

- A service platform for aggregation, processing and analysis of urban and regional planning data -

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www.plan4business.eu

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 standardised 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.

Land use data:
- open
- harmonized
- central accessible

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 merely 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 focussing on urban and spatial plans the project tackles the realization of one of the 34 INSPIRE themes at the same time.



www.whatsThePlan.eu

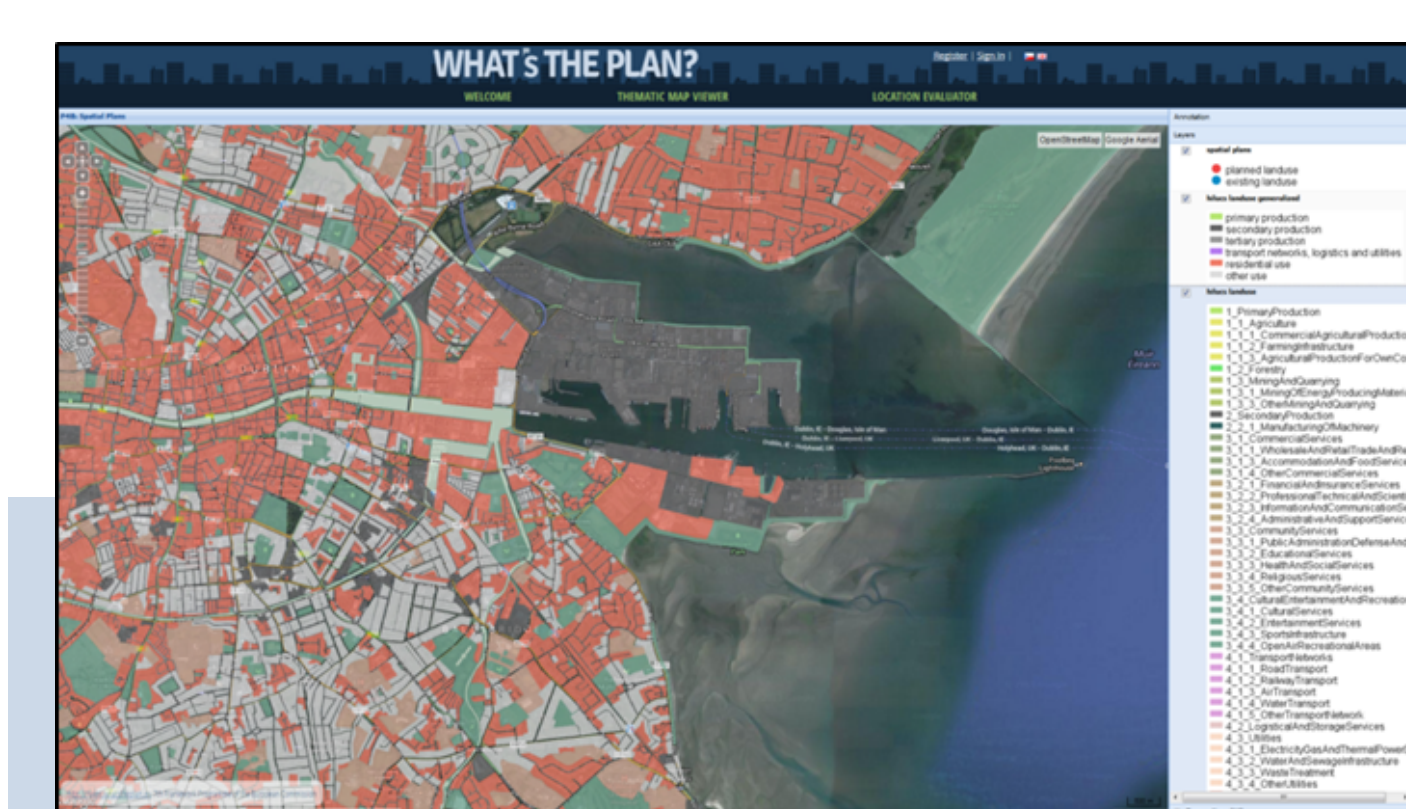
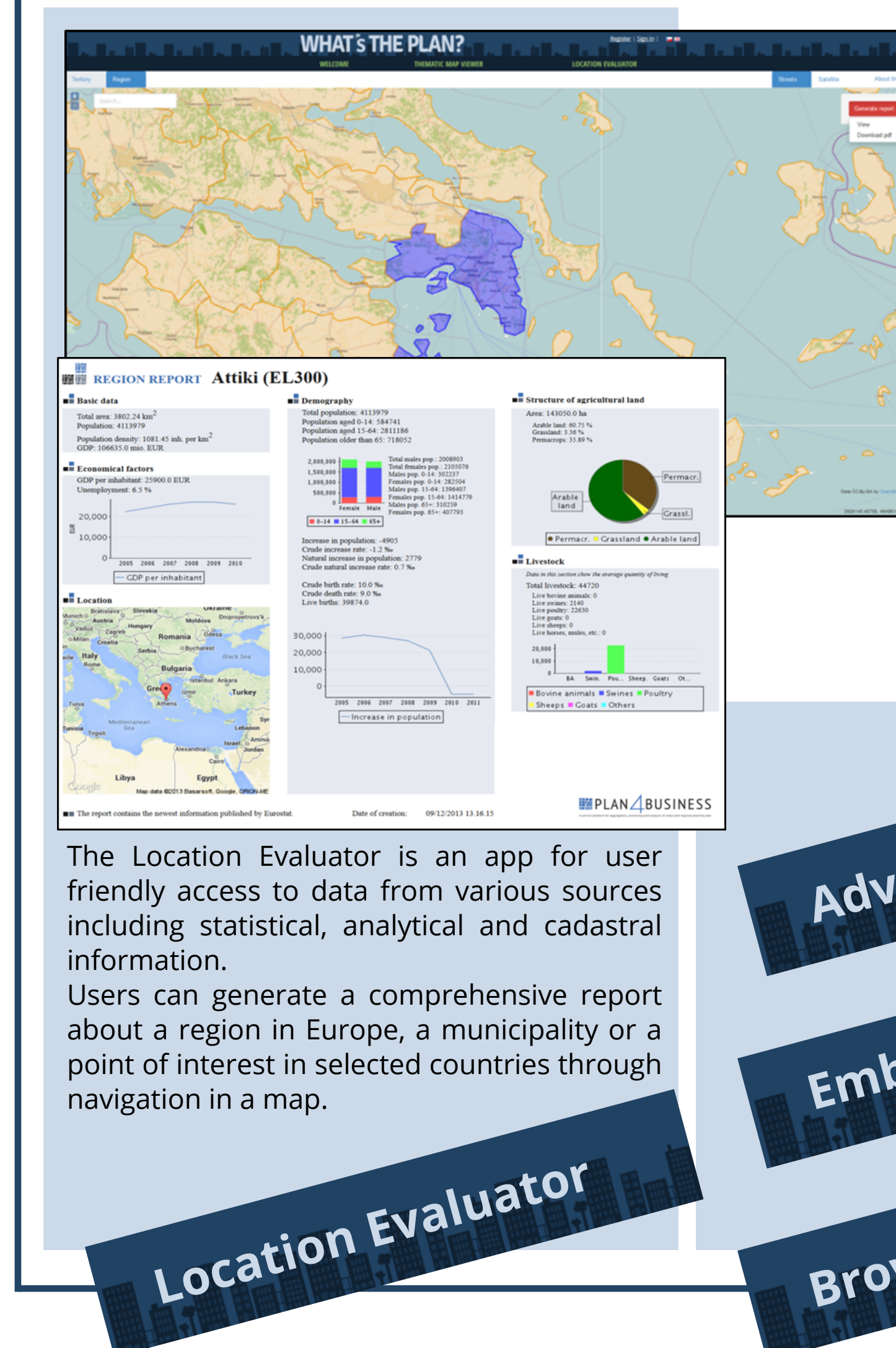
Plan4Business Apps

The bunch of applications, built in and beyond the plan4business project, combines the integrated data in the platform with Open Data from various sources. The plan4business platform and applications are available at www.whatsThePlan.eu. Examples for such apps are:

- Thematic Map Viewer - visualizes cartographic maps of various themes
- Location Evaluator - generates reports about a region in Europe
- Brownfields - advertises brownfields
- Advert - places real estate adverts
- Embed Map - embeds an interactive map

Outcomes

The results of the plan4business project offer a first complete solution for users. The platform is designed in a way that it can and will continuously be extended with further data sets, functionalities and applications to support different user communities. Advanced applications for the commercial market are planned. It is also intended to supplement the data pool with data that is (not yet open) to offer more complete analysis functionalities and address a broader user community.



The Thematic Map Viewer enables to navigate through thematic maps and results of predefined analyses from local to European level. Based on the level of zoom in a certain area a list of thematic maps is dynamically offered to the user. The user can then select one of the thematic maps, display it in the map viewer and analyse it in an interactive manner.

Advert

Embed Map

Brownfields

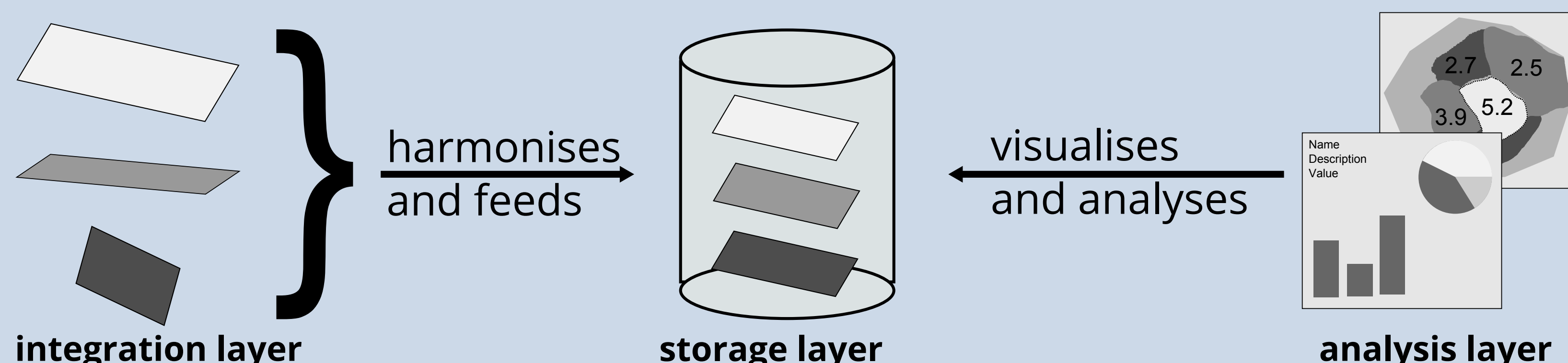
Thematic Map Viewer

Technical Approach

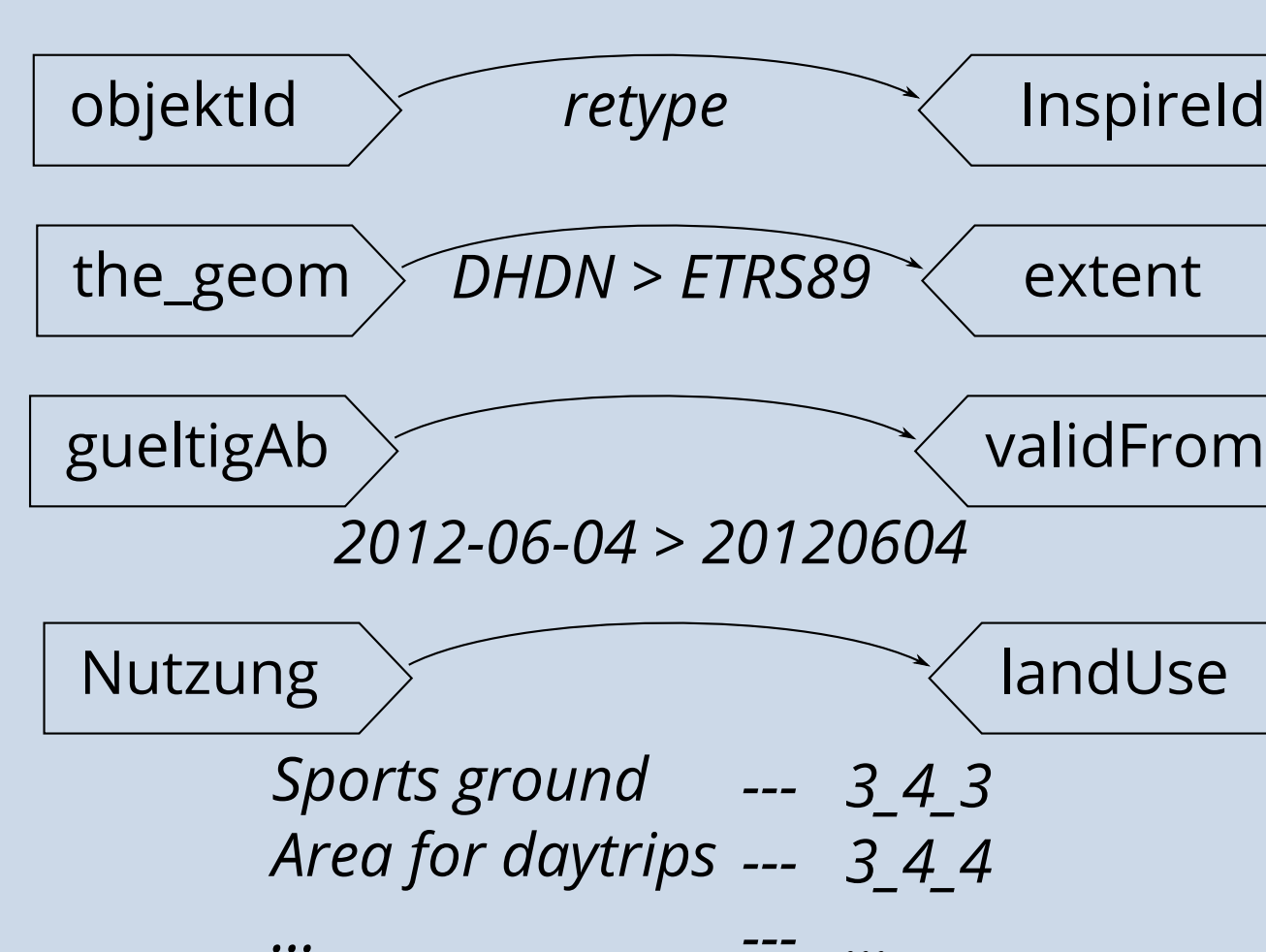
The system is composed of three layers: the integration layer (harmonization), the storage layer (storage, provision) and the analysis layer (visualisation, analysis). The integration layer transforms spatial data sets into a predefined target schema that is narrowly linked to the INSPIRE Data Specification on Land Use. The OpenSource visual harmonization editor HALE¹ 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 upon 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 approach 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 Analysis Engine encapsulates data access and represents a base for an extensible collection of analysis and visualisation applications (apps).

Platform's core components



Data integration step



Composition of the three core layers; integration layer for data harmonisation, storage layer for data storage and provision, analysis layer to visualise and analyse harmonized data.

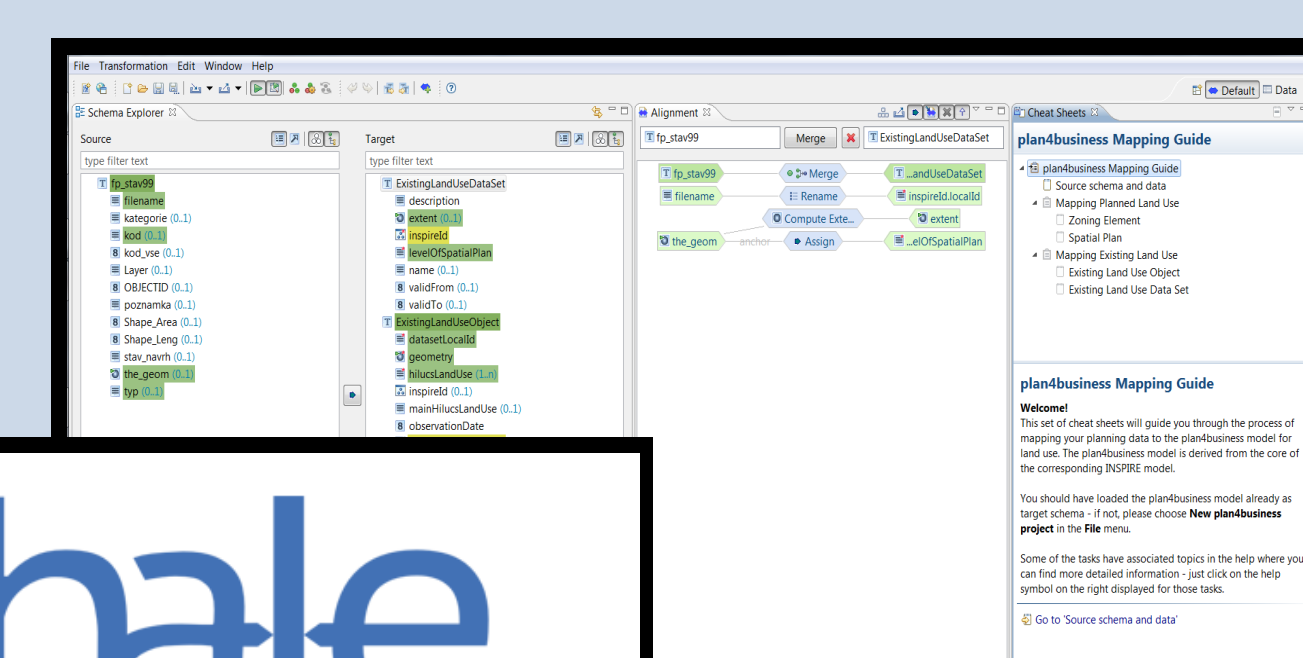
Transformation types performed by the integration layer based on the OpenSource tool HALE.

object transformation

coordinate transformation

value formatting

re-classification



hale
PLAN4BUSINESS

¹<http://www.esdi-community.eu/projects/hale>