

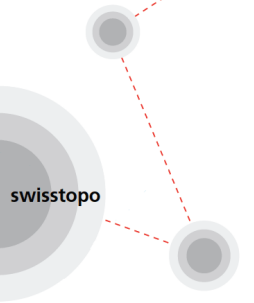


Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Office of Topography swisstopo

Cadastral for Public Law Restrictions and Utilities

wissen wohin
savoir où
sapere dove
knowing where



22 November 2022

Marc Nicodet

Head of Geodesy and Federal Directorate of Cadastral Surveying



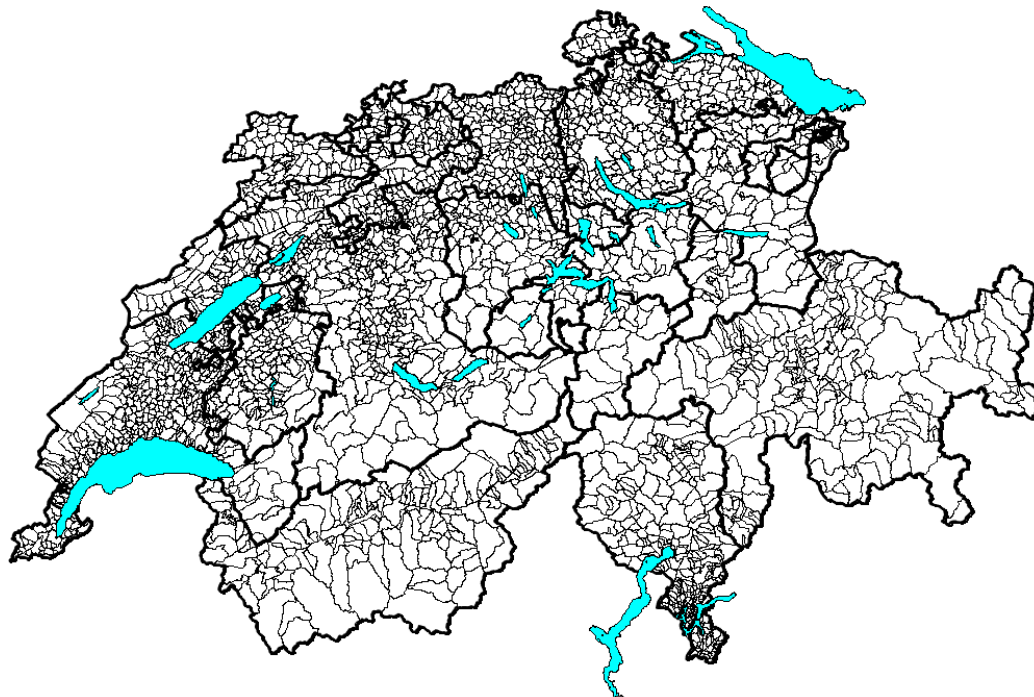
Agenda

- Cadastre of Public Law Restrictions on Landownership (PLR Cadastre)
- Cadastre of Utilities
- Project “Official Building of Switzerland”
- Project “Transport Network Switzerland”



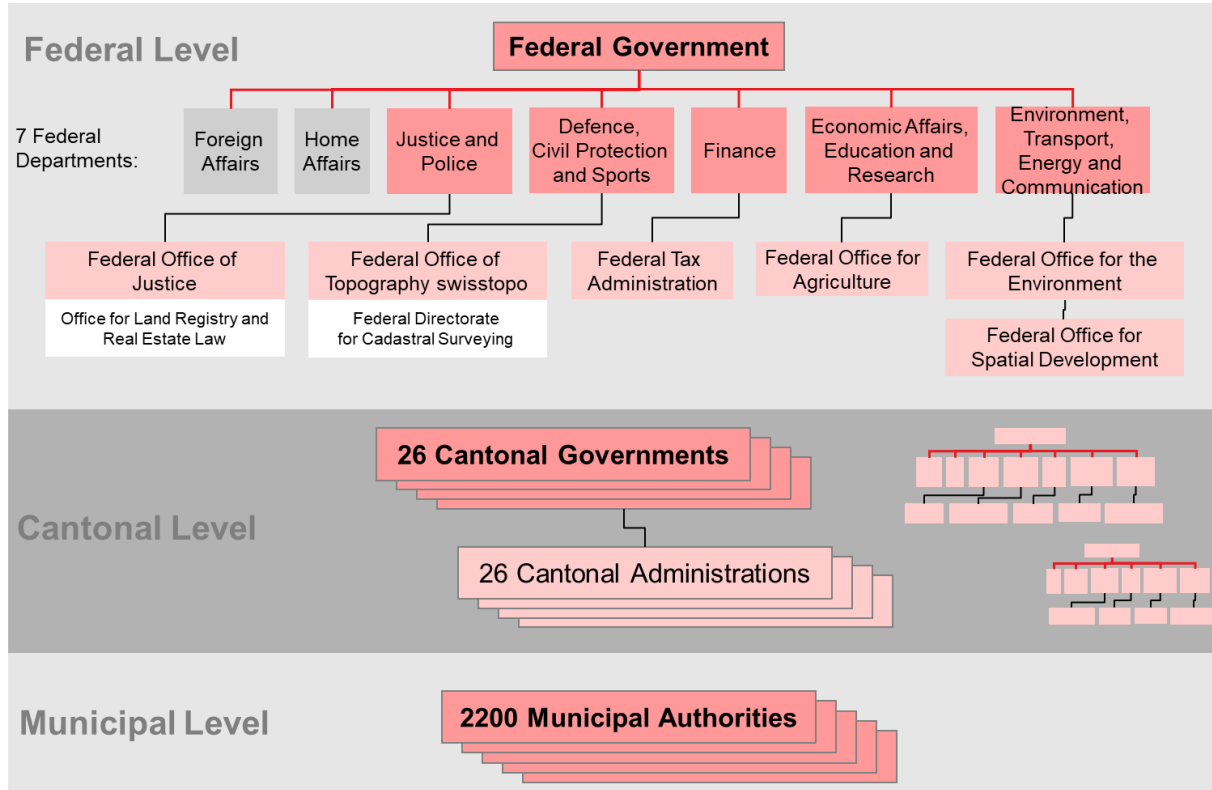
Federal Structure – 26 Cantons and some 2200 Municipalities

Cantons maintain **political** and **administrative** bodies on their own and they are further divided into **municipalities**





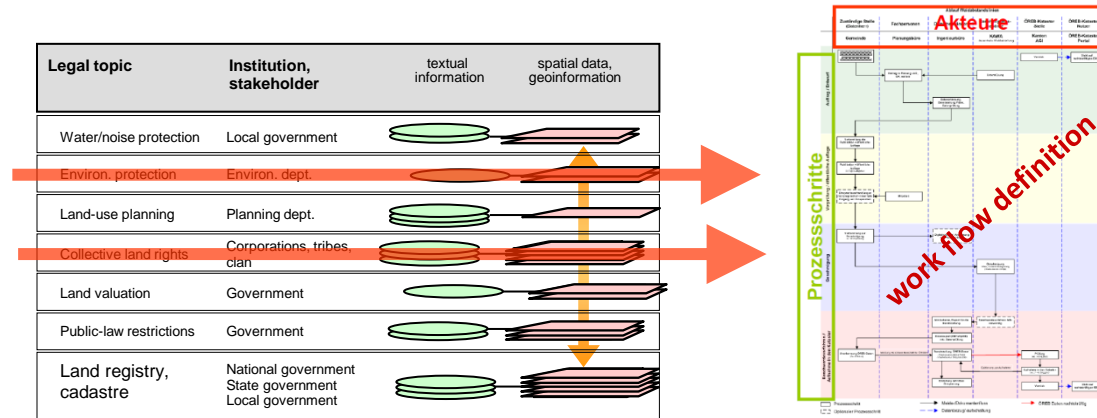
Organizations involved in Land Administration





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






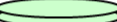



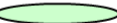

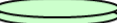





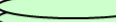



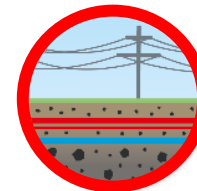
- work flow and data flow can be clearly defined and managed for each stakeholder independent from the others



PLR Cadastre: 17 Public Law Restrictions



PL-Restriction 	Institution, stakeholder	textual information	spatial data, geoinformation
Cantonal and municipal use planning	Land-use planning Dept.		
Project zones Construction lines	National Highway Dept.		
Project zones Construction lines	Railways		
Project zones Construction lines Aerial obstacles	Airport authority		
Hazardous waste	Environmental Dept.		
Ground water protection zones Ground water protection perimeters	Water Management		
Noise levels	Environmental Dept.		
Forest delimitation (in constr. zones) Forest distance lines	Forest Dept.		
Land registry, cadastre	National government State government Local government		

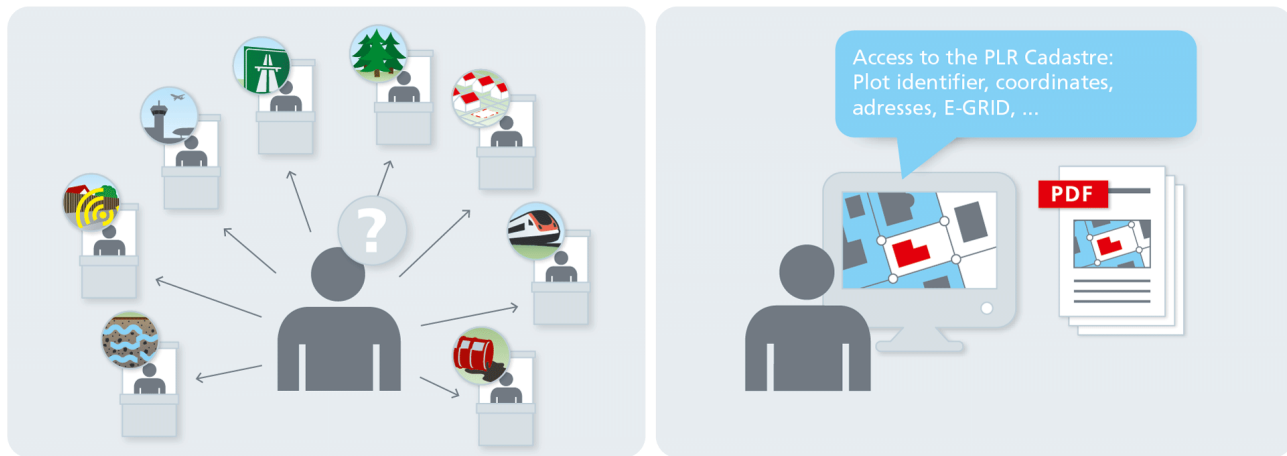




Objectives of the PLR Cadastre

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

Auszug aus dem Kataster der öffentlich-rechtlichen Eigentumsbeschränkungen (OREB-Kataster) mit reduzierter Information

Grundstück Nr. 100
 E-GIS-ID: 09440220030
 Gemeindef. EPS-Nr.: 40104 (LMO)
 Grundbesitzer: Schmid
 Fläche: 1000 m²

Ausgangspunkt
 14.08.2022
 Katastrverantwortliche Stelle: BÄSt Solothurn

Übersicht OREB-Themen

Eigentumsbeschränkungen, welche das Grundstück 100 in Alpha, 1000m² betreffen

Industriezone
 Lärmschutzzonen (in Nutzungszonen)

Eigentumsbeschränkungen, welche das Grundstück nicht betreffen

Umgebungskantonal (Distrikt)
 Umgebungskantonal (Muster) und Nationalstrasse
 Befreiungsgrenzen Nationalstrassen
 Zonen Nationalstrassen
 Befreiungsgrenzen Nationalstrassen
 Zonen Flughafenstrassen
 Befreiungsgrenzen Flughafenstrassen
 Zonen Flughafenstrassen
 Befreiungsgrenzen
 Zonen der besetzten Störsteine im Bereich des Flusses
 Zonen der besetzten Störsteine im Bereich der zentralen Flusslinie
 Zonen der besetzten Störsteine im Bereich des öffentlichen Verkehrs
 Besondere Schutzzone
 Fläche Schutzzone
 Baulandzonen

Alle Eigentumsbeschränkungen, so weit sie keine Daten vorhanden sind

weitere Informationen und Hinweise
 Zuständige Stelle: Gemeindeverwaltung Solothurn

Übersicht kommunal

Legende

Objekt	Fläche	Anteil
Wohnzone 2 (Gehsteig)	767 m ²	74,4%
Öffentlichkeitszone	332 m ²	34,0%
Kategorie	251 m ²	25,4%

mpfindlichkeitsstufen (in Nutzungszonen)

Legende

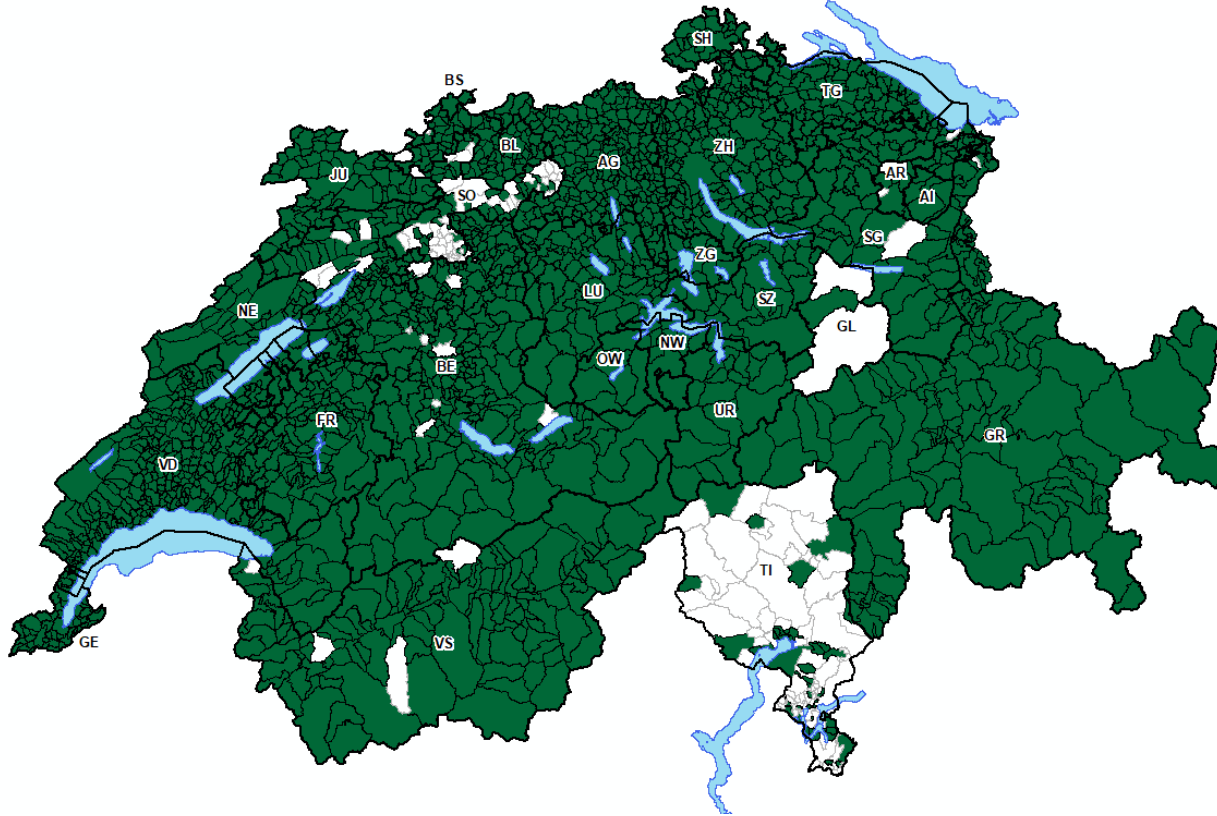
Objekt	Fläche	Anteil
Empfindlichkeitsstufe II	767 m ²	74,4%
Empfindlichkeitsstufe III	261 m ²	25,4%

weitere Informationen und Hinweise
 Zuständige Stelle: Gemeindeverwaltung Solothurn

weitere Informationen und Hinweise
 Zuständige Stelle: Gemeindeverwaltung Solothurn

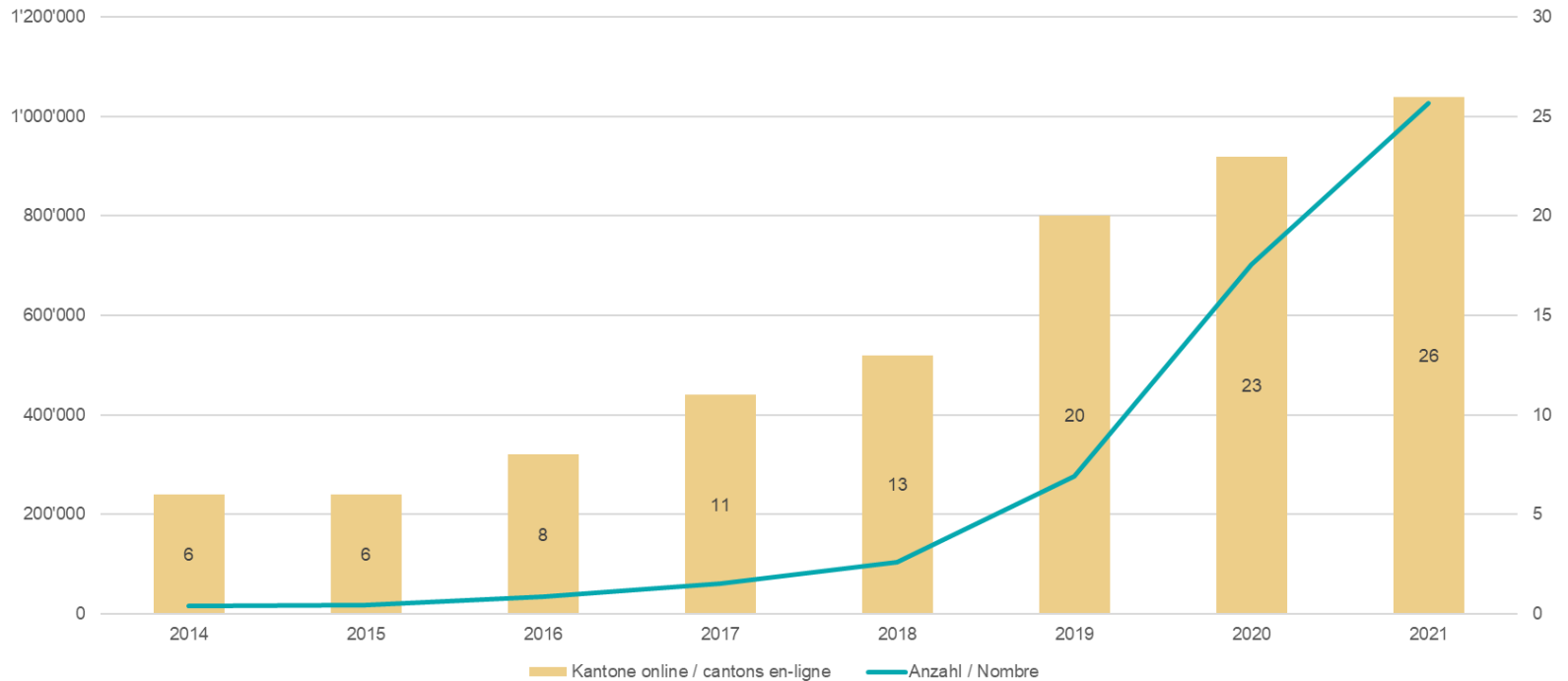


Availability (Land-Use Planning)





Statistics 2014 – 2021: Extracts





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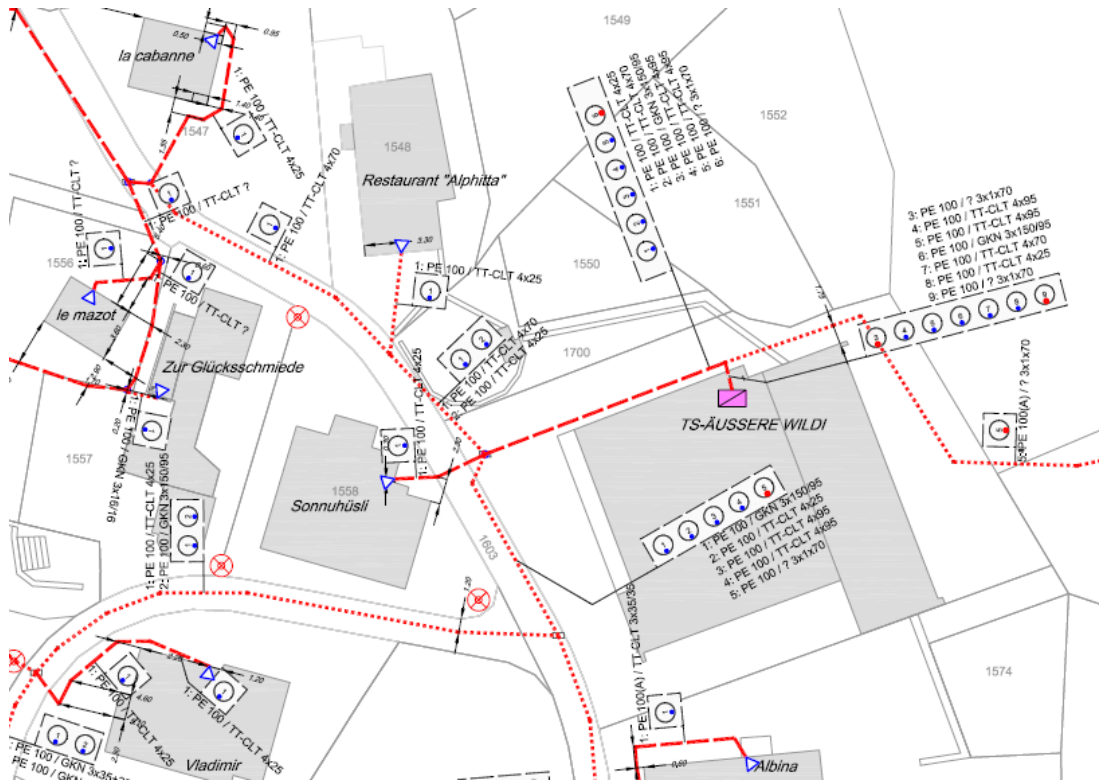


Goals: Information and Planning of Utilities

- 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

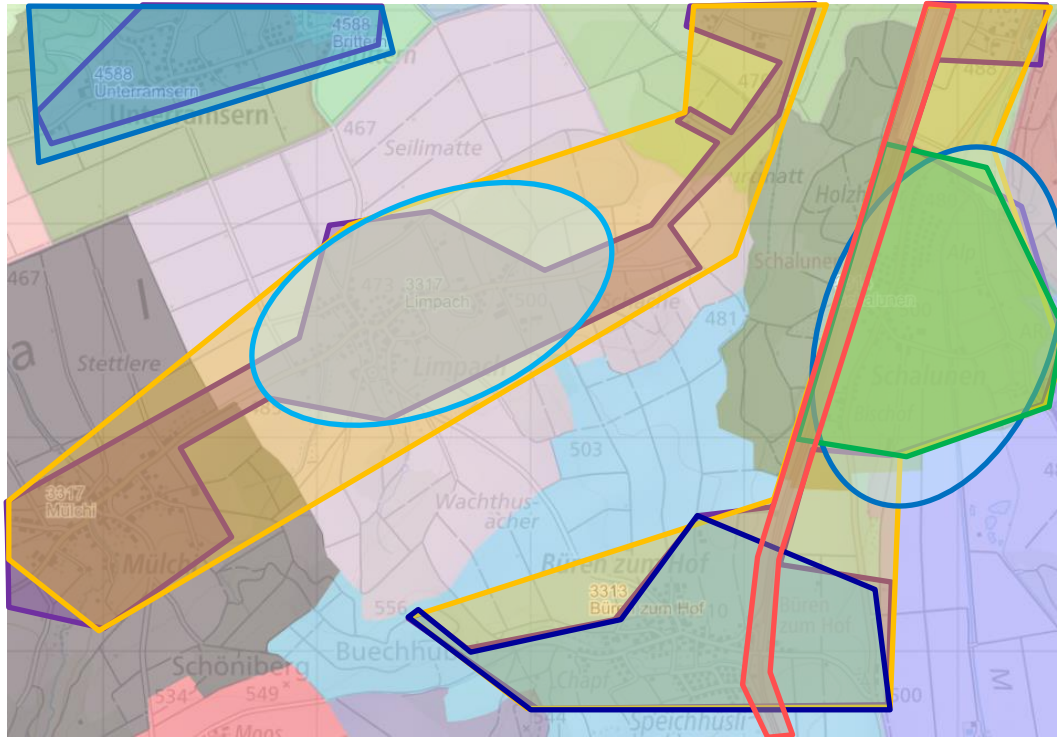


Example for Utility Grid: Electricity





Rough Perimeter of the Supply Areas



Owner of Utility:

Swisscom

BKW

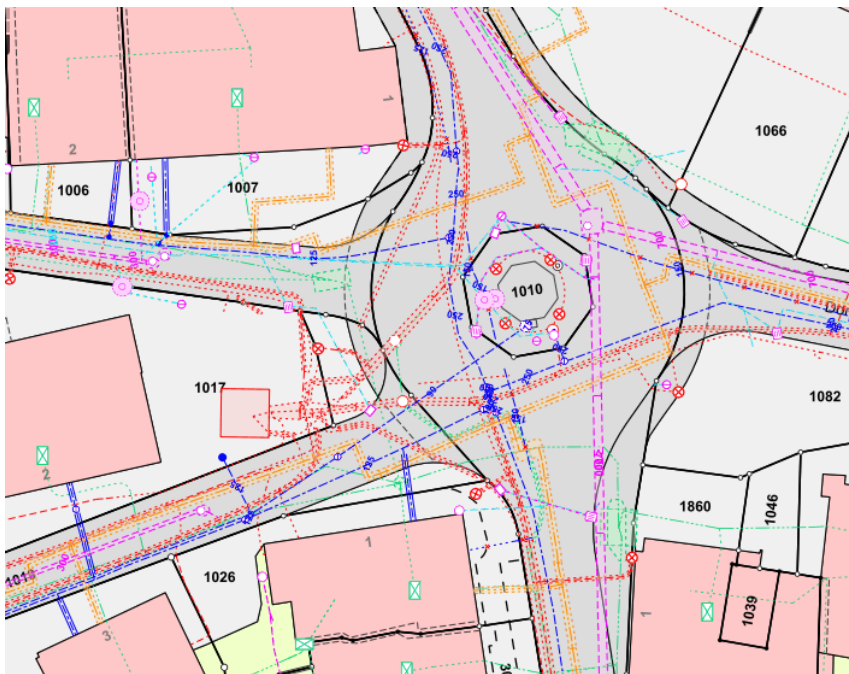
ARA

WV

RBS



Cadastral of Utilities: Content and Agenda



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



Agenda

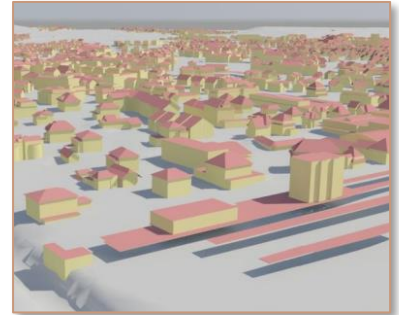
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Objective

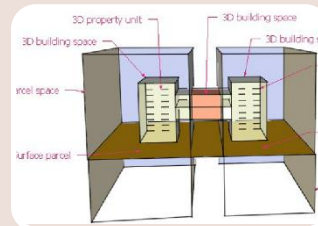
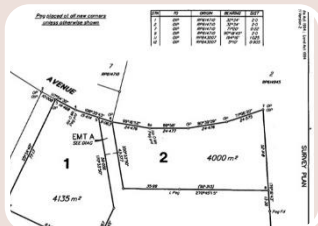
Synchronise and harmonise the following three "products" so that real estate companies and public administrations can integrate binding information about a building into their future digital processes (e.g. BIM):

- 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

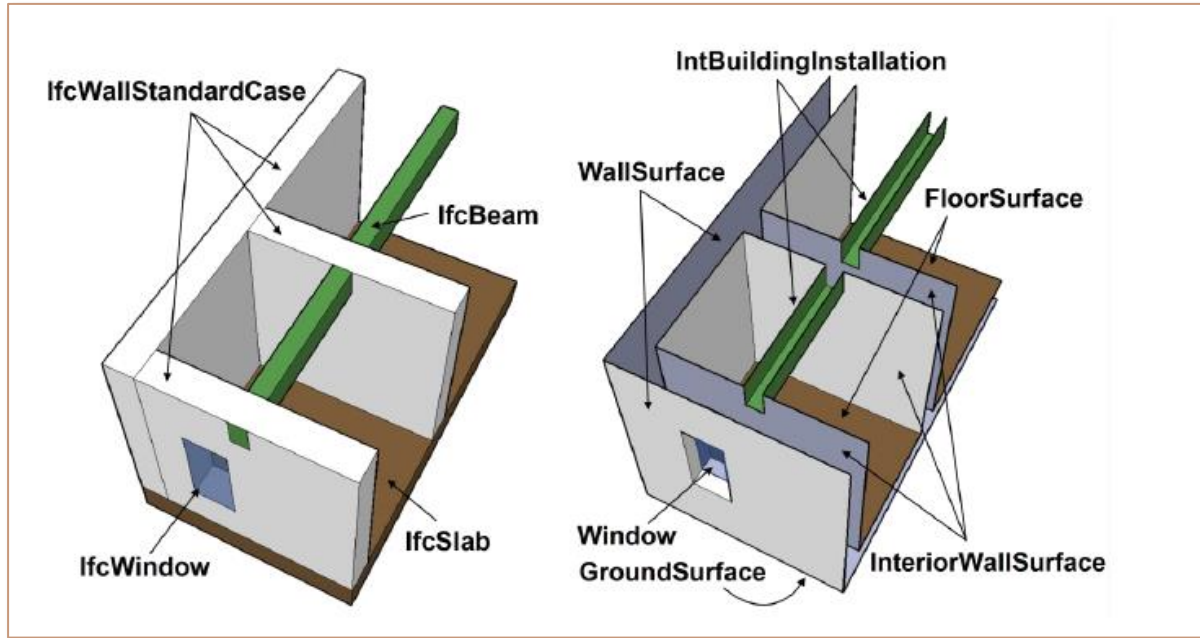
Focus Building
ISO 16739,
buildingSmart
Standard

LADM

Focus Ownership
(Rights, Restrictions
and Responsibilities -
RRR)
ISO 19152 Standard



IFC - CityGML

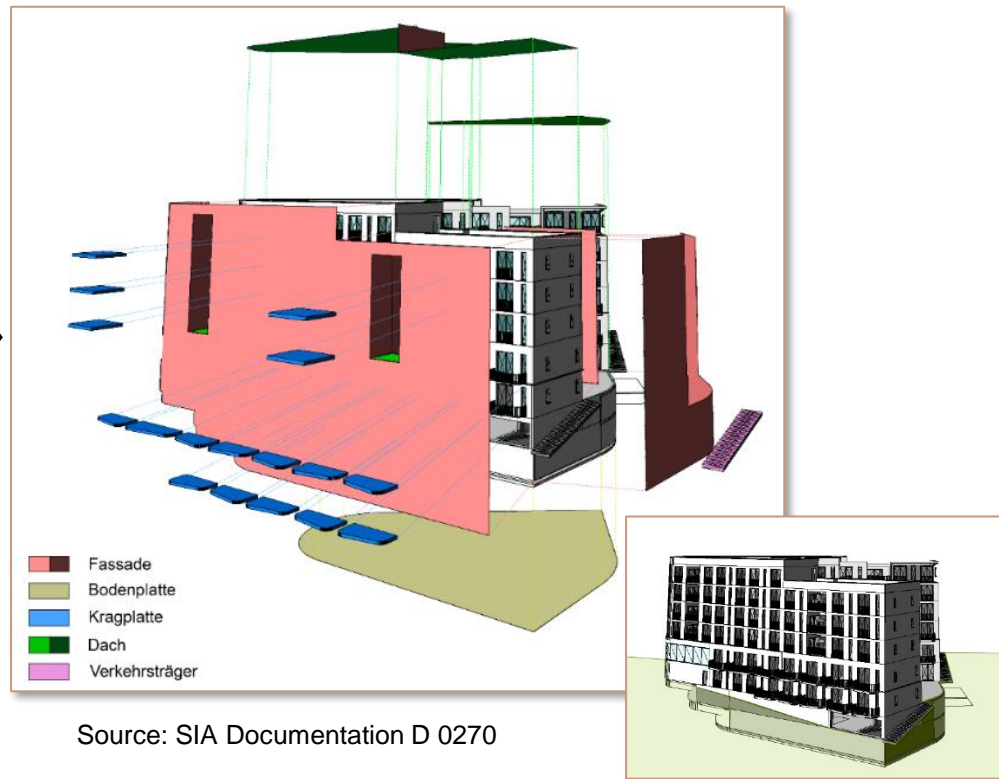


«If you can't break the silos, connect them»



Study: 1st Data Model Draft

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





Roadmap Project



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





Agenda

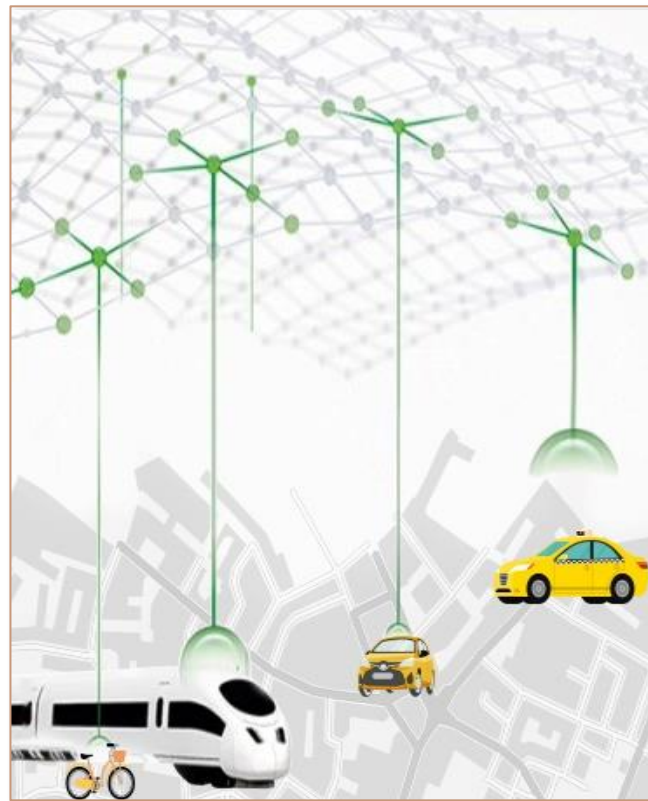
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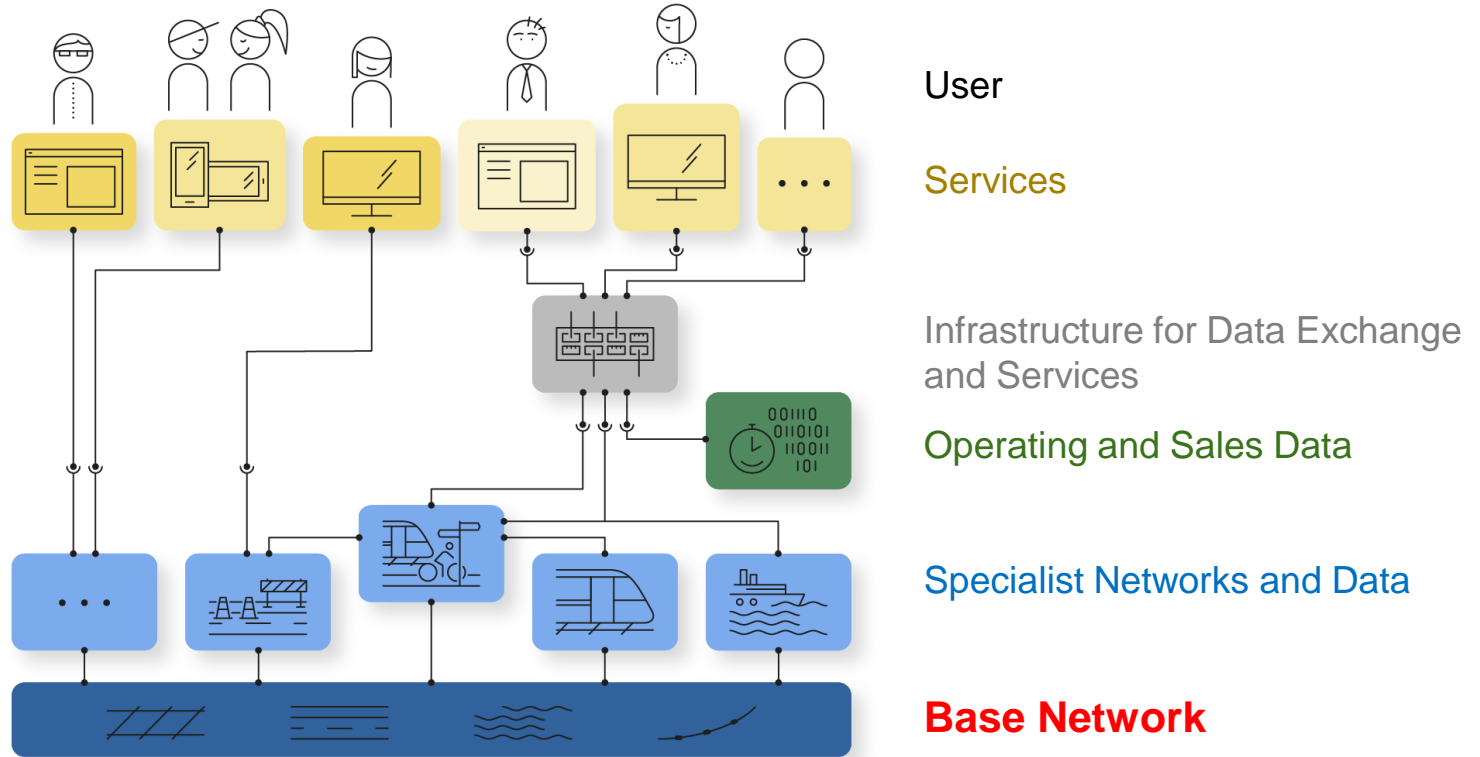
Switzerland is striving for more efficient overall mobility by means of optimal networking of mobility data

➔ Creation of a data infrastructure for referencing, exchanging and combining transport and mobility data





Overall View of Multimodal Mobility

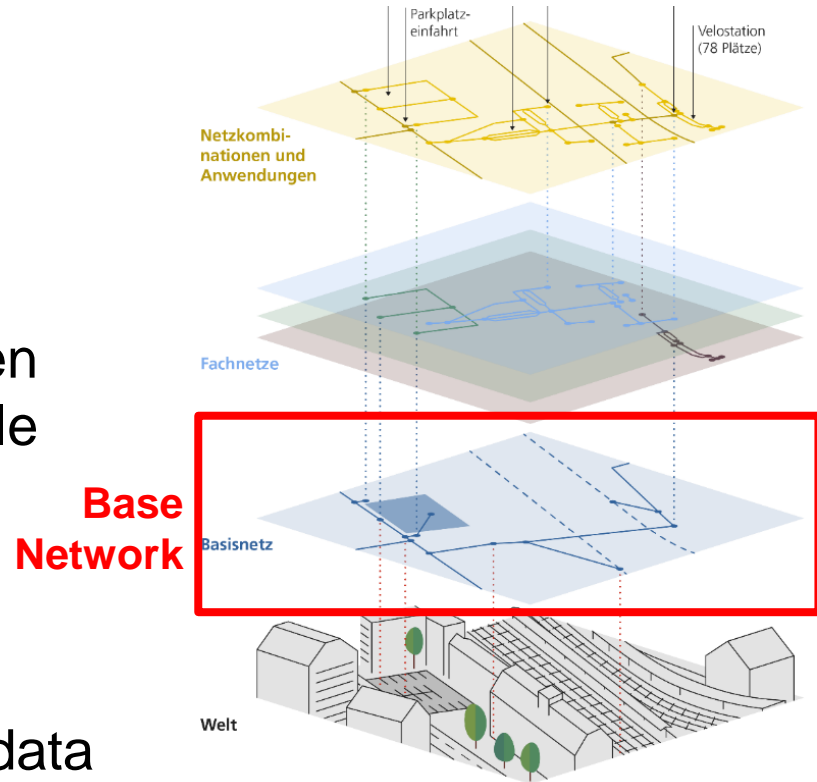




The Spatial Component

- 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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swisstopo

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www.cadastre.ch

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