

EU-Project: Cross-border Spatial Information System with High Added Value (CROSS-SIS)

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1 INTRODUCTION

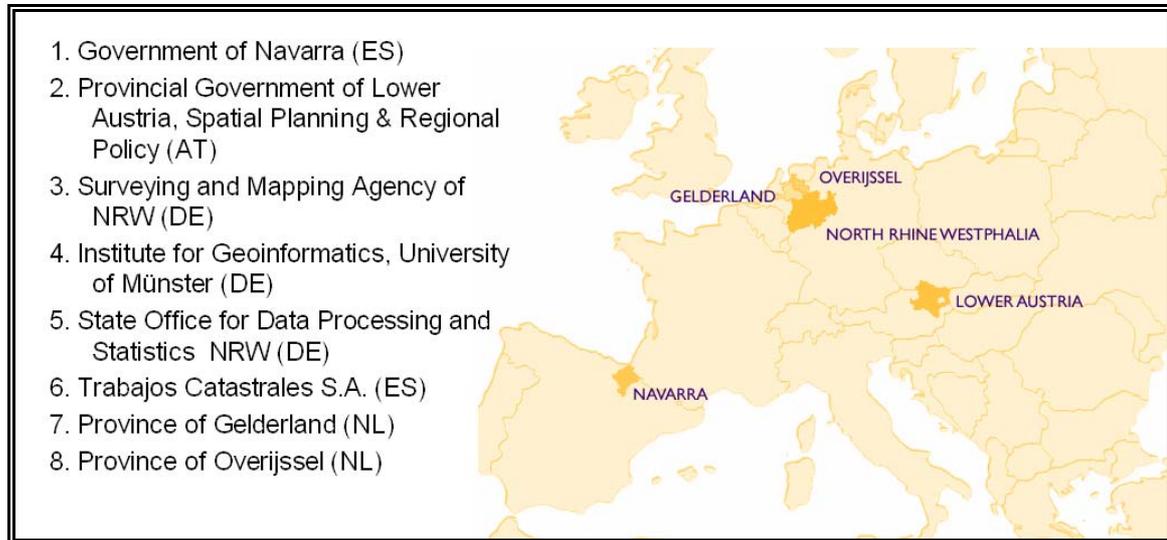
The objective of CROSS-SIS project is to enhance the use of spatial data for spatial decision making in crossborder settings, promoting the modernisation of the regional administrations, the use of INSPIRE and the development of the information society.

2 COOPERATION IN CHANGE ON BORDERS

In the developing Information Society the access to spatial information will be a key factor for spatial related decision making and could be defined as an infrastructure component. Therefore, Spatial Data Infrastructures (SDI) are currently developed on different levels from local to European.

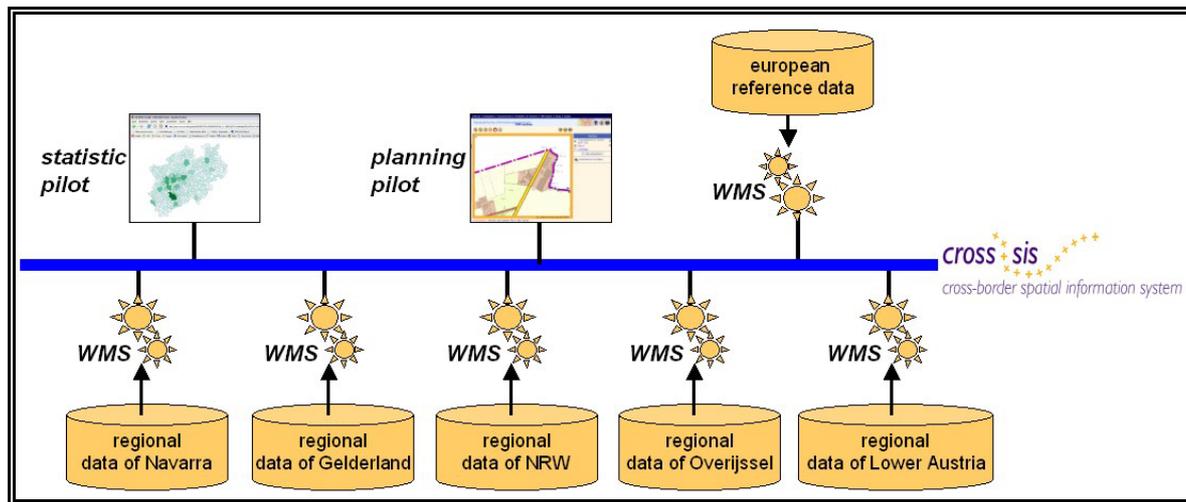
A set of organisations collect geographical data but they have little or no contact with other organisations doing similar work in neighbouring regions (from the European point of view the INSPIRE directive will focus on the harmonisation of the European developments).

The CROSS-SIS-project is partly financed by the European Union within the Interreg III C program with the aim to enhance the use of spatial data for spatial decision making in crossborder settings, promoting the modernisation of the regional administrations, the use of INSPIRE and the development of the information society (www.cross-sis.com). Some further objectives are to achieve greater efficiency in the acquisition, maintenance, management and distribution of spatial data both at regional and cross-national level. The ambitions of the project are closely related to the directives of INSPIRE (<http://inspire.jrc.it/>) – so a decentralized approach is favoured, also to go further in modernizing the regional administrations and finally arrive at e-government.



Partners of CROSS-SIS

In 2005 all participants Lower Austria (Austria), Gelderland and Overijssel (The Netherlands), Navarra (Spain) and North-Rhine Westphalia (Germany) analysed the available SDIs in their regions. A method to evaluate SDI initiatives in a cross-border context was developed by the Institute for Geoinformatics at the University Münster and used to identify a best-practice in each region. Based on this exchange of knowledge and experiences two pilot-projects are currently implemented in 2006. They should serve as an “opener” for a European spatial data infrastructure as envisioned by INSPIRE.



Cross-SIS - Architecture for Web Services

The application of this spatial data at a cross-border level is undoubtedly a crucial element for the support of crossborder management of various domains, e.g. water management, tourism, environmental protection, statistics, etc. This could also be a drive for the development of both cross-border services and strategies even to the extent of common policies on Spatial information and data management

3 GENERAL OBJECTIVES OF CROSS-SIS

The objective of CROSS-SIS project is “To enhance the use of spatial data, as a crucial source for spatial decision making in cross-border settings”. The general objectives of the proposal are:

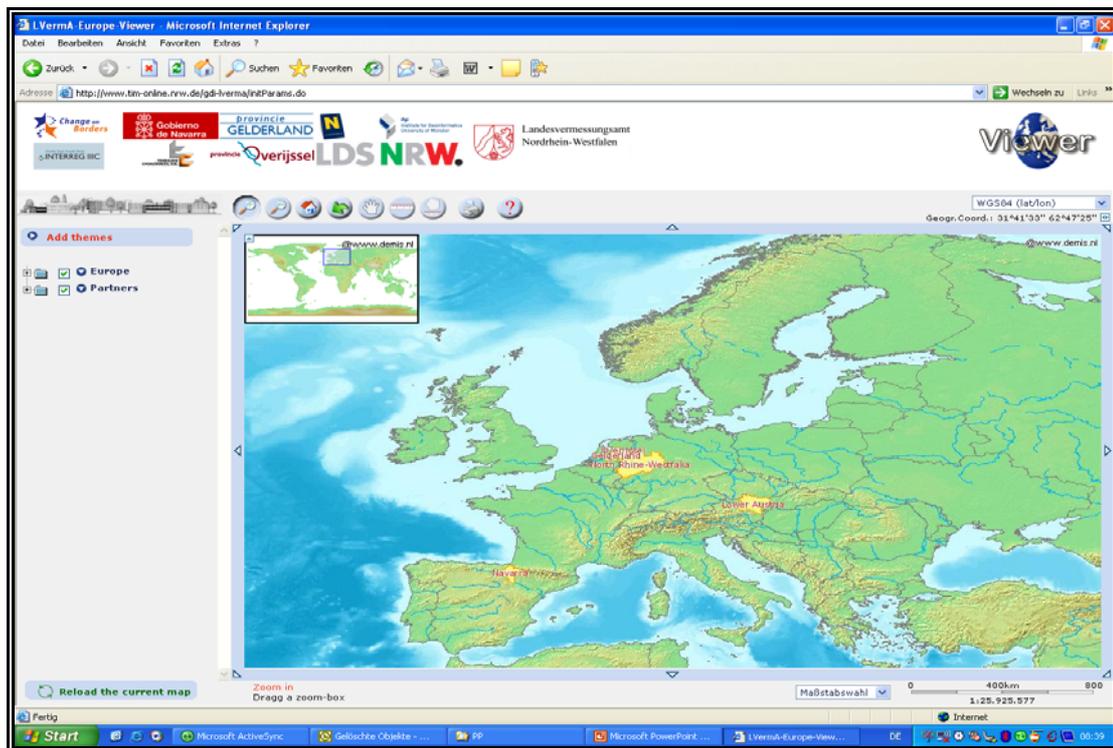
- Demonstrate how Spatial Information Systems can be a strategic tool and contribute to the strategic objectives and decision-making process in cross-border regions.
- Provide solutions/services for cross-border spatial information use by the customers in the European Regions.
- Promote spatial data as a decisive component for spatial decision making in cross-border scenarios.
- Optimise and share investment, human resources, and technology applied to spatial information in cross-border regions.
- Promote the modernisation of the regional administrations and the use of INSPIRE to attain effective e-government.
- Promote spatial data as a crucial component of the development of the information society.
- Provide a collaboration reference for other institutions and regions.
- Improve the know-how on cross-border SIS of the experts participating in the different workgroups defined in the project
- Spread the knowledge of the experiences on spatial management and policies of the regions participating in the project
- Execution of studies and prototypes of the management of cross-border issues in the areas of statistical and planning.
- Increase the know-how and experience of the experts participating in the Workgroups with regards to the technologies and standards to be implemented in the European regions for achieving a European Spatial Data Catalogue.
- Increase the efficiency of the use of SIS as a key tool in the management of cross-border activities and issues in the areas of statistics and planning
- Detect potential collaboration ideas on these subjects for deepening in the cooperation work between the regions.

4 PILOT APPLICATIONS

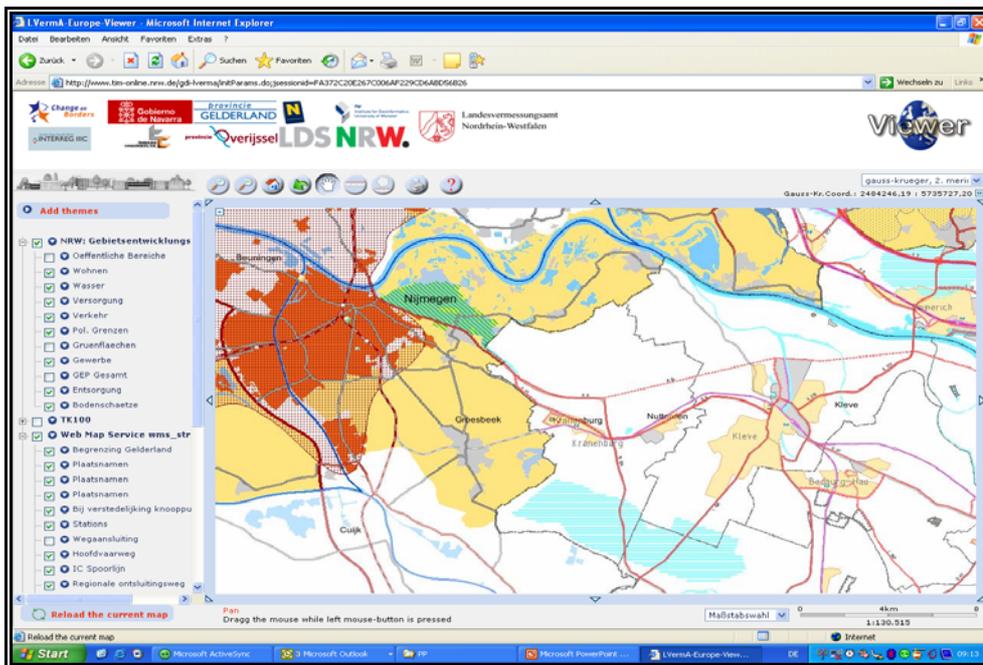
In the CROSS-SIS project pilot applications are currently set up in two specific areas:

4.1 Planning

The purpose of the planning pilot is to develop a WEB-GIS-client that presents comparable regional planning data as interactive maps at a European level. The added value of this pilot is not only to present planning data in a cross-border context free of charge via the internet, but also to follow a service-oriented architecture by utilizing OGC (Open Geospatial Consortium) -compliant technologies. Using these, the planning data is integrated into the WEB-GIS-application via standardized Web-Map-Services (WMS) that each partner will set up. One advantage of this process is the fact that the preparation and the up-dating process for the data are both done decentralized by each partner region. Another advantage of the WEB-GIS-client is the easy-to-use approach for both beginners and experts. The technical architecture is structured to conveniently enable users to interact with the application (choose regions, level of plans, show the related documents).



Planning application: www.tim-online.nrw.de/gdi-europa

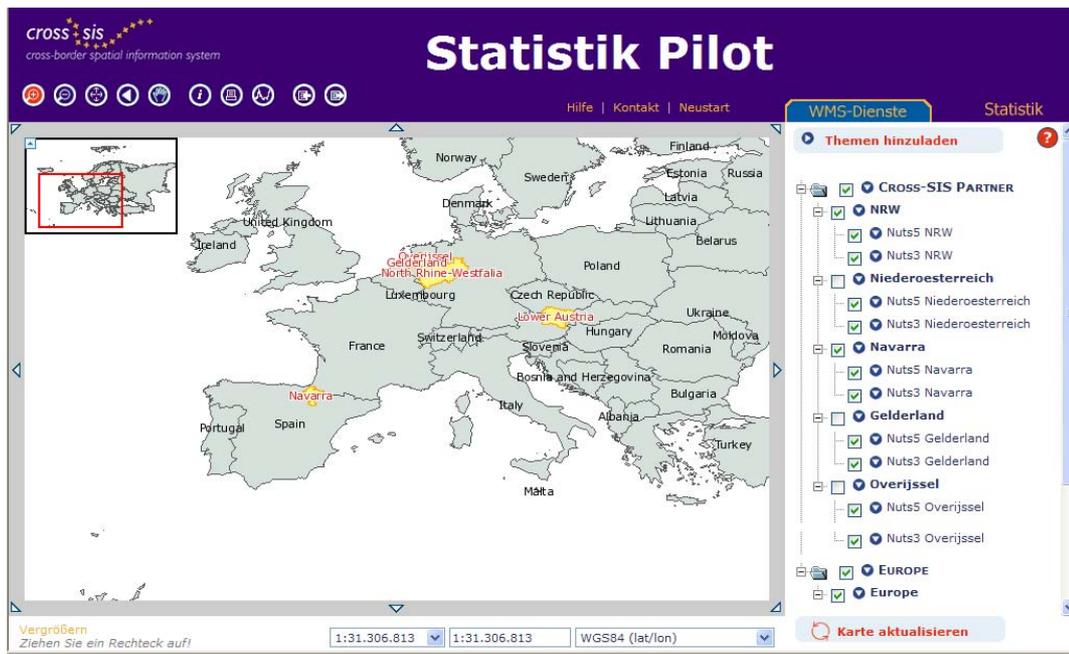


Planning Data from Gelderland and North-Rhine Westphalia

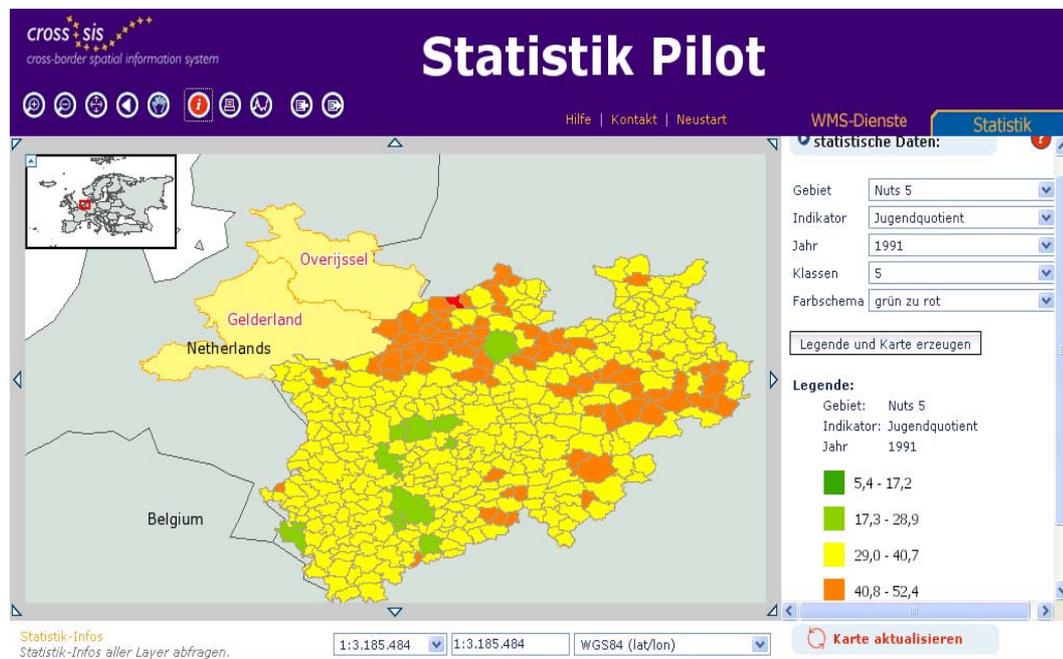
The next step in this project will be an investigation, how reference systems could be changed automatically (a new topic, during the CROSS-SIS-project an approach to handle this topic came up). In addition the integration of additional decentralised services should be supported.

4.2 Statistics

In the area of statistic the difficulties in harmonizing European data are obvious, showing living conditions in Europe. However, with CROSS-SIS it will be demonstrated that with distributed interoperable web service technologies, which constitute the base for any modern SDI, it is possible to discover, retrieve, visualize and analyze spatial data regardless of the factual physical location of spatial data repositories and geoprocessing facilities. This is a precondition for a seamlessly integrative application of spatial data by statistics professionals in cross-border settings. But the demonstration will not avoid addressing current semantic data problems. In contrary, it shall also reveal fields for future research. The purpose of the statistical pilot is to develop a WEB-GIS-client that presents regional statistical data as interactive maps at a European level. The added value of this pilot is to present statistical data in a cross-border context, free of charge via the internet, and also to follow a service-oriented architecture by utilizing OGC (Open Geospatial Consortium)-compliant technologies. Using these, the statistical data is also integrated into the WEB-GIS-application via standardized Web-Map-Services (WMS) that each partner will set up. As a special option it is possible to search for customized selected indicators from EUROSTAT on a regional European level. The search results are visually represented in maps.



Statistic Application: www.gis3.nrw.de/crosssis



Statistic Application: www.gis3.nrw.de/crosssis

5 CONCLUSIONS

The author wants to give an overview of the CROSS-SIS project, including the state-of-the-art of the SDI-initiatives in the participating regions. He also wants to explain the basic principles that have been developed to implement a spatial data infrastructure at a regional European level and that direct the specification of the two pilot projects.

As the project is closely linked to the INSPIRE principles the main objective of the project is achieved if the prototypical system provides the platform for European regions to represent their kind of data.

6 REFERENCES

- Home page CROSS SIS: www.cross-SIS.com
 Maria Cabello: CROSS SIS-Seminar in Brussels, Inside Inspire, The CROSS-SIS experience, 20. September 2006, Brussels
 Maria Cabello: Workshop Pamplona, Navarra en el desarrollo de INSPIRE, 24. March 2006, Pamplona, Navarra
 Riecken, Jens: CROSS-SIS, 12th EC GI & GIS WORKSHOP, ESDI: Setting the Framework, 21 – 23 June, Innsbruck, Austria

