

# Cadastral parcels for INSPIRE

Jiří Poláček

# What's to come

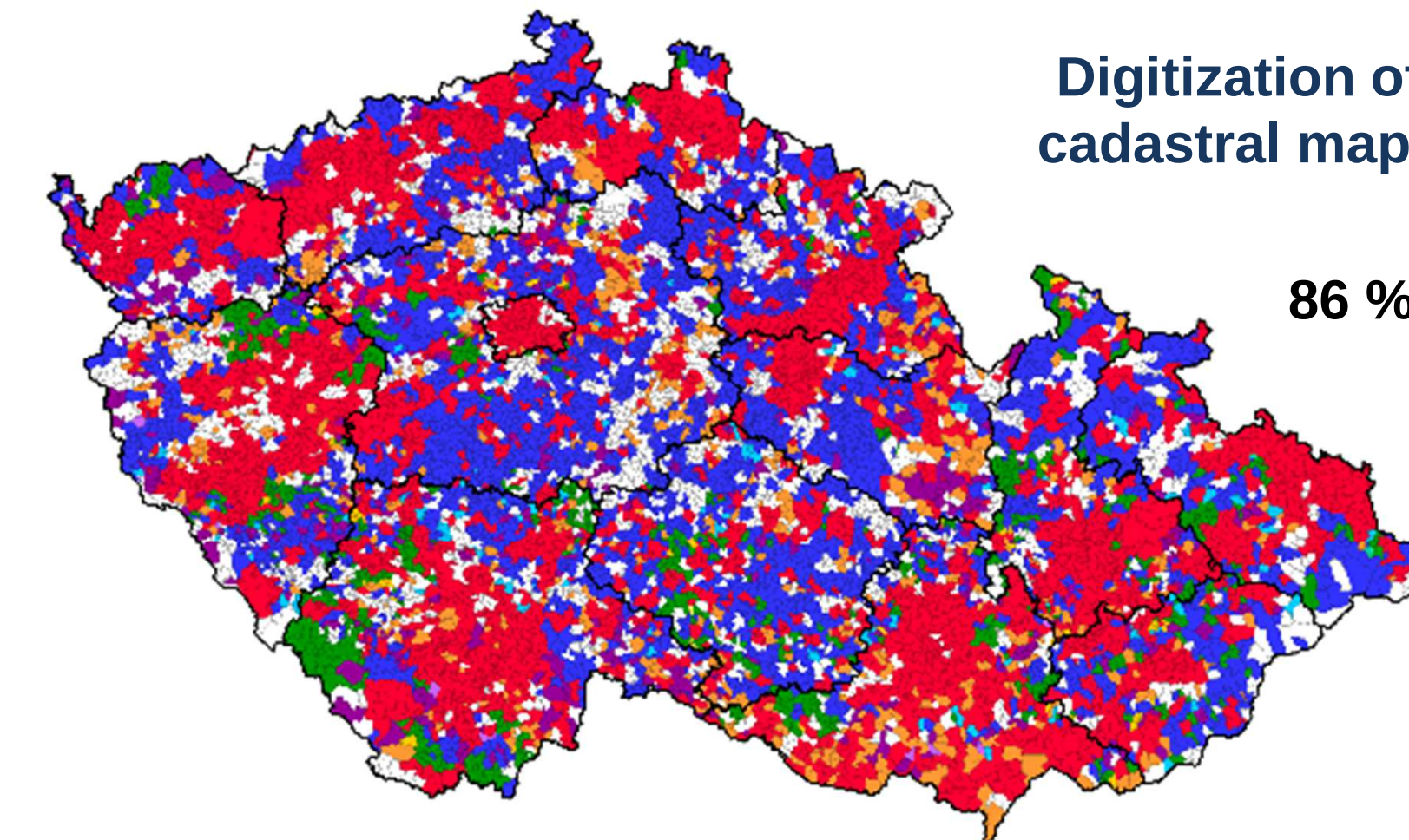
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- Digitization of cadastral maps in the Czech republic
- Workflow
- Description of services
- Challenges to be solved
- Implementation topics to be addressed

Stav digitalizace katastrálních map k 18.01.2015

## Digitization of cadastral maps

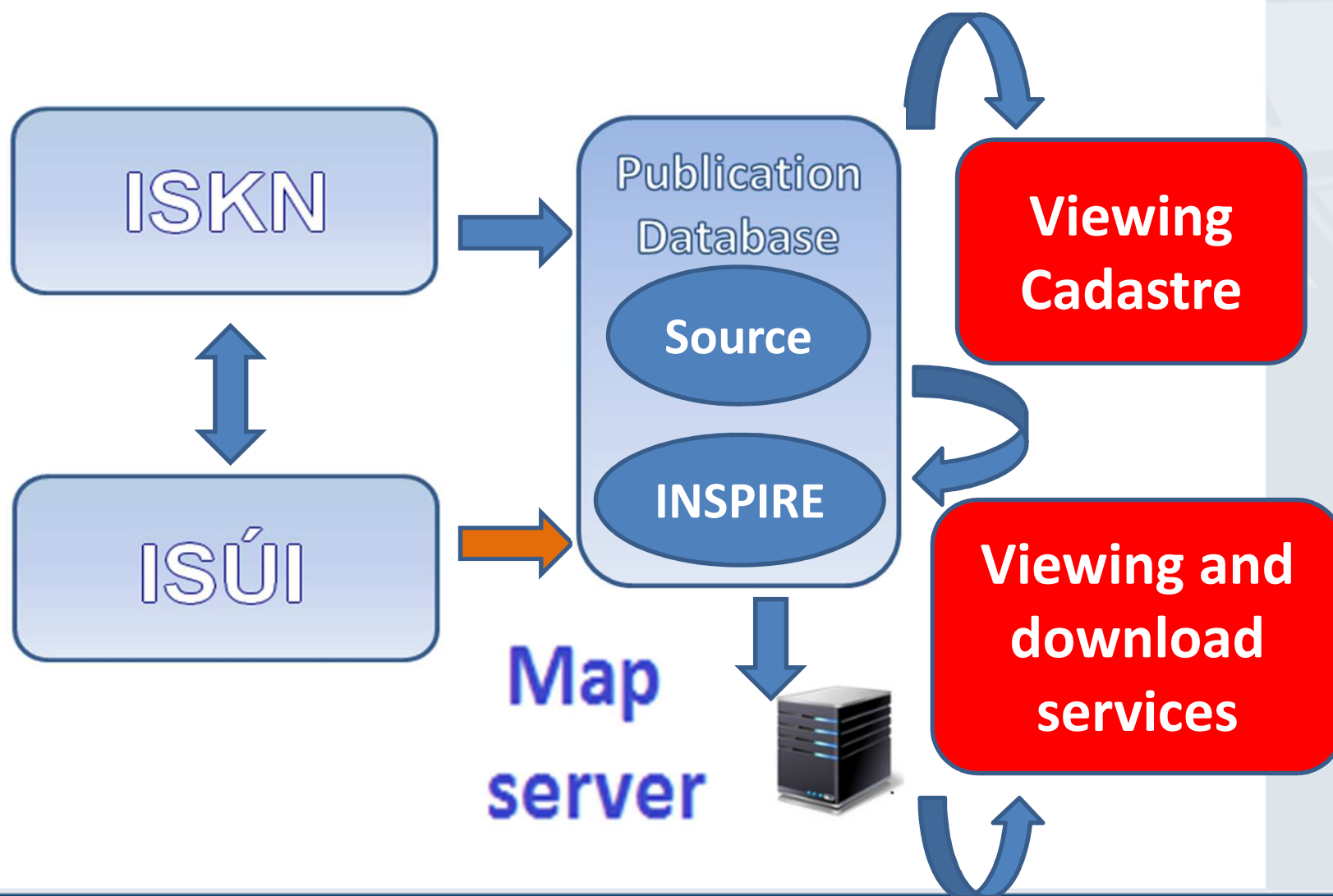
86 %



0 5 10 15 20

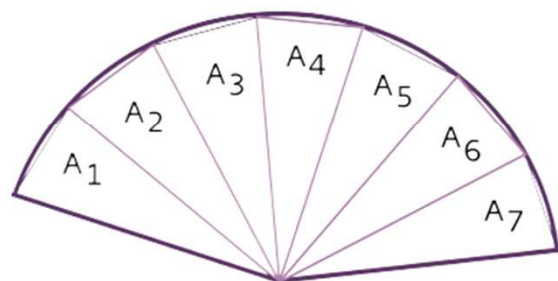
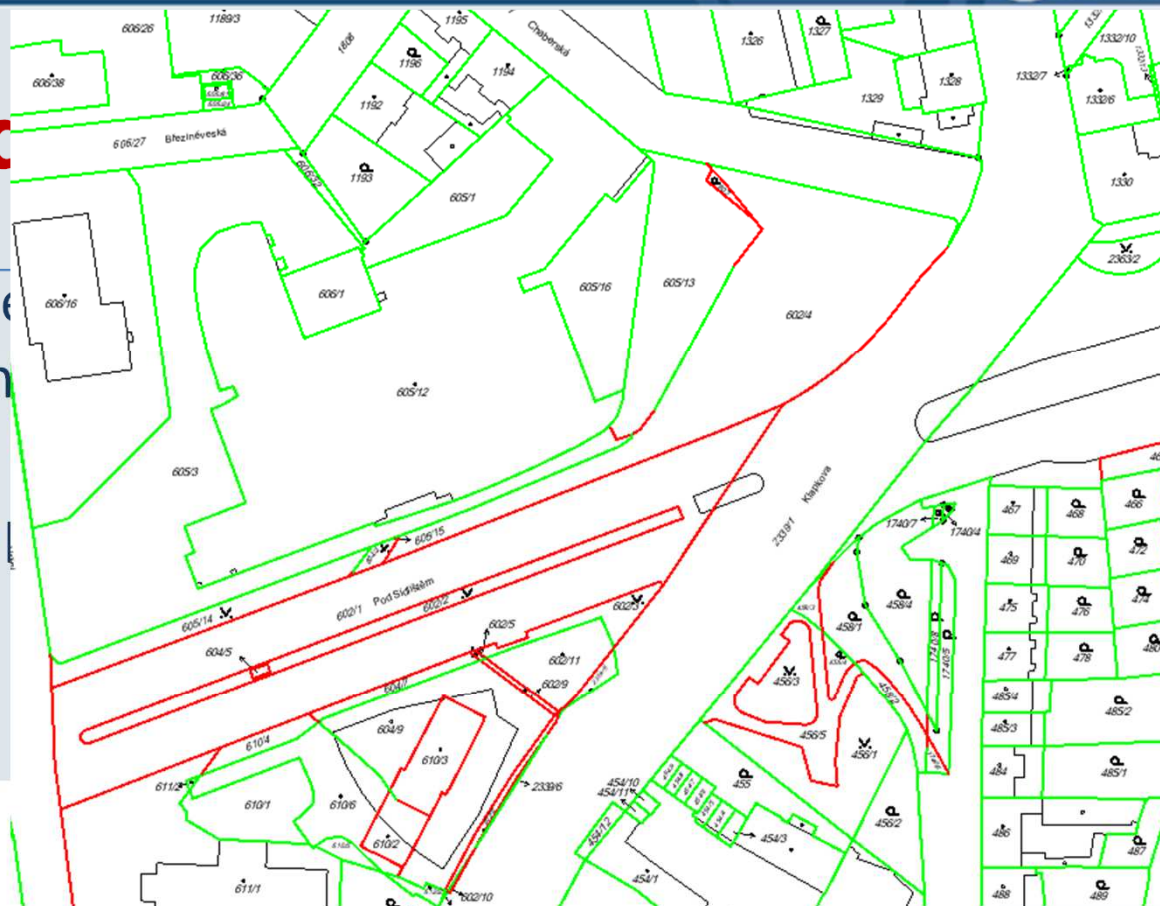
|                  |                       |                           |
|------------------|-----------------------|---------------------------|
| bez digitalizace | KM-D v celém k.ú.     | DKM/KM-D v části k.ú.     |
| DKM v celém k.ú. | KM-D v části k.ú.     | DKM/KM-D/KMD v celém k.ú. |
| DKM v části k.ú. | DKM/KMD v celém k.ú.  | DKM/KM-D/KMD v části k.ú. |
| KMD v celém k.ú. | DKM/KMD v části k.ú.  | KMD/KM-D v celém k.ú.     |
| KMD v části k.ú. | DKM/KM-D v celém k.ú. | KMD/KM-D v části k.ú.     |

# Workflow - INSPIRE

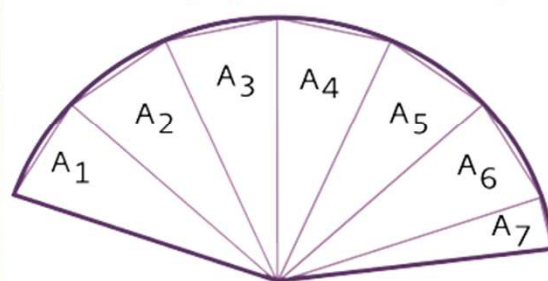


# Testing c

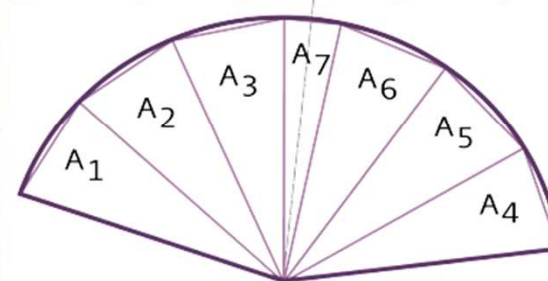
- COSMC took part in test  
– cadastral parcel the  
– buidings (2011)
- Conversion to the project  
implemented
- Challenges:  
– Topology



a .



b .



c .

## WMS for cadastral maps

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- INSPIRE – May 2007 - free viewing services
- Experience with operational run of Viewing Cadastre application
- Conclusions:
  - Implementation of WMS for cadastral maps
  - WMS used to introduce maps into „Viewing Cadastre“ Application
- Exchange format as a source of data
- Launched in March 2008
- <http://services.cuzk.cz/wms/wms.asp>

# new service for Cadastral

**CP.CadastralParcel: returns**

- name of cadastral zoning,
- parcel number,
- parcel area, ....

## Download services

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- Started in June 28, 2012
- Free of charge, no registration is required
- Data are available in GML 3.2.1
- Data are harmonized by INSPIRE Data Specification on Cadastral Parcels version 3.0.1
- Two versions:
  - direct access, WFS 2.0
  - pre-defined datasets, GML 3.2.1.

## Direct access download service

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- <http://services.cuzk.cz/wfs/inspire-cp-wfs.asp>
- Data are updated online
- Supported functions:
  - GetCapabilities,
  - DescribeFeatureType,
  - ListStoredQueries,
  - DescribeStoredQueries
  - GetFeature by OGC standard version 2.0.0
- Numerous coordinate systems supported. Mostly used - national system (EPSG 5514) and ETRS 89 (EPSG 4258)

## WFS limitations etc.

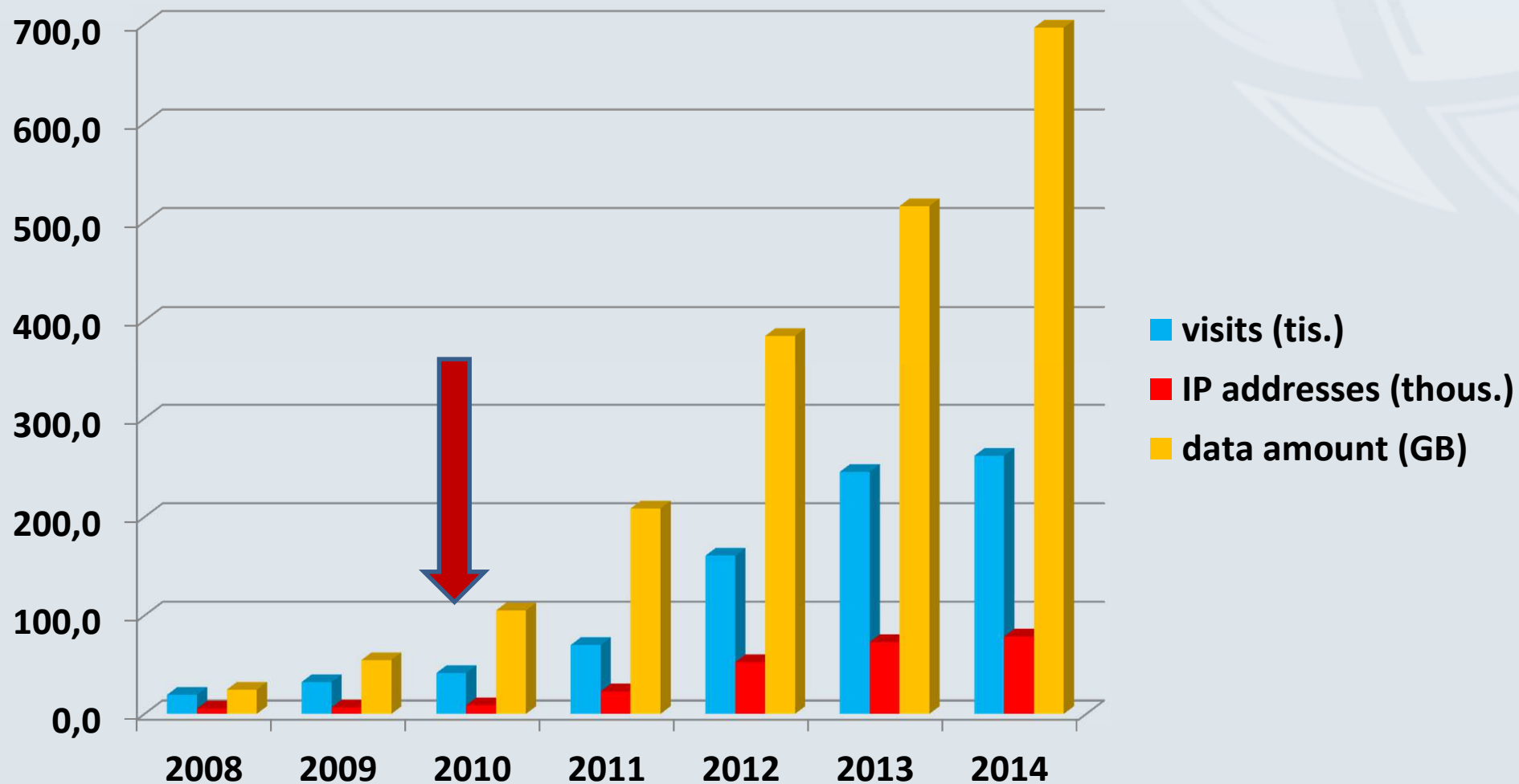
- **Limitations of WFS:**
  - layers CadastralBoundaries and CadastralParcels – the query is limited to the area to one square kilometer (1 km<sup>2</sup>) and 10000 elements.
  - layer CadastralZoning - the query is limited to the area to 400 square kilometers (400 km<sup>2</sup>) and 500 elements.
- **Functionality:**
  - Getting data from area - specified rectangle (BBOX)
  - Getting specific parcel - by parcel id (PAR\_ID)
  - Stored queries:
    - GetZoning – searches for cadastral units by name.
    - GetParcel – searches for parcel by parcel number.
    - GetChangedZonings – searches for changed cadastral units
    - GetNeighbourParcel – search of neighbourowing parcels

## Pre-defined datasets

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- Changed cadastral units are updated once a day.
- For each cadastral unit and supported coordinate system is generated a single file.
  - Supported coordinate systems for generated files:  
The National system - S-JTSK Krovak East North (EPSG 5514),  
<http://services.cuzk.cz/gml/inspire/cp/epsg-5514/>
  - The European system - ETRS 89 (EPSG 4258),  
<http://services.cuzk.cz/gml/inspire/cp/epsg-4258/>

## WMS – average monthly demands per year

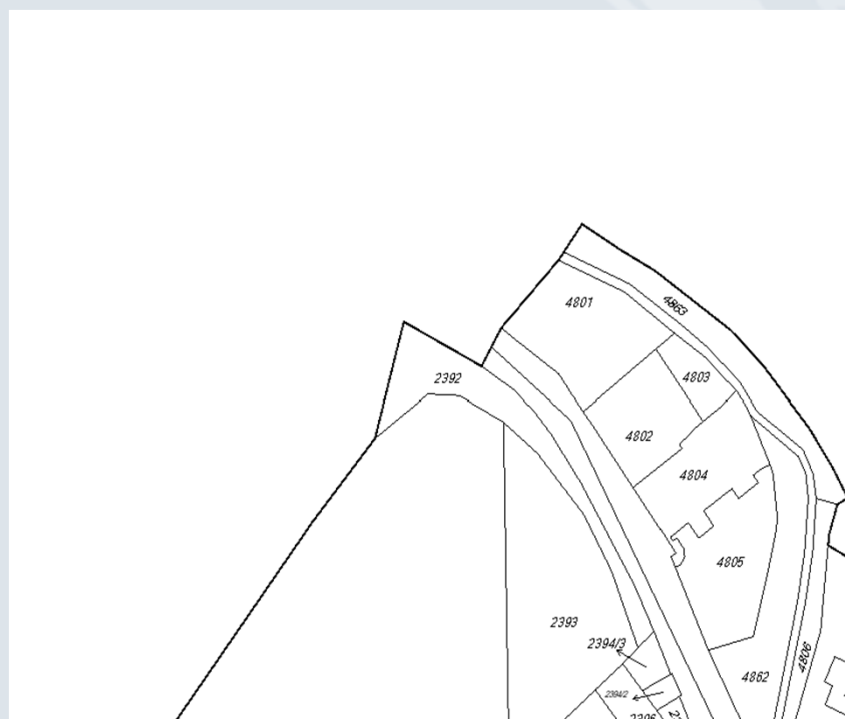


# Why 2 WMS (both harmonised and non-harmonized) ?

WMS for cadastral maps (with raster and othes layers)



INSPIRE Parcel theme WMS (parcels in the vector form)



# Implementation topics

- Changes in Parcel theme
  - every working day we register a change in 6% of cadastral units (800 cadastral units from 13,000)
  - Digitization – 4 cadastral units daily totally changed
- Rules are sometimes too „academical“:
  - GetFeature limitation in WFS is necessary, but there is no way

<http://services.cuzk.cz/wfs/inspire-cp-wfs.asp?service=WFS&version=2.0.0&request=GetFeature&typenames=CadastralBoundary&srsName=urn:ogc:def:crs:EPSG::2065&FILTER=>

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[xmlns:gml="http://www.opengis.net/gml/3.2"](http://www.opengis.net/gml/3.2)

[xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"](http://www.w3.org/2001/XMLSchema-instance)

[xmlns:CP="urn:x- inspire: specification: gmlas: CadastralParcels: 3.0">](urn:x- inspire: specification: gmlas: CadastralParcels: 3.0)

[<Or>](#)

[<PropertyIsLessThan>](#)

[<ValueReference>CP:estimatedAccuracy</ValueReference>](#)

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[</PropertyIsLessThan>](#)

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[<Literal>1.5</Literal>](#)

[</PropertyIsGreaterThan>](#)

[</And>](#)

[</Filter>](#)

**Result=0**

**Query runs on the parcel boundary table (full join)**

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**Thank you for your attention**

[jiri.polacek@cuzk.cz](mailto:jiri.polacek@cuzk.cz)

[www.cuzk.cz](http://www.cuzk.cz)