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Welcome to the 5th edition of our SEMANTCO Newsletter. SEMANTCO is deep into its third and final year – the project's implementation phase – and there is now a significant emphasis on disseminating SEMANTCO's results and preparing to exploit the tools that we have developed. In March, the 8th general meeting of the SEMANTCO consortium took place in Lulea, Sweden, hosted by project partners Agency 9. Dissemination and exploitation were the main discussion points on the agenda with a number of significant events being arranged to promote SEMANTCO and the project's potential over the coming months.

At the end of May, partners from the consortium hosted three separate workshops in the UK, Spain and Denmark. In total these workshops featured around 130 delegates from a mixture of academic, government and commercial stakeholders and served twin purposes. Firstly they provided some of our key stakeholders with detailed insight into the project, the tools that have been developed and how they can be exploited. Secondly they served to provide guidance for the final stages of the development of the SEMANTCO platform, maximising the real world relevance of the results of the project. You can read more about each workshop below.

Summer 2014 will prove to be an exciting and dynamic season for the project and I hope to share it with you over coming months!

Leandro Madrazo, SEMANTCO Project Coordinator

SEMANTCO News

■ VoCamp - Integrating Multiple Domains and Scales

The VoCamp on "Integrating multiple domains and scales" took place at the School of Architecture and Engineering La Salle, Barcelona, Spain, on 13-14th February 2014. VoCamps (Vocabulary Camps) is an initiative of the European Commission carried out with the support of the ADAPT4EE project. A vocabulary camp (VoCamp) is a series of informal events where experts get together to deliver lightweight vocabularies and corresponding ontologies for the Semantic Web (Web of Data). The 4th VoCamp in this series was organized by the SEMANTCO project. Thirty-three researchers from twenty-three institutions in Europe representing eight research projects participated in this event.

The purpose of this VoCamp was to gain an understanding about the application of ontologies to integrate multiple domains and scales in order to develop models of urban energy systems which help different actors –urban planners, consultants, policy makers, dwellers– to take better informed decisions in order to reduce energy consumption and carbon emissions in urban environments. In this context, the construction of a shared vocabulary becomes a process by which the knowledge from the different experts participating in the definition and solution of a problem is formalized by means of the ontologies. Likewise, an urban energy system encompasses multiple scales which become intert-

wined as a result of the system's activity. The relationships of system's elements across scales can be also formalized by means of ontologies.

Two keynote speeches were delivered by Koen Van Dam, from Imperial College London, on the topic "Using Ontologies to store, share and apply city data in simulation models", and by Claus Nagel, from virtualcitySYSTEMS in Berlin about "Urban Information Modelling" with the standard CityGML. SEMANCO was represented by Leandro Madrazo, Álvaro Sicilia and Joan Pleguezuelos (La Salle-FUNITEC), Gonzalo Gamboa (CIMNE), German Nemirovski (HAS), and Vincenzo Polito (POLITO).

The following topics were identified in the discussion held during the two-day meeting:

1. Agreement on the basic terminology
2. Ontology building: methods and tools
3. Ontologies and their relations with existing standards
4. Technologies for data integration: ontologies vs data fusion
5. Smart city: activities vs physical models
6. Multiple scales and levels of details: aggregation through scales, city metabolism

A [report](#) summarizing the discussions of the meeting is available in the [SEMANCO website](#).

■ NEA Workshop - Planning for Low Carbon Communities

NEA hosted a "Planning for Low Carbon Communities" workshop on the 22nd May in Newcastle disseminating the latest outcomes from the SEMANCO project. The workshop explored some of the current challenges for built environment professionals working on low carbon urban regeneration. The event illustrated some innovative examples of energy modelling and master planning using a number of European and UK case studies.

The afternoon provided two further case studies of Urban Regeneration "Large scale retrofitting - Energy modelling in Leicester Square Mile" by Andy Stephenson, Square Mile programme, Leicester (Knowledge exchange partnership, East Midlands Housing Association) and 'One Planet Living, Middlehaven, Middlesbrough', by Mark Barlow, Director, DKS Architects.

Round-table discussions encouraged conversations around the SEMANCO tool including usability and availability of data, usability of the tool itself and general feedback from the SEMANCO tool and how it would be useful to planners. The event attracted Local Authority representatives, Academics, Housing Associations, Architects, and Private Companies.

Visit the [Newcastle blog](#) in the [SEMANCO website](#) to find out more.

■ Ramboll Seminar - Tools for Designing Energy Efficient Cities

The design and planning of an urban environment largely determines the possibilities for energy efficiency and sustainable energy supply. Sustainable urban planning is a key element in the transition towards a resource efficient society with a minimal carbon footprint. Sustainable urban planning has been on the agenda for Danish municipalities and urban development companies for a number of years as a tool to systematically reduce CO₂ emissions with the lowest possible socioeconomic impacts. Ramboll, along with their European partners in the SEMANCO project, are exchanging experiences, and developing tools for planning and designing sustainable urban development. Ramboll is participating in a number of other urban development projects and has developed several tools to support energy efficiency in urban planning.

Ramboll have held an open discussion with city planners, energy planners and climate coordinators about how to use these and other tools and what tools are still required to solve actual energy planning challenges. The seminar facilitated participants in gaining knowledge and inspiration, as well as sharing their own views on existing challenges. Attendees learnt more about what considerations urban planners have about economic, environmental and social sustainability within urban planning and energy; also what potentials and barriers they face in their efforts to integrate sustainable energy in urban development projects. Discussions were had regarding what tools are available to systematically evaluate and incorporate sustainability considerations. During the seminar the audience heard how sustainable energy is integrated into the urban development projects Vinge, North Harbour, Fredericia C, Koege Kyst, City of Carlsberg and NYE. A series of publicly available tools were introduced and attendees learnt how planners at both national and European level work on developing planning tools for visualization of urban energy consumption.

The output of the meeting was very valuable giving the opportunity to discuss cases and tools for sustainable and energy efficient urban planning with engineers, architects and urban planners from different public and private organizations (e.g. urban development companies, municipalities, utilities and universities). The seminar was attended by more than 40 participants who shared their knowledge and actively participated in the discussions. Participants also gave valuable feedback to the further development of the SEMANCO-platform through a questionnaire.

■ **FORUM Workshop - Cities and Energy: An Insight Into Energy Consumption In Urban Structures**

The global population is constantly increasing. Some studies foresee that by 2050 we will be exceeding nine billion humans living on the planet. Each year, more and more people are migrating towards cities. By 2007 the percentage of global inhabitants in urban environments first exceeded 50% and it has shown no signs of abating. The current energy model has an expiration date. Since the 1980s it has consumed more oil than it has discovered. FORUM's workshop was a morning of talks from various individuals relevant to the aspects of SEMANCO based in Manresa. This was followed by a further, more hands on, afternoon session on the project.

The event aimed to discuss a number of important topics on energy consumption in urban structures, such as: What are the problems? What role do cities play in the actual energy context? What are the current tools combating those problems? How can municipalities and urban planners fight against them? What are the new methods of controlling energy consumption? How can we support decision making through making data available at different scales (domestic and urban)?

During the first session of the workshop it was made clear (both technically and politically) that a major responsibility for cutting energy consumption was falling into urban environments. It was stated that by using local policies to combat consumption, the probabilities of success increase, due to the localisation of said policy. So in conclusion, cities are the problem, but they are also the solution to decreasing energy consumption when the issue is addressed directly from municipalities. For example, Richard Elelman said that the Covenant of Mayors represents one of the greatest achievements of the EU, engaging directly with municipalities without the involvement of national governments.

The second session highlighted the current status of different lines of work affecting the urban structure. The main questions asked were, how are things being done today and what are the relevant stakeholders lacking in order to do a better job?

In the third session, SEMANCO together with other initiatives and projects showed how access to relevant data in an appropriate form could be useful to the work being done and described earlier. The positive response of the audience created the feeling that information technologies are correctly heading towards their targets.

A total of around 45 people attended the workshop during the whole morning and a selected group was invited to personally test the SEMANCO platform after lunch in a more informal session.

Visit the [Manresa blog](#) in the [SEMANCO website](#) to find out more.

■ **Extended Semantic Web Conference, May 27th – 29th, Crete**

A [poster](#) which summarizes the semantic tools created in the project – ontology editor, ontology mappings– was presented at the [Extended Semantic Web Conference](#) conference by Alvaro Sicilia, from ARC Engineering and Architecture La Salle. A [networking session](#) was organized within the conference to foster the collaboration among research projects. There were thirty presentations, including the one from SEMANCO. Some potential collaboration was discussed with representatives of the Linked Open Earth Observation Data and the READY4SmartCities projects, concerning the creation of semantic models for satellite data.

Visit the SEMANCO website for more details: www.semanco-project.eu
If you would like to become a member of the SEMANCO Dissemination Network,
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