

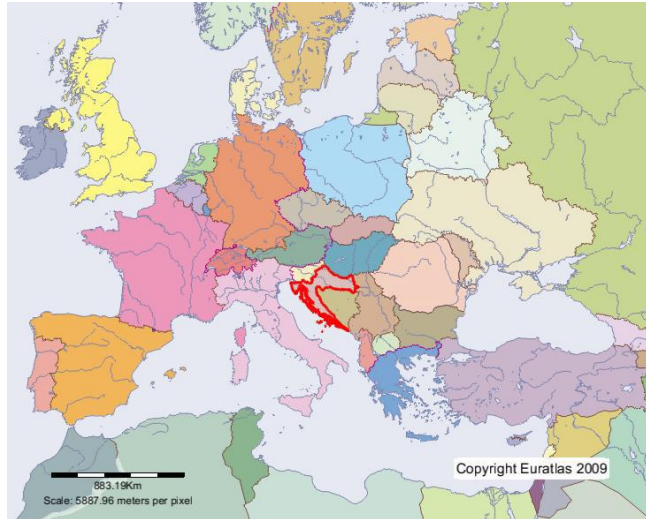
**State Geodetic Administration (SGA)
Croatia**

Improved (digital) data and processes in Cadastral System

Authors: Benasić, Pupačić, Šantek, Šustić

Presenter: Maja Pupačić

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• THE REPUBLIC OF CROATIA

- **Republic with multi-party parliament**
 - [Constitution adopted on 22 December 1990]
 - **56 594 sq km (land surface)**
 - **Counties (21), including the City of Zagreb ;
Towns (127); Municipalities (429); Settlements (6755)**
 - **4.290.612 persons /75,81 persons /sq km,**
-
- **Croatia is became the 28th member state of the European Union on 1. July 2013.**



STATE GEODETIC ADMINISTRATION

State Administrative Organization

SGA head office + Regional Cadastral Offices (20) and Branch Offices (92)

City Office for Cadastre and Geodetic Activities (Zagreb)

Cadastral parcels apx. 15 ml

3389 C.M.

POLITICAL & STRATEGIC FRAMEWORK

EUROPEAN CONTEXT - STRATEGY

- *In the development of the Land Administration System in RoC we were guided by the guidelines imposed by the **European and national strategic context as well as the legal framework on both levels.** The strategic context which determines the direction of e-government development most is the **Digital Agenda for Europe.***
- **EU Action Plans** for eGovernment are **political instruments** for promoting the modernization of public administrations throughout the EU.
 - **eGovernment Action Plan 2016-2020**
 - **eGovernment Action Plan 2011-2015**

POLITICAL & STRATEGIC FRAMEWORK

EUROPEAN CONTEXT – LEGAL FRAMEWORK

- **Regulation on electronic identification** and trust services for electronic transactions in the internal market
- **Directive on the re-use of public sector information**
- **Directive 2007/2/EC** of the EP and of the Council (2007) **establishing an Infrastructure for Spatial Information in the European Community (INSPIRE).**
- **General Data Protection Regulation (GDPR)** – REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
- **Law on Freedom of Information**

POLITICAL & STRATEGIC FRAMEWORK

NATIONAL CONTEXT – STRATEGY

- **E-Croatia 2020 Strategy**
- **Action Plan for E-government development**
- **Strategy of Public Administration Development in the Republic of Croatia**
- Strategic plan of the Ministry of Construction and Physical Planning (including **SGA strategic plan**)
- **National Spatial Data Infrastructure Strategy**

NATIONAL CONTEXT – LEGAL FRAMEWORK

- **Law on State Survey and Real Property Cadastre**
- **Law on National Spatial Data Infrastructure**
- **Law on National Information Infrastructure**

CRO model for registration property and rights is divided between two institutions

Before establishing one common data base

KATASTAR



Keep and maintain all cadastral data into 112 cadastral databases



Ministarstvo pravosuđa
Republike Hrvatske

ZEMLJIŠNA KNJIGA

Keep and maintain all land registry data into 100 LR databases

A - POSJEDOVNICA

| Redni broj | Broj zemljišta | Oznaka zemljišta | Površina u | | | Primjedbe |
|------------|----------------|------------------|----------------|-------|-----|----------------------|
| | | | m ² | jutra | čhv | |
| 1 | 363/13 | KUĆA I DVORIŠTE | 507 | | | PRIPIS IZ ULOŠKA 352 |
| | | | | | | |

PODACI O KATASTARSKIM ČESTICAMA

| ZGR | DIO | Broj katastar. čestice | Broj D.I kat. plana | Adresa katastarske čestice (naziv rudine, ulice, trga i sl.) | Način uporabe katastarske čestice / Način uporabe zgrade, kućni brojevi zgrade, naziv zgrade | Površina / m ² | Posebni pravni režim |
|-----|-----|---|---------------------|--|--|---------------------------|----------------------|
| | | 273/6 | 3 | DUBRAVA | KUĆA | 138 | |
| | | 273/6 | 3 | DUBRAVA | DVORIŠTE | 369 | |
| | | Ukupna površina katastarskih čestica upisanih u posjedovni list | | | | 507 | |

B - VLASTOVNICA

| Redni broj | Upisi | | | | Primjedbe |
|------------|-------------------------------|--|--|--|-----------|
| 1. | UDIO 1/1 | | | | |
| 1 | Pero Perić, MLINI, DUBRAVA 15 | | | | |

UPISANE OSOBE

| DIO | Prezime i ime odnosno tvrtka ili naziv upisane osobe | OIB |
|-----|--|-----|
| 1/1 | PETAR PERIĆ, DUBRAVA 15, MLINI | |

C - TERETOVNICA

| Redni broj | Upisi | Iznos tereta | Primjedbe |
|--------------|-------|--------------|-----------|
| Tereta nema! | | | |

We are aware that the future development of e-Cadastre will primarily depend on the satisfaction of the customers with the services provided, their motivation for using them and their support. In order to fulfil these expectations, the basic precondition is a unified and up-to-date database. This means that data must be organised and accessible in such a way that any kind of query, analysis or statistics can be made at any time and for any purpose and that the data can be provided on a daily basis.

SGA ACTIVITIES

Since 1999, SGA has conducted many programs standardizing the cadastral system throughout the RoC in organisational and technological terms.

Many projects are implemented in order to raise the data quality and many services have been developed for the data distribution, sharing and exchange.

All preconditions have been met for fully digital business operations:

- **An unified database** and application for keeping and maintaining the land registry and cadastre data has been established. - Real Property Registration and Cadastre Joint Information System (**JIS**)
- **Electronic issuing of public deeds** (cadastral map copies, possessory sheet transcript/extract and Land Database extract) – One Stop Shop (**OSS**)
- **Self-service** and **free data searching** and downloading for the purpose of producing digital geodetic reports - Digital Geodetic Report System (**DGRS**)
- Delivery of actual (surveyed) **coordinates** in real time - Croatian Positioning System (**CROPOS**)
- Electronic submission of **digital geodetic reports** (elaborates) – **DGRS&OSS**
- Upcoming legislative changes also go in the direction of the coordinate cadastre, whereby a new step forward is made in perceiving the data quality

SGA ACTIVITIES



Real Property Registration and Cadastre Joint Information System (JIS)

- One of the most significant and challenging projects that was financed by the WB loan between 2003 and 2016 was the establishment of the JIS
- LA institutions decided not to get merged into one institution but opted for a unique **Croatian solution of linking the institutions at the level of data and business processes** to be maintained according to respective jurisdictions
 - **A unified, centralised application** for all cadastral offices and land registries (unified data model)
 - **Standardised proceedings** with data maintenance (central process-oriented solution)
 - **IT linking** of land registries and cadastral offices (time and financial savings)
 - Graphic and alphanumeric **data integration**
 - **Integration** with other registers and services (PIN, Spatial Units' Register, e-Citizens, Geoportal, digital archives....)
 - Maintenance of **harmonised** (LDB) and non-harmonised data

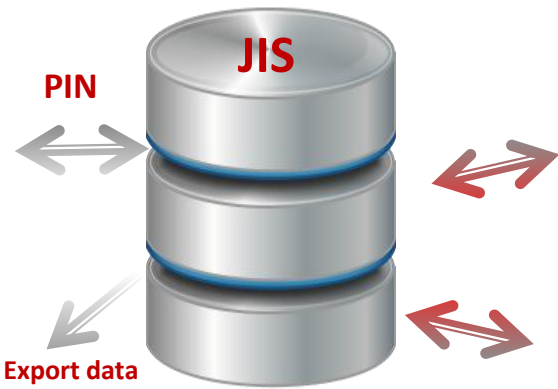


GEOPORTAL - central point of access to SGA spatial data.



RSU - an unified database and application for keeping and maintaining the spatial data (national, county, city/municipality, cadastral municipality, settlement, street and house number).

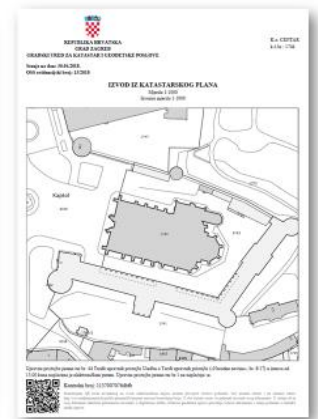
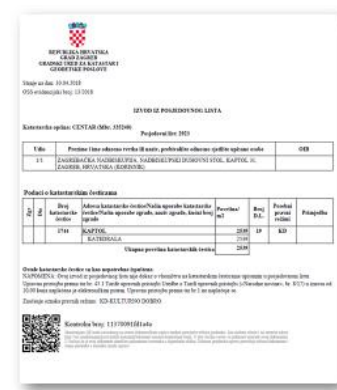
JIS - an unified database and application for keeping and maintaining the land registry and cadastre data has been established.



Export data
Shp, gml, xml

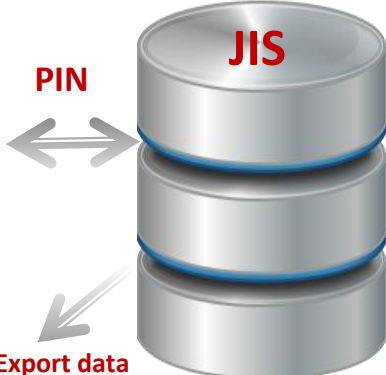


- >JIS data available to citizens through web portal
- >Online submission for public documents through private mailbox
- >Online payment
- >Digitally signed documents





Allows receiving digitally produced geodetic reports while digital business processes are revised



ADMINISTRATION WITHOUT PAPER

A2A A2B A2C



Export data Web servis Shp, xml

1,484,479 house numbers – paired with cadastral parcels and allows service issuing of house number certificates



Enables additional electronic business operations to be performed by the SGA and licensed geodetic firms. This system allows all data required for the production of geodetic reports to be captured electronically, reports themselves to be produced in digital form, and submitted to the cadastral office electronically.



Allows issuing digital data to licensed surveyors



Delivering real (surveyed in the field) coordinates to geodetic experts in real time



Allows service viewing of geodetic report Digital Archives – over 12 mil. pages available

PIN

JIS

OSS

DAS

RSU

DGRS

DGU

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Export data Web servis Shp, gml, xml



SGA ACTIVITIES



LAW ACTIVITIES (1)

Law on Performing Geodetic Activities - Adopted in 2018

- 2 Rule Books

Law on State Survey and Real Property Cadastre (new one)

- In process – parliamentary procedure - expected by the end of this year
 - **Rule Book on Determining the Real Costs for using the State Survey and Real Property Cadastre Documentation**
 - **Geodetic Reports Rule Book**
 - **Rule Book on Cartographic Signs**
 - **JOŠ**

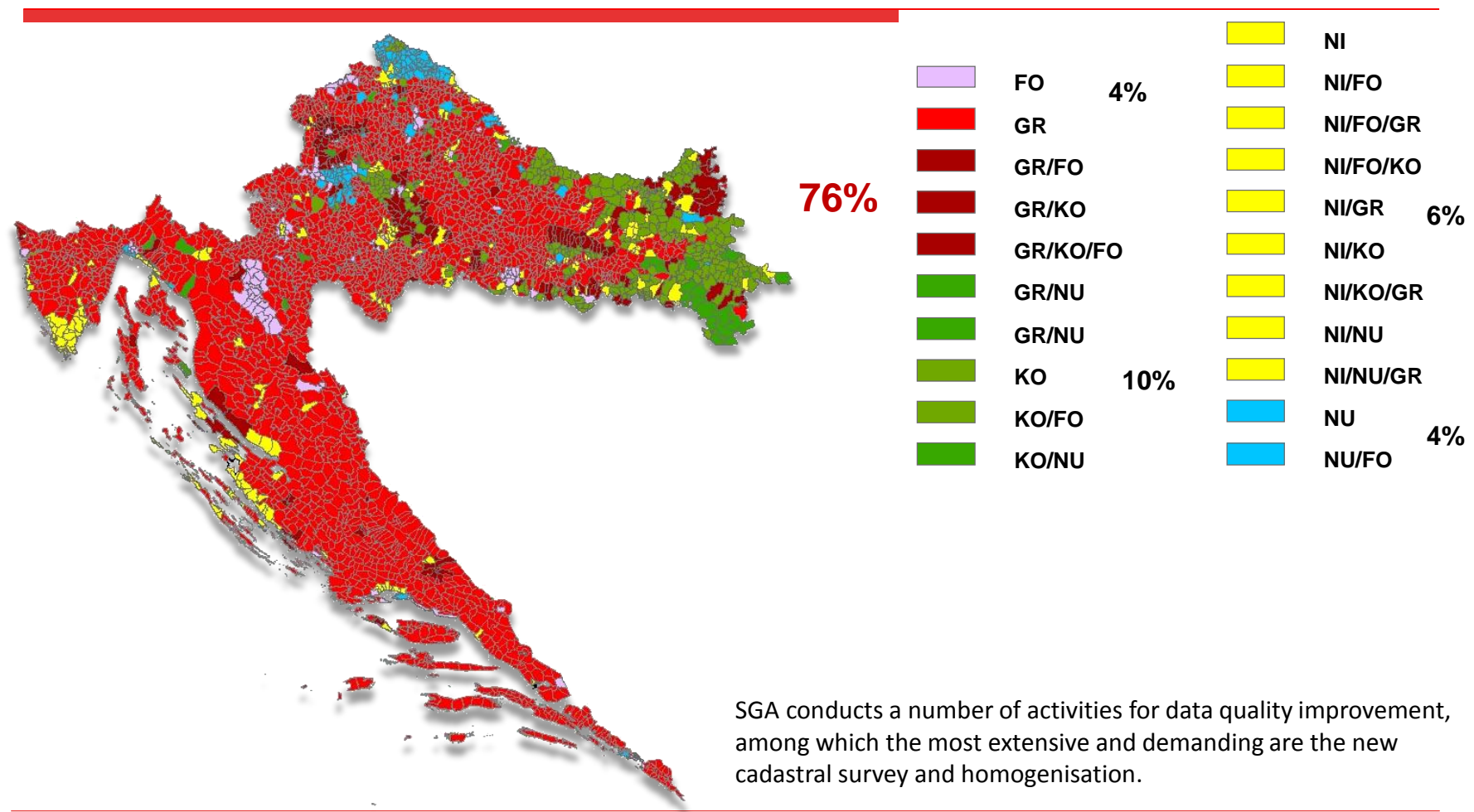
Law on National Spatial Data Infrastructure - Adopted in 2018

- **Spatial Data Infrastructure Act**
- **2020 National Spatial Data Infrastructure Strategy**

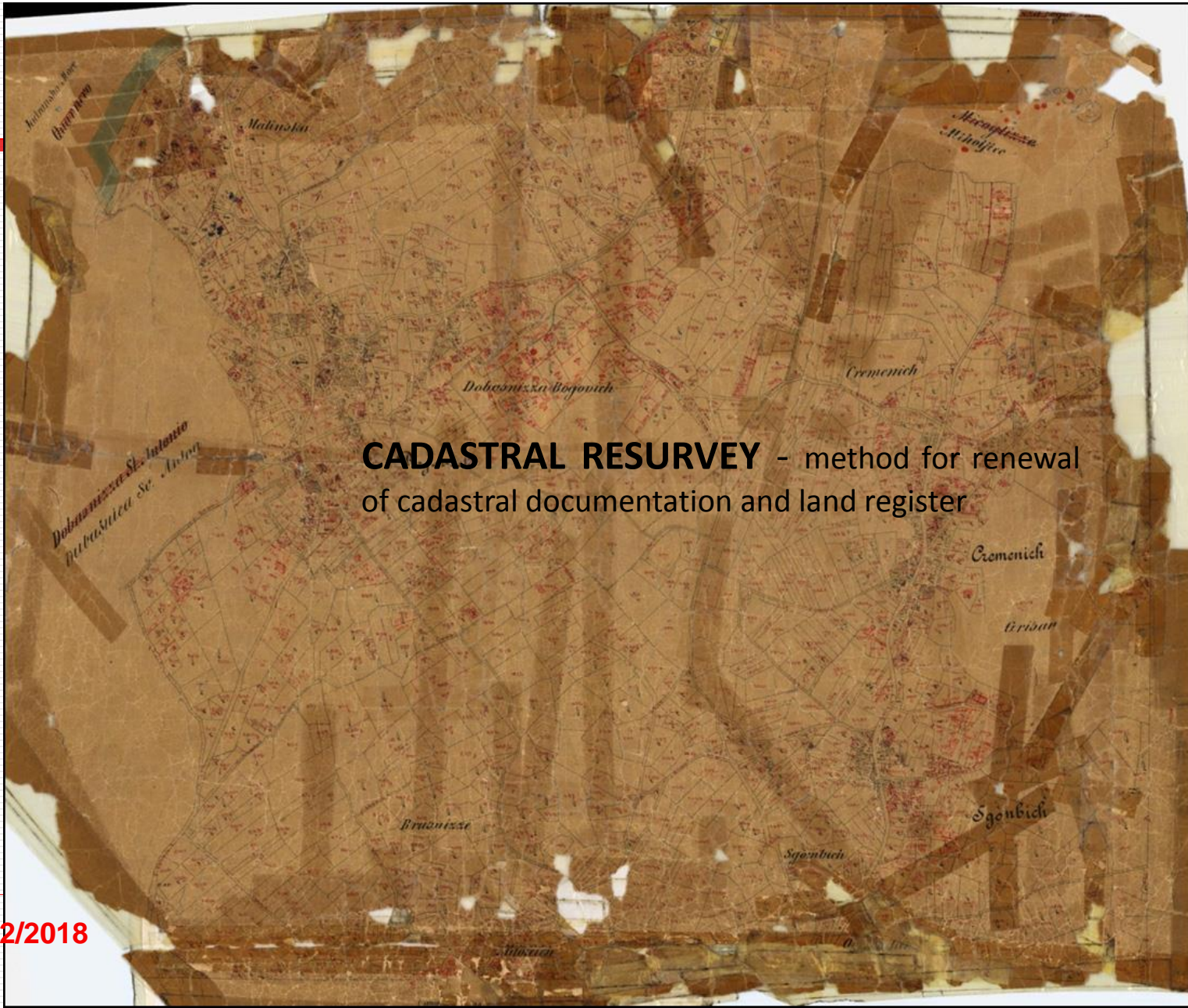
SGA ACTIVITIES



CADASTRAL DATA



SGA conducts a number of activities for data quality improvement, among which the most extensive and demanding are the new cadastral survey and homogenisation.

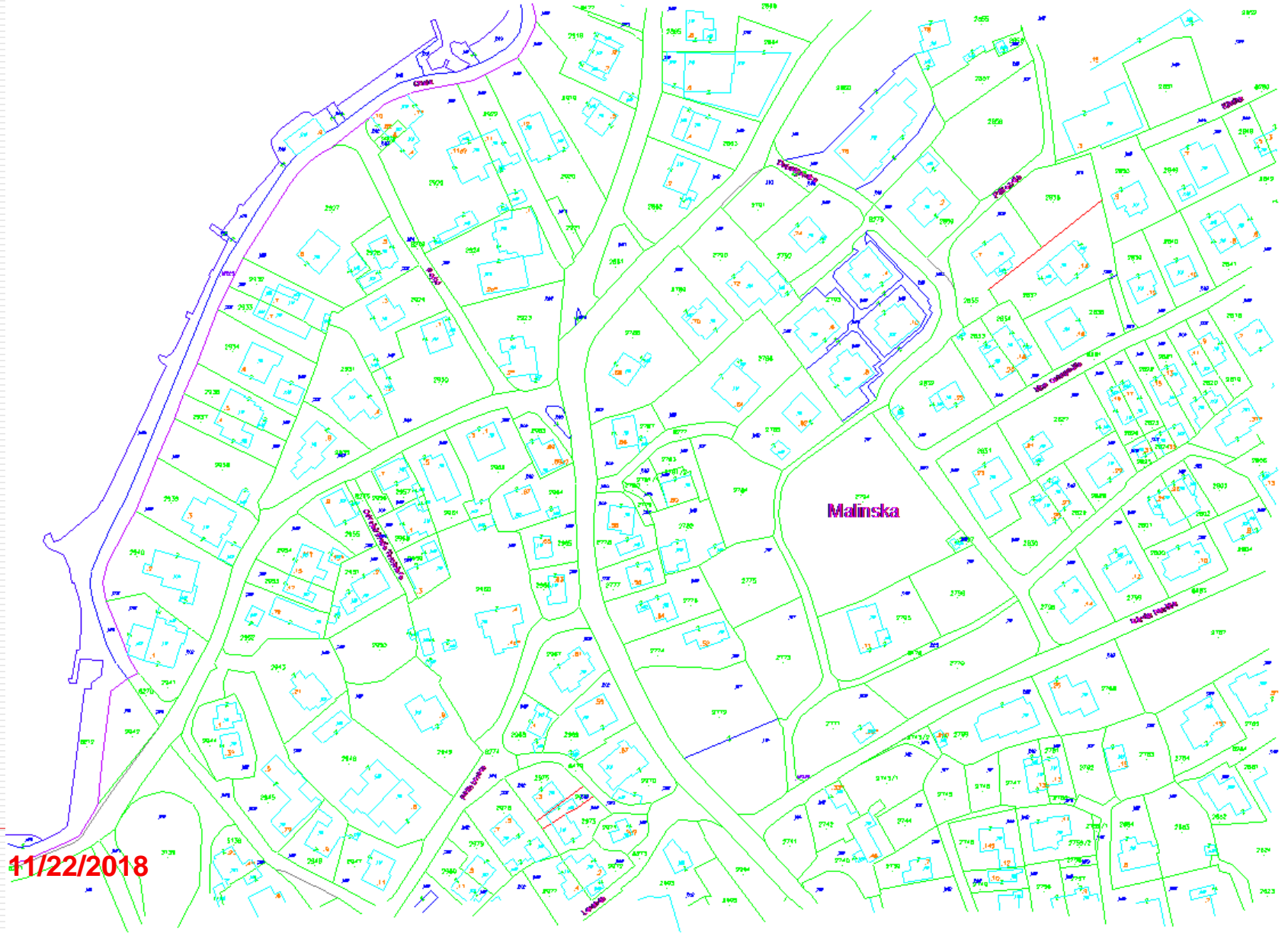


CADASTRAL RESURVEY - method for renewal of cadastral documentation and land register

- New cadastral surveys aimed at establishing the Real Property Cadastre
- Cadastral surveys are undertaken to put real property cadastral documentation in use and establish completely new land registry and the land registry and cadastral data for this area are harmonized 100%. (prerequisite for the EU funds, investment)

11/22/2018

Cadastral municipality Malinska – new cadastral map



11/22/2018

HOMOGENISATON

HOMOGENISATON - method for improvement of digital cadastral plan

HOMOGENISATON – is not cadastral resurvey process

HOMOGENISATON – is a technical proces

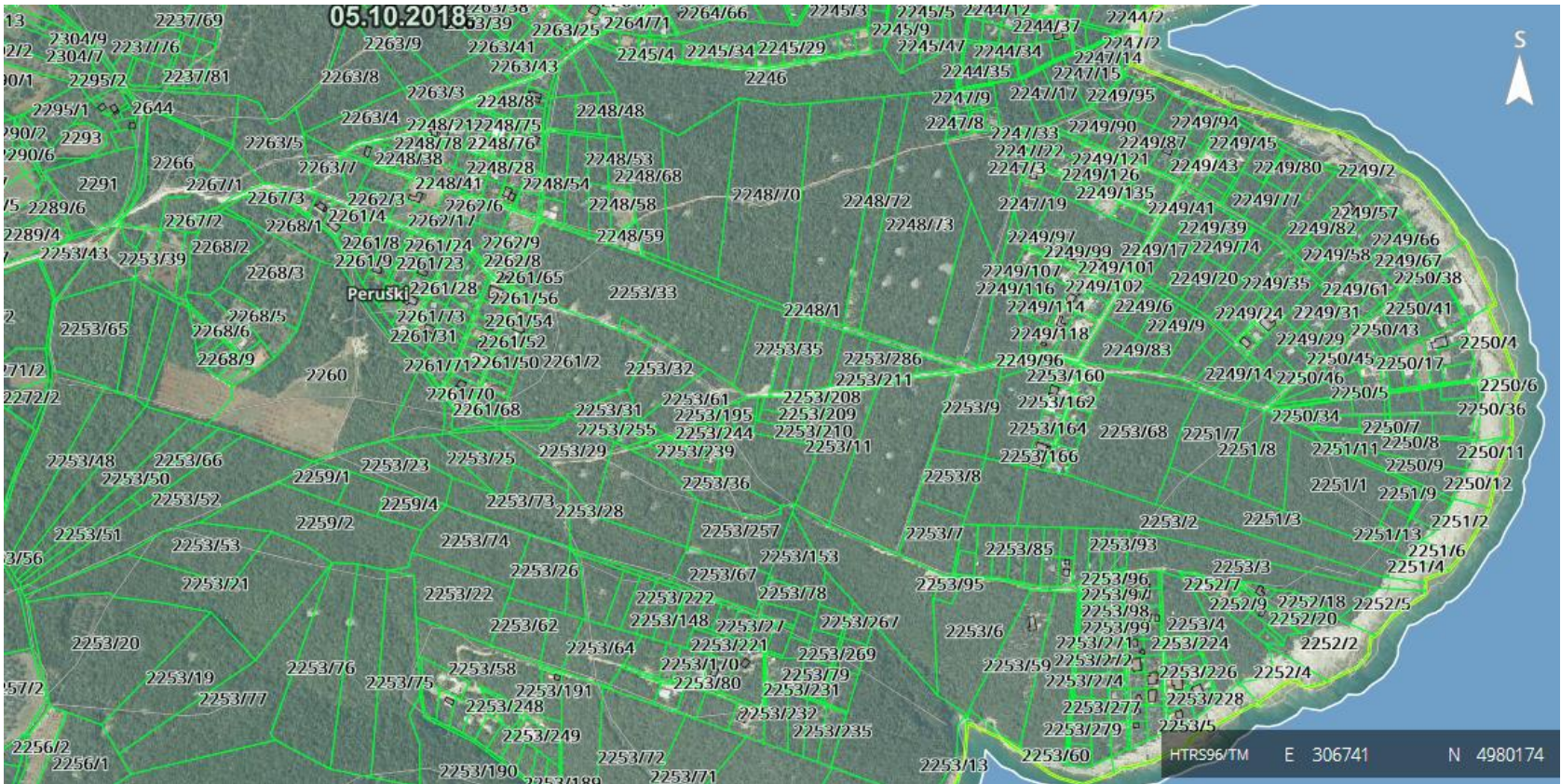
- geometric and positioning accuracy improvement of the digital cadastral maps (DCM) of the graphical survey
- correct the deformations, inhomogenities and anomalies, and at the same time keep the parts of the cadastral maps that are already mapped by the geodetic records unaltered on their position
- There is still a danger of incompetent use of homogenised data if the expert audience is not educated on how to use homogenised maps. If the homogenised data, although in digital format, does not represent the quality of the digitally surveyed point that was previously marked in the field by the owner it cannot be the basis for transferring digital data in the field (staking, court expert visit, measuring distances in the map for the purpose of project designs) because damage would thus be caused.

Before homogenisation:

1. The cadastral maps that the detail is already mapped by the geodetic records
2. Detail on the cadastral map – position 160 m into the sea
3. There is no cadastral parcel on the cadastral map (the result of inadequate maintenance)



After the process of the homogenisation



SGA ACTIVITIES



EDUCATION FOR ADMINISTRATION WITHOUT PAPER

A2A A2B A2C

Cadastral staff on how to use the JIS application (1,000 employees and continued expert education)

Users via web services

Users via web services

State Geodetic Administration spatial data portal



After establishing the paperless administration, it was necessary and mandatory to educate all the system users:

Daily and continued support for citizens and other State bodies on how to use cadastral data. Public awareness campaign

Geodetic experts on how to use the SGDE functionality (1,000)

Geodetic experts on how to use the CROPOS system (500 and annual CROPOS conferences)



Citizens on how to use the OSS functionality (public awareness campaign)

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