Open Data for Real Estate Business

Karel Charvat, Tomas Mildorf, Jan Jezek, Karel Charvat Jr., Dmitrij Kozuch, Otakar Cerba,

Introduction

The contribution presents two solutions based on Open Data which are targeted mainly at real estate businesses. The research and developments were performed mainly within the EU FP7 plan4business project – a Service Platform for Aggregation, Processing and Analysing of Urban and Regional Planning Data. The platform enables harmonisation of data into a seamless, homogenous, constantly growing and updated trans-border dataset. The platform enables spatial analyses across European datasets. The platform serves not only as a catalogue of planning data but also as their integrator enabling users to search, view, analyse and download spatial planning data on European and regional levels. The main objectives are the automation of harmonisation processes and possibilities of complex analyses.

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. By now, we have created about 30 compositions. Most of them are related to socio-economic and demographic indicators such as GDP, average monthly salary, unemployment rate, employment structure (by sectors), local human development index (LHDI), population size and density, net migration and natural growth and age dependency ratio. Not all of the compositions are related to human development. Some of them, like structure of agricultural lands, structure of livestock, environment pollution by gases and particulates, are from other areas.

When entering the application you can see bounding boxes of available compositions in the map and also a list of the available compositions on the right. When the user points at a composition in the list on the right, its bounding box is highlighted in the map.
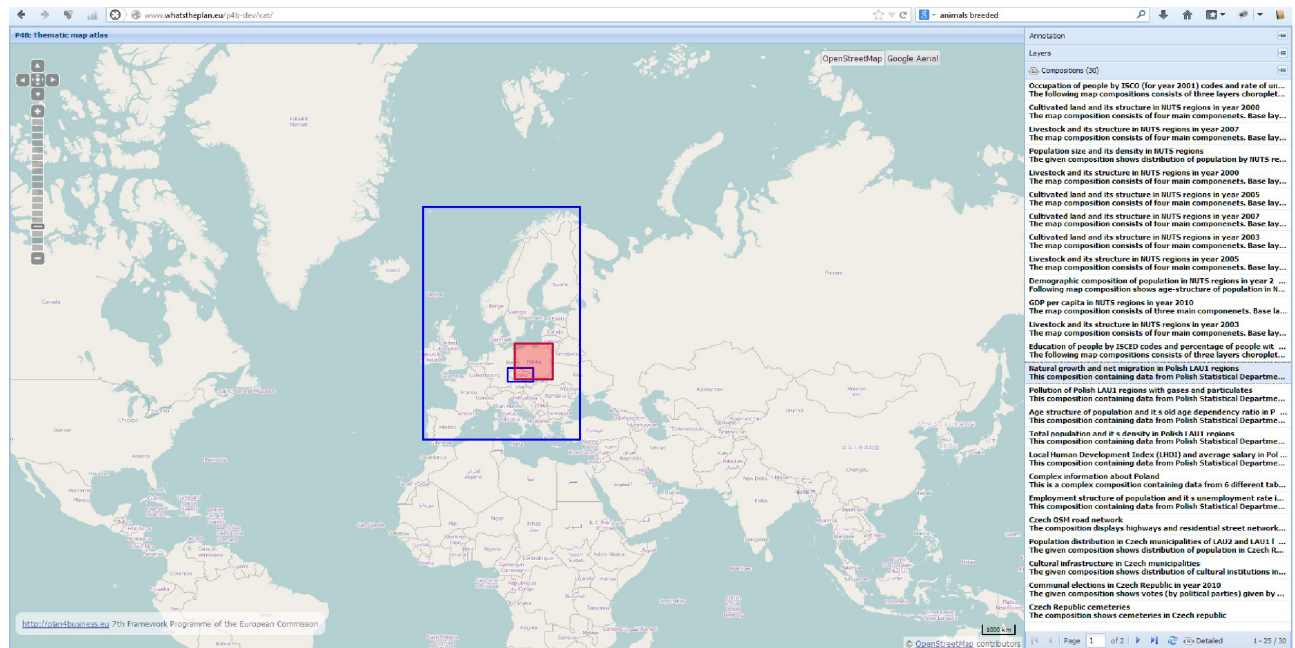
Figure 1 Bounding boxes of map compositions

There are three main data sources for the map compositions. Firstly, it is a public database of Eurostat (compositions covering the entire Europe). Secondly, it is the Czech Statistical Office and thirdly, it is the Polish Statistical Office. All of the three bounding boxes are shown in the map. Also in our database we have data from German Statistical Department and some cities (mostly from Ireland and Poland) spatial and development plans, that we are preparing to visualize in course of next weeks.

What distinguishes us from another applications that are also visualising statistical data and producing thematic maps is that we use many more techniques of thematic cartography and also that we don't use any commercial software that one needs to pay for.

For instance, if one takes a look on the following applications: Statistical Atlas by Eurostat (http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/) based on commercial ArcGIS, and also at Regional Statistics Illustrated still by Eurostat (http://epp.eurostat.ec.europa.eu/cache/RSI/) again based on ArcGIS, one can see that visualisations made are all quite standard (choropleth maps technique) and simple. Also all these visualizations are meant for certain level of administrative units i.e., with changing scale user still sees the same administrative units.

The same weaknesses can be seen on the Google initiative (Public Data). The module allows just certain, quite poor selection of methods to visualise spatial data (choropleth maps, also point symbols of varying size).
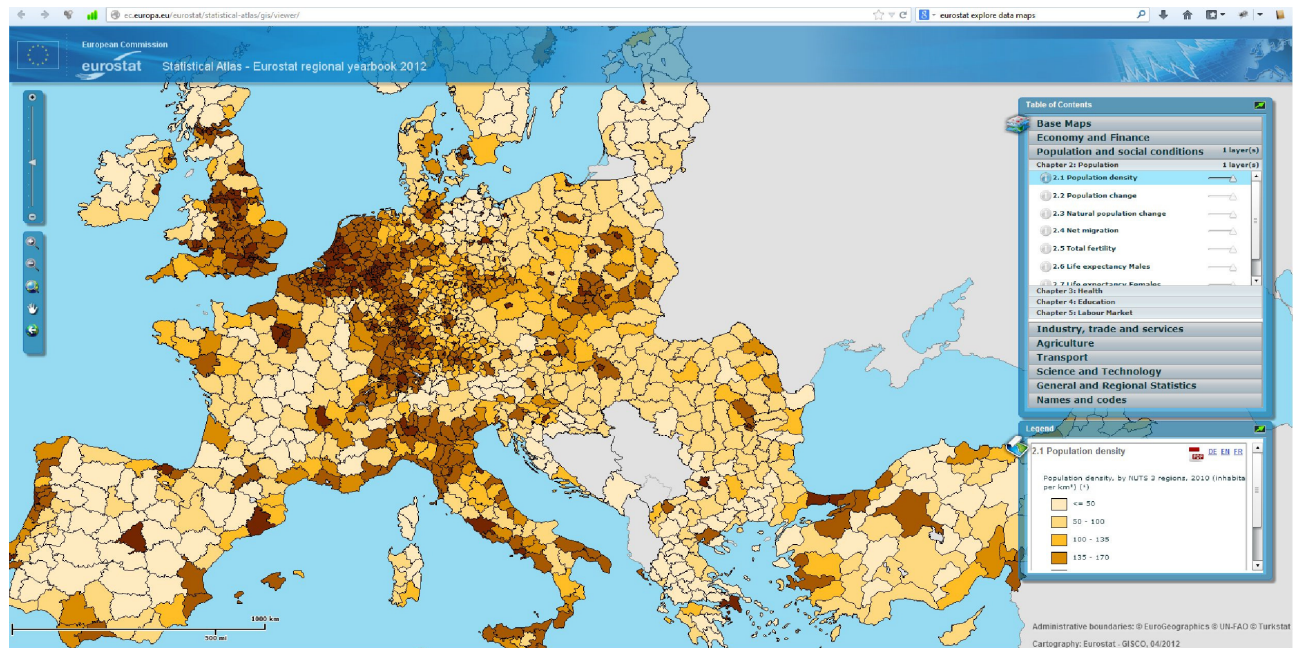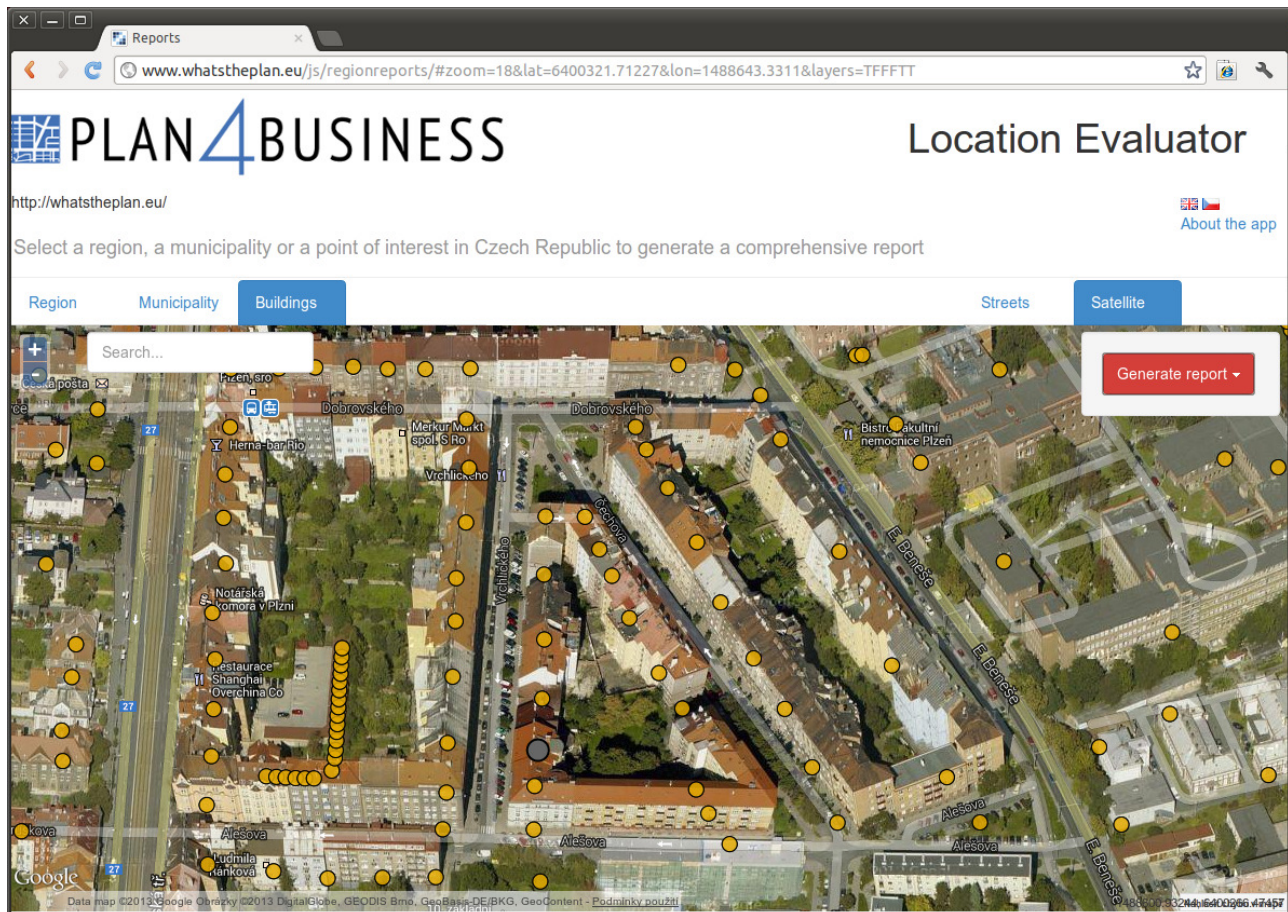
Figure 2 Example of EUROSTAT

Location evaluator

Location Evaluator is application that aims to provide easy access to data available in data pool. These data should be visualized in human readable and understandable way in the form of reports generated in the PDF or HTML formats

Target user group of Location Evaluator is general public with interests in publicly available information related to spatial domain.

Main benefits for users are:

- Easy access to different data sources from one application.

- Access to derived information that is composed as a combination (a query) across multiple data sources.

- Visualization of data that helps to understand them better.

- Linking the data between each other as well as linking to third party sources.

Figure 3 User interface of the Location Evaluator