

Workshop 3D Datamangement



Tasks



1. Identification of the state-of-the-art and future requirements of 3D data management
 2. Identification of deficits of existing 3D GIS software and formulation of suggestions to software manufacturers
 3. Identification of country specific similarities and differences of 3D data management
 4. Identification of research tasks of 3D data management
 5. Recommendations
- 22 participants
 - 8 government
 - 8 industry
 - 6 universities

1. State-of-the-art and future requirements of 3D data management



- Hybrid solutions for 3D and 2D
- Maintaining history and time
- Standardisation of 3D objects
- 'New' Terminology – together with lawyers
- Users requirements (e.g. clear understanding of the situation also by non-experts in the cadastre/GIS domain)
- Complete 3D partitioning of legal space
- Data fusion - Merging data sets of different origin and scale
- Complete documentation of data acquisition in database
- Relationship between 3D objects and entities - Topology
- More 3D data comes in – databases are increasing – efficient processing of mass data
- Quality issues i.e. related to the data acquisition
- Performance, workflows for efficient processing for large data volumes
- Efficient workflow for extraction of information from data collection
- More and more complex objects to handle -> more primitives to describe reality

2. Deficits of existing 3D GIS software and formulation of suggestions to software manufacturers



- More 3D spatial operators are asked
- Queries in 3D are possible, but the creation of new 3D objects is not
- Performance (efficient algorithms → new algorithms)
- Automatic feature extraction from collected data – stable workflow – reliable results
- Constraints in 3D data bases
- Quality assessment in 3D
- conflict management
- Workflows have to be designed with respect to the given task (collaboration of vendors and users)
- Current basic 3D standards are not complete sufficient for cadastral purposes

3. Country specific similarities and differences of 3D data management



- generic solutions seem not to be feasible
- (legal) specifications are too different
- workflows are too different

4. Research tasks of 3D data management



- New algorithms for 3D analysis
- New algorithms for feature extraction and change detection
- Spatial and temporal concepts
- Data fusion of information with different scales
- Object oriented databases
- Requirements of the users (or the legal restrictions) of 3D cadastre
- New technologies/concepts for 3D structures

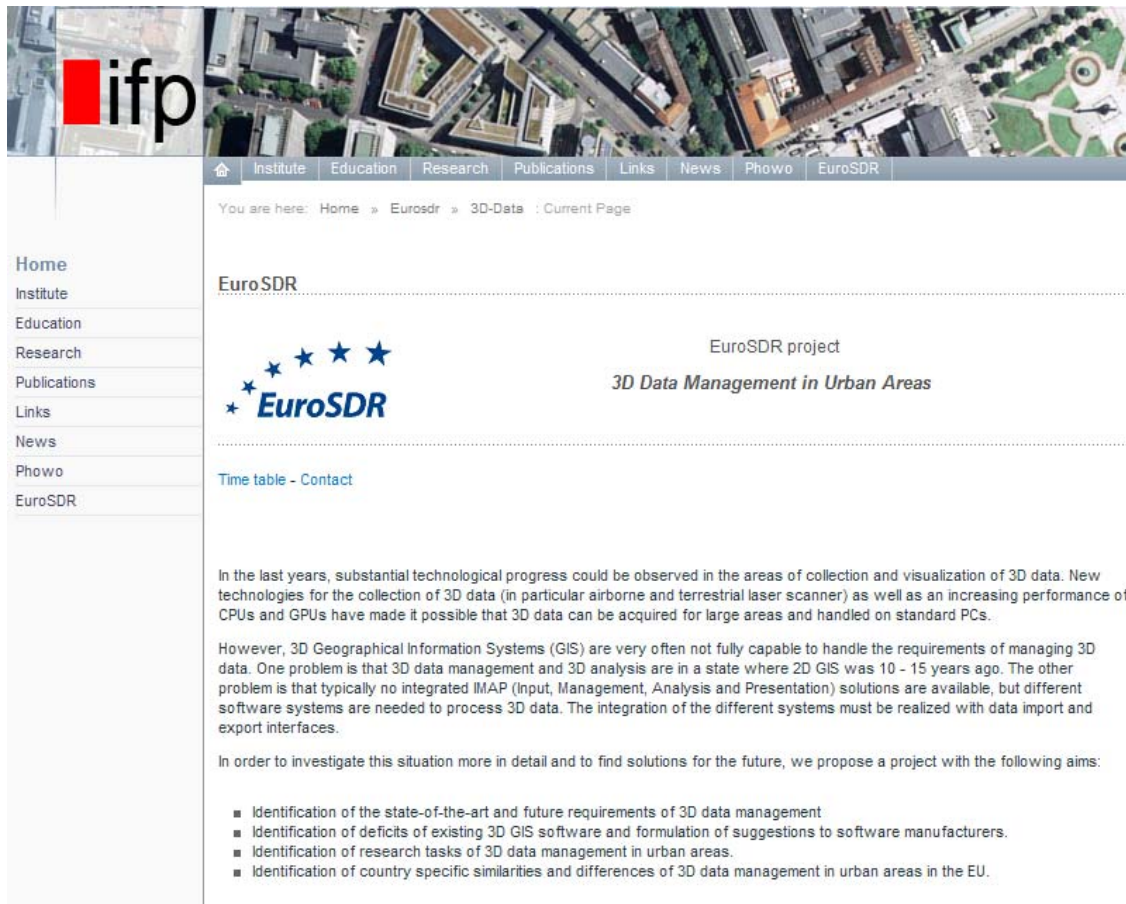
5. Recommendations



- Further development of existing systems AND thinking of new concepts/vision
- Further development in 3D data models and standards
- Development of common workflow(-"toolboxes")
- Create awareness for 3D cadastral issues
- Initiate research !!!

EuroSDR project

3D Data Management in Urban Areas



<http://www.ifp.uni-stuttgart.de/eurosd/index.en.html>