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# Interoperable provision of geodata and services according to the INSPIRE Directive in German geoportal sites

*Franz-Josef Behr*
*franz-josef.behr@hft-stuttgart.de*

*Department of Geomatics, Computer Science and Mathematics, University of Applied Sciences Stuttgart, Schellingstraße 24, 70174 Stuttgart, Germany*

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The European INSPIRE directive introduces a legal framework and general rules to establish an infrastructure for spatial information in Europe primarily with focus on policies and having an impact on the environment. In this context 34 spatial data themes are listed comprising general geospatial base data, i.e. cadastral parcels, administrative units, and more ecological data themes, i.e. geology, species distribution, energy resources, etc.[1] The data are supposed to be provided through spatial data infrastructures (SDI) in the 28 Member States of the European Union and in the corresponding politically mandates organisations, i.e. the 16 federal state surveying authorities in Germany.

Besides this data catalogue INSPIRE specifies a set of mandatory interoperable services, i.e. Download Services, View Services, Discovery Services, Transformation Services, Schema Transformation Network Services, and Coordinate Transformation Services which are partially similar to OGC's services but partially go beyond (Bray & Ramage 2012). As well metadata have to be provided following a schema which extends the specifications of ISO 19115 (European Commission Joint Research Centre 2010).

With regard to these services requirements regarding the quality of service, e.g., service performance, are given. i. e. specific spatial reference systems have to be supported, and the services must offer multi-lingual support. The member states have to monitor and to report the availability and usage of the services. There is also a strong link to the Open Data policies in the member states.

In the contribution the relevant policies and architectural and technical requirements are explained.

The portal sites of the German federal state surveying authorities are analysed related to information about INSPIRE, license issues, and the Open Data movement. The assessment includes as well the availability of OGC services resp. INSPIRE conformant services, the open access to data according INSPIRE's spatial data themes, the accessibility, the level of interoperability and the quality of services. The portal sites of the different surveying authorities show significant levels of maturity (Ernst 2014). Based on this evaluation, recommendations for improvements will be given.

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