

The Lake Constance Project

Cross-border implementation of INSPIRE with data of four countries

The state and federal surveying agencies of Baden-Wuerttemberg (Germany), Bavaria (Germany), Austria and Switzerland launched a joint and innovative project: The spatial base data provided by the surveying agencies of the adjoining countries around Lake Constance, shall be transformed to the data models defined by the INSPIRE Data Specifications. The transformed data then shall be provided as INSPIRE compliant GML data through INSPIRE view and download services. AED-SICAD AG, a company experienced in the field of semantic data transformation to INSPIRE within the new German cadastre model (AFIS-ALKIS-ATKIS) is responsible for the technical implementation.

Four countries – four different base data

The Lake Constance region is of particular interest, since Europe takes place in miniature in this region. The cross-border cooperation between these four

The challenge in this project is that the topography base data have to be evaluated together with the real estate cadastre base data and are jointly transformed to INSPIRE. Furthermore the German spatial base data



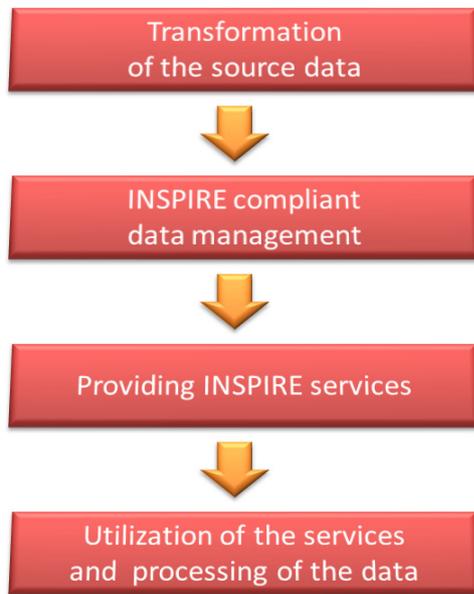
surveying agencies offers a lot of chances. As it is generally known, a differentiation has to be made between Bavaria and Baden-Wuerttemberg due to the federal structures in the field of geospatial information in Germany. At the same time challenges concerning the cross-border use of heterogeneous spatial data can be identified which in principle are transferable to other regions as well.

have to be combined for the first time with the Austrian and Suisse spatial data, which have been produced following different legal and technical guidelines and therefore have different structures.



Transformation to INSPIRE

One goal of the project was to proof that a cross-border implementation of INSPIRE is possible with currently available software. With project experience of many years, AED-SICAD AG was able to realize the complete workflow of INSPIRE:



In the first step the project focus was on the format-driven transformation: The transformation rules were defined and the semantic transformation was executed using the software FUSION Data Service (FDS) of AED-SICAD AG. Core component of the FDS is the Feature Manipulation Engine (FME) of Safe Software Inc. FME has been extended by a semantic mapper module of AED-SICAD AG, making format-driven transformation possible. The software "ArcGIS for INSPIRE" of Esri was used as target system for the transformed data, since it already provides a database schema based on the INSPIRE data specifications.

Cross-Border information providing

Based on this database schema the data were provided as INSPIRE compliant GML data using ArcGIS Server with INSPIRE view and download services. In addition the provided services were linked and used in the GIS Portal of AED-SICAD AG, a web portal with an integrated web order service. Using the web shop of GIS Portal the INSPIRE data could be downloaded either as GML data or, with the usage of the integrated transformer, as Shape and DXF data.

The project was presented on the INTERGEO® 2011 in Nuremberg, Germany, which is the world's largest event and communication platform for geodesy, geoinformation and land management. The directors as well as the interested visitors were impressed by the achieved results.

A detailed description of the project and its results can be found in the [information brochure](#) of "Runder Tisch GIS e.V." (Round Table GIS):



With this project it was possible to demonstrate that topography and cadastre data from Baden-Wuerttemberg, Bavaria, Austria and Switzerland can successfully be transformed to INSPIRE according to the format driven approach. The benefit of the project for the public authorities of the countries lies in realizing that the transformation does not depend on specific formats or a conceptual schema. The experience of the project shows clearly, that an implementation of INSPIRE can only be successful with the cooperation of the data holding agencies with the GIS industry. Therefore AED-SICAD focuses on a continuous and complete solution for the realization of INSPIRE.

INSPIRE is a big challenge, but it can be mastered with the given tools.

Project Results Online

The INSPIRE compliant geodata of the test region around the Lake Constance can be visualized and downloaded with a demo application. An access authorization can be requested on this [website](#).



An appropriate user agreement must be signed.

Your partner	
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