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The use of ontologies for communication purposes in urban environmental information engineering

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The current STSM focused on the need for effective communication concerning urban environmental pressures and quality status towards the citizen. For this purpose, the investigation of the use of Ontologies was proposed, in order to

- Analyse the way that environmental information (air quality, noise, waste, etc) is related to urban structures (roads, buildings, etc)
- Investigate the spatial and temporal urban dimensions of the perception and interpretation of environmental pressures from the citizens point of view
- Suggest presentation and communicating methods of environmental information (air quality example) to optimise its use and effectiveness towards quality of life

One of the aspects of the STSM was that the scientific investigation would not involve only the visiting and the host scientists, but would also include a “participation exercise”, to be materialised via a workshop. On this basis, MSc and PhD students from the host institute participated and suggested ideas for communicating environmental information via appropriate urban “signals” and concepts that originate from Urban Ontologies.

The STSM took place from 22 to 27 of April 2007, with the visit of Dr. Kostas Karatzas at the School of Arts, Culture and Environment, University of Edinburgh, U.K., for collaboration with Dr. John Lee. The result of the mission were presented during the MC meeting of the action that was held in Madrid on May the 15th 2007, with the presence of the action’s scientific officer, Dr. Thierry Goger. The mission did not only fulfilled its goals, but in addition opened a new path for scientific collaboration between the two participating researchers and their teams. As a synergy to the STSM, the recipient of the relevant grant (Kostas Karatzas) has initiated scientific collaborations that are strongly related to the STSM goals and are also in the heart of the COST action’s goals. The publications that have already resulted from the aforementioned activity are mentioned here after, and were initiated by the aforementioned STSM, while also having a strong link to COST Action ES0602, where Kostas Karatzas acts a a vice chair (www.chemicalweather.eu).

- ❑ K. Karatzas and J. Lee (2008), Developments in urban environmental information perception and communication. Proceedings of the iEMSs Fourth Biennial Meeting: International Congress on Environmental Modelling and Software (iEMSs 2008), International Environmental Modelling and Software Society, Barcelona, Catalonia, July 2008. M. Sánchez-Marrè, J. Béjar, J. Comas, A. Rizzoli and G. Guariso (Eds.). ISBN: 978-84-7653-074-0.
- ❑ Li Zhu, Kostas Karatzas and John Lee (2009), Urban environmental information perception and multimodal communication: the air quality example, Multimodal Signals: Cognitive and Algorithmic Issues (Anna Esposito, Amir Hussain, Maria Marinaro, Raffaele Martone, eds.), Lecture Notes in Artificial Intelligence 5398, Springer-Verlag Berlin Heidelberg, pp. 288–299.