

<In a nutshell, ...>

... the mission of Knowledge Web is to strengthen the European industry and service providers in one of the most important areas of current computer technology: Semantic Web enabled e-work and e-commerce. We will concentrate our efforts on the outreach of this technology to industry. Naturally, this includes education and research efforts to ensure the durability of impact and support of industry. Therefore, the main objectives of Knowledge Web are: **Outreach to Industry, Outreach to Education and Coordination of Research.**

<Summary of Activities>

Knowledge Web continues to be the core center for activities and initiatives in Semantic-Web research. The researchers of Knowledge Web are **leading key activities in standardization**, notably the OWL 1.1 activity and the W3C Data Access (DAWG), Rule Interchange Format (RIF) and Semantic Web Deployment (SWD) Working Groups. Knowledge Web has developed workbenches for tools and leads the international **Ontology Alignment Evaluation Initiative (OAEI)**. The network has set up a foundation for Semantic Web education and started an exchange program for master students.

Also, the network supports **deployment in specific application areas** in cooperation with potential user organizations, focusing on the life-science and human-resource management domain. Knowledge Web is keen to support new activities, such as the **Semantic Web Services Challenge**, which foster comparison and deployment of Semantic Web techniques. The network is now preparing to conclude its activities in its fourth and final year by completing a **road map for Semantic Web deployment**.

<Important Work Areas>

Industry

The main point of focus in the Industry Area activity in Knowledge Web is our major willingness to foster the take-up of this technology for the sake of competitiveness of EU IT. To reach this goal, we work closely with industry (Industry Board of more than 50 members) to align our Semantic Web research with industry requirements and demonstrate industrial application of the state of the art research results through 'real world' business scenarios. In particular, we have focused - primarily in 2006 - our analysis to a few (low hanging fruit) business use cases in different economic sector (Healthcare, Human resources management, B2B).

In support of this goal, we are:

- analyzing the current technology roadblocks,
- benchmarking available tools and methodologies,
- proposing Semantic Web framework to execute business scenarios
- recommending Ontology contents through our Ontology Outreach Advisory (OOA),
- providing an Ontology repository (OYSTER oyster.ontoware.org) to ease ontology reuse,
- designing a Semantic Web technology roadmap,
- proposing a collection of Best Practices to deploy applications (in conjunction with W3C)
- and (co)organizing many industry related events (about 10 in 2006) to ease the transfer of the state of the art to industry.

In 2007, the final year of the Knowledge Web network, we will demonstrate some of these results in industry events (workshops/demos) such as an Industry track at ESWC 2007 and at the Semantic Technologies conferences in Europe and in Asia in 2007.

Research

Research Activities

The network is actively working in key areas required to make the Semantic Web a reality: scaling the Semantic Web up; dealing with its heterogeneity; and embracing its dynamic nature. Particular areas targeted include ontology alignment, modularisation, and the dynamics of the ontology lifecycle.

Standards

Building on the success of the W3C Web Ontology Language OWL, Knowledge Web is actively pushing towards standardization of query languages and rules – seen as next steps towards the Semantic Web.

Application for commercial markets

Semantic Web Services provide a driver and evaluation mechanism for our research developments. Concertation with FP6 integrated projects in the ESSI cluster Knowledge Web has produced case studies and requirements.

The research community

The topic-oriented researcher exchange (T-REX) program continues to build a virtual research community and enables long-term impact with high-quality exchanges. Knowledge Web has also continued its support and sponsorship of key meetings and workshops.

Education

The education area organized two major educational events: a new PhD symposium closely connected with the European Semantic Web Conference and the well-established European Summer School on Ontological Engineering and the Semantic Web, the key educational event in the Semantic Web area. As a long-term effort, the European Academy for Semantic Web Education was initiated to organize a joint European Master of Science degree in the area of Semantic Web. The education area also improved the user interface of REASE, the repository of Semantic Web learning resources, based on user feedback and continued to provide additional learning resources. ASPL, the Advanced Semantic Platform for Learning, was extended with several specialized services to use more advanced Semantic Web technologies and re-use distributed knowledge resources of the partners. To bundle all these activities after the end of the project, we founded the European Association for Semantic Web Education in June 2006.

<User Involvement, Promotion and Awareness>

The **Industry Board** of Knowledge Web currently consists of more than 50 highly dedicated members. Many meetings have been held and are planned for the future to further strengthen the links between these members and the Knowledge Web consortium. In particular, we are working towards establishing one large and unified industry oriented Semantic Web venue in Europe.

Among the very successful events which contribute to the high profile of Knowledge Web is the **4th European Summer School on Ontological Engineering and the Semantic Web** which was organized last summer by the consortium. This summer school, presented by leading researchers in the field, is successor of the well-received schools held in 2003 as part of the activities of the OntoWeb Network Consortium and in 2004 & 2005 as part of the activities of the NoE Knowledge Web. The participation of Knowledge Web members in various programme committees, **W3C working groups** and in the **organization of events** contribute to the visibility of the network. Many specialized workshops have been supported by Knowledge Web partners. In particular, the Ontology Alignment Evaluation Initiative (OAEI) has a tangible impact on the ontology matching field.

Since 01-March-2004, the public version of the **Knowledge Web portal** has been running at <http://knowledgeweb.semanticweb.org/>. The portal includes a public area with information to be used by anybody interested in knowledge technologies and also a restricted area to be used by Knowledge Web partners. The portal has high visibility and is in the first position in Google.

FP6 integrated projects SEKT, DIP, and the Network of Excellence Knowledge Web have created the SDK cluster for facilitating the coordination between these

projects and promoting them. With the inclusion of the integrated project ASG in 2005 the SDK cluster changed into the **European Semantic Systems Initiative** ESSI. The initiative revolves around two interest groups dedicated to "Ontologies" and "Semantic Web Services". It also organized the first three European Semantic Web Conferences.

Events and Projects with which Project co-operates/clusters closely

FP6 Projects

Data, Information, and Process Integration with Semantic Web Services (DIP)

FP6-507483

<http://dip.semanticweb.org/>

Semantically-Enabled Knowledge Technologies (SEKT)

FP6-506826

<http://sekt.semanticweb.org/>

Semantics Utilised for Process management within and between Enterprises (SUPER)

FP6-026850

<http://ip-super.org/>

FP6 Networks of Excellence

Agentlink III

FP6-002006

<http://www.agentlink.org/>

Rewerse

FP6-506779

<http://www.reverse.net/>

ProLearn

IST - 507310

<http://www.prolearn-project.org/>

FP6 Projects

Ontogrid

FP6-511513

<http://www.ontogrid.net/>

Main Events

3rd European Semantic Web Conference (ESWC06)
11-14 June 2005
Budva, Montenegro
<http://www.eswc2006.org/>

4th European Summer School on Ontological Engineering and the Semantic Web (SSSW-2006)
09-15 July 2006
Cercedilla, Spain
<http://torresq.dia.fi.upm.es/sssw06/frames.jsp>

1st Asian Semantic Web Conference (ASWC 2006)
03-07 September 2006
<http://www.aswc2006.org/>

5th International Semantic Web Conference (ISWC2006)
05-09 November 2005
Athens, USA
<http://iswc2006.semanticweb.org/>

SEMANTICS 2006
28 – 30 November 2006
Vienna, Austria
<http://www.semantics2006.net/>

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