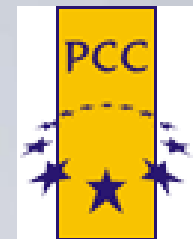




REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

PCC Conference



Cadastral data in the Republic of Slovenia and their renovation

Metka Malnar,
Darinka Bertole

Vienna, 20-21 November 2018



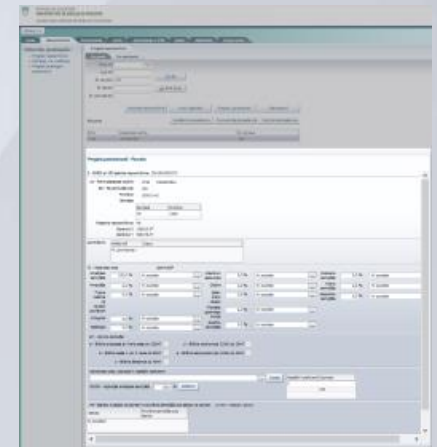
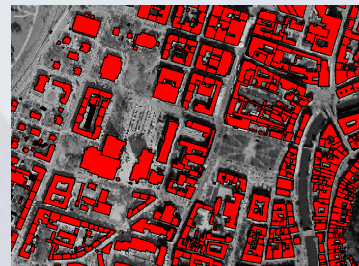
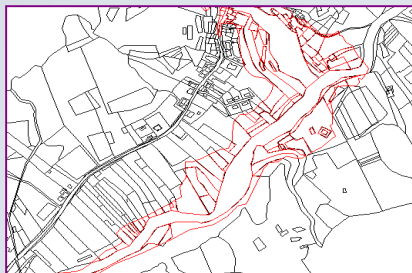
REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Content:

I. Cadastral data:

1. LAND CADASTRE
2. BUILDING CADASTRE
3. REAL ESTATE REGISTER



I. The renovation of cadastral data

LAND CADASTER

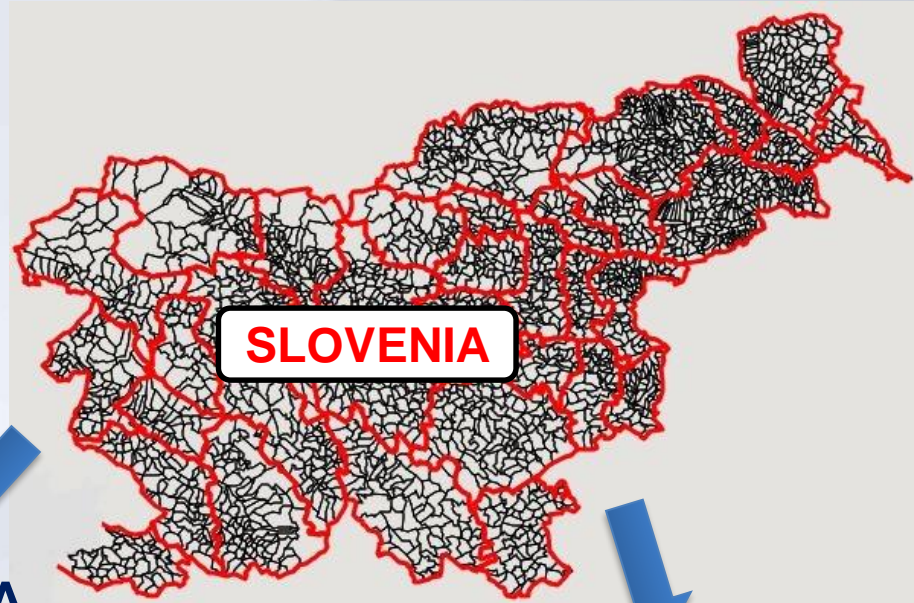


REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

2698 cadastral areas

5 680 759 parcels



ATTRIBUTE DATA

- parcel number
- boundary
- surface area
- owner
- manager of state or local property
- location and shape
- actual use
- land under a building → BUILDING CADASTER
- land bonita factor

GRAPHICAL DATA



1. Land Cadaster Representation
2. Land Cadaster Map



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

LAND CADASTER GRAPHICS

Land Cadastre Representation (ZKP)



ZKP - Land Cadastre representation:
a digital image of the shape and
positions of parcels

Layer covering all the territory of The
Republic of Slovenia

Land cadastre points (ZKT):

- **32 MIO ZKT** with graphical coord.
in the national coordinate system

LAND CADASTER GRAPHICS



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA



Land Cadastre Map (ZKN)

1.074.563 parcels

- 20 % of all parcels

Only created for individual areas.

Land cadastre points (ZKT):

- **4.895.284 ZKT** (of 32 mio)
- numerical coord. determined by field measurements in the national coordinate system
- prescribed accuracy within 1m

BUILDING CADASTER



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Established:
2000



RECORDED DATA:

- building number
- owner
- manager of state or local property
- location and shape
- surface area
- actual use
- number of apartment or business premises

ACCURACY:

Graphical accuracy of the floor plan of the building:

- Photogrammetry: 0.5 - 1 m
- Field measurement: up to 0.3 m



Buildings:

1.184.666

Buildings parts:

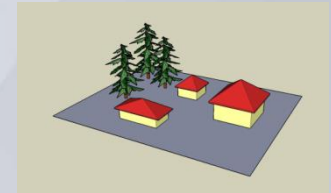
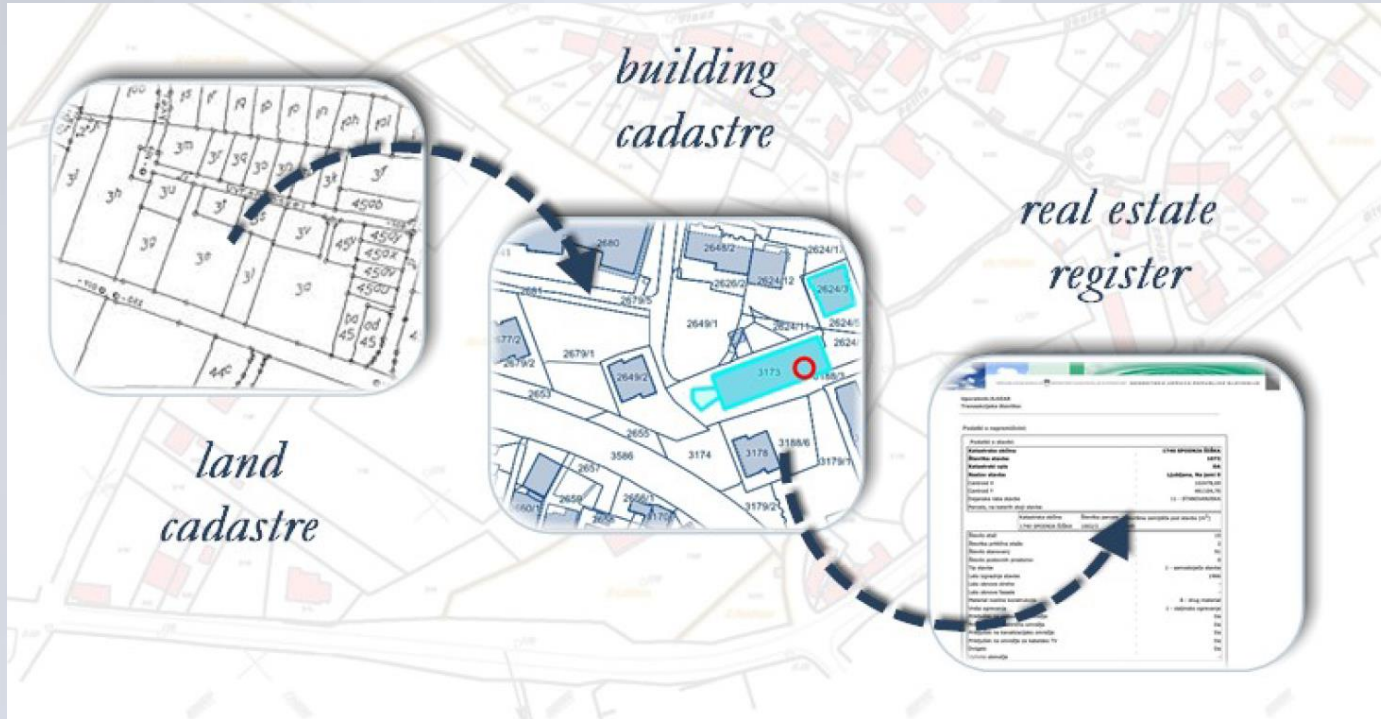
1.870.144

REAL ESTATE REGISTER



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

Established:
2008



Vrednost nepremičnine

Vrednost nepremičnine: 85.079,00 €

Sestavine nepremičnine:

Šifra KO	Naziv KO	Št. parcele	Št. stavbe	Št. dela stavbe	Model	Vrednost
1576	MAHOVNIK	163			HIS	4.719,60 €
1576	MAHOVNIK	163			ZPS	0,00 €
1576	MAHOVNIK		491	1	GAR	2.566,60 €
1576	MAHOVNIK		81	1	HIS	77.793,18 €

Na seznam nepremičnin Stara vrednost nepremičnine

VALUE

PARCELS

+

BUILDINGS

+

PARTS OF BUILDINGS

**ATTRIBUTE
DATA
ONLY!**

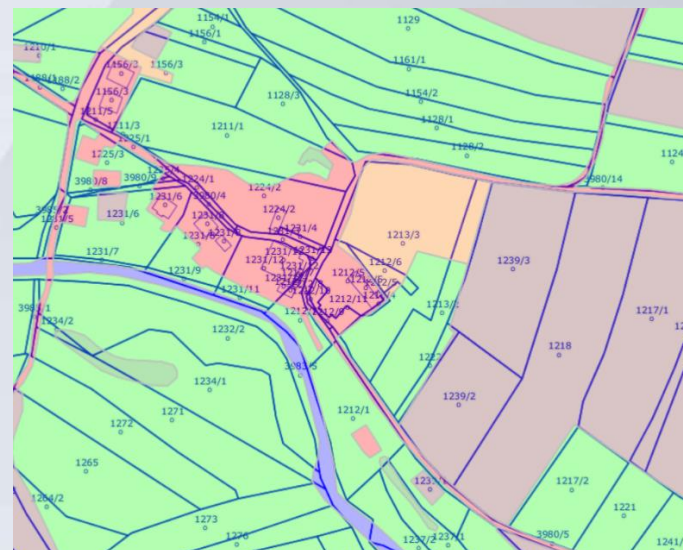
THE USE OF CADASTRAL DATA:



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

- owners
- surveying companies
- state and municipal administration:
 - real estate valuation
 - real estate taxation
 - land management
 - environmental protection



❖ DATA are publicly accessible (excl. owner's data) and FREE of charge

- web portal „E-prostor“: <http://www.e-prostor.gov.si/>
- users can view, order or download data





REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

II. The renovation of cadastral data

- **Regular maintenance procedures**
- **Cadastral data renovation projects:**
 - ❖ **Real estate data improvement**
 - ❖ **IT renovation of the real estate system**



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Regular maintenance procedures

- **procedures at the request of the owners**
- **regular SMA procedures**

SMA is responsible for regular data maintenance and improving the quality of the data

- Assurance of quality data in the procedures of real estate recording
- Controls are set down for recording a new property and for updating existing property
- Reducing errors in real estate data sets
- Simplifying procedures for recording real estate in cadastres



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

DATA QUALITY CONTROLS

- ✓ Attribute controls
- ✓ Graphical data controls
- ✓ Topology controls

GP: Šifra KO: Tip objekta: : Od: GP

Ident. objekta : Do: Napaka

Opozorilo Koda napake : S

Zapisov: 2515

KO	Objekt	Tip	Koda	Napaka	Pregled	Datum	Opis	Opomba
2405	488	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS ni evidentirana	<input type="button" value="Dodaj"/>
2396	53	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS = 0	<input type="button" value="Dodaj"/>
2383	462	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS ni evidentirana	<input type="button" value="Dodaj"/>
2400	15	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS = 0	<input type="button" value="Dodaj"/>
2395	335	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS = 0	<input type="button" value="Dodaj"/>
2407	190	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS = 0	<input type="button" value="Dodaj"/>
2401	266	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS ni evidentirana	<input type="button" value="Dodaj"/>
2381	607	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS = 0	<input type="button" value="Dodaj"/>
2380	544	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS ni evidentirana	<input type="button" value="Dodaj"/>
2397	34	ZPS	S.04	Površina ZPS = 0 ali null	<input type="button" value="Urejeno"/>	2016-04-15	Površina ZPS ni evidentirana	<input type="button" value="Dodaj"/>



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

DATA ANALYSIS

-> improving recorded data

Example: ACTUAL USE OF PARTS OF BUILDINGS:

- **Comparison:**
 - person has a registered address in a building (Central population register)
 - actual use of a part of that same building
- **If actual use is not residential - > field identification**



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

DATA ACQUISITION

ACQUISITION OF DATA FROM OTHER RECORDS:

- information on facade, windows renovation - data taken from Eco Fund
- received data: 5506 information of years of facade renovation, 4363 information of years of window renewal (December 2017) – will be repeated in 2019

COOPERATION WITH MUNICIPALITIES

- Acquisition - data exchange (Žiri, Semič, Kamnik - partly)
- municipal data are the basis for the SMA to demand a change in BC from the owner



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Project: Location improvement of the Land Cadaster



✓ 20% of cadastral areas improved until now

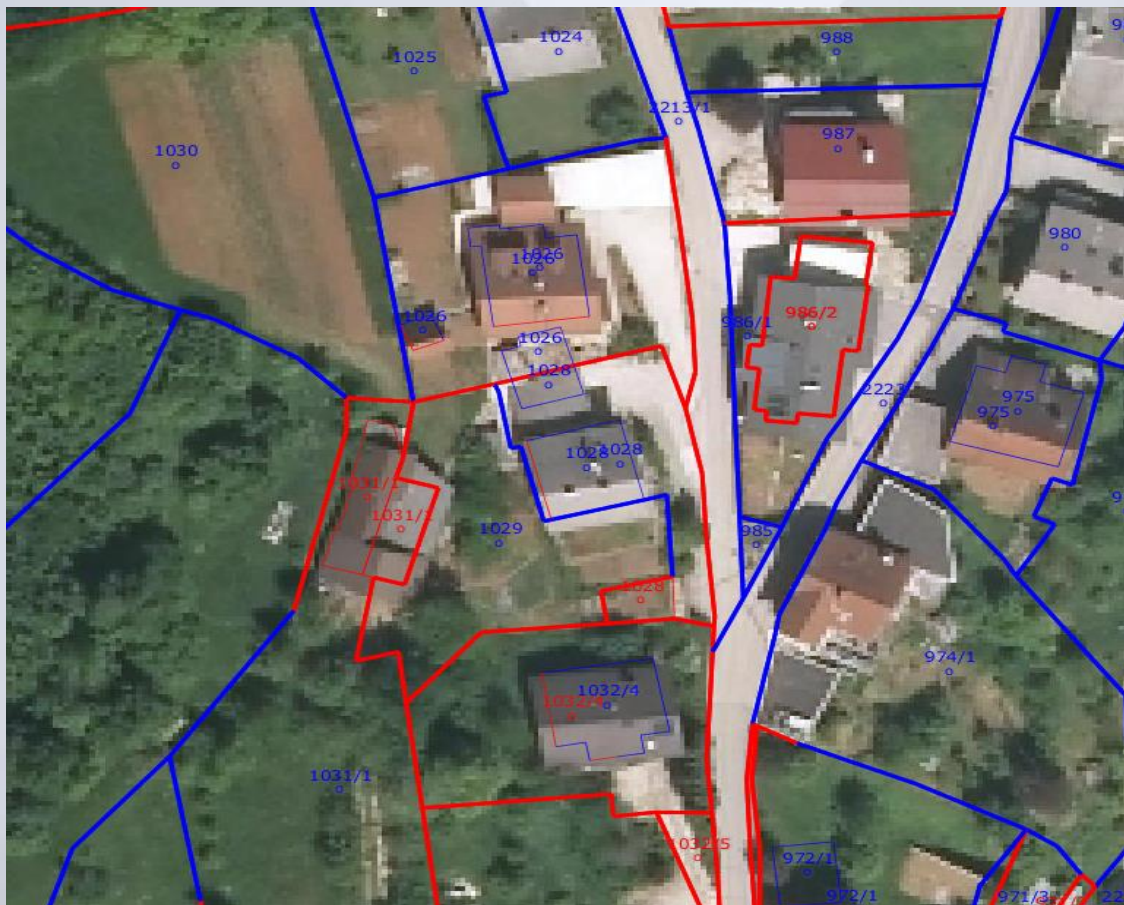


REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Project: Location improvement of the Land Cadaster

- ✓ Improved cadastral points are now included in the ZKN



43 % of all 32 MIO ZKT

ZKT accuracy:

- over 1m
(location improvement)
- within 1m
(field measurement)



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Project: **AUTOMATIC IDENTIFICATION OF BUILDINGS**

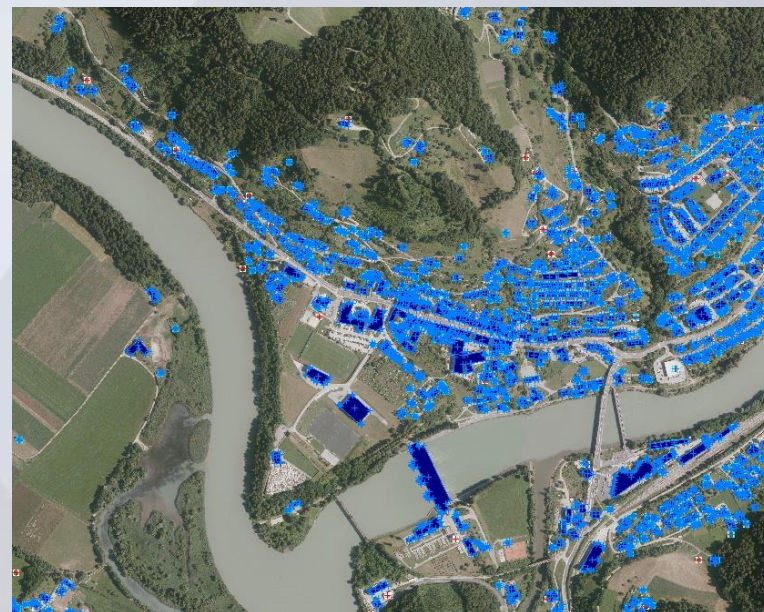
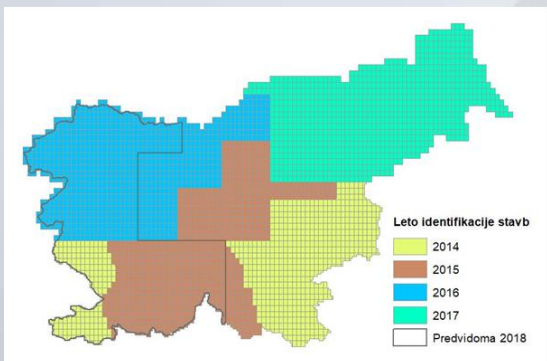
Comparing existing BC data with other sources (cyclic aerial survey, lidar, other available resources – e.g. topography)

Year 2018:

New buildings: 8.958

Changed buildings: 6.200

Not existing buildings: 4.679



Project: Digitization of the archive



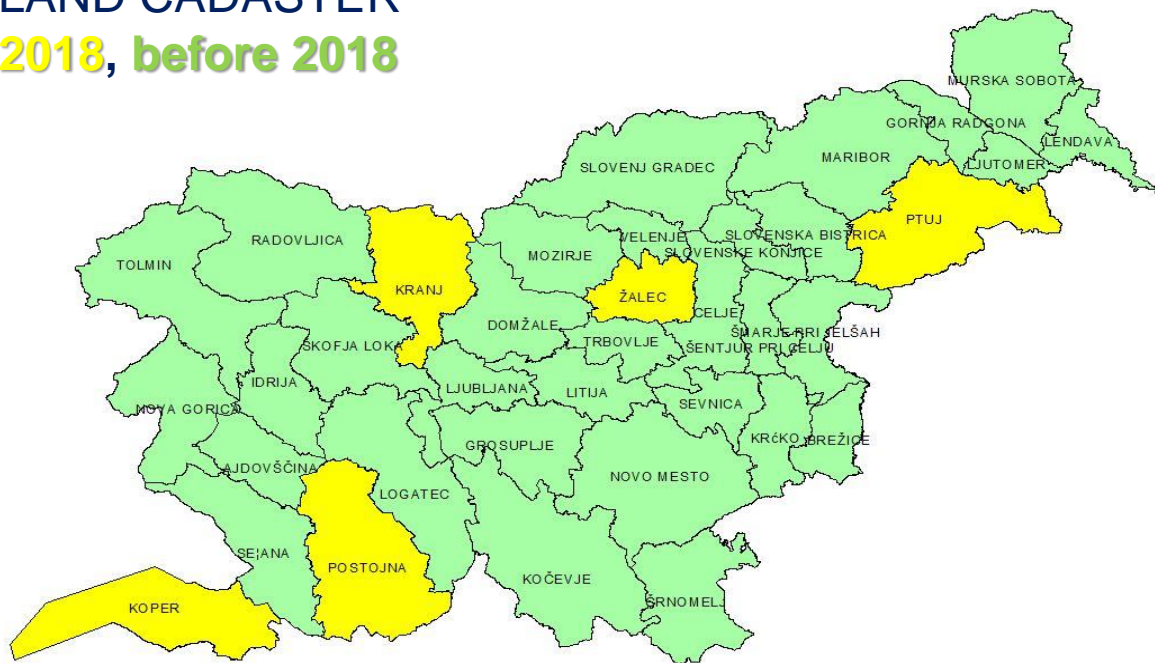
REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

LAND CADASTER (Dec 2018): 1.287.101 expert reports

BUILDING CADASTER (Jan 2019): 207.754 expert reports

LAND CADASTER 2018, before 2018



- ✓ easier access
- ✓ transparency
- ✓ ease of use



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Project: IT RENOVATION of the real estate records system

Reasons:

- outdated IT solutions

Purpose:

- to improve and simplify the real estate records system
- to achieve the integrity of real estate data
- better data and process connectivity
- effective data maintenance
- better quality of real estate data
- simple and effective use of real estate data

GOALS:

- Single entry point for all users
- Electronic submission of all expert reports
- Automatic controls within IT solution

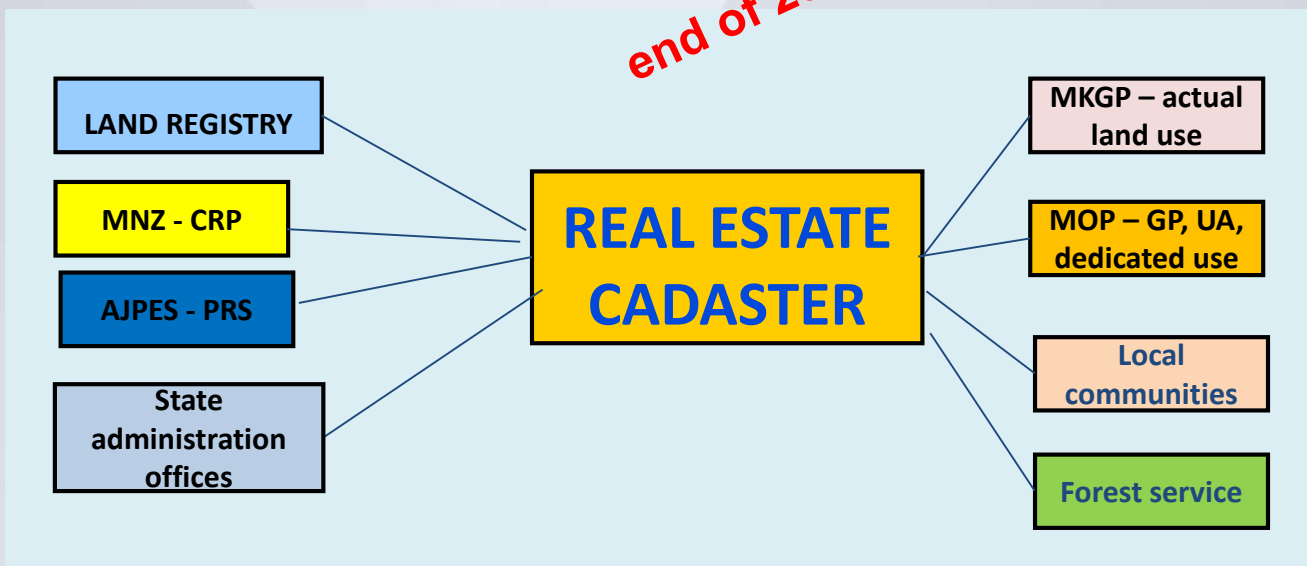


REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

Project: IT RENOVATION of the real estate records system

*by the
end of 2021!*



- ☑ Connection with other information systems
- ☑ E-commerce for all users
- ☑ Optimization and uniform way of data maintenance and procedures management



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING

THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA

THANK YOU!

E-mail:

metka.malnar@gov.si

**THE SURVEYING AND MAPPING AUTHORITY OF THE
REPUBLIC OF SLOVENIA**

Zemljemerska ulica 12, 1000 Ljubljana

e-mail: pisarna.gu@gov.si