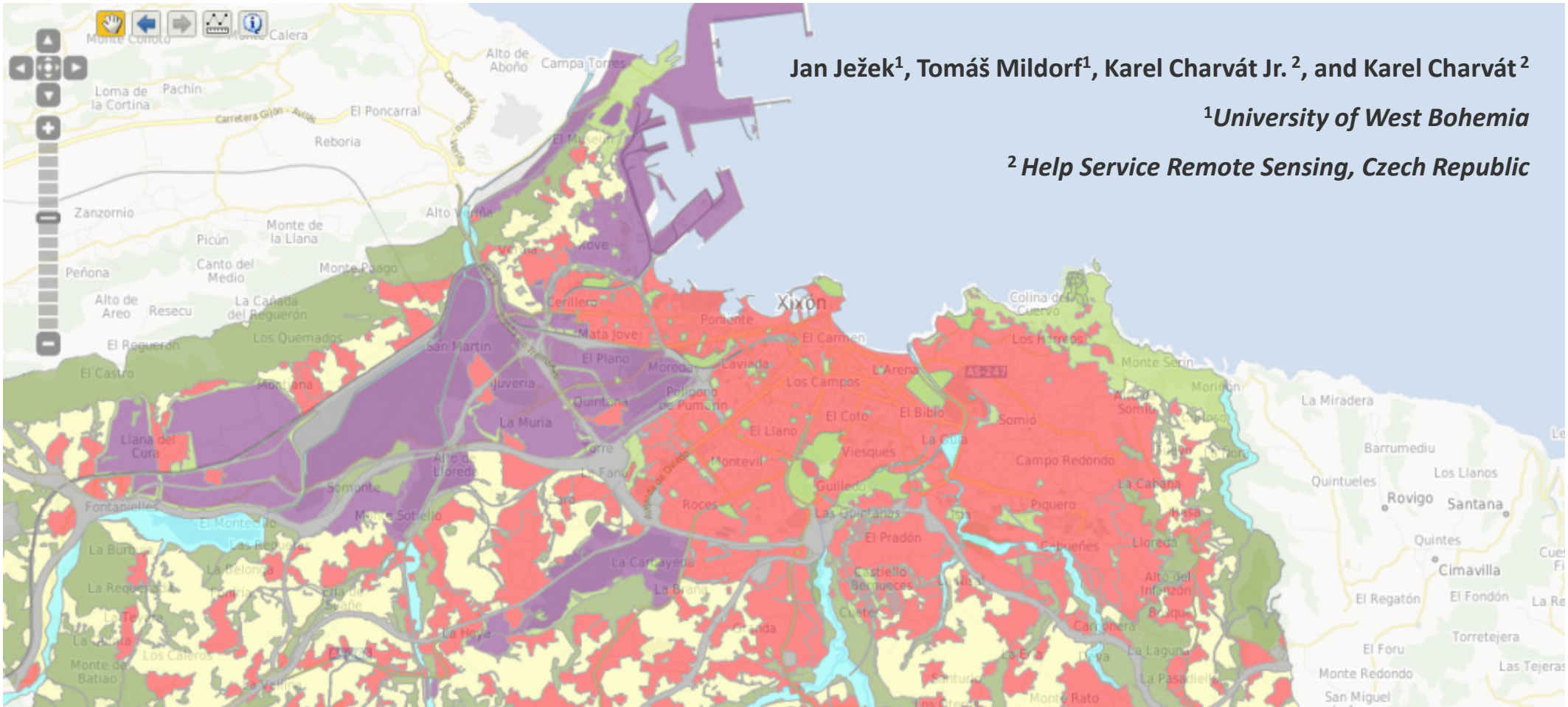
PLAN4BUSINESS

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

The Plan4business Approach to Transfer Open Data Into Real Estate Businesses

ISESS 2013 Neusiedl am See, Austria



Jan Ježek[1], Tomáš Mildorf[1], Karel Charvát Jr.[2], and Karel Charvát[2]

[1] *University of West Bohemia*

[2] *Help Service Remote Sensing, Czech Republic*

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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.

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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;

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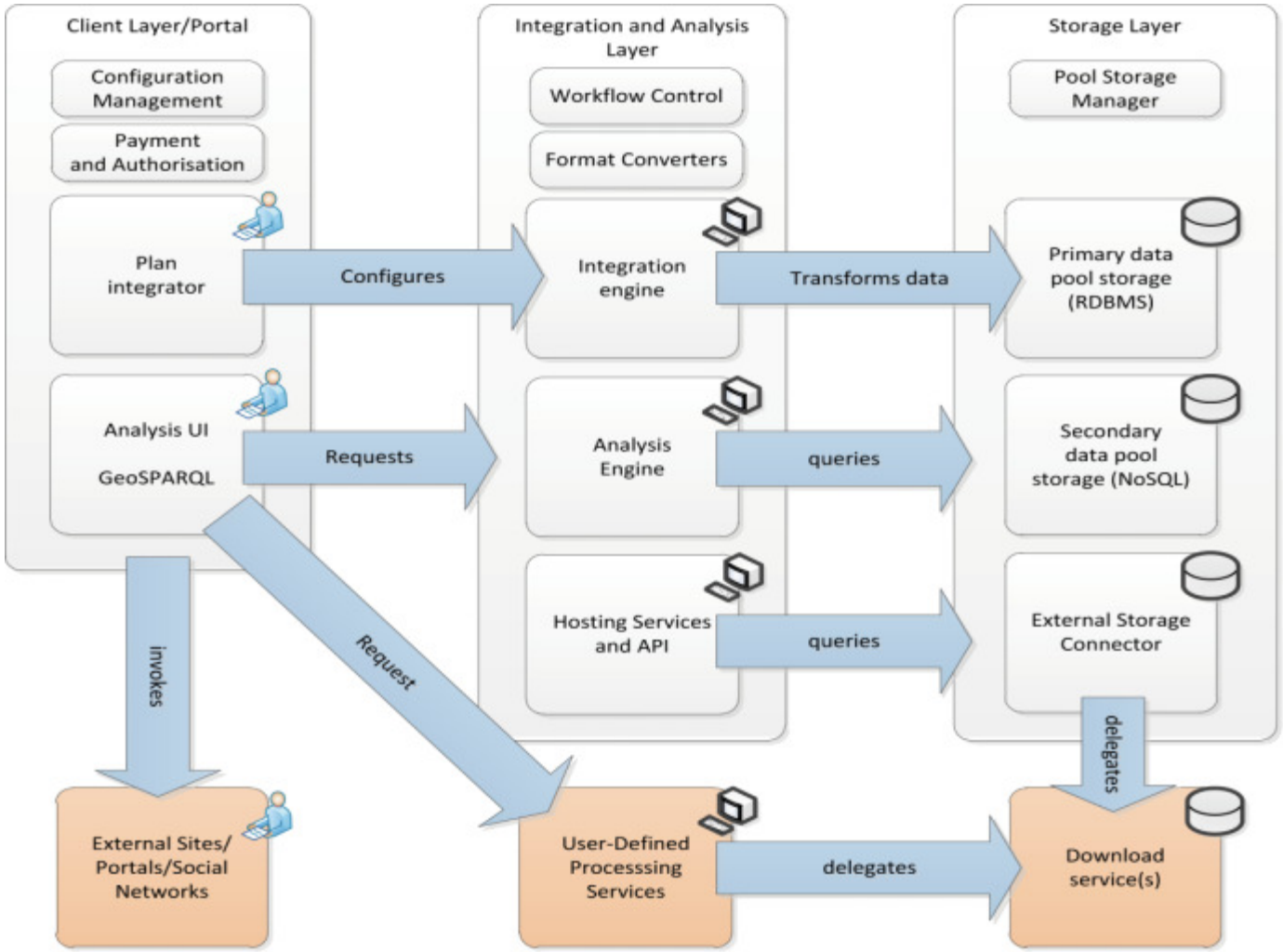
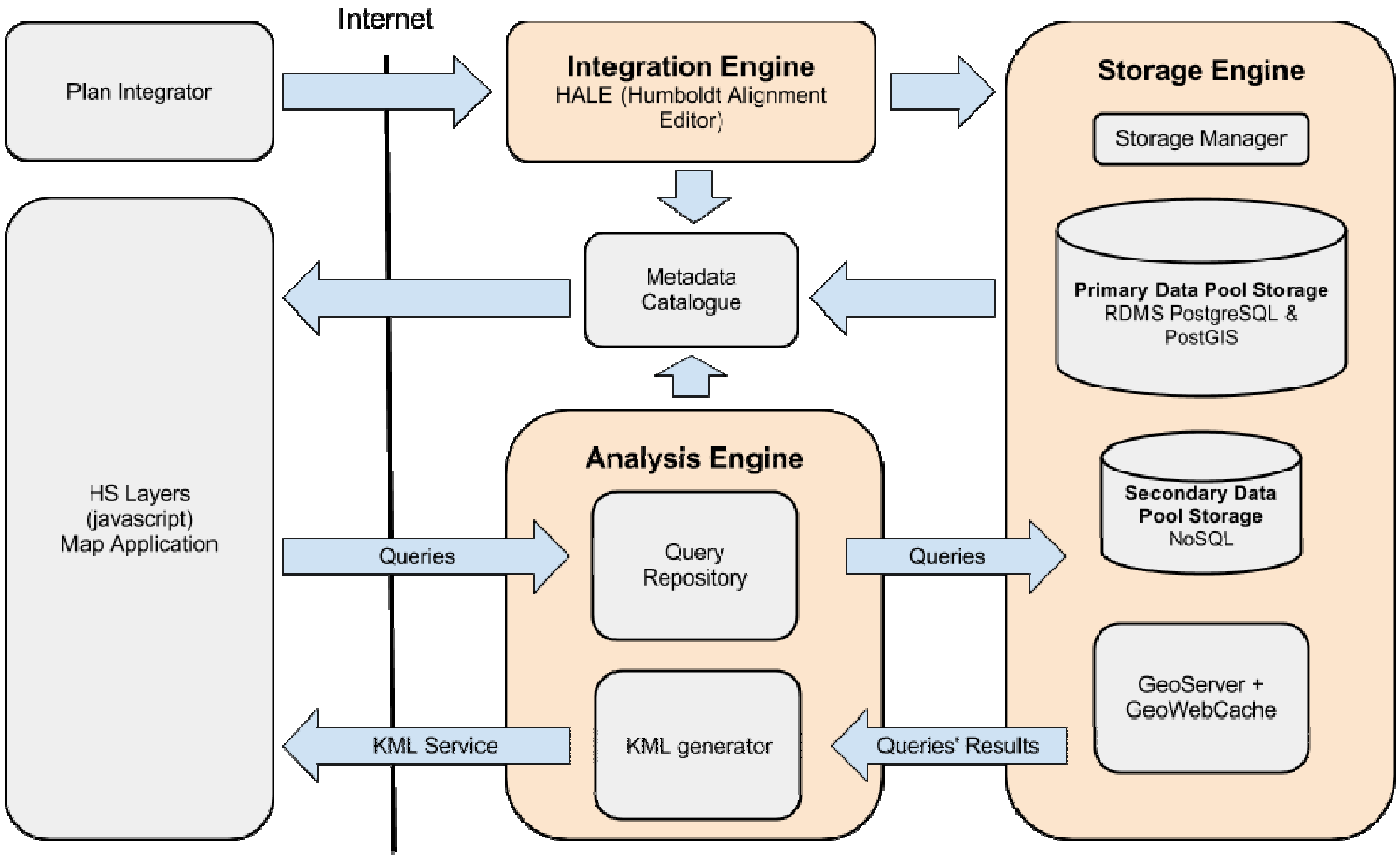
Architecture



Main components



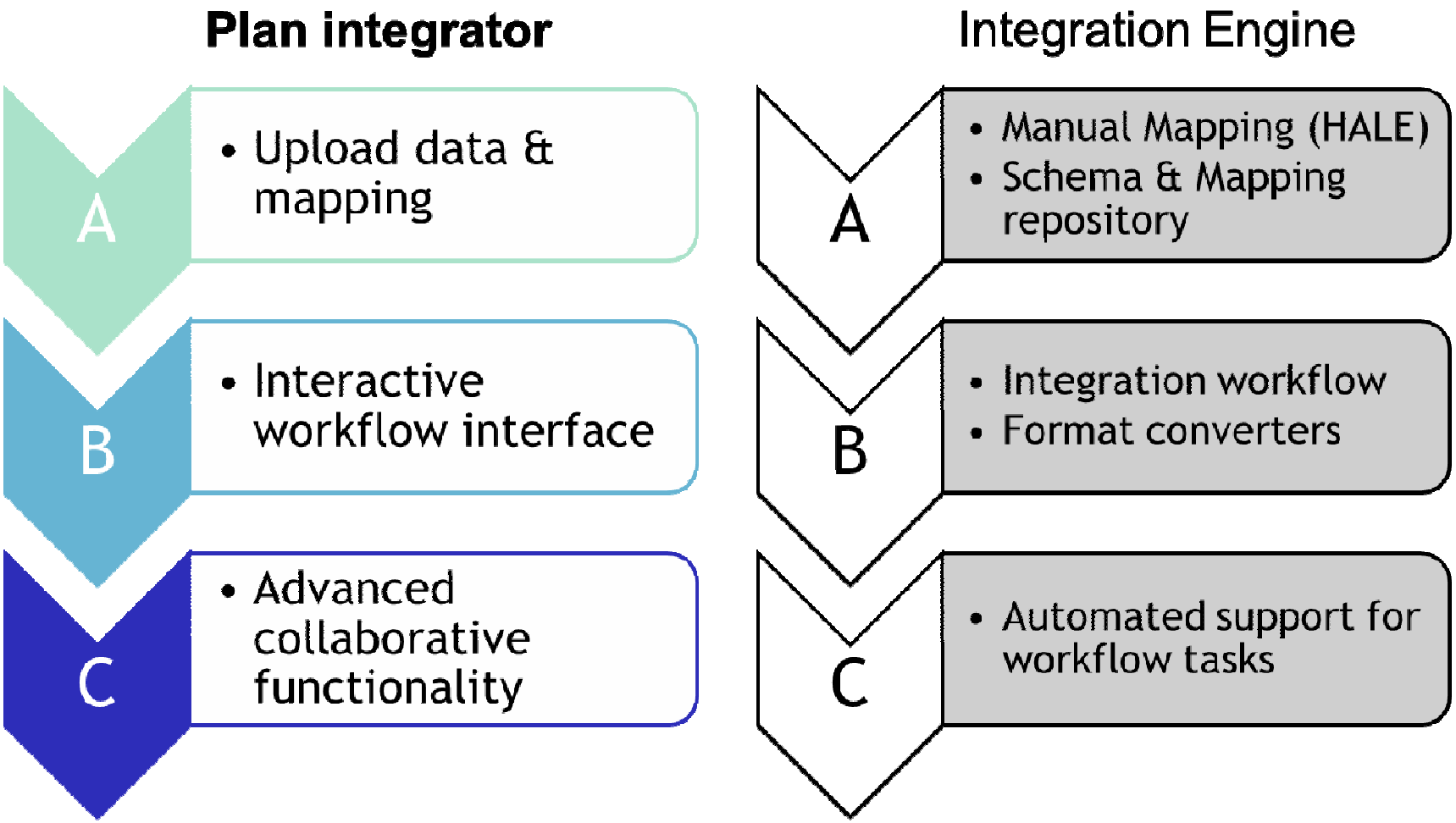
Harmonise (Collaborative Schema Integrator)

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)



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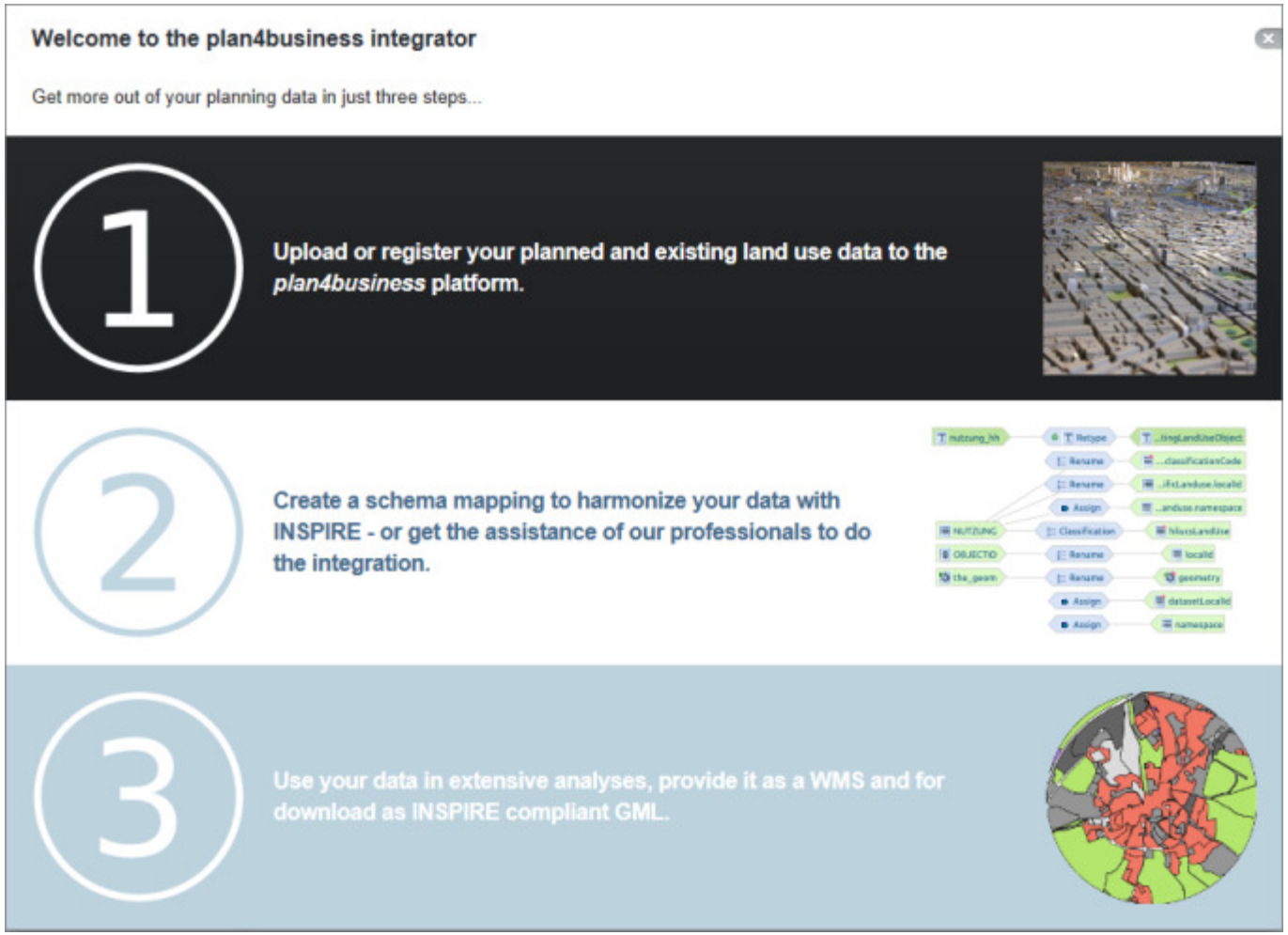
Harmonise (Collaborative Schema Integrator)



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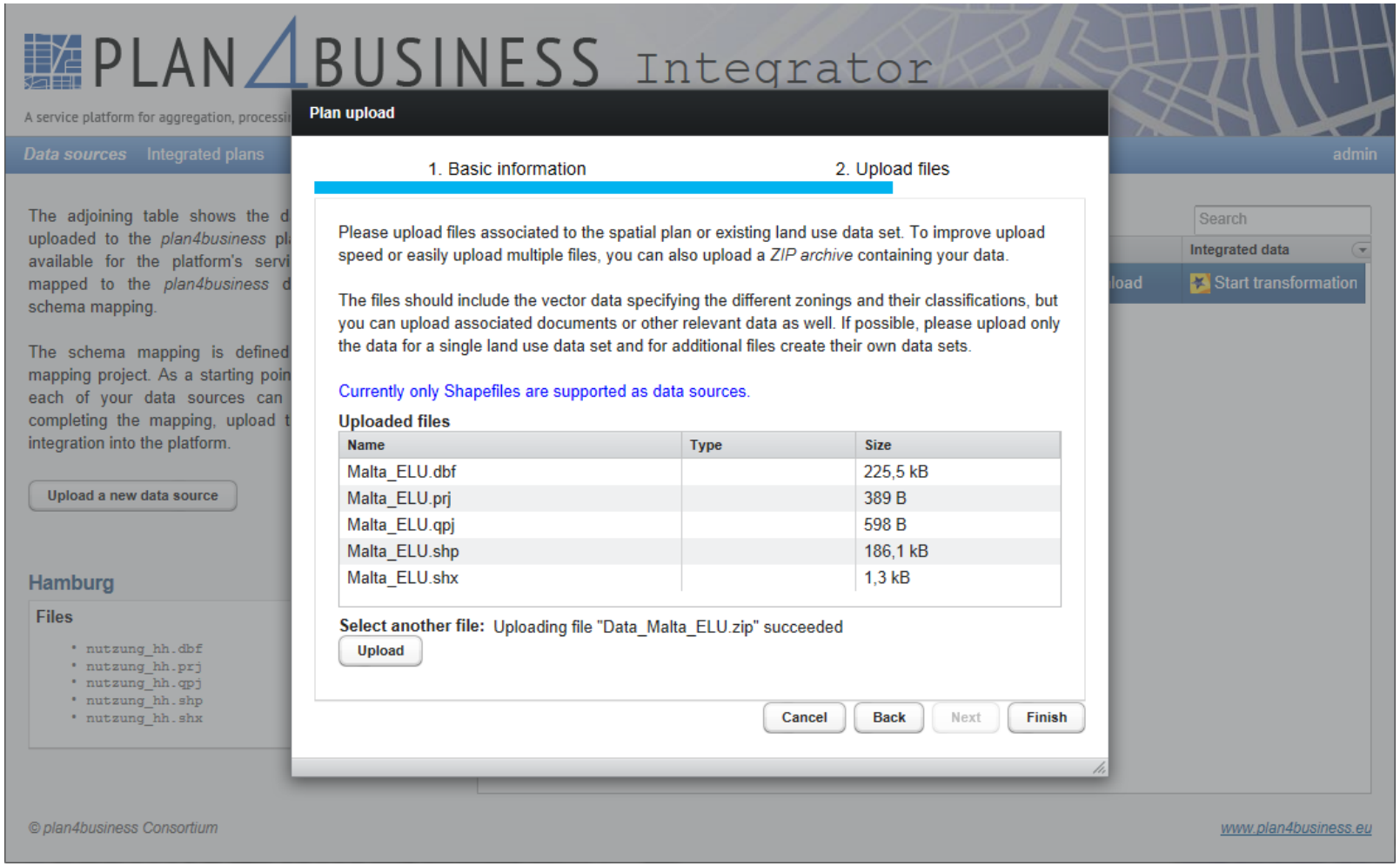
Data upload wizard



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User data source overview with status

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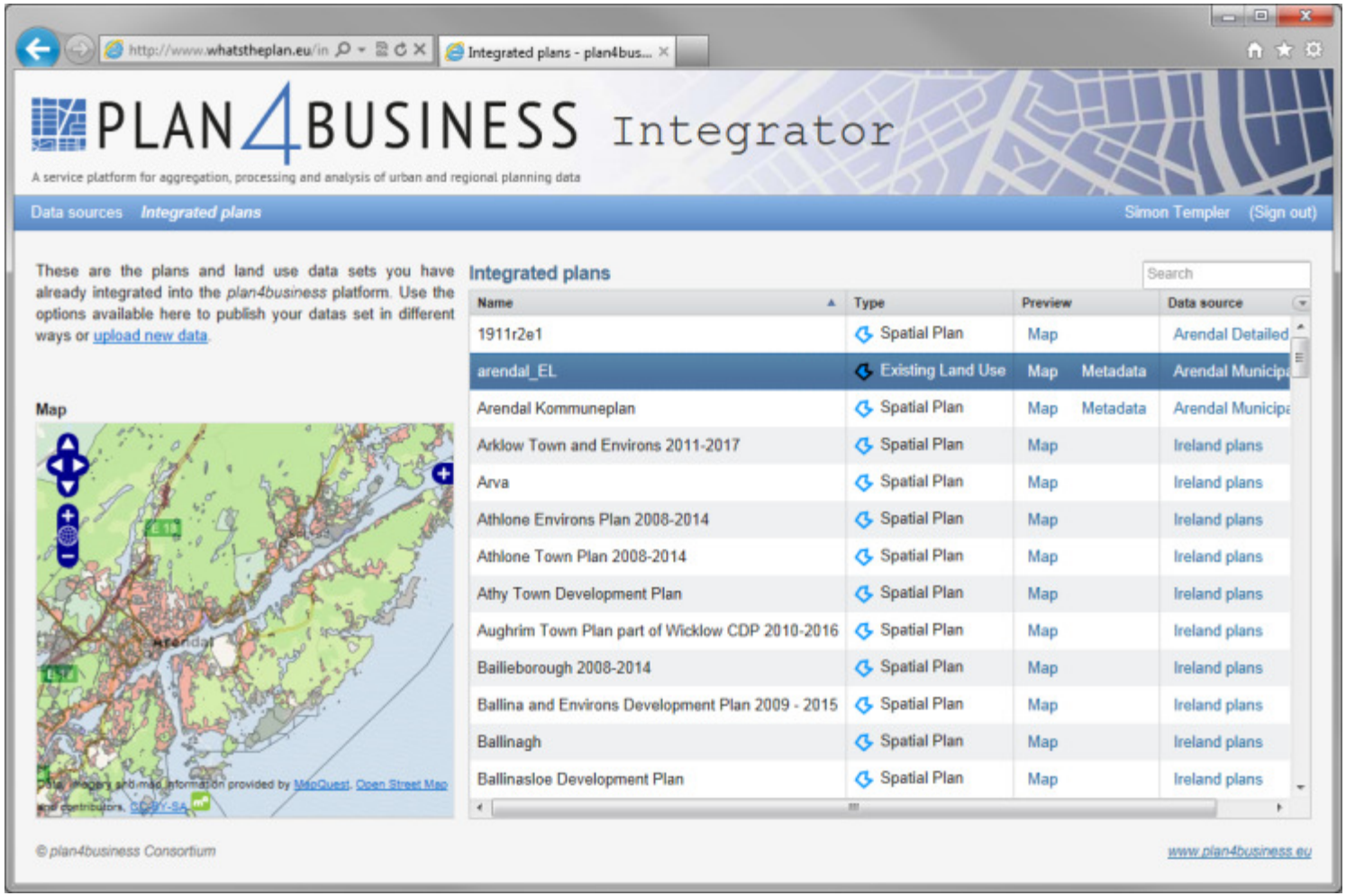
Integrated plans with map preview



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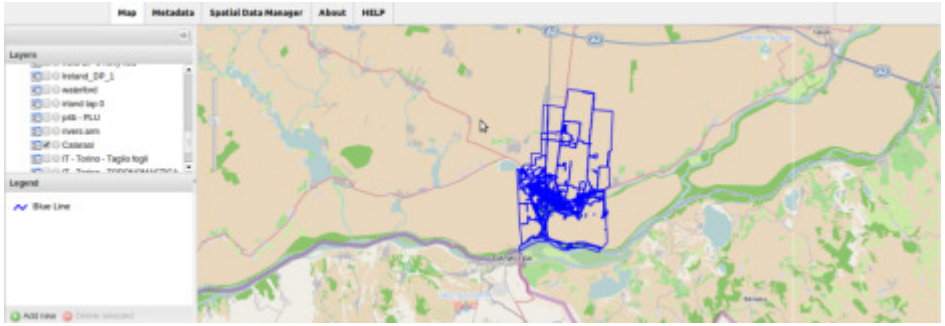
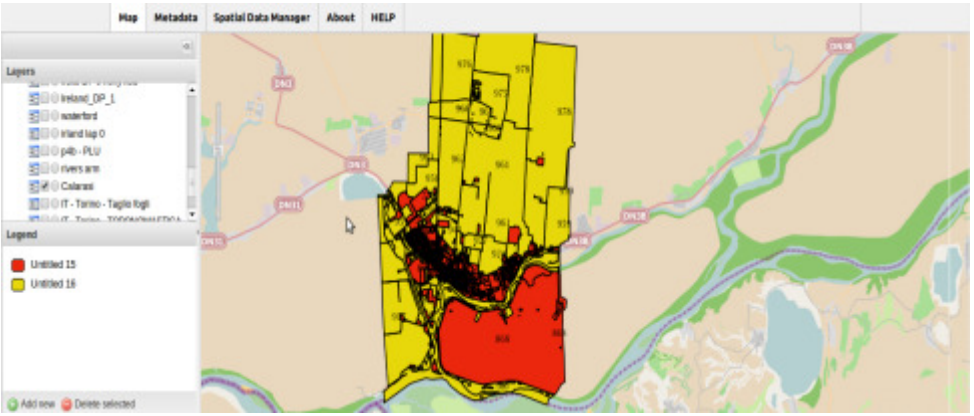
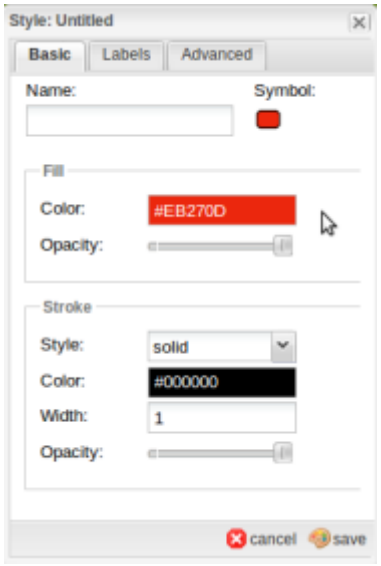
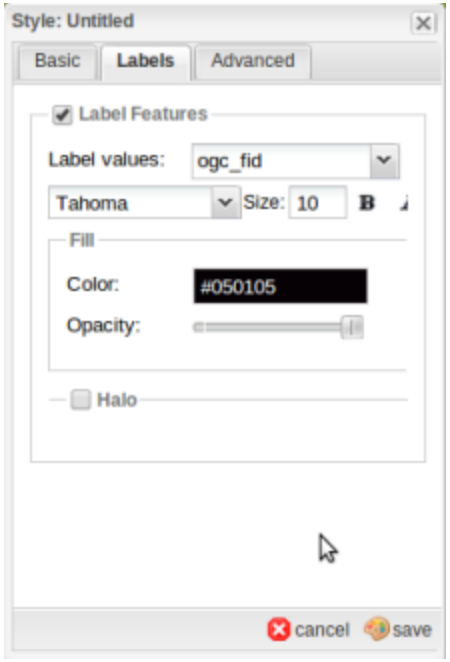
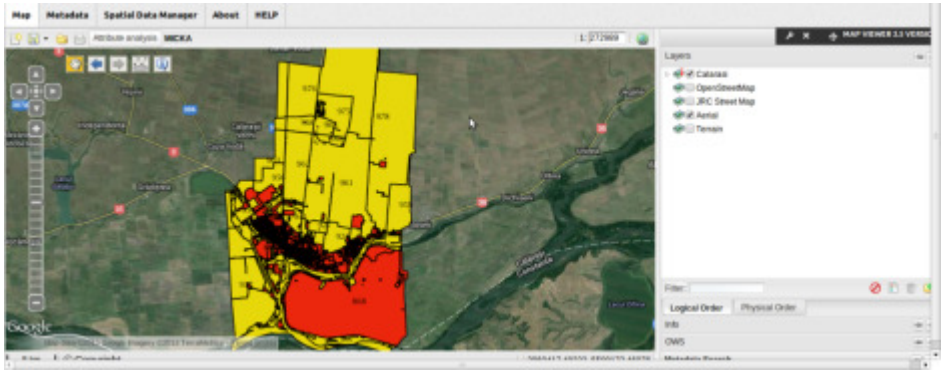
Styler











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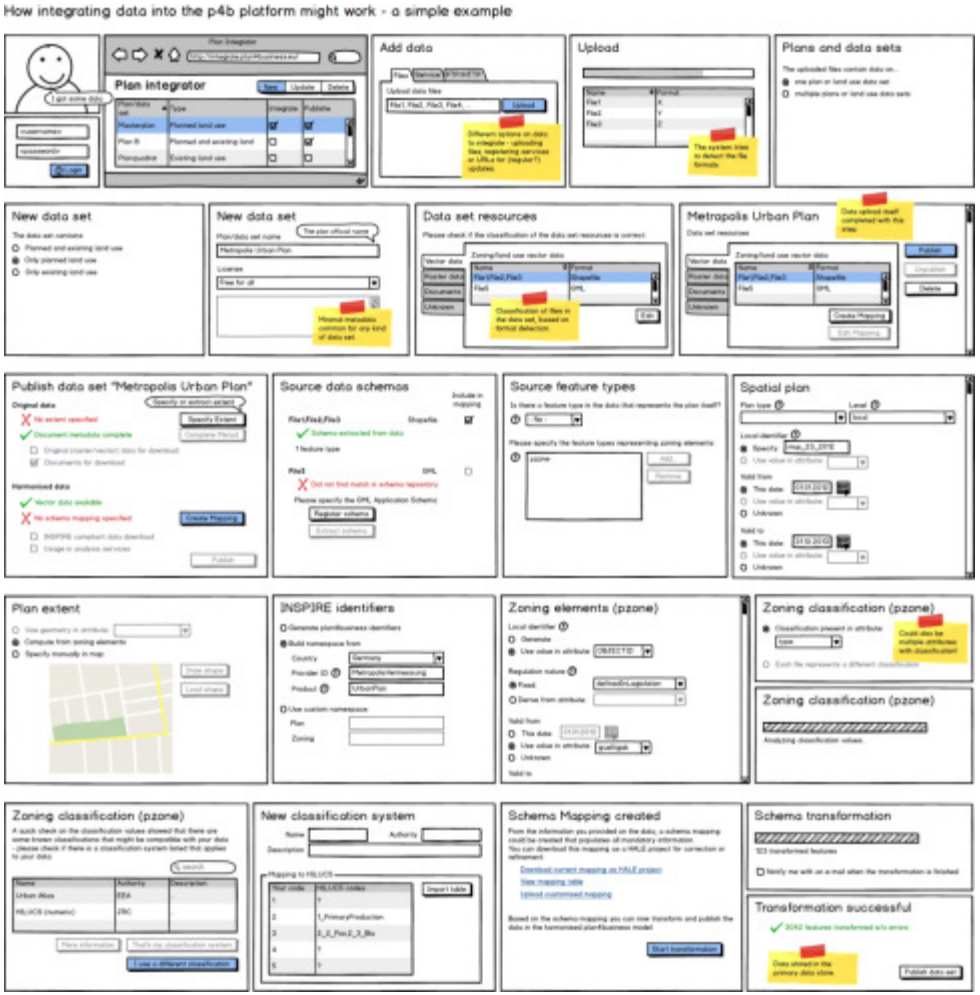
Interactive example workflow for integration of Land Use data



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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.

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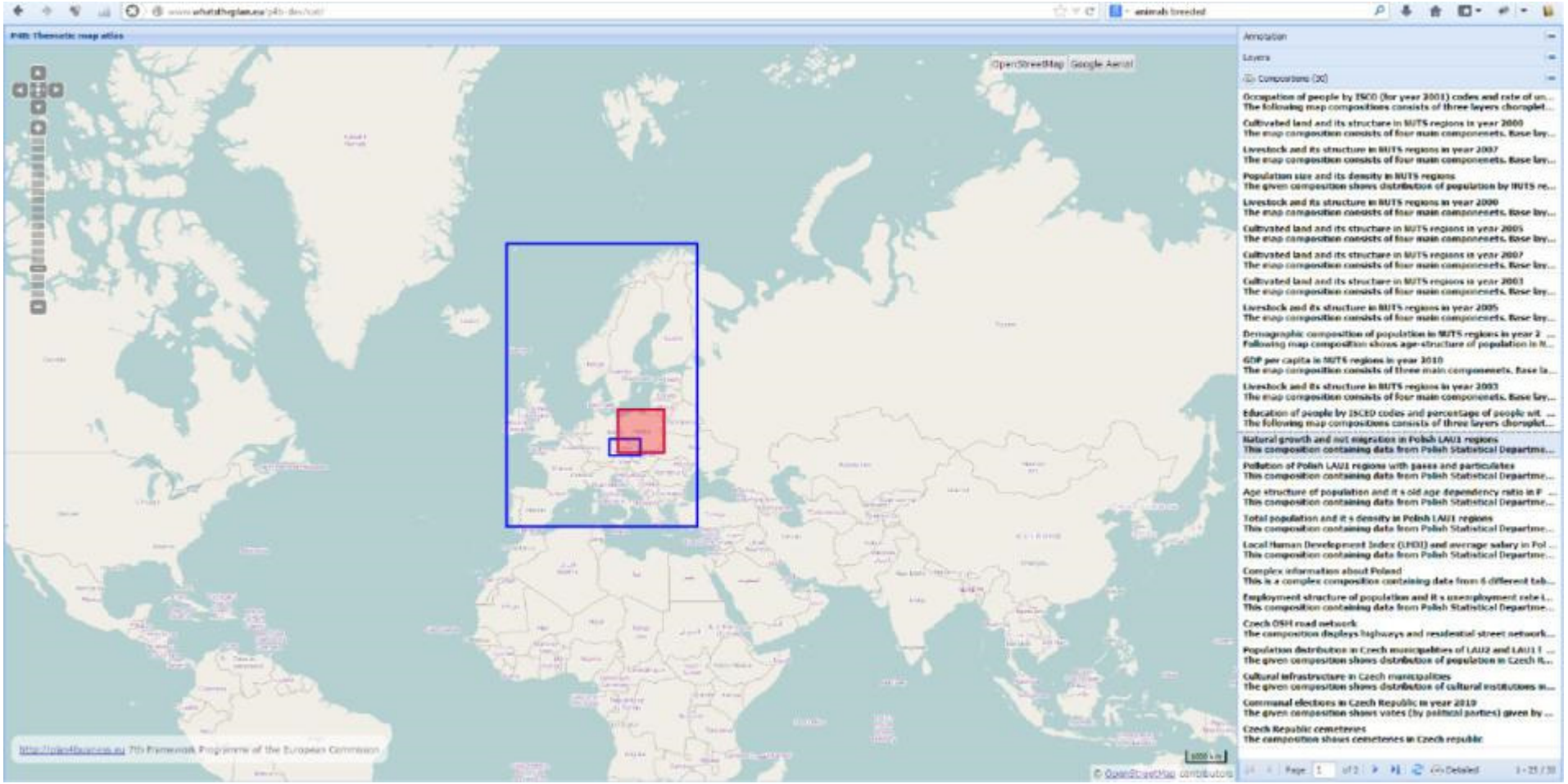
Thematic Map Viewer



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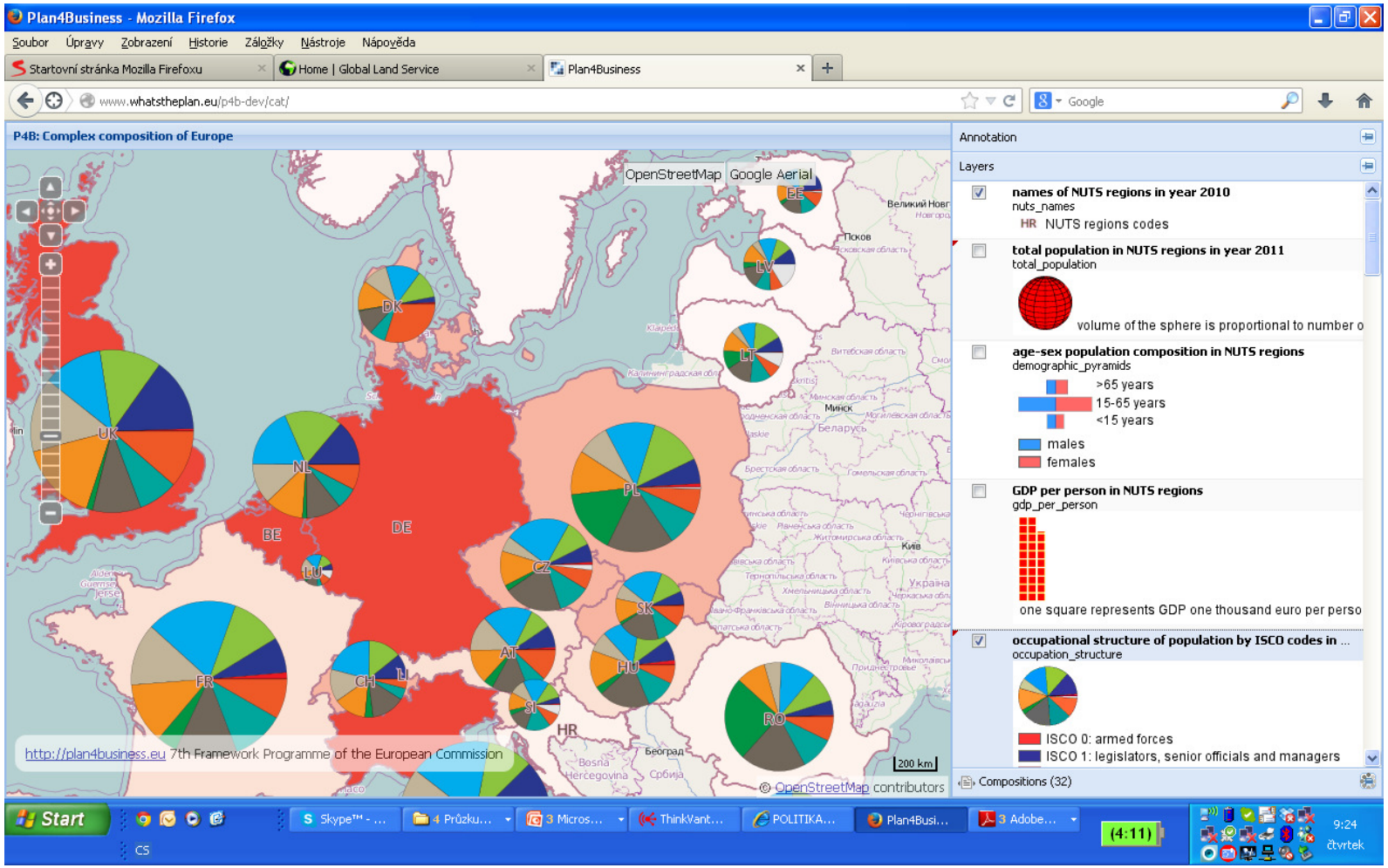
Thematic Map Viewer



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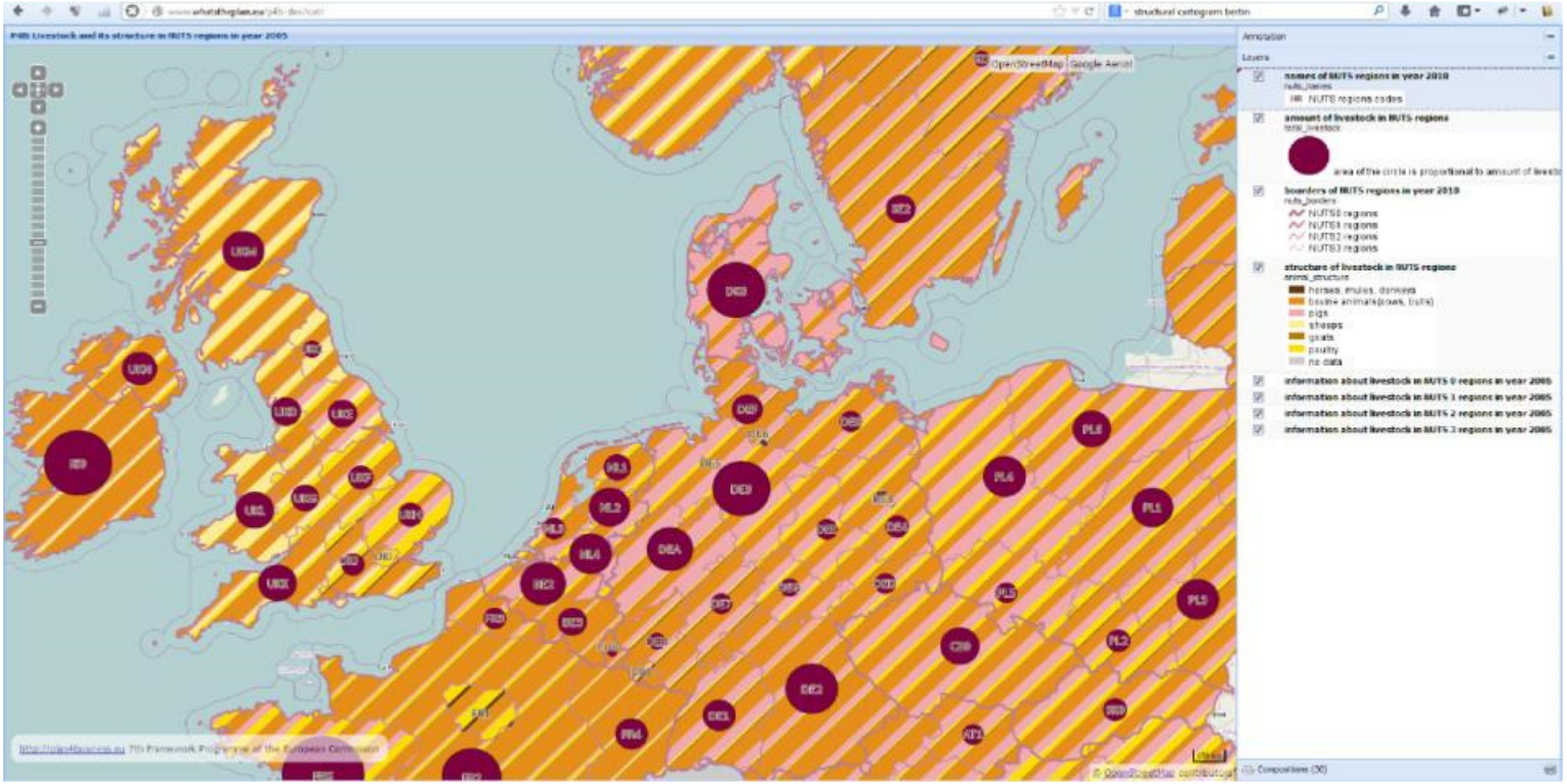
Thematic Map Viewer



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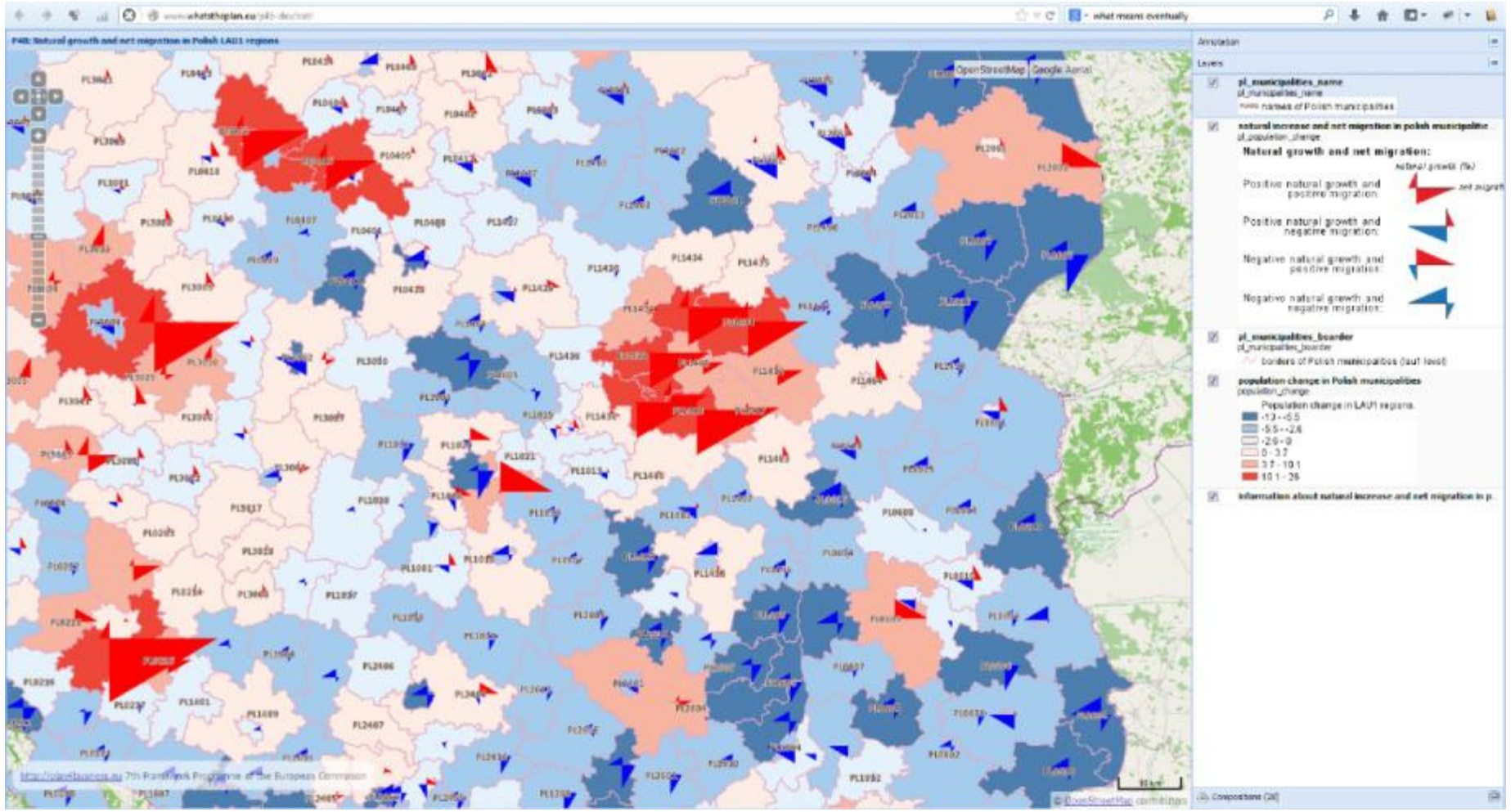
Thematic Map Viewer



Location Evaluator

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)

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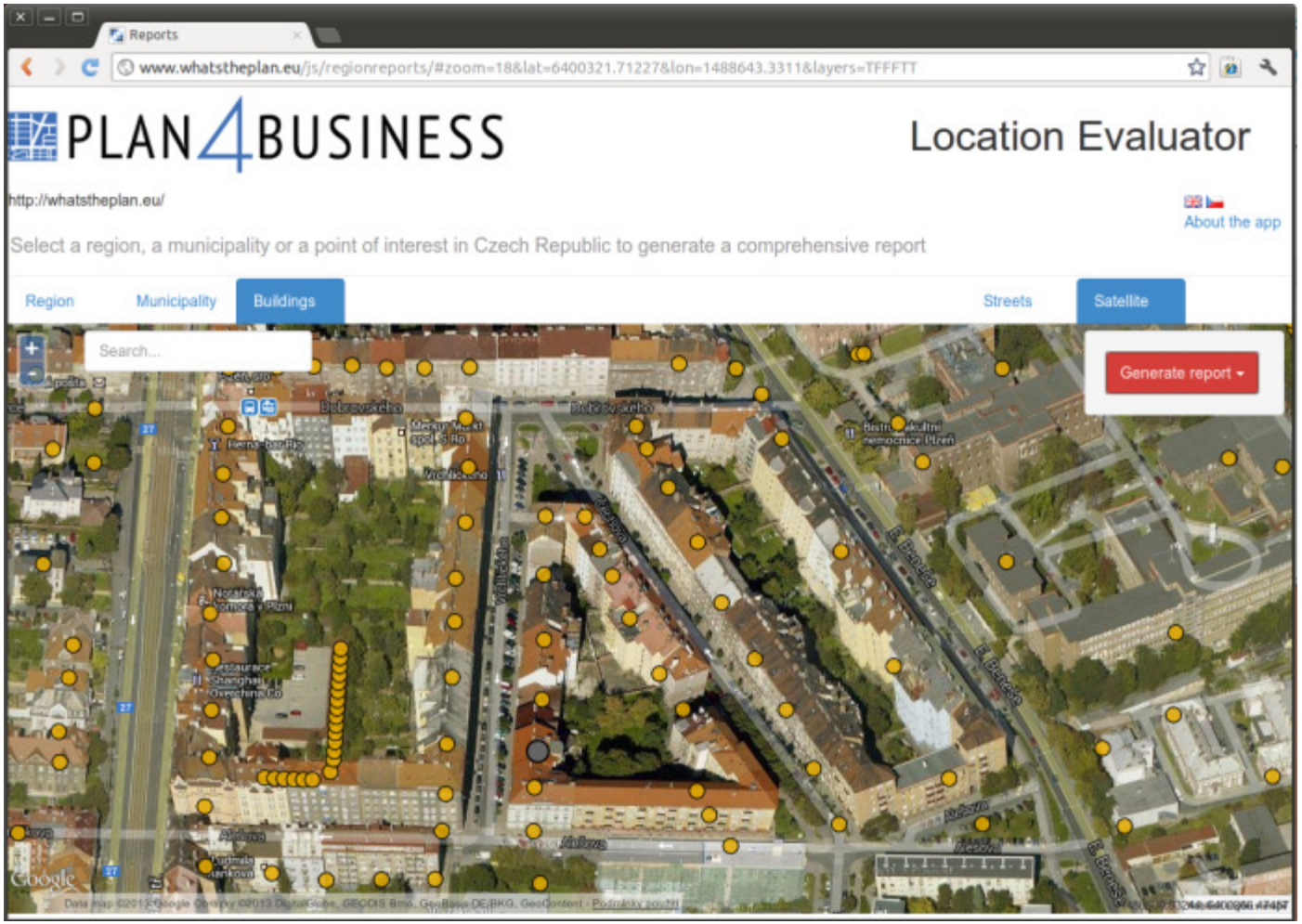
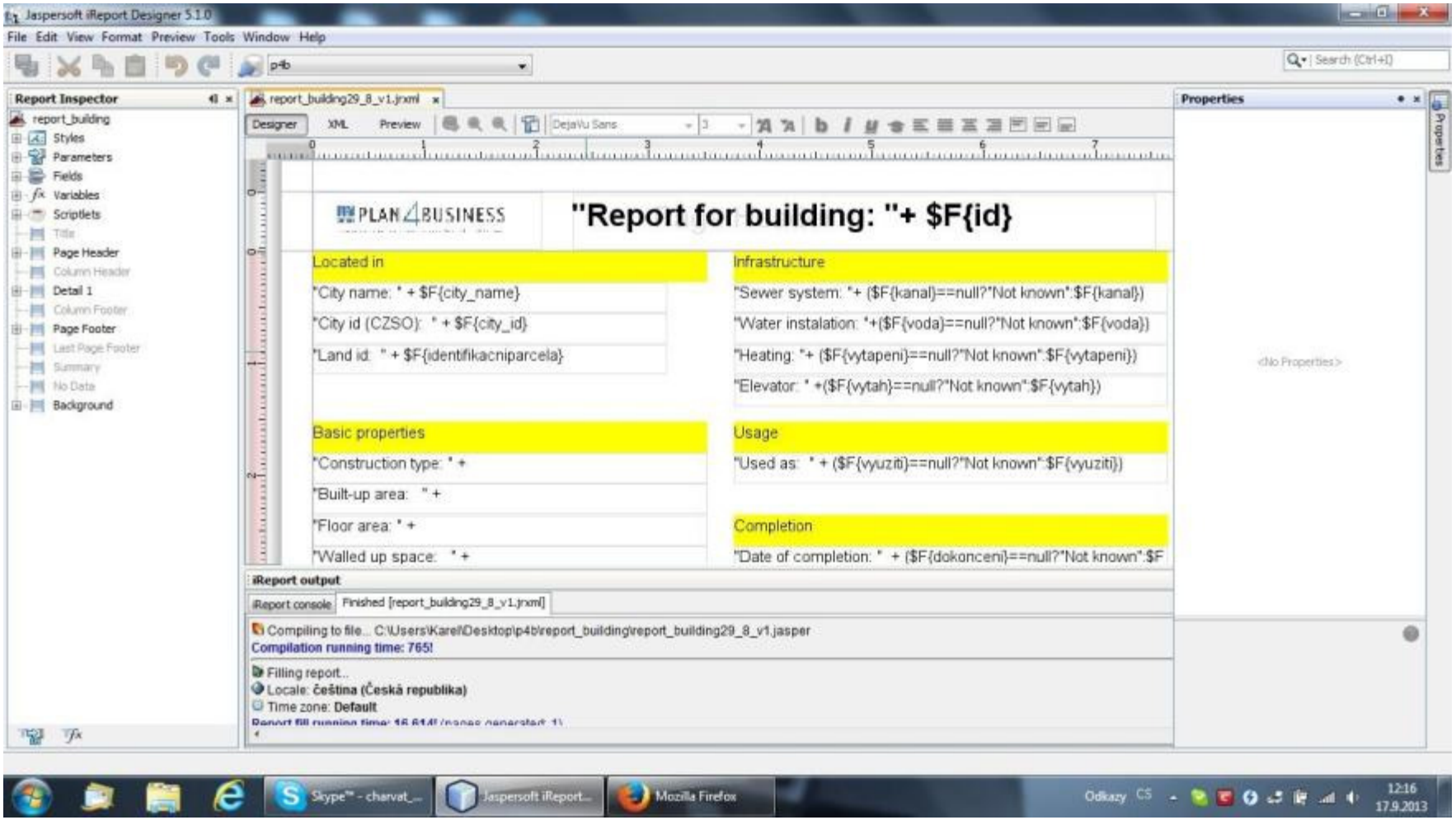
Location Evaluator



Location Evaluator



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Location Evaluator

PLAN 4 BUSINESS **Region Report:** **Plzeňský kraj (CZ032)**

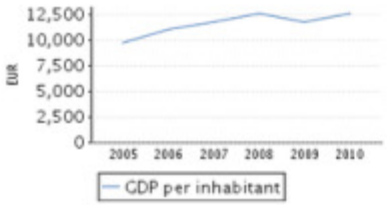
Basic data

Total area: 7530 km^2
Population: 571256

Population density: 75.86 inh. per km^2
GDP: 7226.0 mio. EUR

Economical factors

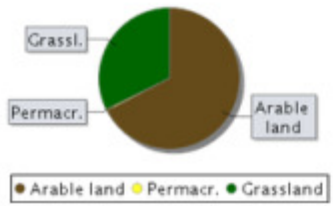
GDP per inhabitant: 12600.0 EUR
Unemployment: 3.6 %



Structure of agricultural land

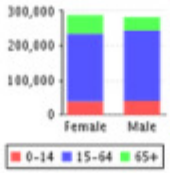
Area: 319440.0 ha

Arable land: 67.39 %
Grassland: 32.26 %
Permacrops: 0.35 %



Demography

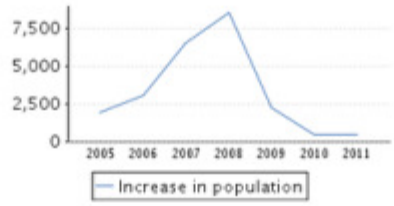
Total population: 571256
Population aged 0-14: 81010
Population aged 15-64: 398420
Population older than 65: 91826



Total males pop.: 282660
Total females pop.: 288596
Males pop. 0-14: 41479
Females pop. 0-14: 39531
Males pop. 15-64: 202904
Females pop. 15-64: 195516

Increase in population: 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



Location

The report contains the newest information published by Eurostat.

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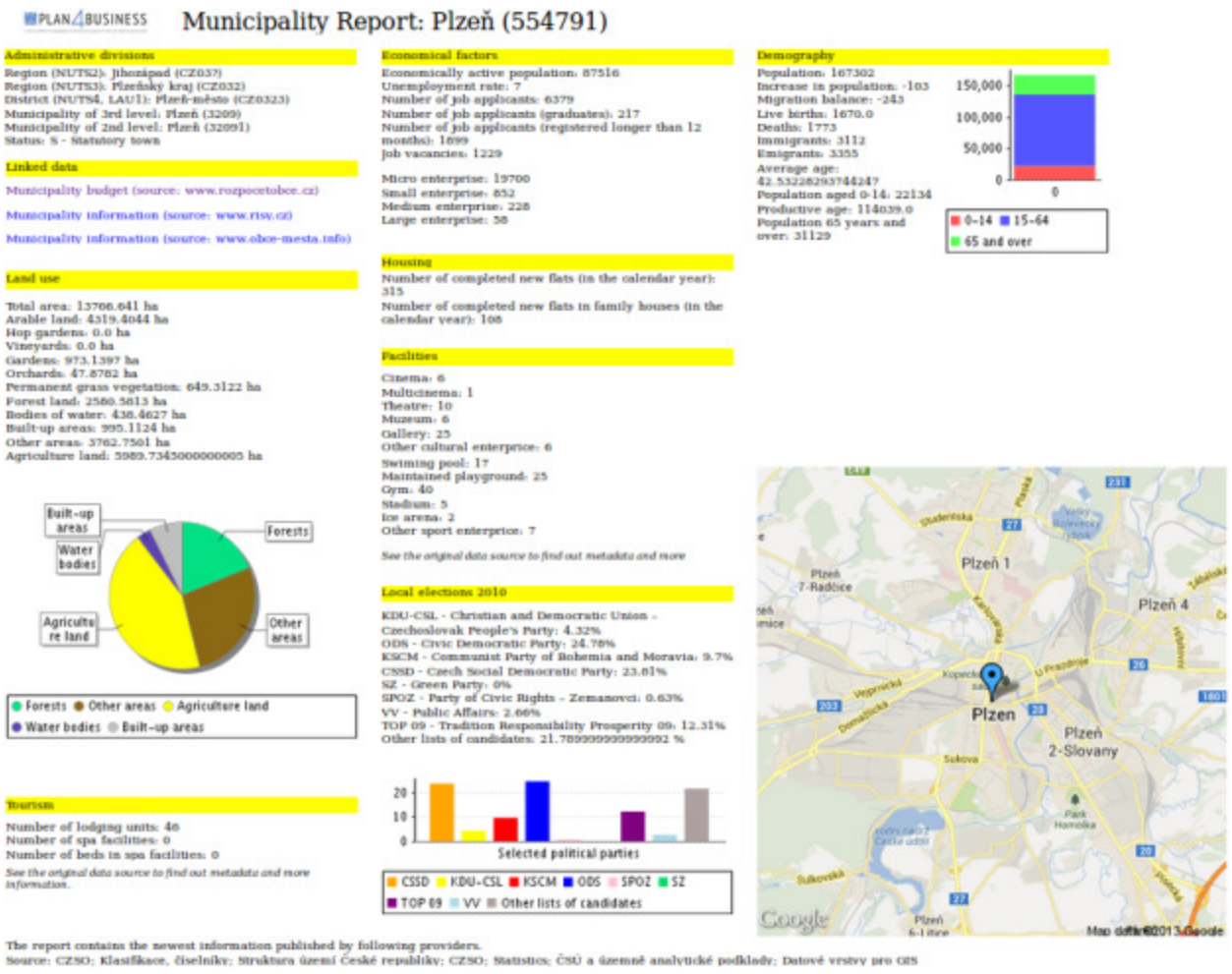
Location Evaluator



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Municipality Report: Plzeň (554791)

Administrative divisions

Region (NUTS2): Jihozápad (CZ037)
Region (NUTS3): Plzeňský kraj (CZ032)
District (NUTS4, LAU1): Plzeň-město (CZ0323)
Municipality of 3rd level: Plzeň (3209)
Municipality of 2nd level: Plzeň (32091)
Status: S - Statutory town

Linked data

Municipality budget (source: www.rozpocetobce.cz)
Municipality information (source: www.risy.cz)
Municipality information (source: www.obce-mesta.info)

Land use

Total area: 13706.641 ha
Arable land: 4319.4044 ha
Hop gardens: 0.0 ha
Vineyards: 0.0 ha
Gardens: 973.1397 ha
Orchards: 47.8782 ha
Permanent grass vegetation: 649.3122 ha
Forest land: 2560.5613 ha
Bodies of water: 438.4627 ha
Built-up areas: 995.1124 ha
Other areas: 3762.7501 ha
Agriculture land: 5989.7345000000005 ha

Tourism

Number of lodging units: 46
Number of spa facilities: 0
Number of beds in spa facilities: 0

See the original data source to find out metadata and more information.

Economical factors

Economically active population: 87516
Unemployment rate: 7
Number of job applicants: 6379
Number of job applicants (graduates): 217
Number of job applicants (registered longer than 12 months): 1699
Job vacancies: 1229

Micro enterprise: 19700
Small enterprise: 852
Medium enterprise: 228
Large enterprise: 58

Housing

Number of completed new flats (in the calendar year): 315
Number of completed new flats in family houses (in the calendar year): 108

Facilities

Cinema: 6
Multicinema: 1
Theatre: 10
Museum: 6
Gallery: 25
Other cultural enterprice: 6
Swiming pool: 17
Maintained playground: 25
Gym: 40
Stadium: 5
Ice arena: 2
Other sport enterprice: 7

See the original data source to find out metadata and more

Local elections 2010

KDU-CSL - Christian and Democratic Union - Czechoslovak People's Party: 4.32%
ODS - Civic Democratic Party: 24.78%
KSCM - Communist Party of Bohemia and Moravia: 9.7%
CSSD - Czech Social Democratic Party: 23.81%
SZ - Green Party: 0%
SPOZ - Party of Civic Rights - Zemanovci: 0.63%
VV - Public Affairs: 2.66%
TOP 09 - Tradition Responsibility Prosperity 09: 12.31%
Other lists of candidates: 21.789999999999992 %

Demography

Population: 167302
Increase in population: -103
Migration balance: -243
Live births: 1670.0
Deaths: 1773
Immigrants: 3112
Emigrants: 3355
Average age: 42.532282937442474
Population aged 0-14: 22134
Productive age: 114039.0
Population 65 years and over: 31129

The report contains the newest information published by following providers.
Source: CZSO; Klasifikace, číselníky; Struktura území České republiky; CZSO; Statistics; ČSÚ a územně analytické podklady; Datové vrstvy pro GIS

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Location Evaluator

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Report for building: 21665966

Located in

City name: Praha

City id (CZSO): 554782

Land id: 2384834101

Basic properties

Construction type: Not known

Built-up area: Not known

Floor area: Not known

Walled up space: Not known m

Number of floors: Not known

Number of apartments: 6

Flood risk

Located in zone of largest flood: Yes

Located in zone of 100-year flood: Yes

Located in zone of 20-year flood: No

Located in zone of 5-year flood: No

Linked data and reports

Report for city: Praha

Infrastructure

Sewer system: Connection to sewer system

Water instalation: With water pipe

Heating: Other (inlluding without heating)

Elevator: Without elevator

Usage

Used as: Apartment building

Completion

Date of completion: Not known

Report contains information published by following providers.
CZECH OFFICE FOR SURVEYING, MAPPING AND CADASTRE (COSMC);RUIAN;
T. G. Masaryk Water Research Institute, public research institution; DIBAVOD

Report generated at 2013-09-17 13:49:44.0

http://www.plan4business.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).

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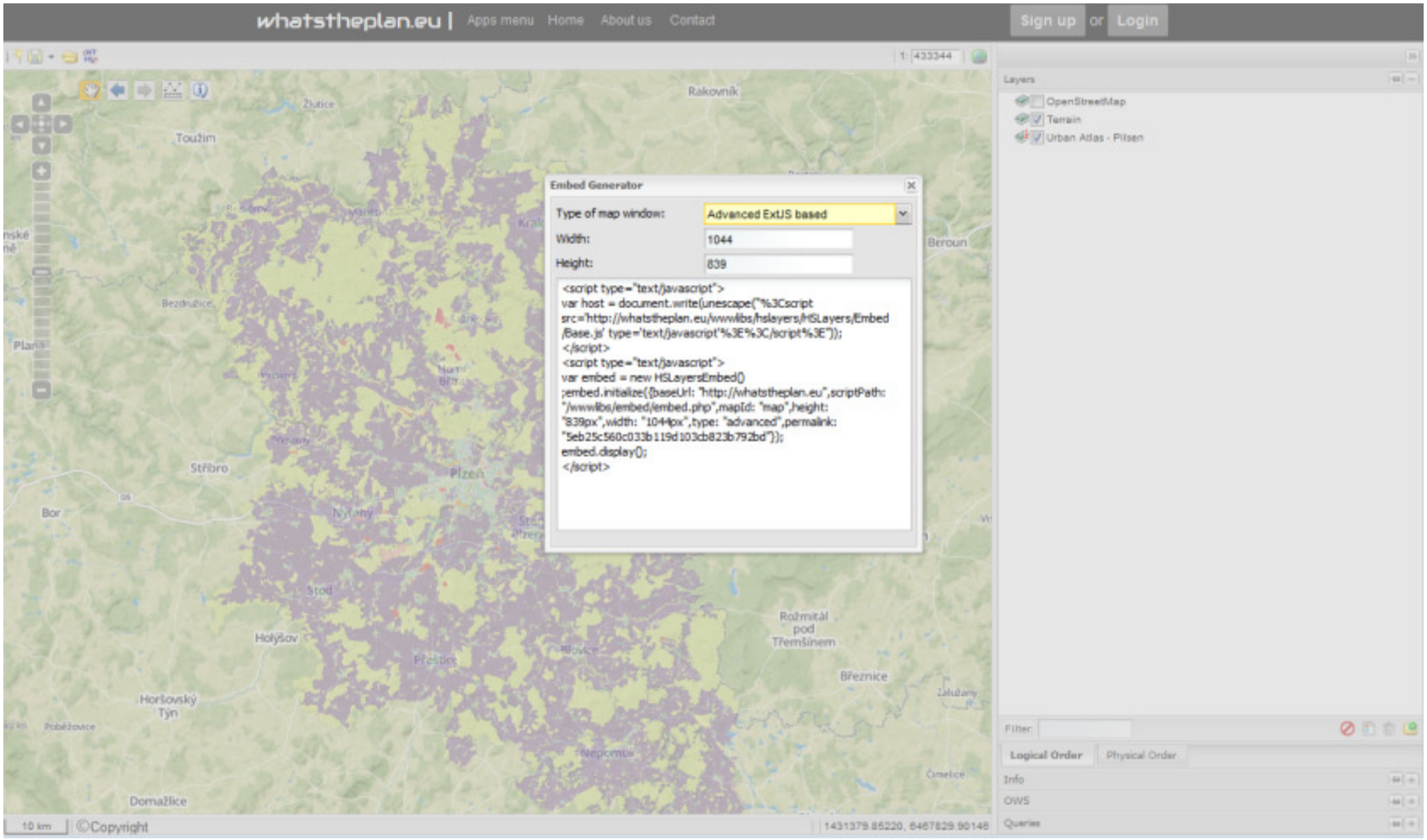
Embed-Map



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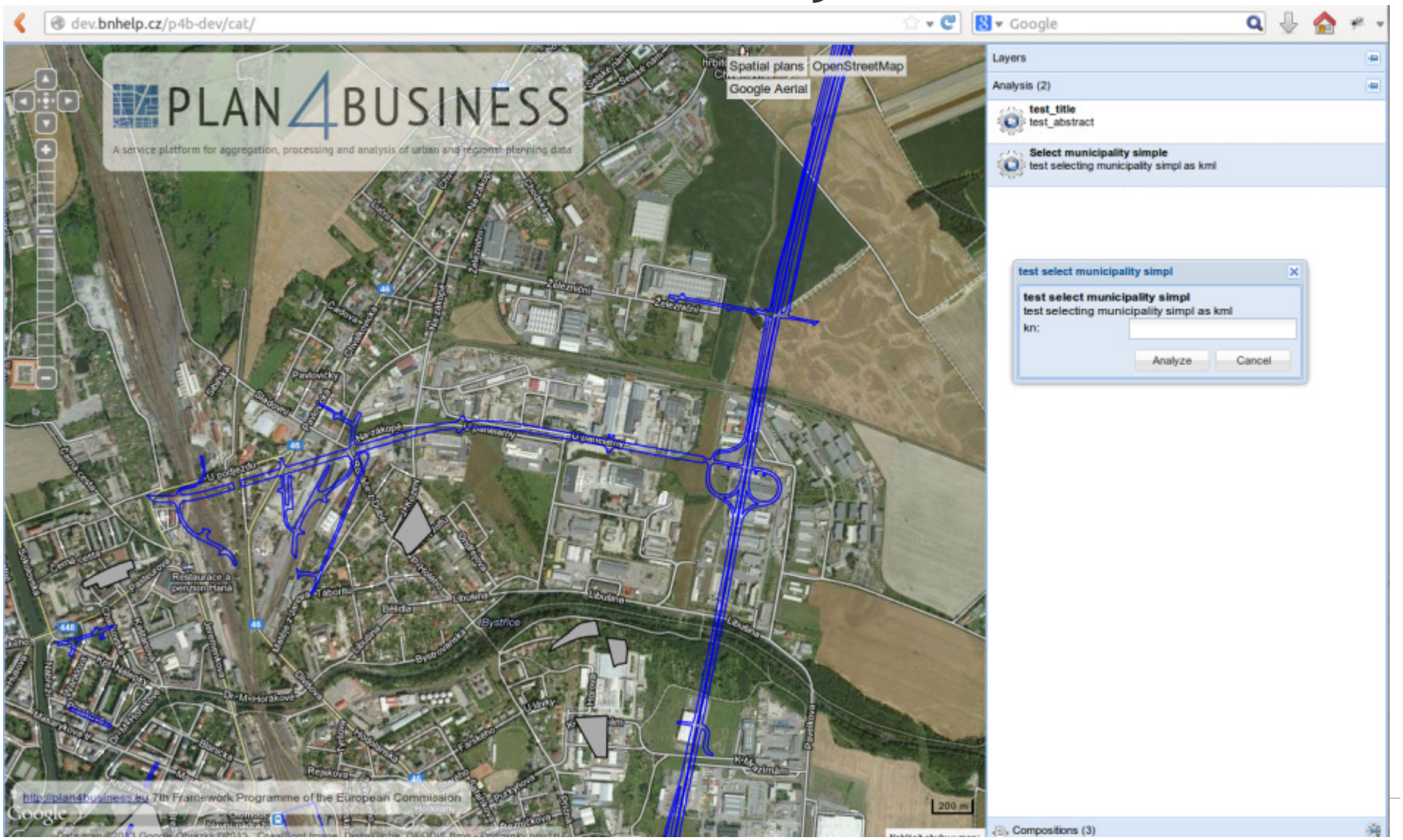
Data Analysis



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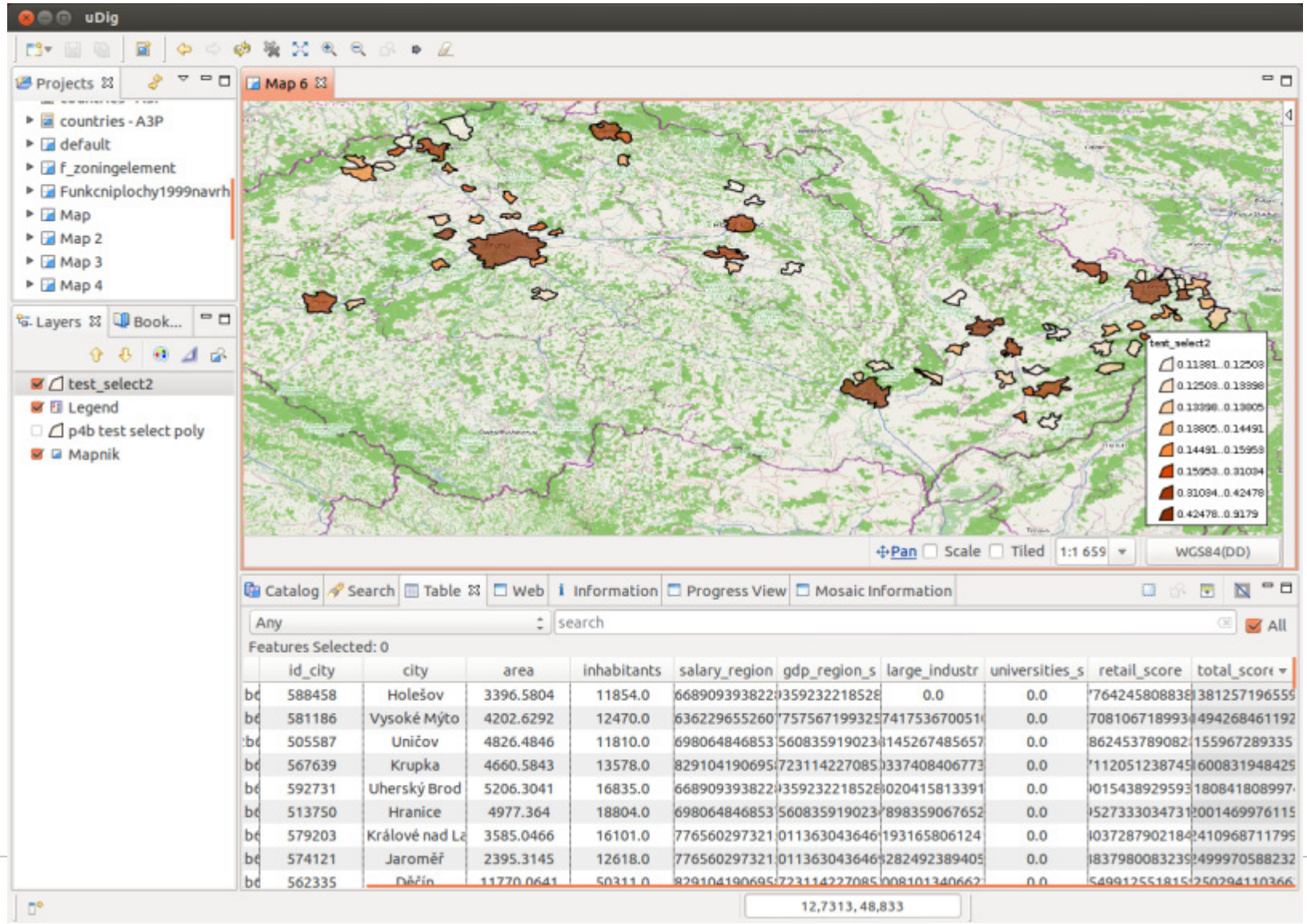
Expert Analysis



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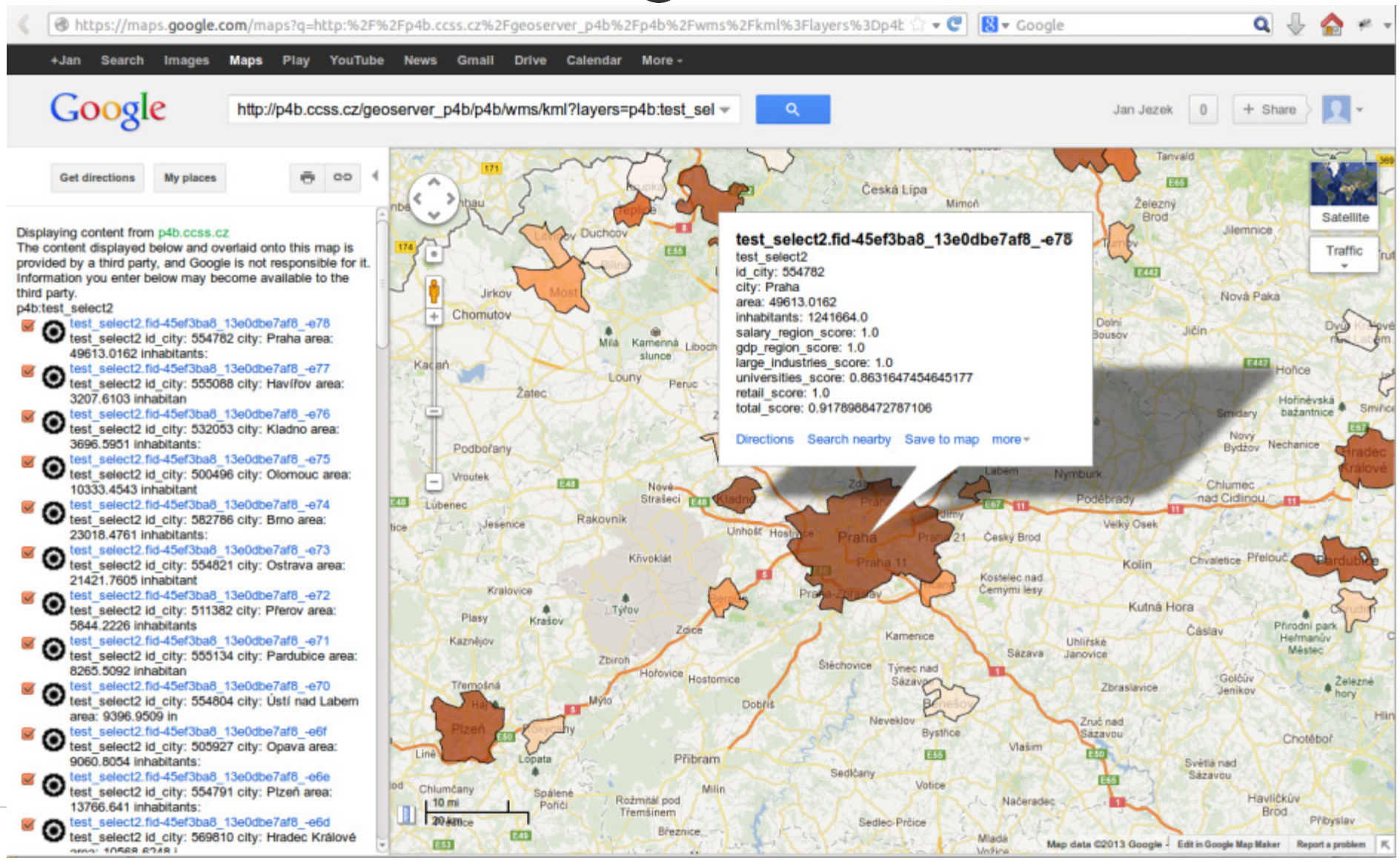
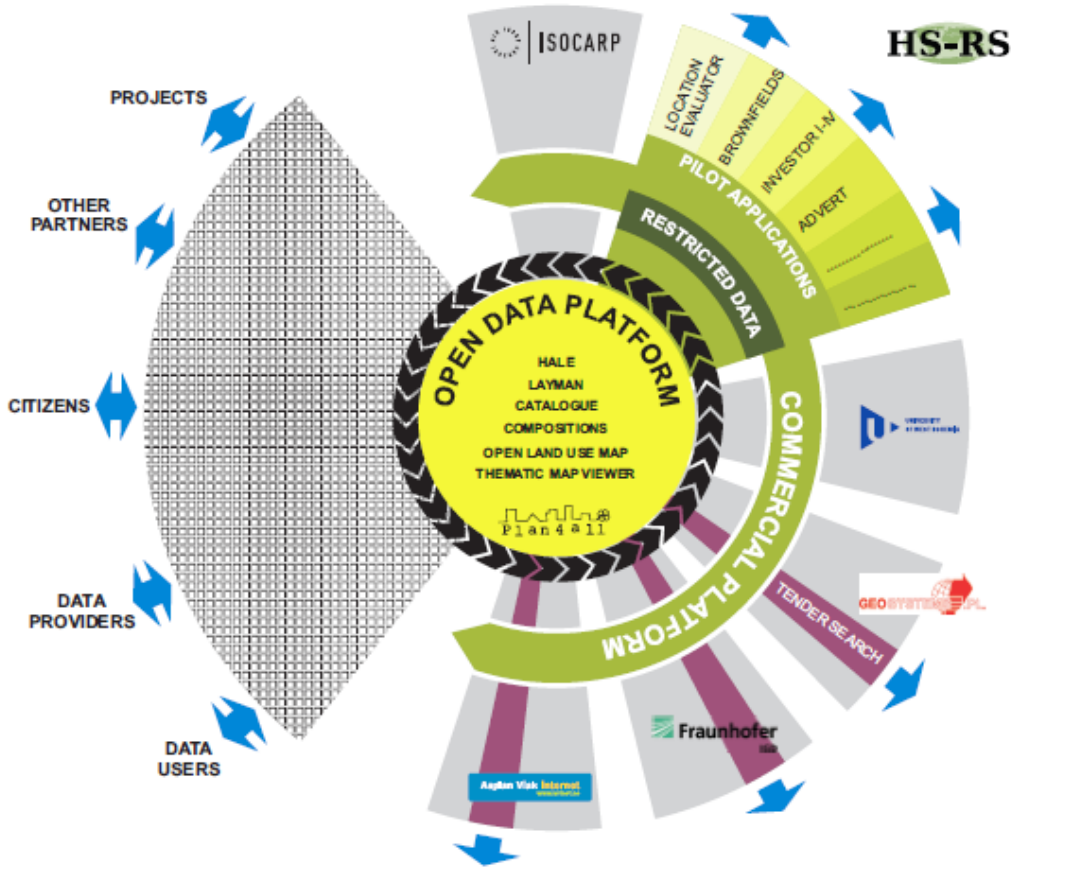
Using KML



Plan4business Plan



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Thank you for your attention

more information at

http://www.plan4business.eu/

http://whatstheplan.eu/