**Status quo**

Data availability and compliance to recommended geographic information standards differ among countries in Europe. Geospatial data, which can be characterized as highly reliable and detailed when provided through public authorities, are often not published in a standardized and machine-readable form. This makes data collection, integration, and update tenacious tasks and hampers the geo-market to take advantage of its huge potentials. Creating time series and comparative analyses on these data sets was hardly possible until recently; however, researchers, spatial planners, and geo-marketing professionals have a growing stake in such capabilities.

**Planning data plug ‘n’ play**

plan4Business aims to develop a platform to overcome this situation and enables reuse of data with little effort. The platform serves as a catalogue of planning data such as transport infrastructure or spatial plans. The platform represents not only a central access point for interoperable data provision, but it moreover offers data harmonization functionalities as well as rich analysis and visualisation services via an API or an interactive web frontend. By focusing on urban and spatial plans the project tackles the realization of one of the 34 INSPIRE themes at the same time.

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**Technical Approach**

The system is composed of three layers: the integration layer (harmonization), the storage layer (storage, provision) and the analysis layer (visualization, analysis).

The integration layer transforms spatial data sets into a predefined target schema that is narrowly linked to the INSPIRE Data Specification on Land Use. The OpenSource visual harmonization editor HALE forms the fundament of the integration layer and allows for definition of schema mapping rules. The transformed data is then validated and published to the storage layer.

The storage layer is mainly based on a relational database paradigm. However, to run use cases where relations among entities are central, the approach is supplemented by a database following the graph paradigm. It further on allows for a more dynamic adjustment of the target schema. Flexibility in data handling in unforeseen use cases and serves as a more native way to apply the Linked Data paradigm to the integrated datasets. Currently land use data are either accessible as INSPIRE compliant files or via SQL. The Analyst Engine encapsulates data access and represents a base for an extensible collection of analysis and visualisation applications (apps).