



International Symposium & Exhibition on Geoinformation (ISG) Land Administration Domain Model (LADM) 2013 Workshop

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2. Information Infrastructure

Linking Land Registers and Other Official Registers in the Republic of Croatia based on LADM

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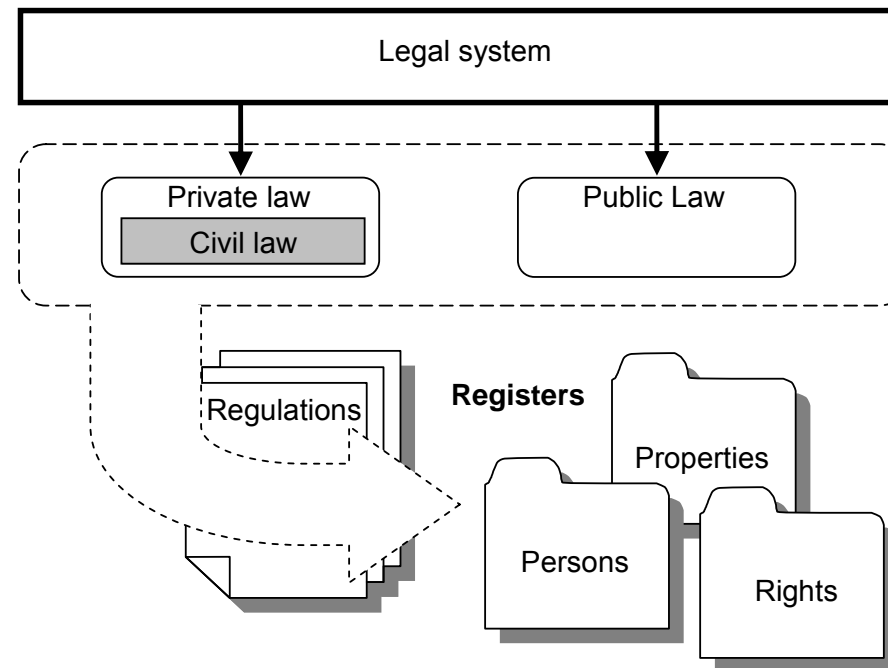
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INTRODUCTION

- Recent period in the Republic of Croatia → transition from analogue to electronic data processing:
 - simpler maintenance of data
 - increase of data quality, availability and transparency
 - enabled dissemination of information via network services
- Problem → analogue logic and the way of thinking:
 - redundant data
 - variety of unwanted consequences burdensome for the relevant public authorities, citizens, companies and other end-users of data

OFFICIAL REGISTERS IN REPUBLIC OF CROATIA

- Croatian legal system → built on Roman law



KEY REGISTERS

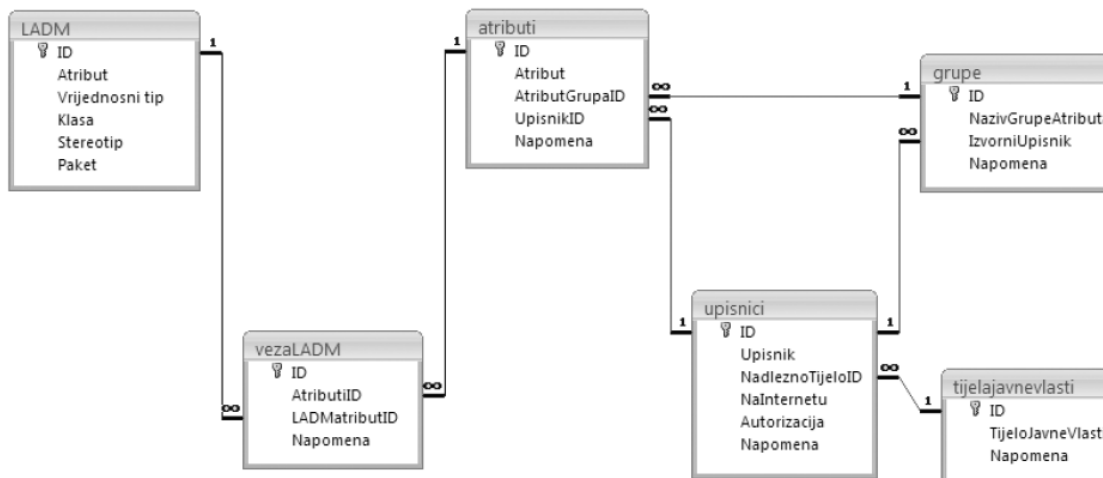
- Key registers → primarily those that contain information about people and space and their relationship
- Basic requirements
 - original data
 - regulated by law
 - content well defined
 - data quality assured
 - obligation to use the data of the key registers
 - procedures and standards for data sharing
- Croatian official registers don't meet basic requirements for key registers to the full extent
 - LADM
 - better linkage of registers
 - elimination of data redundancy

ANALYSIS OF REGISTERS

- Analysis of the possibilities to improve the existing model of linking the registers was extensive and required a suitable methodology
- Objectives
 - determining the condition of the registered data
 - identification of existing deficiencies in registers
 - recognizing features which are the subject of registers
 - recognizing the relationship between features in different registers
 - identifying common attributes of official registers and LADM

METHODOLOGY

- Create a database model to store data models from LADM and from the registers to be analyzed
- Create a “linking” table
- Enter both models
- Create links
- Perform various analyses using standard SQL queries





ANALYSED REGISTERS

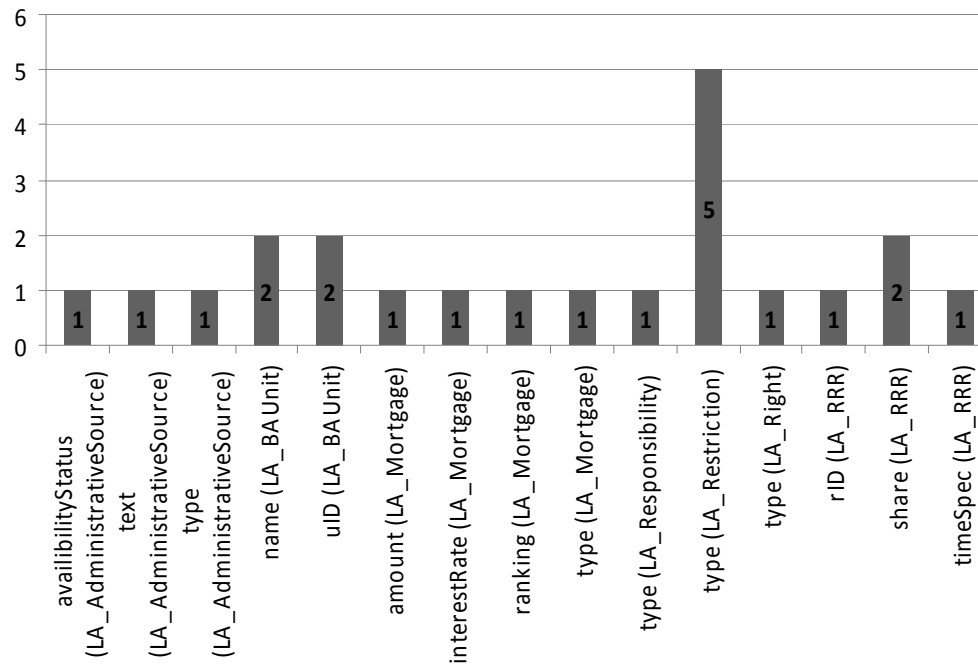
- Research included the analysis of a group of key registers

Register	Public authority
Register of natural persons	Ministry of public administration
Registers of non-natural persons	Judicial authority
Register of personal identification numbers	Tax administration
Land registry	Judicial authority
Cadastre	State Geodetic Administration
Register of spatial units	State Geodetic Administration
Utility cadastre	State Geodetic Administration



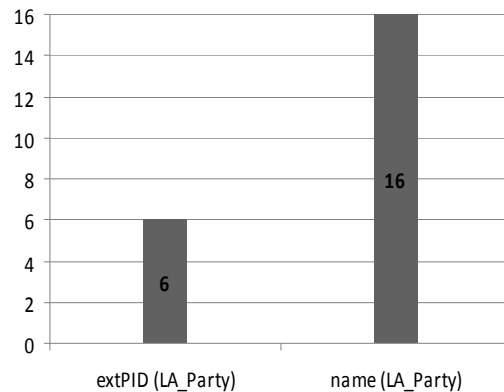
COMPLIANCE ANALYSIS

- Based on a comparison with the LADM classes
- Administrative package: 8 classes (20 attributes)

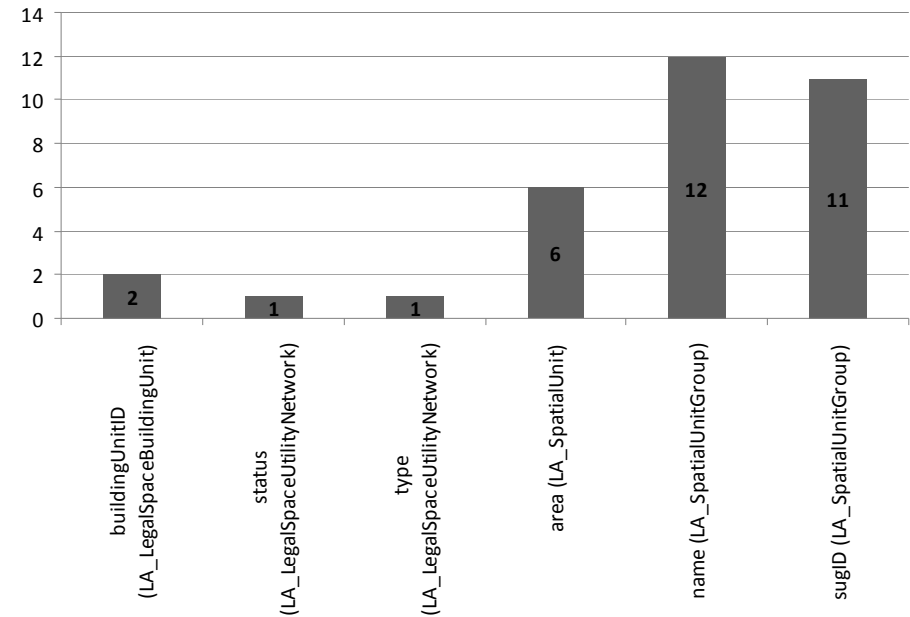


COMPLIANCE ANALYSIS

- Party Package:
3 classes (8 attributes)

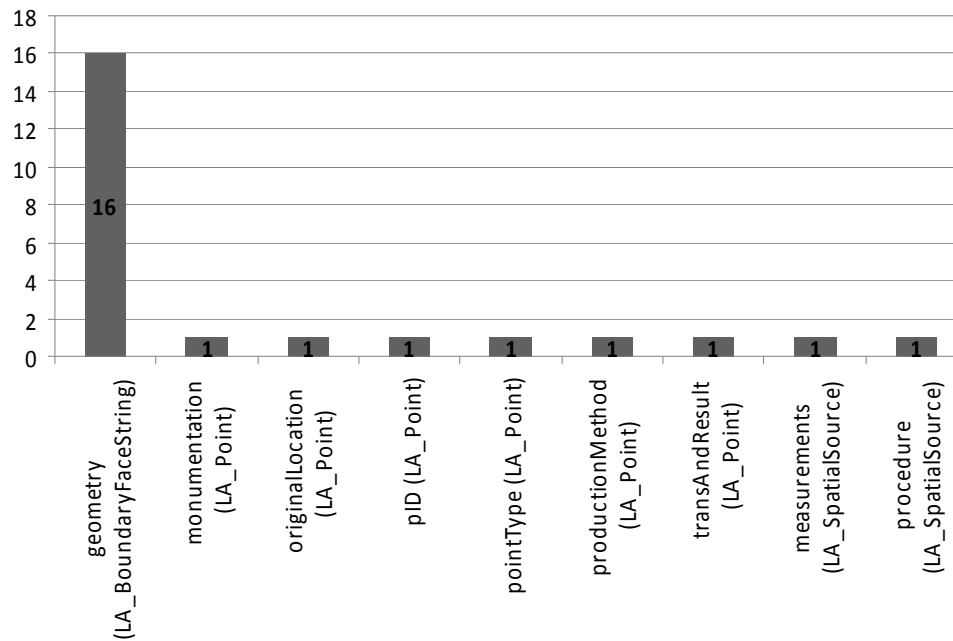


- Spatial Unit package:
6 classes (24 attributes)



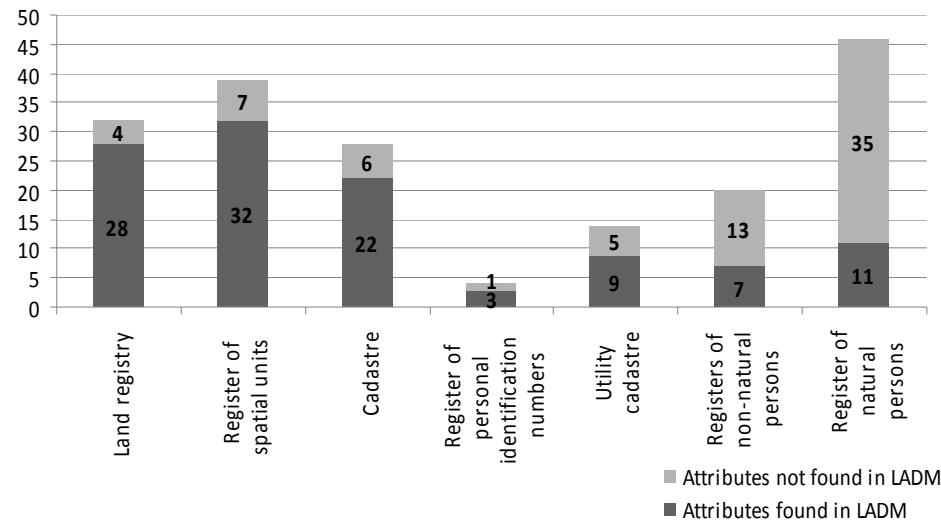
COMPLIANCE ANALYSIS

- Surveying and Representation package: 4 classes (17 attributes)



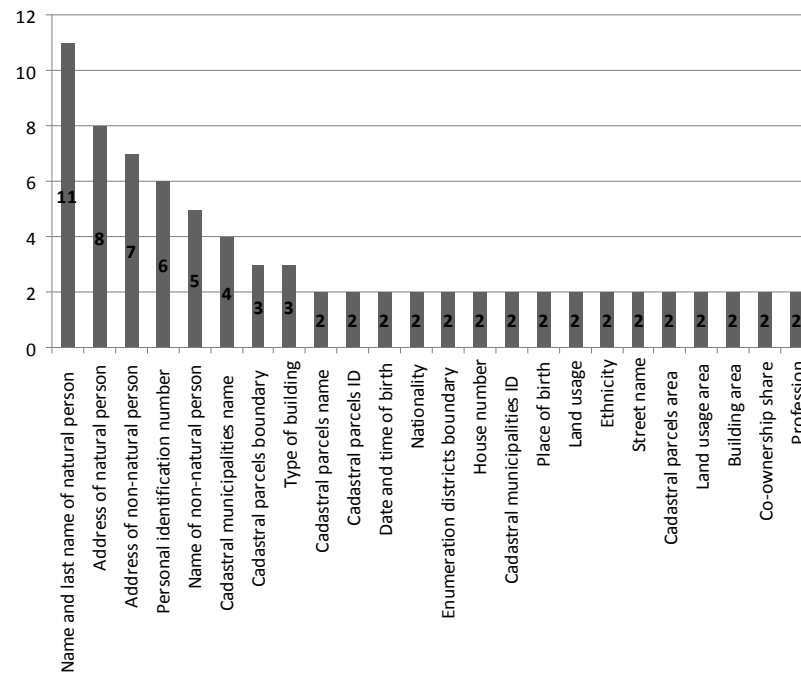
THE LEVEL OF COMPLIANCE

- For each analysed official register it is shown the ratio of attributes identified with attributes of LADM and attributes which are not found in LADM



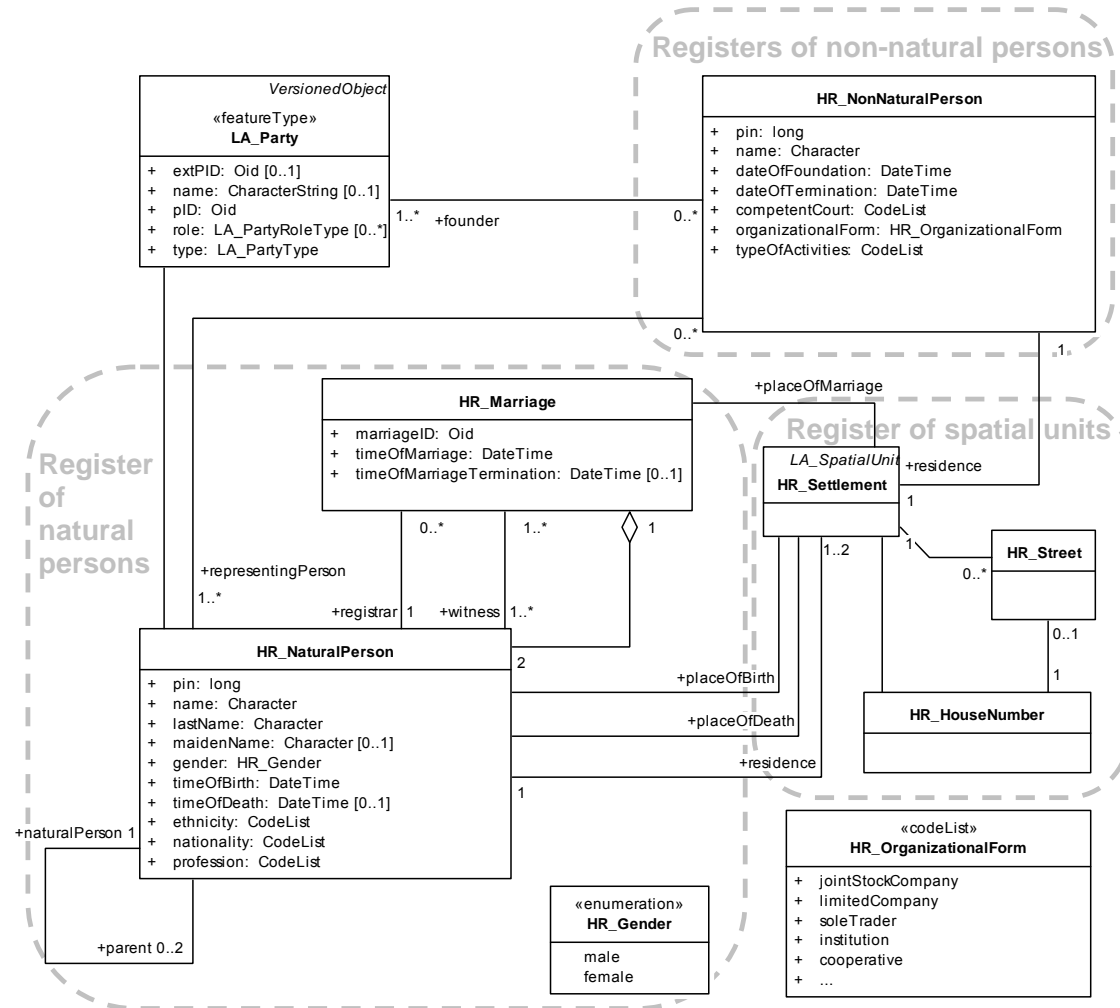
THE LEVEL OF DATA REDUNDANCY

- Analysis has confirmed a significant amount of data redundancy in the official registers which is direct consequence of using analogue technologies for data maintenance up until recently



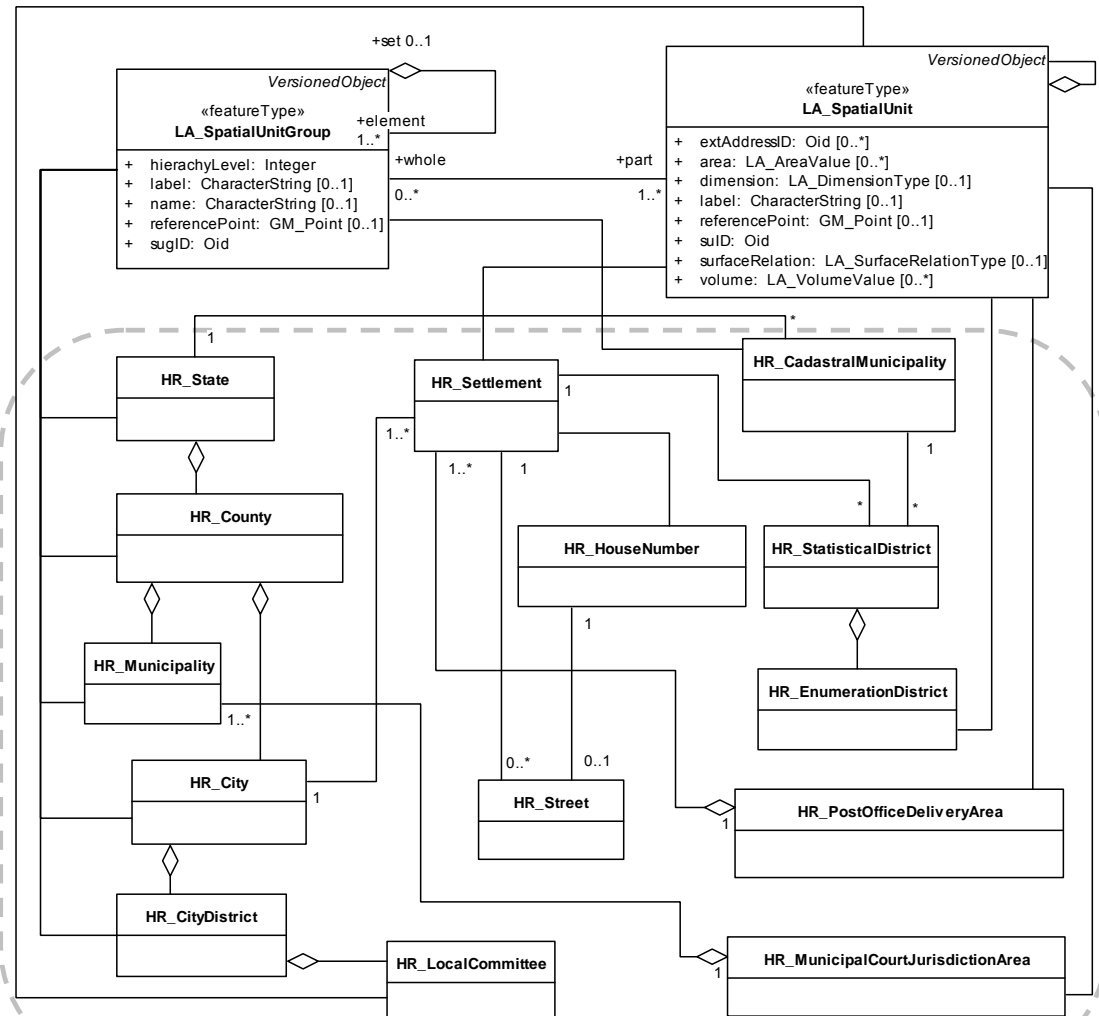
MODEL OF LINKING THE ANALYSED REGISTERS

- Natural and non-natural persons



MODEL OF LINKING THE ANALYSED REGISTERS

- Spatial units in Republic of Croatia

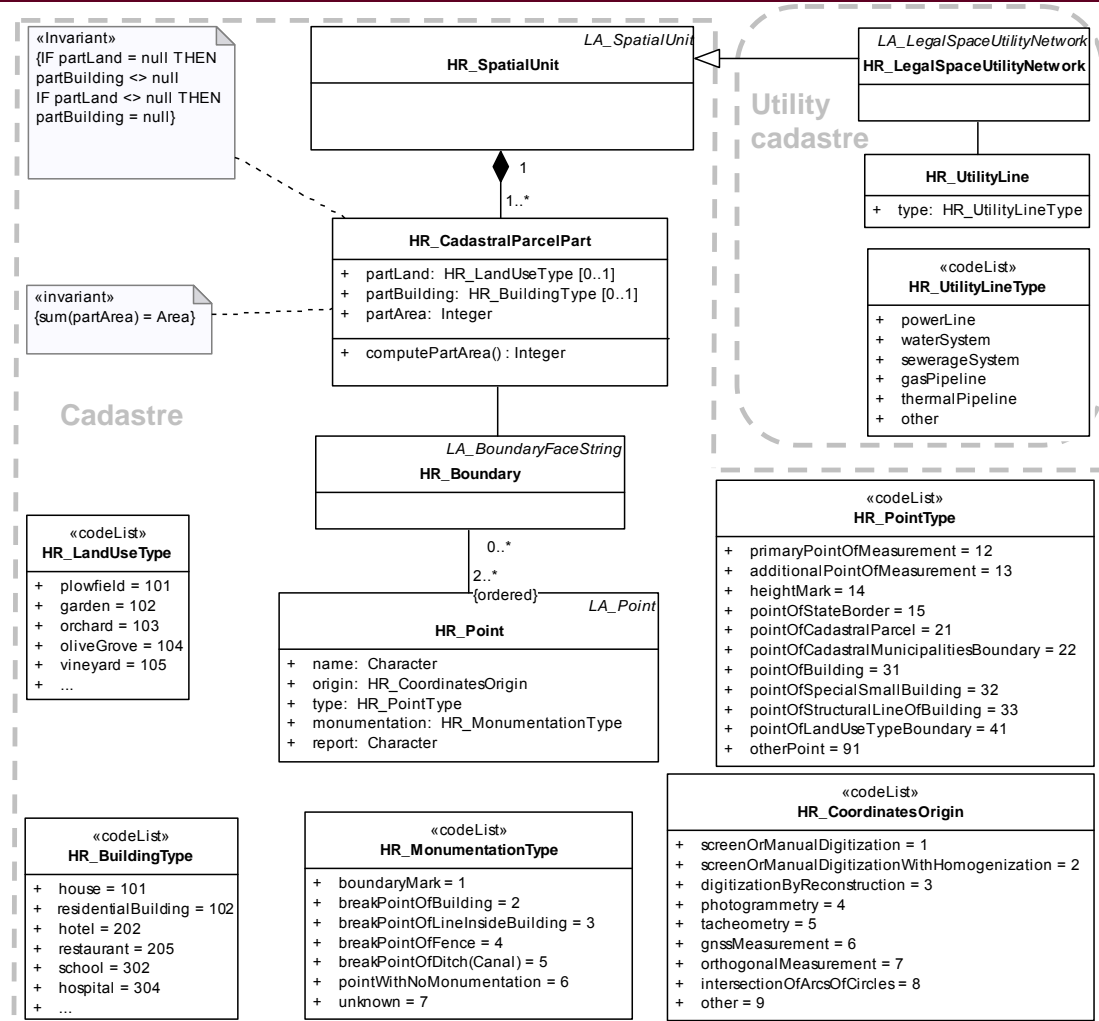


Register of spatial units



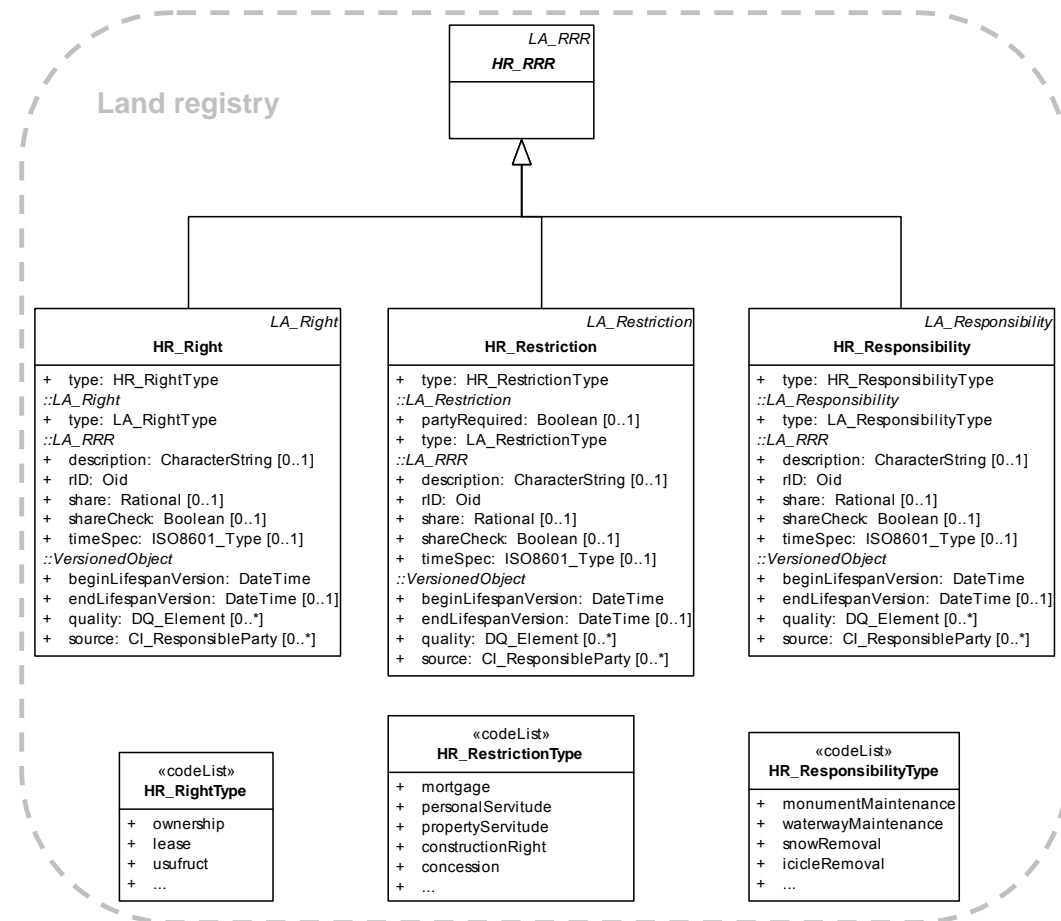
MODEL OF LINKING THE ANALYSED REGISTERS

■ Cadastral parcels and utilities



MODEL OF LINKING THE ANALYSED REGISTERS

- Interests over the real properties



CONCLUSION

- Goal → provide conditions for the remodelling of the existing system of registers in order to achieve their better linkage and adjustment to the electronic data processing
- Analysis confirmed a high level of data redundancy even when official registers are under the jurisdiction of the same authority → raises the question of efficiency of administrating the registers by various authorities
- Conducted research is a prerequisite for the improvement of the national system of registers → in its further development it should follow the example of LADM
- Developed model of linking the official registers could also serve as a contribution in development of the LADM country profile for the Republic of Croatia



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Thank you for your attention!

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