Hungarian Cadastre and its relation to LADM

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Historical background

- Hungarian Cadastre and Land Registry founded in Austro-Hungary at the mid and the end of XIX. Century
- Since the end of XIX. Century all lands were surveyed and registered in Hungarian Kingdom (including Slovakia, Transsylvania, Croatia, Northern part of Serbia and Zakarpattia)
- Condominium registration started in the 1920's
- Change management of Cadastre and Land Registry were continuous during the communist period of the Country (versus other former socialist countries)
- Land Registry and Cadastral Mapping were unified in 1972
- Since 1972 a Unified, Title Land Registry has been operating in Hungary

Evolution of Cadastral modeling in Hungary I.

- Digitization of Unified Land Registry started at the beginning of the 90's:
  - Act on Land Compensation (software development for digitizing Cadastral Maps)
  - Uploading Land Record Data into an RDBMS
- Digital Base Map Standard (MSZ 7772-1) accepted by the Hungarian Standardization Body in 1996
- National Cadastral Programme (NCP) started in 1997, for uploading all Cadastral Map Data into an RDBMS based on the Standard
- All Cadastral Map Data has been available in RDBMS format since the beginning of 2008

IT developments in Unified Land Registry

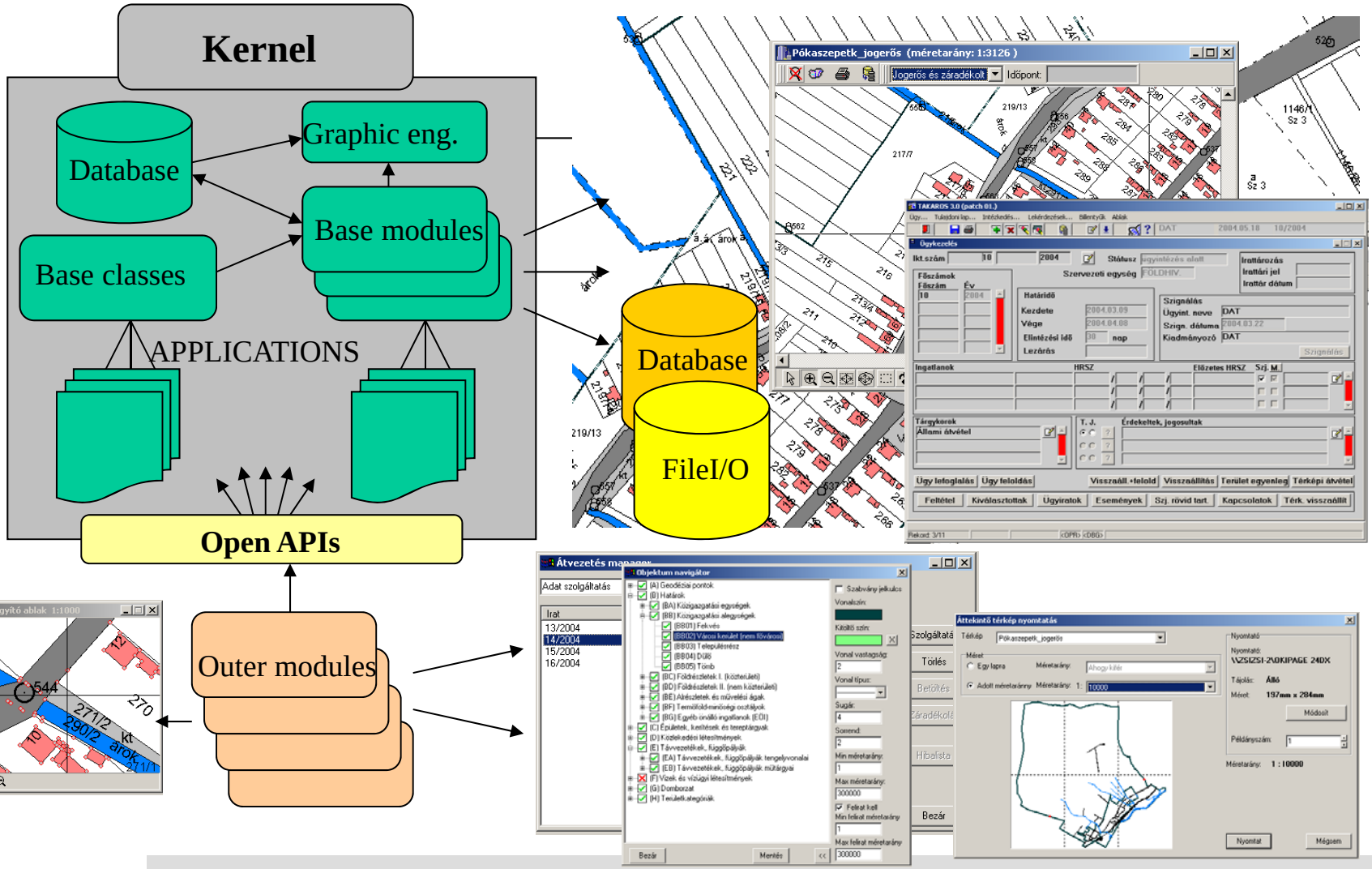
- In 1996 all Land Record data were uploaded into an RDBMS
- Development of a new IT system (TAKAROS) has started for management of Land Record data, which came into operation in 2000
- Development of the network of Land Administration started in 1999 (TAKARNET), which was completed in 2003
- Since 2003 Land Registry data services are available for citizens
- First publication of the integrated IT system for Unified Land Registry (DATR), based on MSZ 7772-1 Standard, was in 2003 (Debrecen, Hungary)
- Integrated IT system (DATR) has been operating in Hungarian Land Administration since 2009

All these IT developments carried out by FÖMI both informatic and professional side

Model of the Hungarian Unified Land Registry (DATR)

- **Basis: MSZ 7772-1 Standard (Digital Base Map – Conceptual Model) in Cadastral Domain since 1996 and DAT Regulation since 1997**
- **Visions:**
  - **Map all the principles of Unified Land Registry**
  - **Compatible with the Standardized Domain**
  - **Authentic updating of legal and geometry part of Unified Land Registry**
  - **Independency from any commercial GIS solutions**
  - **Full integration of the legal and geometric part of the Registry**

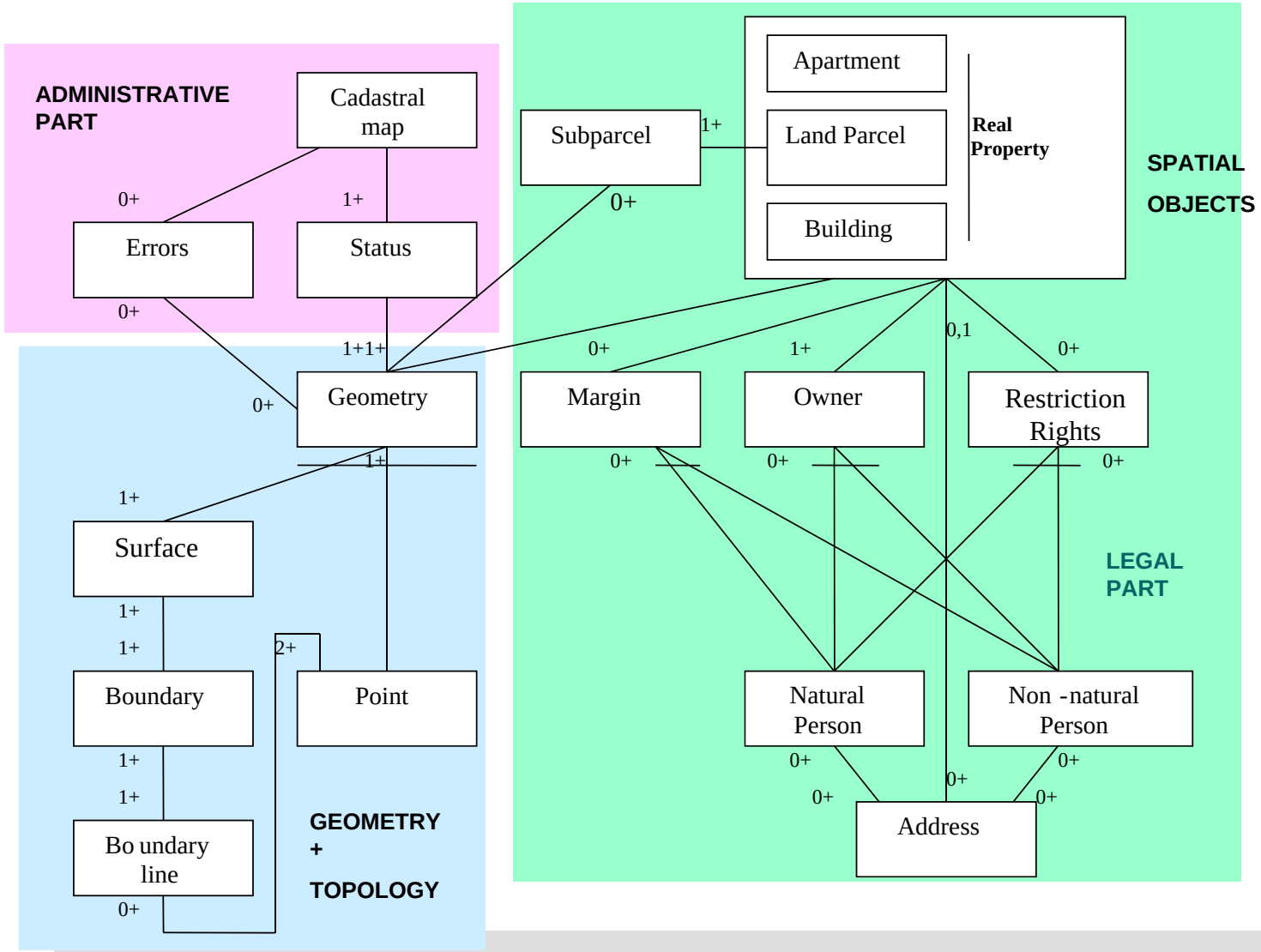
DATR Architecture



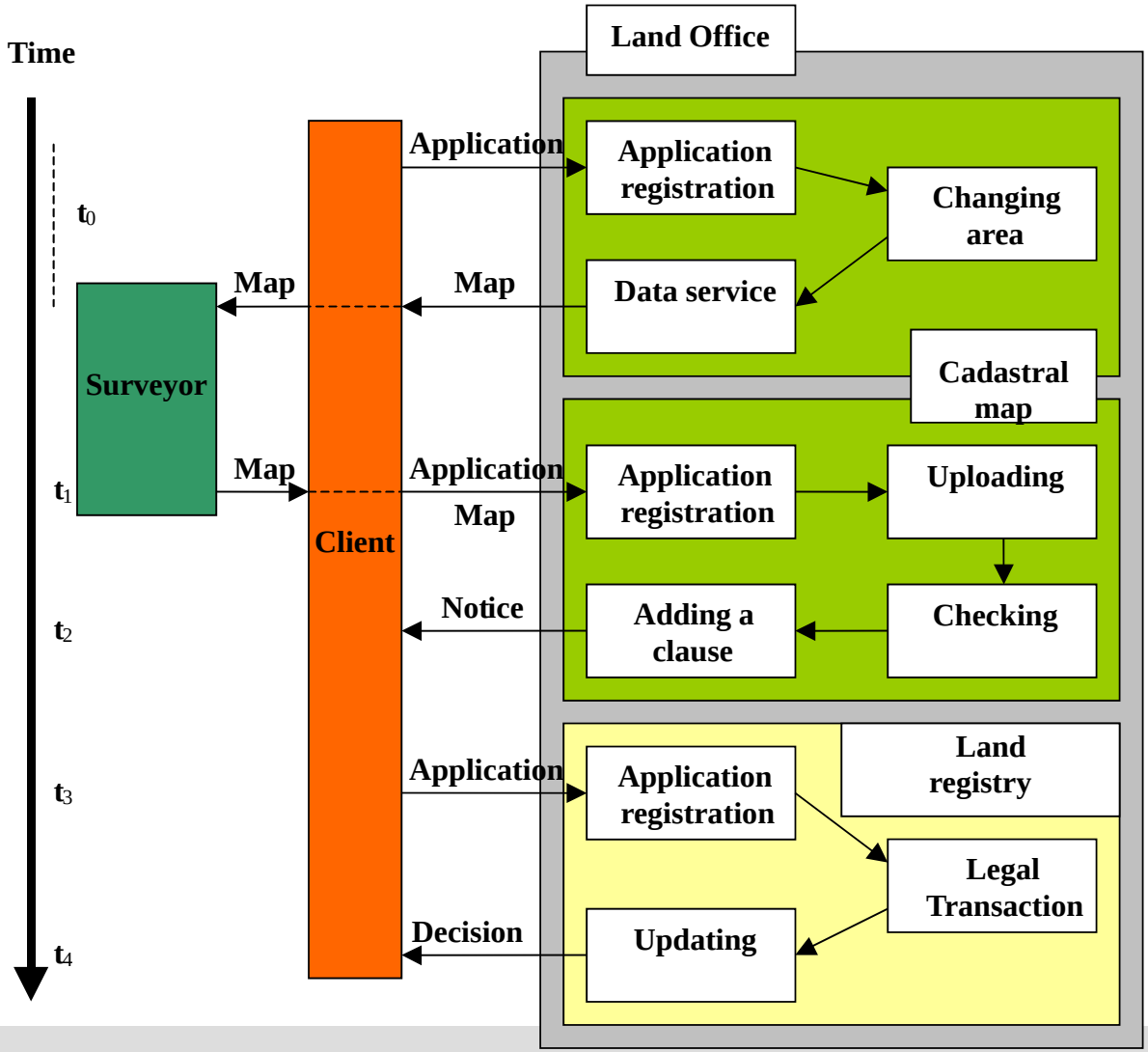
DATR, Characteristics

- **Providing authenticity**
  - **No map editor capacity**
  - **Map updating only via database transactions (in standardized environment)**
- **Uniform database structure**
  - **Enforcing database integrity**
- **Real-time queries via Internet**
  - **Integrated search with Land registry part**
  - **Real-time map generating**
  - **Minimizing network weighting**
- **Modular self-calibrating architecture**
  - **All functions are in modules**
  - **No client-side configuration is needed to insert any new module**
- **Easy customizable**
  - **Uniform calling interface and protocol**
  - **Opened module API**

DATR, Core Data Model



Administrative workflow in DATR



ISO 19152 Standard (LADM)

- Source of all information about LADM is:

PhD Thesis of

Mr. Christiaan Herman Jacobus LEMMEN

Title:

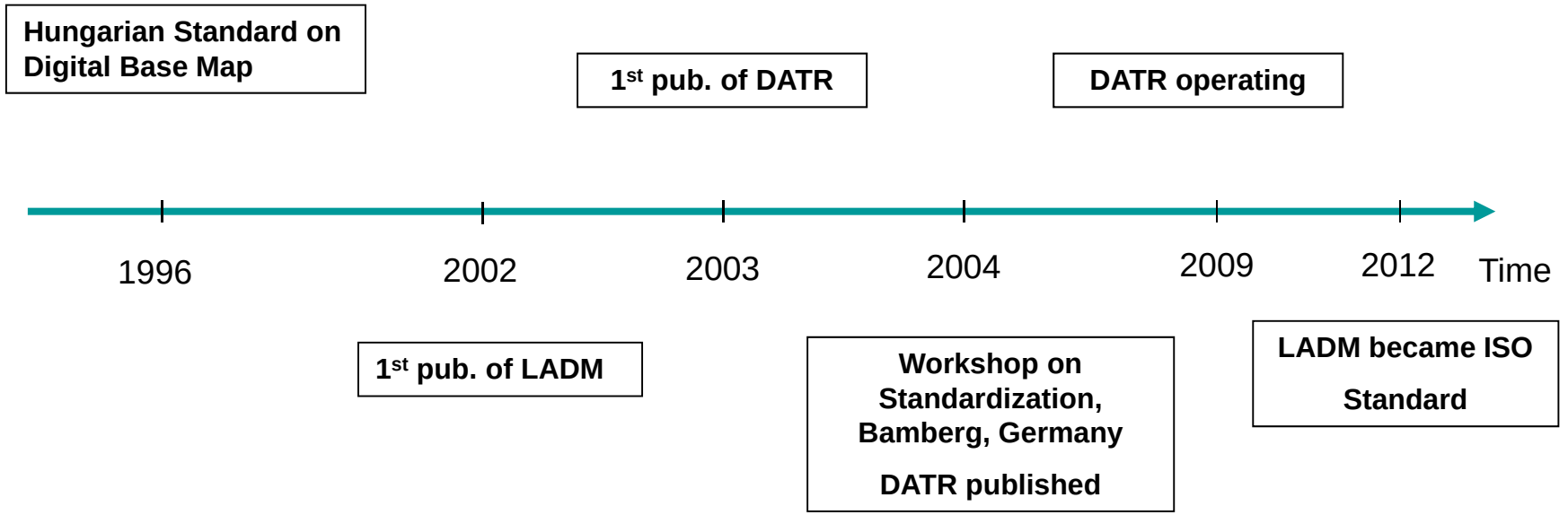
A Domain Model for Land Administration

2012

Historical aspects of LADM

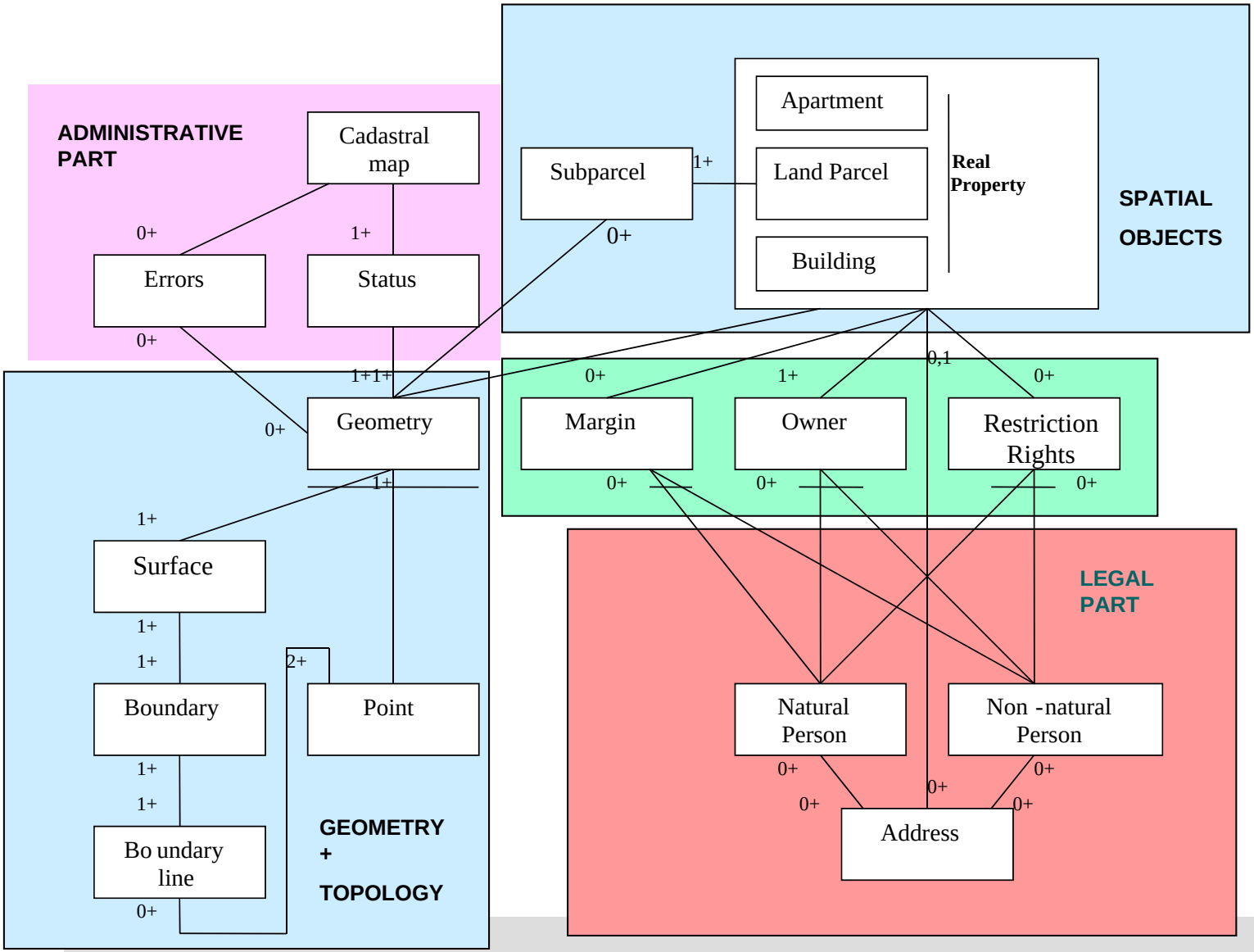
- First publication in April 2002 at FIG Congress Washinghton DC
- „Core Cadastral Domain Model” (CCDM) was published in 2003 (Brno, Czech Republic) as „Version A” of LADM
- CCDM Version 1 published at FIG Congress Munich, Germany, 2006 as „Version B” of LADM
- At the beggining of 2008 FIG proposed to develop an ISO Standard for Land Administration
- In November 2012, ISO approved LADM as an International Standard

Hungary



LADM

ISO LADM & DATR



ISO LADM & DATR

- Spatial Units: DATR supports 3D, but only 2D capacity is used till now
- SpatialUnitSet: DATR supports, based on the original surveying methods (built-up, rural and garden areas)
- Surveying package: SurveyPoint used
- Geometry and Topology Package: DATR modeled the same way
- Party package: similar in DATR
- Administrative Package: modeled
- Documentation: is not modeled yet

ISO LADM & DATR

Core model of DATR acts as a Country profile in LADM

BUT

Development of DATR has been fully independent from LADM

Conclusion

- Hungarian Unified Land Registry is operating in a standardized environment, which is a complete domestic development
- LADM is an important standard, which can be a good interface, base of a common thinking about Land Administration
- Results of DATR development showed (and its conformity with LADM), that the Hungarian Land Administration, independently from other solutions, are walking on the right way in Cadastral Modeling

Thank you for your kind attention

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