



SemSorGrid4Env
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Deliverable

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Plan for Dissemination Activities

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Executive Summary

The present document describes the dissemination for the SemSorGrid4Env project. After an overview of the project and main expected results, dissemination plans are explained in relation to a classification of results into categories.

The dissemination plan is considered separately at two levels: for the whole consortium and for individual members of the consortium.

The overall dissemination plan recommends the centering into niches of dissemination as a function of the type of member (corporation, R&D department, university, etc.). This recommendation maximizes the dissemination channels providing different technological levels as a function of the final group of dissemination.

Main dissemination channels considered are networks of excellence and conferences, publications (scientific journals, books, mass-media, the Internet, etc.), direct contacts (Open Grid Forum, W3C, etc.), participation in specialized events (related projects, conferences, workshops), courses (PhD, Msc, short courses, etc.), printed material, and the participation and promotion of industry awareness meetings at national level.



Note on Sources and Original Contributions

The SemSorGrid4Env consortium is an inter-disciplinary team, and in order to make deliverables self-contained and comprehensible to all partners, some deliverables thus necessarily include state-of-the-art surveys and associated critical assessment. Where there is no advantage to recreating such materials from first principles, partners follow standard scientific practice and occasionally make use of their own pre-existing intellectual property in such sections. In the interests of transparency, we here identify the main sources of such pre-existing materials in this deliverable:

- There are no pre-existing materials used in this deliverable.



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1 Introduction

This document reports on the dissemination plan for the SemSorGrid4Env project. Dissemination implies all activities involved in letting the outside world know about the existence and results of the SemSorGrid4Env project.

SemSorGrid4Env project deals with producing the *technological infrastructure* for the rapid prototyping and development of open, large-scale Semantic Sensor Grids for environmental management. This project will enable the integration of heterogeneous sensor networks as Grid data resources. Additionally, it will provide tools for building Grid services that combine data produced by heterogeneous data sources, from real-time data to legacy historical data. Making use of these technological advances, SemSorGrid4Env will enable the development of open, flexible and contextual knowledge-based thin applications (e.g., mashups) for environmental management. SemSorGrid4Env will demonstrate this technological infrastructure by adopting a *use case-guided development* and evaluation strategy based on two environmental monitoring and management use cases.

The responsibilities in the dissemination of the project are established in the **Consortium Agreement** as follows:

Article 6 – Governance Structure

6.1 General structure

The Project Collaboration, Dissemination and Exploitation Board (PCD&EB) is the Body responsible for creating, running and supervising the collaboration, dissemination and exploitation plans.

6.2 Consortium Bodies

6.2.7 Project Collaboration, Dissemination and Exploitation Board (PCD&EB)

Composition:

The PCD&EB is composed of one (1) representative per Party.

Any expert or qualified person may be invited by the Chairperson of PCD&EB to attend meetings in advisory capacity.

Chairperson of the PCD&EB

The Chairperson of the PCD&EB will be the person designated in the Annex I of the Grant Agreement.

Role:

Upon the request of a Chairperson of the Project Management Board, a member of the PCD&EB may attend PMB meetings.

Supervise the cross collaboration with other projects reached by the Scientific Coordinator.



The PCD&EB reviews Work Packages and establishes the plan for use and dissemination of Foreground to be submitted to the PMB for approval.

Based on contemplated publications and activity reports issued by the Work Packages, the PCD&EB identifies Knowledge that could be the subject matter of protection or Dissemination of Foreground by the PMB.

It will assist the PMB in the implementation of measures in connection with publications, the protection of Foreground and their dissemination.

It will assist with decisions regarding Foreground as required in this Consortium Agreement.

PCD&EB to approve publications, as outlined in Clause 8.3 of this Consortium Agreement and Article II.30 of the Grant Agreement..

The PCD&EB shall submit an annual report to the PMB.

Meetings:

The PCD&EB shall meet at least two times a year. It will be convened either by the Chairperson of the PCD&EB or upon the written request to the Chairperson of the PCD&EB from a member of the PCD&EB.

Quorum:

The PCD&EB may validly meet if 75% of its members are present. In case quorum is not met, the PCD&EB will be convened once again within no more than fifteen (15) days from this date, and may validly deliberate even in the absence of quorum.

Minutes

The Chairperson of the PCD&EB shall draft the minutes of each meeting to formalise in writing all decisions taken and shall dispatch them to all Parties within fifteen (15) calendar days of the meeting.

The minute shall be considered as accepted by the Parties if, within fifteen (15) calendar days from date of dispatch no Party present or represented at the said meeting has objected in writing to the Chairperson.

Voting Rules:

Each member of the PCD&EB has one (1) vote and decisions shall be taken upon a simple majority of members present or represented.



2 Project Collaboration, Dissemination & Exploitation Board

2.1 PCD&EB Chair

During the PMB Meeting that took place in Barcelona on 20th January 2009 all partners decided that the Chairperson of the PCD&EB is Kirk Martínez from SOTON.

2.2 PCD&EB Members

The PCD&EB members are:

Partner	Responsible
Universidad Politécnica de Madrid (UPM):	Asunción Gómez-Pérez
The University of Manchester (UNIMAN):	Kirk Martínez
National and Kapodistrian University of Athens (NKUA):	Manolis Koubarakis
The University of Southampton (SOTON):	David De Roure
DMS Space, S.L. (DMS):	Agustín Izquierdo
EMU Limited	Bruce Tomlinson
TechIdeas Asesores Tecnológicos, S.L.	Jesús E. Gabaldón

2.3 Cross-collaboration with other projects

The responsibilities for supervising the cross-collaboration with other projects are:

Tasks	Partner	Responsible
T9.1 Brochures, presentations, engagement with press and production of multimedia material	UNIMAN	Kirk Martínez
T9.2 SemSorGrid4Env Website setup and maintenance	UPM	Asunción Gómez-Pérez
T9.3 Papers	SOTON	Kirk Martínez
T9.4 Participation in influential organizations	SOTON	David De Roure
T9.5 Events organization	UPM	Asunción Gómez-Pérez
T9.6 Development of course material	UNIMAN	Alvaro A. Fernandes
T9.7 IPR audit and market analysis	TI	Jesús E. Gabaldón
T9.8 SWOT analysis and exploitation plans	TI	Jesús E. Gabaldón

3 Dissemination Plan

In order to foster impact outside the SemSorGrid4Env consortium, all the partners have agreed to provide public access to the components of the different applications under **the new BSD software license for all software produced in this project**, and a new BSD license will be also used across the consortium.

The **dissemination plan** describes the dissemination activities to be performed during the project's life to spread and to make known the expected results of the project across European industry and the stakeholder research communities (Environmental Information Systems, Sensor Networks, Grid Computing, Semantic Web, Semantic Grid, Per-to-peer and Web 2.0). To maximize the diffusion of the project achievements, research institutions and corporations in the consortium will present results to the academic world via publications in national and international journals, and participate to international conferences and workshops focusing on the technologies, tools and methodologies that cover the activities involved in the project. Universities will also disseminate results through PhD courses, Master courses and training courses.

Dissemination is planned at two levels:

- At the level of the whole consortium. The overall Dissemination Plan section covers this level.
- At the level of the individual partners of the consortium. Each partner describes individual actions in the Individual Dissemination Plan section.

Using and disseminating knowledge in SemSorGrid4Env can be seen as synergy of the following aspects: **dissemination, technology transfer and exploitation**. The SemSorGrid4Env consortium has a combination of strengths in academia and industry that ensure robust and commercially viable outcomes. Only after evaluating the results of SemSorGrid4Env, it will be possible to access actual commercial exploitation. Current ambition of the consortium is aimed at achieving the necessary technical excellence to approach commercial exploitation. We have allocated resources to carry out dissemination, exploitation and transfer activities under the leadership of SOTON (WP9). The Project Collaboration, Dissemination and Exploitation Board will supervise these activities.

3.1 Overall Dissemination Plan

The general **objectives of the dissemination activities** for the whole consortium are:

- To ensure maximum awareness and visibility of the achievements and results of the project particularly in influential bodies such as the OGC, W3C, the Open Grid Forum, the American Geophysical Union, among others.
- To make known new methodologies and standards that could be obtained as a part of the project results and to encourage their uses to carry on this line of investigation.



- To promote the use of the new technology developed and tested in the project, across companies and institutions who have interest in the Semantic Sensor Grids vision.

3.1.1 Main results to be disseminated

The following table presents the main results to be disseminated organized by WPs.

Technological and Methodological Work Packages			
WP	Name	Leader	Main Results
1	Software Architecture and Middleware for Semantic Sensor Grids	TI UNIMAN UPM SOTON NKUA DMS EMU	- Semantic Sensor Grid Architecture - Selection of the Sensor Networks and Semantic Grid technological infrastructure - Two prototypes of the integrated SemsorGrid4Env middleware will be used as a basis for the development and deployment of the applications.
2	Data Management for Semantic Sensor Grids	UNIMAN NKUA UPM SOTON DMS TI	- Design and implementation of a data management middleware for acquisitional and non-acquisitional data streams. - Online techniques that provide sampling, approximation, and outlier detection functionality for sensor data.
3	Open, Dynamic and Scalable Registries for Semantic Sensor Grids	NKUA UPM UNIMAN SOTON DMS TI	- Design and implementation of the registry of the SemsorGrid4Env infrastructure based on SOA technologies and ideas/implementation techniques from our system Atlas which will be enhanced to deal with spatial and temporal information required in sensor networks.
4	Semantic Infrastructure for Semantic Sensor Grids	UPM NKUA UNIMAN SOTON DMS TI	- An ontology-based integration model that takes into account sensor data reliability and different qualities of service.. - Implementation and deployment of the proposed model in the SemSorGrid4Env infrastructure. -.A set of ontologies for the description of sensor networks, their data and processes.
5	High-level application programming interfaces for Semantic Sensor Grids	SOTON DMS UPM UNIMAN NKUA TI	- Simple Application Programming Interfaces to the data available from the use cases. - Rapid generation of mashups that combine live, historical and contextual data.
Test Cases Work Packages			
WP	Name	Leader	Main Results
6	Fire Risk Monitoring and Warning	DMS UPM NKUA	- Development, testing and evaluation of an open large-scale Semantic Sensor Grid combining



		UNIMAN SOTON TI	fire detection sensor networks deployed in one area of Spain and earth observation products from satellites.
7	Coastal and Estuarine Flood Warning in South UK	SOTON EMU UPM UNIMAN NKUA TI	- Design and implementation of a flood warning case study combining established live and historical data sources with a deployment of new sensor nodes.

Figure 1: SemSorGrid4Env Main Results to be disseminated

3.1.2 Dissemination media

To obtain as much diffusion of the project results as possible, across all the areas, several forms of **dissemination media** will be used to achieve that objective:

- Conferences, workshops, and other publications related to the project aims.
- Scientific publications, specialized press, and general information press.
- A white paper related to semantic grid networks.
- Own project web site <http://www.SemSorGrid4Env.eu>, in which all the issues related to the project progress will be explained, results that will be obtained, etc. The SemSorGrid4Env website is being built improving ODESeW technology, which has been developed in the framework of the Esperanto (IST-2001-34373) and Knowledge Web (FP6-507482) projects. Right now, the portal occupies the first position in Google, when you search “SemSorGrid4Env”.
- Direct participation of project partners in influential organizations such as Open Grid Forum, W3C and OGC.
- Organization of specialized events that stress the inter-relationships of the four chief technologies involved in this project in connection with more established focused conferences such as AGU meetings, ACM Sensor Systems, Information Processing in Sensor Networks, AAI, IJCAI, ECAI, WWW, ISWC, ICDCS, ICWS, ICSOC, VLDB, SSDBM, ACM SIGMOD, Open Grid Forum, HPDC, UK E-Science All Hands, etc.
- Course material for universities to be used in interdisciplinary graduate (M.Sc. or Ph.D.) courses, summer schools, decision makers and consultants, as well as for SMEs on SemSorGrid4Env technology.
- Multimedia material showcasing to the public at both the early and late stages of the project. This material shall be downloadable from the project web site and from other widely visited media.
- Participation in an incubator group at W3C on semantic sensor networks, together with CSIRO (Australia), DERI (Ireland) and Wriqth University (US).

3.1.3 Joint dissemination with other IST projects

In order to assure coherence of the work supported within the 6th and 7th Framework Programmes, as well as within international initiatives including the Group on Earth Observation (GEO), the Global Monitoring for Environment and Security (GMES), the



INSPIRE Directive and the related proposed Shared Environmental Information System (SEIS), representatives of the consortium will - upon request by the European Commission - participate in meetings where the project objectives and outcomes (of a public nature) will be presented in the perspective of contributing to common approaches and sharing best practices. The concertation activities related with the project clusters foresee up to four meetings per year with the presence of project representatives.

Special attention will be also given to establish cross collaboration with national initiatives on all the areas of the project. Examples of running projects with which we plan to establish liaisons are: SANY, SCIER, NeOn, BREIN and BEINGrid. In addition we will liaise with national organisations such as the UK National Grid Service and OMII-UK or the IrisGrid initiative in Spain.

We will contribute to the cross-fertilization by means of participating in joint meetings where scientific and technical results are presented, and participating in joint educational and promotional activities, in both academia and industry.

3.2 Individual Dissemination Plans

3.2.1 Universidad Politécnica de Madrid

Partner contribution

Universidad Politécnica de Madrid (UPM) is an “academic technology provider”. The ontology group at UPM has an extensive experience in the ontology area (methodologies, ontology construction, and ontology-based tools). In the SemSorGrid4Env project, this experience will be used to build an ontology-based integration model that considers sensor data precariousness and different qualities of service as well as a set of ontologies that describes sensor networks. This individual dissemination plan describes the intended dissemination activities that will be executed in order to transfer our experience and results in the SemSorGrid4Env project into the academia, IT companies and companies in other sectors.

The main UPM results in the SemSorGrid4Env project are:

□ **Integration model for Semantic Sensor Grids:**

UPM will develop an ontology-based integration model for data integration of sensor networks data sources. This model considers the quality of service as first-class citizen.

This model will be implemented and deployed in the SemSorGrid4Env infrastructure.

□ **Ontology suite for the description of sensor networks:**

- A set of ontologies for the description of sensor networks and their data and processes will be developed. These ontologies will be based on SensorML, but they will integrate upper-level ontologies and generic and domain ontologies.

The **main objectives of the dissemination activities of UPM** are:



- To ensure maximum awareness and visibility of the achievements and results of the SemSorGrid4Env project.
- To establish a focal point for the European Semantic Grid community, Sensor Networks community and European semantic web and web service community - including researchers and leading-edge industrials - who have an interest in the development and use of ontologies and ontology-based technology in research and commercial applications.

Partner dissemination

UPM has planned to disseminate the SemSorGrid4Env project results in form of articles in international journals and magazines, presentations on international conferences, announcements, organization of thematic workshops, PhD and Master Courses, etc.

The present **individual dissemination plan** is based on the following channels and recommendations:

- Thematic networks of excellence, conferences, workshops and other publications:
 - Conferences and workshops considered are:
 - Main Conferences on Semantic GRID
 - Main Conferences on Sensor Networks
 - Workshops of the Knowledge Acquisition community (EKAW, KCAP).
 - Conferences of the Semantic Web community (ISWC, ESWC).
 - Workshops on Semantic GRID and Semantic Web collocated with other conferences (IJCAI, ECAI, and AAI).
 - Main Conferences on Artificial Intelligence (IJCAI, ECAI, AAI).
 - National AI Conferences (CAEPIA).
- Publications:
 - Journals considered for publication are: IEEE Intelligent Systems, AI Magazine, ACM Sensor Systems, Information Processing in Sensor Networks, KER, DKE, and IJMCS.
 - Scientific publications in the previous specialized forums.
 - Specialized publishers will be contacted for book publications on states of the arts derived from the SemSorGrid4Env project.
 - The Internet: the website (www.SemSorGrid4Env.eu) is operative with a private and a public area including a general overview of the project and information on active topics.
- Specialized press and mass media.
- PhD, and Master Thesis: Ontology-based integration model for data integration of sensor networks data sources, Ontologies for the description of sensor networks and their data and processes.



- Direct (focused) contacts:
 - UPM will contact with standardization bodies (OGF, W3C, ISO, IEEE) for the data integration of sensor networks data sources and the corresponding ontologies.
- Participation in specialized events:
 - MADRI+D.
- Creation of courses material:
 - University:
 - PhD. course in ontologies, the Semantic Web and the Semantic Grid.
 - Seminars in ontologies, the Semantic Web and the Semantic GRID (for instance, in the ATHENS network).
 - Course Units specialized on Semantic Sensor GRID technology. Such courses could be included into tutorials attached to main international conferences and related summer schools on the SemSorGrid4Env project topics.
 - Courses at international summer schools.
 - Tutorials at International Conferences.
 - MSc and postgraduate courses.
 - Short courses and invited talks.
 - Companies: strongly specialized short courses for corporations next to the Semantic Sensor GRID area.
- Liaisons with other related projects for public results of the SemSorGrid4Env project.

3.2.2 The University of Manchester

Partner Contribution

The University of Manchester (UNIMAN) is at the forefront of the development of the technological infrastructure for e-Science, and an international player in (Semantic) Grid computing, e-Science and the Semantic Web. UNIMAN's role in SemSorGrid4Env is to lead WP2 (Data Management in Semantic Sensor Grids), and to contribute significantly to WP1 (Software Architecture and Middleware for Semantic Sensor Grids) and WP4 (Semantic Infrastructure for Semantic Sensor Grids). The main outcome from UNIMAN's participation will be the design and implementation of (i) a project-wide software architecture and (ii) a data management middleware for acquisitional and non-acquisitional data streams.

Partner Dissemination

As a leading research institution, the University of Manchester is continually involved in traditional academic dissemination activities, largely consisting of publication in



academic journals, conferences and workshops. This will continue with the results of the SemSorGrid4Env project.

Publication targets of particular relevance both for our work on WP2 and WP4 are conferences of the database and semantic web communities (e.g., VLDB, ICDE, SIGMOD, EDBT, SSDBM, CAISE, ISWC, ESWC and BNCOD), associated journals (e.g. VLDB J., DKE, DPDB, JWS, JDS) and also the sensor network community (e.g., EWSN, SenSys). We also anticipate contributing to publications on the architecture, for example in the service-oriented architecture literature (e.g. ICWS, ICSOC).

We also hope to give seminars, tutorials, demonstrations and talks at scientific meetings helping to raise the profile of the project.

The Cooperating Objects network of excellence (CONET; <http://www.cooperating-objects.eu>) aims to build a strong community among the communities of embedded systems for robotics and control, pervasive computing and wireless sensor networks. We aim to participate in this community in order to exchange ideas and increase the visibility of the project.

Furthermore, the results of the project will be reflected in masters level teaching on information management, and we anticipate more focused dissemination both to research students and research visitors working on sensor data management and information integration.

Although the use or extension of Open Grid Forum (OGF) standards is currently in the early design phase within the project, we anticipate that this experience will be of relevance for informing ongoing work within the OGF, and that either a presentation or Informational document would be an appropriate means to engage with this community.

SNEE (for Sensor NEtwork Engine) is a novel query processing infrastructure for sensor network applications which was designed and implemented during the DIAS-MC (Design, Implementation and Adaptation of Sensor Networks through Multi-Dimensional Co-Design) project. It is being extended as part of the SemSorGrid4Env project, in particular to take account of quality of service specifications in queries and richer analysis capabilities. The initial code release of SNEE is scheduled for the end of February 2009, and subsequent updates will take place throughout the life of the project.



3.2.3 National and Kapodistrian University of Athens

Partner contribution

Partner NKUA has a lot of experience in the following topics related to the project: data management for sensor networks, data mining, spatial and temporal data management, spatial and temporal knowledge representation and reasoning, service oriented technologies, RDF(S) data management and P2P networks.

The main NKUA results in the SensorGrid4Env Project are:

- **Data analysis techniques for sensor streaming data:**
 - We will design and implement algorithms for mining and analyzing data collected by sensors. Specific problems that we will address include the design and implementation of algorithms that identify outliers in streams of sensor data and the design and implementation of lightweight approximate algorithms that use sampling to approximate the results of queries. The algorithms that we will develop will be integrated in the general query framework that will be developed to query the data streams collected by the sensors. They will be able to be deployed either in the limited-resources environment of individual sensors or in a centralized environment.
- **The registry of the SensorGrid4Env infrastructure:**
 - We will design and implement the registry of the SensorGrid4Env infrastructure based on SOA technologies and ideas/implementation techniques from our system Atlas (<http://atlas.di.uoa.gr/>). Atlas is a P2P network for the distributed storage, querying and update of RDF(S) metadata describing Web or Grid resources. In SensorGrid4Env, RDF(S) will be extended with a temporal and spatial dimension to be able to represent temporal and spatial metadata that are useful for sensor discovery. The extension to RDF(S) will be implemented using ideas/implementation techniques from Atlas.

The main objective of the dissemination activities of NKUA are:

- To ensure maximum awareness and visibility of the achievements and results of the SensorGrid4Env project and especially the above results.
- To establish a strong participation in the new area of the Semantic Sensor Web that is under formation right now.

Partner dissemination

The achievements of NKUA in SensorGrid4Env will be disseminated in the following ways:

- NKUA is currently leading the organization of the *1st International Workshop on the Semantic Sensor Web (SemSensWeb 2009)* sponsored by SensorGrid4Env. The workshop will take place on June 1st, 2009 in Crete and



will be collocated with the 6th Annual European Semantic Web Conference (ESWC 2009). The goal of this workshop is to explore whether the core ideas and technologies of the Semantic Web can also be applied to sensor networks to allow the development of an open information space which we call the Semantic Sensor Web. More information can be found in the web page of the workshop <http://semsensweb.di.uoa.gr/>.

- NKUA will investigate the possibility to organize special sessions on Data Analysis in Sensor Networks in Conferences on Sensor Networks.
- Research publications in journals, conferences and workshops that are at the frontier of data management including spatial, temporal and sensor data management (e.g., ACM SIGMOD, VLDB, ICDE, EDBT, MDM, ACM GIS, SSDBM, ICGIS, WWW, SENSAPPEAL), data mining (e.g., ACM SIGKDD, IEEE ICDM, PKDD/ECML), Artificial Intelligence (AAAI, IJCAI, ECAI), Semantic Web (WWW, ISWC, ESWC) and P2P (IPTPS),
- Master and PhD programmes at NKUA where material on the Semantic Sensor Web will be introduced.
- Presentations to Greek and European industry and research institutes specializing in Environmental Information Systems in order to disseminate SemsorGrid4Env results but also start new collaborations.

3.2.4 The University of Southampton

Partner contribution

The University of Southampton has expertise in both Electronics and Computer Science as well as environmental monitoring and GIS systems (through Geodata). It will use its industrial, academic and press contacts in order to disseminate results and progress of the project at appropriate times. A key activity is the engagement with end-users during the project.

Partner dissemination

GeoData Institute

Dissemination of the flood user case outputs will be propagated through 2 main routes:

- i) Demonstration/meetings and interaction with the key user groups at a Solent/National/EU level with specific demonstration and integration of comments
- ii) Academic and professional conferences and exhibitions

User group contact

o Solent

Solent Forum (Extensive user group)

Channel Coastal Observatory (CCO)

Associated British Ports (ABP)

Natural England (Gov)

SEEDA/PUSH (Regional coastal development initiatives)



- *National*
Environment Agency (UK Gov)
DEFRA (UK Gov)
- *EU*
AMRIE (EU marine management group)

Conferences & Exhibitions (2009)

- Oceanology 2009 (UK)
- Defra Flood and Coastal Management Conference, 2009 (UK).
- Marine Measurement Forum 2009 (UK)
- Coastal Processes 2009 — International Conference on Physical Coastal Processes, Management and Engineering (Malta)
- 1st Open Source GIS UK Conference - University of Nottingham (June 2009)

Electronics and Computer Science

Conferences, Workshops and Journals

- European Semantic Web conference
- Semantic Web Conference
- The World Wide Web conference
- The American geophysical union
- The European Geophysical union
- European Workshop on Wireless Sensor Networks
- ACM Transactions on Sensor Networks
- UK e-science workshops

We will give talks/demonstrations at key UK government events (TSB technology transfer groups on sensors and the environment) to increase awareness among environmental monitoring companies.

We also plan public engagement with press/news/radio/TV through our PR group at key stages in the project.

3.2.5 Deimos Space, S.L.

Partner contribution

DMS Space is a private Spanish company operating in aerospace activities. The company is part of Elecnor Group, which is one of the leading Spanish groups in the fields of energy, transport, environment, installations and telecommunications, with subsidiaries in 10 countries around the globe.

DMS Space solutions encompass a wide variety of specialised aerospace engineering studies and software developments in the areas of:

- **Mission Analysis:** Space mission analysis activities focus on the preliminary definition of space missions, so as to determine the optimal mission profile to achieve a given objective.
- **Space systems engineering:** covers the definition of the system and verification of compliance with technical requirements and constraints.



- Ground Segment Systems. The ground segment of a satellite mission provides the resources for managing and controlling the mission phases.
- Real-Time Systems. DMS Space real-time systems expertise is related to the development, and independent validation, of embedded real-time software for space vehicles and satellites.
- Space Software Systems. DMS Space experience in the development of space software systems applications comprises all those software systems which are located on-ground, but are not directly related to satellite controlling and monitoring.
- Technology Transfer. DMS Space activities in the scope of technology transfer include the following relevant areas of development and application: transport, mobile applications, industry and environment. The SensorGrid4Env project is being developed by a group of people belonging to this area.

Partner dissemination

□ Publications and Documentation

The provided documentation for the Fire Use Case application in SensorGrid4Env will be the following:

- Publications in international conferences and journals together with other partners from the consortium.
- User guide for installing, administering and using the application software.
- A deep presentation with the main advantages for the agile sensor application development and the fire use case study. The whole set of tools, simulators, nodes, sensors, etc. will be deeply explained.
- A brochure presenting the project and, more concretely, the fire use case scenario and main achievements.
- A reference to the Fire Use Case application in SensorGrid4Env will be included in Deimos Space's (within the Technology Transfer Division site) webpage. Moreover, a reference to SensorGrid4Env portal will be provided for getting additional data.

□ Presentations

The planned presentations will be done at two levels: internal and end-user.

The *internal presentation* of the Fire Use Case application will be done for showing the application to SensorGrid4Env Consortium. The definitive date will be proposed close to the end of the project.

The *end-user presentation* of the Fire Use Case application will be done for showing the applicability of SensorGrid4Env architecture and development to a forest ranger team located in a small town close to Madrid, in a grassland and forest area. In fact, this presentation will be focused on remarking the advantages of the new application, and applicability of the application within the scenario.



3.2.6 EMU Limited

Partner contribution

Emu Limited is a commercial marine survey organisation with extensive experience of sensor networks. It is responsible for running a large oceanographic and meteorological sensor network on behalf of the Channel Coastal Observatory. The network consists of over 28 sites, with sensors measuring tidal height, wave parameters and meteorological parameters. The sites cover the south coast of the UK and the Yorkshire coast. Emu Limited also uses specialist experience of data collection and telemetry systems to run real-time sites in Wallasea (UK), North Wales (UK), and Angola.

Historical data from several of the existing Channel Coastal Observatory sensors will be utilised as part of the flood warning use case for the SemsorGrid4Env project. These sensors also double as live data sources, as they continue to run. In addition, 3 new, heterogeneous sensors will be deployed within the Solent region (UK).

Partner dissemination

Emu Limited is not only a provider of sensed data, but also a user. The information collected by the Channel Coastal Observatory sensors is used on a regular basis to aid in decision making regarding survey operations. In this regard, Emu Limited maintains close relationships with other users of the same data, and potential users of the new data streams and IT architecture.

Emu Limited has a commercial presence at many industry conferences and fairs. These present an opportunity for information sharing regarding technical advances in the marine survey field. Emu staff propose to present talks at the following conferences:

- Oceanology 2009 (UK)
- Defra Flood and Coastal Management Conference, 2009 (UK).
- Marine Measurement Forum 2009 (UK)
- Coastal Processes 2009 — International Conference on Physical Coastal Processes, Management and Engineering (Malta)
- 1st Open Source GIS UK Conference - University of Nottingham (June 2009)

The talks will centre around the development of the flood warning case study. The semantic sensor grid architecture will be disseminated to existing and potential users of sensor grid data. A stand will be occupied at the Defra Flood and Coastal Management Conference, providing a specialised arena for live demonstrations of the project outcomes.

A page of the Emu Limited website will be dedicated to the SemsorGrid4Env project. This will publicise the achievements of the project and encourage the exploitation of the advances in environmental sensor grid technology. A link to the SemsorGrid4Env project website will be provided.



3.2.7 TechIdeas Asesores Tecnológicos, S.L.

Partner contribution

TechIDEAS is an innovation and software engineering firm that uses a software-centric design approach to help organizations generate new offerings and build new capabilities. TechIDEAS transforms ideas into compelling software and systems offerings.

TechIDEAS helps organizations in the business, government, education and social sectors innovate and grow in Information Technologies (IT) in three ways:

- IDEA generation – BRAINSTORMING: we encourage idea generation in all the staff, exploring radical and unorthodox ideas.
- IDEA evaluation – PROTOTYPING: we experiment with prototypes to evaluate the technical feasibility and market opportunity. Prototyping lets you fail early to succeed sooner.
- TECHNOLOGY development – IMPLEMENTATION: we transfer from prototype to a sell-in product, through detailed software design and engineering.

Partner dissemination

As a SME specialised in the development of software applications, TechIDEAS is not significantly involved in dissemination activities. However, TechIDEAS is deeply committed with Open Source and often disseminates some of their achievements in terms of articles and presentations in international conferences (Gabaldón et al., 2007).

References

- Gabaldon, J.E.; Hernandez, P.; Vidal, M., "Think BIG or Die; Envisaging the End of System Failures," Digital EcoSystems and Technologies Conference, 2007. DEST '07. Inaugural IEEE-IES , vol., no., pp.177-180, 21-23 Feb. 2007
URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=4233700&isnumber=4233617>