InViTo: Interactive Visualization Tool.

Duration: 1 year

Partner: The tool is tested within various European projects by collecting inputs from experts from other countries and with different skills.

Description: The project aims at developing a tool supporting decisions about territory (SDSS) that combines geo-related databases with a versatile range of two and three dimensional visualizations. The tool, built by combining the capabilities of two popular software (Rhinoceros® and its plugin Grasshopper), displays real-time data collected during the discussion, in order to visualize scenarios and facilitate the discussion and the acquisition of information, overcoming the difficulties due to the different technical skills of decision makers. InViTo is also compatible with different data gathering methods and multicriteria analysis.

Objectives: The research objectives are aimed at creating a visualization tool capable of:

- Collecting data of any kind as long as geo-related
- Working on different scales (from the district to the supranational region)
- Ensuring wide usability in real time through a user-friendly interface
- Providing a visualization suitable to the topic and the audience

Methods: The project includes the following activities:

- Analysis of the context. Finding the mapping, information gathering, investigation of projects in progress.
- Mapping of spatial information with GIS system
- Definition of territorial elements (attractors and repellers);
- Investigation of the specific territory for the definition of local dynamics
- Definition of compatibility functions (mathematical behavior of territorial elements);
- Definition of weights;
- Construction of specific interactive maps for the discussion of the project.

Skills: Project management
- Territorial and urban analysis
- Analysis and data gathering about accessibility referring to case studies
- Graphic, GIS software, database management

Innovative content: Combined use of software not created for visualization on an urban scale and GIS database, through the creation of special scripts. Highest flexibility both in the data can be acquired, both in the methods for the definition of the dynamics, both in the type of visualization. Use of open data. User friendly interface.

Results: Application within European projects: CircUse (Circular Flow Land Use Management
- CENTRAL EUROPE Programme), CoDe 24 (Corridors Development Rotterdam-Genova)
Publication of articles and presentations at national and international conferences