

Use of INSPIRE Data in the Czech Republic

Ivana Svatá

ITC Department of the Czech Office for Surveying, Mapping and Cadaster

Jarmila Váňová

Land Survey Office

Agenda

- CUZK role in the INSPIRE implementation
- Harmonization process of data
- Information about data use
- Extended publishing model for the cadastre

Role of CUZK in the INSPIRE Implementation

- View services
 - non-harmonized (2008)
 - harmonized (2011)
- Download services (2012-2015)

Source Information Systems for specific INSPIRE Themes



Czech Office for Surveying, Mapping and Cadastre (ČÚZK)

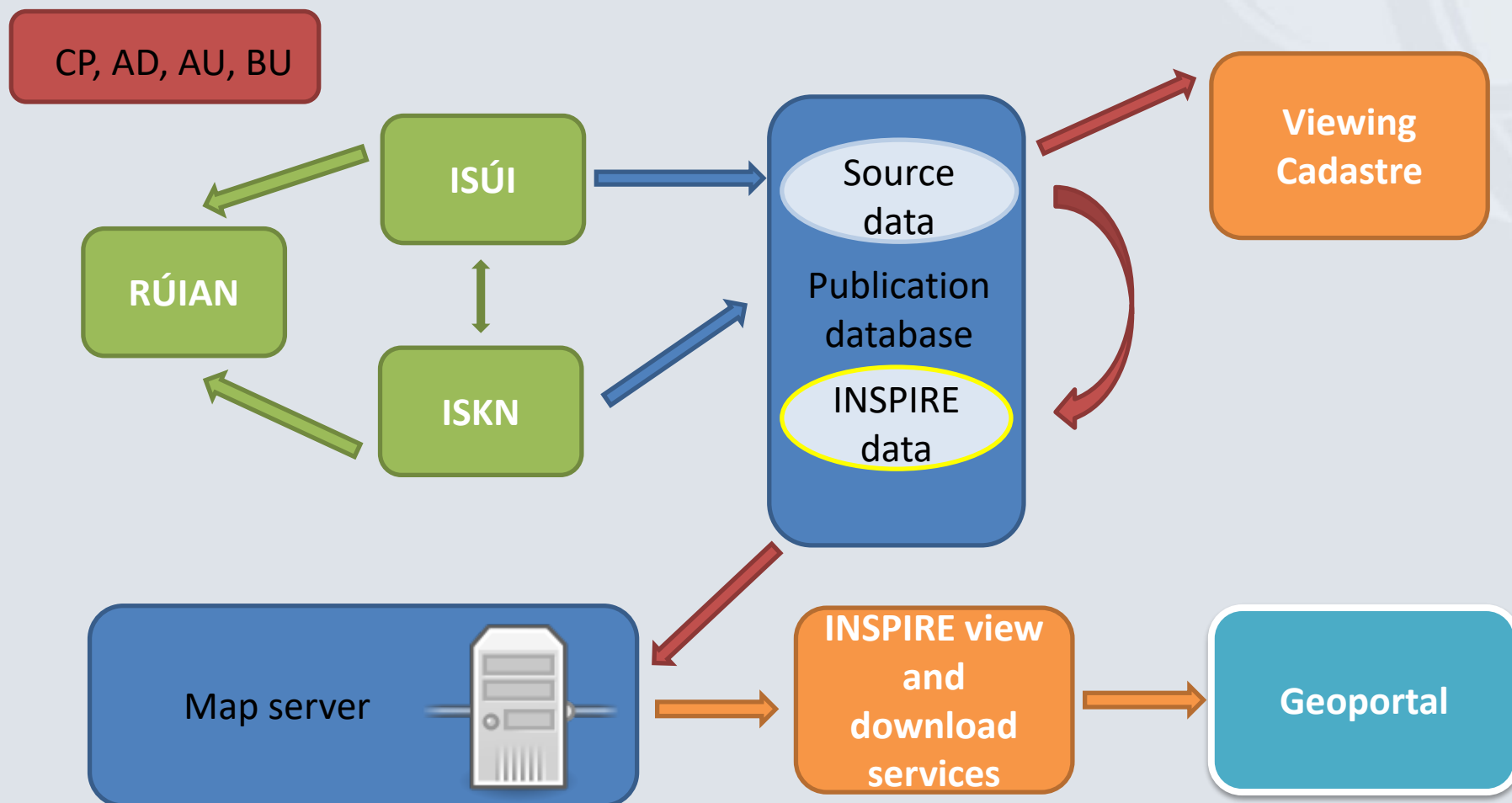
- Registry of Territorial Identification, Addresses and Real Estates (RÚIAN)
- Cadastral maps



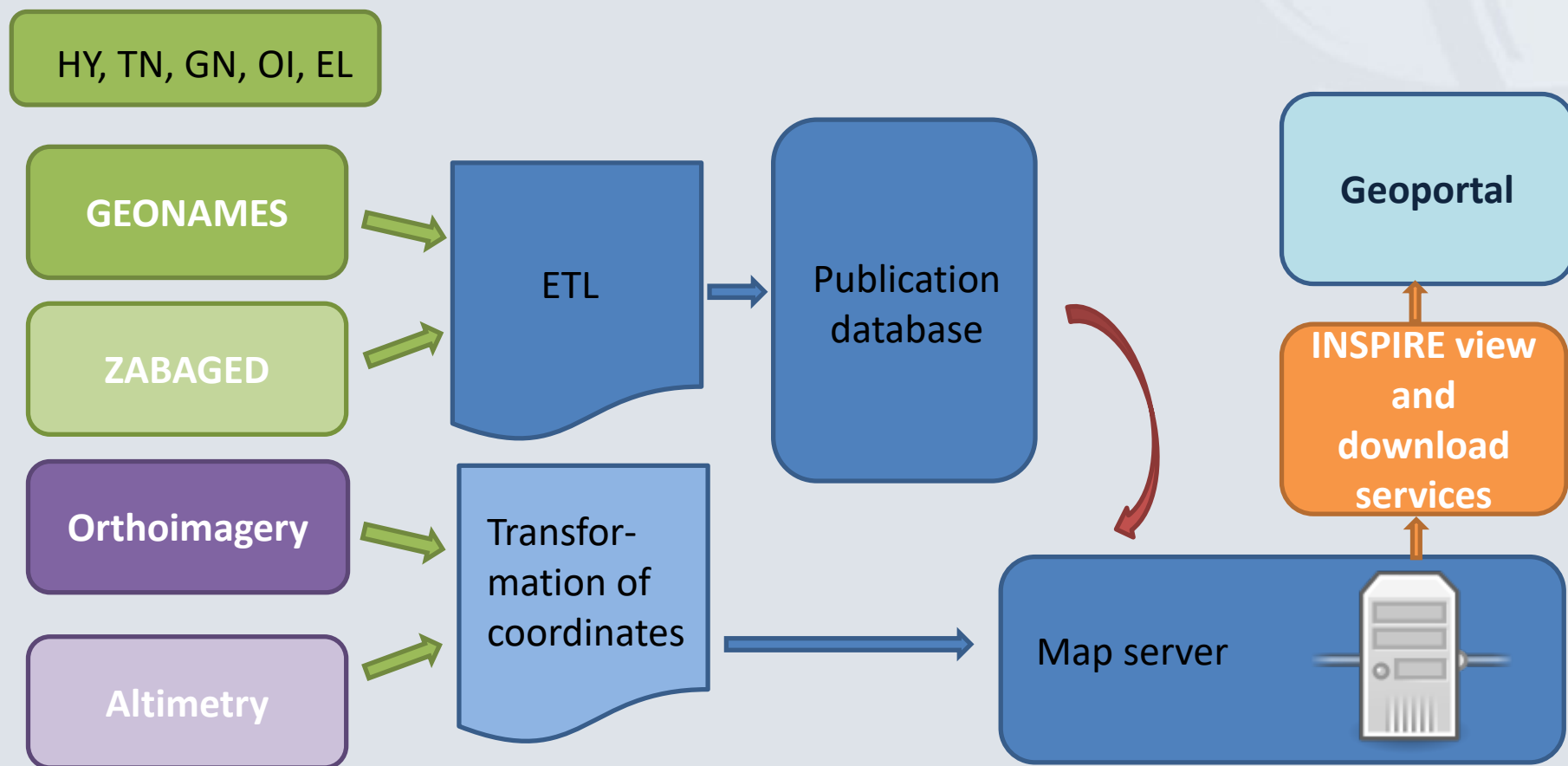
Land Survey Office (ZÚ)

- Geodetic controls
- Fundamental Base of Geographic Data (ZABAGED)
- Database of Geographic Names (Geonames)
- Digital terrain and surface models
- Orthophotos of the Czech Republic

Workflow for On-line Harmonization



Workflow for Off-line Harmonization



Publication of INSPIRE Datasets

1. Open data with national and INSPIRE services

CP

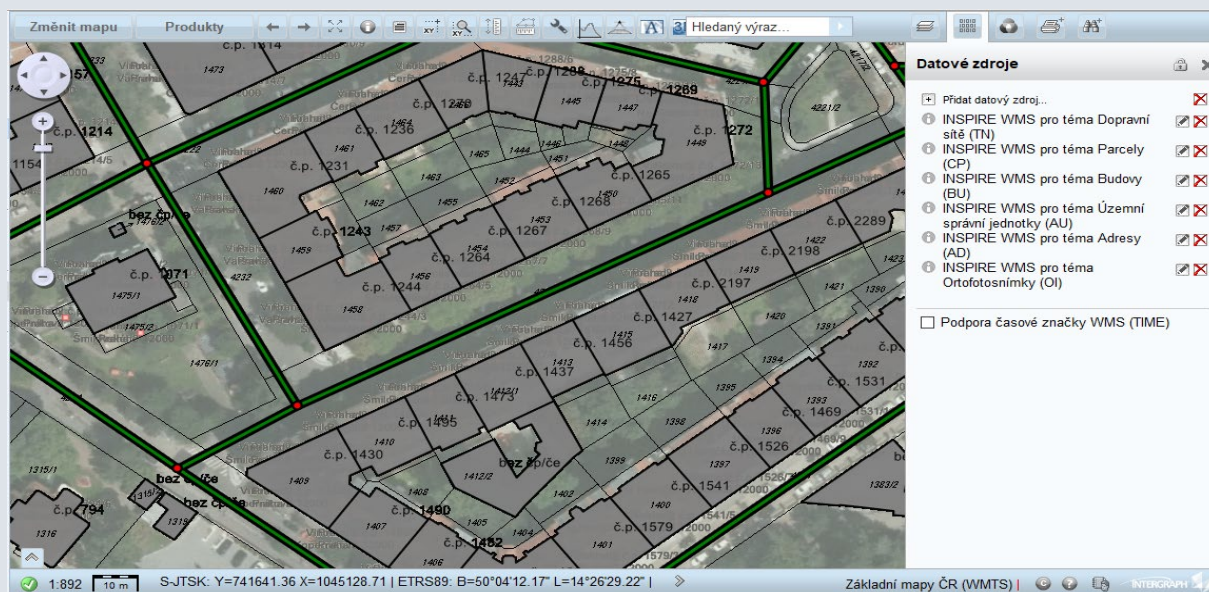
2. Open data with only INSPIRE harmonized services

AD, AU, BU

3. Data with fee

HY, TN, GN, OI, EL

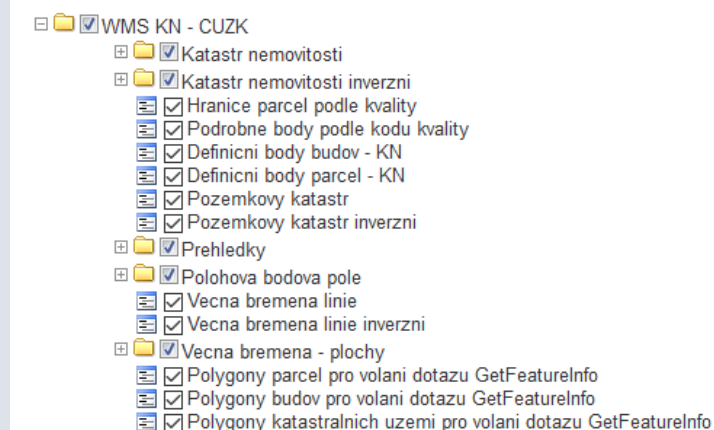
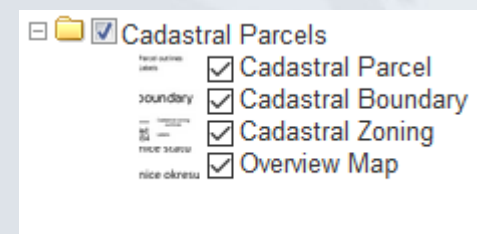
- National data without fee
 - 1:50K, 1:200K (since 04/2019)



Cadastral Parcels

- National service - since 2008
- INSPIRE service - since 2012
- INSPIRE extended - tested since 2019

- National services: benefits
 - have more elements than INSPIRE
 - based on our data format
- Cadastral data:
 - more than 2,5 miliard requests/year
- INSPIRE data: more than 40 million requests/year

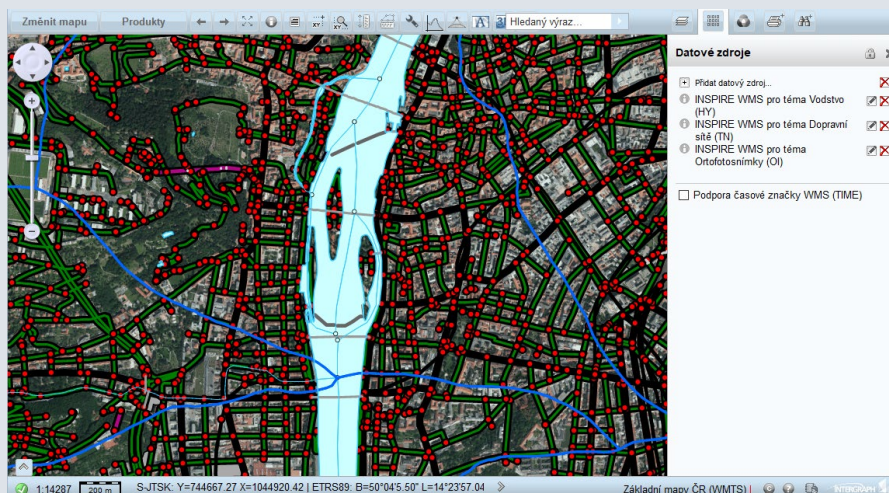
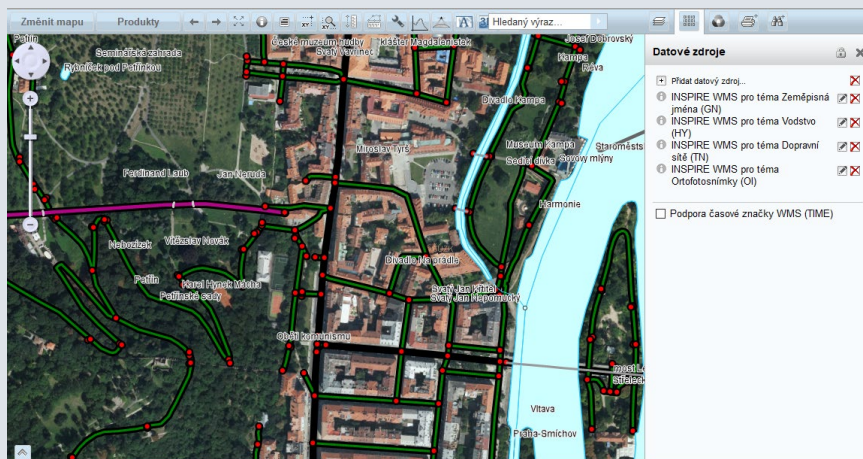


Addresses, Buildings, Administrative Units

- Dataset is part of the Registry of Territorial Units, Addresses and Real Estates since 2012
- Services of the Registry have been created as harmonized since the beginning
- National format for the data does not exist, we use GML
- We provide view and download service ATOM and WFS

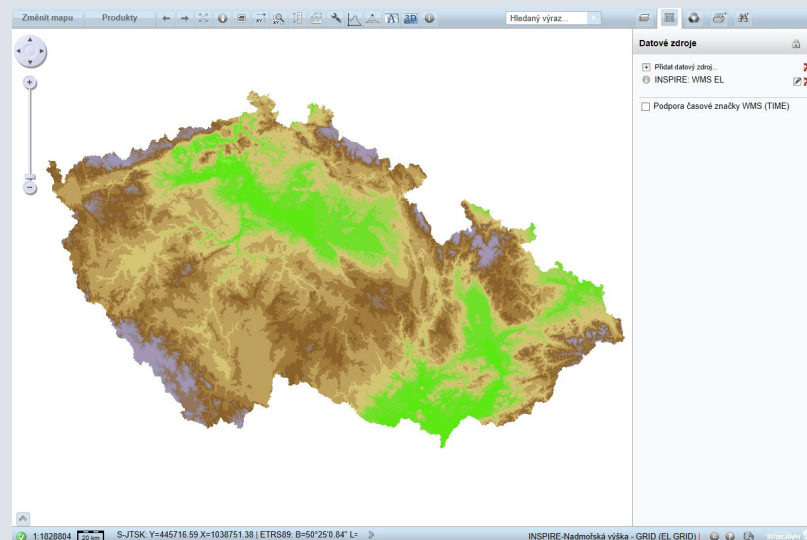
Transport Network, Hydrography and Geographical Names

- Dataset is derived from ZABAGED (base data of medium scale) and from GEONAMES
- INSPIRE data and national data (partly) - provided with fee

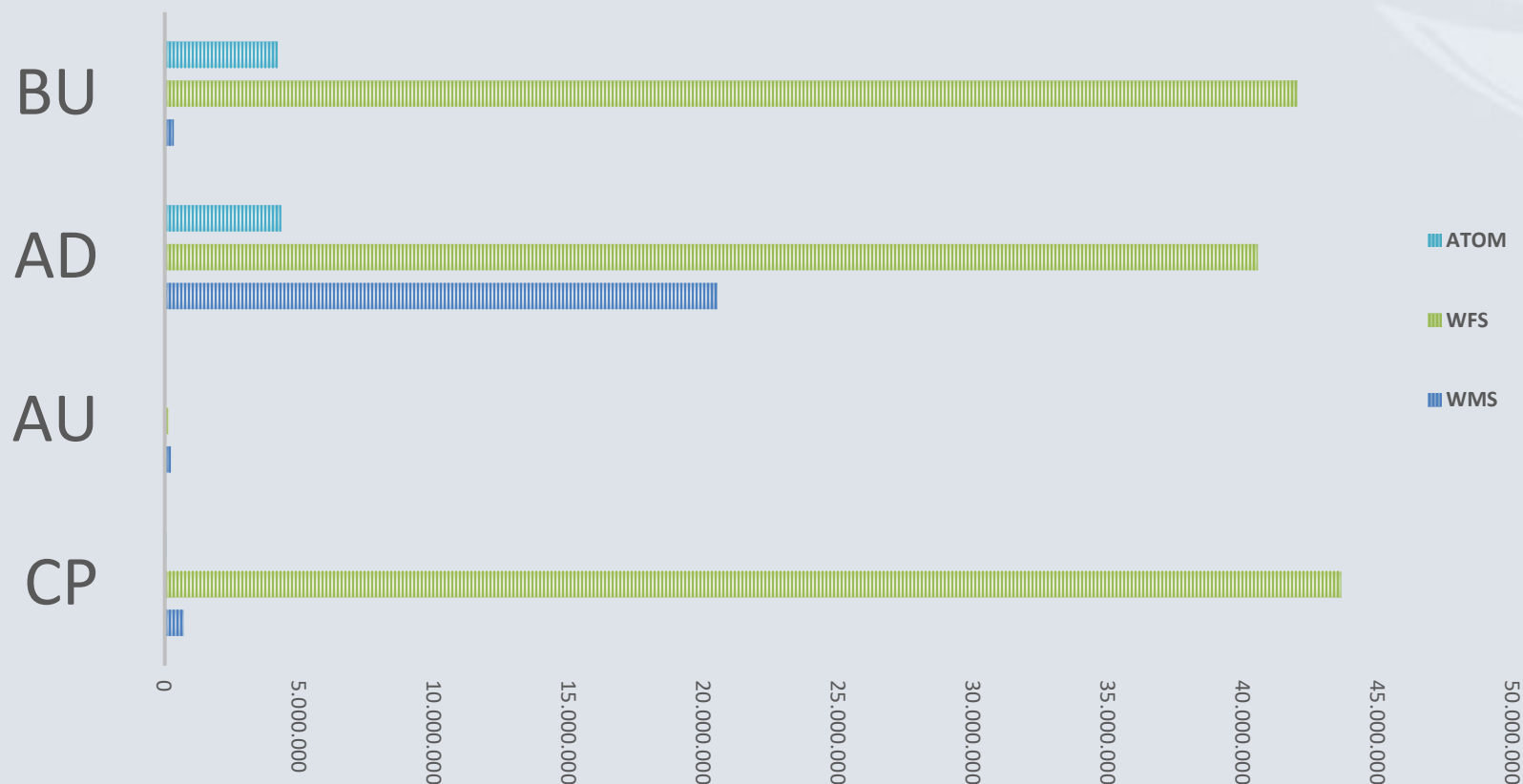


Orthoimagery, Elevation

- Elevation
 - transformation of position and elevation
 - positional accuracy 4 m
- Orthoimagery
 - Coordinate transformation from national dataset (CRS 5514)
 - accuracy 0,20 m
- We publish WCS 1.0.0, it isn't INSPIRE complied
- Licensed data



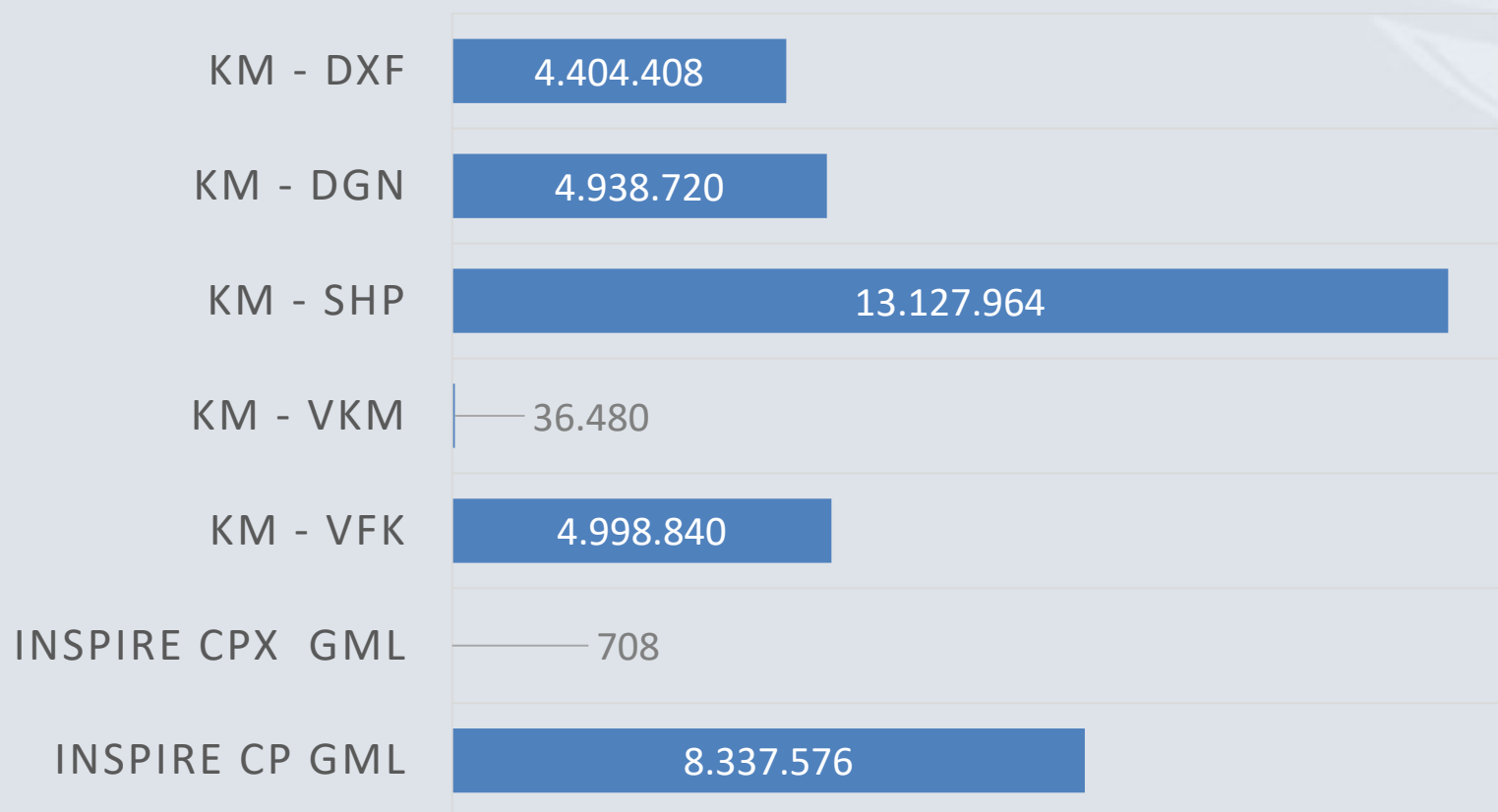
Number of Requests for Service per Year



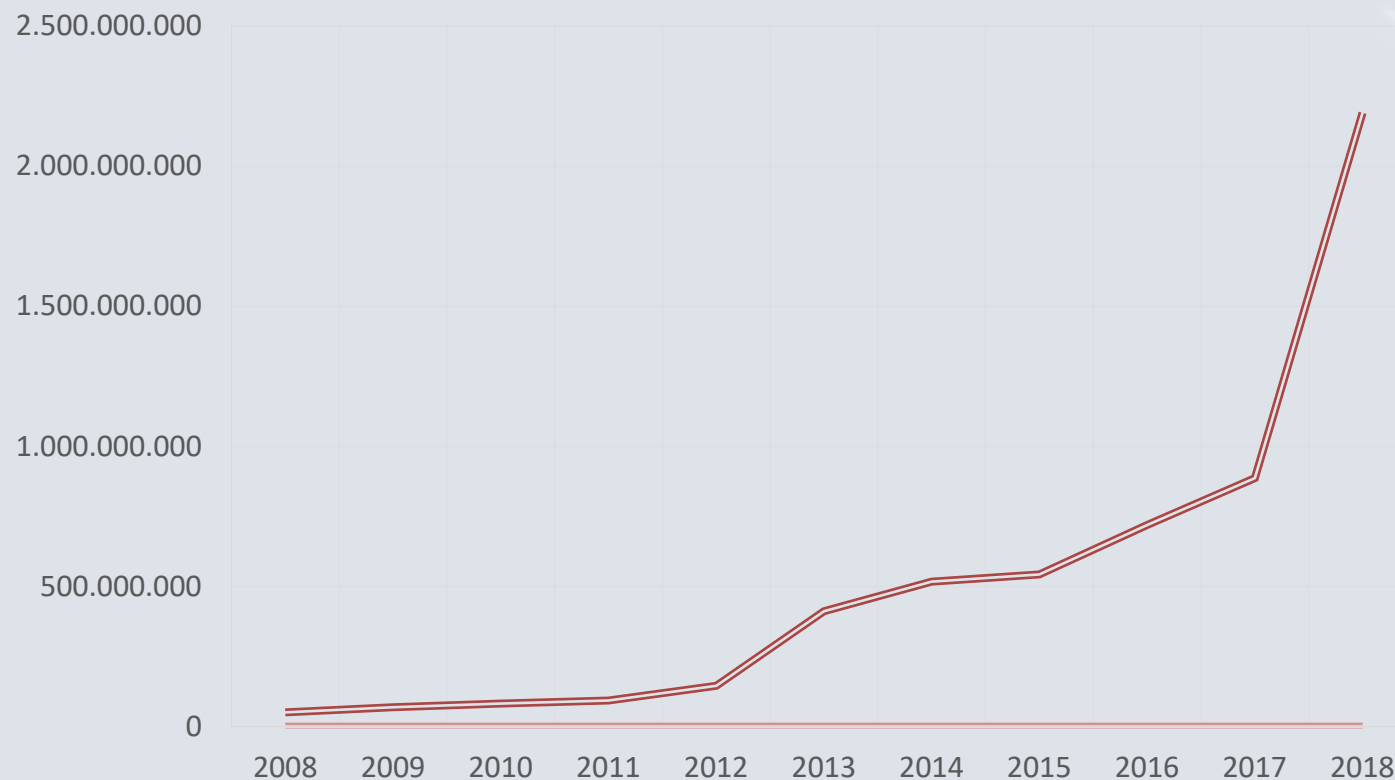
Number of Requests for Service per Year



Number of Downloaded Cadastre Data



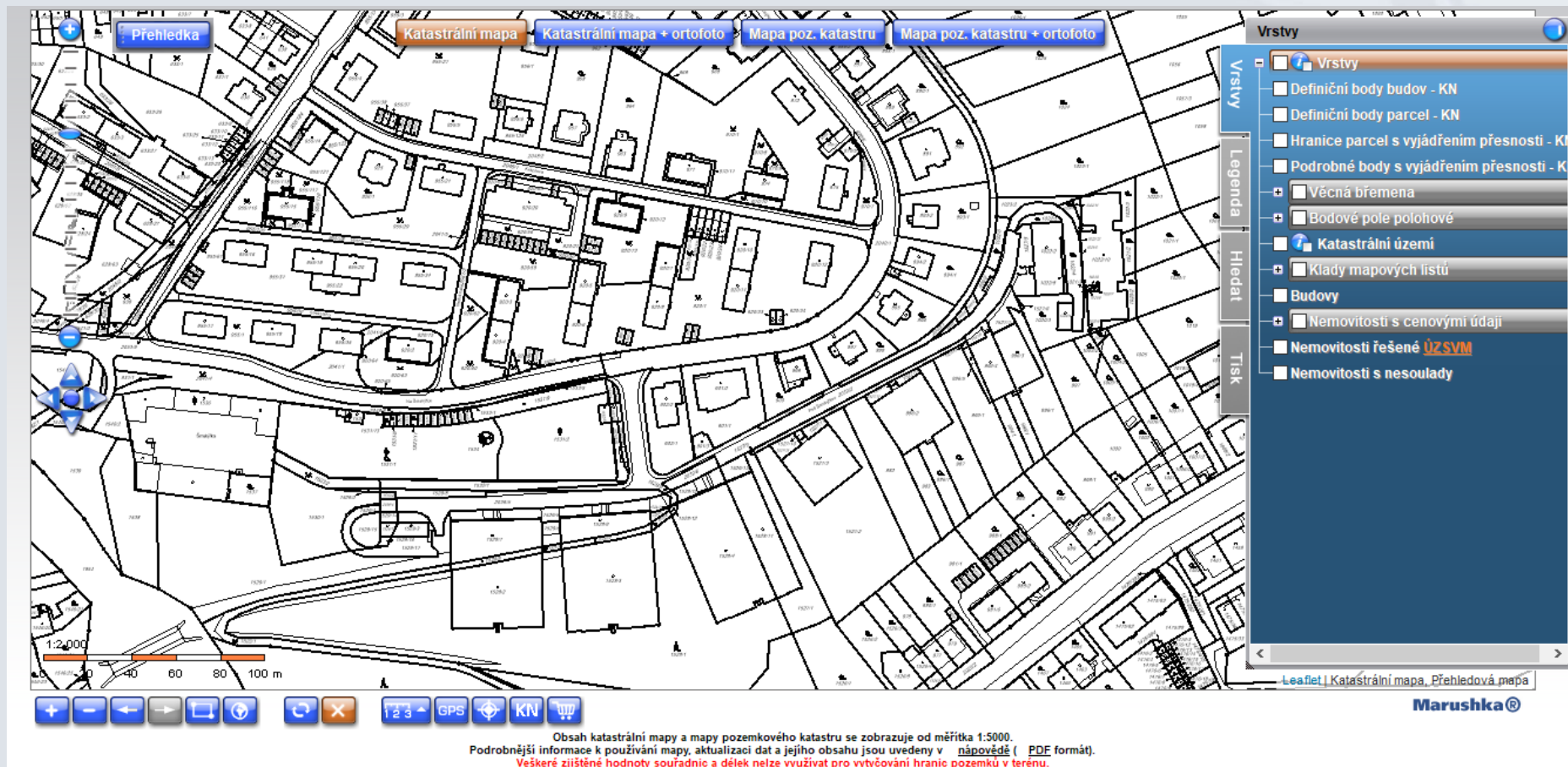
Requests on Geoportal in the Time



Extended Cadastre Publication

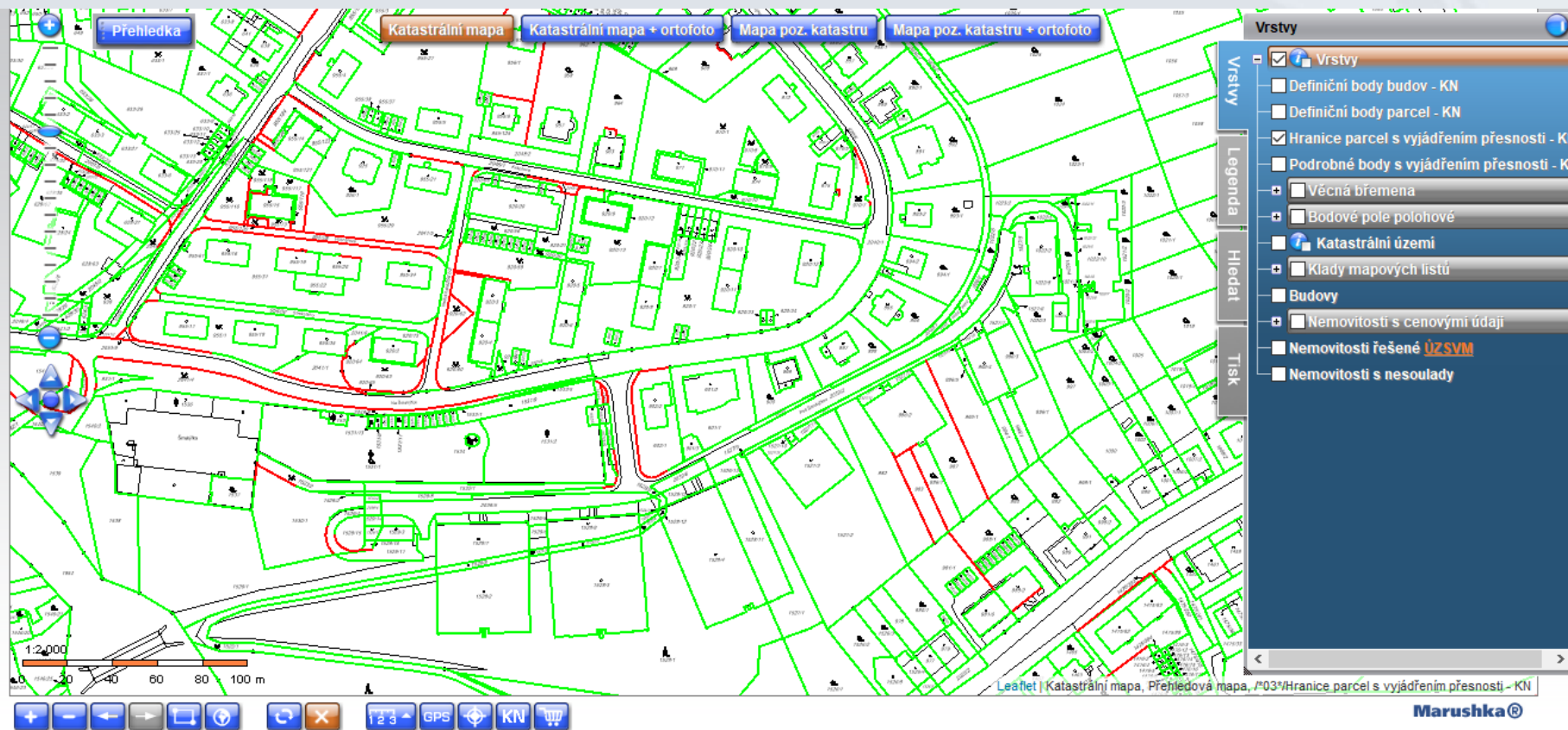
- We provide more attributes for the end users
There are information about
 - Quality
 - Insufficient identification of the owner
 - Inconsistency between register and reality
 - Real property
 - Easements

Cadastre



Obsah katastrální mapy a mapy pozemkového katastru se zobrazuje od měřítka 1:5000.
 Podrobnější informace k používání mapy, aktualizaci dat a jejího obsahu jsou uvedeny v [návodě](#) (PDF formát).
 Veškeré zjištěné hodnoty souřadnic a délek nelze využívat pro vytýčování hranic pozemků v terénu.

Quality of the Cadastre



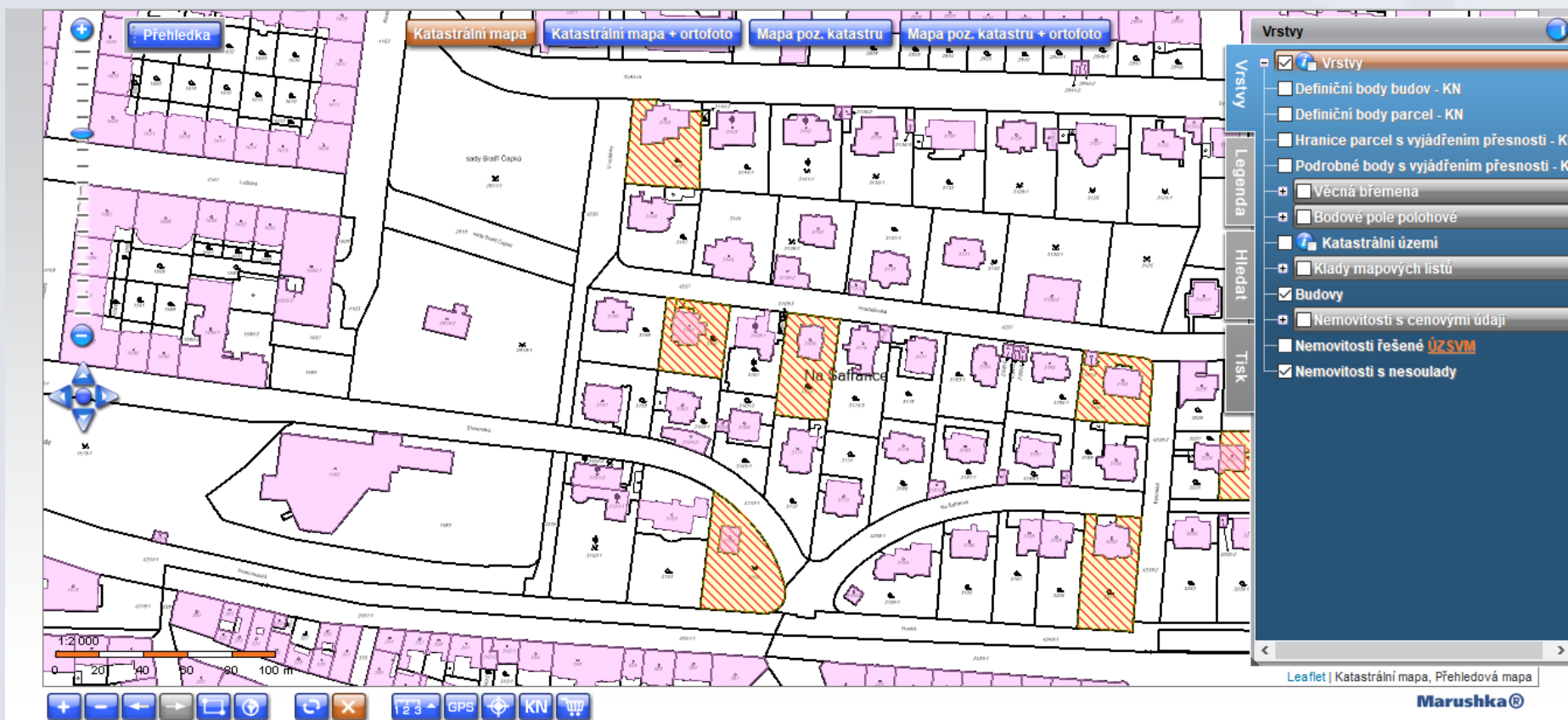
Obsah katastrální mapy a mapy pozemkového katastru se zobrazuje od měřítka 1:5000.
Podrobnější informace k používání mapy, aktualizaci dat a jejího obsahu jsou uvedeny v [návodě](#) (PDF formát).

Easements in the Cadastre

The screenshot displays the Czech Cadastre web application interface. The main map area shows a cadastral map with various land parcels. A red line highlights a specific easement (Věcná břemena) running through the parcels. The interface includes a top navigation bar with buttons for 'Přehledka', 'Katastrální mapa', 'Katastrální mapa + ortofoto', 'Mapa poz. katastru', and 'Mapa poz. katastru + ortofoto'. On the right side, there is a 'Vrstvy' (Layers) panel with a list of map layers, including 'Vrstvy', 'Definiční body budov - KN', 'Definiční body parcel - KN', 'Hranice parcel s vyjádřením přesnosti - KN', 'Podrobné body s vyjádřením přesnosti - KN', 'Věcná břemena' (checked), 'Bodové pole polohové', 'Katastrální území', 'Klady mapových listů', 'Budovy', 'Nemovitosti s cenovými údaji', 'Nemovitosti řešené ÚZSVM', and 'Nemovitosti s nesoulady'. A scale bar at the bottom left indicates a scale of 1:2,000. The bottom right corner shows the 'Leaflet | Katastrální mapa, Přehledová mapa' and 'Marushka®' logos.

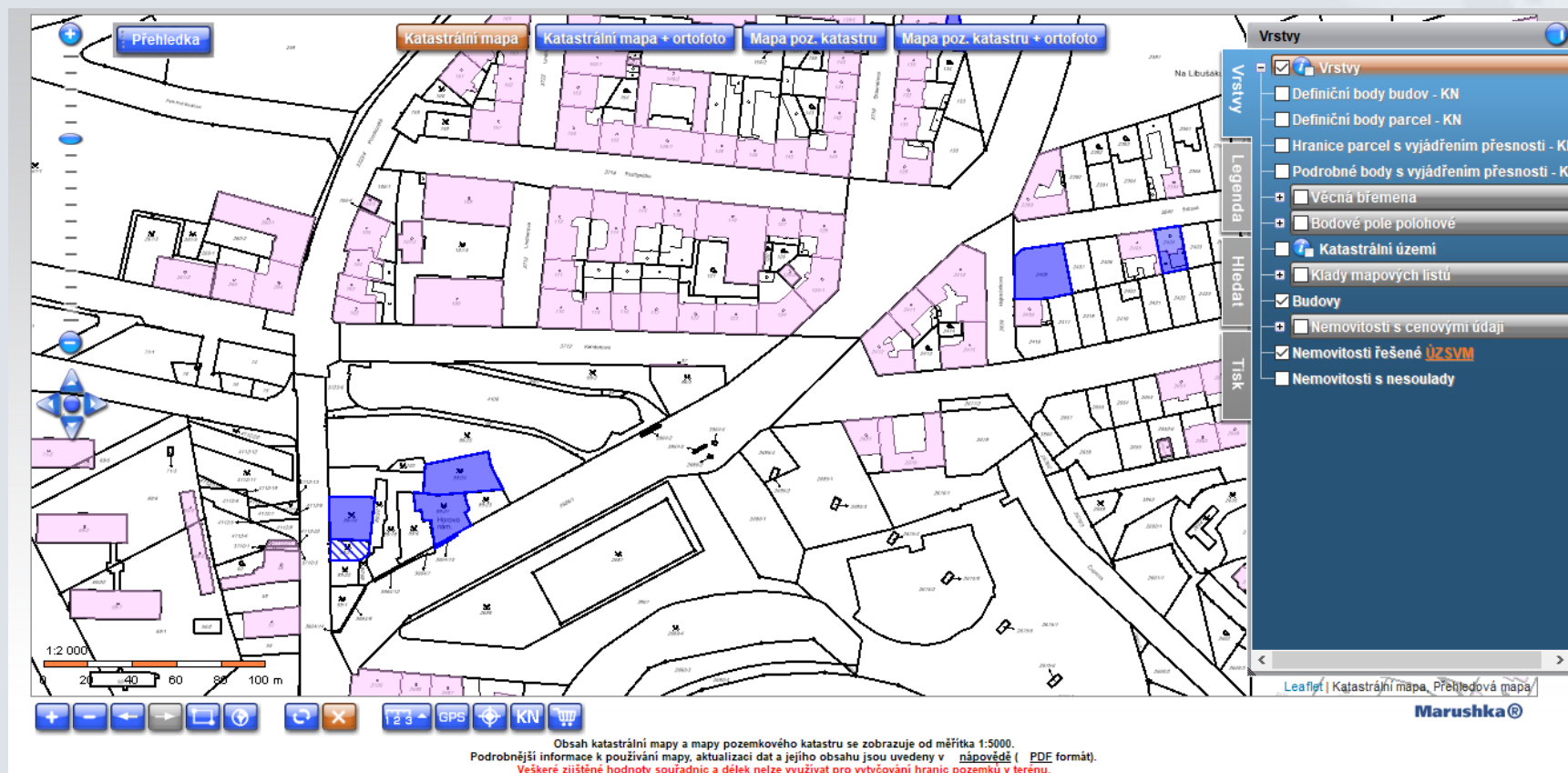
Obsah katastrální mapy a mapy pozemkového katastru se zobrazuje od měřítka 1:5000.
 Podrobnější informace k používání mapy, aktualizaci dat a jejího obsahu jsou uvedeny v [návodě](#) (PDF formát).
 Veškeré zjištěné hodnoty souřadnic a délek nelze využívat pro vrtčování hranic pozemků v terenu.

Inconsistency of the Cadastre



Obsah katastrální mapy a mapy pozemkového katastru se zobrazuje od měřítka 1:5000.
 Podrobnější informace k používání mapy, aktualizaci dat a jejího obsahu jsou uvedeny v [návodě](#) (PDF formát).
 Veškeré zjištěné hodnoty souřadnic a délek nelze využívat pro vytýčování hranic pozemků v terénu.

Insufficiently identified Owner



Conclusion

- The use of data and services depends on the type of data and its updating cycle.
- Number of requests to our services is increasing. It is necessary to find effective way of data publication to prevent overloading of the infrastructure.
- Feedback from end users improves data quality. It is very difficult to receive such feedback on open data.

Thank you for your attention

ivana.svata@cuzk.cz

jarmila.vanova@cuzk.cz