



ICT for **Sustainable Growth**

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FP7 and ICT-PSP Ongoing Projects

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European Commission
Information Society and Media

Table of Contents

- FP7 Work Programme..... 3
- FP7 Ongoing Projects
 - AÎDA..... 6
 - AIM..... 8
 - Aml-MoSES..... 10
 - Be Aware..... 12
 - DEHEMS..... 14
 - DIADEM..... 16
 - E4U..... 18
 - GENESIS..... 19
 - GENESYS..... 21
 - GIGAS..... 23
 - HYDROSYS..... 25
 - ICT-ENSURE..... 27
 - IntUBE..... 29
 - IRMA..... 31
 - LENVIS..... 33
 - MOBESENS..... 35
 - REEB..... 37
 - SensorGRID4Env..... 39
 - SmartHouse/SmartGrids..... 41
- ICT-PSP WorkProgramme..... 43
- ICT-PSP Ongoing Projects
 - NESIS..... 45

FP7 Work Programme

ICT – Information and Communication Technologies is a Theme for research and development under the specific programme "Cooperation" implementing the Seventh Framework Programme (2007-2013) of the European Community for research, technological development and demonstration activities.

The ICT 2007-08 Work Programme included one Objective related to Sustainable Growth called: "**ICT for Environmental Management and Energy Efficiency**".

The call text of this Objective was as follows:

Target outcome

a) ICT RTD in **Collaborative Systems for Environmental Management** aims to integrate environmental monitoring and management with an enhanced capacity to assess population exposure and health risks, to report to and alert targeted groups and to organise efficient response. The target is a Single Information Space for the Environment in Europe in which environmental institutions, service providers and citizens can collaborate or use available information without technical restraints. The activities will aim at dependable, flexible and user-centric shared solutions for sustainable use of natural resources and for better management of ecosystems including the mitigation of environmental degradation and associated threats. Research is expected to deliver visionary concepts and techniques, or strategic integrated approaches for ICT systems addressing environmental applications that are cost-effective, easy to set up and to operate. The focus is on generic systems that will integrate to a large extent autonomous, adaptive sensor networks¹, extended data fusion, rapid and secure access to distributed information, modelling, simulation and visualisation as well as computing facilities for decision making. Full attention will be on the optimisation of complex data flows across all decision levels, across borders and sectors. Typically, these collaborative systems will be validated in the case of fresh surface water, ambient air, outdoor or indoor.

¹ See theme Security and Space for activities on satellite monitoring in support of GMES

b) One **Coordination and Support Action** in each of the following areas shall address (1) the rapid adoption of standards, protocols and open architectures, in support of the INSPIRE, GMES and GEOSS² initiatives in a holistic way; (2) coordination and roadmapping aspects of ongoing and future research in the field of ICT for natural or industrial disaster risk reduction and emergency management; (3) building the European Research Area in the field of ICT for environmental sustainability.

c) New and affordable **ICT for Energy-intensive Systems** for: (1) design and simulation of energy use profiles covering the entire life-cycle of energy-intensive products (manufacturing, use and disposal), services and processes; (2) intelligent and interactive monitoring of energy production, distribution, trading and use, e.g. intelligent metering, network management, in-house consumption management; and (3) innovative tools, business models and platforms for energy efficiency service provision providing continuous and accurate information to decision makers, in industry and policy making. The focus is on energy-neutral new or renovated home and working environments and efficient management of local power grids.

d) **Coordination and Support Actions** for the definition of research agendas, dissemination of research results in ICT-enabled energy-efficiency, promotion of best practice and awareness-raising activities Europe-wide and world wide.

e) **Specific International Cooperation Action** (SICA) in ICT for environmental disaster reduction and management, the assessment of natural hazards and communities vulnerability together with the development and interoperability of rapidly deployable ICT-based solutions for public warnings and emergency management.

Expected impact:

- Innovative applications and breakthrough ICT solutions in environmental monitoring and management, with perspectives for wide deployment and new market opportunities, while consolidating research efforts and building a European Research

² <http://www.gmes.info>, <http://inspire.jrc.it>, <http://www.earthobservations.org>

Area in the field.

- World-best technological capability to respond adequately to major environmental threats, with links to major environmental initiatives in Europe.
- World leadership in ICT-enabled energy efficiency through intelligent solutions and in support of Europe's objective to save 20% of energy consumption by 2020³.
- Wide take-up of ICT systems to enable future buildings to become at least energy neutral
- Position Europe in the international context for development of new ICT-supported approaches to produce, distribute and trade energy efficiently.
- Reduction in personal energy usage through analysis of information coming from the developed monitoring systems.

Funding schemes

a): CP; b): CSA; c):CP (STREP only); d): CSA; e): CP (STREP only / SICA); CSA

Indicative budget distribution

54 M€

a-b-c-d) CP 41 M€of which a minimum of 9M€for IPs and a minimum of 20 M€for STREP; CSA 9 M€

e) CP: 2 M€ CSA: 2M€

Call

FP7-ICT-2007-2

Projects supported under this objective are presented in brief on the following pages:

³ Green Paper on Energy Efficiency "Doing more with less"



At a Glance

Project: AIDA

Projects coordinator

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Onderzoek NV., BELGIUM
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Duration: 24 months from 01/06/2008

Total cost: 1.270.749 €

EC Contribution 869.000 €

Programme:



Seventh Framework Programme

Consortium:

10 Partners from 10 countries

AIDA

The AIDA project aims at acquiring and sharing knowledge about affordable ICT (Information and Communication Technologies) solutions in Africa with the ambition to reduce the risk of natural disasters and to improve the capacity to respond to disasters.

Many Developing Countries in Africa are exposed to serious natural disaster risks and their need for an adequate ICT infrastructure supporting DRM is high. Unfortunately, access to ICT knowledge and affordable ICT systems is often lacking.

The AIDA project will

1. assess the natural hazards, the vulnerability of the communities and the disaster risks in Africa;
2. assess the role of ICT based systems in each hazard category;
3. explore the ICT trends and needs for the future;
4. test the usefulness of GEONETCast as an alert system;
5. share this information with all DRM stakeholders in Africa (by workshops and other);

6. prepare 3 showcases of operational African DRM systems for demo on these workshops;
7. promote and support the take-up of this technology for use in other disasters;
8. liaise with any new project in DRM with a significant involvement of African partners.

AIDA will test whether the existing GEONETCast infrastructure can be reused as a component of an alert or emergency system. AIDA sets up a testcase in South-Africa where the Forest Fire Association in Nelspruit, South-Africa, will use the wildfire-alarms from CSIR within their

operational activities to fight wildfires. If successful, many DRM systems can benefit from this technology. The project is envisioned to have a big impact with a limited budget, by close cooperation with the AARSE and EUMETSAT conferences and within the UNEDRA network. This effort will support authorities in Developing Countries in setting up their National Disaster Action Plans (as required by the Hyogo agreements) by offering knowledge about working ICT solutions and help them to better manage their disaster risks.

Participants:

- VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK NV., BELGIUM
- ARDHI UNIVERSITY, UNITED REPUBLIC OF TANZANIA
- CSIR - COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH , SOUTH AFRICA
- EUMETSAT, GERMANY
- FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA
- INSTITUT D'ECONOMIE RURALE, MALI
- STICHTING INTERNATIONAL INSTITUTE FOR GEO-INFORMATION SCIENCE AND EARTH OBSERVATION, THE NETHERLANDS
- TECHNOLOGIES SANS FRONTIERES ASBL, LUXEMBOURG
- GEOSAT TECHNOLOGY SARL, FRANCE
- NET QI SA, SWITZERLAND



At a Glance

Project: A novel architecture for modelling, virtualising and managing the energy consumption of household appliances

Projects coordinator

EURESCOM - EUROPEAN INSTITUTE FOR RESEARCH AND STRATEGIC STUDIES IN TELECOMMUNICATIONS GMBH – Germany
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Duration: 24 months from 1/06/2008

Total cost: 4.387.384 €

EC Contribution 2.609.867 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.ict-aim.eu>

Consortium:

10 Partners from 5 countries



The main objective of the project is to foster a harmonised technology for profiling and managing the energy consumption of appliances at home. AIM will introduce energy monitoring and management mechanisms in the home network and will provide a proper service creation environment to serve virtualisation of energy consumption, with the final aim of offering users a number of standalone and operator services.

Behind this goal, the main idea is to forge a generalised method for managing the power consumption of devices that are either powered on or in stand-by state. Especially for the second category of devices, the project will define intelligent mechanisms for stand-by state detection, using all-device-fit control interfaces. The AIM technology will be applied on white goods (refrigerators, kitchens, washing machines, driers), communication devices (cordless phones and wireless communication devices for domestic use) and audiovisual equipment (TV Sets and Set-top-boxes) and will be built around three use-cases:

- 1) Use-case for residential users (intelligent power management service for autonomous energy preservation).

2) Use-case for power distribution network operators (metering service for energy planning).

3) Use-case for network operators (remote monitoring and management).

To enable wider applicability of its technology, AIM will also consider, in the specification phase, the energy management requirements of peripheral household devices, such as heaters, solar panels, etc, of which use is less frequent but also important concerning energy

consumption. The AIM technology will be evaluated in the context of experiments that will be hosted, initially in virtual home environment and latter in real households. Experiments will have the objective of acquiring real users' experience with regard to the usefulness of AIM applications and to prove the efficiency of the solution in saving energy, 10% for stand-by devices and 20% for active devices.

Participants:

- EURESCOM GMBH, GERMANY
- FRANCE TELECOM, FRANCE
- KELETRON EIDIKES ILEKTRONIKES EFARMOGES ETAIREIA PERIORISMENIS EFTHYNIS, GREECE
- CEFRIEL CFR, ITALY
- INDESIT COMPANY S.P.A., ITALY
- DOEBELT WOLFGANG, GERMANY
- INFINEON TECHNOLOGIES AG, GERMANY
- POWER PLUS COMMUNICATIONS AG, GERMANY
- PHILIPS ELECTRONICS NEDERLAND B.V., NETHERLANDS
- BLUECHIP TECHNOLOGIES AE, GREECE



At a Glance

Project: Ambient-Intelligent Interactive Monitoring System for Energy Use Optimisation in Manufacturing SMEs

Projects coordinator

INSTITUT FUER ANGEWANDTE SYSTEMTECHNIK BREMEN GMBH – Germany

Obreiter Daniel

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Duration: 36 months from 01/09/2008

Total cost: 2.784.037 €

EC Contribution 2.000.000 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.ami-moses.eu>

Consortium:

9 Partners from 5 countries



The main business aim is to produce a leap forward in energy efficiency and cost reduction in manufacturing SMEs.

The Aml-MoSES project will develop an (ambient) intelligent monitoring system for energy consumption, dedicated to manufacturing SMEs, to provide comprehensive information about the energy use, and knowledge-based support for improvements in energy efficiency. Existing energy consumption data will be complemented by different information from Aml systems (e.g. Aml systems for interactions between human operators and machines/processes etc.) and process related measurements (e.g. specific manufacturing line temperatures) and fed to the SOA based platform. The platform will allow to build different SW services, using the measured and processed data, such as On-line diagnostics of energy related problems in an SME, Continuous improvement of energy consumption etc. The services will, among other functionalities, interactively provide suggestions of the appropriate actions for problem elimination and energy efficiency increase.

The decision making support for the energy efficiency increase will be also environmentally based, meaning that the problem elimination suggestions will always take care about the environmental performance from the manufacturing SME sectors, reducing the need for natural energy sources.

The consortium SMEs will provide industrial testing environments, some of the major technical inputs including the energy measurement equipment, energy consumption monitoring, energy auditing, and energy saving expertise.

Participants:

- INSTITUT FUER ANGEWANDTE SYSTEMTECHNIK BREMEN GMBH – GERMANY
- FUNDACIÓN LBEIN, SPAIN
- RIFOX-HANS RICHTER GMBH SPEZIALARMATUREN, GERMANY
- VICINAY CADENAS S.A., SPAIN
- MB AIR SYSTEMS LTD, UNITED KINGDOM
- REIMESCH KOMMUNIKATIONSSYSTEME GMBH, GERMANY
- DISSENY I SUBMINISTRES TÉCNICS, S.L., SPAIN
- SOLVERA LYNX NOVE TEHNOLOGIJE ZA ENERGETIKO, D.O.O., SLOVENIA
- VALTION TEKNILLINEN TUTKIMUSKESKUS (VTT), FINLAND



At a Glance

Project: Be Aware

Projects coordinator

TEKNILLINEN KORKEAKOULU – Finland

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Duration: 36 months from 01/05/2008

Total cost: 3.965.801 €

EC Contribution 2.711.816 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.energyawareness.eu/beaware>

Consortium:

8 Partners from 3 countries



Reduction of energy consumption is a societal challenge that requires combination of technical, economical, and social means. So far, energy conservation has focused on new technologies and automation, treating users as passive consumers. However, strong evidence suggests that users can adapt actively their behaviour to energy saving with suitable feedback, support, and incentives, reducing significantly and cost-effectively energy use without impacting adversely their comfort. At present, energy information flows are slow, aggregated, and hidden, being operated by a market lacking incentives and proper service models. The opaqueness discourages users to learn and apply conservation strategies in their everyday lives. However, novel ICT's offer opportunities for removing this bottleneck. In particular, ubiquitous interfaces combined with low-cost sensors support real-time information from energy networks and consumption, empowering users to learn and share conservation strategies.

BeAware studies how ubiquitous information can turn users into active players by developing:

- 1) an open and capillary infrastructure sensing wirelessly energy consumption at appliance level;
- 2) ambient and mobile interaction to integrate energy use profiles into users' everyday life;
- 3) value added service platforms and models where consumers can act on ubiquitous energy information while energy producers and other stakeholders gain new business opportunities.

BeAware combines research excellence with relevant industrial involvement. To ensure wide applicability, a Nordic and a Southern evaluation site are planned. A liaison with the CITRIS programme in the USA facilitates dissemination.

The expected impact focuses on

- 1) grounding the conservation potential to users' cognitive constraints and practices,
- 2) ubiquitous computing applications for sensing wirelessly energy use and enabling users to act, and
- 3) value added service models to innovate a new energy and multi-utility market.

Participants:

- TEKNILLINEN KORKEAKOULU, FINLAND
- BASEN OY, FINLAND
- THE INTERACTIVE INSTITUTE II AKTIEBOLAG, SWEDEN
- ENGINEERING - INGEGNERIA INFORMATICA SPA, ITALY
- UNIVERSITY OF PADOVA, ITALY
- ENEL.SI ENELSI SRL, ITALY
- IES SOLUTIONS SRL, ITALY
- VATTENFALL RESEARCH AND DEVELOPMENT AB, SWEDEN



At a Glance

Project: Digital Environment Home Energy Management System

Projects coordinator

MANCHESTER CITY COUNCIL – United Kingdom

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Duration: 30 months from 01/06/2008

Total cost: 3.727.682 €
EC Contribution 2.899.996 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.dehems.eu>

Consortium:

14 Partners from 5 countries



Digital Environment Home Energy Management System

DEHEMS will extend the current state of the art in intelligent meters, moving beyond energy 'input' models that monitor the levels of energy being used to an 'energy performance model' that also looks at the way in which the energy is used. It will bring together sensor data in areas such as household heat loss and appliance performance as well as energy usage monitoring to give real time information on emissions and the energy performance of appliances and services. It will enable changes to be made to those appliances/services remotely from the mobile phone or PC and provide specific energy efficiency recommendations, for the household. The impact will be to personalize action on climate change, and so help enable new policies such as Personal Carbon Allowances as well as supporting the move towards increased localized generation and distribution of energy.

Participants:

- MANCHESTER CITY COUNCIL, UNITED KINGDOM
- UNIVERSITATEA TEHNICA CLUJ–NAPOCA, ROMANIA
- CLICKS AND LINKS LTD UNITED KINGDOM
- HILDEBRAND TECHNOLOGY LIMITED, UNITED KINGDOM
- BRISTOL CITY COUNCIL, UNITED KINGDOM
- CORINEX COMMUNICATIONS AS, SLOVAK REPUBLIC
- ENERGY AGENCY OF PLOVDIV, BULGARIA
- OBSHTINA IVANOVO MUNICIPALITY, BULGARIA
- BIRMINGHAM CITY COUNCIL, UNITED KINGDOM
- COVENTRY UNIVERSITY UNITED KINGDOM
- THE CENTRE SA, BELGIUM
- THE UNIVERSITY OF SALFORD, UNITED KINGDOMS
- UNIVERSITY OF ROUSSE "ANGEL KUNCHEV", BULGARIA
- INSTITUTUL E–AUSTRIA TIMISOARA, ROMANIA



At a Glance

Project: DIADEM

Projects coordinator

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Duration: 36 months from 01/09/2008

Total cost: 3.756.771 €

EC Contribution 2.519.682 €

Programme:



Seventh Framework Programme

Consortium:

8 Partners from 6 countries

DIADEM

The resulting methods and tools will support environmental management in industrial settings. In particular, the resulting system will support seamless and efficient integration of (i) robust and efficient gas monitoring systems and (ii) advanced decision support/planning systems which facilitate rapid, high-quality decision making based on rich domain expertise and large quantities of relevant information. The resulting systems will contribute to safer and healthier environment in industrialized areas in different, complementary ways:

- Mitigation of consequences of catastrophic chemical incidents through quick and reliable gas detection, monitoring and extremely efficient decision making processes.
- Prevention of catastrophic chemical incidents and reduction of chemical pollution through planning based on collaboration of many experts and efficient use of advanced tools.
- Prevention of chemical air pollution in industrial areas. By being able to quickly detect and discover the sources of pollution, the environmental protection agencies will be able to enforce stringent regulations upon the industry.

This will be achieved through a unique combination of (i) advanced approaches to information fusion and gas distribution models,

(ii) a service oriented approach to modular information processing, (iii) seamless integration of human-based and automated reasoning techniques supported by multi criteria decision analysis and advanced human machine interfaces and (iv) different existing tools will be integrated into various processing modules.

While the project is addressing very challenging problems, a unique combination of consortium partners guarantees substantial breakthroughs within the planned time frame.

The consortium consists of complementary partners, ranging from academics with excellent scientific track to SMEs and Multinationals serving the most demanding high-tech markets.

Participants:

- THALES NEDERLAND B.V, THE NETHERLANDS
- DCMR MILIEUDIENST RIJNMOND, THE NETHERLANDS
- UNIVERSITEIT VAN AMSTERDAM, THE NETHERLANDS
- UNIVERSITATEA DIN CRAIOVA, ROMANIA
- UNIVERSITAET KARLSRUHE (TECHNISCHE HOCHSCHULE), GERMANY
- OEREBRO UNIVERSITET, SWEDEN
- SPACE APPLICATIONS SERVICES NV, BELGIUM
- PROLOG DEVELOPMENT CENTER A/S, DENMARK
- BEREDSKABSSTYRELSEN, DENMARK



At a Glance

Project: Electronics Enabling Efficient Energy Usage

Projects coordinator

EUTEMA TECHNOLOGY MANAGEMENT GMBH,
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Duration: 18 months from 01/06/2008

Total cost: 607.332 €
EC Contribution 449.997 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.e4efficiency.eu>

Consortium:

4 Partners from 4 countries



e⁴u
electronics enabling efficient energy usage

E4U aims at fostering world-leadership in ICT enabled energy efficiency in the EU through accelerating research and development for energy-efficient ICT systems. It will achieve this through the creation of a strategic research roadmap for power electronics in alignment with the national, EU, and international policy framework. E4U will create impact through targeted interaction with the research community, leading European industry, and RTD policy makers at the national and European level. E4U will also advertise the benefits of power electronics and ICT for energy efficiency to the broad public.

Participants:

- EUTEMA TECHNOLOGY MANAGEMENT GMBH, AUSTRIA
- ECPE EUROPEAN CENTER FOR POWER ELECTRONICS E.V., GERMANY
- UNIVERSIDAD POLITÉCNICA DE MADRID, SPAIN
- UNIVERSITY COLLEGE CORK – NATIONAL UNIVERSITY OF IRELAND, IRELAND



At a Glance

Project: GENESIS

Projects coordinator

Thales Alenia Space France, France

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Duration: 36 months from 01/09/2008

Total cost: 13.708.226 €

EC Contribution 8.999.541 €

Programme:



Seventh Framework Programme

Consortium: 29 Partners from 9 countries

GENESIS

The GENESIS project has the objective of providing Environment management and Health actors with an efficient solution based on advanced ICT to constitute collaborative information networks, integrating existing systems. Relying on standards (W3C, CEN, ISO, OGC, OASIS,...), developed in strong synergy with the major European or global harmonization initiatives (GEOSS, INSPIRE,...), the proposed solution is based on a thematic-neutral and open "information system set up framework" made of Web services, portal components and toolkits. This framework can be easily customized for various thematic fields and deployed in many contexts (Regional, European,...). The solution is validated through real use-case scenarios in Air Quality, Fresh & Coastal Water Quality domains and their impacts on Health. The following needs related to environment monitoring, assessment of population exposure and health risks and response to crisis are typically addressed :

- easy discovery and access to information whatever its source (e.g. space data, in-situ data, historical databases) and location;
- combination of heterogeneous environmental data (e.g. static and near-real-time data,

different spatio-temporal coverage and resolution);

- correlation between environmental and health data;
- Near real time decision-making processes;
- appropriate information of citizens;
- implementation of the European Policies, in particular the INSPIRE, CAFÉ (Clean Air for Europe) and WFD (Water Framework Directive) Directives.

The main benefits of GENESIS are:

- to support the actors in their daily practices in relation with the environment management and health,
- to facilitate the progressive build-up of powerful, cost-efficient and sustainable solutions at European level.

Participants:

- THALES ALENIA SPACE FRANCE, FRANCE
- DEUTSCHES ZENTRUM FUR LUFT UND RAUMFAHRT E.V, GERMANY
- SOGREAH CONSULTANTS SAS, FRANCE
- ACRI-ST SAS, FRANCE
- SPACEBEL SA, BELGIUM
- WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER, GERMANY
- COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE – JRC, BELGIUM
- 4C TECHNOLOGIES NV, BELGIUM
- GMV AEROSPACE AND DEFENCE SA, SPAIN
- G.I.M. GEOGRAPHIC INFORMATION MANAGEMENT NV, BELGIUM
- INTECS S.P.A., ITALY
- EBM WEBSOURCING SAS, FRANCE
- ERDAS SA, BELGIUM
- AUSTRIAN RESEARCH CENTERS GMBH – ARC, AUSTRIA
- BRITISH PUBLISHERS LIMITED, UNITED KINGDOM
- CAMBRIDGE ENVIRONMENTAL RESEARCH CONSULTANTS LTD, UNITED KINGDOM
- IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE, UNITED KINGDOM
- CENTRE HOSPITALIER REGIONAL DE NICE, FRANCE
- LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN, GERMANY
- INSTITUT FUER OSTSEEFORSCHUNG WARNEMUENDE AN DER UNIVERSITAET ROSTOCK, GERMANY
- INSTYTUT METEOROLOGII I GOSPODARKI WODNEJ, POLAND
- COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA), FRANCE
- INGENIEURGESELLSCHAFT PROF. KOBUS UND PARTNER GMBH, GERMANY
- INSTITUT PASTEUR, FRANCE
- KLAIPEDOS UNIVERSITETAS, REPUBLIC OF LITHUANIA
- FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V, GERMANY
- ORACLE BELGIUM BVBA, BELGIUM
- UNIVERSITY OF THE WEST OF SCOTLAND, UNITED KINGDOM
- BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES, FRANCE



At a Glance

Project: Good practices for European developers of advanced ICT-enabled energy-efficiency Systems.

Projects coordinator

INNOVA SPA, Italy

Francesco Niglia

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Duration: 30 months from 01/09/2008

Total cost: 1.615.300 €

EC Contribution 1.079.397 €

Programme:



Seventh Framework Programme

Consortium:

10 Partner from 7 countries

GENESYS

The objective of the GENESYS project is to develop a cross-domain reference architecture for embedded systems that can be instantiated for different application domains to meet the requirements and constraints documented in the ARTEMIS strategic research agenda. These requirements are composability, networking, security, robustness, diagnosis, integrated resource management and evolvability. The reference architecture will address common issues, such as complexity management, separation of communication and computation, support for different levels of quality of service, security, model-based design, heterogeneity of subsystems, legacy integration, optimal power usage, and diagnosis. It will provide domain-independent services that can be customized to the needs of a particular application domain. Domain-specific platform services will be converged such that components from different application domains can be consistently integrated while preserving relevant properties.

The project will result in a conceptualization of the cross-domain architecture, a specification of cross-domain core services and optional services for the selected application domains, and four exploratory prototypes that will demonstrate and help to evaluate the feasibility of selected central architectural concepts in the different application domains. The expected impact of GENESYS is a reduction of development costs and a speed-up of the time-to-market of embedded system development in different application domains, thereby strengthening the European presence in the competitive world-wide embedded systems markets.

The support for cross-domain reuse of components is of particular relevance to innovative European SMEs that plan to enter those markets with high-tech products under increasing time pressure. The consortium consists of many major European embedded system suppliers and OEMs encompassing a broad range of application domains, supported by leading research and academic organizations.

Participants:

- INNOVA SPA, ITALY
- CENTRO RICERCHE PRODUZIONI ANIMALI – C.R.P.A. SPA, ITALY
- TECHNICAL SUPPORT FOR EUROPEAN ORGANISATIONS SPRL, BELGIUM
- LABOR S.R.L., ITALY
- ASSOCIATION FOR THE PROMOTION OF INFORMATION ON SCIENCE AND TECHNOLOGY FOR ALL COUNTRIES, FRANCE
- INVENT SAS, FRANCE
- TECHIN SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA, POLAND
- RESOURCE MANAGEMENT GROUP, INDIA
- FUNDACION CARTIF, INDIA
- INNOTERM ENERGETIKAI ES KONRNYEZETVEDELMI FEJLESZTO KFT, HUNGARY



At a Glance

Project: GIGAS

Projects coordinator

Fraunhofer Gesellschaft zur Foerderung
der Angewandten Forschung E.V.

Klien Eva

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Duration: 24 months from 01/06/2008

Total cost: 3.084.359 €

EC Contribution 2.099.989 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.thegigasforum.eu>

Consortium:

19 Partners from 8 countries



The GEOSS INSPIRE and GMES an Action in Support (GIGAS) promotes the coherent and interoperable development of the GMES, INSPIRE and GEOSS initiatives through their concerted adoption of standards, protocols, and open architectures. Given the complexity and dynamics of each initiative and the large number of stakeholders involved, the key added value of GIGAS is bringing together the leading organisations in Europe who are able to make a difference and achieve a truly synergistic convergence of the initiatives. Among them, the Joint Research Centre is the technical coordinator of INSPIRE, the European Space Agency is responsible for the GMES space component, and both organisations together with a third partner, the Open Geospatial Consortium play a leading role in the development of the GEOSS architecture and components. This core group is supported by key industrial players in the space and geographic information sectors, with the scientific leadership of the Fraunhofer Institute. This consortium will achieve the objectives set through an iterative and consensusbased

approach which includes: in-depth analysis of the requirements and barriers to interoperability in each of the three initiatives and strategic FP 6/FP 7 projects; comparative evaluation of this activity as input to a forum of key stakeholders at a European level; consensus building in the forum on how to update and integrate the architectures of GMES, INSPIRE and GEOSS, and influence standards development and adoption. From these recommendations follow actions to shape the direction of the initiatives

and to define a roadmap for future development, including the key research topics to be addressed to sustain the convergence of the initiatives. GIGAS thus will contribute to the emergence of a collaborative information space for accessing and sharing distributed environmental resources in Europe. This will represent a milestone towards building a Single Information Space in Europe for the Environment.

Participants:

- FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V, GERMANY
- COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE – JRC, BELGIUM
- EUROPEAN SPACE AGENCY, FRANCE
- OPEN GEOSPATIAL CONSORTIUM (EUROPE) LIMITED, UNITED KINGDOM
- SPACEBEL SA, BELGIUM
- SCIENCE AND TECHNOLOGY FACILITIES COUNCIL, UNITED KINGDOM
- CONSIGLIO NAZIONALE DELLE RICERCHE, ITALY
- INTERACTIVE INSTRUMENTS GESELLSCHAFT FUER SOFTWARE- ENTWICKLUNG MBH, GERMANY
- TECHNISCHE UNIVERSITAET DRESDEN, GERMANY
- AED-SICAD AKTIENGESELLSCHAFT, GERMANY
- STICHTING NEDERLANDS NORMALISATIE – INSTITUUT, THE NETHERLANDS
- STATENS KARTVERK, NORWAY
- THALES ALENIA SPACE FRANCE, FRANCE
- SPOT IMAGE (SI) SA, FRANCE
- AUSTRIAN RESEARCH CENTERS GMBH – ARC, AUSTRIA
- INFOTERRA FRANCE SAS, FRANCE
- ELSAG DATAMAT S.P.A., ITALY
- INSTITUT GEOGRAPHIQUE NATIONAL, FRANCE
- ERDAS SA, BELGIUM



At a Glance

Project: HYDROSYS

Projects coordinator

Technische Universitaet Graz, AUSTRIA

Kruijff Ernst

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Duration: 36 months from 01/06/2008

Total cost: 4.315.691 €

EC Contribution 3.260.611 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.hydrosonline.eu>

Consortium: 7 Partners from 4 countries

HYDROSYS

HYDROSYS aims at providing a system infrastructure to support teams of users in on-site monitoring events analysing natural resources. The project introduces the innovative concept of event-driven campaigns with handheld devices, potentially supported by an unmanned aerial vehicle (UAV). In these campaigns, users can setup and retrieve data from mobile sensorstations, the UAV and external sources (sensor network) generating dense information on a small area. The sensor network system gathers and stores sensor data, and processes simulations based on physical process models. To obtain rich data sets from a specific location, additionally, remotely controlled cameras are deployed, mounted on sensorstations and below the UAV. Users can analyse the environment using cell phones and handheld computers, supported by advanced user interface techniques. The system is validated in two application areas, dealing with pollution caused by storm water, and permafrost melting. The project will improve environmental monitoring and management for environmental scientists, institutions and service providers, through its strong integration of handhelds and sensor networks.

The project will progress well beyond the current state in the art, by dealing with short-term events and detailed analysis of small sites. The analysis of such events is hardly supported by current methods, but has a large impact on environmental degradation. Additionally, information is dispersed to citizens by providing mechanisms to access top-level environmental data. Within the project, cutting edge interdisciplinary research will be performed to develop user-centred solutions.

When the data is integrated with analytical tools in a shared information space it will also aid a wide range of managers and planners in the pursue of more environmentally sensitive solutions to engineering problems. To aid the process, the research is steered by considerable end-user involvement throughout the full project.

Participants:

- TECHNISCHE UNIVERSITAET GRAZ, AUSTRIA
- ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE, SWITZERLAND
- EIDGENOESSISCHE FORSCHUNGSANSTALT WSL , SWITZERLAND
- TEKNILLINEN KORKEAKOULU, FINLAND
- THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE, UNITED KINGDOM
- LUODE CONSULTING OY, FINLAND
- UBISENSE LIMITED, UNITED KINGDOM



At a Glance

Project: ICT-ENSURE

Projects coordinator

Technische Universitaet Graz, Austria

Klaus Tochtermann

ktochter@know-center.at

Duration: 24 months from 01/05/2008

Total cost: 1.513.833 €

EC Contribution 1.249.994 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.ict-ensure.eu>

Consortium:

3 Partners from 2 countries

ICT-ENSURE

ICT-ENSURE is the leading supportive action in the area "ICT for Environmental Sustainability Research". The mission of ICT-ENSURE is to better network and structure the various national and international environmental research programmes and communities.

To make this become reality, ICT-ENSURE organizes a series of thematic expert workshops throughout Europe, expanding the network among the experts from the EU27 member states. Europe's leading experts will provide their unique know-how as input to the different workshops. The results of these workshops will be presented to and discussed with a broader audience at the annual international conference EnviroInfo, which has already been established as the premium conference on environmental sustainability. A Web-based information system will make available free of charge the key results of Enviro-Info conferences, the workshops and the information about the national research programmes within the EU27.

In compliance with currently developed EU working documents, a conceptual detailing of a Single Information Space in Europe for the Environment (SISE) will be developed during the lifespan of ICT-ENSURE. The long-term vision of SISE is to offer policy and decision makers, researchers, practitioners and the public an ICT-enabled space of collaboration offering access to distributed information and

services related to environmental sustainability in Europe. ICT-ENSURE will also provide recommendations and initiate momentum amongst research programme owners towards a European Research Area (ERA) in the field of ICT for environmental sustainability.

Participants:

- TECHNISCHE UNIVERSITAET GRAZ, AUSTRIA
- FORSCHUNGSZENTRUM KARLSRUHE GMBH, GERMANY
- INTERNATIONALE GESELLSCHAFT FUER UMWELTSCHUTZ, AUSTRIA



At a Glance

Project: Intelligent Use of Buildings' Energy Information

Projects coordinator

VALTION TEKILLINEN TUTKIMUSKESKUS,
Finland

Ala-Juusela Mia

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Duration: 36 months from 01/05/2008

Total cost: 3.792.412 €

EC Contribution 2.700.000 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.intube.eu>

Consortium:

11 Partners from 9 countries



It is a well established fact that buildings are one of the major contributors to energy use and CO₂ emissions. The energy used in buildings accounts for 40 % of the total energy use in Europe. While some breakthroughs are expected in new buildings, the pace of these improvements is too slow considering the EU's ambitious goal to improve energy efficiency by 20 % before 2020. With over 80 % of the European buildings standing in 2020 being already built, the main aim of the IntUBE project is to develop and make use of information and communications technologies to improve the energy efficiency of these existing buildings in compliance with the EU's aims of improving energy efficiency.

IntUBE will develop tools for measuring and analysing building energy profiles based on user comfort needs. These will offer efficient solutions for better use and management of energy use within buildings over their lifecycles. Intelligent Building Management Systems will be developed to enable real-time monitoring of energy use and optimisation. They will, through interactive visualisation of energy use, offer solutions for user comfort maximisation and energy use optimisation.

Neighbourhood Management Systems will be developed to support efficient energy distribution across groups of buildings. These will support timely and optimal energy transfers from building to building based on user needs and requirements. New Business Models to make best use of the developed Management Systems will be created. The results of IntUBE are expected to enhance not only the comfort levels of building users, but to also reduce

overall energy costs through better energy efficiency. These results will be demonstrated in at least three pilot cases: social housing in Spain, office buildings in Finland and a third case defined during the project. The IntUBE consortium spans key research partners from Northern to Southern Europe including SMEs committed to exploiting the results of the project.

Participants:

- VALTION TEKNILLINEN TUTKIMUSKESKUS, FINLAND
- CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT, FRANCE
- UNIVERSITAT RAMON LLULL, FUNDACIO PRIVADA, SPAIN
- MERLONI TERMOSANITARI SPA, ITALY
- POYRY BUILDING SERVICES OY, FINLAND
- STIFTELSEN SINTEF, NORWAY
- NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO, THE NETHERLANDS
- UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, IRELAND
- UNIVERSITA POLITECNICA DELLE MARCHE, ITALY
- UNIVERSITY OF TEESSIDE, UNITED KINGDOM
- VABI SOFTWARE B.V., THE NETHERLANDS
- UNIVERSITAET STUTTGART, GERMANY



At a Glance

Project: IRMA

Projects coordinator

Université du Luxembourg

Prof. Thomas Engel

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Duration: 36 months from 01/06/2008

Total cost: 3.533.633 €

EC Contribution 2.481.395 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.irma.lu>

Consortium:

15 Partners from 8 countries

IRMA

Disaster risk reduction policies and institutional mechanism exist at various degrees of completeness in the African countries part of the consortium. Their effectiveness is however limited when having to deal with major disasters and complex emergencies. Risk management is often limited to specific hazard monitoring with limited or no consideration of the vulnerability of the area at risk neither to the systemic nature and possible domino effect between risks of different nature. It is the vulnerability of the population and of the infrastructure at risk that may transform a hazard into a major disaster. The purpose of the project is to build a reference platform suitable for the management of natural and environmental risks in Africa. The platform must allow the stakeholders in risks management to develop and use tailored risk management models; therefore, the platform will provide similar facilities as WIN, ORCHESTRA, SSE, SANY and u-2010 solutions and should make it easy to build a multi-risks management. The platform will feature two major technical components:

- an environment for providing services of all kinds related to the acquisition, processing, dissemination of information and an efficient storage of all relevant information so that the stakeholders can analyse afterwards the sequence of events and adapt operational procedures consequently, and
- a multi-purpose solution for the communications based on IPv6 either to federate legacy communications or to provide native IPv6 solutions.

The project intends to deliver a pre-operational open platform, assessed by end-users through operational scenarios serving as reference for future larger scale deployment and providing the facilities for prototyping risk management systems and for supporting a rapid development of applications services. This platform will be populated with specific applications (Bushfire, Flood, Desertification and urban risks).

Participants:

- UNIVERSITE DU LUXEMBOURG, LUXEMBOURG
- MINISTERE D'ETAT (CENTRE DE COMMUNICATIONS DU GOUVERNEMENT), LUXEMBOURG
- TECHNOLOGIES SANS FRONTIERES ASBL, LUXEMBOURG
- SPACEBEL SA, BELGIUM
- THALES ALENIA SPACE FRANCE, FRANCE
- SES ASTRA TECHCOM SA, LUXEMBOURG
- CISCO SYSTEMS INTERNATIONAL B. V., THE NETHERLANDS
- RENATER, FRANCE
- STICHTING KATHOLIEKE UNIVERSITEIT BRABANT - UNIVERSITEIT VAN TILBURG, THE NETHERLANDS
- COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH, SOUTH AFRICA
- CENTRE DE SUIVI ECOLOGIQUE, SENEGAL
- CENTRE ROYAL DE TELEDETECTION SPATIALE, MOROCCO
- INSTITUT NATIONALE DES POSTES ET TELECOMMUNICATIONS, MOROCCO
- ECOLE NATIONALE SUPERIEURE POLYTECHNIQUE, UNITED REPUBLIC OF CAMEROON
- UNIDADE TÉCNICA DE IMPLEMENTAÇÃO DA POLÍTICA DE INFORMÁTICA, MOZAMBIQUE



At a Glance

Project: Lenvis

Projects coordinator

Hydrologic BV.

Dr. Arnold Lobbrecht

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Duration: 36 months from 01/09/2008

Total cost: 3.209.196 €

EC Contribution 2.286.095 €

Programme:



Seventh Framework Programme

Consortium: 10 Partners from 5 countries

LENVIS

The main goal of the LENVIS project is to develop an innovative collaborative decision support network for exchange of location-based environmental and health services between all stakeholders, for enhanced capacity to assess population exposure and health risks and better management of the concerned ecosystems. LENVIS will include health indicators as integral part of the environmental management. There is a growing demand for real time and integrated environmental and health risk information. Provision of such location-based services linked to the state of the environment at particular geographical locations (addresses) is necessary for improving the quality of life of all people. This is essential for mitigation of environmental-related health threats associated to water quantity and quality, and outdoor air pollutions. LENVIS project aims to fill the existing gap between environmental management and the health management systems.

This will be done by developing a generic ICT solution that combines service-oriented-architecture (SOA) and user-centric approach (peer-to-peer network, P2P) by fusion of location-based environmental and health data, information and modelling services. This novel collaborative peer-to-peer network, as an integral part of the Single Information Space for the Environment in Europe, will be validated

through test cases on fresh surface water and outdoor air quality in the Netherlands, Portugal and Italy. LENVIS project will facilitate collaboration between different stakeholders, such as environmental protection agencies, health institutions and service providers, policy makers, citizens in general and environmental communities in Europe.

Participants:

- HYDROLOGIC BV, THE NETHERLANDS
- UNESCO-IHE INSTITUTE FOR WATER EDUCATION, THE NETHERLANDS
- INSTITUTO SUPERIOR TECNICO, Portugal
- PROJECT AUTOMATION SPA, ITALY
- UNIVERSITA DEGLI STUDI DI MILANO – BICOCCA, ITALY
- ARIA TECHNOLOGIES SA, France
- ESAPROJEKT SP Z OO, POLAND
- HIDROMOD MODELACAO EM ENGENHARIA LDA, Portugal
- NOORD-BRABANT PROVINCIE, THE NETHERLANDS
- COMUNE DI BARI, ITALY



At a Glance

Project: MOBESENS

Projects coordinator

CSEM Centre Suisse D'Electronique et de
Microtechnique SA, SWITZERLAND

SENECLAUZE Martin

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Duration: 36 months from 01/06/2008

Total cost: 5.036.540 €

EC Contribution 3.799.787 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.mobesens.eu>

Consortium: 8 Partners from 4
countries

MOBESENS

Management of the environment for predictable and sustainable use of natural resources is one of the great challenges of the 21st century. Although water covers most of the planet, it is becoming increasingly difficult to ensure adequate supplies of fresh, clean water for drinking, as well as, for sports and wellness activities. The demand for water resources is increasing as the population grows. At the same time, water resources are increasingly exposed to pollutants and spills as parts of the world become ever more crowded and industrialised. Potential climate changes due to global warming may also impact water resources. Management of water quality requires regular measurements and monitoring. Today, measurements of water quality are performed manually. The process can be slow and painstaking. Multiple point measurements are needed to cover an area. The process needs to be automated and extended to provide rapid and effective monitoring. Autonomous, mobile and self-healing solutions are needed to identify trends and to help localize and track potential problems.

MOBESENS provides a modular and scalable ICT based solution for water quality monitoring. It enables data to be gathered quickly and reported across wide areas. The low power wireless sensor network gathers data samples, which are time and location stamped and automatically entered into the grid based information system to facilitate analysis and issue alarms if needed. Mobility is a unique feature of MOBESENS, which are capable of navigation and both surface and subsurface measurements. This extends range, enables 3D

area measurements and facilitates operation, even in bad weather. MOBESENS may form ad-hoc networks enabling rapid and reliable reporting as well as relative localization and tracking (e.g. of contaminants). Opportunistic communication between MOBESENS and both fixed and mobile buoys is envisioned. Renewable energy sources are studied for self-sustained MOBESENS operation.

Participants:

- CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA RECHERCHE ET DEVELOPPEMENT (CSEM), SWITZERLAND
- ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE, SWITZERLAND
- INSTITUT NATIONAL DES TELECOMMUNICATIONS, FRANCE
- INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER, FRANCE
- IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE, UNITED KINGDOM
- MICROSENS S.A., SWITZERLAND
- ADASA SISTEMAS, S.A.U., SPAIN
- UNIVERSITE DE GENEVE, SWITZERLAND



At a Glance

Project: The European strategic research Roadmap to ICT enabled Energy-Efficiency in Buildings and construction

Projects coordinator

CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT, France

Zarli Alain

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Duration: 24 months from 01/05/2008

Total cost: 2.018.939 €

Contribution 1.250.000 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.ict-reeb.eu>

Consortium:

8 Partners from 6 countries



The REEB project is a Co-ordinated action addressing the Strategic Objective "ICT-2007.6.3 ICT for Environmental Management & Energy Efficiency". The industrial sector targeted in REEB is the Building & Construction sector. The project aims at co-ordinating and rationalising current and future RTD in the fields of ICT support to energy-efficiency (EE) in the built environment of tomorrow. The main objectives of REEB are:

- 1) the establishment of a European-led community dedicated to the innovative use of ICT supporting EE in Construction, bringing together the (Construction) ICT community and key actors of the (Construction) Environment and Energy business sectors;
- 2) the development of national communities with similar objective than the European objective, but with a focus on national specificities, integrating considerations for SMEs, and targeting national policy makers;
- 3) the identification of a set of well founded best practices for use of ICT applications and tools for energy efficiency in Europe and world-

wide, as well as most representative ongoing standardisation initiatives and developed regulations;

4) the drawing up of a cartography of current and emerging projects and International initiatives related to the ICT support to EE in the built environment, and a Report on key European and International RTD results;

5) the development of a Vision, a Roadmap and a set of recommendations for Implementations actions for ICT-supported EE in Construction;

6) the elaboration of a Detailed plan for coordination of information exchange and

dissemination between all energy-related ICT projects, initiatives and stakeholders in Europe, along with a training and education strategy.

As a consequence, REEB intends to be a key milestone in identifying, synthesising, and prioritising a comprehensive set of agreed main problems, challenges and prescribed RTD for new ICT-based solutions related to the future delivery and use of EE facilities and buildings, at a European level and world-wide. The project is running over 24 months, with a start on the 1st of May 2008.

Participants:

- CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT, FRANCE
- VALTION TEKNIILLINEN TUTKIMUSKESKUS, FINLAND
- COMMISSARIAT A L'ENERGIE ATOMIQUE, FRANCE
- FUNDACION Labein, SPAIN
- ACCIONA INFRAESTRUCTURAS S.A., SPAIN
- OVE ARUP & PARTNERS INTERNATIONAL LIMITED, UNITED KINGDOM,
- UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, IRELAND
- TECHNISCHE UNIVERSITAET DRESDEN, GERMANY



At a Glance

Project: SensorGRID4Env

Projects coordinator

Universidad Politecnica de Madrid,
SPAIN

Gomez-Perez Asuncion

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Duration: 36 months from 01/09/2008

Total cost: 4.364.836 €

EC Contribution 3.246.551 €

Programme:



Seventh Framework Programme

Project web site:

<http://www.semsorgrid4env.eu>

Consortium: 7 Partners from 3
countries

SensorGRID4Env

Sensor networks promise to bridge the gap that, for too long, has separated computing applications from the physical world that they model and in which they are ultimately embedded. Sensor networks are and will continue to be important in environmental management. However, many scientific and technological challenges need to be tackled before sensor networks are exploited in their full capacity for aiding decision support for environmental applications. This project addresses two of these challenges: (a) the development of an integrated information space where new sensor networks can be easily discovered and integrated with existing ones and possibly other data sources (e.g., historical databases), and (b) the rapid development of flexible and user-centric environmental decision support systems that use data from multiple, autonomous, independently deployed sensor networks and other applications. To address this challenge, the SensorGrid4Env project will investigate and develop technological infrastructure for the rapid prototyping and development of open,

large-scale Semantic Sensor Grids for environmental management. In particular, SemsorGrid4Env will enable:

1. A semantically-consistent view of several heterogeneous sensor networks as a global Grid data resource;
2. Rapid development of Grid services that combine real-world real-time data, coming from autonomous, heterogeneous sensor networks, with legacy historical data;
3. Rapid development of open, flexible, contextual knowledge-based thin applications (e.g., mashups) for environmental management.

As more and more sensor networks are independently developed and deployed, the SemsorGrid4Env outcomes will leverage their use of sensor networks in environmental management scenarios that were not foreseen or that transcend their original purpose. To test and demonstrate SemsorGrid4Env results, we propose two environmental monitoring and management use cases.

Participants:

- UNIVERSIDAD POLITECNICA DE MADRID, SPAIN
- THE UNIVERSITY OF MANCHESTER, UNITED KINGDOM
- NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS, GREECE
- UNIVERSITY OF SOUTHAMPTON, UNITED KINGDOM
- DEIMOS SPACE S.L., SPAIN
- EMU LIMITED, UNITED KINGDOM
- TECHIDEAS ASESORES TECNOLOGICOS S.L., SPAIN



SmartHouse/SmartGrids



At a Glance

Project: Smart Houses Interacting with Smart Grids to achieve next-generation energy efficiency and sustainability

Projects coordinator

SAP AG, Germany

Gottfried Frank

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Duration: 30 months from 01/09/2008

Total cost: 3.810.437 €

EC Contribution 2.557.257 €

Programme:



Seventh Framework Programme

Consortium:

6 Partners from 3 countries

SmartHouse/SmartGrids

Current smart house/energy technologies treat home and working environments as effectively consisting of isolated and passive individual units. This severely limits achieved energy efficiency, as it ignores the potential delivered by homes, offices, and commercial buildings seen as intelligent networked collaborations. Thus, the SmartHouse/SmartGrid project introduces a holistic concept for smart houses situated and intelligently managed within their broader environment. It develops intelligent networked ICT technology for collaborative technical-commercial aggregations of Smart Houses able to communicate, interact and negotiate with both customers and energy devices in the local energy grid so as to achieve maximum overall energy efficiency as a whole. Our technology is built on (i) using available open industry standards in both the ICT and energy sectors; (ii) employing communication and computing capabilities that are already in widespread use in mainstream home and working environments. The SmartHouse/SmartGrid technology will be field tested in three different countries.

On this basis, the project will define a roadmap to mass application. Only by considering the aggregated network level of smart houses managed by intelligent networked ICT for scale and flexibility, one is able to achieve the quantum leap in energy efficiency and sustainability that the EU's "20% by 2020" objectives call for.

Participants:

- SAP AG, GERMANY
- INSTITUT FUER SOLARE ENERGIEVERSORGUNGSTECHNIK E.V., GERMANY
- MVV ENERGIE AG, GERMANY
- STICHTING ENERGIEONDERZOEK CENTRUM, THE NETHERLANDS
- INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS, GREECE
- PUBLIC POWER CORPORATION, GREECE

ICT-PSP Work Programme

The ICT Policy Support Programme (ICT PSP) is a component of the Competitiveness and Innovation framework Programme (CIP).

The ICT PSP aims to stimulate innovation and competitiveness through the wider uptake and best use of ICT by citizens, governments and businesses. It will run from 2007 to 2013 with an overall budget of 730 M€.

The 2007 Work Programme included one Objective related to Sustainable Growth called: **"Supporting sustainable growth"**.

The call text of this Objective was as follows:

Funding instrument: Thematic network - it is intended to support two thematic networks

The objective is to mobilise the main external stakeholder groups including the ICT business community and public authorities, in order to accelerate the deployment of ICT-based innovations contributing to an eco-innovative Europe through:

- smart growth in line with the Commission's Energy-package proposals²⁶ that aims at making Europe a highly energy efficient and low CO₂ energy economy;
- higher European operational capacities for monitoring and reporting environmental degradation and threats, and for responding timely and effectively to natural and technological disasters.

Activities will aim at sharing of experience, raising awareness and building consensus, to prepare specifications, and to propose implementation agenda. They should constitute a direct contribution to an Action Plan to be proposed as part of the new i2010 Flagship initiative on 'ICT for Sustainable Growth'.

It is intended to support one thematic network for each of the following goals:

a) To promote ICT solutions aimed at improving energy efficiency at home, in the workplace as well as in business processes, by reducing energy loss and by measuring and optimising resource usage by public bodies, industrial sectors and citizens at large. ICTs have the potential to be a great enabler of efficiency savings in applications as diverse as smart buildings, industrial processes, working practices, and improved management and control of distributed power grids. They will foster the emergence of new energy services. ICTs appropriately deployed and used can be a key element in the structural changes needed to achieve more sustainable production and consumption.

This activity should contribute significantly to the aim of reaching the Commission's objective of reducing by 20% the overall energy consumption of European Union by 2020.

b) To promote ICT solutions aimed at enhancing European operational capacities for monitoring and reporting environmental impacts and threats, for responding timely and effectively to natural and technological disasters and fostering environmental services. This thematic network will address an interoperable information infrastructure based on international standards with commonly agreed data formats and semantic and organisational responsibilities. Their current lack impedes seamless access and integration of environmental information. This planned integration will foster real-time situational awareness as well as support to decision making and rapid response.

This thematic network should bring together the stakeholders in view to establish roadmaps and prepare for pilot solution and real implementation across Europe. It will notably explore ICT deployment to support the Shared Environmental Information System (SEIS) following the INSPIRE Directive²⁷. The expected outcome is a comprehensive survey and a widely supported action plan for the identification and promotion of leading-edge ICTs.

Project supported under this objective is presented in brief on the following pages:



At a Glance

Project: NESIS

Projects coordinator

GISIG - GEOGRAPHICAL INFORMATION SYSTEMS INTERNATIONAL GROUP, ITALY

Giorgio Saio

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Duration: 30 months from 01/05/2008

Total cost: 417.500 €

EC Contribution 417.500 €

Programme:



CIP, ICT-PSP

Project web site:

<http://www.nesis.eu>

Consortium: 16 Partners from 14 countries



The aim of NESIS Network is to promote the uptake of ICT solutions to address the fundamental problems faced by public authorities in providing information related to monitoring and reporting environmental impacts and threats. By supporting a shared vision to streamline current information and reporting systems and promote adoption of an interoperable information infrastructure, the Network aims to support the creation of a Shared Environmental Information System (SEIS) and will provide a coherent frame to consolidate existing best practice and ultimate convergence to this goal. The NESIS Network will leverage the EIONET Community of stakeholders, a network of some 900 experts from over 300 national environment agencies and other bodies dealing with environmental information in 38 European Countries.

The NESIS Consortium is composed of partners from 14 among EU and Associated Countries. Most of them are EIONET National Focal Points, guaranteeing the involvement and commitment of the main actors who will take part in the development and application of SEIS. The main activities of the Thematic Network will focus on bringing together stakeholders through workshops, exchange of best practice through a dedicated website linked to the EIONET and INSPIRE portals, convergence of ICT approaches and increased interoperability through the development of technical guidance and a comprehensive review of the state-of-

play in ICT deployment for environmental monitoring and reporting within the EIONET community. Upon it the NESIS Network will develop a widely agreed action plan (made concrete by a proposal for the roadmap to the implementation of SEIS) for the evolution towards a distributed, standards-based infrastructure for spatial and non-spatial environmental information, grounded on the principle of shared access rather than centralised reporting. It will reflect the latest evolution in both the ICT and the legal domain (including INSPIRE Directive).

Participants:

- GEOGRAPHICAL INFORMATION SYSTEMS INTERNATIONAL GROUP (GISIG) , ITALY
- KATHOLIEKE UNIVERSITEIT LEUVEN (KUL) , BELGIUM
- CESKA INFORMACNI AGENTURA ZIVOTNIHO PROSTREDI (CENIA), CZECH REPUBLIC
- SLOVENSKA AGENTURA ZIVOTNEHO PROSTREDIA (SAZP), SLOVAKIA
- STATENS FORURENSNINGSTILSYN (SFT), NORWAY
- KORNYZETVEDELMI ES VIZUGYI MINISZTERIUM (MOEW), HUNGARY
- ISTITUTO SUPERIORE PER LA PROTEZIONE E LA RICERCA AMBIENTALE (ISPRA), ITALY
- UMHVERFISSTOFNUN (EAI), ICELAND
- UMWELTBUNDESAMT GMBH (UBA-A), AUSTRIA
- MALTA ENVIRONMENT & PLANNING AUTHORITY (MEPA), MALTA
- LANDSCAPE, NATURAL AND CULTURAL HERITAGE OBSERVATORY ONLUS (ICCOPS), ITALY
- INSTITUT FRANCAIS DE L'ENVIRONNEMENT (IFEN), FRANCE
- TIETOENATOR EESTI AKTSIASELTS (TEE) , ESTONIA
- NATURVARDSVERKET (SWEDISH EPA), SWEDEN
- MINISTRY OF AGRICULTURE, NATURAL RESOURCES AND ENVIRONMENT (MOA), CYPRUS
- APLINKOS APSAUGOS AGENTURA (AAA), LITHUANIA