	Netherlands
11	Universitat Kassel		Germany
12	Universitat Autònoma de Barcelona		Spain
13	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPÄISCHE UMWELTPOLITIK GGMBH	Berlin	Germany
14	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
15	WUPPERTAL INSTITUT FUER KLIMA, UMWELT UND ENERGIE GMBH	Wuppertal	Germany
16	LATVIJAS UNIVERSITATE	Riga	Latvia

17 UNIVERSITEIT TWENTE  
18 UNIVERSITY OF BRITISH COLUMBIA

Enschede Netherlands  
Vancouver Canada



## **9. Specific support actions (covering several areas)**

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### 9. Specific support actions (covering several areas)

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BTG2004 CONFERENCE	Organisation and hosting of the EU Presidency Conference Bridging the Gap 2004: Information for Action.	345
ECONETUS	Support for Networks Creation in the Field of Global Change and ECOsystems - from idea through proposal submission and project managing till completion and successful audit	346
ERA-ENV	Integration of Associated Candidate Countries and New EU Member States in European Research Area by Environmental approaches	347
GLOBALCHANGE-TV	Enhancing public awareness on the results of Global Change and Ecosystems research actions through television media	348
INT-ER-LINK	Promoting International Cooperation for Environmental Research Through Dissemination and Networking Activities	349
SAFE	SME Action For the Environment in Candidate Countries	351
SME ENVIRONMENT	Supporting the Participation of Environmental SMEs from Associated Candidate Countries in the 6th Framework Programme	352

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Title:	Organisation and hosting of the EU Presidency Conference Bridging the Gap 2004: Information for Action.		
Area:	9. Specific support actions (covering several areas) 9. Specific support actions (covering several areas)		
Instrument:	Specific Support Action		
Project Total Cost:	225.090 €	Project start date:	1/03/2004
EU Contribution:	142.498 €	Duration:	14 months
Organisation:	The Environmental Protection Agency of Ireland	Wexford	Ireland

## Abstract

Successful environmental policies need to be underpinned by relevant and reliable information. There is often a gap, however, between the information available from research and monitoring, and that needed for sound policymaking. The conference Bridging the Gap: Information for Action will aim at closing that gap. The Conference will be one of the major environmental events of Ireland's EU Presidency. It will be particularly relevant to policymakers, to those engaged in organising research or monitoring, and to those involved in communicating environmental knowledge to policymakers and the public. Emerging issues such as integrated water and soil management (in line with the Johannesburg commitments) as well as land use for sustainable development will also be tackled during the conference by providing technical insights and case studies. In addition, earth observation will be considered as a tool for global change monitoring and reporting. These issues will be explored across the thematic sessions as appropriate.

Bridging the Gap: Information for Action will take a strategic look at the role of information in supporting policymaking and its implementation. It will evaluate progress made since the previous BTG conferences in London (1998) and Stockholm (2001). The Conference will:

- Highlight what kinds of information, presented in, which particular ways, have been most successful in promoting policy actions, their implementation and behavioural change;
- Illustrate how scientific, technological and policy developments can be used now to progress effective integration and action on the environment;
- Bridge the gap between European science, policy and practitioners on key specific and strategic issues;
- Consider the way forward for identifying priority research, monitoring and reporting requirements for emerging environmental issues and future challenges;
- Provide a forum for discussion of knowledge, technical expertise and other tools needed to conduct effective impact assessments across the areas of environment, economy and society.

The role of research in supporting environmental management and knowledge-based policy formulation is a major theme of the conference. The contributions of key stakeholders, and of new information technology, to data gathering and policy development also features strongly. Thematic sessions examine information needs in key environmental policy areas including environment and health, biodiversity and land use, climate change, impact assessment and environmental information needs. The conference as a whole embraces a broader range of environmental themes.

By reviewing past successes, analysing present opportunities and identifying future challenges Bridging the Gap: Information for Action helps to mobilise knowledge in support of a better European environment.

## Partners

Num.	Partner Legal Name	City	Country
1	THE ENVIRONMENTAL PROTECTION AGENCY OF IRELAND	Wexford	Ireland





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Title:	Support for Networks Creation in the Field of Global Change and ECOsystems - from idea through proposal submission and project managing till completion and successful audit		
Area:	9.	Specific support actions (covering several areas)	
	9.	Specific support actions (covering several areas)	

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Instrument:	Specific Support Action		
Project Total Cost:	144.484 €	Project start date:	31/08/2005
EU Contribution:	144.484 €	Duration:	24 months
Organisation:	Politechnika Slaska	Gliwice	Poland

## Abstract

ECONetus project aims to provide support for networks creation in the field of Global Change and Ecosystems in Europe and to establish strong cooperation between participants from Member and Associate Candidate Countries. This project's consortium consists of partners from: Poland, Lithuania (representatives of ACCs), the United Kingdom and Austria (representatives of MCs). In this project Poland and Lithuania will act as a bridge between ACCs and MCs while promotion of this project in MCs will be assured by other partners. Good relations with Contact Points from other ACC countries will ensure efficient project results dissemination. The project will actively contribute to the implementation, stimulation, encouragement and facilitation of the participation mainly in the research activities of this priority thematic area among potential RTD projects' participants (from research and industrial units). It also aims to assist all established consortia during a whole "project's life" - from idea through proposal submission and project managing till completion and successful audit. At the beginning of the project participants from MCs and ACCs will have a possibility to get to know one another during brokerage meetings and create consortia (working groups), which will allow opening research groups from MCs to cooperate with participants from ACCs. Later on, established international working groups will have a chance to participate in workshops organized by ECONetus and then create and consult their proposals with its Scientific Advisory Group and Assistance Group. It is expected that there will be RTD projects submitted by consortia established and assisted by ECONetus in 6th FP and also in 7th FP. Another aim of the project is to better educate the Contact Points' experts from all ACCs in important and needed expertise of negotiating and managing RTD projects. This will consequently lead to better assistance for researchers and contribute to creation of ERA.

## Partners

Num.	Partner Legal Name	City	Country
1	POLITECHNIKA SLASKA	Gliwice	Poland
2	POLITECHNIKA KRAKOWSKA	Krakow	Poland
3	POLITECHNIKA GDANSKA.	Gdansk	Poland
4	INSTYTUT PODSTAWOWYCH PROBLEMOW TECHNIKI POLSKIEJ AKADEMII NAUK	Warsaw	Poland
5	UNIVERSITY OF GLAMORGAN.	Pontypridd Wales	United Kingdom
6	OESTERREICHISCHE FORSCHUNGSFOERDERUNGSGESELLSCHAFT MBH	Wien	Austria
7	Agency for International Science and Technology Development Programmes in Lithuania	Vilnius	Lithuania



Title:	Integration of Associated Candidate Countries and New EU Member States in European Research Area by Environmental approaches		
Area:	9. Specific support actions (covering several areas)		
	9. Specific support actions (covering several areas)		

Instrument:	Specific Support Action		
Project Total Cost:	499.999 €	Project start date:	1/04/2005
EU Contribution:	499.999 €	Duration:	18 months
Organisation:	Fiman Development Services S.A.a	Bucurestii 2	Romania

## Abstract

The aim of this Specific Support Action (SSA) is to enhance the participation of research organizations and SMEs from new Members States and Candidate Countries in FP6 and 6.3. Thematic Priority. The proposed activities will:

- actively promote the research competencies on environment in ACC (at least 200 research organisations from ACC will be promoted);
- train research and SMEs representative on issues related to FP6 and "Global Changes and Ecosystems" (11 training sessions organized and up to 240 researchers trained);
- allow to promote FP6/Global Changes and Ecosystems to research community and SMEs (2,750 brochures, 5,000 leaflets, 2,750 CDs, one web page, monthly E- newsletters, one European Conference);
- allow to support researchers/SMEs in proposals elaboration and submission (up to 20 proposals with ACC partners);
- allow to establish partnerships between organizations from Member States and ACC (one big Brokerage Event will be organized in Romania). ERA-ENV mobilises the skills and competencies of relevant organisations from 7 European Countries, of which 2 are Member States (Austria and Germany), 2 are new Member States (Hungary and Slovakia) and 3 are Candidates Countries (Romania, Bulgaria and Turkey).

## Partners

Num.	Partner Legal Name	City	Country
1	FIMAN DEVELOPMENT SERVICES SA	Bucuresti 2	Romania
2	OESTERREICHISCHE FORSCHUNGSFOERDERUNGSGESELLSCHAFT MBH	Wien	Austria
3	INSTITUT FUER AUTOMATION UND KOMMUNIKATION E.V. MAGDEBURG.	Barleben	Germany
4	TECHNIKA UNIVERZITA VO ZVOLENE (TECHNICAL UNIVERSITY OF ZVOLEN)	Zvolen	Slovakia
5	NEMZETI KUTATASI ES TECHNOLOGIAI HIVATAL	Budapest	Hungary
6	CENTRAL LABORATORY OF GENERAL ECOLOGY - ZENTRALNA LABORATORIYA PO OBSCHTA EKOLOGIYA	Sofia	Bulgaria
7	TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU	Ankara	Turkey
8	Applied Research and Communications Fund	Sofia	Bulgaria
9	MINISTERUL EDUCATIEI SI CERCETARII - AUTORITATEA NATIONALA PENTRU CERCETARE STIINTIFICA	Bucharest	Romania
10	ISTANBUL TEKNIK UNIVERSITESI	Istanbul	Turkey
11	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary



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Title: Enhancing public awareness on the results of Global Change and Ecosystems research actions through television media

Area: 9. Specific support actions (covering several areas)  
9. Specific support actions (covering several areas)

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Instrument: Specific Support Action

Project Total Cost: 490.000 € Project start date: 1/06/2006

EU Contribution: 490.000 € Duration: 12 months

Organisation: Icons S.R.L. Castelnuovo Bocca Italy  
D'adda

## Abstract

The strategic objective of GLOBALCHANGE-TV is to contribute to the development of public awareness on European Global Change and Ecosystems research in all European countries through television media. This objective will be reached through the following activities:

- Pilot an innovative media-driven TV communication model for the Global Change and Ecosystems Priority projects.
- Fill the existing communication gap between the technical content vehiculed by the Global Change and Ecosystems research and the understanding skills of the general public
- Identify the key results of the Global Change and Ecosystems Priority, through the permanent consultation of its relevant constituencies (including the Commission Services and an in-depth punctual research towards individual Global Change and Ecosystems projects.
- Create a series of a minimum of 10 high-quality free-of-rights Video News Releases (VNRs) for the general public on the basis of the key results of the research.
- Include GLOBALCHANGE-TV audiovisual productions into the scientific and news TV broadcasting mainstreams of major national TV channels in all 25 EU countries.
- Collect actual broadcasts made by European TV stations and include them on a DVD at the end of the project, for future use and exploitation.
- Monitor the progress of the project and assess its achievements and success, by assessing the overall media impact of the project.

The expected, measurable results of the GLOBALCHANGE-TV project are:

- To have each of its audiovisual production broadcast by at least 8 major national TV stations throughout Europe.
- To reach an overall public TV audience of several tens of millions people.
- To track as many broadcasts as possible and to retrieve, for each broadcast, broadcasters' edit.
- To provide a measure of the overall media impact of the project.

## Partners

Num.	Partner Legal Name	City	Country
1	ICONS S.R.L.	Castelnuovo Bocca D'adda	Italy
2	GEDEON PROGRAMMES SA	Paris	France
3	ELMAR BARTLMAE	Oldenburg	Germany
4	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France



Title: Promoting International Cooperation for Environmental Research Through Dissemination and Networking Activities

Area: 9. Specific support actions (covering several areas)  
9. Specific support actions (covering several areas)

Instrument: Specific Support Action

Project Total Cost: 445.622 €

Project start date:

EU Contribution: 348.749 €

Duration: 24 months

Organisation: Agence de l'Environnement et de la Maîtrise de l'Energie

Angers France

## Abstract

The major objectives of this Specific Support Action are to: - promote the role played by the Framework Programme in enabling International Cooperation on Global Change and Ecosystems research;- and to facilitate the uptake of the results of the research being carried out. This will be done by using a combined approach of awareness-raising and networking activities. The project will focus in particular on two groups of Third Countries: Africa and the Newly Independent States since enhanced cooperation with these third countries would have a high impact of on the implementation of both the Research and Sustainable Development policies of the European Union. In order to have direct access to the Environmental scientific community a consortium has been composed of National Contact Points, International Organisations and National Information Points, spanning across Europe, Africa and the Newly Independent States.

The awareness-raising activities will involve the dissemination of information on:

- the projects funded by the 6th Framework Programme in priority 6.3 'Global Change and Ecosystems' and which include partners from Third Countries;

- R&D players and networks in Europe and Third Countries. The consortium will produce dedicated communication tools for this purpose, adapting them to the different target groups identified and disseminating them in the European Union, Candidate Countries, Associated Countries and Third Countries. The networking activities aim to build interfaces/linkages between

- the European scientific community and the Third Country scientific community;- the scientific and the development cooperation communities;

- the network of National Contact Points to other networks in Third countries who are active in the promotion of the Framework Programme or could potentially play this role.

The dissemination and networking activities will pave the way to an enhanced cooperation with Third Countries in FP7.

## Partners

Num.	Partner Legal Name	City	Country
1	Agence de l'Environnement et de la Maîtrise de l'Energie	Angers	France
2	Oesterreichische Forschungsfoerderungsgesellschaft mbH	Vienna	Austria
3	Research Promotion Foundation	Nicosia	Cyprus
4	Archimedes Foundation	Tallinn	Estonia
5	Université de Technologie de Compiègne	Compiègne	France
6	Forschungszentrum Juelich GmbH	Juelich	Germany
7	Innova SpA	Rome	Italy
8	SPIE Baltic	Riga	Latvia
9	Malta Council for Science and Technology	Kalkara	Malta
10	SenterNovem	The Hague	Netherlands
11	Instytut Podstawowych Problemow Techniki Polskiej Akademii Nauk	Warszawa	Poland
12	Technical University in Zvolen	Zvolen	Slovakia
13	Beta Technology Ltd	Doncaster	United Kingdom
14	Department for Environment Food and Rural Affairs	London	United Kingdom
15	National Institute of Meteorology and Hydrology	Sofia	Bulgaria
16	University of National and World Economy	Sofia	Bulgaria
17	Ministry of Science, Education and Sports	Zagreb	Croatia

18	Bostina & Associates Management Consulting	Bucharest	Romania
19	Ministry of Education and Research - National Authority for Scientific Research	Bucharest	Romania
20	TUBITAK	Ankara	Turkey
21	ISERD - MATIMOP	Tel-aviv	Israel
22	Bealrusian Institute of System Analysis and Information Support of Science and Technical Sphere	Minsk	Belarus
23	Independent Expert Consulting Board to Promote Scientific Research Activity in Kazakhstan	Almaty	Kazakhstan
24	Academy of Sciences of Moldova	Chisinau	Moldova
25	Kyiv State Center for Scientific, Technical and Economic Information	Kyiv	Ukraine
26	National Research Foundation	Pretoria	South Africa
27	Pan African START Secretariat	Nairobi	Kenya
28	International Council for Science Regional Office for Africa	Pretoria	South Africa
29	Agence Universitaire de la Francophonie	Paris	France



Title: SME Action For the Environment in Candidate Countries  
 Area: 9. Specific support actions (covering several areas)  
 9. Specific support actions (covering several areas)

Instrument:	Specific Support Action		
Project Total Cost:	300.000 €	Project start date:	1/08/2005
EU Contribution:	300.000 €	Duration:	24 months
Organisation:	Euroconsultants S.A.	Thessaloniki	Greece

## Abstract

SAFE has been designed to stimulate, encourage and facilitate the participation of organisations from the Associated Candidate Countries (ACC) in the activities of thematic sub-priority 'Global Change and Ecosystems'. This will be developed through networking EU multipliers in the candidate countries as well as NCPs. These multipliers will be coached to extend the services of the NCPs for Environmentally related calls in the respective ACCs.

Each EU partner will establish a liaison with one or more local candidate partners, in one or two of the participating ACCs, offering continued bilateral support, and collaboration with the local NCPs. The Environmental multipliers from the ACCs will attend workshops, exposing them to FP6 and its instruments and to the Sustainable development Priority Workprogramme. Each couple, formed of a EU partner and one or more multipliers, will thereafter be engaged in a bilateral action, in which the former will transfer knowledge, best practice and hands-on experience to the latter. The Environmental multipliers selected will be guided in the requirements of FP6, so as to facilitate their assistance to local Environmentally motivated enterprises - and to entities wishing to adopt Sustainable measures - to participate and respond to Calls for Proposals within the sustainable development Priority.

The Consortium will assist the ACC multipliers (bilaterally and jointly) in:

1. Organising awareness-building campaigns (aimed at identifying potential environmentally conscious developments or entities that could benefit from FP6 projects),
2. Organising awareness building and dissemination Seminars and Workshops,
3. Joining a network of Environmentally responsible-multipliers created in the other ACCs and NIS
4. Assisting ACC entities to build or join STREP, IP or NoE proposals, together with EU partners.

## Partners

Num.	Partner Legal Name	City	Country
1	EUROCONSULTANTS SA	Thessaloniki	Greece
2	MEDECOLOGY FOUNDATION	Gzira	Malta
3	OSTERREICHISCHE FOSCHUNGSFORDERUNGSGESELLSCHAFT MBH	Wien	Austria
4	TURKIYE BILIMSEL VE TEKNIK ARASTIRMA KURUMU	Ankara	Turkey
5	INNOVA S.P.A.	Roma	Italy
6	INNOTERM ENERGETIKAI ES KOERNYEZETVEDELMI FEJLESZTOE KFT.	Budapest	Hungary
7	INSTITUTE OF ENVIRONMENTAL PROTECTION	Warszawa	Poland
8	INSTYTUT PODSTAWOWYCH PROBLEMOW TECHNIKI POLSKIEJ AKADEMII NAUK	Warsaw	Poland
9	INSTITUTE OF FISHERIES AND AQUACULTURE-VARNA	Varna	Bulgaria



Title:	Supporting the Participation of Environmental SMEs from Associated Candidate Countries in the 6th Framework Programme		
Area:	9. Specific support actions (covering several areas)		
	9. Specific support actions (covering several areas)		
Instrument:	Specific Support Action		
Project Total Cost:	300.006 €	Project start date:	1/04/2005
EU Contribution:	300.000 €	Duration:	24 months
Organisation:	Geonardo Environmental Technologies Ltd	Budapest	Hungary

## Abstract

The overall objective of the project is to establish an innovative and flexible training tool for SMEs in the environment and energy sector from Associated Candidate Countries (ACCs) in order to facilitate their participation in the 6th framework programme (FP6). Within the framework of the project the true needs of environmental SMEs from ACCs will be investigated, strategies for their involvement will be developed and a web-based service will be created, providing all services necessary for their active participation in FP6 projects.

Services include robust e-training solutions that will provide hands-on assistance to managers of environmental SMEs in the proposal writing phase. The services will comprise of a basic e-learning course on FP6 proposal writing, e-training services for the selected candidates and a platform for the discussion of partners and project coordinators. A robust dissemination and marketing strategy will be performed during the project in order to ensure full publicity for the services, not only within the environmental SME sector, but also among other institutions who are potential proposers of FP6 projects. Here all relevant EC innovation and business networks will be involved.

The proposed project may be seen as highly complementary to the ongoing efforts by the European Commission and the relevant supporting networks and centres. The proposed e-training service on environmental project proposal development will act as a catalyst, converting the available FP6 information into practice (i.e. high-quality project proposals), which in turn help to maximise the impact of the existing EC services.

## Partners

Num.	Partner Legal Name	City	Country
1	GEONARDO ENVIRONMENTAL TECHNOLOGIES	Budapest	Hungary
2	INNOSTART NATIONAL BUSINESS AND INNOVATION CENTRE FOUNDATION	Budapest	Hungary
3	HELSINKI UNIVERSITY OF TECHNOLOGY	Espoo	Finland
4	VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS ADMINISTRATION (INSTITUTE OF SMALL BUSINESS AND ENTREPRENEURSHIP).	Wien	Austria
5	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary



## 1. Sustainable management of Europe's natural resources

### 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

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HCFCWORKSHOPS	International Workshop on HCFC Alternatives and Intermediate Reduction Steps for Developing Countries	368
HORIZONTAL-HYG	Horizontal Standards on Hygienic parameters for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	369
HORIZONTAL-ORG	Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste	370
IMAGINE	Improved Methods for the Assessment of the Generic Impact of Noise in the Environment	371
INSEA	Integrated Sink Enhancement Assessment	373
NATAIR	Improving and Applying Methods for the Calculation of Natural and Biogenic Emissions and Assessment of Impacts on Air Quality	374
REBECCA	Relationships between ecological and chemical status of surface waters	375
REMEDE	Resource Equivalency Methods for assessing Environmental Damage in the EU	377
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SPI-WATER	Science-Policy Interfacing in support of the Water Framework Directive implementation	380
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VIROBATHE	Methods for the Concentration and Detection of Adenoviruses and Noroviruses in European Bathing Waters with Reference to the Revision of the Bathing Water Directive 76/160/EEC	384





Title:	Air Quality Assessment for Europe: from Local to Continental Scale		
Area:	1. Sustainable management of Europe's natural resources		
	1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.927.506 €	Project start date:	1/01/2004
EU Contribution:	1.958.181 €	Duration:	36 months
Organisation:	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - TNO	Delft	Netherlands

## Abstract

AIR4EU addresses the needs for policy-orientated research on integrated air quality (AQ) assessment by monitoring methods and modelling at different temporal and spatial scales for regulated components in Europe: PM10 (and PM2.5), NO2, CO, SO2, O3 and benzene. Policy support on AQ assessment has been recognised a priority issue within the "Clean Air for Europe-CAFE" programme. There are a wide variety of AQ assessment methods based upon monitoring and modelling, but these methods depend on the spatial and temporal scales, and are often not or only partially compatible. Consequently, there is a need for scientific sound and practical recommendations on how to integrate monitoring and modelling methods into internally consistent, comprehensive and cost-effective assessment methods. The aim of AIR4EU is to provide recommendations on AQ assessment for different temporal and spatial scales: ranging from hourly to annual and from "hotspot"/street to continental scale. Case studies are implemented with partners in Paris, Berlin, Prague, London, Athens, Rotterdam and Oslo, to test and further develop the recommendations. AIR4EU will also prepare AQ maps at different scales in Europe based upon available data sets (monitoring, meteorology and emissions) and the recommended methods. The cooperation of European top-scientists from six member states representing four universities, two research institutes and eight user-partners will support the establishment of the European Research Area. AIR4EU will co-operate with on-going relevant projects (e.g. ENV-e-CITY; OSCAR; CLEAR; MERLIN) and networks (e.g. INTEGAIRE, CITY-Delta; POLIS), and specific liaison will be established with the CAFE programme. AIR4EU will disseminate its results by a Website and through Newsletters and Workshops to the scientific community, environmental authorities, policy makers and other stakeholders in AQ in Europe.

## Partners

Num.	Partner Legal Name	City	Country
1	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
2	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
3	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
4	UNIVERSITAET STUTTGART	Stuttgart	Germany
5	UNIVERSITY OF HERTFORDSHIRE	Hatfield	United Kingdom
6	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
7	AIRPARIF	Paris	France
8	SOCIETA TRASPORTI AUTOMOBILISTICI SPA	Roma	Italy
9	ENVIRONMENT AGENCY	Almondsbury, Bristol	United Kingdom
10	UTVAR ROZVOJE HLAVNIHO MESTA PRAHY	Praha 1	Czech Republic
11	ENVECO S.A. ENVIRONMENTAL PROTECTION MANAGEMENT AND ECONOMICS	Maroussi - Athens	Greece
12	GEMEENTEWERKEN ROTTERDAM	Rotterdam	Netherlands
13	DCMR MILIEUDIENST RIJNMOND	Schiedam	Netherlands
14	OSLO KOMMUNE HELSEVERNATATEN	Oslo	Norway



Title: Development and Testing of Practical Guidelines for the Assessment of Environmental and Resource Costs and Benefits in the WFD

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument: Specific Targeted Research Project

Project Total Cost: 2.246.408 € Project start date: 1/04/2006

EU Contribution: 1.672.028 € Duration: 36 months

Organisation: Vereniging voor Christelijk Hoger Onderwijs, Wetenschappelijk Onderzoek en Patientenzorg Amsterdam Netherlands

## Abstract

The concept of environmental and resource costs plays a central role in the economic analysis of the European Water Framework Directive (WFD). However, there are no methodological guidelines regarding their practical assessment. The main objective of this project is to develop and test such practical and policy relevant guidelines. This will be achieved through the development of standard procedures and a protocol for good practice in decision appraisal for the WFD. These guidelines will then be tested via a series of case studies of selected, representative European river basins. Outcomes of these case studies will be used in two ways. First, this information will be used to refine the guidelines for good practice in WFD decision appraisal. Second, the common design of case studies will permit investigation of techniques for transferring economic values of environmental and resource costs and benefits from water body level to national and international river basin level and vice versa. As part of this exercise we will also investigate the use of geographical information systems (GIS) to synthesise data from the case studies with available physical environment and census data so as to generate a Europe-wide map of expected benefits of improved water quality due to WFD implementation. The proposed project is highly policy focussed, being driven from the outset by the direct involvement of a Europe-wide Steering Committee of policy-makers and other stakeholders directly involved in the implementation of the WFD.

## Partners

Num.	Partner Legal Name	City	Country
1	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
2	Ecologic - Institut für Internationale und Europäische Umweltpolitik GmbH		Germany
3	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
4	UNIVERSITET FOR MILJO- OG BIOVITENSKAP	Aas	Norway
5	UNIVERSIDAD POLITECNICA DE VALENCIA	Valencia	Spain
6	Bureau de Recherches Geologiques et Minières	Paris	France
7	PANEPISTIMIO AIGAIUO - UNIVERSITY OF THE AEGEAN	Mytilene	Greece
8	MAGYAR TUDOMANYOS AKADEMIA TALAJTANI ES AGROKEMIAI KUTATO INTEZETE	Budapest	Hungary
9	Aplinkos Apsaugos Politikos Centras	Vilnius	Lithuania
10	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.	Mol	Belgium
11	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
12	NORSK INSTITUTT FOR VANNFORSKNING (NIVA)	Oslo	Norway
13	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
14	UNIVERSITATEA DIN BUCURESTI	Bucuresti	Romania
15	INSTITUT FUER HOEHERE STUDIEN UND WISSENSCHAFTLLICHE FORSCHUNG KAERNTEN	Klagenfurt	Austria
16	BUDAPESTI CORVINUS EGYETEM	Budapest	Hungary



Title:	Background cRiteria for the IDentification of Groundwater thrEsholds		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	3.004.344 €	Project start date:	1/01/2005
EU Contribution:	1.876.825 €	Duration:	24 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

## Abstract

The Commission proposal of Groundwater Directive COM(2003)550 developed under Article 17 of the Water Framework Directive (2000/60/EC) sets out criteria for the assessment of the chemical status of groundwater, which is based on existing Community quality standards (nitrates, pesticides and biocides) and on the requirement for Member States to identify pollutants and threshold values that are representative of groundwater bodies found as being at risk, in accordance with the analysis of pressures and impacts carried out under the WFD. In the light of the above, the objectives of BRIDGE are:

- i) to study and gather scientific outputs which could be used to set out criteria for the assessment of the chemical status of groundwater,
- ii) to derive a plausible general approach, how to structure relevant criteria appropriately with the aim to set representative groundwater threshold values scientifically sound and defined at national river basin district or groundwater body level,
- iii) to check the applicability and validity by means of case studies at European scale,
- iv) to undertake additional research studies to complete the available data,v) and to carry out an environmental impact assessment taking into account the economic and social impacts.

The project shall be carried out at European level, involving a range of stakeholders and efficiently linking the scientific and policy-making communities. Considering the requirement of the diary of the Groundwater Daughter Directive proposal, which implies that groundwater pollutants and related threshold values should be identified before December 2005 and listed by June 2006, the duration of the project should be 24 months. In that way the proposed research will contribute to provide research elements that will be indispensable for preparing discussions on further steps of the future Groundwater Directive.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Geologiques et Minières	Paris	France
2	UMWELTBUNDESAMT GMBH	Wien	Austria
3	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Oxford	United Kingdom
5	UNIVERSITEIT GENT	Gent	Belgium
6	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
7	UNIVERSITE DE LIEGE	Liege	Belgium
8	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V	Mol	Belgium
9	DANISH ENVIRONMENTAL PROTECTION AGENCY	Koebenhavn K/copenhaegen	Denmark
10	DANMARKS OG GROENLANDS GEOLOGISKE UNDERSOEGELSE	Copenhagen	Denmark
11	ACTEON SARL	Orbey	France
12	UMWELTBUNDESAMT	Dessau	Germany
13	HESSISCHES LANDESAMT FUER UMWELT UND GEOLOGIE	Wiesbaden	Germany
14	INSTITUTO GEOLOGICO Y MINERO DE ESPANA	Madrid	Spain
15	ENVIRONMENT AGENCY OF ENGLAND AND WALES	Almondsbury, Bristol	United Kingdom
16	SUOMEN YMPARISTOKESKUS	Helsinki	Finland
17	NATIONAL AGRICULTURAL RESEARCH FOUNDATION	Athens	Greece

18	Autorita di Bacino del Fiume Tevere	Roma	Italy
19	FORSCHUNGSZENTRUM JUELICH GMBH	Juelich	Germany
20	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK-TNO	Delft	Netherlands
21	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
22	LIETUVOS GEOLOGIJOS TARNYBA	Vilnius	Lithuania
23	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
24	EXECUTIVE ENVIRONMENT AGENCY - BULGARIA	Sofia	Bulgaria
25	TARTU UELIKOOL	Tartu	Estonia
26	Application Europeenne de Technologies et de Services	Artigues Pres Bordeaux	France
27	Akademia Gorniczo-Hutnicza w Krakowie	Krakow	Poland
28	OFFICE INTERNATIONAL DE L'EAU	Paris	France



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Title:	Computer-Assisted Evaluation of industrial chemical Substances According to Regulations		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.424.954 €	Project start date:	24/03/2006
EU Contribution:	1.464.692 €	Duration:	36 months
Organisation:	Istituto di Ricerche Farmacologiche "Mario Negri"	Milano	Italy

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## Abstract

The general aim of CAESAR is to produce (Q)SAR models for the prediction of the toxicity of chemical substances. These models will be designed to be used for regulatory purposes, more specifically to assist the implementation of the proposed REACH system. The project will develop predictive in silico models for chemical toxicity. These modelling approaches will reduce the dependence on the use of animals as well as the costs associated with toxicity tests, and will have wide-ranging applications. The work will involve a robust and detailed characterisation of the most relevant endpoints as defined in EC documents relating to the requirements for REACH. Utmost attention will be paid to obtain a solid experimental basis by the use of toxicity data that have been checked for quality at all stages. At least 5 clearly defined data sets along with suitable statistical techniques will be exploited to form powerful, innovative and thoroughly validated (Q)SAR models. Models developed by each partner will be checked by at least one other partner. Each model will be characterised by its statistical uncertainty. The presence of false negative predictions will also be evaluated to reduce the risk of predicting potentially harmful compounds to be non-toxic. The applicability domain of each (Q)SAR will be described, both in terms of its boundaries and density in chemical and biological space. For each (Q)SAR, a detailed protocol will be prepared, describing the standardised models and the quality procedure adopted. The (Q)SAR models developed in this project, and their protocols, will be placed on the project's internet site to allow the widest possible free access. Further dissemination of the models will be through an international workshop at the end of the project. Exploitation will be achieved through the involvement of users and regulatory bodies. An external review committee will be formed to monitor the project progress and provide advice.

## Partners

Num.	Partner Legal Name	City	Country
1	ISTITUTO DI RICERCHE FARMACOLOGICHE "MARIO NEGRI"	Milano	Italy
2	CENTRAL SCIENCE LABORATORY	York	United Kingdom
3	BIOCHEMICS CONSULTING SAS	Orleans	France
4	POLITECNICO DI MILANO	Milano	Italy
5	KNOWLEDGEMINER SOFTWARE FRANK LEMKE	Panketal	Germany
6	LIVERPOOL JOHN MOORES UNIVERSITY	Liverpool	United Kingdom
7	UFZ - UMWELTFORSCHUNGSZENTRUM LEIPZIG-HALLE GMBH.	Leipzig	Germany
8	KEMIJSKI INSTITUT LJUBLJANA SLOVENIJA	Ljubljana	Slovenia
9	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands



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Title:	European Analytical Quality Control in support of the Water Framework Directive via the Water Information System for Europe		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.711.904 €	Project start date:	1/12/2005
EU Contribution:	1.014.119 €	Duration:	36 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

## Abstract

The implementation of the Water Framework Directive (WFD) requires the design of monitoring programmes for all Member States. The effectiveness of this implementation will highly depend on the ability of Member States' laboratories to measure chemical, biological and ecological changes of the quality of Community waters. As such data are the basis for regulatory decisions and measures required to achieve WFD environmental objectives, appropriate analytical quality assurance and control (QA/QC) has to be established across all EU monitoring laboratories.

Consequently, the objectives of EAQC-WISE are:

- to study existing QC tools and systems and scientific outputs suitable to set up a QC system to support the WFD implementation and future EU soil monitoring,
- to undertake research surveys to identify QC gaps, notably for pre-normative research on difficult parameters and sampling operations with emphasis on priority substances and pollutants of Annex VIII, biological and ecological parameters in water, biota and soil,
- to recommend key steps of a QC system that would provide confidence in the whole analytical process, from sampling to reporting, for chemical and biological parameters from monitoring at river basin scale as well as at European scale,
- to exemplify the feasibility of the proposed system through a series of case studies and if necessary through additional demonstrator experiments, such as a sequence of pan-European comparison for sampling and trace analysis of selected components integrated with detailed scientific evaluations and training components,
- to carry out an impact assessment of such a QC system ensuring data comparability at European level.

The main output will be a blue print of an efficient and potentially sustainable QC system for WFD implementation. It will be disseminated via CIRCA and the WISE portal.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Géologiques et Minières	Paris	France
2	COMMISSION OF THE EUROPEAN COMMUNITIES - JOINT RESEARCH CENTRE	Brussels	Belgium
3	INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES	Verneuil En Halatte	France
4	KEMIJSKI INSTITUT LJUBLJANA SLOVENIJA (NATIONAL INSTITUTE OF CHEMISTRY SLOVENIA)	Ljubljana	Slovenia
5	LGC LIMITED	Teddington Middlesex	United Kingdom
6	WRC PLC	Swindon	United Kingdom
7	NETHERLANDS INSTITUTE FOR FISHERIES RESEARCH	Ijmuiden	Netherlands
8	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPÄISCHE UMWELTPOLITIK GMBH	Berlin	Germany
9	RHEINISCH-WESTFÄLISCHES INSTITUT FUER WASSERFORSCHUNG GEMEINNÜTZIGE GMBH	Muelheim An Der Ruhr	Germany
10	UMWELTBUNDESAMT	Dessau	Germany
11	Aquacheck Limited	Bury, Lancashire	United Kingdom
12	ENVIRONMENTAL INSTITUTE, S.R.O.	Kos	Slovakia
13	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
14	BOKU - UNIVERSITÄT FUER BODENKULTUR WIEN	Wien	Austria

15	MERMAYDE	Bergen	Netherlands
16	SVERIGES PROVNINGS- OCH FORSKNINGSINSTITUT AB	Boraas	Sweden
17	UNIWERSYTET WARSZAWSKI	Warszawa	Poland
18	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands



Title: Improvement and spatial extension of the European Fish Index

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.320.723 €	Project start date:	1/01/2007
EU Contribution:	899.960 €	Duration:	24 months
Organisation:	Universität für Bodenkultur Wien	Wien	Austria

## Abstract

EFI+ is a research and technological development project designed to gain new knowledge and to develop and improve new biological assessment methods to meet needs of the Water Framework Directive (WFD). The output of the project will be a methodological approach to assess the ecological status of rivers in accordance with the WFD. Therefore the EFI+ project represents a direct and obligatory contribution to the Water Framework Directive in further development and implementation of harmonised fish-based assessment tools and methodology that can be used as a standard method in EU Member States, as well as Candidate countries.

The objective of EFI+ is to overcome limitations of the existing European Fish Index (EFI) produced in the FAME project by developing a new, more accurate and pan-European fish index. Specific tasks are

- (1) to evaluate the applicability of the existing EFI and make necessary improvements to the existing EFI in Central-Eastern Europe and Mediterranean ecoregions,
- (2) to extend the scope of the existing EFI to cover very large rivers,
- (3) to analyse relationships between hydromorphological pressures (incl. continuity) and fish assemblages to increase the accuracy of the EFI,
- (4) to adapt existing software to the requirements of the new EFI to allow calculation of the ecological status for running waters,
- (5) to implement and disseminate the EFI and supporting software by integration of the project results in the CIS activities (Common Implementation Strategy) and ongoing national and international monitoring programmes such as the Joint Danube Survey and to present results in end-user workshops and an international conference.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET FUER BODENKULTUR WIEN	Wien	Austria
3	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
4	RIISTA- JA KALATALOUDEN TUTKIMUSLAITOS	Helsinki	Finland
5	Centre National du Machinisme Agricole, du Genie Rural, des Eaux et des Forêts	Antony	France
6	FORSCHUNGSVERBUND BERLIN E.V.	Berlin	Germany
7	HORTOBAGYI HALGAZDASAG ZRT.	Hortobagy-halasto	Hungary
8	Aquaprogram SRL	Vicenza	Italy
9	INSTYTUT RYBACTWA SRODLADOWEGO IM STANISLAWA SAKOWICZA W OLSZTYNIE	Olsztyn	Poland
10	INSTITUTO SUPERIOR DE AGRONOMIA	Lisboa	Portugal
11	UNIVERSITATEA DIN BACAU	Bacau	Romania
12	UNIVERSIDAD POLITECNICA DE MADRID	Madrid	Spain
13	FISKERIVERKET	Goeteborg	Sweden
14	EIDGENOESSISCHE ANSTALT FUR WASSERVERSORGUNG ABWASSERREINIGUNG UND GEWAESSERSCHUTZ	Duebendorf	Switzerland
15	UNIVERSITY OF HULL	Hull	United Kingdom





Title: Environmental Assessment of Soil for Monitoring  
 Area: 1. Sustainable management of Europe's natural resources  
 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument: Specific Targeted Research Project  
 Project Total Cost: 1.987.190 € Project start date: 22/12/2005  
 EU Contribution: 1.543.408 € Duration: 24 months  
 Organisation: Cranfield University Cranfield - Bedfordshire United Kingdom

## Abstract

This high impact ENVIASSO project addresses the needs of Task 6 (Characterisation of soils) by setting a series of interlinked objectives that will lead to the harmonisation of the soil datasets that currently exist in EU member states. Eight threats to soil (erosion, declining organic matter, contamination, compaction, salinization, loss in biodiversity, soil sealing, landslides) are identified in the Commissions official Soil Communication (CEC 2002) and the forthcoming -Soil Thematic Strategy for the Protection of Soil in Europe-. By bringing together the key practitioners and academic experts from across the EU, the aim is to develop a system to harmonise existing, mostly national data sets, to form a central reference point to assess current soil status and to ensure sustainable management in future.

The project call is for a holistic approach to soil protection through the robust and defensible selection of criteria, thresholds and indicators based on harmonised approaches to soil information collection, analysis and management. This approach is encompassed within ENVIASSO through the consideration of real, existing data, interpretation, and approaches to soil inventory / monitoring. ENVIASSO will distil this knowledge and expertise leading-edge methodologies to create a working prototype database structure, and Procedures and Protocols for harmonised soil assessment throughout Europe.

The objectives will be achieved by 5 core partners supported by 32 additional partners drawn from all 25 EU member states ensuring maximum impact to enhance soil protection at European level. All the partners are members, or have close links with the European Soil Bureau Network and include EU and Associated States. Account will be taken of the Catchment Information System constructed by the JRC and of the Pilot River Basins of the WFD. Criteria and indicators for the characterisation of soil and procedures / protocols for inventory and monitoring will be major deliverables.

## Partners

Num.	Partner Legal Name	City	Country
1	Cranfield University	Cranfield - Bedfordshire	United Kingdom
2	BUNDESANSTALT FUER GEOWISSENSCHAFTEN UND ROHSTOFFE	Hannover	Germany
3	UMWELTBUNDESAMT GMBH	Wien	Austria
4	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
5	SZENT ISTVAN EGYETEM	Godollo	Hungary
7	OESTERREICHISCHE AGENTUR FUER GESUNDHEIT UND ERNAEHRUNGSSICHERHEIT	Wien	Austria
8	BUNDESFORSCHUNGS UND AUSBILDUNGSZENTRUM FUER WALD, NATURGEFAHREN UND LANDSCHAFT	Wien	Austria
9	BUNDESAMT FUER WASSERWIRTSCHAFT	Wien	Austria
11	UNIVERSITEIT GENT	Gent	Belgium
12	NIKOLA POUŠKAROV INSTITUTE OF SOIL SCIENCE	Sofia	Bulgaria
13	CESKA ZEMEDEL'SKA UNIVERSZITA V PRAZE	Praha 6 - Suchdol	Czech Republic
14	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
15	DANMARKS MILJOEUNDERSOEGELSER	Roskilde	Denmark
16	POLLUMAJANDUSUURINGUTE KESKUS	Saku-harjumaa	Estonia
17	MAA-JA ELINTARVIKETALOUDEN TUTKIMUS KESKUS	Jokioinen	Finland
18	Agence de l'Environnement et de la Maîtrise de l'Energie	Angers	France

19	Agricultural University of Athens	Athens	Greece
20	MAGYAR TUDOMANYOS AKADEMIA TALAJTANI ES AGROKEMIAI KUTATO INTEZETE	Budapest	Hungary
21	CENTRAL SERVICE FOR PLANT PROTECTION AND SOIL CONSERVATION	Budapest	Hungary
22	MISKOLCI EGYETEM	Miskolc	Hungary
23	LIETUVOS ZEMES UKIO UNIVERSITETAS	Kauno Rajonas	Lithuania
24	LATVIJAS LAUKSAIMNIECIBAS UNIVERSITATE	Jelgava	Latvia
25	MINISTRY FOR RURAL AFFAIRS AND THE ENVIRONMENT - MALTA	Valletta	Malta
26	Alterra b.v.	Wageningen	Netherlands
27	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU (RIVM)	Bilthoven	Netherlands
28	NORSK INSTITUTT FOR JORD OG SKOGKARTLEGGING	Aas	Norway
29	POLITECHNIKA WARSZAWSKA	Warszawa	Poland
30	INSTITUTO NACIONAL DE INVESTIGACAO AGRARIA E DAS PESCAS	Lisboa	Portugal
31	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU PEDOLOGIE, AGROCHIMIE SI PROTECTIA MEDIULUI - ICPA BUCURESTI	Bucuresti	Romania
32	VYSKUMNY USTAV PODOZNALECTVA A OCHRANY PODY	Bratislava	Slovakia
33	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
35	GENERALITAT DE CATALUNYA - DEPARTAMENTO DE AGRICULTURA, GANADERIA Y PESCA	Lleida	Spain
36	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
37	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
38	LANDESUMWELTAMT NORDRHEIN-WESTFALEN	Essen	Germany
39	SAECHSISCHES LANDESAMT FUER UMWELT UND GEOLOGIE	Dresden	Germany
40	TEAGASC - THE IRISH AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY	Carlow	Ireland



Title:	Assessing the risks of environmental stressors: Contribution to the development of integrating methodology		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.051.076 €	Project start date:	
EU Contribution:	900.000 €	Duration:	24 months
Organisation:	Norsk institutt for Luftforskning	Kjeller	Norway

## Abstract

ENVIRISK develops an integrated methodological framework to identify health risks caused by exposures to environmental factors, with a view to provide for quantitative assessment and comparison of the benefits of alternative prevention and targeted policy measures against their respective costs. Specific aims include assessment of existing information on exposure and health effects, establishment of links between exposure and health including framework and protocol development, and contribution to the WHO ECEH Environment and Health Information System (ENHIS-2). ENVIRISK is based on two major national environment and health programs covering multiple exposure situations and multiple health outcomes, an done in the Czech and Slovak Republics during the past 15 years.

Based on the databases of these programs and on the recent methodological developments, the required frameworks for assessment of exposure and of relations between exposure and health will be developed, and piloted on studies on several exposure and health indicator relationships:

- (1) exposure to atmospheric PAH and pregnancy outcome,
- (2) exposure to PCBs, dibenzofurans and dioxins and neurodevelopmental and endocrine effects, and
- (3) exposure to atmospheric particulate matter and other irritants and respiratory morbidity and mortality.

The results of these exposure and health indicators, as well as the assessment of preventive policies will be evaluated with the overlapping ENHIS team and contributed to ENHIS-2. ENVIRISK is structured in four work packages, Exposure assessment, Environmental health assessment, Contribution to ENHIS and Coordination. The first two work packages will use the same case studies for the development and implementation of their frameworks. The results will review the available information and scientific background, and present analyses and recommendations. The third work package will organise a user review and compile the final product prototype.

## Partners

Num.	Partner Legal Name	City	Country
1	Norsk institutt for luftforskning	Kjeller	Norway
2	Kansanterveyslaitos National Public Health Institute	Helsinki	Finland
3	Institute of Experimental Medicine AS CR	Prague 4	Czech Republic
4	Regional Public Health Institute Kolin	Kolin 3	Czech Republic
5	University of Hertfordshire	Hatfield	United Kingdom
6	Slovak Medical University	Bratislava	Slovakia
7	Technion - Israel Institute of Technology	Haifa	Israel



Title:	Assessment of human health effects caused by bathing waters		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.999.829 €	Project start date:	1/12/2005
EU Contribution:	1.999.829 €	Duration:	36 months
Organisation:	University College of Wales Aberystwyth	Aberystwyth	United Kingdom

## Abstract

The scientific evidence base to support credible risk assessment for the design of appropriate microbial standards for bathing waters is insufficient. This is particularly true for Mediterranean waters, for new member states and for effects associated with exposure to toxic algal products. This is a pressing problem as Directive 76/160/EEC is currently in the process of amendment by the EU.

It is therefore intended to address three questions, namely:

- What is the nature and level of the risk and how does exposure affect risk?
- What level of protection is afforded by the threshold values in Directive 76/160/EEC and CEC (2004)?
- How do the risks vary between fresh and marine waters and does the 1:2 ratio of the faecal indicator threshold values in coastal waters vs freshwaters ensure a comparable level of protection?

In the first 12 months, this proposal will

- complete a literature review and meta-analysis of current epidemiological data derived principally from UK and German studies,
- define data gaps restricting the application of credible health-evidence-based policy to bathing water standards outside these regions and
- design and agree a suitable research protocol for filling these data gaps. The second twelve months of research (from month 13 to 24) will (iv) implement this protocol and the project will deliver
- a scientific report of the findings and detailed policy interpretation before the project end, i.e. 36 months following commencement.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY COLLEGE OF WALES ABERYSTWYTH	Aberystwyth	United Kingdom
3	FODOR JOZSEF ORSZAGOS KOZEGESZSEGUGYI KOZPONT	Budapest	Hungary
4	UNIVERSITAT ROVIRA I VIRGILI	Tarragona	Spain
5	VELINDRE NATIONAL HEALTH SERVICE TRUST	Cardiff	United Kingdom
6	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
8	WORLD HEALTH ORGANISATION.	Geneve	Switzerland



Title:	Development of Environmental Performance Indicators for ICT Products on the example of Personal Computers		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	914.186 €	Project start date:	1/11/2004
EU Contribution:	585.383 €	Duration:	18 months
Organisation:	Universität Stuttgart	Stuttgart	Germany

## Abstract

EPIC-ICT will define environmental performance indicators for ICT products at the example of PCs. The indicators will relate to easy to define product properties, e.g. clock rate, energy demand etc., and are based on environmental impacts defined with LCA based on available technical specification of PCs and of its functions and components. Key method for the development of the indicators in EPIC-ICT will be Life Cycle Assessment (LCA). EPIC-ICT will

- consider all life cycle phases and all relevant environmental impacts,
- contribute to the reduction of environmental impacts of ICT equipment as foreseen in IPP and therefore promote the sustainability of ICT products,
- establish a basis for a future directive on EUP- contribute to the Kyoto protocol and 6th Environment Action Programme,
- consider the viewpoints of manufacturers and regulators as well as environmental NGOs and other stakeholders of society.

A both effective and efficient method is therefore needed - combining scientific soundness, public acceptance and practical applicability (data demand, effort, concrete decision support) at the same time. Main key points are:

- 1) Identification of PC functions and customer demands (e.g. memory, performance, reliability) and of PC components and life cycle properties (e.g. kind of graphic card, power demand).
- 2) Translation of 1) into electronic specifics based on technical and physical units (e.g. size and number of layers and kind of substrates, PWB, etc.), based on "house of quality" known from Quality Function Deployment (QFD).
- 3) Application of available "Generic Modules" for LCA modelling with a minimum on effort (Generic Modules are pre-defined flexible and representative models).
- 4) Environmental evaluation and recursion/reference to definitions in 1) and 2).
- 5) Identification of most relevant indicators by variation of 1) and 2) and recalculation of environmental results. Transfer to other ICT products,

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET STUTTGART	Stuttgart	Germany
2	MOTOROLA GMBH	Taunusstein	Germany
3	PHILIPS ELECTRONICS NEDERLAND B.V.	Eindhoven	Netherlands
4	Ambiente Italia Srl	Milano	Italy
5	DELL PRODUCTS EUROPE B.V.	Amsterdam	Netherlands
6	PE EUROPE	Leinfelden-echterdingen	Germany



Title:	FuncTional tOOls for Pesticide Risk assessment and management		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.716.178 €	Project start date:	1/01/2006
EU Contribution:	1.209.762 €	Duration:	36 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

## Abstract

FOOTPRINT aims at developing a suite of three pesticide risk prediction and management tools, for use by three different end-user communities: farmers and extension advisors at the farm scale, water managers at the catchment scale and policy makers/registration authorities at the national/EU scale.

The tools will be based on state-of-the-art knowledge of processes, factors and landscape attributes influencing pesticide fate in the environment and will integrate innovative components which will allow users to:

- i) identify the dominant contamination pathways and sources of pesticide contamination in the landscape;
- ii) estimate pesticide concentrations in local groundwater resources and surface water abstraction sources;
- iii) make scientifically-based assessments of how the implementation of mitigation strategies will reduce pesticide contamination of adjacent water resources.

The three tools will share the same overall philosophy and underlying science and will therefore provide a coherent and integrated solution to pesticide risk assessment and risk reduction from the scale of the farm to the EU scale. The predictive reliability and usability of the tools will be assessed through a substantial programme of piloting and evaluation tests at the field, farm, catchment and national scales.

The tools developed within FOOTPRINT will allow stakeholders to make consistent and robust assessments of the risk of contamination to water bodies at a range of scales relevant to management, mitigation and regulation (farm, catchment and national/EU). They will in particular i) allow pesticide users to assess whether their pesticide practices ensure the protection of local water bodies and, ii) provide site-specific mitigation recommendations. The FOOTPRINT tools are expected to make a direct contribution to the revision of the Directive 91/414/EC, the implementation of the Water Framework Directive and the future Thematic Strategy on the Sustainable Use of Pesticides.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Geologiques et Minieres	Paris	France
2	UNIVERSITY OF HERTFORDSHIRE	Hatfield	United Kingdom
3	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
4	DANMARKS OG GROENLANDS GEOLOGISKE UNDERSOEGELSE	Copenhagen	Denmark
5	Arvalis - Institut du Vegetal	Paris	France
6	JUSTUS-LIEBIG-UNIVERSITAET GIESSEN	Giessen	Germany
7	Cranfield University	Cranfield - Bedfordshire	United Kingdom
8	Agricultural University of Wroclaw	Wroclaw	Poland
9	Azienda Ospedaliera - Polo Universitario L. Sacco	Milano	Italy
10	GEOSYS S.A.	Toulouse	France
11	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	Paris	France
12	UNIVERSITY OF NEWCASTLE UPON TYNE.	Newcastle Upon Tyne	United Kingdom
13	EUROPEAN COMMISSION - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
14	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
15	NATIONAL AGRICULTURAL RESEARCH FOUNDATION.	Athens	Greece



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Title:	International Workshop on HCFC Alternatives and Intermediate Reduction Steps for Developing Countries		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Support Action		
Project Total Cost:	300.000 €	Project start date:	1/01/2007
EU Contribution:	300.000 €	Duration:	12 months
Organisation:	ICF Consulting Ltd	London	United Kingdom

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## Abstract

The production and consumption of ozone-depleting HCFCs used as refrigerants, blowing agents, solvents, aerosols, and fire suppressants are increasing rapidly in developing countries, as they are being gradually phased out in developed countries under the Montreal Protocol. Because developing countries are not required under the Protocol to freeze consumption until 2016, or reduce consumption until 2040, global HCFC consumption could remain excessively high for the next 35 years, undermining the phaseout efforts of developed countries and threatening the recovery of the ozone layer and human health. Currently, there are only limited discussions on the post-2016 phaseout of HCFCs in developing countries.

To address this issue, ICF is pleased to submit a proposal to support DG RTD/DG ENV in organising an innovative international workshop to target the reduction of HCFC consumption in developing countries between now and 2015, and yield a draft agreement on intermediate reduction steps between 2016 and 2040. Specifically, the workshop will provide developing country stakeholders with the technical tools needed to phaseout HCFCs (e.g., information on viable alternatives, technology transfer, funding opportunities) and to build consensus among stakeholders on an intermediate phaseout schedule to be implemented under the Montreal Protocol.

After conducting numerous ODS-related analyses for DG ENV and countless other clients, ICF is intimately familiar with the sources and uses of HCFCs, available alternatives, key policy and industry players, and operational procedures of the Montreal Protocol. ICF is also experienced in designing and executing conferences and workshops, and developing outreach materials and Web content management systems. Further, with offices worldwide, ICF can conduct research, planning, and logistical activities seamlessly across the globe. If ICF is selected as the successful bidder, we look forward to negotiating mutually-acceptable contract.

## Partners

Num.	Partner Legal Name	City	Country
1	ICF CONSULTING LTD.	London	United Kingdom



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Title:	Horizontal Standards on Hygienic parameters for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.996.709 €	Project start date:	1/12/2004
EU Contribution:	1.647.880 €	Duration:	36 months
Organisation:	Energieonderzoek Centrum Nederland	Petten	Netherlands

## Abstract

The working documents on revision of the Sewage Sludge Directive (86/278/EEC) on Biowaste and the Soil Protection Communication call for standards on sampling and analysis of sludge, treated biowastes and soils. The European Directives are intended to prevent unacceptable release of contaminants, impairment of soil function, or exposure to pathogens, and to protect crops, human and animal health, the quality of water and the wider environment when sludges and treated biowastes are used on land. The EU animal by-product regulations are fixing microbiological threshold values, for which microbiological methods of analysis are needed. The European Commission wishes to cite European (CEN) standards in order that there is harmonised application of the directives and that reports from Member States (MS) can be compared. This project to develop standards for hygienic parameters in sludge, soil and biowaste, presented under the name "HORIZONTAL-HYG", will be carried out under the umbrella of the main project HORIZONTAL "Development of horizontal standards for soil, sludge and biowaste". This ensures full integration in the CEN system through BT Task Force 151 specially set up in support of this project as well as direct supervision by DG ENV and MS, which form the Steering Committee of HORIZONTAL. Preparation of HORIZONTAL-HYG was taken in a full agreement with the DG ENV, DG JRC and the MS already contributing to HORIZONTAL. HORIZONTAL-HYG's objective is to produce standardised methods for sampling and hygienic microbiological parameters, as Salmonella spp, Escherichia coli, Clostridium perfringens, Ascaris ova in sludges, treated biowastes and soils written in CEN format. Validation of the methods is an essential part of the development as it quantifies performance in terms of repeatability and reproducibility. The consortium is well connected in CEN and ISO and thus provides an excellent basis for implementation of the deliverables.

## Partners

Num.	Partner Legal Name	City	Country
1	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
2	COMMISSION OF THE EUROPEAN COMMUNITIES DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
3	INSTITUT PASTEUR DE LILLE	Lille	France
4	THE UNIVERSITY OF READING	Reading	United Kingdom
5	Alcontrol UK LTD	Rotherham-south Yorkshire	United Kingdom
6	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
7	TARTU UELIKOOL	Tartu	Estonia
8	GIE Anjou Recherche	Paris	France
9	UNIVERSITAT HOHENHEIM	Stuttgart	Germany
10	DEN KONGELIGE VETERINAER- OG LANDBOHOEJSKOLE	Frederiksberg C	Denmark
11	UNIVERSITAT DE BARCELONA	Barcelona	Spain
12	ISTITUTO SUPERIORE DI SANITA	Roma	Italy
13	MAGYAR TUDOMANYOS AKADEMIA TALAJTANI ES AGROKEMIAI KUTATOINTEZETE	Budapest	Hungary
15	CENTRAL SCIENCE LABORATORY	York	United Kingdom
16	"FODOR JOZSEF" ORSZAGOS KOZEGESZSEGUGYI KOZPONT ORSZAGOS KOZEGESZSEGUGYI INTEZET	Budapest	Hungary





Title: Horizontal Standards on Organic Micropollutants for Implementation of EU Directives on Sludge, Soil and Treated Bio-waste

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument: Specific Targeted Research Project

Project Total Cost: 2.674.949 € Project start date: 1/10/2003

EU Contribution: 1.627.652 € Duration: 36 months

Organisation: Energieonderzoek Centrum Nederland Petten Netherlands

## Abstract

The working documents on revision of the Sewage Sludge Directive (86/278/EEC) and on Biowaste and the Soil Protection Communication call for standards for sampling and analysis of sludges, treated biowastes and soils. They list hygienic and biological parameters, and inorganic and organic contaminants. The European Directives are intended to prevent unacceptable release of contaminants, impairment of soil function, or exposure to pathogens, and to protect crops, human and animal health, the quality of water and the wider environment when sludges and treated biowastes are used on land. Analytical results are to some extent defined by the methods of determination, it is therefore desirable that methods are defined before setting limit values. The European Commission wishes to cite European (CEN) standards in order that there is harmonised application of the directives and that reports from Member States (MS) can be compared. This proposal to develop standards for organic compounds in sludge, soil and biowaste, presented by the consortium under the name "HORIZONTAL-ORG", will be carried out under the umbrella of the main project HORIZONTAL "Development of horizontal standards for soil, sludge and biowaste". This ensures full integration in the CEN system through a BT Task Force specially set up in for this project and direct supervision by DG ENV and MS, which form the Steering Committee of HORIZONTAL. HORIZONTAL-ORG's objective is to produce standardised methods for sampling and analysing organic micropollutants in sludges, treated biowastes and soils written in CEN format. Where possible these will be horizontal across the different media. Validation of the methods is an essential part of the development as it quantifies performance in terms of repeatability and reproducibility. The consortium is very well connected in CEN and ISO and thus provides an excellent basis for implementation of the deliverables.

## Partners

Num.	Partner Legal Name	City	Country
1	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Italy
4	UNIVERSITY OF READING	Reading	United Kingdom
5	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
6	INSTYTUT UPRAWY, NAWOZENIA I GLEBOZNAWSTWA	Pulawy	Poland
7	UMWELTBUNDESAMT	Dessau	Germany
8	EUROFINS DANMARK A/S	Galten	Denmark
9	EUROFINS A/S	Galten	Denmark
10	BUNDESANSTALT FUER MATERIALFORSCHUNG UND - PRUEFUNG	Berlin	Germany
11	Alterra b.v.	Wageningen	Netherlands
12	GIE Anjou Recherche	Paris	France
13	UMWELTBUNDESAMT GMBH	Wien	Austria
14	DIN DEUTSCHES INSTITUT FUER NORMUNG E.V.	Berlin	Germany
16	FODOR JOZSEF ORSZAGOS KOZEGESZSEGUGYUI KOZPONT ORSZAGOS KOZEGESZSEGUGYUI INTEZET	Budapest	Hungary
17	VYSKUMNY USTAV PODOZNALECTVA A OCHRANY PODY	Bratislava	Slovakia



Title: Improved Methods for the Assessment of the Generic Impact of Noise in the Environment

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument:	Specific Targeted Research Project		
Project Total Cost:	4.374.400 €	Project start date:	1/12/2003
EU Contribution:	2.390.000 €	Duration:	36 months
Organisation:	AEA Technology Rail BV	Utrecht	Netherlands

## Abstract

For the production of strategic noise maps as required under the EU Directive 2002/49/EC, improved assessment methods for environmental noise will be required. Noise from any major source, be it major roads, railways, airports or industrial activities in agglomerations, needs to be included in the noise mapping. For road and rail, improved methods will be developed in the 5th frame work Harmonoise project. These methods will be adopted to develop methods for aircraft and industrial noise in the IMAGINE project proposed here. Noise source databases to be developed in IMAGINE for road and rail sources will allow a quick and easy implementation of the methods in all member states. Measured noise levels can add to the quality of noise maps because they tend to have better credibility than computed levels. In the project proposed here, guidelines for monitoring and measuring noise levels will be developed, that can contribute to a combined product (measurement and computation) that has high quality and high credibility. Noise action plans shall be based on strategic noise maps. The IMAGINE project will develop guidelines for noise mapping that will make it easy and straightforward to assess the efficiency of such action plans. Traffic flow management will be a key element of such action plans, both on a national and a regional level. Noise mapping will be developed into a dynamic process rather than a static presentation of the situation. IMAGINE will provide the link between Harmonoise and the practical process of producing noise maps and action plans. It will establish a platform where experts and end users can exchange their experience and views. This platform should continue after the project and provide a basis for exploitation to the IMAGINE results.

## Partners

Num.	Partner Legal Name	City	Country
1	AEA Technology Rail BV	Utrecht	Netherlands
2	AEA Technology Plc	Didcot	United Kingdom
3	Anotec Consulting, S.L.	Arroyomolonos	Spain
4	Agenzia Regionale per la Protezione Ambientale della Toscana	Firenze	Italy
5	Autostrade per l'Italia S.P.A.	Roma	Italy
6	BOEING RESEARCH & TECHNOLOGY CENTER	Madrid	Spain
7	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Budapest	Hungary
8	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	Champs Sur Marne	France
9	DEBAKOM	Odenthal	Germany
10	DGMR RAADGEVENDE INGENIEURS BV	Den Haag	Netherlands
11	ELECTRICITE DE FRANCE	Paris	France
12	EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT	Duebendorf	Switzerland
13	EUROCONTROL - EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION	Bruxelles	Belgium
14	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
15	KILDE AKUSTIKK AS	Voss	Norway
16	FUNDACION LABEIN	Derio	Spain
18	LEICESTER CITY COUNCIL	Leicester	United Kingdom
19	M+P RAADGEVENDE INGENIEURS BV	Aalmeer	Netherlands
20	MUELLER-BBM GMBH	Planegg	Germany

21	SP SVERIGES PROVNINGS- OCH FORSKNINGSINSTITUT	Boras	Sweden
22	TRANSPORT & MOBILITY LEUVEN	Leuven	Belgium
23	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK	Delft	Netherlands
24	TRL LIMITED	Wokingham Berkshire	United Kingdom
25	POLITECHNIKA GDANSKA	Gdansk	Poland
26	UNIVERSITEIT GENT	Gent	Belgium
27	UNIVERSITY OF LEEDS	Leeds	United Kingdom
28	VOLVO LASTVAGNAR AB	Goeteborg	Sweden



Title: Integrated Sink Enhancement Assessment

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument:	Specific Targeted Research Project		
Project Total Cost:	2.553.530 €	Project start date:	1/01/2004
EU Contribution:	1.488.750 €	Duration:	30 months
Organisation:	International Institute for Applied System Analysis - IIASA	Laxenburg	Austria

## Abstract

Working group 7 (Agriculture) under the European Climate Change Programme has so far mainly dealt with mitigation potentials of GHG. A thorough integrated economic and environmental assessment in the area of agriculture and sinks has not yet been carried out. In order to support the international negotiation process and for the development of good policies the Integrated Sink Enhancement Assessment (INSEA) project's objective is to develop an analytical tool to assess economic and environmental effects for enhancing carbon sinks in agriculture and forestry. The approach is centered on spatially explicit databases that will allow the calculation of "cost-landscapes" taking on an engineering approach to integrated costs computation of additional sink enhancement measures and negative emission technologies. The various model structures will be applied to detailed European data sets and less detailed global data sets assessing the marginal abatement cost and long-term scenarios of sink enhancement measures. Concise policy conclusions from the modeling exercise will aim at supporting the implementation of the Kyoto Protocol commitments as well as post Kyoto negotiations. In the proposal we advocate a spatially explicit approach that is motivated by the fact that LULUCF activities are by their very nature spatial entities and aggregate non-spatial treatment could, according to our experience, lead to serious biases in the assessment. Furthermore, we propose not only a simple and easily tractable static and deterministic approach for cost calculations, but also more comprehensive, dynamic, and uncertainty (risk)-based treatments. We believe that such a multi-dimensional approach is necessary since ecosystems are more complicated and complex in their responses and therefore robustness and consistency across a variety of decision rules will guarantee sustainable management of this natural resource.

## Partners

Num.	Partner Legal Name	City	Country
1	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS	Laxenburg	Austria
2	EUROPEAN COMMISSION - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Italy
3	BUNDESANSTALT FUR GEOWISSENSCHAFTEN UND ROHSTOFFE	Hannover	Germany
4	VYSKUMNY USTAV PODOZNALECTVA A OCHRANY PODY	Bratislava	Slovakia
5	LULEA TEKNISKA UNIVERSITET	Lulea	Sweden
6	UNIVERSITY OF HOHENHEIM	Stuttgart	Germany
7	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	Paris	France
8	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH	Graz	Austria
9	UNIVERSITAT FUR BODENKULTUR WIEN	Wien	Austria
10	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Paris	France
11	EUROPEAN FOREST INSTITUTE, INTERNATIONAL ORGANISATION	Joensuu	Finland



Title:	Improving and Applying Methods for the Calculation of Natural and Biogenic Emissions and Assessment of Impacts on Air Quality		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	956.586 €	Project start date:	1/01/2005
EU Contribution:	600.000 €	Duration:	30 months
Organisation:	Universität Stuttgart	Stuttgart	Germany

## Abstract

This project aims to improve methods for the calculation of natural and biogenic emissions from various sources and the assessment of impacts on air quality policy implementation. Air pollutants from natural and biogenic sources contribute to ambient air concentrations in the same way as anthropogenic emissions, however, the uncertainty of the estimation of these natural and biogenic emissions is much higher than for anthropogenic emissions. At the same time, with anthropogenic emissions currently decreasing due to emission control activities in many sectors, the relative importance of other sources increases. Thus, it is essential to develop new and improve existing methods for the quantification of emissions from natural and biogenic sources and to use new and improved input data.

The project takes into account the latest research results on air pollutant emissions and their impacts, covering all relevant substances (NO<sub>x</sub>, SO<sub>x</sub>, NH<sub>3</sub>, PM, NMVOC; CH<sub>4</sub>, CO, DMS) from natural and biogenic sources in Europe, e.g. the results from the "Nature Panel" within the UNECE Task Force Emission Inventories and Projection, and includes anthropogenic emissions officially reported to EMEP by countries. Furthermore, the National Reports for the NEC directive for SO<sub>x</sub>, NO<sub>x</sub>, NH<sub>3</sub> and NMVOC will be taken into account, as well as the results of EU research projects such as NOFRETETE or the results from the EUROTRAC Subproject GENEMIS. Satellite data will be used e.g. for the improvement of calculations from forests in general as well as forest fires in particular. In order to assess the impacts of emissions from natural and biogenic sources on air quality policy implementation, the project is designed to advance the current state-of-the-art in methodology for the calculation of natural and biogenic emissions. This includes the analysis of temporal and spatial variability's and the assessment of uncertainties and sensitivities. In addition, the influence of the improved natural and biogenic emissions on the concentration of pollutants calculated with atmospheric models will be analysed using the model CHIMERE. Finally, policy strategies that are currently under discussion within the EC CAFÉ programme and in the frame of the UNECE CLRTAP to reduce anthropogenic emissions will be analysed in the view of these new results.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET STUTTGART	Stuttgart	Germany
2	ARC Systems Research GmbH	Wien	Austria
3	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
4	AEA Technology Plc	Didcot	United Kingdom
5	INSTITUTE FOR ECOLOGY OF INDUSTRIAL AREAS	Katowice	Poland
6	Centre National de al Recherche Scientifique (CNRS)	Paris	France
7	Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici	Roma	Italy
8	JOENSUUN YLIOPISTO (IN ENGLISH UNIVERSITY OF JOENSUU)	Joensuu	Finland
9	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium



Title:	Relationships between ecological and chemical status of surface waters		
Area:	1. Sustainable management of Europe's natural resources		
	1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	7.445.996 €	Project start date:	1/12/2003
EU Contribution:	3.997.952 €	Duration:	42 months
Organisation:	Finnish Environment Institute	Helsinki	Finland

## Abstract

The strategic objective of the REBECCA proposal is to provide relevant scientific support for the implementation of the Water Framework Directive (WFD). The two specific aims of the project are, firstly, to establish links between ecological status of surface waters and physico-chemical quality elements and pressures from different sources, and, secondly, to develop and validate tools that member states can use in the process of classification, in the design of their monitoring programs, and in the design of measures in accordance with the requirements of the WFD. These objectives will be achieved by collating existing knowledge and analyzing knowledge gaps, and using this information as a basis for analyzing the dose-response relationships between pressures and chemical/biological quality elements based on existing data. Furthermore, REBECCA will explore, develop and improve models and statistical tools, which can be used in assessing the links between the ecological and chemical quality elements; or to assess critical/target loads and other objectives for pressures. These tools will be validated in selected test sites. The results of the project will be disseminated throughout the project life-time to stakeholders at EU and national levels, particularly to the Working Groups of the Common Implementation Strategy (CIS) for the WFD, and used to develop a Toolbox containing detailed information of the methods, tools and models.

## Partners

Num.	Partner Legal Name	City	Country
1	FINNISH ENVIRONMENT INSTITUTE	Helsinki	Finland
2	EUROPEAN COMMISSION - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Italy
3	NORWEGIAN INSTITUTE FOR WATER RESEARCH	Oslo	Norway
4	NATIONAL ENVIRONMENTAL RESEARCH INSTITUTE	Roskilde	Denmark
5	DHI WATER & ENVIRONMENT	Hoersholm	Denmark
6	STICHTING WATERLOOPKUNDIG LABORATORIUM	Delft	Netherlands
7	NATURAL ENVIRONMENT RESEARCH COUNCIL	Swindon Wiltshire	United Kingdom
8	CEMAGREF, CENTRE NATIONAL DU MACHINISME AGRICOLE, DU GENIE RURAL, DES EAUX ET DES FORETS	Antony	France
9	WATER RESEARCH INSTITUTE - NATIONAL RESEARCH COUNCIL	Roma	Italy
10	IVL SWEDISH ENVIRONMENTAL RESEARCH INSTITUTE LTD.	Stockholm	Sweden
11	THE PROVOST, FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH, NEAR DUBLIN (HEREINAFTER CALLED TCD)	Dublin	Ireland
12	SLOVENSKY HYDROMETEOROLOGICKY USTAV	Bratislava	Slovakia
13	INSTITUTO NACIONAL DE INVESTIGAC?O AGRARIA E DAS PESCAS	Lisboa	Portugal
14	UNIVERSITEIT ANTWERPEN	Wilrijk	Belgium
15	DANUBE DELTA NATIONAL INSTITUTE FOR RESEARCH & DEVELOPMENT	Tulcea	Romania
16	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING	Trondheim	Norway
17	INSTITUTE FOR INLAND WATER MANAGEMENT AND WASTE WATER TREATMENT	Lelystad	Netherlands
18	TALLINN TECHNICAL UNIVERSITY	Tallinn	Estonia





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Title:	Resource Equivalency Methods for assessing Environmental Damage in the EU		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.297.118 €	Project start date:	1/05/2006
EU Contribution:	885.758 €	Duration:	24 months
Organisation:	Economics for the Environment Consultancy Limited	London	United Kingdom

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## Abstract

The goal of REMEDE is to develop, test and disseminate resource equivalency methods appropriate for determining the scale of complementary and compensatory remedial measures necessary to adequately offset environmental damage. The project draws from both US experience, in terms of methodological developments and implementation issues encountered, and experience of the EU Member States. It aims to apply and develop these in accordance with the requirements of the Environmental Liability Directive and the EIA, and Habitats Directives, in order that one standard guidance can be applied to all damage cases in the EU. The project brings together ecologists, economists and legal experts from the USA and Europe to review experience in the application of resource equivalency methods, draft a guidance document for the EU, test the guidance through application to at least four case studies in different Member States, and disseminate the guidance to relevant stakeholders. Throughout the project stakeholder consultation and peer review are used to ensure the best possible results.

## Partners

Num.	Partner Legal Name	City	Country
1	ECONOMICS FOR THE ENVIRONMENT CONSULTANCY LIMITED	London	United Kingdom
2	STRATUS CONSULTING INC	Boulder, Colorado	United States
3	ECOLOGIC-INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK GGMBH	Berlin	Germany
4	UNIVERSITEIT GENT	Gent	Belgium
5	UNIVERSITAT AUTONOMA DE BARCELONA	Bellaterra (cerdanyola Del Valles)	Spain
6	CENTRO DE INVESTIGACION ECOLOGICA Y APLICACIONES FORESTALES	Bellaterra (barcelona)	Spain
7	SVERIGES LANTBRUKSUNIVERSITET	Uppsala	Sweden
8	PRO-BIODIVERSITY SERVICE	Warszawa	Poland
9	JIHOCESKA UNIVERZITA V CESKYCH BUDE JOVICICH	Ceske Budejovice	Czech Republic
10	UNIVERSITET FOR MILJO-OG BIOVITENSKAP	Aas	Norway
13	JONATHAN COX ASSOCIATES LIMITED	Winchester Hampshire	United Kingdom
14	ROYAL SOCIETY FOR THE PROTECTION OF BIRDS	Bedfordshire	United Kingdom
15	PELS RIJCKEN & DROOGLEEVER FORTUIJN N.V	The Hague	Netherlands
16	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
17	RESOURCES FOR THE FUTURE, INC.	Washington, Dc	United States





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Title:	Safe Management of Mining Waste and Waste Facilities		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Concerted Action		
Project Total Cost:	397.984 €	Project start date:	1/01/2007
EU Contribution:	397.984 €	Duration:	18 months
Organisation:	BIUTEC - Biotechnologie- und Umwelttechnologie Forschungs- und Entwicklungsgesellschaft M.B.H	Wien	Austria

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## Abstract

The project aims at supporting the implementation of the proposed Directive of the European Parliament and of the Council on the management of waste from the extractive industries 2003/0107. The Directive was prepared following several major accidents with a serious impact on the environment, and it has the purpose of ensuring a safer management of the mining waste facilities, so that such accidents will not occur in the future. This project addresses particularly Article 9, which provides for the classification of waste facilities with respect to the possible consequences of an accident, and respectively the Annex II: Characterisation of mining waste and Annex III: Criteria for the classification of waste facilities. The activities of the project are divided into four major work packages as follows:

- Preparation of a Methodology for the Characterisation of Mining Waste
- Elaboration of a Risk Assessment Methodology for the Classification of Mining Waste Facilities, including Old/Abandoned Mining Waste Facilities
- Review of Techniques for the Prevention and Abatement of Pollution Generated by Mining Wastes
- Development of a Decision Support Tool for Minimising the Impact of the Mining Industry on the Environment.

The Consortium co-ordinated by BIUTEC, Austria, includes universities, research institutes, NGOs and implementing authorities from 8 European countries, both Members of the EU and accession countries. The experts team is highly qualified and has many years of experience and research in this area, so that the best outputs can be obtained.

The project will build on the results of other projects carried out in this field, and will relate closely to on-going projects, so that there is no overlap in our activities. In order to provide an effective tool for the potential beneficiaries, the project team will consult with representatives of the stakeholders before the final versions of the outputs are publicly made available on the project web-site.

## Partners

Num.	Partner Legal Name	City	Country
1	BIUTEC - BIOTECHNOLOGIE- UND UMWELTTECHNOLOGIE FORSCHUNGS- UND ENTWICKLUNGSGESELLSCHAFT M.B.H	Wien	Austria
2	UNIVERSITY OF MINING AND GEOLOGY "SAINT IVAN RILSKI"	Sofia	Bulgaria
3	INSTYTUT PODSTAW INZYNIERII SRODOWISKA POLSKIEJ AKADEMII NAUK	Zabrze	Poland
4	Agentia Pentru Protectia Mediului Maramures	Baia Mare	Romania
5	UNIVERSITA DEGLI STUDI DI CAGLIARI.	Cagliari	Italy
6	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU METALE SI RESURSE RADIOACTIVE I.C.P.M.R.R. BUCURESTI	Bucuresti	Romania
7	Asociacion para la Investigacion y Desarrollo Industrial de los Recursos Naturales	Madrid	Spain
8	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
9	GEOLOGICAL INSTITUTE 'STRASHIMIR DIMITROV' - BULGARIAN ACADEMY OF SCIENCES	Sofia	Bulgaria
10	NORGES TEKNISK - NATURVITENSKAPELIGE UNIVERSITET	Trondheim	Norway
11	UNIVERSITATEA DIN PETROSANI	Petrosani	Romania
12	INERTEC SNC	Nanterre	France



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Title:	Sectoral Emission Reduction Potentials and Economic Costs for Climate Change		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	660.550 €	Project start date:	
EU Contribution:	420.000 €	Duration:	24 months
Organisation:	Ecofys B.V.	Utrecht	Netherlands

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## Abstract

The objective of the proposed work is to identify the least-cost contribution of different sectors and gases for meeting post-2012 EU-25+ (EU25, Romania, Bulgaria and if possible, Croatia and Turkey) quantitative reduction objectives for all greenhouse gases, and to determine a package of cost-effective policies and measures for all sectors and gases towards meeting these goals. The project aims for a comprehensive update of a 2002 exercise undertaken by DG Environment on 'Economic Evaluation of Sectoral Emission Reduction Objectives for Climate Change'.

The project will cover

- (i) techno-economical research on greenhouse gas emission reduction options, and assessment of least-cost policies and measures using the GENESIS database; and
- (ii) runs of the PRIMES model (an energy system partial equilibrium model) with inclusion of reduction options for non-CO<sub>2</sub> greenhouse gases and options that are not (or not fully) included in the PRIMES model, which will identify the least-cost allocation of objectives for different sectors and greenhouse gases.

Key deliverables of the project will be

- (i) sector reports, with descriptions of sectors and baseline developments, and fact sheet information on emission reduction technologies (including costs, reduction potentials and implementation assumptions); a summary report of the
- (ii) 'bottom-up' analysis and
- (iii) the model-based 'top-down' analysis of the least-cost allocation of objectives; and
- (iv) a summary report, comprising an executive summary of the report, description of the results of the study and a synthesis/recommendation for policy purposes.

## Partners

Num.	Partner Legal Name	City	Country
1	Ecofys B.V.	Utrecht	Netherlands
2	Institute of Communication and Computer Systems	Athens	Greece
3	Institute for Prospective Technological Studies - Joint Research Centre	Seville	Spain



Title:	Science-Policy Interfacing in support of the Water Framework Directive implementation		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.395.448 €	Project start date:	1/11/2006
EU Contribution:	1.070.000 €	Duration:	24 months
Organisation:	Hydroscan Nv	Leuven	Belgium

## Abstract

Many current water-related RTD projects have already established operational links with practitioners, in several catchments / river basins, which allow the needs of policymakers to be taken into account. However, experience has shown that this interrelationship is not as efficient as it could / should be. Often, RTD results are not easily available to policy oriented implementer (policymakers) and, vice versa, research scientists may lack insight in the needs of policymakers. This project proposes a number of concrete actions to bridge these gaps in communication by developing and implementing a 'science-policy interface', focusing on setting up a mechanism to enhance the use of RTD results in the Water Framework Directive (WFD) implementation.

As a first action, existing science-policy links will be investigated. RTD and LIFE projects that are of direct relevance for the implementation of the WFD will be identified and analysed. The results of these projects will be extracted, 'translated' and synthesised in a way that can efficiently feed the WFD implementation. Secondly, an information system (WISE-RTD Web Portal) will be further developed to cater for an efficient and easy to use tool for dissemination as well as retrieval of RTD results. The Web Portal will be tested in 4 selected river basins to better tune the 'product' to the needs of WFD stakeholders, policymakers and scientists. In parallel, the Web Portal will be disseminated to WFD stakeholders. This dissemination will focus on how to better access and use the RTD results and practical experiences. As third action, this science-policy interfacing of WFD related topics will be extended to non-EU countries taking into account their specific needs. An assessment of recent practices and needs of non-EU countries, together with an in-depth analysis of the operational needs in two Mediterranean pilot river basins, will allow to prepare recommendations for an efficient transfer of knowledge.

## Partners

Num.	Partner Legal Name	City	Country
1	HYDROSCAN NV	Leuven	Belgium
2	QUALITY CONSULT - ASSOCIAZIONE PER LO SVILUPPO DELLA QUALITA AMBIENTALE	Roma	Italy
3	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
4	RED MEDITERRANEA DE ORGANISMOS DE CUENCA	Valencia	Spain
5	ENVIRONMENT AGENCY OF ENGLAND AND WALES	Almondsbury, Bristol	United Kingdom
6	XPRO CONSULTING LIMITED	Nicosia	Cyprus
7	ERIC YVES EVRARD	Bruxelles	Belgium
8	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Zografou	Greece
9	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
10	POTSDAM INSTITUT FUER KLIMAFOLGENFORSCHUNG	Potsdam	Germany
11	OFFICE INTERNATIONAL DE L'EAU	Paris	France
12	2MPACT NV	Gent	Belgium
13	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
14	WWF EUROPEAN POLICY PROGRAMME	Bruxelles	Belgium
15	LITANI RIVER AUTHORITY	Beirut	Lebanon
16	Agence de Bassin Hydraulique du Sebou	Fez	Morocco



Title:	Screening method for Water data Information in support of the implementation of the Water Framework Directive		
Area:	1. Sustainable management of Europe's natural resources		
	1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	6.735.725 €	Project start date:	1/01/2004
EU Contribution:	4.034.000 €	Duration:	39 months
Organisation:	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France

## Abstract

The monitoring requirements for successfully implementing the WFD will directly depend upon available measurement techniques of demonstrated quality, which will be able to deliver reliable data at an affordable cost. Besides the necessary "classical" laboratory analyses, screening methodologies will play a key role in the WFD implementation, in particular for the detection of accidental pollution or the control of water bodies at risk. The WFD will represent a powerful management tool only if monitoring data are of reliable and comparable quality. The costs of wrong decisions based on erroneous data could be tremendous, which justifies that Community efforts are made to ensure that data are produced according to a proper quality assurance regime. In the light of the above, the objectives of SWIFT-WFD should focus on the production of quality control tools for validation purposes of screening methods, an inventory of existing screening test (chemical and biological) methods through laboratory-based (tank experiments) and/or field interlaboratory studies based on a selection of reference aquatic ecosystems at European scale, and with classical laboratory-based analyses to validate their results and demonstrate their equivalence for parameters regulated by the WFD. In parallel, the project should consider the development of new "low-cost", innovative, screening techniques (both for chemical and biological parameters) and their validation using the same approach (interlaboratory testing and comparison with laboratory-based methods). In addition, exchange of knowledge, transfer of technologies and training related to water monitoring will represent a key issue for ensuring the comparability of data produced by screening methods

## Partners

Num.	Partner Legal Name	City	Country
1	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
2	UNIVERSITY OF PORTSMOUTH HIGHER EDUCATION CORPORATION	Portsmouth	United Kingdom
3	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
4	Bureau de Recherches Géologiques et Minières	Paris	France
5	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPÄISCHE UMWELTPOLITIK GMBH	Berlin	Germany
6	Consejo Superior de Investigaciones Científicas	Madrid	Spain
7	Alcontrol UK LTD	Rotherham-south Yorkshire	United Kingdom
8	UNIVERSIDAD COMPLUTENSE DE MADRID.	Madrid	Spain
9	MERMAYDE	Bergen	Netherlands
10	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
11	PANNON EGYETEM	Veszprem	Hungary
12	LGC LIMITED	Teddington Middlesex	United Kingdom
13	ACTEON SARL	Orbey	France
14	VRIJE UNIVERSITEIT BRUSSEL.	Brussel	Belgium
15	UNIVERSIDADE DE AVEIRO	Aveiro	Portugal
16	UNIVERSITAT DE BARCELONA	Barcelona	Spain
17	NETHERLANDS INSTITUUT VOOR VISSERIJ ONDERZOEK	Ijmuiden	Netherlands
18	SOFIISKI UNIVERSITET "SVETI KLIMENT OHRIDSKI"	Sofia	Bulgaria

19	TECHNISCHE UNIVERSITAET WIEN	Wien	Austria
20	SCIENCES, TERRITOIRES ET SOCIETES	Montpellier	France
21	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
22	SZENT ISTVAN EGYETEM	Godollo	Hungary
23	Centre National de al Recherche Scientifique (CNRS)	Paris	France
24	UNIVERSIDAD DE OVIEDO	Oviedo	Spain
25	LITHOS GEOSCIENCES	Ranco Va	Italy
26	UNIVERSITE DE BORDEAUX I	Talence	France
27	RIJKSINSTITUUT VOOR INTEGRAAL ZOETWATERBEHEER EN AFVALWATERBEHANDELING	Lelystad	Netherlands
28	STATE GEOLOGICAL INSTITUTE OF DIONYZ STUR	Bratislava	Slovakia
29	TECHNISCHE UNIVERSITAET GRAZ	Graz	Austria
30	CESKA ZEMEDELSKA UNIVERZITA V PRAZE	Praha 6 - Suchdol	Czech Republic
31	POLITECHNIKA WARSZAWSKA	Warszawa	Poland
32	QUALITY CONSULT - ASSOCIAZIONE PER LO SVILUPPO DELLA QUALITA AMBIENTALE	Roma	Italy
33	XPRO CONSULTING LTD	Nicosia	Cyprus
34	TECHNISCHE UNIVERSITAET MUENCHEN	Muenchen	Germany
35	SECOMAM	Domont	France
36	INSTITUTUL NATIONAL DE CERCETARE - DEZVOLTARE PENTRU PROTECTIA MEDIULUI	Bucuresti	Romania
37	POVODI LABE, S. P.	Hradec Kralove	Czech Republic
38	LATVIJAS UNIVERSITATE	Riga	Latvia
39	LATVIJAS VIDES AGENTURA	Jurmala	Latvia
40	Aquametris	Liverdum	France
41	BUDAPESTI CORVINUS EGYETEM	Budapest	Hungary



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Title:	Technology-Oriented Cooperation and Strategies in India and China: Reinforcing the EU dialogue with Developing Countries on Climate Change Mitigation		
Area:	1. Sustainable management of Europe's natural resources 1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.382.000 €	Project start date:	1/01/2007
EU Contribution:	1.069.000 €	Duration:	30 months
Organisation:	Ecole Polytechnique Federale de Lausanne	Lausanne	Switzerland

## Abstract

This research will evaluate climate change mitigation options in China and India and the conditions for a strategic cooperation on RD&D and technology transfer with EU. This project will identify and assess technology options that might significantly reduce greenhouse gases (GHG) emissions in China and India in key sectors (i.e. power generation, transport, agriculture, and heavy industry). It will also define the necessary institutional and organizational architecture that would stimulate technology cooperation. The research will emphasize the strategic dimension of RD&D cooperation, and the key role of creating incentives for the participation of developing countries (DCs) in post-2012 GHG emissions reduction strategies and technological cooperation. Finally it will evaluate how the Clean Development Mechanism (CDM) and international emission trading (IET) might improve the attractiveness of new energy technology options for DCs, and thus contribute to stimulate RD&D cooperation and technology transfers toward China and India.

The research will be structured around the use of an ensemble of models that will be coupled together via advanced large scale mathematical programming techniques:

- (i) a World and regional (i.e. China and India) MARKAL/TIMES bottom-up techno-economic models permitting a global assessment of technology options in different regions of the world;
- (ii) a CGE multi-country and multi-region of the world economy (GEMINI-E3) that includes a representation of developing countries' economies (i.e. China and India) permitting an assessment of welfare, terms of trade and emissions trading effects;
- (iii) a multi-region integrated model (WITCH) representing the effect on economic growth of technology competition in a global climate change mitigation context;
- (iv) a game theoretic framework that will be implemented to analyze self-enforcing agreements regarding abatement commitment and technological cooperation.

## Partners

Num.	Partner Legal Name	City	Country
1	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	Lausanne	Switzerland
2	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
3	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
4	TSINGHUA UNIVERSITY	Beijing	China (People's Republic of)
5	HONG KONG BAPTIST UNIVERSITY	Kowloon	Hong Kong
6	KANLO CONSULTANTS S.A.R.L	Lyon	France
7	ORDECSYS SARL	Chene Bougeries	Switzerland
8	INDIAN INSTITUTE OF MANAGEMENT	Ahmedabad	India



Title: Methods for the Concentration and Detection of Adenoviruses and Noroviruses in European Bathing Waters with Reference to the Revision of the Bathing Water Directive 76/160/EEC

Area: 1. Sustainable management of Europe's natural resources  
1.5. Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

Instrument: Specific Targeted Research Project

Project Total Cost: 2.847.858 € Project start date: 1/01/2005

EU Contribution: 2.247.624 € Duration: 27 months

Organisation: University College of Wales Aberystwyth Aberystwyth United Kingdom

## Abstract

The Project will provide a procedure for analysis of EU bathing waters for noroviruses and adenoviruses by validated comparisons of methods for processing water samples to achieve the best virus recovery consistent with cost and feasibility of use in routine monitoring laboratories. Objectives are

- compare methods for norovirus and adenovirus detection in recreational waters
- derive a combination of concentration and detection techniques to provide a reproducible system of testing bathing waters for the target viruses
- furnish scientific evidence to provide support for norovirus and adenovirus testing of environmental samples in respect of their role as the appropriate viral indicator of faecal pollution
- prepare the technology for Accession States as part of the development of their environmental and social programmes
- share technology between laboratories to achieve wider competence in the virological analysis of environmental materials.

Detection by PCR and cell culture together with the concentration procedure will provide a combined technique. PCR products will be sequenced and data analysed to derive strain and serotype information. The work addresses the research objectives of SSP 8.1 task 1.5 directly through relevance to the revision of the Bathing Water Directive. Inter-Laboratory comparisons and a large field based surveillance Phase are integrated to ensure that the new combined method will have immediate applicability in EU bathing water monitoring. It will be done by 16 Participant Laboratories in a unified approach to derive a harmonised combined method to provide credibility for future monitoring regimes given the potential to place a virus parameter on a footing equal to the bacterial indicators. Inclusion of Laboratories representative of the Accession States will ensure rapid dissemination to enhance the monitoring of their bathing waters and thus sustain the development of their own tourism and that of the European tourism worldwide.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY COLLEGE OF WALES ABERYSTWYTH	Aberystwyth	United Kingdom
2	UNIVERSITA DI PISA	Pisa	Italy
3	CENTRAL SCIENCE LABORATORY	York	United Kingdom
4	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU	Bilthoven	Netherlands
5	UNIVERSITA DEGLI STUDI DI ROMA TOR VERGATA	Roma	Italy
6	LANDESGESUNDHEITSAMT BADEN-WURTTENBERG	Stuttgart	Germany
7	UNIVERSITE HENRI POINCARÉ - NANCY	Nancy	France
8	ENVIRONMENT AGENCY	Almondsbury, Bristol	United Kingdom
9	UNIVERSITAT DE BARCELONA	Barcelona	Spain
10	BAYERISCHES LANDESAMT FÜR GESUNDHEIT UND LEBENSMITTELSICHERHEIT	Erlangen	Germany
11	UMWELTBUNDESAMT (GERMAN ENVIRONMENTAL AGENCY)	Dessau	Germany
12	PANSTWOWY INSTYTUT WETERYNARYJNY - PANSTWOWY INSTYTUT BADAWCZY W PULAWACH	Pulawy	Poland
13	ISTITUTO SUPERIORE DI SANITA	Roma	Italy
14	FACULDADE DE FARMACIA DA UNIVERSIDADE DO PORTO	Porto	Portugal

15 STATE GENERAL LABORATORY  
16 HEALTH PROTECTION AGENCY

Nicosia  
London

Cyprus  
United Kingdom





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## 1. Sustainable management of Europe's natural resources

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### 1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation

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Title:	Measuring ECO-innovation: ecological and economic performance and DeRIVED indicators		
Area:	1. Sustainable management of Europe's natural resources		
	1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	198.370 €	Project start date:	
EU Contribution:	198.370 €	Duration:	12 months
Organisation:	Leiden University, Institute of Environmental Sciences	Leiden	Netherlands

## Abstract

The Gothenburg and Lisbon goals require high productivity growth with absolute decoupling of environmental impacts, at a macro level, realised basically through the process of eco-innovation at a micro and meso level. Eco-innovation indicators are to measure progress, both the economic performance, as in terms of cost reduction and enhanced functionality, and the environmental performance, as by reduced emissions and resource depletion and other environmental improvements.

Actual improvement is at a micro level, involving technologies, including their upstream systems ('cradle-to-gate'); goods and services, as product systems covering their life cycle; and innovative behaviours, both by producers and consumers. As most incentives and improvements work through firms and sectors, performance measurement at meso-level is essential as well.

This project distinguishes three types of eco-innovation indicators. First is the actual economic and environmental performance. Second are indirect proxy indicators on expected actual performance. Third are the indirect indicators capturing the factors conducive to eco-innovation, as drivers, ranging from having an eco-innovation manager to the internalisation of externalities in prices.

The project will:

- Further detail the conceptual basis and typology of eco-innovation,
- Set out the methodology for eco-innovation indicators selection,
- Structure the indirect indicators field with a focus on the most powerful predictive factors,
- Indicate most relevant drivers for application in policy and management,
- Give an exemplary application of the indicators of all types,
- Indicate efforts to improve the data availability for eco-innovation indicators,
- Specify research for improving insight into positive and negative factors on eco-innovation.

A brainstorm session with public and private sector stakeholders (like related to Innovation Policy; ETAP; SDS; SC&P) will help develop and validate the approach.

## Partners

Num.	Partner Legal Name	City	Country
1	Leiden University, Institute of Environmental Sciences	Leiden	Netherlands
2	Policy Studies Institute	London	United Kingdom
3	University of Lüneburg	Lüneburg	Germany



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Title:	Estimation of willingness-to-pay to reduce risks of exposure to heavy metals and cost-benefit analysis for reducing heavy metals occurrence in Europe		
Area:	1. Sustainable management of Europe's natural resources 1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.433.056 €	Project start date:	1/01/2004
EU Contribution:	892.078 €	Duration:	39 months
Organisation:	Universität Stuttgart	Stuttgart	Germany

## Abstract

Heavy metals from different sources accumulate in the environment. From a policy point of view, it has been difficult to tackle the environmental problems due to heavy metals partly because the problem has been viewed from different policy domains (air, water, soils etc.). Thus, it is not guaranteed that the policy mix applied under environmental regulation is optimal. A systems analysis would be required to define the sources of heavy metals, how they are dispersed in the environment and which adverse effects they might cause on human and ecosystems health. From a policy point of view, it is also important to identify what kinds of policy responses would be most cost-effective to reduce the impacts of heavy metals. Such information is required for carrying out cost-benefit analyses of reducing the occurrence of heavy metals in our society. Identifying the benefits would include a monetary valuation of the impacts with contingent valuation (CV) approaches (e.g. assessing the willingness-to-pay, WTP). The focus of the work described will be on priority metals, which are mercury, cadmium, chrome, nickel, arsenic and lead. Core aim of the research is to carry out cost-effectiveness (CEA) and cost-benefit analyses (CBA) for reducing the heavy metals occurrence, in the EU Member States and candidate countries, including damage assessment to the environment and human health in the long term following the impact pathway analysis which assesses the impacts and damages of pollutants from their emissions over their dispersion to exposure and impacts. Finally, a feasibility study will be conducted to identify the potentials, strengths and weaknesses and uncertainties of currently available macro-economic models to identify further research needs in this field.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITAET STUTTGART	Stuttgart	Germany
2	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
3	INSTITUTE OF OCCUPATIONAL MEDICINE	Edinburgh	United Kingdom
4	INSTITUTE FOR ECOLOGY OF INDUSTRIAL AREAS	Katowice	Poland
5	IVL SWEDISH ENVIRONMENTAL RESEARCH INSTITUTE LTD.	Stockholm	Sweden
6	METEOROLOGICAL SYNTHESIZING CENTRE - EAST OF EMEP	Moscow	Russian Federation
7	Consiglio Nazionale delle Ricerche	Roma	Italy
8	CZECH HYDROMETEOROLOGICAL INSTITUTE	Praha 4	Czech Republic
9	ETZEL MUSZAKI SZOLGALTATO BT	Budapest	Hungary
10	NILU POLSKA	Katowice	Poland



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Title:	Identification and assessment of training needs, methods and activities for the wider use of environmental technologies in key sectors		
Area:	1. Sustainable management of Europe's natural resources 1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

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Instrument:	Concerted Action		
Project Total Cost:	478.591 €	Project start date:	1/01/2007
EU Contribution:	478.591 €	Duration:	18 months
Organisation:	Ecologic - Institut für Internationale und Europäische Umweltpolitik GmbH	Berlin	Germany

## Abstract

With a focus on transport, the project intends to increase the understanding among relevant actors of the benefits of environmental technologies for a wider application of these technologies. It will build on the ETAP actions on targeted training and awareness raising.

Pursuing this aim, the following support activities will be undertaken:

- 1) conceptualising and organising of 3 workshops with relevant stakeholders for stock taking, identifying obstacles and possible solutions as well as best practice examples;
- 2) organising a concluding conference on the basis of experiences made in the course of the project (to produce recommendations); intended for senior executives within the sector in order to ensure that the learning from the project is communicated at a level that can help to ensure as broad a take-up and dissemination as possible.
- 3) producing Background Notes and Policy Briefs on training needs and awareness raising. The Background Notes will serve as a basis for the Conference discussions; the Policy Briefs will disseminate the project's findings and recommendations beyond the project to a wider public.
- 4) specifying a low-cost, easily disseminated e-learning solution that addresses the overall objective of the project: increasing awareness amongst those working in this sector of underlying issues and dilemmas as well as of solutions and good practice.

This activity also includes recommendations for routines to maintain the awareness and competence in order to ascertain continuous, long-term effects of the efforts.

## Partners

Num.	Partner Legal Name	City	Country
1	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELTPOLITIK GGMBH	Berlin	Germany
2	SCHENKER AG	Essen	Germany
3	CORK INSTITUTE OF TECHNOLOGY	Cork	Ireland
4	Chalmers Tekniska Högskola AB	Goeteborg	Sweden
5	UNIVERSITY OF CAMBRIDGE	Cambridge	United Kingdom
6	ENVIROS S.R.O.	Praha 3	Czech Republic



Title:	Foresight and Assessment for Environmental Technologies		
Area:	1. Sustainable management of Europe's natural resources		
	1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.345.457 €	Project start date:	1/11/2005
EU Contribution:	876.244 €	Duration:	24 months
Organisation:	Chambre de Commerce et d'Industrie de Paris	Paris	France

## Abstract

The objective of this proposition is to develop new modeling for assessing policies based on development and dissemination of environmental technologies. A precise assessment of the potential impacts of the introduction of environmental technologies needs two types of expertises:

- Knowledge on the characteristics of these technologies (productivity of factors, emissions, wastes, obstacles and barriers to their adoption).

- The use of global quantitative methods i.e. of applied economic models that must take macro-economic feedbacks of policies into account; so the policies may be assessed with economic variables (competitiveness and growth, welfare, etc.), environmental variables (emissions, wastes, environmental welfare, etc.) and social variables (employment, inequalities, etc.).

Applied economic modeling is divided into two families, general equilibrium models and macro econometrics ones, these two types of models providing complementary advices: the econometric models are more oriented on the medium term consequences of policies and the general equilibrium on the long term; for these reasons, a complete assessment needs the use of the two families.

But in the state of the art, these models do not describe precisely enough the mechanisms of environmental technologies adoption. So, in order to achieve the objective of the project, we propose to modify the mechanism of two models, the econometric model NEMESIS and the two general equilibrium models GEM-E3 (EU-25 and World) for assessing policies that modify directly or indirectly the adoption of environmental technologies.

The modification will be grounded on a deep knowledge of environmental technologies and will involve a new decision module for technology adoption. Three types of policies will be assessed with the new instruments: 3% RTD policies, generic environmental policies (based on eco axes or tradable permits) and, at last, policies directly based on environmental technologies adoption.

## Partners

Num.	Partner Legal Name	City	Country
1	CHAMBRE DE COMMERCE ET D'INDUSTRIE DE PARIS	Paris Cedex 08	France
2	BUREAU FEDERAL DU PLAN	Bruxelles	Belgium
3	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	Athens	Greece
4	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
5	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	Muenchen	Germany



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Title:	Comparison and Assessment of Funding Schemes for the Development of New Activities and Investments in Environmental Technologies.		
Area:	1. Sustainable management of Europe's natural resources 1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

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Instrument:	Specific Targeted Research Project	Project start date:	1/01/2007
Project Total Cost:	725.550 €	Duration:	12 months
EU Contribution:	336.275 €	Bruxelles	Belgium
Organisation:	Partenaires Europeens pour l'Environnement		

## Abstract

The project examines funding of environmental technology development and commercialisation. The objectives are to: measure the performance of existing funding schemes (emphasising commercial-type funding); determine how environmental aspects are dealt with; identify obstacles; and suggest evolution of new schemes. Eight project workpackages address these objectives, and also include development of environmental technology typologies, analysis of funding gaps, and comparison to Japan and the USA.

The project supports SSP 5A by connecting policy and practice, linking researchers from across the EU, and using wide consultation to disseminate knowledge and maximise exploitation of research results. Consortium partners are drawn from five EU states, and have expertise and networks in private and public environmental technology funding and technology development processes.

Stakeholder consultation with private and public funders, developers, academics, policy makers and NGOs will support research and knowledge dissemination. Consultation will include major public conferences and forums, sector-specific focus groups, and workshops to test analysis and geographic variations. Consultation and publication and dissemination of the final report will spur innovation by private and public funders, supporting knowledge exploitation after project completion.

Research will emphasise private sector solutions, but will also include public-private partnerships, which are innovative measures that can assist in closing the funding gap. The varying applicability of such partnerships across different EU states will also be considered.

The two project deliverables will be a database containing research and contact information, and a widely published final report that will integrate all research and recommendations.

## Partners

Num.	Partner Legal Name	City	Country
1	PARTENAIRES EUROPEENS POUR L'ENVIRONNEMENT	Brussels	Belgium
2	BROOKLYN BRIDGE-CONNECTIONS TO THE FUTURE B.V.	Amsterdam	Netherlands
3	IZT INSTITUT FUER ZUKUNFTSSTUDIEN UND TECHNOLOGIEBEWERTUNG GMBH	Berlin	Germany
4	BANQUE FEDERALE DES BANQUES POPULAIRES	Paris	France
5	THE SUSTAINABLE DEVELOPMENT RESEARCH CENTRE	Forres	United Kingdom
6	FORSEO GMBH	Freiburg Im Breisgau	Germany



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Title:	Holistic assessment of waste management technologies		
Area:	1. Sustainable management of Europe's natural resources		
	1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	971.935 €	Project start date:	1/08/2005
EU Contribution:	599.997 €	Duration:	24 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

## Abstract

This HOLIWAST STREP proposal intends to give direct decision making tools and policy support in the field of waste management, particularly effective but low cost waste treatment technologies, by applying tailor made assessment tools such as life-cycle-oriented Cost-Benefit-Analysis (CBA) and Cost-Effectiveness-Analysis (CEA). The scope of research includes currently applied legislation as well as EC communications and strategies relevant to the field of waste management. The assessments are partly based on FP5 research activities gathered in the European Urban Waste Management Cluster (EUWMC). One major outcome in that respect is the comprehensive AWAST simulator, which will serve for the assessment of integrated waste management systems in contrasted areas.

More precisely, the objectives of the proposed project are:

- i) a multidisciplinary comparison of different waste management technologies;
- ii) three case studies showing how to identify the most appropriate technologies within an integrated waste management framework for different socio-economic contexts;
- iii) an evaluation of policy instruments for promoting these technologies and support decision-makers in waste management.

The partnership composed to realise these objectives consists of partners from 7 countries (A, D, DK, F, I, PL and S) and an Advisory group with well recognised key actors in the field (OECD, EEB, the Austrian Federal Environment Ministry etc). The workplan comprises work-packages linked to the assessment of the contrasted management systems on Policy Instruments, Waste Treatment Technologies, Performance of the 3 case studies, Environmental efficiency of the 3 cases and Socio-economic consequences of the 3 case studies. The outcomes of these work-packages will derive in direct decision support and valorisation of the results, presented to the European Public in a final policy workshop in Poland.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Geologiques et Minières	Paris	France
2	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELPOLITIK GGMBH	Berlin	Germany
3	SCUOLA AGRARIA DEL PARCO DI MONZA	Monza	Italy
4	TECHNISCHE UNIVERSITAET WIEN	Wien	Austria
5	LUNDS UNIVERSITET	Lund	Sweden
6	2-0 LCA Consultants APS	Koebenhavn	Denmark
7	GLOWNY INSTYTUT GORNICTWA	Katowice	Poland



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Title: Measuring Eco-innovation

Area: 1. Sustainable management of Europe's natural resources  
1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation

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Instrument: Specific Targeted Research Project

Project Total Cost: 237.284 € Project start date:

EU Contribution: 200.000 € Duration: 12 months

Organisation: Universiteit Maastricht Maastricht Netherlands

## Abstract

The project will offer a conceptual clarification of eco-innovation (developing a typology) based on an understanding of innovation dynamics, and identify and discuss the main methodological challenges in developing indicators and statistics on eco-innovation. Some important challenges for eco-innovation measurement to be investigated are

1. The ongoing nature (changing characteristics) of an eco-innovation,
2. The novelty and importance of an innovation,
3. Possibilities for combining different innovation measures (input indicators and output indicators, direct and indirect measures),
4. The aggregation of eco-innovation into meaningful categories,
5. The links between different types of innovation, for instance the link between organisational innovation and technological innovation.

We will define future research needed to address these methodological challenges in developing eco-innovation indicators and set up guidance for the most feasible route for implementation of eco-innovation indicators on the time scale envisaged. The project will be done by eco-innovation experts with people from statistical bureaus from two communities: the environmental accounting community and the innovation community.

## Partners

Num.	Partner Legal Name	City	Country
1	Universiteit Maastricht	Maastricht	Netherlands
2	Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW) Mannheim	Mannheim	Germany
3	Risoe National Laboratory	Roskilde	Denmark
4	Imperial College of Science, Technology and Medicine	London	United Kingdom
5	Fundación LEIA Centro de Desarrollo Tecnológico	Miñano - Alava	Spain





Title: Policy pathways to promote the development and adoption cleaner technologies

Area: 1. Sustainable management of Europe's natural resources  
1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation

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Instrument:	Specific Targeted Research Project	Project start date:	1/01/2004
Project Total Cost:	1.549.545 €	Duration:	29 months
EU Contribution:	882.178 €	Delft	Netherlands
Organisation:	Netherlands Organisation for Applied Scientific Research		

## Abstract

The aim of this research project is to assess the issues driving and barriers slowing the development and uptake of cleaner technologies by businesses and households across the energy, agricultural, transport and industrial sectors of the economy. The project will clarify what are the barriers impeding progress of cleaner technologies and what policy initiatives, and additional research tasks are needed to address these barriers. The output of this policy-targeted research will be of particular use to policy makers looking for new tools and insights into how to encourage innovation and use of cleaner technologies and hence help in the practical implementation of sustainable development. This project proposes to explore the drivers, barriers and policy context for cleaner technologies in each of the sectors, complemented by an in-depth analysis of 8 technology-specific case studies. The analysis will combine extensive survey work into the reasons behind innovation and business engagement in technology development and uptake, with stakeholder and expert consultation. The analysis will differentiate between countries and industrial, economic and regulatory settings. Conclusions on required policy instruments will distinguish between national and sectoral differences and consider the possibilities as well as limitations of transferring policy measures from one country or case study to another. Research in innovation and environmental policy has provided numerous insights into the barriers that hamper the firm's engagement in the development and use of cleaner technologies. However, it still lacks empirically tested theoretical models at the European level. The approach of this project integrates and furthers newest theoretical and methodological insights from the innovation and environmental policy realms. Special effort will be placed on the design of policy measures that define new environmental and technology policy pathways.

## Partners

Num.	Partner Legal Name	City	Country
1	NETHERLANDS ORGANISATION FOR APPLIED SCIENTIFIC RESEARCH	Delft	Netherlands
2	INSTITUTE FOR PROSPECTIVE TECHNOLOGICAL STUDIES	Brussels	Spain
3	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
4	AUSTRIAN ACADEMY OF SCIENCES	Wien	Austria
5	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary
6	INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY	London	United Kingdom
7	GOTEBORG UNIVERSITY	Goeteborg	Sweden



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Title: Sustainable batteries

Area: 1. Sustainable management of Europe's natural resources  
1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation

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Instrument: Specific Targeted Research Project

Project Total Cost: 1.488.595 € Project start date: 1/01/2004

EU Contribution: 1.094.691 € Duration: 15 months

Organisation: Vrije Universiteit Brussel Bruxelles Belgium

## Abstract

By the end of 2004 the Commission is required to provide report on the possibility to maintain, or not, cadmium, in the exemption list of Directive 2000/53 on End-of-Life Vehicles. The SUBAT proposal aims to make a comprehensive and complete assessment of commercially available and forthcoming battery technologies in the world, including Ni-Cd, on the basis of:

- a technical assessment comparing their performances for full EV and HEV (specific energy and power, proven cycle life and calendar life, life cycle cost analysis, operation at extreme temperature, charge acceptance, maintenance, safety, energetical efficiency of the battery systems, availability of recycling process at industrial stage, operation during applications); SUBAT will also take into account the status of these batteries as to their availability as commercial products;
  - an environmental assessment in order to be able to give them an environmental score which can designate them as being a sustainable solution or not; A life-cycle-analysis approach will investigate availability of primary materials, environmental impact of extraction and manufacturing of the battery, emissions from the battery during use, release of components in case of accident, recycling of active materials, production of non-recyclable waste and environmental impact of recycling processes;
  - an economical assessment with both a micro-economical analysis of production, manufacturing cost of the batteries, forecast cost for the consumers and a macro-economical study to take into account the position of battery manufacturers on the global market, assessing European vs. non-European products and influence on the European trade balance.
- Through this multidisciplinary approach, SUBAT will allow to define an overall view of all aspects of the automotive battery market, in order to provide the Commission with a valuable policy support tool that will assist in tracing the pathways for the future sustainable transport.

## Partners

Num.	Partner Legal Name	City	Country
1	VRIJE UNIVERSITEIT BRUSSEL	Brussel	Belgium
2	Association Europeenne des Vehicules Electriques Routiers	Bruxelles	Belgium
3	CENTRE D'ETUDES ET DE RECHERCHES SUR LES VEHICULES ELECTRIQUES ET HYBRIDES	Poitiers	France
4	Association Europeenne de Villes Interesseees par l'Utilisation de Vehicules Electriques	Bruxelles	Belgium
5	COMITATO ELETTROTECNICO ITALIANO	Milano	Italy
6	UNIVERSITE LIBRE DE BRUXELLES	Bruxelles	Belgium
7	UNIVERSITA DEGLI STUDI DI PISA	Pisa	Italy



Title:	Technology Transfer and Investment Risk in International Emissions Trading		
Area:	1. Sustainable management of Europe's natural resources		
	1.6. Assessment of environmental technologies for support of policy decisions, in particular concerning effective but low-cost technologies in the context of fulfilling environmental legislation		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.010.475 €	Project start date:	1/06/2005
EU Contribution:	699.976 €	Duration:	18 months
Organisation:	Zentrum für Europäische Wirtschaftsforschung GmbH	Mannheim	Germany

## Abstract

The TETRIS project aims to explore the economic and industrial impacts as well as the prospects for achieving technology transfer associated with the implementation of the Kyoto flexible mechanisms. Comprehensive risk indicators measuring the risks of investing in climate change mitigation in foreign countries will be developed. These indicators will use quantitative methods and actual market experience from early transactions involving a broad range of technologies, we will assess the technology transfer and cost savings that can be realized through the Clean Development Mechanism (CDM) and Joint Implementation (JI). Another goal of our project is to examine to what extent GHG emissions trading schemes outside the European Union are compatible with each other and the proposed European emissions trading scheme. Our results will provide valuable insights about technology transfer and risk management in carbon markets for policy makers and the business community.

## Partners

Num.	Partner Legal Name	City	Country
1	ZENTRUM FUER EUROPÄISCHE WIRTSCHAFTSFORSCHUNG GMBH	Mannheim	Germany
2	ECOPLAN WIRTSCHAFTS - UND UMWELTSTUDIEN - MULLER, NEUENSCHWANDER, SOMMER, SUTER & WALTER	Bern	Switzerland
3	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
4	NATSOURCE EUROPE LTD	London	United Kingdom
5	Agentura Pro Ciste Prostredi (Center for Clean Air Policy)	Prague 8	Czech Republic



## **2. Providing health, security and opportunity to the people of Europe**

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### **2.3. The impact of environmental issues on health (including safety at work and methods for risk assessment and the mitigation of risks of natural disasters to people)**

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PRIMA-EF	Development of a European Psychosocial Risk Management Framework	398
PRONET	Pollution Reduction Options Network	399

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Title:	Development of a European Psychosocial Risk Management Framework		
Area:	2. Providing health, security and opportunity to the people of Europe 2.3. The impact of environmental issues on health (including safety at work and methods for risk assessment and the mitigation of risks of natural disasters to people)		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.194.809 €	Project start date:	1/12/2006
EU Contribution:	746.809 €	Duration:	24 months
Organisation:	The University of Nottingham	Nottingham	United Kingdom

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## Abstract

The proposed PRIMA-EF project will focus on the development of a European framework for psychosocial risk management with a special focus on work-related stress, and workplace violence (including harassment, bullying and mobbing).

The objectives of the project are:

- to develop existing knowledge in reviewing available methodologies to evaluate the prevalence and impact of psychosocial risks at work and work-related stress, including physical and psychological workplace violence, harassment, bullying and mobbing;
- to identify appropriate means of collecting sensitive data in relation to these issues;
- to develop international standards and indicators on stress and violence at work;
- to develop detailed recommendations and evidence-based best-practice guidance on the management of these issues at the workplace; and
- to disseminate the results of the project to stakeholders and social partners including small and medium-sized enterprises (SMEs).

The project will place special emphasis on high risk worker groups and occupational sectors and will address relevant gender issues and key issues relating to the implementation of best practice in the context of different enterprises and in particular SMEs. In addition, and in line with European policy on corporate social responsibility and social dialogue, the project will engage the social partners throughout its implementation and will link the project outcomes to these principles. Through the project consortium, the results will be disseminated widely with the support of the World Health Organization (WHO) and the International Labour Office (ILO). In addition, the consortium will work in synergy with partners in candidate and third countries and national regulatory bodies to ensure a wide impact of the project outcomes and the initiation of the development of an international network of centres of excellence in psychosocial risk management.

## Partners

Num.	Partner Legal Name	City	Country
1	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
2	BUNDESANSTALT FUER ARBEITSSCHUTZ UND ARBEITSMEDIZIN	Dortmund	Germany
3	ISTITUTO SUPERIORE PER LA PREVENZIONE E LA SICUREZZA DEL LAVORO	Roma	Italy
4	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK	Delft	Netherlands
5	CENTRALNY INSTYTUT OCHRONY PRACY - PANSTWOWY INSTYTUT BADAWCZY	Warsaw	Poland
6	TYOETERVEYSLAITOS.	Helsinki	Finland



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Title:	Pollution Reduction Options Network		
Area:	2. Providing health, security and opportunity to the people of Europe		
	2.3. The impact of environmental issues on health (including safety at work and methods for risk assessment and the mitigation of risks of natural disasters to people)		
Instrument:	Concerted Action		
Project Total Cost:	750.000 €	Project start date:	1/01/2007
EU Contribution:	750.000 €	Duration:	36 months
Organisation:	Hulpverlening Gelderland Midden	Arnhem	Netherlands

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## Abstract

European Member States have set up National Environment and Health Action Programmes during the last decade, confirming the importance of environmental health protection. The importance of scaling down this approach to regional and local level is evident to improve the conditions of life. There is a lack of exchange of information and experiences among Member States on this issue. Thus, there is a need to identify and analyse national and regional activities and to exchange good practices.

The main objective of the PRONET project is to facilitate exchange and evaluation of interventions on environment and health exposure reduction measures on a regional level and promote implementation of successful initiatives in other regions of Europe.

This project will focus on the exchange of useful practices in two areas;

- 1) the reduction of traffic-related health hazards;
- 2) improvement of indoor air quality.

This project will co-ordinate the body of experience in practical pollution reduction measures or strategies and will improve the efficiency and effectiveness of the design and implementation of measures aimed at reducing exposure to environmental health hazards. Communication, participation, socio-economic and gender factors are included in the analysis as they might influence the impact of exposure reduction measures. To do so PRONET will set up an information exchange platform for the development of health promotion-based policies. Furthermore, this project will set up a network of regional authorities and researchers at different levels. Establishing a link through partners and member states to THE PEP and other relevant projects will be part of the activities. At workshops and by surveys network members will come together to identify, analyse, assess and develop policy options to gain insight in interventions and disseminate the results to all stakeholders in European regions. The results will be used to make recommendations for policies at regional level.

## Partners

Num.	Partner Legal Name	City	Country
1	HULPVERLENING GELDERLAND MIDDEN	Arnhem	Netherlands
2	MINISTERIUM FUR UMWELT UND NATURSCHUTZ, LANDWIRTSCHAFT UND VERBRAUCHERSCHUTZ DES LANDES NORDRHEIN-WESTFALEN	Duesseldorf	Germany
3	MINISTERIE VAN VOLKSHUISVESTING, RUIMTELIJKE ORDENING EN MILIEUBEHEER	Den Haag	Netherlands
4	STOCKHOLMS LAENS LANDSTING	Stockholm	Sweden
5	RIJKSINSTITUUT VOOR VOLKSGEZONDHEID EN MILIEU	Bilthoven	Netherlands
6	DANMARKS MILJOEUNDERSOEGELSER.	Roskilde	Denmark
7	MEDIZINISCHE UNIVERSITAET WIEN	Wien	Austria
8	Agencia de Salut Publica de Barcelona	Barcelona	Spain



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### 3. Underpinning the economic potential and cohesion of a larger and more integrated European Union

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#### 3.4. Forecasting and developing innovative policies for sustainability in the medium and long term

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I.Q.TOOLS	Indicators and Quantitative Tools for Improving the Process of Sustainability Impact Assessment	410
INDI-LINK	Indicator-based evaluation of interlinkages between different sustainable development objectives	411
LENSE	Methodology Development towards a Label for Environmental, Social and Economic Buildings	412
MODELS	Model Development for the Evaluation of Lisbon Strategies	413
SCOPE2	Sustainable Consumption Policies Efficiency Evaluation - SCOPE2	414
SIAMETHOD	Development of methodologies and tools to assess links between trade, environment and policies	415
STATUS	Sustainability Tools and Targets for the Urban Thematic Strategy	416
TISSUE	Trends and Indicators for Monitoring the EU Thematic Strategy on Sustainable Development of Urban Environment	417
TRANSUST.SCAN	Scanning Policy Scenarios for the Transition to Sustainable Economic Structures	418
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Title:	Improving the Implementation of Environmental Impact Assessment (IMP)		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

Instrument:	Specific Targeted Research Project		
Project Total Cost:	661.300 €	Project start date:	1/12/2004
EU Contribution:	392.500 €	Duration:	12 months
Organisation:	Österreichisches Institut für Raumplanung	Wien	Austria

## Abstract

The European Union has enacted the EIA Directive (85/337/EEC amended by Directive 97/11/EC) to apply the assessment of the environmental effects of those projects which are likely to have significant effects on the environment. A report of the Commission has revealed that there are still various weaknesses in the Member States implementation. Therefore the aim of the project (IMP)3 is to improve the application of EIA. It will explore the different forms of application in the current and future EU Member States and in countries outside of Europe making recommendations how to improve the application of EIA focused on three issues:

1. a better incorporation of human health aspects into EIA
2. an increase in the consistency of risk assessments regarding various sources of risks (natural hazards, accidents, sabotage) by integrating risk exposure (potential of dangers) and vulnerability (damage potential)
3. survey of thresholds according to Annex I such as a documentation of the relationship between the two Annexes and their practical implementation.

Therefore, six work packages (WP) are defined. WP1 concentrates on the application of EIA. A questionnaire will be sent to EIA-stakeholders in all 25 Member States to provide a survey about the application of the EIA in the EU. Interviews with national EIA stakeholders are held in 10 EU and 2 Non-EU countries and the project will be discussed with the EU EIA/SEA Expert Group.

WP2, WP3 and WP4 concentrate on the project's main issues (health, risk assessment and thresholds within the EIA) taking into account the results of WP1, of a literature review and the research already performed in this field and interviews with senior experts are held. In WP5 the results of WP1 to WP4 are merged into a final report. WP6 contains the project management.

## Partners

Num.	Partner Legal Name	City	Country
1	OESTERREICHISCHES INSTITUT FUER RAUMPLANUNG	Wien	Austria
2	UMWELTBUNDESAMT GMBH	Wien	Austria
3	VELINDRE NHS TRUST (WALES CENTRE FOR HEALTH BUSINESS UNIT)	Cardiff	United Kingdom
4	NORDREGIO - NORDIC CENTRE FOR SPATIAL DEVELOPMENT	Stockholm	Sweden
5	FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO, RESEARCH CENTRE FOR TERRITORY, TRANSPORTS AND ENVIRONMENT	Porto	Portugal
6	SLOVAK ENVIRONMENTAL AGENCY	Banska Bystrica	Slovakia





Title:	Aalborg Commitments Tools and Resources		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

Instrument:	Specific Targeted Research Project		
Project Total Cost:	614.201 €	Project start date:	1/01/2006
EU Contribution:	499.511 €	Duration:	21 months
Organisation:	University of Northumbria at Newcastle	Newcastle Upon Tyne	United Kingdom

## Abstract

The Aalborg Commitments were adopted by the delegates to the June 2004 Aalborg+10 Conference with the intention that these clearly targeted actions will support European local governments in their implementation of the Aalborg Charter agreed at the 1994 Aalborg Conference. The initial commitment by signatory local governments is to undertake a baseline review within 12 months and then to enter into a local target-setting process in consultation with citizens and stakeholders in order to develop within 24 months a local programme of action under the ten Commitment themes.

The evolution of the Aalborg process has been taking place at the same time as the European Commission has been preparing the Urban Thematic Strategy (UTS). This is one of seven Thematic Strategies, which together comprise the European Community's 6th Environment Action Programme. The EU has agreed that the theme of sustainable development should underpin all EU actions and this, therefore, is the key organising principle for the UTS.

The SSP Fourth Call for Proposals outlines the following the core objective for 3.5. Task 5 as the 'Development of a set of guidelines and tools for signatories to the Aalborg +10 Commitments agreed in June 2004'. ACTOR will therefore have as its principal aim the development of a web-based innovative Toolkit, and a Training Package to support and assist Aalborg Commitments signatories to make efficient and effective progress. This Toolkit will include a comprehensive package of materials that can be provided to new towns and cities once they have signed the Commitments.

In association with the Toolkit, the project will involve the design of Training Package on the methodology and operationalisation of the Aalborg Commitments. The Project will actively involve Signatory local authorities and the European Sustainable Cities and Towns Campaign Networks in developing and testing the Toolkit and Training Package.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE.	Newcastle Upon Tyne	United Kingdom
2	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary
3	UNION OF THE BALTIC CITIES	Gdansk	Poland
4	ICLEI EUROPEAN SECRETARIAT GMBH	Freiburg	Germany
5	Ambiente Italia Srl Istituto di Ricerche	Milano	Italy
6	Abo Akademi University	Turku / Abo	Finland
7	ENTIDAD METROPOLITANA DE BARCELONA DE LOS SERVICIOS HIDRAULICOS Y TRATAMIENTO DE RESIDUS	Barcelona	Spain



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Title:	Assessing the potential of various instruments for sustainable consumption practices and greening of the market		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Support Action		
Project Total Cost:	204.104 €	Project start date:	1/02/2007
EU Contribution:	204.104 €	Duration:	18 months
Organisation:	Institut für Ökologische Wirtschaftsforschung GmbH	Berlin	Germany

## Abstract

The main objectives are :

- to identify, structure and assess instruments addressing and promoting sustainable consumption and greening of the market;
- to identify and evaluate best practice examples;
- to develop policy strategies for transferring best practices;
- to carry out a workshop;
- to finalise insights by preparing a guideline for policy makers;
- to prepare a scientific report and a summary.

After a prephase connected with an internal kick-off meeting, the first phase analyses policy instruments, measures and actions and the gained experiences in WP 2 “Basic” instrumental overview”. The instrumental overview is intended to be of a broader nature to collect insights into existing, but also discussed, proposed and/or rejected tools which have led or could lead to a greening of the markets by addressing supply and/or demand. We will concentrate on promising tools and actions. The gained and collected information will be assessed along certain criteria developed beforehand in WP 3 “Assessment”. WP 4 “Best practices and market transformation patterns” will bring together the most instructive findings and consider what could be learned from them.

The key question behind that approach is to look for the patterns behind successful greening strategies. The second phase is dedicated to the potentials for transferring of the results and their dissemination. WP 5 “Extension and transfer strategies” picks up the results of the preceding work. It considers the findings and prepares strategies for the transfer of promising approaches. Results and proposals will be documented and discussed at a one-day workshop (WP 6 “Workshop”) which will collect insights, opinions and experiences of a broader auditorium. The discussion and results of the workshop will be documented and will contribute to the update of the preliminary findings. WP 7 “Dissemination” brings together all findings and insights. Here we will prepare guidelines, a report, including a summary.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT FUER OEKOLOGISCHE WIRTSCHAFTSFORSCHUNG GGMBH	Berlin	Germany
2	VRIJE UNIVERSITEIT BRUSSEL	Brussel	Belgium
3	STATENS INSTITUTT FOR FORBRUKSFORSKNING	Oslo	Norway



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Title:	Concepts and Science for Coastal Erosion Management		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	920.000 €	Project start date:	
EU Contribution:	610.000 €	Duration:	36 months
Organisation:	Stichting Waterloopkundig Laboratorium	Delft	Netherlands

## Abstract

The strategic objective of the CONSCIENCE project is to develop and test concepts, guidelines and tools for the sustainable management of erosion along the European coastline, based on best available scientific knowledge and on existing practical experience.

The first aim of the project is to define a decision-making framework based on the concepts formulated by the EUROSION project, i.c. coastal resilience, coastal sediment cells, favourable sediment status and strategic sediment reservoirs.

The second aim is to develop these concepts into measurable standards, which can be evaluated in practice for any field situation.

The third aim is to link these standards to ongoing European initiatives as GEO/GMES, the European Soil Strategy in preparation, The European Maritime Strategy and the Recommendation on Integrated Coastal Zone Management.

The fourth aim is to produce guidelines and tools to enable an effective implementation in European coastal management. The practical applicability and effectiveness of the guidelines and tools will be evaluated in selected test sites. It is envisaged that the combination of the decision-making framework and the provision of guidelines and tools will prove highly valuable to coastal managers when deciding on the most sustainable method of managing erosion at any given location. Therefore the project results will be broadly disseminated to stakeholders at local, regional and European levels.

## Partners

Num.	Partner Legal Name	City	Country
1	Stichting Waterloopkundig Laboratorium	Delft	Netherlands
2	Rijkswaterstaat national Institute for Coastal and Marine Management /RIKZ	The Hague	Netherlands
3	EUCC - The Coastal Union	Leiden	Netherlands
4	National University of Ireland Cork	Cork	Ireland
5	Centro Internacional de Investigación de los Recursos Costeros	Barcelona	Spain
6	HR Wallingford Ltd	Wallingford	United Kingdom
7	National Institute of Marine Geology and Geoecology	Bucharest	Romania
8	Institute of Hydroengineering of the Polish Academy of Sciences	Gdansk	Poland
9	Priority Actions Programme Regional Activity Centre	Split	Croatia



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Title:	Development and Comparison of Sustainability Indicators		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	364.300 €	Project start date:	1/11/2006
EU Contribution:	354.700 €	Duration:	30 months
Organisation:	Turun Kauppakorkeakoulu	Turku	Finland

## Abstract

The DECOIN project has three main objectives:

- (1) to find out the possibilities and most promising ways to develop the methodologies and data quality of the best-needed sustainable development indicators,
- (2) to evaluate existing methods and analytical frameworks in order to assess the progress towards sustainable development, to elaborate of forecasts and scenarios, and to identify of inter-relationships between selected unsustainable trends in the EU, and
- (3) to carry out a detailed analysis on the inter-relationships between selected unsustainable trends and to provide a tool for the analysis and for forecasting.

For achieving these objectives, expert interviews will be first carried out and on their basis, an action plan will be formulated concerning the ways to overcome the problems related to the EU sustainable development indicators of the 'best needed' type. Existing indicator frameworks such as DPSIR, STEEPV, and large-scale one-dimensional frameworks e.g. ecological footprint, aggregated material flows, emergy, and others, will be evaluated from the perspective of the EU Sustainable Development Strategy in order to find out their strengths and weaknesses. Different scenarios of the unsustainable trends identified in the EU Sustainable Development Strategy will be also evaluated. A detailed analysis of the inter-relationships of the development processes related to the unsustainable trends, their synergies and trade-offs will be carried out by utilizing analytical frameworks such as Advanced Sustainability Analysis (ASA), Sustainability Multicriteria Multiscale Assessment (SUMMA) and Multi-Scale Integrated Analysis of Societal and Ecosystem Metabolism (MSIASSEM) developed by the consortium. Based on the analyses an integrated tool will be constructed for assessment of interlinkages and for forecasting.

The results of the project will be disseminated widely to administration at EU, national and local levels, to companies, NGOs and research institutes.

## Partners

Num.	Partner Legal Name	City	Country
1	TURUN KAUPPAKORKEAKOULU	Turku	Finland
2	UNIVERSITA DEGLI STUDI DI SIENA.	Siena	Italy
3	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Zografou	Greece
4	ISTITUTO NAZIONALE DI RICERCA PER GLI ALIMENTI E LA NUTRIZIONE	Roma	Italy
5	TILASTOKESKUS.	Helsinki	Finland
6	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands



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Title:	Development of macro and sectoral economic models aiming to evaluate the role of public health externalities on society		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.252.710 €	Project start date:	1/11/2005
EU Contribution:	800.000 €	Duration:	24 months
Organisation:	Norsk institutt for Luftforskning	Kjeller	Norway

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## Abstract

The project aims to provide a full-chain analysis related to impact of health protection measures related to priority pollutants as identified by the Environment and Health Action Plan (EHAP), to support the development of cost effective policy measures against pollution related diseases and their wider impacts. The project will achieve this through extending and further developing existing methodologies, models and data to provide an impact-pathway-based model for evaluation of the role of public health externalities on society. The model will be made operational for the selected compounds. Specifically, the objectives are related to the following pollutants: ozone, heavy metals (mercury, cadmium, arsenic, nickel, lead), polychlorinated biphenyls (PCBs), dioxins and indoor air pollution. Since a number of these compounds is carried on particles, PM may be used for some analyses. Main deliverables from the project will include evaluation of a number of emission scenarios using a cost-benefit analysis and incorporating macro-economic modelling. A coherent set of methodologies covering the indicated priority pollutants will be developed and applied in this evolution. The project objectives will be achieved in 7 work packages. WP 1 will extend current policy-relevant emission scenarios to cover all the targeted pollutants or pollution situations, and will provide data on costs of measures. WPs 2 and 3 will review latest research and incorporate information on dose/exposure/concentration - response relationships for health and non-health benefit endpoints of the targeted pollutants. They will also provide monetary valuation data. Based on WPs 1-3 and on macroeconomic analyses done in WP6, WP 4 will develop an integrated tool for the cost benefit assessment, which will be implemented in WP5. WP5 will also expand datasets created in WPs 1-3 and 6 with environmental information, to provide coherent input into the modelling.

## Partners

Num.	Partner Legal Name	City	Country
1	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
2	UNIVERSITAET STUTTGART	Stuttgart	Germany
3	UNIVERZITA KARLOVA V PRAZE	Praha 1	Czech Republic
4	INSTYTUT EKOLOGII TERENOW UPRZEMYSLOWIONYCH	Katowice	Poland
5	SLASKA AKADEMIA MEDYCZNA W KATOWICACH	Katowice	Poland
6	NILU POLSKA LTD	Katowice	Poland
7	CAMBRIDGE ECONOMETRICS LTD.	Cambridge	United Kingdom



Title:	Development of a Forecasting Framework and Scenarios to Support the EU Sustainable Development Strategy		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	828.076 €	Project start date:	1/12/2005
EU Contribution:	790.810 €	Duration:	30 months
Organisation:	Wuppertal Institut für Klima, Umwelt, Energie GmbH	Wuppertal	Germany

## Abstract

FORESCENE will develop an analytical framework for consistent environmental sustainability scenario building (forecasting, backcasting, simulation) in areas such as water, soil, biodiversity, waste and natural resources. Problem issues and priority policy fields such as agriculture, infrastructures/land use, industry/economy will be selected in close contact with the EU Commission. The project will focus on backcasting, to identify different scenarios leading to the achievement of future targets. FORESCENE will

- (1) describe the chosen environmental problems, review policy objectives and indicators, and determine the cross-cutting driving forces;
- (2) develop core elements of integrated sustainability scenarios (goal definition);
- (3) determine measures and processes to be considered for change (pre-backcasting);
- (4) address quantitative and qualitative parameters for measurement (parameterization);
- (5) develop a Business-As-Usual (BAU) scenario framework and example projections (forecasting);
- (6) develop alternative scenarios (incl. backcasting);
- (7) check the options for modelling, and
- (8) work out conclusions.

To integrate the eight steps FORESCENE will organize a series of workshops to involve DG's and stakeholders, to integrate knowledge on

- (a) cross-cutting drivers of various environmental problems and priority policy fields, and
  - (b) to define essentials for integrated sustainability scenarios in terms of goals and cross-cutting policy measures.
- Further experts will be involved at various stages of the project. The project will result in recommendations for future policy development with regard to the EU's sustainability strategy and the framework for Impact Assessments and concrete proposals for the use and extension of existing simulation models.

## Partners

Num.	Partner Legal Name	City	Country
1	WUPPERTAL INSTITUT FUER KLIMA, UMWELT, ENERGIE GMBH.	Wuppertal	Germany
2	LUNDS UNIVERSITET	Lund	Sweden
3	THE UNIVERSITY OF NOTTINGHAM	Nottingham	United Kingdom
4	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary
5	SERI - NACHHALTIGKEITSFORSCHUNGS UND - KOMMUNIKATIONS GMBH	Wien	Austria
6	UNIVERSITA DEGLI STUDI DI FIRENZE	Firenze	Italy



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Title:	Overall Mapping of Physical Flows and Stocks of Resources to Forecast Waste Quantities in Europe and Identify Life-Cycle Environmental Stakes of Waste Prevention and Recycling		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.392.848 €	Project start date:	
EU Contribution:	966.378 €	Duration:	24 months
Organisation:	Bureau de Recherches Géologiques et Minières	Paris	France

## Abstract

The FORWAST STREP proposal intends to provide:

- an inventory of the historically cumulated physical stock of materials in EU-27 (EU-25 plus Romania and Bulgaria), and to forecast the expected amounts of waste generated, per resource category, in the next 25 years.
- an assessment of the life-cycle wide environmental impacts from different scenarios of waste prevention, recycling and waste treatment in the EU-27.

The work programme is designed to favour the synergy between these objectives, by applying a generic model for material flows, stocks and emissions. The proposed model is an environmentally extended, physical, quasi-dynamic input-output model. This model combined with a robust method of Material Flow Analysis will guide the mining of new data, which is the main focus of the project. It will take place as a combination of 'in-depth' studies in selected countries where high-quality statistics are available, and an EU-wide effort consolidating and calibrating different statistical and technical data sources.

The model will be applied to historical time series of resource inflows into the economy, and calibrated to known quantities of waste generation, the core question being to estimate coefficients for stocks life time for the different materials (sand/gravel, wood, metals, paper, etc.) and interpret dynamically the causes of the variation of stocks (accumulation versus waste generation or dispersive losses).

The policy relevance of the project will be strengthened by the definition of 25 years horizon scenarios of waste generation combined with technological options for waste prevention and recycling. The waste with the higher stakes to reduce environmental pressures will be assessed through simulations.

It is expected that the FORWAST project will bring a new insight into Life Cycle Thinking, and above all, more confidence in the use of environmental indicators in natural resources and waste management policies.

## Partners

Num.	Partner Legal Name	City	Country
1	Bureau de Recherches Géologiques et Minières	Paris	France
2	2.-0 LCA Consultants ApS	Copenhagen	Denmark
3	Resource Management Agency	Vienna	Austria
4	Vienna University of Technology	Vienna	Austria
5	Universität Stuttgart	Stuttgart	Germany
6	Aristoteleio Panepistimio Thessalonikis - Aristotle University of Thessaloniki	Thessaloniki	Greece
7	Główny Instytut Górnictwa	Katowice	Poland



Title:	Greenhouse Gas and Air Pollution Interactions and Synergies		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.161.102 €	Project start date:	1/11/2005
EU Contribution:	695.000 €	Duration:	24 months
Organisation:	International Institute for Applied System Analysis - IIASA	Laxenburg	Austria

## Abstract

GAINS-Asia brings together state-of-the-art disciplinary models on air pollution and climate change to assess technical and market based policies that maximize synergies and benefits between these policy areas. GAINS-Asia will integrate policy-relevant information from the BernCC carbon cycle model, the MESSAGE global energy scenario model, the RAINS air pollution integrated assessment model, its extension addressing mitigation potentials for greenhouse gas emissions in Europe, the TM5 hemispheric atmospheric chemistry and transport model, and the implementations of the MARKAL and IPAC energy models for India and China. GAINS-Asia will construct reduced-form representations of these models and combine these functional relationships at the meta-level into a new GAINS-Asia policy assessment framework. This tool will allow interactive analyses of the cost-effectiveness and benefits of a wide range of technical and market based policy options. Optimization approaches will be developed to identify combinations of policies aimed at reducing long-range and hemispheric air pollution alongside with greenhouse gas emissions in order to optimise overall benefits in the medium and long term.

GAINS-Asia will focus on near- to medium term policy measures for European and Asian countries that maximize synergies between these two policy areas, while embedding them in global strategies that would achieve stabilization of greenhouse gas concentrations in the long-term.

GAINS-Asia will be implemented for 43 European countries including Russia, and for China and India. To enable analyses in a global context, the rest of the world will be represented at an aggregated level. An interactive software will be developed that allows stakeholders to use GAINS-Asia over the Internet for exploring the interactions between air pollution and climate change for their own analyses.

## Partners

Num.	Partner Legal Name	City	Country
1	INTERNATIONAL INSTITUTE FOR APPLIED SYSTEM ANALYSIS - IIASA	Laxenburg	Austria
2	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE	Brussels	Belgium
3	UNIVERSITAET BERN	Bern	Switzerland
4	NATIONAL DEVELOPMENT AND REFORM COMMISSION ENERGY RESEARCH INSTITUTE	Beijing	China (People's Republic of)
5	THE ENERGY AND RESOURCES INSTITUTE	New Delhi	India





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Title:	Indicators and Quantitative Tools for Improving the Process of Sustainability Impact Assessment		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.439.228 €	Project start date:	1/01/2004
EU Contribution:	1.232.998 €	Duration:	30 months
Organisation:	Zentrum für Europäische Wirtschaftsforschung GmbH (ZEW) Mannheim	Mannheim	Germany

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## Abstract

I.Q. Tools aims to give an evaluation of the policy at the initial stage of the proposal: given the policy draft produced by the Commission, with the I.Q. Tools it is possible to assess the potential effects of the policy on the three dimensions of sustainability if these effects lead to the sustainable objectives or not and the significance of these impacts. The objectives of the project can be characterised by the three key outputs.

Output 1 is an indicator review and a list of key indicators for priority areas. This includes a review of existing assessment practices that try to integrate more than one dimension of sustainable development.

Output 2 provides a decision-support tool for SIA. The specific decision support tools will be a desktop software including

- electronic checklists applying these indicators for a practical appraisal of Community policies.

This constitutes Part I of the I.Q. Tool (I for Indicators). We intend to use the IA star methodology as a starting point.

- a model analysing interlinkages and indirect effects across specific impacts and separate policy areas or sectors. This constitutes the Part Q of the I.Q. Tool (Q for Quantification). Within our project a Computable General Equilibrium (CGE) model will be implemented. It will provide quantitative results for selected measures and basic impacts such as greenhouse gases, employment, GDP and exports/imports.

Output 3 documents best SIA practices in an electronic handbook. Since SIA can only be partially a matter of desktop analysis, elements requiring further qualitative assessment and/or complex modelling exercises will be addressed in an electronic handbook that will be developed to recommend standard procedures for SIA assessment. The handbook will include a review of existing SIA indicators, methodologies and practices. These practices will be assessed on the basis of 2003 and 2004 data.

## Partners

Num.	Partner Legal Name	City	Country
1	ZENTRUM FUR EUROPAISCHE WIRTSCHAFTSFORSCHUNG GMBH (ZEW) MANNHEIM	Mannheim	Germany
2	UNIVERSITY OF SUSSEX	Falmer, Brighton	United Kingdom
3	Avanzi SRL	Milano	Italy
4	FREIE UNIVERSITAT BERLIN	Berlin	Germany
5	JOINT RESEARCH CENTRE	Brussels	Belgium
6	INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY	London	United Kingdom
7	RUPRECHT-KARLS-UNIVERSITAT HEIDELBERG	Heidelberg	Germany



Title:	Indicator-based evaluation of interlinkages between different sustainable development objectives		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	938.395 €	Project start date:	
EU Contribution:	768.847 €	Duration:	30 months
Organisation:	SERI Nachhaltigkeitsforschungs und -kommunikations GmbH	Wien	Austria

## Abstract

The INDI-LINK project has three main objectives:

- (1) further improvement of sustainable development indicators (SDI),
- (2) assessment of interlinkages between the different priorities of the EU SDS and
- (3) deriving conclusions for future SD policy making.

To achieve these objectives, INDI-LINK will develop new concepts and methods and improve data for the calculation of selected 'best-needed' and proxy indicators; test different methods for extending indicator time series through forecasting; review emerging policy areas, for which no indicators exist so far; develop a solid conceptual framework for interlinkage assessment based on a comparative analysis of analytical frameworks, methods and tools; provide a quantitative analysis of interlinkages using selected indicators with best-suited assessment methods and identify most effective combinations of environmental, economic and social policy measures, focusing on the maximum use of synergies and best possible mitigation of potential trade-offs. A series of 4 workshops will be organised, where representatives of relevant DGs and external experts will be involved. The INDI-LINK consortium has a well-established institutional balance and includes four university institutes, one national statistical institute, one public-private research institute and three private research institutions (SMEs). As INDI-LINK partners are coordinating or participating in a number of other relevant projects on the EU level, INDI-LINK will provide and make full use of synergies with projects such as MATISSE, Sustainability A-Test, SUSTOOLS, FORESCENE and MOSUS. The project will provide recommendations for priorities in future SDI development on the EU level, for future assessments of interlinkages and for an effective implementation of the revised EU SDS, with a particular focus on policy integration across different SD dimensions.

## Partners

Num.	Partner Legal Name	City	Country
1	SERI Nachhaltigkeitsforschungs und -kommunikations GmbH	Wien	Austria
2	Charles University in Prague	Praha 1	Czech Republic
3	Vrije Universiteit Amsterdam	Amsterdam	Netherlands
4	Policy Studies Institute	London	United Kingdom
5	Istat - Istituto Nazionale di Statistica	Roma	Italy
6	Gesellschaft für Wirtschaftliche Strukturforchung mbH	Osnabrueck	Germany
7	Environmental Network Limited	Aboyne	United Kingdom
8	Middle East Technical University	Ankara	Turkey
9	Wuppertal Institut fuer Klima, Umwelt, Energie GmbH	Wuppertal	Germany



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Title:	Methodology Development towards a Label for Environmental, Social and Economic Buildings		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.050.541 €	Project start date:	21/12/2005
EU Contribution:	606.686 €	Duration:	24 months
Organisation:	Centre Scientifique et Technique de la Construction	Bruxelles	Belgium

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## Abstract

LEnSE is a research project that responds to the growing need in Europe for assessing a building's sustainability performance. The project draws on the existing knowledge available in Europe on building assessment methodologies. LEnSE aims to develop a truly holistic methodology that addresses the overall, integrating concept of sustainability. The main objective of LEnSE is to develop a methodology for the assessment of the sustainability performance of existing, new and renovated buildings, which is broadly accepted by the European stakeholders involved in sustainable construction. This methodology will allow for future labelling of buildings, in analogy with the Energy Performance Directive. The work should result in increased awareness of the European stakeholders and will allow adequate policy implementation on sustainable construction. The project consists of three main themes. The first theme is the identification and scope of the issues which need to be included in a sustainability assessment. This has to be wide enough to be acceptable and limited enough to be practicable. A broad consensus on these issues will be reached through strategic consultation of the relevant stakeholders. The second theme is the actual development of the assessment methodology. The content of the assessment will be developed for a limited, but representative range of key issues. Guidelines on how to address local variations will be provided. This work will be validated by the development of a prototype tool and tested on case study buildings. The key stakeholders on the European and national level will be highly involved in the development of the methodology, to guarantee a wide acceptance and implementation of the project results. These consultations will include national meetings with stakeholders and trans-national expert workshops. Thematic -stepping stone- publications, will serve as strategic reference and discussion documents for the stakeholder consultation rounds.

## Partners

Num.	Partner Legal Name	City	Country
1	CENTRE SCIENTIFIQUE ET TECHNIQUE DE LA CONSTRUCTION	Bruxelles	Belgium
2	Association pour la Recherche et le Développement des Méthodes et Processus Industriels	Paris	France
3	BUILDING RESEARCH ESTABLISHMENT LIMITED	Watford	United Kingdom
4	BAUPHYSIKBUERO PROF. KORNADT UND PARTNER	Mainz	Germany
5	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE.	London	United Kingdom
6	PIODE BV	Amersfoort	Netherlands
7	Applied Industrial Technologies Ltd	Vrilissia	Greece
8	PLANAIR SA	La Sagne	Switzerland
9	CESKE VYSOKE UCENI TECHNICKE V PRAZE	Praha 6	Czech Republic
10	EUROPEAN PROFILES S.A.	Athens	Greece



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Title:	Model Development for the Evaluation of Lisbon Strategies		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.660.500 €	Project start date:	
EU Contribution:	970.000 €	Duration:	36 months
Organisation:	Institute of Communication and Computer Systems	Athens	Greece

## Abstract

The MODELS research project will improve existing large-scale economic models and will install them at the Commission for in house use for policy analysis and assessment of Lisbon Strategy. The projects will improve and deliver the models GEM-E3, WorldScan, MIRAGE and NEMESIS. All these models cover multiple countries and multiple sectors of activity. The first three are computable general equilibrium models and the fourth is a macro-econometric model. The first and the fourth include detailed representation of energy and environmental systems. All models incorporate dynamic aspects and have an adequate representation of technological change.

The improved model versions will be installed for in-house analysis by the Commission. To study the economic impact of structural reforms linked to the Lisbon agenda the model improvements will be as follows: evaluation of knowledge objectives through endogenous growth driven by technology; evaluation of employment objectives through enhanced modelling of labour markets and human capital; assessment of internal market and trade of services through modelling of imperfect competition under economies of scale; evaluation of environmental sustainability objectives through model integration of energy and environment systems and their links with growth and investment driven by endogenous technology progress. Specific extensions of the models and databases, such as improving modelling of the labour market, R&D sector, households disaggregation for distributional effects or product market competition and others, are included in the above mentioned model development research. Special effort will be devoted to exchange scientific information on modelling and Lisbon-related applications between the modelling teams. It is expected that the Commission will be provided with state-of-the-art large-scale modelling tools and will get new policy insights regarding impact assessment of structural reforms.

## Partners

Num.	Partner Legal Name	City	Country
1	Institute of Communication and Computer Systems	Athens	Greece
2	CPB Netherlands Bureau for Economic Policy Analysis	The Hague	Netherlands
3	Centre d'Etudes Prospectives et d'Informations Internationales	Paris	France
4	Centrale Recherche SA	Chatenay Malabry	France
5	Institute for Prospective Technological Studies-Joint Research Centre	Seville	Spain



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Title:	Sustainable Consumption Policies Efficiency Evaluation - SCOPE2		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

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Instrument:	Specific Support Action		
Project Total Cost:	200.400 €	Project start date:	
EU Contribution:	200.000 €	Duration:	24 months
Organisation:	The Netherlands Organisation for Applied Scientific Research (TNO)	Delft	Netherlands

## Abstract

The main goal of this project is to analyse how policy instruments can support greening of the markets and stimulate more sustainable consumption patterns by individuals and households. From the extensive insight of SERI, Lund University IIIIEE and TNO with other projects on Integrated Product Policy, Sustainable Consumption and Production (SCP) and Sustainable Transitions, it is crystal clear that simple policy approaches will not work. Consumers are often not so sovereign as thought, since their behaviour is shaped by a multitude of factors they cannot influence. Many sustainable business initiatives have died out in silence due to a lack of reward in the market or lack of consumer acceptance. And where simple, direct interventions like regulation or financial instruments sometimes are successful, they can also appear to be too crude, or even inadequate, when the sustainability problem is caused by 'lock-in' problems or other market failures.

We therefore propose the following division in WPs so that the project looks at policy instruments and business initiatives from a systemic, holistic perspective:

1. Inventory and assessment of policy instruments,
2. Inventory and assessment of business initiatives,
3. Analysis of theories on innovation, governance and change of consumer behaviour for SCP,
4. Analysis of gaps and barriers for implementation (e.g. geographical and sectoral: where are proven instruments not yet applied? Or systemic/holistic: how should instruments be used in a more coherent way, or which new types of instruments should be applied, to realise the type of long term and significant changes that are related to the SCP agenda? Etc.),
5. Developing guidelines and recommendations on SCP policy.

The consortium is already involved in most major SCP projects at national, European and global level and hence can create excellent leverage and connections with e.g. the UN 10 Year framework of Programs on SCP, etc.

## Partners

Num.	Partner Legal Name	City	Country
1	the Netherlands Organisation for Applied Scientific Research (TNO)	Delft	Netherlands
2	The International Institute for Industrial Environmental Economics at Lund University	Lund	Sweden
3	Sustainable Europe Research Institute Germany e.V.	Bad Oeynhausen	Germany



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Title:	Development of methodologies and tools to assess links between trade, environment and policies		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	854.470 €	Project start date:	1/04/2005
EU Contribution:	499.235 €	Duration:	21 months
Organisation:	Institut du Developpement Durable et des Relations Internationales - IDDRI	Paris	France

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## Abstract

Most assessments of the links between trade, environment and policies have focused on trade in goods or on unilateral domestic liberalization measures. Other elements of the trade agenda defined as issues covered by existing or proposed multilateral, regional or bilateral agreements have received much less attention, in particular trade in services, investment, and intellectual property rights. Each of these areas presents distinctive methodological challenges. This project will explore methodologies for the full range of trade issues.

There are theoretical reasons for the failure to successfully integrate economic modeling and sustainability assessments relating to the metric of economic models, which revolve around markets and prices, and the fact that there is little prospect in the foreseeable future of expressing environmental values appropriately in this metric. The project will explore the limits and potential for enlarging the use of models for sustainability assessment. This research proposal seeks to develop assessment methodologies in areas that appear particularly promising or particularly urgent. It will cover methodologies for product chain assessment; assessment of specific service sectors; assessment of investment; assessment of IPR; assessment of commodity markets; techniques for stakeholder consultation. The project will explore the potential and limits of integration of methodologies. In each instance there will be a lead institute and at least one partner institute to provide support and review.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUT DU DEVELOPPEMENT DURABLE ET DES RELATIONS INTERNATIONALES - IDDRI	Paris	France
2	ECOLOGIC - INSTITUT FUER INTERNATIONALE UND EUROPAEISCHE UMWELPOLITIK GGMBH	Berlin	Germany
3	INSTITUT FUER OEKOLOGISCHE WIRTSCHAFTSFORSCHUNG GGMBH	Berlin	Germany
4	POLICY STUDIES INSTITUTE	London	United Kingdom
5	RECURSOS E INVESTIGACION PARA EL DESARROLLO SUSTENTABLE (RIDES)	Santiago	Chile



Title:	Sustainability Tools and Targets for the Urban Thematic Strategy		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

Instrument:	Specific Targeted Research Project		
Project Total Cost:	598.624 €	Project start date:	1/01/2005
EU Contribution:	495.861 €	Duration:	15 months
Organisation:	University of Northumbria at Newcastle	Newcastle Upon Tyne	United Kingdom

## Abstract

The Urban Thematic Strategy (UTS) is one of 7 Thematic Strategies of the 6th Environment Action Programme. This is a new way of developing environmental policy for complex priority problems that require a holistic approach. The key organising principle for the UTS is sustainable development underpinning. The preparatory work to ensure effective implementation of the UTS in 2005 needs to be undertaken in the next 15 months. In particular, appropriate mechanisms must be put in place to monitor and assess progress during the Strategy, and to provide clear, realistic and appropriate medium term targets for the Priority Themes. The STATUS Project follows the central objective of the relevant SSP, Task 1, in aiming principally to develop locally-relevant targets for local authorities (LAs) across the EU to self-assess progress with urban sustainable development. To do this, a user-friendly on-line tool will be designed onto which will be entered a range of targets and related indicators. These targets will be developed, through building on the synergies between the UTS themes, the Aalborg Commitments, Urban Audit, and European Common Indicators, and through intensive involvement of LAs at key stages of the Project. The tool will use the Lasala On-line approach as a starting point for its development. With this tool, LAs will be able to consult all the targets, and receive useful information on them. They can then select targets relating to the local context and enter relevant baseline data against these. It is anticipated that a more refined version of the Prototype Tool would need to be developed (subsequent to the STATUS project) to permit LAs to regularly input data showing progress on the selected targets, and then receive feedback on this. The Prototype tool will be supported by detailed guidance on how to use and monitor progress on local sustainability targets, and a manual for LAs on using the tool.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE	Newcastle Upon Tyne	United Kingdom
2	Abo Akademi University	Turku / Abo	Finland
3	ICLEI EUROPEAN SECRETARIAT GMBH	Freiburg	Germany
4	THE PROVOST, FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN, (HEREINAFTER TCD)	Dublin	Ireland
5	VTT TECHNICAL RESEARCH CENTRE OF FINLAND	Espoo	Finland
7	Ambiente Italia Srl Istituto di Ricerche	Milano	Italy
8	UNION OF THE BALTIC CITIES	Gdansk	Poland



Title:	Trends and Indicators for Monitoring the EU Thematic Strategy on Sustainable Development of Urban Environment		
Area:	3.	Underpinning the economic potential and cohesion of a larger and more integrated European Union	
	3.4.	Forecasting and developing innovative policies for sustainability in the medium and long term	

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.135.420 €	Project start date:	1/01/2004
EU Contribution:	579.710 €	Duration:	14 months
Organisation:	VTT Technical Research Centre of Finland	Espoo	Finland

## Abstract

Within the 6th Environment Action Programme, the Commission will develop a Thematic Strategy on the Urban Environment. The work will include the development of appropriate indicators and other monitoring tools to assess the effectiveness of the strategy. This task is taken as a premise for the project.

TISSUE will evaluate whether the information that can be received with help of existing indicators will be adequate to monitor the Strategy or whether further indicators should be developed. In order to successfully fulfil the task, the project will co-operate with other ongoing actions; in particular the work of the Expert Group on the Urban Environment and their Thematic Working Groups.

The overall goal of the project is deployed in specific objectives as follows:

- analyse demand and define appropriate trends (in consultation with the Commission) which should be measured to properly determine progress towards sustainable development of the urban environment at local level;
- carry out comparative research on existing sets of indicators to determine whether they: i) are able to provide the information needed to monitor developments at the different local levels on the trends identified in the first step; ii) can be used to assess trends at the EU level; iii) their implementation is viable;
- define the set-up needed for a harmonised set of indicators and for effectively utilising the information from existing indicators and make recommendations for further research; analyse the conditions how to increase the acceptance of harmonised sets of indicators through Europe and motivate the cities to use them.
- collect indicators and structure the indicators into a database.

The indicators to be considered are urban environment indicators in use or being developed at EU level, national level in the member states and at regional and/or local level in use across EU. TISSUE will make recommendations about the usability of different sets of indicators.

## Partners

Num.	Partner Legal Name	City	Country
1	VTT TECHNICAL RESEARCH CENTRE OF FINLAND	Espoo	Finland
2	ISTITUTO DI STUDI PER L'INTEGRAZIONE DEI SISTEMI'	Roma	Italy
3	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	Champs Sur Marne	France
4	ECONCEPT AG FORSCHUNG BERATUNG PROJEKTMANAGEMENT	Zurich	Switzerland
5	CESKY EKOLOGICKY USTAV	Prague 10	Czech Republic
6	DE NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK / THE NETHERLANDS ORGANISATION FOR APPLIED SCIENTIFIC RESEARCH	Delft	Netherlands
7	Ambiente Italia Srl Istituto di Ricerche	Milano	Italy
8	CONSEIL DES COMMUNES ET REGIONS D'EUROPE	Paris	France
9	UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE	Newcastle Upon Tyne	United Kingdom
10	UNION OF THE BALTIC CITIES	Gdansk	Poland
11	THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE	Szentendre	Hungary
12	ICLEI EUROPEAN SECRETARIAT GMBH (NON-PROFIT)	Freiburg	Germany
13	EUROCITIES ASBL	Bruxelles	Belgium





Title:	Scanning Policy Scenarios for the Transition to Sustainable Economic Structures		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.072.411 €	Project start date:	1/02/2006
EU Contribution:	791.099 €	Duration:	30 months
Organisation:	WIFO Österreichisches Institut für Wirtschaftsforschung	Wien	Austria

## Abstract

The focus of this research project will be to scan a wide range of policy scenarios as to their relevance for the European Sustainable Development Strategy in view of Extended Impact Assessment. Embedded in the TranSust network of researchers, with its expertise in modelling the transition to sustainable economic structures, the project will link and expand an extensive set of available models. Using a scenario approach in cooperation with stakeholders, these models will address the strategic policy options.

In a first step, existing models will be extended to reflect the multifunctionality aspect of sustainability policies and their trade-offs with other policies. In addition to the traditional economic, environmental and social issues, the expanded models will address the new policy agenda as put forward by the Lisbon Strategy of the European Union and the World Summit for Economic Development. The models will therefore be able to deal with competitiveness, economic development, security, the preparations for Beyond-Kyoto policies, and interaction between technological change and the use of natural resources.

In a second step, this enhanced set of models will be used for a comprehensive analysis of a wide range of policy scenarios. In designing the scenarios, a participatory approach will emphasise close cooperation with stakeholders, Commission services, and international organisations. By backcasting the path dependency and by simulating the range of assumptions, the scenario analysis will reveal the sensitivity of forecasts. The methodology and databases will be made available to institutions involved in policy decision-making.

TranSust.Scan aims to enhance European competence and expertise for dealing with the emerging extended facets of sustainability and their implications for policy design. Besides supporting strategic policy preparation for the European Union, the dissemination activities will address non-European institutions.

## Partners

Num.	Partner Legal Name	City	Country
1	WIFO OESTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG	Wien	Austria
2	ZENTRUM FÜR EUROPÄISCHE WIRTSCHAFTSFORSCHUNG GMBH	Mannheim	Germany
3	SOCIÉTÉ DE MATHÉMATIQUES APPLIQUÉES ET DE SCIENCES HUMAINES	Paris	France
4	ENERGIEONDERZOEK CENTRUM NEDERLAND	Petten	Netherlands
5	FONDAZIONE ENI - ENRICO MATTEI	Milano	Italy
6	VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS, WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	Amsterdam	Netherlands
7	INSTITUT FÜR WELTWIRTSCHAFT AN DER UNIVERSITÄT KIEL	Kiel	Germany
8	LODZ INSTITUTE OF FORECASTS AND ECONOMIC ANALYSES	Lodz	Poland
9	Consejo Superior de Investigaciones Científicas	Madrid	Spain
10	UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN	Dublin	Ireland
11	UNIVERSITÄT HAMBURG.	Hamburg	Germany
12	VYSOKÁ ŠKOLA EKONOMICKÁ PRAHA	Praha 3	Czech Republic



Title:	URBAN MATRIX - Targeted Knowledge Exchange on Urban Sustainability		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.4. Forecasting and developing innovative policies for sustainability in the medium and long term		
Instrument:	Concerted Action		
Project Total Cost:	543.435 €	Project start date:	1/02/2006
EU Contribution:	407.978 €	Duration:	48 months
Organisation:	Eurocities Asbl	Bruxelles	Belgium

## Abstract

URBAN MATRIX is based on the fact that networking knowledge is a key contributing factor to Sustainable Urban Development (SUD), and that cities have a growing need for practical know-how to facilitate decision-making. The project will connect knowledge providers and end-users to allow exchange of best practice, expertise and application of SUD solutions, with the objectives of meeting the needs of cities and helping dissemination and implementation of current and future EU legislation affecting cities and the use of EU project outputs.

To achieve this, the project will chart knowledge demands, stemming from current and future challenges in the area of SUD in Europe, and the existing information offer as given by the outputs of relevant research projects of previous and current EC R&D programmes, most importantly, but not exclusively, the KA-4 'City of Tomorrow' (FP5).

The demand from cities will be charted through the use of surveys and analyses of urban data and policy requirements, such as, for example, the Urban Audit II, whereas the information supply will be organised on the basis of a further development of the existing SUD-LAB website portal. Eventually, the cross comparison of demand and offer identification will result in the organisation of thematic workshops to ensure that the knowledge available reach city officers and decision-makers on the basis in a tailor-made format. The project will assess the potential of organising such small-scale tailor made workshops on a regular and systematic basis. This should allow for much more efficient and better-targeted outputs delivery and uptake across cities and towns all over the European Union.

The approach will be evaluated, to draw conclusions on what types of mechanisms will be needed to ensure a better take up of European R&D activities and related outputs and, at the same time, elaborate a more precise determination of future information and R&D needs within the urban context.

## Partners

Num.	Partner Legal Name	City	Country
1	EUROCITIES ASBL	Bruxelles	Belgium
2	UNIVERSITY OF THE WEST OF ENGLAND, BRISTOL	Bristol	United Kingdom
3	GHK CONSULTING LIMITED	London	United Kingdom
4	GEMEENTE AMSTERDAM	Amsterdam	Netherlands
5	HELSINGIN KAUPUNKI	Helsingin	Finland
6	Aalborg Municipality	Aalborg	Denmark
7	Ayuntamiento de Sevilla	Sevilla	Spain
8	MALMO STAD	Malmoe	Sweden
9	BELFAST CITY COUNCIL	Belfast	United Kingdom
10	FOMENTO DE SAN SEBASTIAN S.A.	San Sebastian	Spain
11	COMUNE DI PALERMO	Palermo	Italy
12	STOCKHOLMS STAD	Stockholm	Sweden
13	SHEFFIELD CITY COUNCIL	Sheffield	United Kingdom



### 3. Underpinning the economic potential and cohesion of a larger and more integrated European Union

#### 3.6. The protection of cultural heritage and associated conservation strategies

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Title:	Archaeological Management Policies		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Concerted Action		
Project Total Cost:	480.000 €	Project start date:	
EU Contribution:	480.000 €	Duration:	24 months
Organisation:	Regione Siciliana Assessorato Regionale Beni Culturali e Ambientali E P.I. Dipartimento Beni Culturali e Ambientali Soprintendenza del Mare	Palermo	Italy

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## Abstract

The overall objective of the project is to contribute to the development of scientific and technological policies and instruments for coastal zone protection, especially for archaeological coastal site.

Through its meetings, the International Committee will undertake an in depth and integrated analysis of the impact on the selected sites of climatic effects, physical impact of cultural tourism, environmental safeguard, geological and seismic risk, social and economical development aspects in local territories and the effects of human activities. This analysis will provide the member states and the UE with an integrated instrument and guidelines for the evaluation/development of cultural policies and directives.

An international Forum, project media showcase, will spread and extend the discussed subjects allowing thus the wider public to discover values diffused by pilot studies toward a new sustainable development. The outcome of this work will be published in a report to make international public aware of the value and symbolic role of common Mediterranean heritage. This report will become the subject of a distance learning module promoted on the European Mediterranean area. ARCHEOMAP project intends to test innovative instruments and methods for an exemplary sustainable development of the Mediterranean area through an analysis of archaeological, coastal and underwater sites management.

## Partners

Num.	Partner Legal Name	City	Country
1	Regione Siciliana Assessorato Regionale Beni Culturali e Ambientali E P.I. Dipartimento Beni Culturali e Ambientali Soprintendenza del Mare	Palermo	Italy
2	The Gibraltar Museum	Gibraltar	Gibraltar
3	Comitato Pro Arsenale Borbonico	Palermo	Italy
4	Consorzio Universitario per l'Ateneo della Sicilia Occidentale e il Bacino del Mediterraneo	Trapani	Italy
5	International Institute for the Study of Man - Istituto Internazionale per Gli Studi dell' Uomo Ppr I Area Mediterranea	Palermo	Italy
6	Association pour la Sauvegarde du Patrimoine Maritime de Villefranche-sur-Mer	Villefranche-sur-mer	France
7	Ministere Tunisien de la Culture	Tunis	Tunisia
8	National Council for Scientific Research Lebanon	Beirut	Lebanon
9	United Nations Educational, Scientific and Cultural Organization	Paris	France
10	UNIVERSITÀ UNINETTUNO - UNIVERSITÀ TELEMATICA INTERNAZIONALE	Roma	Italy
11	Ministere de la Culture Alger	Alger	Algeria
12	Archeological Museum of Thessaloniki	Thessaloniki	Greece
13	Greco Roman Museum	Alexandria	Egypt
14	Consorci de les Drassanes Reials i Museu Maritim de Barcelona	Barcelona	Spain
15	Fondazione Athena Sviluppo	Torino	Italy
16	AAA.AIO' - Associazione Archeo-Antropologica, Approfondimenti Interdisciplinari Operativi	Cagliari	Italy
17	Centre National de la Recherche Scientifique (CNRS)	Villefranche-sur-mer	France
18	Groupe de Recherche en Archeologie Navale	Toulon Naval	France
19	Fondazzjoni Wirt Artna - Malta Heritage Trust	Birgu	Malta



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Title:	ARCHAIA. Training Seminars on Research Planning, Conservation, Characterisation and Management in Archaeological Sites		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		

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Instrument:	Specific Support Action		
Project Total Cost:	117.000 €	Project start date:	1/02/2007
EU Contribution:	117.000 €	Duration:	18 months
Organisation:	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy

## Abstract

The ARCHAIA project aims at implementing two training seminars on cultural heritage based on an innovative integrated perspective deriving both from the human and the natural sciences. The seminars address 90 post-graduate students, scholars and professionals of different backgrounds. Starting from the need of disseminating the results of 9 funded EU research projects and COST actions, we aim at presenting these within an innovative framework, i.e. a global approach towards planning and management of archaeological parks starting from the very first steps of field research and going through the characterisation of the materials retrieved and topographical studies in order to mould every bit of historical information within a coherent project, properly displayed for the public. Through an innovative didactic methodology, innovative scientific contents will be disseminated. Dealing with the initial program of archaeological research in the field, integrated with techniques of archeobiological and geoarchaeological investigation, our final goal is to supply the participants with the guidelines for moulding research strategies and managing archaeological sites, in order to be able to publicly display the historical content derived from research results and effectively proceed to the protection of the cultural heritage. One training seminar will be in Copenhagen and another one in Bologna.

Five key topics have been selected:

Topic 1 concerns Topography, surveying and landscape archaeology,

Topic 2 Archaeological research and restoration of monuments,

Topic 3 Material culture characterization,

Topic 4 Anthropology and environment and

Topic 5 Data processing and public presentation.

The dissemination of the lectures presented through a monograph and multimedia products will also supply guidelines for integrated protocols on the management of archaeological sites, set in their landscape, within a global perspective.

## Partners

Num.	Partner Legal Name	City	Country
1	Alma Mater Studiorum-Universita di Bologna	Bologna	Italy
2	KOBENHAVNS UNIVERSITET	Kobenhavn	Denmark
3	SVEUCILISTE U ZADRU	Zadar	Croatia



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Title:	Authentication methodologies for metal artefacts based on material composition and manufacturing techniques		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.113.600 €	Project start date:	
EU Contribution:	799.493 €	Duration:	30 months
Organisation:	European Jewellery Technology Network GEIE	Bruxelles	Belgium

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## Abstract

The forgery of original works of art and fraudulent dealing of counterfeits has been a problem ever since ancient times, a global challenge, at level with trafficking of weapons, drugs, human beings. International legal agreements, (UNESCO convention, EU directives) are hardly implemented. The dimension has expanded, resulting in a large number of authentication demands from CH stakeholders. Authentication today is mostly based on human science interpretation, with no systematic integration of data, incomplete solutions that cannot match results achievable by material characterization & technological studies. The need for objective, reliable, validated authentication protocols and tools is answered by the proposed research: the important community of museums, conservation services, law enforcement agencies will profit from an integrated multidisciplinary scientific approach, foreseeing the use of most advanced material investigation techniques, related to metal artefacts (precious and non-precious) through a systematic integration of adequate competencies, not yet projected into the ERA's excellence. Strategic objective of the research is the innovative integration of non invasive techniques for objective authentication of metal artefacts (utilitarian and ornamental), based on material composition & description of manufacturing techniques to be achieved by exploiting the most advanced analytical techniques and by developing & validating portable instrumentation based on selective composition markers detection and characterization of technological fingerprints. The multidisciplinary approach involves research centers, academia, Museums, Conservation services, superintendencies, SMEs, EEIG, Law Enforcement Agencies, Civil Protection Bodies. Integrated Authentication Methodologies (IAM) will be experimented in pilot studies on real authentication problems, involving conservation and authentication authorities in cooperation with law enforcement agencies.

## Partners

Num.	Partner Legal Name	City	Country
1	European Jewellery Technology Network GEIE	Bruxelles	Belgium
2	Academy of Science of the Republic of Tajikistan, Nuclear & Radiation Safety Agency	Dushambe	Tajikistan
3	Centre de Recherche et de Restauration des Musées de France	Paris	France
4	Consiglio Nazionale delle Ricerche	Rome	Italy
5	CSP sas	Massa Lombarda (ra)	Italy
6	National Center for Documentation of Natural and Cultural Heritage	Giza	Egypt
7	Digital Gallery of Art	Prague 4	Czech Republic
8	Nicolai Copernicus University	Torun	Poland
9	Ministero per i Beni e le Attività Culturali	Rome	Italy
10	University College London	London	United Kingdom



Title:	Cultural Heritage Protection against Flood		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	994.860 €	Project start date:	
EU Contribution:	769.825 €	Duration:	36 months
Organisation:	Bundesanstalt für Materialforschung und -prüfung, Federal Institute for Materials Research and Testing	Berlin	Germany

## Abstract

Flooding is a global phenomenon as recently highlighted by the major catastrophic events in Central and Northern Europe. These catastrophes left hundreds of peoples dead and caused enormous damage leading to high economic losses for the whole community. Europe has to face further flood catastrophes due to the change of climate and due to further building activities in flood-prone regions. As one prerequisite to minimize costs for rehabilitation, there is an urgent need for protecting the common European moveable and immovable Cultural Heritage against flood and other environmental hazards and the threatening conditions resulting from this. These services should include monitoring and supervising of drying and repairs as well as a comprehensive damage assessment.

CHEF proposes the integration of multidisciplinary research as scientific support to European policies. In this frame the necessary scientific and technological basis and cost efficient and effective tools for the development of new and innovative strategies will be provided. For avoiding or mitigating flood-related damage of cultural heritage, a multitude of aspects has to be considered, like historic significance and context of the object, building structure and its location in risk areas. But also technical problems like lack of documentation, unspecified structural condition and assembly, unknown material characteristics and parameters of exposure require intense investigations.

### Objectives:

- Classification of moveable and immovable cultural heritage to their vulnerability to flood,
- Analysis of damage processes in different materials, structures and sites,
- Verification of methods and sensors for non-destructive testing and monitoring of material and structural parameters,
- Definition of threshold levels for exposure and damage,
- Analysis of preventive and temporary (emergency) measures,
- Assessment of restoration and repair techniques,
- Assessment of case studies,
- Definition of strategies.

## Partners

Num.	Partner Legal Name	City	Country
1	Bundesanstalt für Materialforschung und -prüfung Federal Institute for Materials Research and Testing	Berlin	Germany
2	Ústav teoretické a aplikované mechaniky Akademie ved České republiky	Praha	Czech Republic
3	Institut für Diagnostik und Konservierung an Denkmälern in Sachsen und Sachsen-Anhalt e.V.	Dresden	Germany
4	CRUIE Centro di Ricerca in Urbanistica e Ingegneria Ecologica	Genova	Italy
5	Slovenian National Building and Civil Engineering Institute	Ljubljana	Slovenia
6	University of Innsbruck, Institute for Infrastructure, Unit of Geotechnical Engineering and Tunnelling	Innsbruck	Austria
7	Technische Universität Dresden	Dresden	Germany
8	Training Centre on Sustainable Development	Bucharest	Romania
9	Politecnico di Milano	Milano	Italy
10	Industrial Microbiological Services Ltd	Reading	United Kingdom



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Title:	Priorities and strategies to support Cultural Heritage Research Activities within ECTP and future FP7 activities		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Support Action		
Project Total Cost:	307.120 €	Project start date:	1/10/2006
EU Contribution:	150.000 €	Duration:	18 months
Organisation:	Fundacion Labein	Derio	Spain

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## Abstract

The Focus Area Cultural Heritage (FACH) is one of the 7 Focus Areas (FAs) of the European Construction Technology Platform (ECTP). So far, a first version of the FACH Strategic Research Agenda (SRA) has been launched in Dec 2005 and integrated into the ECTP and its SRA through the ECTP Support Group (SG). An Action Plan for its sound integration into the ECTP and FP7 is starting now. The overall objective of CHRAF is to support the FACH activities regarding Cultural Heritage (CH) research, its dissemination, coordination and integration into the ECTP and FP7.

Partial objectives:

- To help identify priorities and develop strategies regarding CH Research as input to the ECTP and its SRA as well as to future FP7,
- To support the organisation and co-ordination of the FACH of the ECTP and its Working Groups (WGs) in relation to the other ECTP FAs and its WGs,
- To promote the exchange of information and dissemination of results of FP5-FP6 projects in CH research.

Main measurable results:

- 3 updated & upgraded versions of FACH SRA implemented within the ECTP,
- Synthesis of clear research priorities recommendations for FACH's SRA implementation in FP7 work programme for 2007, 2008 and 2009,
- A secretariat for the FACH, set up and recommendations for future structure of the FACH within the ECTP and relations with other Fora and European Platforms CH related,
- Mapping FP5-FP6 projects in CH and information exchange activities,
- Assessment of results regarding FP5-FP6 projects in CH & recommendations for further exploitation,
- Dissemination and exploitation plans & deployment.

The consortium is formed by 4 partners from 3 member states: VINCI and UL FGG, as FACH co-ordinators and members of the ECTP's SG, CSTB as ECTP secretariat and Labein, as a relevant FACH and ECTP member. FACH's relevant members will participate in the project as subcontractors. In total it will represent 10 research institutes, 7 universities and 6 industries or SMEs.

## Partners

Num.	Partner Legal Name	City	Country
1	FUNDACION LABEIN	Derio	Spain
2	VINCI SA	Rueil Malmaison	France
3	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
4	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	Champs Sur Marne	France





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Title:	Combat Online Illicit Numismatic Sales - Preventing Illicit Coin Trade through Unsupervised Retrieval E-services (ex-PICTURE)
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union 3.6. The protection of cultural heritage and associated conservation strategies

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Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.106.000 €	Project start date:	
EU Contribution:	820.000 €	Duration:	24 months
Organisation:	PIN srl Servizi Didattici e Scientifici per l'Università di Firenze	Prato	Italy

## Abstract

The PICTURE project aims at providing a substantial contribution to the fight against illegal trade and theft of coins which appears to be a major part of the illegal antiques market. For this goal, state-of-art Information Technology will be used. The project will develop standardized inventories by defining a domain ontology based on CIDOC-CRM, the standard ontology for Cultural Heritage, and a multilingual thesaurus. Data management tools will be created as well, and a specialized web search tool. The recognition of coins will be based on new algorithms of pattern recognition and image processing, in a field (classification and identification of ancient coins) as yet unexplored. The project will disseminate its results also by means of a demonstrator freely accessible on the Internet. Substantial contribution to the project will come from stakeholders, some of which are present in the partnership, which includes the Italian law enforcement organisation Carabinieri and three major national museums with important coin collections.

## Partners

Num.	Partner Legal Name	City	Country
1	PIN srl Servizi Didattici e Scientifici per l'Università di Firenze	Prato	Italy
2	Technische Universität Wien	Vienna	Austria
3	ARC Seibersdorf Research GmbH	Seibersdorf	Austria
4	Soprintendenza Archeologica di Roma	Roma	Italy
5	Arma dei Carabinieri - Comando Tutela Patrimonio Culturale	Roma	Italy
6	VARTEC NV	Gent	Belgium
7	Muzeul National de Istorie a României	Bucharest	Romania
8	The Fitzwilliam Museum	Cambridge	United Kingdom



Title:	Comparison of Conservation Materials and Strategies for Sustainable Exploitation of Immovable Industrial Cultural Heritage made of Iron and Steel		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.334.900 €	Project start date:	1/06/2005
EU Contribution:	870.050 €	Duration:	36 months
Organisation:	Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V.	München	Germany

## Abstract

Closed down, but outstanding examples of industrial monuments have to be considered as important witnesses of our culture. New preservation strategies are requested for large outdoor monuments, being heavily corroded and mechanically endangered. The project will concentrate on the comparative testing of established traditional, modern, and within the project developed new surface conservation materials and preservation strategies for industrial heritage made of iron and steel. The laboratory tests will require the application of suitable transparent compounds like traditional oils and waxes, comparing them with micro-crystalline waxes, modern resins like acrylics or epoxy-functionalised lacquers, and newly developed coatings such as the combination of isocyanato-based polyacrylate dispersions (as silanes) and hybrid polymeric sols, leading to advanced hybrid systems by nano-scaled sol-gel preparation techniques. Room-temperature curing will be obligatory for its applications. The influence of different degrees of surface cleaning on the protective effect of the coatings will be specified. The conservation material development will respect standards set by conservation ethics, focussing on the reversibility and re-treatability of transparent coatings. The newly developed systems will be water-based and thus provide an alternative to solvent-based lacquers and natural resins available so far. Pilot applications of the most promising coatings on three selected objects in Ireland, Poland, and Germany will be performed to compare the advantages of the new materials with the commercially available systems. Management concepts for industrial heritage sites will be established to demonstrate the potential for economic growth through the application of new methodologies. The project team consists of five contractors and two subcontractors, including research institutes, universities, public authorities and a strong participation of SMEs.

## Partners

Num.	Partner Legal Name	City	Country
1	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
2	POLITECHNIKA WROCLAWSKA.	Wroclaw	Poland
3	HABER AND BRANDNER GMBH, METALLRESTAURIERUNG	Regensburg	Germany
4	NAYLOR CONSERVATION	Telford	United Kingdom
5	DMT - GESELLSCHAFT FUER LEHRE UND BILDUNG MBH	Bochum	Germany



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Title:	Conservation materials for stained glass windows - assessment of treatments, studies on reversibility, and performance of innovative restoration strategies and products
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union 3.6. The protection of cultural heritage and associated conservation strategies

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Instrument:	Specific Targeted Research Project		
Project Total Cost:		Project start date:	
EU Contribution:		Duration:	36 months
Organisation:	Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V.	Wertheim	Germany

## Abstract

Since about 1950 various materials have been propagated for the conservation of stained glass, including epoxy resins, acrylates and polyurethanes. For all conservation materials on stained glass there is a substantial lack of assessment of treatments after decades of natural weathering. Since most of the applied materials cause problems nowadays, the introduction of innovative and promising new preservation strategies and materials are necessary.

The aim of this project is to secure the conservation of stained glass windows as an important part of our European cultural heritage. Therefore, the proposal has been conceived with the following objectives:

- to evaluate a representative variation of conservation materials on selected original objects after natural weathering;
- to optimise and apply advanced non-destructive analytical methods and molecular biological tools for understanding long-term effects of conservation treatments and biodeterioration;
- to investigate the degree of reversibility of ancient materials;
- to propose remediation strategies based on treatments and re-treatability tests with modern materials and
- to improve preservation strategies by introducing innovative conservation materials based on nano-porous glass phases, derived from colloidal silica sols and stabilised by glass fibre components (glass-in-glass consolidants).

The pilot objects have been chosen in five different European countries, providing different restoration history and including both, medieval windows as well as objects from the 19th/20th century. Apart from classical analytical methods (optical microscopy, IR, SEM) advanced non-destructive methods (confocal micro-Raman spectroscopy, microfocus and phase contrast X-ray tomography, mCT) and biochemical methods will be applied. The project team consist of eleven partners from seven countries, including research institutes, universities, public authorities and SMEs.

## Partners

Num.	Partner Legal Name	City	Country
1	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.	Muenchen	Germany
2	Dombauverwaltung der Hohen Domkirche Köln	Koeln	Germany
3	Cercle des partenaires du Patrimoine	Champus-sur Marne	France
4	Academy of Fine Arts	Krakow	Poland
5	The Cathedral Studios	Canterbury	United Kingdom
6	Swiss Centre for Research and Information on Stained Glass	Romont	Switzerland
7	Hogeschool Antwerpen (Association University of Antwerp)	Antwerpen	Belgium
8	Fyne Conservation Services	St.	United Kingdom
9	Universiteit Gent	Gent	Belgium
10	Sincrotrone Trieste S.C.p.A.	Trieste	Italy
11	LBW-Bioconsult	Wiefelstede	Germany



Title:	Assessment of Air Pollution Effects on Cultural Heritage - Management Strategies		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.686.950 €	Project start date:	1/08/2004
EU Contribution:	1.032.500 €	Duration:	36 months
Organisation:	Korrosions- och Metallforskningsinstitutet Ab (KIMAB)	Stockholm	Sweden

## Abstract

CULT-STRAT will establish a scientific reference for developing strategies for policy and decision-makers on European and national levels within the CAFE Programme and for heritage managers for strategic decisions at a local level. It will do this through a choice of material indicators and pollution threshold levels based on best available scientific data including deterioration models, spatial distribution and mapping of pollutants and of stock of materials at risk, cost estimates, comparison studies of different conservation approaches. Damage caused to objects of cultural heritage belongs to the most serious among the detrimental effects of anthropogenic air pollutants as it endangers a vital part of the European identity. There is therefore an urgent need to include the impact of pollutants on cultural heritage alongside the human health and parts of the ecosystem that are already concerned in the EU Directives on urban air quality. This is especially relevant for the CAFE (Clean Air for Europe) programme of the Commission and the Community interventions through the "Culture 2000" framework programme and the structural funds. The overall aim is to identify material indicators and threshold levels of pollutants to be used for development of strategies for sustainable maintenance and preventive conservation of European cultural heritage and air quality policy to reduce damage. The models will permit ranking of the effects of pollutants on corrosion and soiling of materials. The air pollution models will be related to local fluxes, including indoor concentrations. The stock of cultural heritage materials at risk in selected areas (Paris, Rome, Florence, Prague, Madrid, and Berlin) will be used for assessment and mapping of areas where cultural heritage objects are endangered. The life cycles and costs for cultural heritage materials at different pollution scenarios will serve as economic components in the process of selection.

## Partners

Num.	Partner Legal Name	City	Country
1	KORROSIONS- OCH METALLFORSKNINGSINSTITUTET AB (KIMAB)	Stockholm	Sweden
2	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
3	ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE	Roma	Italy
4	MIDDLESEX UNIVERSITY HIGHER EDUCATION CORPORATION	London	United Kingdom
5	UMWELTBUNDESAMT	Dessau	Germany
6	UNIVERSITE PARIS XII - VAL DE MARNE	Creteil	France
7	USTAV TEORETICKE A APLIKOVANE MECHANIKY, AKADEMIE VED CESKE REPUBLIKY	Praha 9	Czech Republic
8	BUILDING RESEARCH ESTABLISHMENT LIMITED	Watford	United Kingdom
9	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
10	KORROSIONSINSTITUTET SWEDISH CORROSION INSTITUTE AB	Stockholm	Sweden



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Title:	Assessment of Desalination Mortars and Poultrices for Historic Masonry		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.130.000 €	Project start date:	12/03/2006
EU Contribution:	850.000 €	Duration:	36 months
Organisation:	Universita IUAV	Venezia	Italy

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## Abstract

European cultural heritage is often damaged by salt related damaging processes. There appears to be an increasing risk of salt damage to our monuments, due to climate changes and possibly resulting floods. According to recent research, in some situations, desalination may be the only possible conservation technique. For buildings, desalination still constitutes a major problem as the bath-method can not be used. The use of desalination mortar/poultrices seems to be the most promising conservation technique for immovable objects. However, the performance and especially the effectiveness of different desalination systems is not clear, which hinders the choice of an appropriate mortar/poultrice.

The research project DESALINATION will result in a clear guideline how to choose an adequate desalination system. This is of great importance to the European decision makers and will be incorporated in a knowledge based decision tool. A second major result will be better knowledge of moisture and salt transport from the historic material to the desalination product. This knowledge will give rise to a recommendation for a test to assess the effectiveness of desalination products. The better understanding of the transport process may be used in product development and increases the competitiveness of European SMEs, and may have a much broader spin-off in all kind of salt related problems.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITA IUAV	Venezia	Italy
2	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
3	CERCLE DES PARTENAIRES DU PATRIMOINE	Barsinghausen	France
4	TECHNISCHE UNIVERSITEIT EINDHOVEN	Eindhoven	Netherlands
5	FACHHOCHSCHULE KOELN	Cologne	Germany
6	REMMERS BOUWCHEMIE B.V.	Hoogeveen	Netherlands
7	Rijksgebouwendienst		Netherlands
8	ENTREPRISE QUELIN	Rueil Malmaison	France
9	ERIC PALLOT	Noisy Le Grand	France
10	J. PAUL GETTY TRUST	Los Angeles	United States



Title:	Fingerprinting Art and Cultural Heritage - In Situ 3D Non-Contact Microscale Documentation and Identification of Paintings and Polychrome Objects		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	830.600 €	Project start date:	1/11/2005
EU Contribution:	520.500 €	Duration:	30 months
Organisation:	Instituut Collectie Nederland	Amsterdam	Netherlands

## Abstract

A project is proposed for the development of a system for the non-contact high-resolution fingerprinting of paintings and polychrome objects of art and cultural heritage. The compact system will consist of the in situ measurement of the roughness of selected areas of a painted surface at (sub)micron scale, spectral pigment and dye identification, and accurate colour digital documentation of the entire object. This will provide a long sought after non-destructive method for "marking" and identifying valuable painted objects of art and cultural heritage by using the 3D micro-characteristics of the otherwise 2D surface of the object. Specifically, the (sub)micron roughness and spectral information at a certain (proprietary) location in an object's surface is a true "marking", unique to the painted object, and, in fact, the artist's "signature/fingerprint". Combined with an accurate colour digital image of the object, this information can be used to develop a comprehensive digital archiving system for museum collections, and vastly improve the traceability of objects on loan and in transport.

The objectives of this project clearly fit into Task 2 of the Policy oriented research Priority 8.1.B.3.6 - "The protection of cultural heritage and associated conservation strategies". However, FING-ART-PRINT will also be an excellent tool for the non-destructive analysis and detection of forgeries of objects, the objective of Task 1. For objects which are already known to be authentic, FING-ART-PRINT will provide an identification method which will be virtually impossible to forge, given the resolution attainable by the system, and the fact that the location, size and orientation of the fingerprint will only be known to the owner of the object. Finally, FING-ART-PRINT will provide an excellent non-destructive tool for studying the effect of conservation treatments and/or aging on the surface condition of painted surfaces, and their reversibility, as required by Task 4.

## Partners

Num.	Partner Legal Name	City	Country
1	INSTITUUT COLLECTIE NEDERLAND	Amsterdam	Netherlands
2	NANOFOCUS AG	Oberhausen	Germany
3	ELDIM SA	Herouville Saint Clair	France
4	UNIVERSITE PIERRE ET MARIE CURIE - PARIS VI	Paris	France
5	UNIVERSITY OF SOUTHAMPTON	Southampton	United Kingdom
6	SACRED CONVENT OF THE ANNUNCIATION IMSP	Ormylia	Greece



Title:	Development of a New Antigrffiti System, based on Traditional Concepts, Preventing Damage of Architectural Heritage Materials		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		

Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.664.240 €	Project start date:	1/07/2005
EU Contribution:	1.079.862 €	Duration:	36 months
Organisation:	Fundacion Labein	Derio	Spain

## Abstract

Graffiti is a major, increasing danger to architectural heritage materials, generating also a negative social connotation. Apart from aesthetics aspects, interactions of graffiti with substrate, as well as cleaning procedures, threaten historical substance. Monuments made of stone, bricks and mortars are menaced by this problem because very often, porous natural materials were employed.

Two major kind of coatings are currently being used for protecting surfaces against graffiti: permanent and sacrificial. First kind is suited for materials with low porosity, as metals and concrete, but does not fit the requirements for porous ancient materials. Second one is sometimes used in monuments, but it is not an appropriated solution, since removal procedures can damage substrates somewhat.

Hence, effective solutions for anti-graffiti systems is an urgent social and technical necessity. The main objective of this project is to develop novel conservation coatings suited for protecting materials of historical monuments, based on a similar structure of ancient protein coatings, avoiding the disadvantages of currently used antigrffiti coatings. This develop is based in a totally new formulation made by complexation of polyampholytes with polymeric amines modified by fluorocarbon residues.

These will be a new generation of antigrffiti coatings, specifically suited for the protection of monuments, which after further development, could be commercialised and applied by SME's involved in this market, thus increasing the competitiveness of these companies. Main characteristics of these products are:

- Low surface energy
- Permanent under out-door conditions
- Reversible to specially designed mild cleaning systems
- Permeable to water-vapour
- Impermeable to liquid water
- Transparent

The objective will be achieved by means of research activities, such as: definition of requirements and test procedures, design of new anti-graffiti system, characterisation of substrates, comparative assessment of currently used and the new protection and conservation strategies and evaluation of the technical and socio-economic impact of the new anti-graffiti on cultural heritage materials.

## Partners

Num.	Partner Legal Name	City	Country
1	FUNDACION LABEIN	Derio	Spain
2	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Muenchen	Germany
3	ZAKLAD KARBOCHEMII POLSKA AKADEMIA NAUK	Gliwice	Poland
4	BUNDESANSTALT FUR MATERIALFORSCHUNG UND -PRUGUNG	Berlin	Germany
5	CENTRE SCIENTIFIQUE ET TECHNIQUE DE LA CONSTRUCTION ASBL	Bruxelles	Belgium
6	CENTRO INTERDIPARTIMENTALE DI SCIENZA E TECNICA PER LA CONSERVAZIONE DEL PATRIMONIO STORICO-ARCHITETTONICO, UNIVERSITA DI ROMA LA SAPIENZA	Roma	Italy
7	ZAVOD ZA GRADBENISTVO SLOVENIJE	Ljubljana	Slovenia
8	NORTECH GMBH ANTI-GRAFFITI-SYSTEME	Springe	Germany
9	RESTAURACIONES SIGLO XXI S.L.	Bilbao	Spain







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Title:	Multifunctional Encoding System for Assessment of Movable Cultural Heritage		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.674.300 €	Project start date:	1/09/2005
EU Contribution:	1.140.000 €	Duration:	36 months
Organisation:	Foundation for Research and Technology Hellas	Heraklion	Greece

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## Abstract

Nowadays safety, ethical, economical, security issues and the increase demand of loaning for exhibitions in transit, are forcing the Conservation Community to undertake strong initiatives against various types of mistreatment, damage or fraud, during transportation of movable artworks. Therefore the project targets to the development of innovative methodologies and instrumentation to respond to these aspects of increased preservation importance, among which to secure proper treatment, to assess probable damage and to fight fraud actions in transportation. It aims to develop a novel Impact Assessment Procedure by exploiting and providing the holographic technology advances and innovative tools for a highly secure encoding-decoding system of objects features required for sustainable preservation of movable artworks. It may apply in many functional and strategic decision-making aspects in museums operation, from routine seasonal examination of conservation state, to periodic assessment of conservation treatments and materials compatibility, to deterioration control and definition of early-induced damage, to continuous monitoring of transportation impact, to direct confirmation of originality and control of maintenance for any art object in transit. The effective proposed method relies on the original coded extraction of distinct features from the artwork under conservation, transportation and loan that characterizes the state of conservation and its originality. The coding and decoding of characteristic features is performed holographically before and after have been optically and numerically transformed for digital archiving. The archived coded data forming the signatures of the object can be compared at any later time to provide indication of alterations. The project advances the state of the art elaborating in synergy with existing methods and practices and concludes with novel instrumentation and standards for universal application and worldwide exploitation.

## Partners

Num.	Partner Legal Name	City	Country
1	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Heraklion	Greece
2	UNIVERSITAET STUTTGART	Stuttgart	Germany
3	UNIVERSITE DE LIEGE	Liege	Belgium
4	OPTRION SA	Angleur	Belgium
5	NATIONAL ART GALLERY & ALEXANDROS SOUTZOS MUSEUM	Athens	Greece
6	THE BOARD OF TRUSTEES OF THE TATE GALLERY	London	United Kingdom



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Title:	Global Climate Change Impact on Built Heritage and Cultural Landscapes		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.762.380 €	Project start date:	1/06/2004
EU Contribution:	1.175.520 €	Duration:	36 months
Organisation:	Consiglio Nazionale delle Ricerche	Roma	Italy

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## Abstract

Climate change over the next 100 years will likely have a range of direct and indirect effects on the natural and material environment, including the historic built environment. Important changes will include alterations in temperature, precipitation, extreme climatic events, soil conditions, groundwater and sea level. Some processes of building decay will be accelerated or worsened by climate change, while others will be delayed. The impacts on individual processes can be described, but it is difficult to assess the overall risk posed by climate change using currently available data. Linking global changes to the response of material surfaces of archaeological and historic structures remains a challenge. The objectives of the NOAH'S ARK Project are:

- To determine the meteorological parameters and changes most critical to the built cultural heritage.
- To research, predict and describe the effects of climate change on Europe's built cultural heritage over the next 100 years.
- To develop mitigation and adaptation strategies for historic buildings, sites, monuments and materials that are likely to be worst affected by climate change effects and associated disasters.
- To disseminate information on climate change effects and the optimum adaptation strategies for adoption by Europe's cultural heritage managers through a conference and guidelines.
- To provide electronic information sources and tools, including web-based Climate Risk Maps and a Vulnerability Atlas for heritage managers to assess the threats of climate change in order to visualize the built heritage and cultural landscape under future climate scenarios and model the effects of different adaptation strategies.
- To advise policy-makers and legislators through the project's Policy Advisory Panel.

The results will allow the prediction of the impact of climate and pollution on cultural heritage and investigation of future climate scenarios on a European scale.

## Partners

Num.	Partner Legal Name	City	Country
1	Consiglio Nazionale delle Ricerche	Roma	Italy
2	UNIVERSITY COLLEGE LONDON	London	United Kingdom
3	UNIVERSITY OF EAST ANGLIA	Norwich	United Kingdom
4	KORROSIONSINSTITUTET SCI AB	Stockholm	Sweden
5	INSTYTUT KATALIZY I FIZYKOCHEMII POWIERZCHNI, POLSKA AKADEMIA NAUK	Krakow	Poland
6	USTAV TEORETICKE A APLIKOVANE MECHANIKY, AKADEMIE VED CESKE REPUBLIKY	Praha 9	Czech Republic
7	Consejo Superior de Investigaciones Cientificas	Madrid	Spain
8	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
9	ECCLESIASTICAL INSURANCE GROUP	Gloucester	United Kingdom
10	BIOLOGIA Y MEDIO AMBIENTE, S.L	Barcelona	Spain



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Title:	Evaluation of mass deacidification processes		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.416.772 €	Project start date:	1/08/2005
EU Contribution:	1.140.099 €	Duration:	36 months
Organisation:	Narodna in Univerzitetna Knjiznica	Ljubljana	Slovenia

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## Abstract

Alum-rosin sizing for paper, which came into commercial use in 1835 caused a shift of pH of paper from pseudo-neutral to acidic regions, which dramatically decreased permanence of paper. As a result, decay of library and archival holdings are reaching catastrophic proportions, with about 25% of the books in the general library collections brittle while additional 60% are endangered. In order to prevent the decay of paper induced by acids, a variety of mass deacidification techniques are available on the market. While a number of comparative evaluations of the treatments were performed in the past, the processes are continuously changing, while additional three were developed in recently.

The proposed project aims to:

- develop standard model materials and evaluation criteria, in order to enable superior evaluation of existing processes and ease in assessment of emerging ones
- comparatively evaluate immediate and long term effects of treatments
- develop quality control criteria and evaluation techniques
- address environmental and health aspects

The objective of extensive dissemination is to incorporate the most suitable mass treatment into the preservation policy of European libraries and archives.

## Partners

Num.	Partner Legal Name	City	Country
1	NARODNA IN UNIVERZITETNA KNJIZNICA	Ljubljana	Slovenia
2	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
3	UNIwersytet Jagiellonski	Krakow	Poland
4	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	Delft	Netherlands
5	NATIONAAL ARCHIEF	Den Haag	Netherlands
6	THE BRITISH LIBRARY	London	United Kingdom
7	RIKSARKIVET	Stockholm	Sweden
8	EUROPEAN COMMISSION ON PRESERVATION AND ACCESS	Amsterdam	Netherlands
9	RUSSIAN STATE LIBRARY	Moscow	Russian Federation
10	SLOVENSKY NARODNY ARCHIV	Bratislava	Slovakia
11	BIBLIOTHEQUE NATIONALE DE FRANCE	Paris	France
12	KONINKLIJKE BIBLIOTHEEK	Den Haag	Netherlands



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Title:	Pro-active management of the Impact of Cultural Tourism upon Urban Resources and Economies		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.747.385 €	Project start date:	1/02/2004
EU Contribution:	1.499.220 €	Duration:	36 months
Organisation:	University of Liege	Athens	Belgium

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## Abstract

PICTURE aims to develop a strategic urban governance framework for the sustainable management of cultural tourism within small and medium-sized European cities. This framework will help to establish, evaluate and benchmark integrated tourism policies at the local level with a view to maximising the benefits of tourism upon the conservation and enhancement of built heritage diversity and urban quality of life. To accomplish the above goal, the following scientific objectives will be pursued:

1. Evaluate the dynamics of the effects of tourism, at large, upon the social, environmental and economic wealth of European small and medium-sized cities, considering the built heritage diversity and urban quality of life characterising such environments;
2. Identify and benchmark innovative urban governance strategies for sustainable development of cultural tourism within small and medium-sized cities;
3. Provide local governments and decision makers with tools to facilitate the assessment of the impact of tourism in a locality, with particular regard to built heritage issues and relevant quality of life parameters, in order to improve their strategies, plans, and policies;
4. Capitalise and disseminate existing knowledge and good practices of sustainable cultural tourism in Europe, focussing upon the effects of the sector upon the conservation and enhancement of built heritage diversity and urban quality of life.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITY OF LIEGE	Athens	Belgium
2	FORSCHUNGSZENTRUM KARLSRUHE GMBH	Karlsruhe	Germany
3	Ustav Teoreticke A Aplikovane Mechaniky av CR		Czech Republic
4	QUEEN'S UNIVERSITY BELFAST	Belfast	United Kingdom
5	Universidad Autonoma de Madrid		Spain
6	FONDAZIONE ENI ENRICO MATTEI	Milano	Italy
7	EUROPEAN INSTITUTE OF CULTURAL ROUTES	Luxembourg	Luxembourg
8	City of Bergen		Norway
9	CITTA DI SIRACUSA	Syracuse	Italy
10	CONSEIL D'ARCHITECTURE D'URBANISME ET D'ENVIRONNEMENT DE L'OISE	Chantilly	France
11	HISTORIC BUILDINGS AND MONUMENTS COMMISSION FOR ENGLAND	London	United Kingdom
12	C.O.C. CONSEIL	Rueil-malmaison	France



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Title:	Improved Protection of Paintings During Exhibition, Storage and Transit		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.010.600 €	Project start date:	1/02/2007
EU Contribution:	770.000 €	Duration:	36 months
Organisation:	Norsk institutt for Luftforskning	Kjeller	Norway

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## Abstract

Paintings are among the most important and most visited masterpieces in European museums, galleries and exhibition facilities. To preserve the paintings as close as possible to the artists' original expression, is a central focus for national authorities, museum administrators and technical conservators. An important part of this work is to protect the paintings against the degrading influences of the various indoor environments. Specially designed microclimates are more and more used for this purpose. There is a growing concern about the nature of the microclimate which develops over time in these enclosed spaces and its potential for damage to the paintings. The main aim of the PROPAIN T project is to develop innovative protection treatments used as a preventive conservation measure for paintings during exhibition, storage and transit. The PROPAIN T project will execute research on the protective effect of microclimate-frames, particularly focusing on the microclimate paintings are exposed to inside the frames. PROPAIN T will undertake research on the protective effect of varnishes applied to paintings generally and specifically inside microclimate frames. Measurements of the state of microenvironments in microclimate frames and the potential deteriorating effects on paintings will be made both in the laboratory and in the field by using, for the first time simultaneously, dosimeters developed in previous EC projects. The appropriateness and the synergies of their integrated use will be evaluated. The results of the project will allow improved design of microclimate frames to offer best possible microclimates for conservation of paintings during exhibition, storage and transit. The project will contribute with improved comparative knowledge about microclimate effects on varnishes applied to paintings as remediation surface treatments. The project results will also contribute to preventive conservation measures and standards for microclimate control of paintings.

## Partners

Num.	Partner Legal Name	City	Country
1	NORSK INSTITUTT FOR LUFTFORSKNING	Kjeller	Norway
2	BIRKBECK COLLEGE - UNIVERSITY OF LONDON	London	United Kingdom
4	DET KONGELIGE DANSKE KUNSTAKADEMI	Koebenhavn K	Denmark
5	SIT TRANSPORTES INTERNACIONALES SA	Coslada, Madrid	Spain
6	FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	Muenchen	Germany
7	MUZEUM NARODOWE W KRAKOWIE	Krakow	Poland
8	UNIVERSITA DI PISA	Pisa	Italy



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Title:	Prevention of salt damage to the built cultural heritage by the use of crystallisation inhibitors		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.769.300 €	Project start date:	1/01/2004
EU Contribution:	1.454.899 €	Duration:	42 months
Organisation:	Universiteit Gent	Gent	Belgium

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## Abstract

The project aims to develop a new method for the prevention of salt damage, based on the use of compounds that inhibit the growth of salt crystals. When inhibitors are applied, salt crystallisation within the pores of stones is prevented, allowing the salts to form as non-disruptive efflorescences along the stone surface. The effects of crystallisation inhibitors will be evaluated in different ways, ranging from atomic scale studies to macro-scale crystallisation tests and site trials, to evaluate the possibilities, limits and risks of their use in this new field of application for these products. The use of these inhibitors as a conservation method in the field of cultural heritage requires a profound understanding of the mechanisms and factors that determine the development of salt damage. Hence, several important aspects of salt formation will be investigated, by experiments with and without added inhibitors :

- (i) the relationship between porosity, threshold supersaturation and salt damage,
- (ii) the mechanisms of transport of moisture and ions during drying and crystallisation, and
- (iii) the influence of environmental conditions, including temperature, relative humidity and air speed.

The final outcome of the project is the formulation of a tested reliable procedure for the use of crystallisation inhibitors in conservation.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERSITEIT GENT	Gent	Belgium
2	Netherlands Organisation for Applied Scientific Research, TNO		Netherlands
3	Rijksdienst voor de Monumentenzorg (Netherlands Department for Conservation)		Netherlands
4	Remmers Bouwchemie BV		Netherlands
5	STICHTING FEDERATIE MONUMENTENWACHT NEDERLAND	Amersfoort	Netherlands
6	UNIVERSIDAD DE GRANADA	Granada	Spain
7	Consejería de Cultura		Spain
8	Institute of Chemical Engineering and High Temperature Chemical Processes - Foundation of Research and Technology, Hellas		Greece
9	Westfälische Wilhelms-Universität, Munster		Germany
10	TECHNISCHE UNIVERSITEIT EINDHOVEN	Eindhoven	Netherlands
11	Ceske Vysoke Ucení Technické V Praze		Czech Republic
12	NARODNI PAMATKOVY USTAV	Prague	Czech Republic
13	UNIVERSITY COLLEGE LONDON	London	United Kingdom



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Title:	Safeguarded Cultural Heritage-Understanding and Viability for the Enlarged Europe		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Support Action		
Project Total Cost:	99.600 €	Project start date:	1/09/2005
EU Contribution:	99.600 €	Duration:	19 months
Organisation:	Ustav Teoreticke a Aplikovane Mechaniky, Akademie ved Ceske Republiky	Praha 9	Czech Republic

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## Abstract

The proposal suggests the organisation of the 7th EC Conference on Cultural Heritage Research in Prague, in 2006. The scope of the project stems from the SSP priorities, and the conference aims at the consolidation and impact assessment of results achieved in EU research projects related to movable and immovable cultural heritage, with a special focus on exploitation and spin-off of cultural heritage research results and testing of the acceptability of new sustainability approaches and new technologies by the user community, SMEs, owners, managers and restorers or conservationists of the cultural heritage. The Prague conference has been designed to further define the role of Europe's cultural heritage research within the international context and as part of international cooperation, to explore the possibilities for SMEs in contributing to competitiveness and job creation, to define the support of cultural heritage research to policy needs and to contribute to the 7th Framework Programme establishment through support of the European Construction Technology Platform concept and research infrastructure development. The wider public will be addressed by means of special accompanying events, too, in order to ensure feedback and response from non-professional stakeholders. The Conference will consist of sessions dealing with political exploitation and public dissemination of cultural heritage research, the international role of European cultural heritage research, poster displays and verbal presentations of policy impact assessment, research infrastructure achievements, innovative applications and new ideas, as well as coordination of national education and research into cultural heritage issues. Public and professional awareness shall be increased by special demonstration and post-conference activities, including publication of the Conference Proceedings. The results and continuing activities will be supported by IT tools and follow-up working groups, after the event.

## Partners

Num.	Partner Legal Name	City	Country
1	USTAV TEORETICKE A APLIKOVANE MECHANIKY, AKADEMIE VED CESKE REPUBLIKY	Praha 9	Czech Republic



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Title:	Sensor system for detection of harmful environments for pipe organs		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.283.645 €	Project start date:	1/01/2006
EU Contribution:	1.074.201 €	Duration:	36 months
Organisation:	Göteborgs Universitet	Göteborg	Sweden

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## Abstract

The organ belongs to the core of European culture reflecting its diverse histories, traditions and stylistic periods. The European heritage of the organ is preserved in more than 10 000 historical instruments. A major threat to this heritage is indoor harmful environments. Organic acids, also in combination with condensation phenomena, create pipe corrosion causing serious damages to the pipes. Harmful humidity conditions often create cracks in the wooden vital parts of the organ making the instrument unplayable.

The project, SENSORGAN, objectives are to make available new instrumentation for monitoring and detection of harmful environments for organs through development of sensors for real time measurement including

- (1) sensor for detection of organic acids,
- (2) sensor for indication of risk of damage to wooden parts of organs,
- (3) sensor for detection of dew formation inside organ pipes.

The developed sensors will also constitute a powerful tool for assessment when taking measures in order to improve harmful environments.

The developed sensor system will be applied in the historical organ from 1611 in the Minor Basilica of St. Andrew the Apostle, Olkusz in Poland. The data collected from all the sensors will be analysed, microclimatic factors creating harmful environments will be studied, and conclusions will be drawn for publications, mitigative strategies and support to CEN Standardisation.

The project objectives thereby address the objectives of the Priority 8.1 Policy-oriented research - Scientific support to policies - SSP - FP6-2004-SSP-4, Call 4, B3.6, Task 4 through making available new instrumentation for monitoring crucial parameters deteriorating the organ heritage, to identify responses of organ heritage materials to indoor and outdoor environmental changes and to develop innovative mitigation strategies.

## Partners

Num.	Partner Legal Name	City	Country
1	GOETEBORGS UNIVERSITET	Goeteborg	Sweden
2	BIRKBECK COLLEGE - UNIVERSITY OF LONDON	London	United Kingdom
3	INSTYTUT KATALIZY I FIZYKOCHEMII POWIERZCHNI, POLSKA AKADEMIA NAUK	Krakow	Poland
4	Consiglio Nazionale delle Ricerche	Roma	Italy
5	MIEJSKI OSRODEK KULTURY W OLKUSZU	Olkusz	Poland
6	FUNDACAO DE APOIO A UNIVERSIDADE DE SAO PAULO	Sao Paulo	Brazil
7	Chalmers Tekniska Högskola AB	Goeteborg	Sweden





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Title:	Seminars preventive conservation and monitoring of the architectural heritage		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Support Action		
Project Total Cost:	232.965 €	Project start date:	1/11/2006
EU Contribution:	100.000 €	Duration:	24 months
Organisation:	Katholieke Universiteit Leuven	Leuven	Belgium

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## Abstract

There is an increasing interest for preventive conservation strategies and a need is felt to direct research interest towards the need expressed by the practitioners and educators of preventive conservation. The preventive conservation approach including the need for monitoring and maintenance is based on a commonly accepted understanding that prevention is more effective than curing to preserve what is valuable.

Two Seminars on PREventive COnservation and Monitoring of the Architectural Heritage will be organised with the input of 9 partners from 6 European Countries which have a specific professional or research experience with preventive conservation. The seminars will accept each time 20 participants. The seminars aim at:

1. Shearing and analysing, amongst professionals, post-graduate students and researchers from all over Europe and countries at the Mediterranean Sea, the good practices based on many years of professional experience with preventive conservation developed by Monumentenwacht in Flanders and The Netherlands;
2. Shearing research results that address issues of which preventive conservation strategies can benefit; vast amount of valuable research results from EC and other research projects can contribute to support the importance but also the development of tools to strengthen this approach (examples: Damage Atlas, Masonry Damage Diagnostic System, RECORDIM initiative).
3. Identifying research strategies at the European level through gathering of researchers, practitioners and professionals that will promote preventive conservation and that will strengthen preventive conservation oriented organisations to improve the effectiveness of their work.
4. Generating and publishing (on internet and in publications) lasting reference materials for researchers, for professionals and authorities on preventive architectural conservation based on the outcome of the seminars. This could contribute to the development of training module for the future.

## Partners

Num.	Partner Legal Name	City	Country
1	KATHOLIEKE UNIVERSITEIT LEUVEN	Leuven	Belgium
2	MISSION VAL DE LOIRE	Orleans Cedex 1	France



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Title:	Near Infrared Spectroscopy Tool for Collection Surveying		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Targeted Research Project		
Project Total Cost:	1.261.215 €	Project start date:	1/08/2005
EU Contribution:	948.366 €	Duration:	36 months
Organisation:	Univerza v Ljubljani	Ljubljana	Slovenia

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## Abstract

Assessment of the state of archival, museum and library collections is a task of utmost importance. Depending on the type and size of a collection, surveying may also be one of the most demanding tasks in terms of the necessary resources. It is usually done using simple physical and chemical tests, often destructive, in order to reveal the collection condition, the general conservation needs and in order to plan preservation activities. As testing of a single item should take as little time as possible, the information obtained is usually only rudimentary. By providing a near-infrared-spectroscopic instrument prototype, the end-users will be provided with a powerful survey tool allowing reagent-less multi-component low-cost analysis of items. As the technique itself has recently found the way into industry as an in-line production control tool, and as a number of preliminary experiments have already been performed, the risk of its implementation for the purpose is low. Furthermore, the spectra can be taken non-destructively in a matter of minutes, then analysed using advanced statistical methods and as the result, data important for the preservation officer and policy maker may be provided, such as material composition and chemical state in a user-friendly software interface. The tool will be tested in seven collections, thus demonstrating the relevance of the developed approach. The involvement of an SME, a university lab and two libraries, three archives, and two museums, i.e. seven end-users, ensures an efficient and directed dissemination both of knowledge and of the developed technology. Surveying is indispensable in the sustainable impact assessment especially of protection treatments, and is the basis of all planning in collection management, so the project is highly relevant to Task 3 of the work programme.

## Partners

Num.	Partner Legal Name	City	Country
1	UNIVERZA V LJUBLJANI	Ljubljana	Slovenia
2	ZFB ZENTRUM FUER BUCHERHALTUNG GMBH	Leipzig	Germany
3	NARODNA IN UNIVERZITETNA KNJIZNICA	Ljubljana	Slovenia
4	NATIONAAL ARCHIEF	Den Haag	Netherlands
5	THE BRITISH LIBRARY	London	United Kingdom
6	VICTORIA AND ALBERT MUSEUM	London	United Kingdom
7	RIKSARKIVET	Stockholm	Sweden
8	DRZAVNI ARHIV U DUBROVNIKU	Dubrovnik	Croatia
9	NATIONALMUSEET ER DANMARKS	Copenhagen	Denmark



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Title:	Sustaining Europe's Cultural Heritage: From Research to Policy'		
Area:	3. Underpinning the economic potential and cohesion of a larger and more integrated European Union		
	3.6. The protection of cultural heritage and associated conservation strategies		
Instrument:	Specific Support Action		
Project Total Cost:	224.990 €	Project start date:	1/05/2004
EU Contribution:	149.990 €	Duration:	12 months
Organisation:	University College London	London	United Kingdom

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## Abstract

One of the fundamental principles of sustainability is not to consume the earth's non-renewable resources. Cultural heritage is a prime example of a non-renewable resource and by virtue of its longevity is an exemplar of sustainability in action. Sustainability and its implementation in terms of environment, economy and society is high on the European political agenda. This project will demonstrate how sustainability can contribute to the preservation of, and access to, cultural heritage thus enhancing the long-term future of both the moveable and immovable heritage. Equally, this project will also demonstrate how European cultural heritage is an integral part of a sustainable society. For example, by maintaining the use of historic buildings, unnecessary new construction and its associated material and energy costs to the environment are avoided. However, the evolution of European policy for the protection of cultural heritage has been rather slow, has rarely been underpinned by sound scientific research and has often missed the links that could be made between cultural heritage and sustainability. This project seeks to address these issues through a European conference Sustaining Europe's Cultural Heritage: From Research to Policy to be held in London in September 2004.

Over 3 days, the conference will address the theme of sustainability of cultural heritage through presentations of recent Cultural Heritage research, workshop sessions, discussions, poster presentations and study visits. The conference will be aimed at stakeholders involved in the issues of sustaining heritage, including conservation practitioners, scientists, SMEs, managers and including policy makers who long-term decisions directly and indirectly affect the preservation of cultural heritage.

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Num.	Partner Legal Name	City	Country
1	UNIVERSITY COLLEGE LONDON	London	United Kingdom

## Environmental Research within the Sixth Framework Programme for Research and Technological Development - Catalogue of projects

Covering the period 2002-2006, the Sixth EU Framework Programme for Research and Technological Development (FP6) is designed to provide major leverage to the creation of a European Research Area (ERA), where the aim is to provide the EU with a scientific and technological policy that is more effectively coordinated, better managed and more dynamic. Within FP6 environmental research forms part of a thematic priority on "**Sustainable development, global change and ecosystems**", on the same footing as energy and transport.

With an EU support of €852 million the "Global change and ecosystems" sub-priority 6.3 focuses on a better understanding of ecosystems and of the mechanisms of global change, including the effect these mechanisms have on land and marine resources, and the development of related forecasting capacities. Included, € 78.9 million has been earmarked for the "Scientific Support to Policies" (SSP) activities with the aim to support the formulation and implementation of Community policies of environmental relevance, by providing scientific contributions to policies that are targeted precisely on policy needs ("demand-driven"), coherent across the various Community policy areas.



This publication presents summarised information on the 280 projects funded during FP6 under the "Global change and ecosystems" sub-priority and the relevant "Scientific Support to Policies" research activities .

An electronic version of this publication is available on the Environmental Research web site on EUROPA.  
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