Cadastre for Public Law Restrictions and Utilities

22 November 2022

Marc Nicodet
Head of Geodesy and Federal Directorate of Cadastral Surveying
Agenda

• Cadastre of Public Law Restrictions on Landownership (PLR Cadastre)

• Cadastre of Utilities

• Project “Official Building of Switzerland”

• Project “Transport Network Switzerland”
Federal Structure – 26 Cantons and some 2200 Municipalities

Cantons maintain political and administrative bodies on their own and they are further divided into municipalities.
Organizations involved in Land Administration

Federal Level
- 7 Federal Departments:
  - Foreign Affairs
  - Home Affairs
  - Justice and Police
  - Defence, Civil Protection and Sports
  - Finance
  - Economic Affairs, Education and Research
  - Environment, Transport, Energy and Communication

- Federal Office of Justice
  - Office for Land Registry and Real Estate Law
- Federal Office of Topography swisstopo
  - Federal Directorate for Cadastral Surveying
- Federal Tax Administration
- Federal Office for Agriculture
- Federal Office for the Environment
  - Federal Office for Spatial Development

Cantonal Level
- 26 Cantonal Governments
- 26 Cantonal Administrations

Municipal Level
- 2200 Municipal Authorities
Independent Information Layers

- stakeholders can look after their own data sets, they only have to respect the defined basic principles
- fear of stakeholders (losing control over their data) can be overcome

- work flow and data flow can be clearly defined and managed for each stakeholder independent from the others
## PLR Cadastre: 17 Public Law Restrictions

<table>
<thead>
<tr>
<th>PL-Restriction</th>
<th>Institution, stakeholder</th>
<th>Textual information</th>
<th>Spatial data, geoinformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantonal and municipal use planning</td>
<td>Land-use planning Dept.</td>
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<tr>
<td>Project zones Construction lines</td>
<td>National Highway Dept.</td>
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<tr>
<td>Project zones Construction lines</td>
<td>Railways</td>
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<td>Project zones Construction lines</td>
<td>Airport authority</td>
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<td>Hazardous waste</td>
<td>Environmental Dept.</td>
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<td>Ground water protection zones</td>
<td>Water Management</td>
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<tr>
<td>Noise levels</td>
<td>Environmental Dept.</td>
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<tr>
<td>Forest delimitation (in constr. zones)</td>
<td>Forest Dept.</td>
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<tr>
<td>Land registry, cadastre</td>
<td>National government</td>
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<td></td>
<td>State government</td>
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<td>Local government</td>
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</tbody>
</table>
Objectives of the PLR Cadastre

The PLR Cadastre greatly simplifies the search for information about public law restrictions on landownership. In a single information system it provides details regarding the most important restrictions relating to a specific plot of land.
Example of an Extract from the PLR Cadastre
Availability (Land-Use Planning)
Statistics 2014 – 2021: Extracts

Federal Office of Topography swisstopo
Marc Nicodet
Joint PCC and EuroGeographics CLRKEN Conference Prague
22 November 2022

[Bar chart showing data from 2014 to 2021, with columns for Kantone online / cantons en-ligne and Anzahl / Nombre.]
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• Cadastre of Utilities

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• Project “Transport Network Switzerland”
Goals: Information and Planning of Utilities

- Reduce the risks of damage to infrastructures during interventions and construction work underground

- Support the digitalisation of planning, project development, construction and other spatial processes and projects in line with the Swiss eGovernment Strategy

- Contribute to the secure supply of society with energy, water and communication as well as waste disposal
Example for Utility Grid: Electricity
Rough Perimeter of the Supply Areas

Owner of Utility:
- Swisscom
- BKW
- ARA
- WV
- RBS
Cadastre of Utilities: Content and Agenda

2022-2023 Draft Amendment to the Law (Federal Act on Geoinformation)
2024 Parliamentary Deliberation
2025 Ordinance and Directives
2026 Earliest possible start of Implementation
Agenda

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Objective

Synchronise and harmonise the following three "products" so that real estate companies and public administrations can integrate binding information about a building into their future digital processes (e.g. BIM):

• Federal Register of Buildings and Housing (Text, Point)
• Cadastral Surveying (2D)
• swissBUILDINGS3D (3D)
International Standards

- **LandInfra**
  - Focus Surveying and Documentation
  - Australia: e-Paper

- **CityGML**
  - Focus Visualisation
  - OGC Standard

- **IFC**
  - Focus Building
  - ISO 16739, buildingSmart Standard

- **LADM**
  - Focus Ownership (Rights, Restrictions and Responsibilities - RRR)
  - ISO 19152 Standard
«If you can’t break the silos, connect them»
Study: 1st Data Model Draft

- Topic «Roof»
- Topic «Plate»
- Topic «Facade»
- Topic «Construction» and «Transport carrier»

Source: SIA Documentation D 0270
Roadmap Project

- Definition “Building”
- Interdisciplinary Data Model
- Model Documentation
- Product Requirements
- National Services
- Implementation Concept
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Objective

Switzerland is striving for more efficient overall mobility by means of optimal networking of mobility data

Creation of a data infrastructure for referencing, exchanging and combining transport and mobility data
Overall View of Multimodal Mobility

User

Services

Infrastructure for Data Exchange and Services

Operating and Sales Data

Specialist Networks and Data

Base Network
The Spatial Component

- A lot of data is already available, but in different places, each for specific applications
- Networking this data is often not possible or only possible with great difficulty

Creation of a common system for spatial referencing of mobility data
Thank you for your attention!

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