Extended INSPIRE CP
on Cadastral Parcels

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Extending INSPIRE June 19, 2017
1 Introduction

2 Design of extension

3 Implementation

4 Data transformation
Brief history of land registration in the Czech Republic I.

- Domesday Book – first evidence of real estates (13th century)
- Rustical Cadastre – evidence for purpose of taxation of subjects land (since 1653)
- Joseph II. Cadastre – first measurements of the area (1785)
Brief history of land registration in the Czech Republic II.

- **Stable Cadastre** – based on scientific methods of large scale map work (1817 declared / 1860 finished)
- Cadastre of Real Estates – purpose from taxation to jurisdiction and economy (1927)
Brief history of land registration in the Czech Republic III.

- 1951 – building not part of land (renewed in 2014), cancellation of intabulation (renewed in 1993), evidence of private properties canceled
- Land registry – evidence of land used for planning and management of the economy, especially agriculture (1964)
Modern Cadastre of Real Estates

- New **Civil Code** and **Cadastral Law** – 1993
- **Digitalization** – 1998
- **INSPIRE CP** – unification of content and structure for sharing cadastral data accross EU (implemented 2012)
INSPIRE content
Usage of view service

Number of single requests on WMS for cadastral map

Number of single requests on WMS for INSPIRE Cadastral Parcels
Missing information for parcels
Design of schema

Application schema: Cadastral Parcels

- Cadastral Parcel
- Cadastral Boundary
- Cadastral Zoning

Application schema: Cadastral Parcels Extended

- Cadastral Parcel
- Cadastral Boundary
- Easement
- Original Geometry
- Geodetic points
- Other Feature

siblings of: Original geometry

- Inner drawing original geometry
- Cadastral boundary original geometry
- Cadastral parcel original geometry
- Protected zone original geometry
- Easement original geometry

siblings of: Other feature

- Protected zone
- Other building
- Topographical name
- Planimetry supplement
- Inner drawing

Extended INSPIRE application schema
Cadastral Parcel

Extended INSPIRE application schema
Cadastral Boundary
Easement
Geodetic point

- **GeodeticPointType**
  - **Base Type**: gml:AbstractFeatureType

- **gml:AbstractFeatureType (extension base)**
  - The basic feature model is given by the gml:AbstractFeatureType. The content model for gml:AbstractFeatureType adds two...

- **inspireId**
  - **Type**: base:IdentifierPropertyType

- **geometry**
  - **Type**: gml:PointPropertyType

- **textPosition**
  - **Type**: cuzzk:textPositionPropertyType

- **zoning**
  - **Type**: gml:ReferenceType

- **beginLifespanVersion**
  - **Type**: Extension of 'dateTime'

- **pointReference**
  - **Type**: cuzzk:pointReferencePropertyType

- **label**
  - **Type**: Extension of 'string'
Other feature

Extended INSPIRE application schema
Original geometry
Analogue cadastral parcel

Extended INSPIRE application schema
Technical implementation

- Unified Modeling Language (UML)
- XSD schema
- OGC (Open Geospatial Consortium)
- INSPIRE: Infrastructure for Spatial Information in Europe
- ISO (International Organization for Standardization)
Introduction
Design of extension
Implementation
Data transformation

UML model

Extended INSPIRE application schema
Extending feature types

Extended INSPIRE application schema
New feature types

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Map symbols
Arrow position
New types – cuzkTypes

Extended INSPIRE application schema

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Geometry inheritance

Extended INSPIRE application schema
Original geometry

Extended INSPIRE application schema
Other feature
Links to other themes

Extended INSPIRE application schema
Results

![Pie chart showing the creative process]
Storage in the database
Transformation

Extended INSPIRE application schema
Thanks for attention

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