The Plan4business Approach to Transfer Open Data Into Real Estate Businesses
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Objectives

Today, urban and regional planning datasets are not aggregated and not easy to use for business issues: planning data users are confronted to fragmented data sets, unable to create comparative analysis, monitoring and analysing urban statistics, or developing urban inquiries and projects.
Objectives

The plan4business project is developing a web platform, addressing urban and regional planning data users, investors and real estate business actors, providing them a full catalogue of up-to-date spatial- and non-spatial data and services on a pan-European level. This platform is based on existing available open as well as commercial data and crowd sourcing methods.
Objectives

To be competitive on the business market, this platform will of course have, first, to offer the data itself in integrated, harmonised and thus ready-to-use form, but it also has to offer rich analysis and visualisation services via an adapted Application Programming Interface (API) and an interactive web frontend. Functions offered have to range from simple statistical analysis to complex trend detection.
R&D challenge

Specific: The tools developed are specific to the planning and land use data and the forms it comes in. This means they are not applicable to all data integration problems, but provide a high effectiveness for the specific issues. An example is the extraction of planning zones from presentation-oriented raster or vector formats;
R&D challenge

*Process-Oriented*: The integration and harmonisation process is separated into clear steps, each of which can be conducted individually. In this way, different curators can specialize on different steps in the process;
R&D challenge

*Declarative*: Any Schema Mapping (logical or conceptual) is performed in an atomic, declarative way. Thus, schema mapping parts can be re-used, e.g. for automatic determination of required additional mappings when several variants of a schema are mapped;
R&D challenge

Collaborative: A social network/web 2.0 approach has been applied to many issues, but not to data harmonisation and integration. We believe that on the basis of the right incentives as well as the process-oriented and declarative/atomic integration approach, social networking paradigms can be used on the planning data integration issue;
Architecture
Main components
Harmonise (Collaborative Schema Integrator)

Data source upload for all datasets that will be stored in the primary data pool.

Configuration of the “Integration Engine” component (= Schema Mapping Component + Plan Matcher Component) to do the actual data integration:

- for vector data: the Schema Mapping Component supports data transformation for Existing and Planned Land Use (into a simplified INSPIRE Data model) in HALE;
- for raster data: the Plan Matcher Component.
Harmonise (Collaborative Schema Integrator)

Plan integrator

A
- Upload data & mapping

B
- Interactive workflow interface

C
- Advanced collaborative functionality

Integration Engine

A
- Manual Mapping (HALE)
- Schema & Mapping repository

B
- Integration workflow
- Format converters

C
- Automated support for workflow tasks
Harmonise (Collaborative Schema Integrator)

Welcome to the plan4business integrator
Get more out of your planning data in just three steps...

1. Upload or register your planned and existing land use data to the plan4business platform.

2. Create a schema mapping to harmonize your data with INSPIRE - or get the assistance of our professionals to do the integration.

3. Use your data in extensive analyses, provide it as a WMS and for download as INSPIRE compliant GML.
Data upload wizard
User data source overview with status
Integrated plans with map preview
Styler
Interactive example workflow for integration of Land Use data
Thematic Map Viewer

One of the major plan4business outcomes is the Thematic Map Viewer. The main objective of this application is to visualise data stored in our database in a user friendly way. Due to the fact that the database contains many data-layers, a grouping of these layers took place - into thematic compositions.
Thematic Map Viewer
Thematic Map Viewer
Thematic Map Viewer
Thematic Map Viewer
Location Evaluator is an application that aims to provide easy access to data available in the plan4business data pool. These data are visualised in a human readable and understandable way in the form of reports generated in the PDF or HTML formats. Currently, Location evaluator is available for the Czech Republic (regions, cities, buildings) and Germany (cities).
Location Evaluator

Select a region, a municipality or a point of interest in Czech Republic to generate a comprehensive report.
Location Evaluator
Location Evaluator

**Basic data**
- Total area: 7530 km²
- Population: 571256
- Population density: 75.86 inh. per km²
- GDP: 7228.0 mio. EUR

**Economical factors**
- GDP per inhabitant: 12690.0 EUR
- Unemployment: 3.6%

**Demography**
- Total population: 571256
- Population aged 0-14: 81610
- Population aged 15-64: 398420
- Population older than 65: 91826
- Total males pop.: 282600
- Total females pop.: 288656
- Males pop. 0-14: 41479
- Females pop. 0-14: 39531
- Males pop. 15-64: 262904
- Females pop. 15-64: 195516

**Increase in population**
- Increase: 453.0
- Crude increase rate: 0.8 %
- Natural increase in population: 322.0
- Crude natural increase rate: 0.6 %
- Crude birth rate: 10.0 %
- Crude death rate: 10.0 %
- Live births: 5566.0

**Structure of agricultural land**
- Area: 310440.0 ha
- Arable land: 67.35 %
- Grassland: 32.65 %
- Permacrocpe: 0.35 %

The report contains the newest information published by Eurostat.
# Location Evaluator

## Report for building: 21665966

<table>
<thead>
<tr>
<th>Located in</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>City name: Praha</td>
<td>Sewer system: Connection to sewer system</td>
</tr>
<tr>
<td>City id (CZSO): 554782</td>
<td>Water installation: With water pipe</td>
</tr>
<tr>
<td>Land id: 2364634101</td>
<td>Heating: Other (including without heating)</td>
</tr>
<tr>
<td></td>
<td>Elevator: Without elevator</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic properties</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction type: Not known</td>
<td>Used as: Apartment building</td>
</tr>
<tr>
<td>Built-up area: Not known</td>
<td></td>
</tr>
<tr>
<td>Floor area: Not known</td>
<td></td>
</tr>
<tr>
<td>Walled up space: Not known</td>
<td></td>
</tr>
<tr>
<td>Number of floors: Not known</td>
<td></td>
</tr>
<tr>
<td>Number of apartments: 6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flood risk</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Located in zone of largest flood: Yes</td>
<td>Date of completion: Not known</td>
</tr>
<tr>
<td>Located in zone of 100-year flood: Yes</td>
<td></td>
</tr>
<tr>
<td>Located in zone of 23-year flood: No</td>
<td></td>
</tr>
<tr>
<td>Located in zone of 5-year flood: No</td>
<td></td>
</tr>
</tbody>
</table>

**Report contains information published by following providers:**
- CZECH OFFICE FOR SURVEYING, MAPPING AND CADASTRE (COSME): RUIAN
- T.G. Masaryk Water Research Institute, public research institution, PRAHA

Report generated at 2013-09-17 13:49:44 UTC

[http://www.plan4business.eu](http://www.plan4business.eu)  [http://whatstheplan.eu](http://whatstheplan.eu)
Embed-Map

This pilot application enables user to create a map in the Thematic Map Viewer and insert it as an embedded object into any HTML pages. Users can define parameters which affect how the map will look like in the target HTML page (currently the width and height of the embedded map).
Data Analysis
Expert Analysis
Using KML

Plan4business Plan

- Projects
- Other partners
- Citizens
- Data providers
- Data users

Open data platform
- Layman catalogue
- Compositions
- Open land use map
- Thematic map viewer

Restricted data
- Location
- Brownfield
- Property
- Audit

Commerical platform
- Fraunhofer
- Open plan
- Search

Other applications
- City planning
- Land market
- Urban planning
Thank you for your attention

more information at

http://www.plan4business.eu/
http://whatstheplan.eu/