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TUD

Action TU0801
Semantic enrichment of 3D city models for sustainable urban development

Participating countries: AT, BE, CH, CY, DE, DK, ES, FI, FR, HR, HU, IT, LV, NL, NO, PT, SE, SI, SK, UK

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www.semcity.eu

Figure 1: 3D city model for urban planning

Working Group 1
Identification and semantic analysis of issues and models
The main purpose of WG1 is to be an exchange and reflection platform about semantic and thematic 3D nature of urban space. Semantic and modeling issues will be identified and analyzed.
This group contains in particular urban experts such as urban planners, urban geographers, sociologists, environmentalists, and researchers from the spatial information field. Main output will be a list of potential semantic enrichments of urban models and a list of potential new 3D urban objects.

Working Group 2
Semantic integration and interoperability
This group will focus on integration and interoperability issues when combining semantic information and models with 3D city models.
This group contains in particular researchers in information sciences and representation techniques.
Main output will be recommendations for semantic information integration within 3D urban models.

Working Group 3
Information aggregation and presentation for decision processes
This group will address the stakes of integrating information into decision processes to support urban development and sustainability.
This group contains in particular members of WG1 and WG2, end-users of 3D city models and urban data producers and managers (e.g. from local or national mapping agencies).
Main output will be a detailed users needs analysis and a usability assessment of WG1 and WG2 outputs.

Objectives:

- To semantically enrich 3D city models with urban knowledge and models, so as to extend their functionality and usability in a perspective of sustainability.

- To add value to current 3D city models through their ontological enrichment.

- To assess the usability of enriched 3D city models, relatively to various urban issues.

- To provide a methodology for creating and maintaining enriched 3D city models.

- To promote the creation and use of enriched 3D city models, especially for new Eastern EU members where such models do not generally exist.

- To develop a network of cities interested in 3D city models, not only in Europe but also in other parts of the world.

- To provide a contribution towards European standards related to 3D city models.

- To produce recommendations for future, funded research focused on more specific issues of urban modelling using simulation models.

Main Achievements:

- The composition of the network with experts coming from the required disciplines for performing the Action: 3D GIS, urban and environmental modelling, knowledge representation (in particular with ontologies).

- The development of a working method using, on the one hand, a top-down approach relying on litterature and publications and, on the other hand, a bottom-up approach coming from real problems met and scenarios thus leading to relevant semantics to add to 3D city models.

- The creation of an "Early Stage Researcher Network" which will complement the STSMs and the Training Schools in inviting the Early Stage Researchers to every meeting and associating them to the Action publication and reporting tasks.