

FIG
2018
ISTANBUL

Presented at the FIG Congress 2018
May 6-11, 2018 in Istanbul, Turkey

XXVI FIG CONGRESS

8-11 May 2018, İstanbul

Cadastral survey - the best way of cadastre modernization

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Croatia

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LAND ADMINISTRATION IN CROATIA

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- Two registers CADASTRE & LAND REGISTRY
- 112 cadastral offices + Cadastre office of City of Zagreb
- 107 land registry offices
- The responsible public authority institutions are the State Geodetic Administration (for the cadastre) and municipal courts (for land registry).

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PRODUCT COMPARISON



Mobile phone
Average usage time: 3-5 years
New models: every year



Car
Average usage time: 7-20 years
New models: every few years

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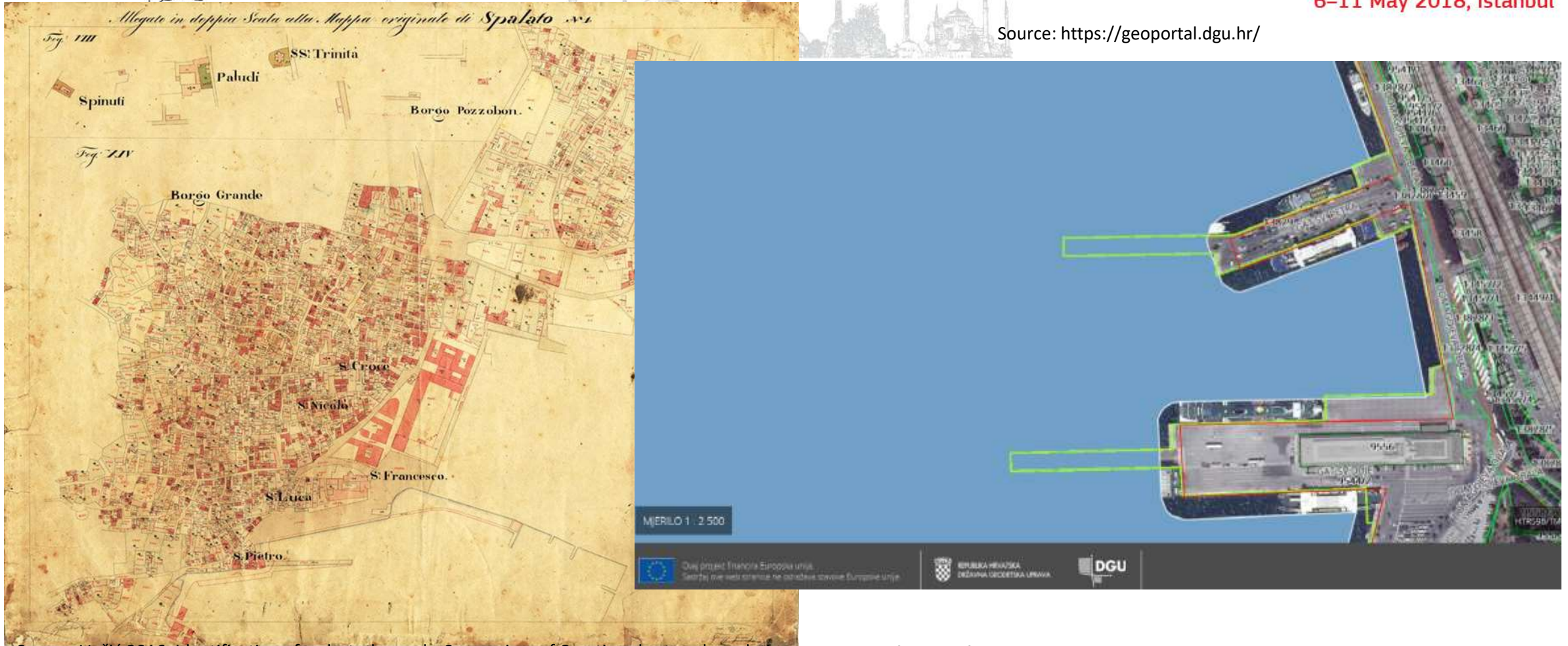


Digital



PRODUCT COMPARISON

Source: <https://geoportal.dgu.hr/>



Source: Vučić, 2016: Identification of cadastral parcels: Symposium of Croatian chartered geodetic engineers, Opatija

Cadastral map in Croatia

Average usage time: 100-200 years

New models: very rarely

A facelift is more common than making new maps or new models

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NEW CADASTRAL SURVEYS IN CROATIA

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- 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. Following a cadastral survey, land registry and cadastral data are harmonized 100% on the level of the entire cadastral municipality or a part of it.

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NEW CADASTRAL SURVEYS IN CROATIA

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- renewed cadastre and land registry positively affect the socio-economic development of local communities in several aspects:
- improve the financial situation of local communities' budgets,
- raise the quality of living in local communities by making them more attractive for living and doing business,
- reduce the number of lawsuits,
- beneficial effect on the state budget, and create a qualify basis for local communities' spatial planning.

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CADASTRAL SYSTEM

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- Croatian cadastral system is based on the Germanic model of cadastre primarily because of its Austro-Hungarian heritage. Croatian cadastral system is similar to those in Austria and Germany.
- Formation of the land cadastre in Croatia region under Austria-Hungary began with proclamation of the Imperial Patent (Grundsteuerpatent) on December 23, 1817, ordering surveys, land classification, and preparation of the cadastral record in all lands of the Empire.
- **For 70 % of territory old Austro-Hungarian cadastral maps are still in official use**

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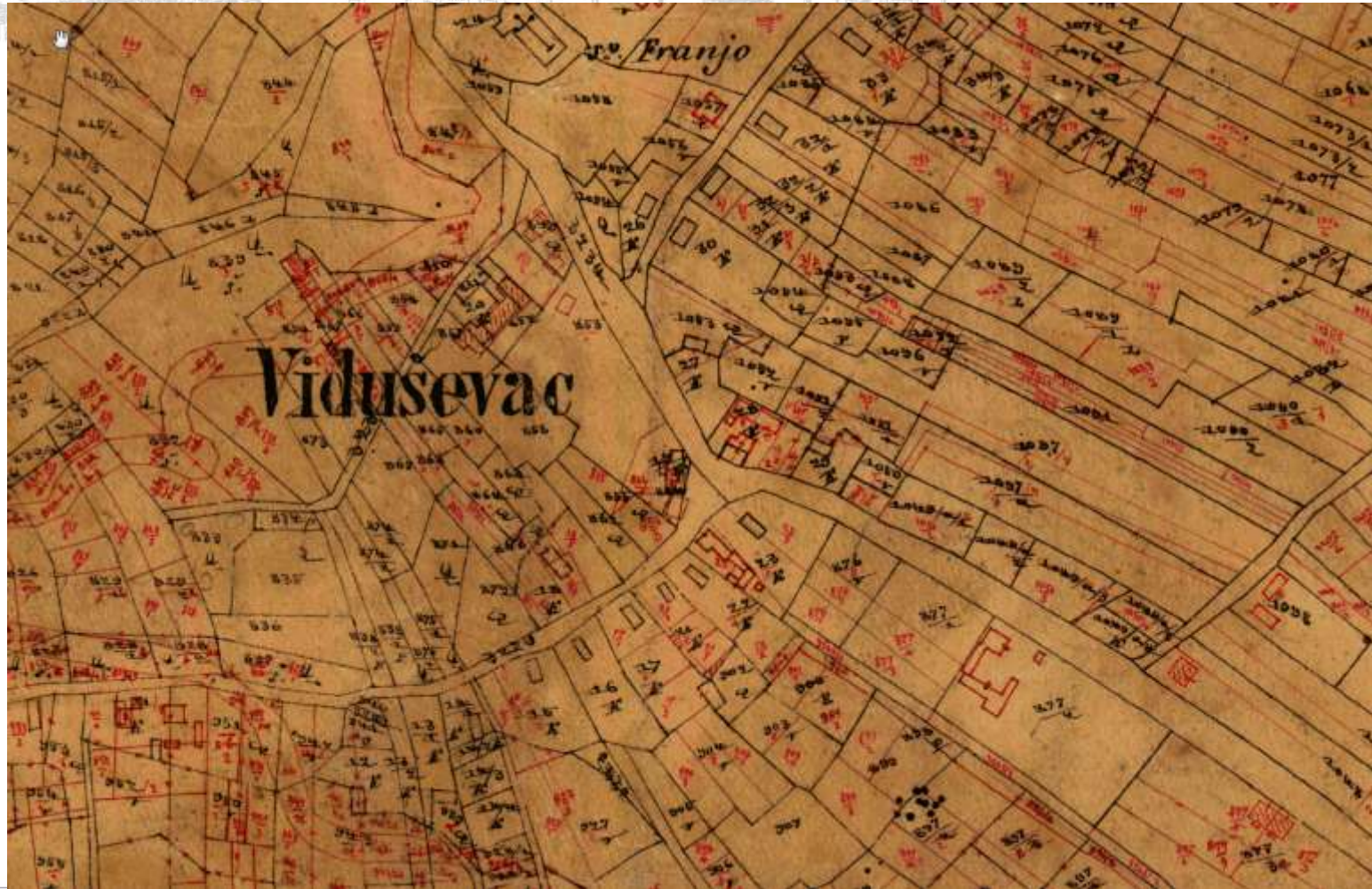
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Historical background

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Old cadastral map (cadastral municipality Viduševec)



CADASTRAL SYSTEM

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- After WW1 Kingdom of Yugoslavia introduces the Gauss-Krüger projection with maps prepared in scales 1:500, 1:1000, 1:2000, and 1:2500.
- Technical purpose of the cadastral system during the Socialist Republic of Croatia (1945. – 1991) demanded preparation of the topographical and cadastral maps and introduction of the new real world features

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Historical background

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- **From 1953 – 1980:**
- intensive implementation of administrative reviews of land cadastre data;
- rare and less successfully implemented technical reambulations of existing cadastral surveys;
- renewal of graphical cadastral survey using numerical measurement methods (tachymetry and orthogonal);
- aerial photogrammetric surveys starting from the late 1960s;
- carrying out land consolidation 1956-1980.

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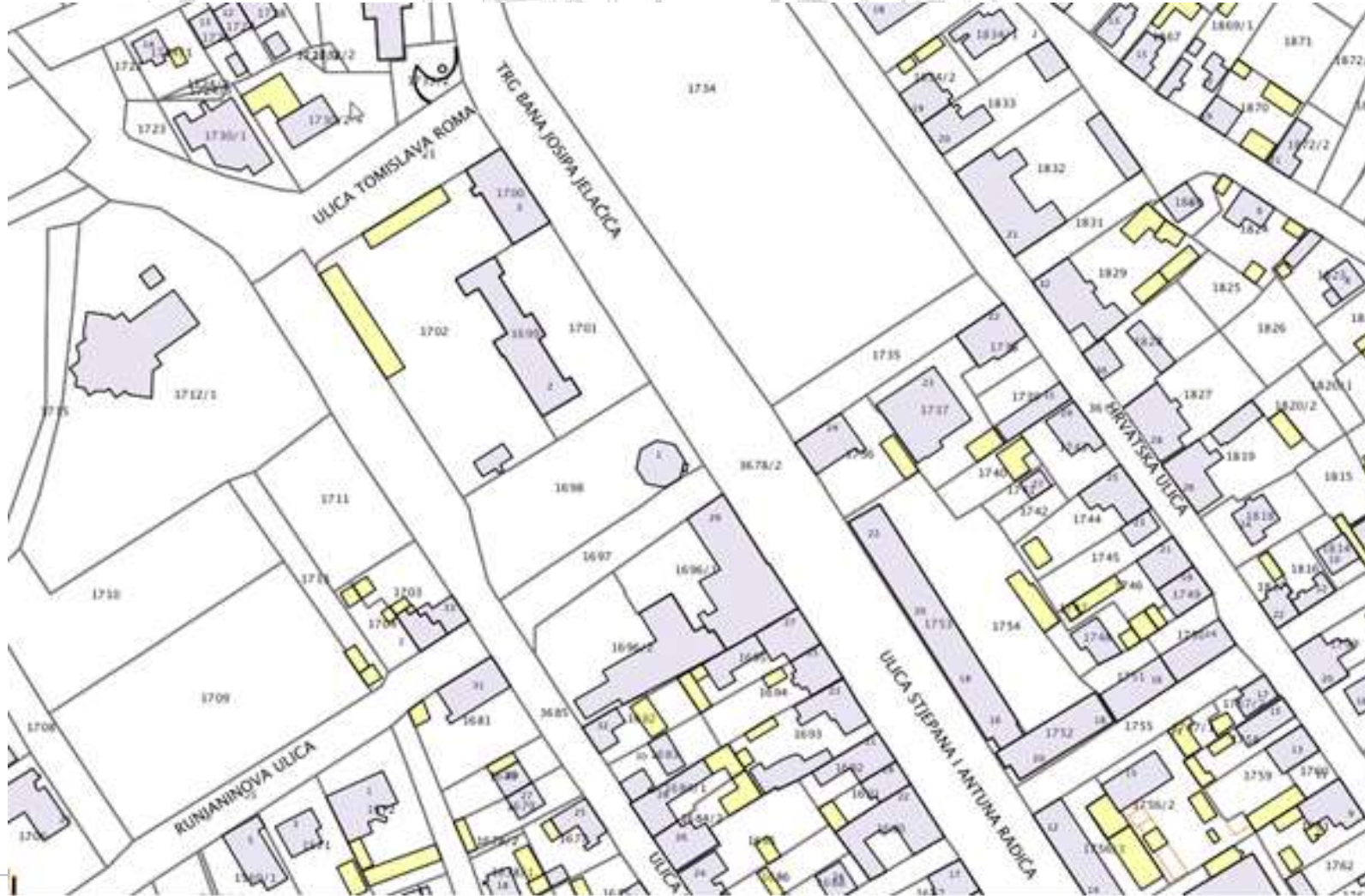
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Historical background

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Digital cadastral map from 1978 (cadastral municipality Gliná) – vectorised 2006





LAND REGISTRY SYSTEM

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- Imperial order was issued in 1850 initiating formation of land registry in the Kingdoms of Hungary, Croatia, and Slavonia. Key legislations in this 160-year period are “Gruntovni red” (land registry law) from December 15th, 1855, Law on Interior Design, Formation and Correction of Land registry from 1930,
- Land Registry Law from 1996. with few changes and amendments (from 1996 to 2017)

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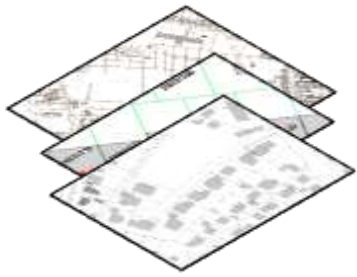
JOINT INFORMATION SYSTEM OF LAND REGISTRY AND CADASTRE



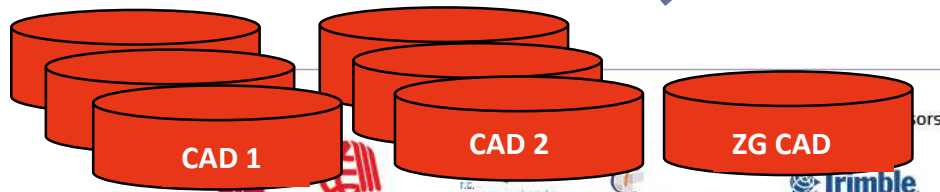
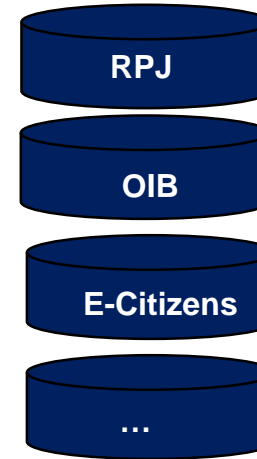
www.katastar.hr
<https://oss.uredjenazemlja.hr/public/index.jsp>
<http://geoportal.dgu.hr/>



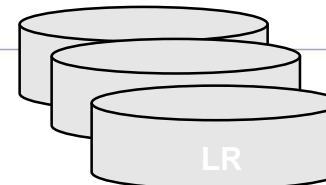
Digital Archive (MoJ, SGA)



Database of digital
cadastral map



112 a/n database SGA + ZAGREB CADASTRE



107 database of Land Registry





FUNCTIONAL CONNECTION OF LAND REGISTRY AND CADASTRES

- The JIS is a unique system which will replace the current different databases, cadastral data models, and associated applications in the cadastral offices of the State Geodetic Administration, as well as the land register databases and applications in the offices of the municipal courts.
- The SGA (and City of Zagreb) implemented the JIS in all cadastral offices in Croatia by November 2016.
- JIS provides support for the implementation of all regulated business processes and tasks, as well as transparent monitoring and data reporting from the cadastre and land registers. This system has special values in its administration and functionalities, and is hosted in a highly secure environment.

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Cadastral municipality Malinska (Island of Krk) – old cadastral Austro-hungarian map



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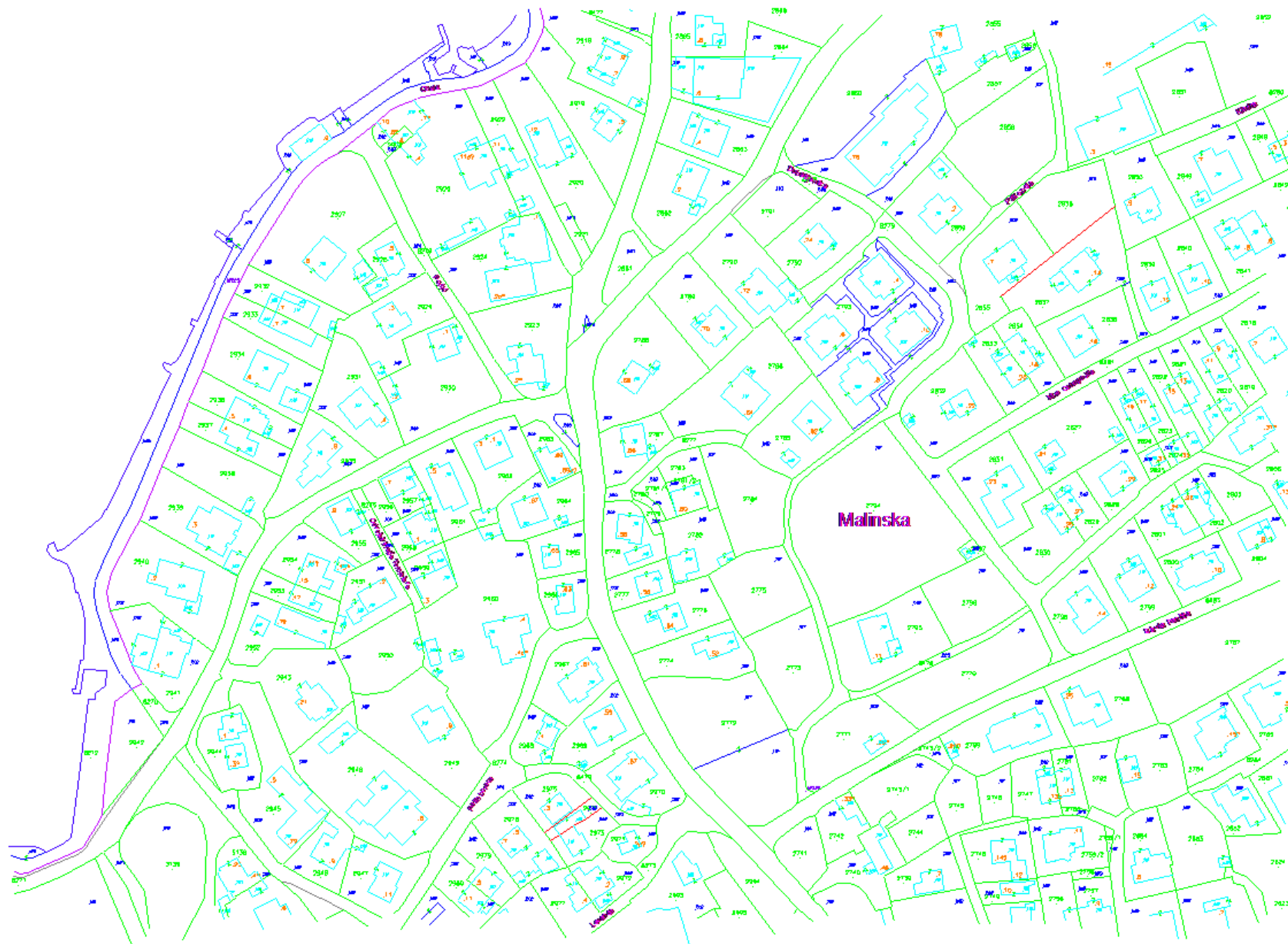


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Cadastral municipality Malinska (Island of Krk) – old cadastral Austro-hungarian map - DETAIL

Cadastral municipality: Malinska – new cadastral map



Cadastral municipality: Malinska

-overlap of the new digital cadastral map with the old cadastral map



NEW CADASTRAL SURVEYS IN 21st CENTURY (Status: 24 November 2017)

- 189 cadastral municipalities have been put in use;
- 38 cadastral municipalities are in the process of cadastral survey being carried out;
- 12 cadastral municipalities are in the process of geodetic reports being reviewed;
- 90 cadastral municipalities have been reviewed and are in the process of waiting for public display;
- 79 cadastral municipalities are in the process of public display being carried out.
- **The total area covered by the cadastral surveys aimed at creating the real property cadastre is 378.707 hectares.**

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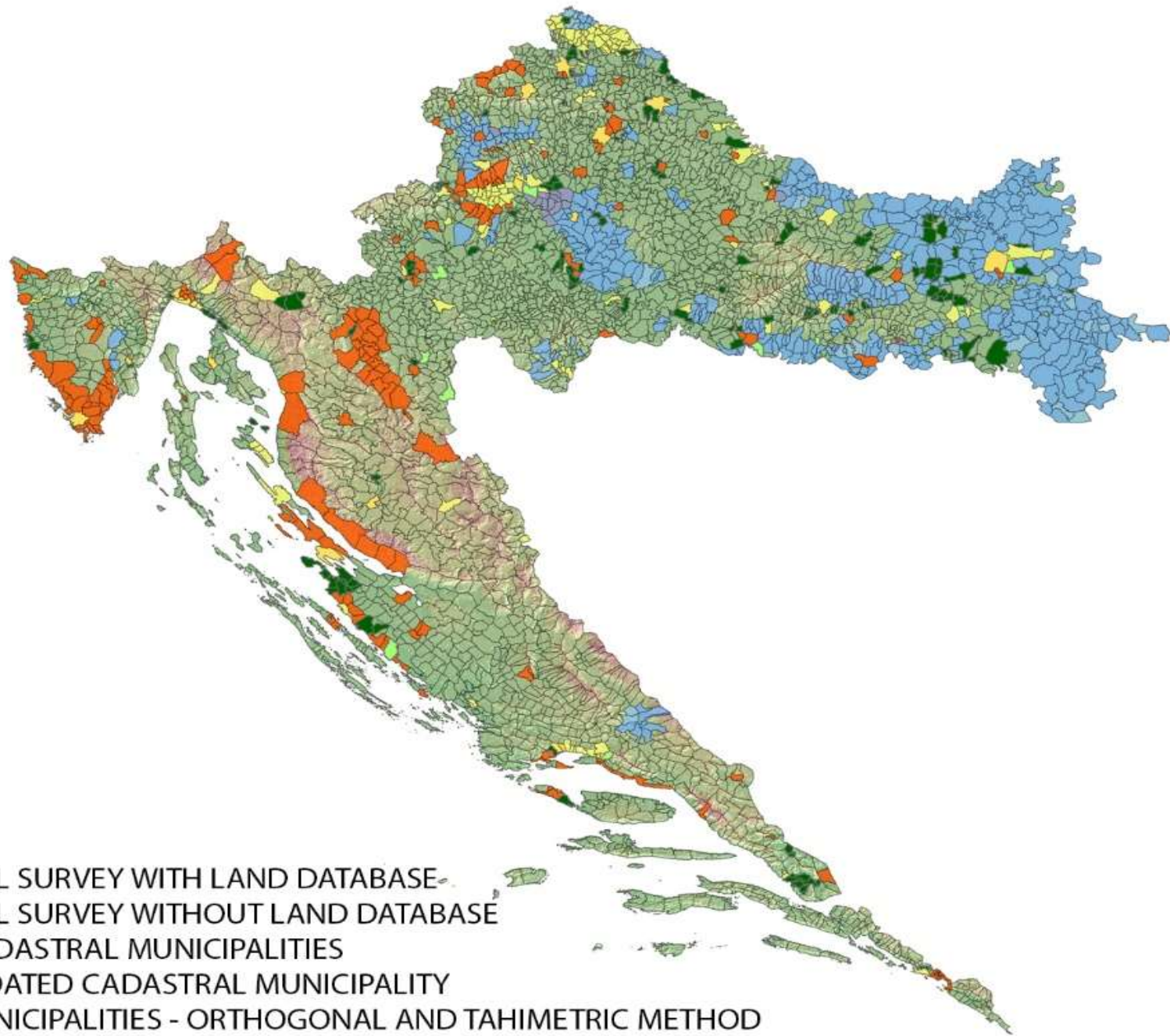


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






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Legend

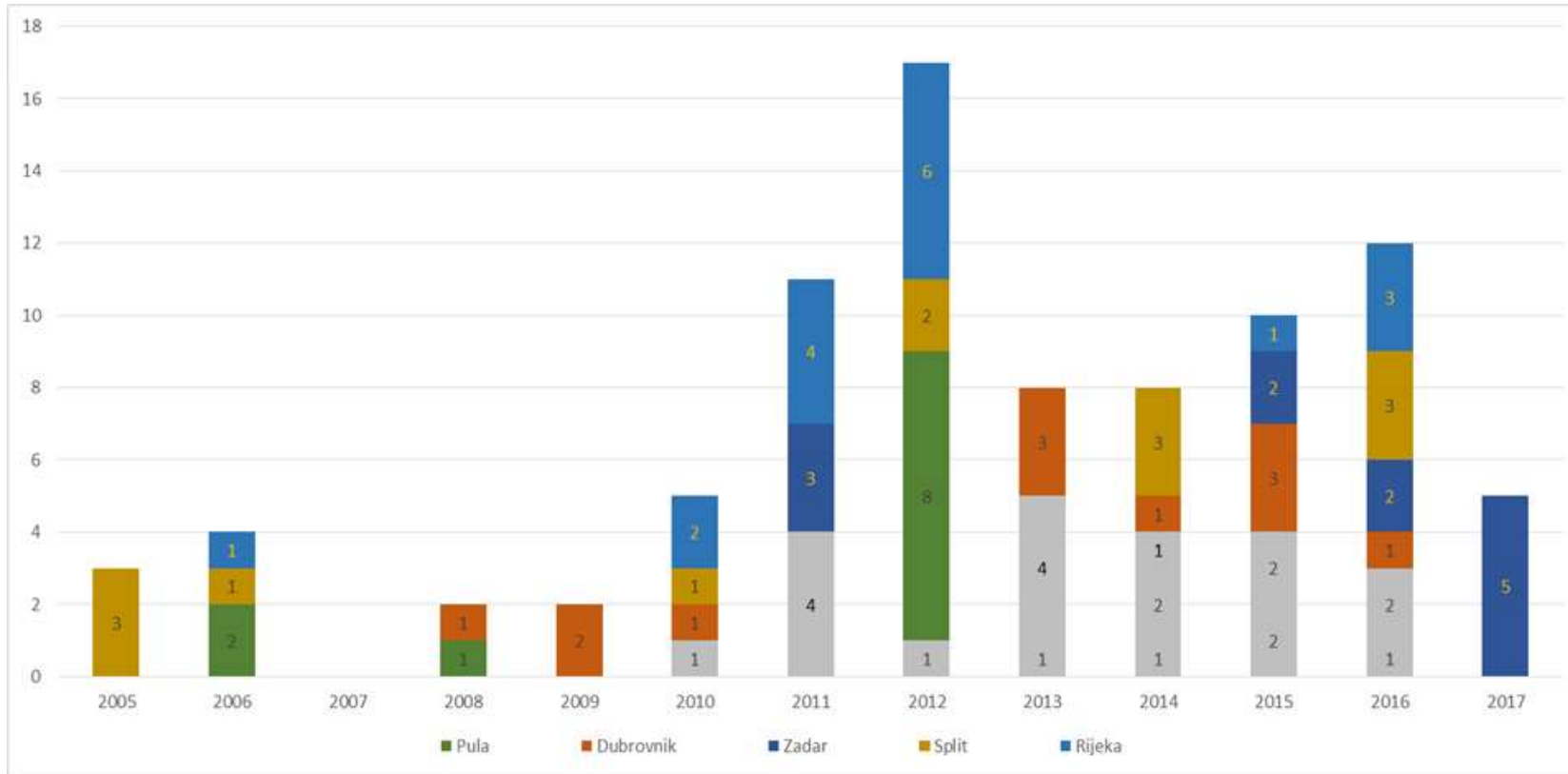
-  NEW CADASTRAL SURVEY WITH LAND DATABASE
-  NEW CADASTRAL SURVEY WITHOUT LAND DATABASE
-  BORDERS OF CADASTRAL MUNICIPALITIES
-  LAND CONSOLIDATED CADASTRAL MUNICIPALITY
-  CADASTRAL MUNICIPALITIES - ORTHOGONAL AND TAHIMETRIC METHOD
-  CADASTRAL MUNICIPALITIES - AEROPHOTOGRAMMETRY



PROBLEMS



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Number of cadastral municipalities which are waiting for public display

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Problem is long period of waiting to public display results of new cadastral survey to owners

CONCLUSION



- From the financial point of view, cadastral surveys are demanding projects.
- However, investing into new, geodetically accurate and legally safe cadastral and land registry records means making a pledge for the future of any surveyed area.
- The age of the existing records, mainly resulting from a lack of systematic maintenance for over two centuries, requires new, modern ones to be produced. Another important reason for the records being out-of-date is the 45 years of communism, when the land registration system was largely ignored, from both public institutions and the very owners, who failed to register changes on land for various reasons (complicated regulations on social ownership, high real property transaction taxes etc.).

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CONCLUSION

- One particularly pronounced problem is the 271 cadastral municipalities where new cadastral documentation based on surveys carried out after the Second World War, but prior to 2000, was put in official use without renewing the land registers
- As these 271 cadastral municipalities are located in bigger Croatian cities (Zagreb, Rijeka, Split, Dubrovnik etc.), allocating funds for carrying out new cadastral survey or their harmonisation with new municipal cadastral documentation should be a priority.
- Goal of the new cadastral surveys is to develop the real property cadastre and make a new land book.
- This cadastre contributes to legal security in real property transactions, simplifies property registration and renewal of land registry AND ALSO HAD A GOOD IMPACT IN VARIOUS ASPECTS OF HUMANS LIFE.

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THANK YOU FOR YOUR ATTENTION!

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Source: <https://www.zagreb360.hr/>

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Source: <https://www.radio-banovina.hr/zimska-idila-glini/>

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