

# Crossborder Interoperability of Land–Use Information

Falk Wuerriehausen and Hartmut Mueller (Germany)

**Key words:** Digital cadastre; e-Governance; GIM; GSDI; Land management; Spatial planning; Standards;

## SUMMARY

In the context of Spatial Information Management information produced by spatial planning, by land registry and by real estate cadastre plays an important role. To guarantee for easy seamless access this information has to be interlinked not only within national borders but also cross-border. From the sharing of heterogeneous data in the context of cross-border SDI, new value creating insights are gained. However, information management within small-scale administrative structures often led to the uncoordinated definition of features and, consequently, to heterogeneous databases. Such heterogeneity substantially hinders inter-administrational cooperation at the operational level as well as information exchange between the different levels of public administration, may it be at the local, the national or the supranational scale. Interoperability, therefore, is a central concept in dealing with spatial data. The paper presents a study analysing spatial information interoperability in the field of planned land-use information. Special emphasis is given to the aspects of semantic interoperability. A case study addressing the in depth analysis of planned land-use documents will demonstrate in which way a conceptual transformation process can be developed to pave the way for cross-border interoperability. Semantic interoperability between two different land-use data systems will be achieved by formulating adequate transformation rules between the two systems' specifications. Such rules provide an indispensable and highly valuable base for the development of Web Map Services (WMS), as well as for download services which are able to process comprehensive spatial data based on different, even municipal, spatial data themes. Integrated data concepts and data models can help to guarantee for the smooth cooperation even in a heterogeneous environment of organization units.