



SemSorGrid4Env
FP7-223913



Deliverable

D9.4 v1

Report on Dissemination Activities

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February 28th, 2010

<Status: > Final

<Scheduled Delivery Date: > February 28th, 2010



Executive Summary

The present document describes the dissemination activities that have been done in the context of the SemSorGrid4Env project, according to the original plan for dissemination activities described in deliverable D9.2.

The overall dissemination plan recommended the centering into niches of dissemination as a function of the type of member (corporation, R&D department, university, etc.). This recommendation allows maximizing the dissemination channels providing different technological levels as a function of the final group of dissemination. This is something that has been pursued during these 18 months of project execution, with relevant results in research-oriented fora and with a clear plan for the promotion of SemSorGrid4Env results in user communities.



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:

- Those dissemination activities that fall in year 1 have been obtained from the first annual report of the project.



Document Information

Contract Number	FP7-223913	Acronym	SemSorGrid4Env
Full title	SemSorGrid4Env: Semantic Sensor Grids for Rapid Application Development for Environmental Management		
Project URL	www.SemSorGrid4Env.eu		
Document URL	http://www.semsorgrid4env.eu/home.jsp?content=/sew/viewTerm&content=instance.jsp&sew_var_name=instance&sew_instance=D9.4+v1&sew_instance_set=SemSorGrid4Env&origin=%2Fhome.jsp		
EU Project officer	Antonios Barbas		

Deliverable	Number	9.4	Name	Report on Dissemination Activities v1		
Task	Number	--	Name	--		
Work package	Number	9	Name	Dissemination, Transfer and Exploitation		
Date of delivery	Contractual	28/2/2010	Actual	28/2/2010		
Code name				Status	draft <input type="checkbox"/>	final <input checked="" type="checkbox"/>
Nature	Prototype <input type="checkbox"/> Report <input checked="" type="checkbox"/> Specification <input type="checkbox"/> Tool <input type="checkbox"/> Other <input type="checkbox"/>					
Distribution Type	Public <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Consortium <input type="checkbox"/>					
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Abstract (for dissemination)	The present document provides a report of the dissemination activities for the SemSorGrid4Env project during the first 18 months of project execution.					
Keywords	Dissemination, exploitation					



Project Information

This document is part of a research project funded by the IST Programme of the Commission of the European Communities as project number FP7-223913. The Beneficiaries in this project are:








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3.2.3	National and Kapodistrian University of Athens ..	¡Error! Marcador no definido.
3.2.4	The University of Southampton	¡Error! Marcador no definido.
3.2.5	Deimos Space, S.L.	¡Error! Marcador no definido.
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1 Introduction

This document reports on the dissemination activities done for the SemSorGrid4Env project in the first 18 months of execution.

As described in deliverable D9.2, 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.



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):	Norman Paton
National and Kapodistrian University of Athens (NKUA):	Manolis Koubarakis
The University of Southampton (SOTON):	Kirk Martinez
DMS Space, S.L. (DMS):	Agustín Izquierdo
EMU Limited	Bruce Tomlinson
TechIdeas Asesores Tecnológicos, S.L.	Jesús E. Gabaldón



3 Summary of the Dissemination Plan

These are the main aspects that summarise the dissemination plan described in D9.2, and the main results identified for dissemination:

- 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.**
- Dissemination is planned at two levels:
 - At the level of the whole consortium.
 - At the level of the individual partners of the consortium.
- The main results to be disseminated are identified in the following table, organised 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	- Simple Application Programming Interfaces to the data available from the use cases. - Rapid generation of mashups that



Test Cases Work Packages			
WP	Name	Leader	Main Results
		NKUA TI	combine live, historical and contextual data.
6	Fire Risk Monitoring and Warning	DMS UPM NKUA UNIMAN SOTON TI	- Development, testing and evaluation of an open large-scale Semantic Sensor Grid combining 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

And several forms of **dissemination media** will be used:

- Conferences, workshops, and other publications related to the project aims.
- Scientific publications, specialized press, and general information press.
- Project web site <http://www.SemSorGrid4Env.eu>.
- 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 Wriath University (US).

Finally, the dissemination plan also considers joint dissemination with other IST projects 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).



4 Dissemination activities during the first 18 months

4.1 Presentations

Presentations organized by the SensorGrid4Env consortium oriented to academic/research audience:

- Storing and querying RDF(S) data on top of DHTs: the case of Atlas. Manolis Koubarakis (NKUA). 31/10/2008. Invited talk at the Max-Planck-Institut für Informatik, Saarbrücken, Germany. The talk presented the system Atlas developed at NKUA (<http://atlas.di.uoa.gr/>) and sketched its use and proposed extensions in SensorGrid4Env.
- Retos científicos y tecnológicos en la combinación de semántica y Grid. Oscar Corcho (UPM). 12/02/2009. Informática 2009. La Havana, Cuba.
- SNEE talk for SWIG workshop. Ixent Galpin (UNIMAN). 10/03/2009.
- Several talks by Oscar Corcho, Manolis Koubarakis, Alvaro Fernandes, Alasdair Gray and Dave de Roure at the Dagstuhl seminar on Semantic Challenges on Sensor Networks. January 2010.

Presentations organized by the SensorGrid4Env consortium in events with users:

- NKUA visited the Institute for Space Applications and Remote Sensing at the National Observatory of Athens (ISARS/NOA <http://www.space.noa.gr/isars/>) in January 2009 and talked about the work in SensorGrid4Env. ISARS (is the National Contact point for Greece in GMES (Global Monitoring for Environment and Security) and does a lot of work with government authorities with respect to forest fire monitoring in Greece. We presented the ideas of SensorGrid4Env to this group and are planning very close collaboration for joint diploma and MSc theses, submission of proposals to national calls etc.
- SOTON held meetings with each of the following short-list of user partners: the Environment Agency of England and Wales, the Channel Coastal Observatory, the Solent Forum, Associated British Ports (Southampton) and the Queen's Harbour Master (Portsmouth). The establishment of the partner network has been expedited by the fact that Mike Clark has existing and long-standing research project links with the Environment Agency, the GeoData Institute hosts the web-based delivery service for the Channel Coastal Observatory, and Mike is Chair of the Solent Forum and through this position has Steering Group links with Associated British Ports and the Queen's Harbour Master. These existing links have, in effect, opened the doors that have allowed us to lobby on behalf of SSG4Env, hereby reducing the time taken to bring major organisations into the user network. Discussions have been held with: Simon Ashley, Head of Interactive Development, Environment Agency; Professor Anrew Bradbury, Director, Channel Coastal Observatory; Travis Mason, Channel Coastal Observatory; Karen McHugh, Solent Project Officer, Hampshire County Council; Rhian Davies, Solent Forum Officer, Hampshire County Council; Rob Crighton, Chair, Southern Water Quality Association, Southampton City; Ron Hancock, Associated British Ports, Southampton; Commander Stephen Hopper, Royal Navy, Queen's Harbour Master, Portsmouth.
- Emu Limited booked a stall at the DEFRA (Department of the Environment, Food and Rural Affairs) Flood and Coastal Management Conference in July 2009. This



was a key opportunity to disseminate about SensorGrid4Env, and more specifically the flood use case. Attendees at this conference are professionals such as local authority coastal engineers and environmental consultants.

- During the process of applying for the licences to deploy the sensors (as part of deliverable 7.2), Emu Limited has been in contact with more potential end-users. We have been explaining the nature of the project to the stakeholders, who will be able to make use of the data collected and the outcomes of the project.

4.2 Publications and press releases

This section presents the publications and press releases of the SensorGrid4Env consortium:

- Project wide publications (used to promote awareness of the project) include publications in international fora in the technological and user sides, and the production of press releases in both areas as well:
 - o Oscar Corcho and the rest of consortium members. SensorGrid4Env. ESWC2010 News from the Front. June 2010. Hersonissos, Greece.
 - o Oscar Corcho and the rest of the consortium members. SensorGrid4Env. EGU2010 symposium. May 2010. Vienna, Austria.
 - o Craig Hutton (SOTON). SemSorGrid4Env - Semantic Sensor Grids for Rapid Application Development for Environmental Management -. September 2009 issue. GeogNews article. <http://www.southampton.ac.uk/geography/about/docs/News33.pdf>
 - o Craig Hutton (SOTON). Flood Forecasting project surveys the south coast. 2009. FESMNews (internal to the University of Southampton)
 - o Press release at <http://www.fi.upm.es/?id=tablon&acciongt=consulta1&idet=321> and <http://www.fi.upm.es/?id=tablon&acciongt=consulta1&idet=333>.
- WP-focused publications include publications in international workshops and conferences.
 - o Kevin Page, David De Roure, Kirk Martinez, Jason Sadler and Oles Kit. Linked Sensor Data: RESTfully Serving RDF and GML. ISWC 2009 2nd International Workshop on Semantic Sensor Networks, pp 49-63
 - o Juan Sequeda, Oscar Corcho and Asunción Gómez-Pérez. Generating Data Wrapping Ontologies from Sensor Networks: A Case Study. ISWC 2009 2nd International Workshop on Semantic Sensor Networks, pp 122-134
 - o Juan Sequeda and Oscar Corcho. Linked Stream Data: A Position Paper. ISWC 2009 2nd International Workshop on Semantic Sensor Networks, pp 148-157
 - o Ixent Galpin, Christian Y.A. Brenninkmeijer, Farhana Jabeen, Alvaro A.A. Fernandes, and Norman W. Paton. Comprehensive Optimization of Declarative Sensor Network Queries. 21st International Conference on Scientific and Statistical Database Management. SSDBM 2009, LNCS 5566, pp. 339–360, 2009
 - o Christian Y. A. Brenninkmijer, Ixent Galpin, Alvaro A. A. Fernandes, Norman W. Paton. Validated Cost Models for Sensor Network Queries. 26th British National Conference on Databases.
 - o Kostis Kyzirakos and Manolis Koubarakis. Modeling and Querying Metadata in the Semantic Sensor Web: the model stRDF and the query language stSPARQL. ESWC2010 Sensor Network Track. June 2010.



4.3 Organisation of events

This section presents the events organized by the SensorGrid4Env consortium:

- Manolis Koubarakis (NKUA), Oscar Corcho (UPM) and Manfred Hauswirth (DERI) organized the 1st International Workshop on the Semantic Sensor Web (SemSensWeb 2009) on June 1st, 2009 in Heraklion, Crete, Greece in the context of the European Semantic Web Conference 2009. <http://semsensweb.di.uoa.gr/>
- Dave de Roure (SOTON), Kerry Taylor (CSIRO) and Arun Ayyagari (Boeing) organized the 2nd International Workshop on Semantic Sensor Networks (SSN2009) on October 26th, 2009 in Washington, US, in the context of the International Semantic Web Conference 2009. <http://150.229.98.105/conferences/ssn/ssn09/>
- Kirk Martinez organised a session on Sensing, Networking and Fusing the Data for the American Geophysical Union Fall meeting, December 2009.
- Oscar Corcho (UPM) and Alan Smeaton (DCU) were track chairs of the Sensor Network track at the European Semantic Web Conference 2010. <http://www.eswc2010.org/>

4.4 Other

Dedicated project webpages in beneficiaries' organisations:

- Emu Limited has a page on its website dedicated to the dissemination of the SensorGrid4Env project: <http://www.emulimited.com/oceanography/sg4e.htm>
- Deimos has contributed a page on SensorGrid4Env in the internal Deimos Intranet.

Course Material:

Material generated in the project has been included in course material for 4th year module ELEC6026 "Distributed Computing Systems".

Code releases:

The SNEE code was released on May 27th, 2009.



5 Conclusions

The project dissemination is progressing as expected. The project has been disseminated in specialised fora both in the Computer Science and in the Environmental Science domains, and the project consortium has been active in the organisation of events in the scientific community that could lead to a recognition of the SensorGrid4Env project. As an example, the project was at the core of the Dagstuhl perspectives seminar on Semantic Sensor Networks, with a large number of participants from the project and with active discussions where SensorGrid4Env was considered as a key project in the area.

The first set of relevant individual and combined results of the project were available by the end of August 2009, and several publications were prepared, some of which have been accepted for high-level conferences. This effort will follow in the future, especially with results from evaluations that will be done in the following months after the initial delivery of source code done in December 2009.

Press releases have been also produced and have had some impact, and multimedia material will be prepared for the future, with more concrete results.