



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Federal Office of Topography swisstopo

wissen wohin  
savoir où  
sapere dove  
knowing where

# Cadastral for Public Law Restrictions and Utilities



22 November 2022

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Head of Geodesy and Federal Directorate of Cadastral Surveying



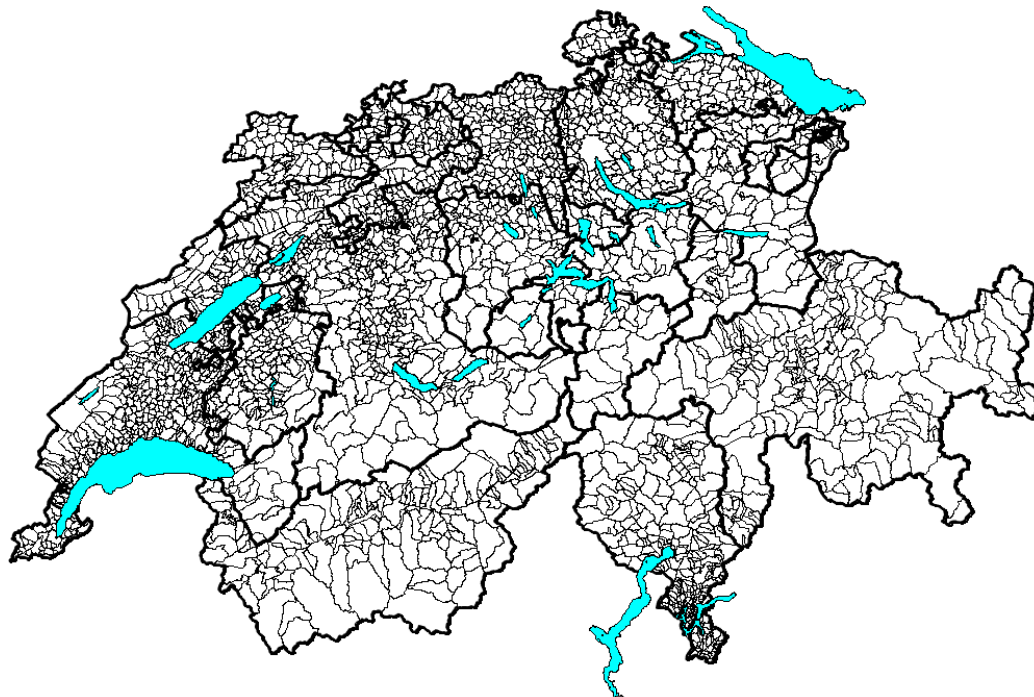
# Agenda

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



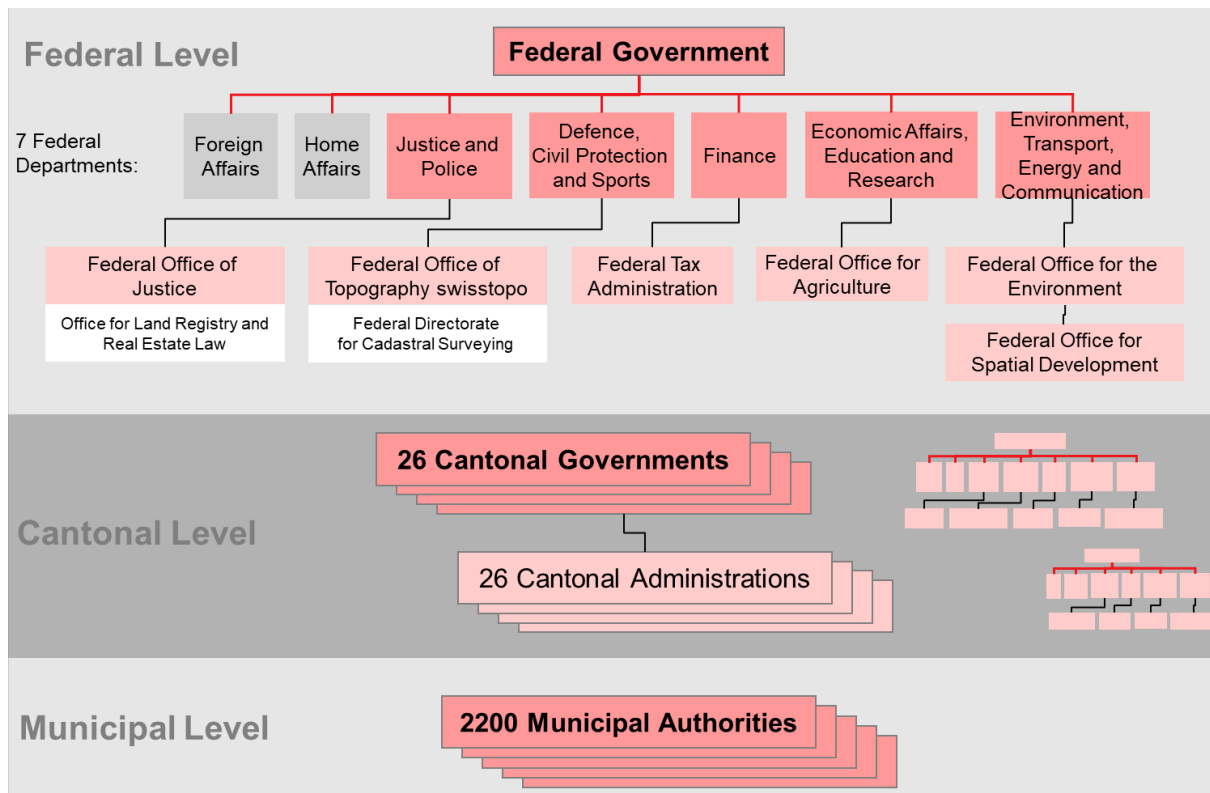
# Federal Structure – 26 Cantons and some 2200 Municipalities

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





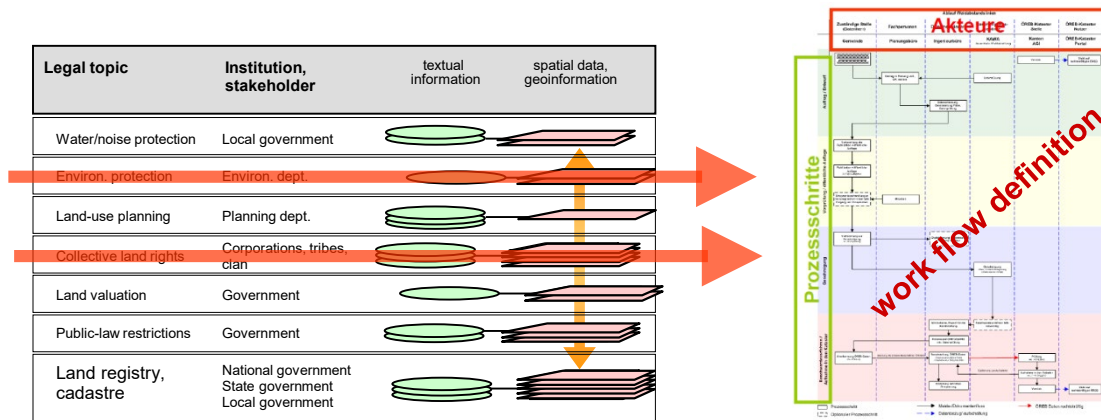
# Organizations involved in Land Administration





# 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


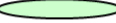



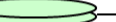


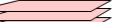


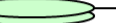



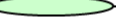





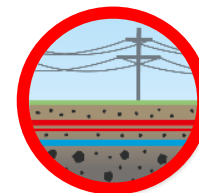
- work flow and data flow can be clearly defined and managed for each stakeholder independent from the others



# 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		

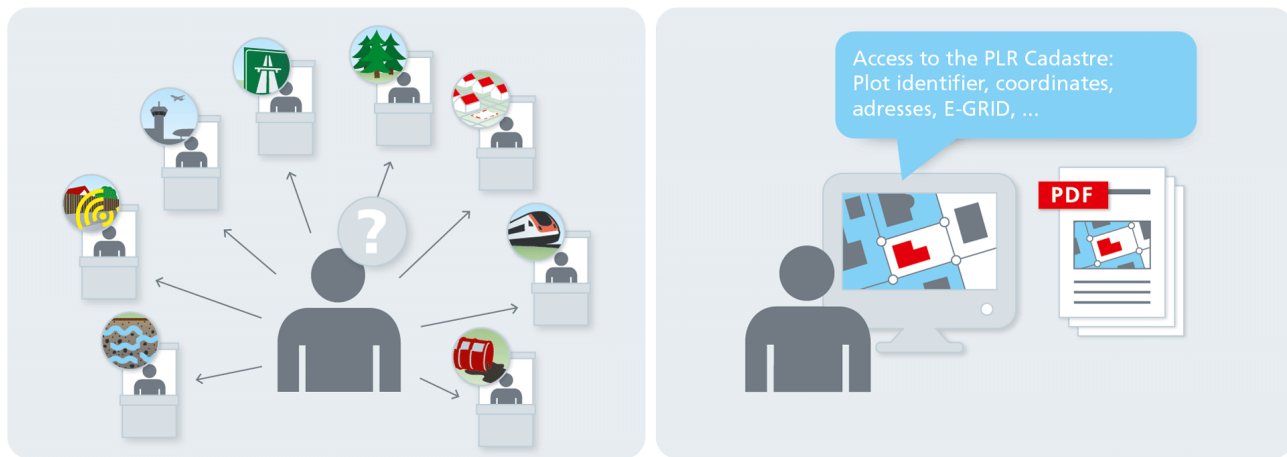




# Objectives of the PLR Cadastre

The PLR Cadastre greatly simplifies the search for information about public law restrictions on landownership.

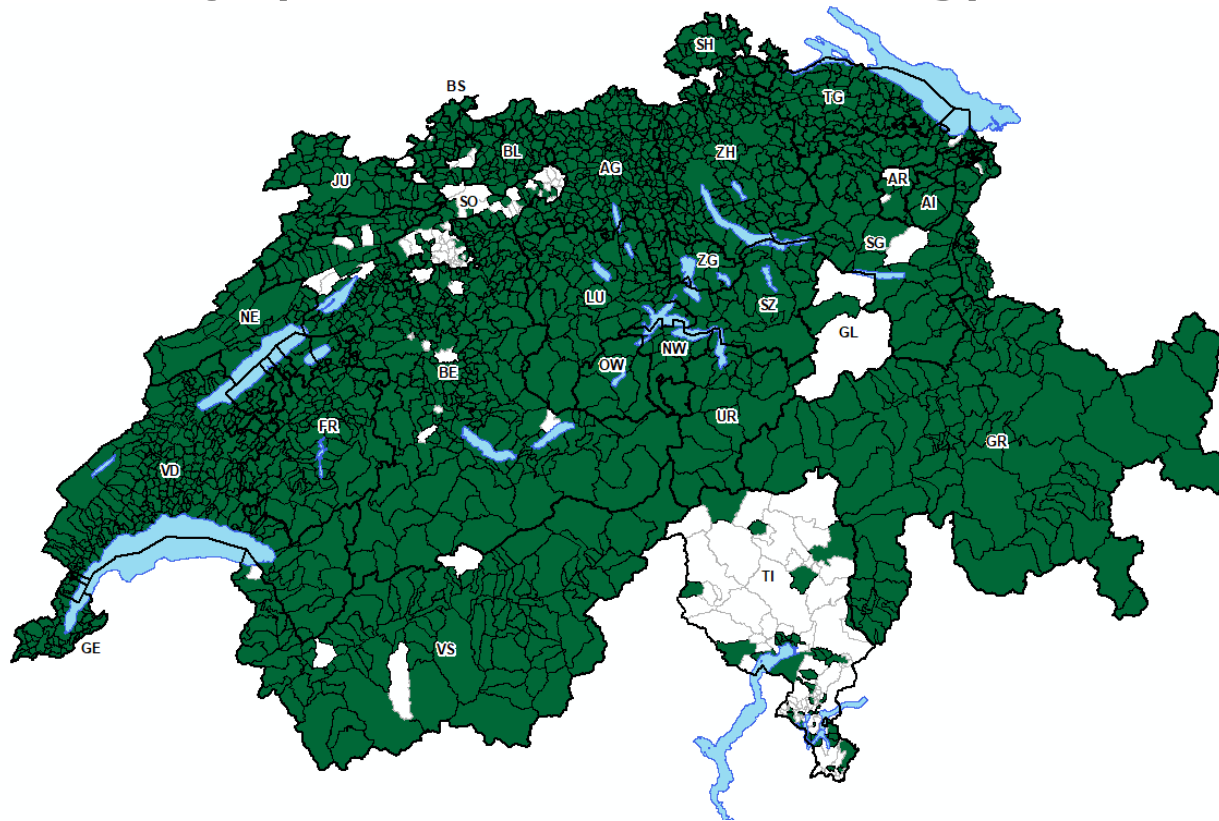
In a single information system it provides details regarding the most important restrictions relating to a specific plot of land.





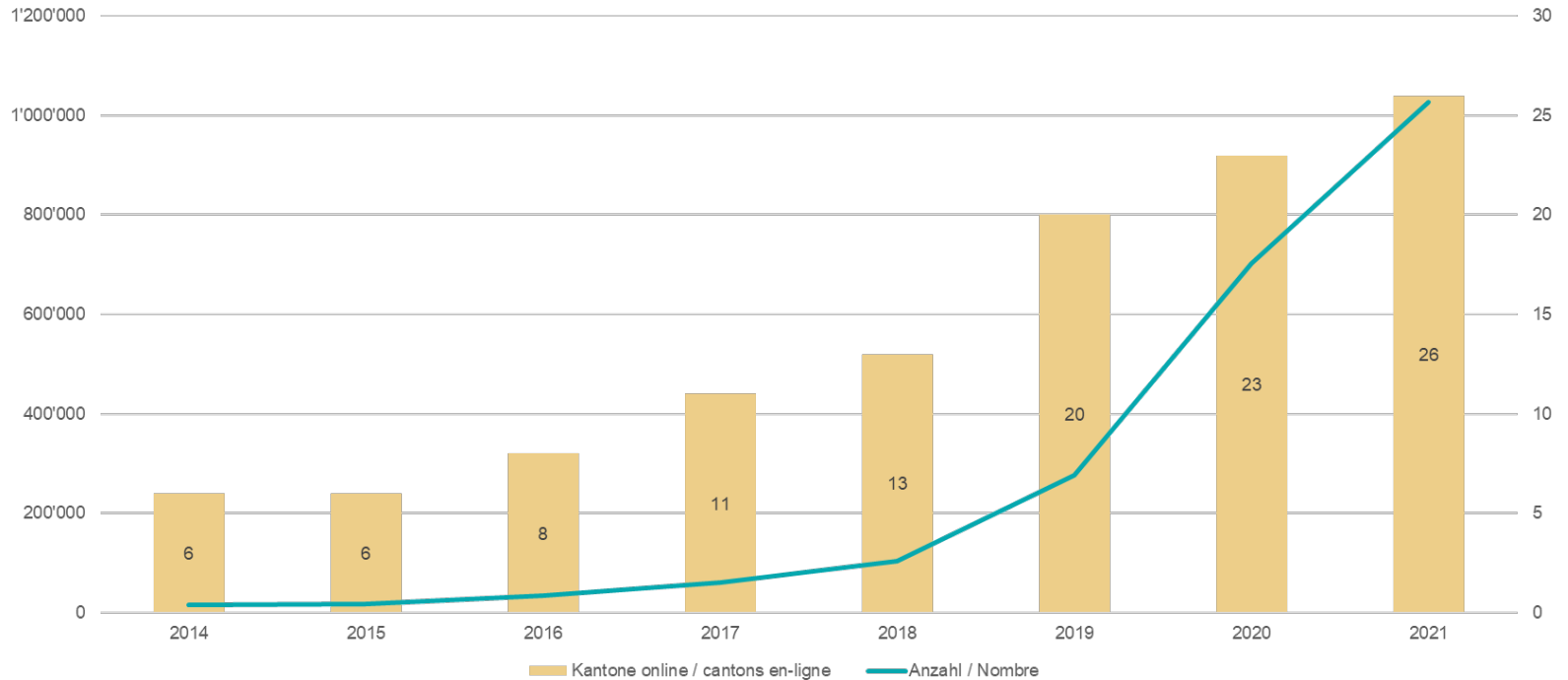


# Availability (Land-Use Planning)





# Statistics 2014 – 2021: Extracts





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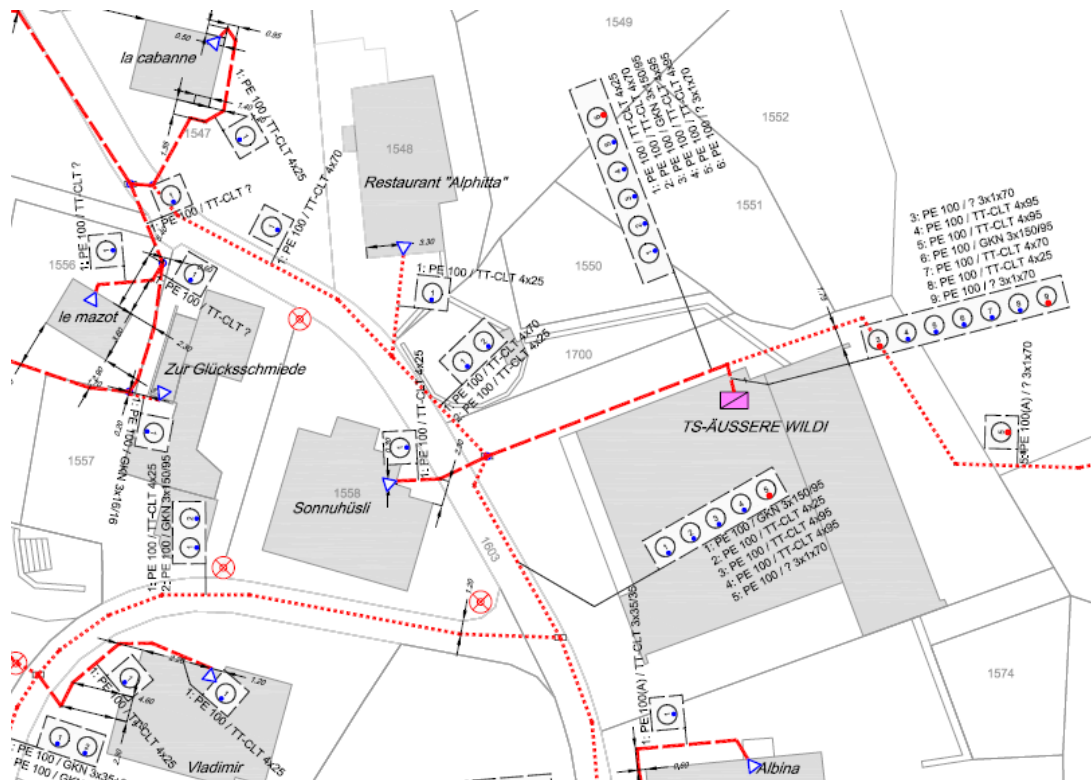


# Goals: Information and Planning of Utilities

- 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

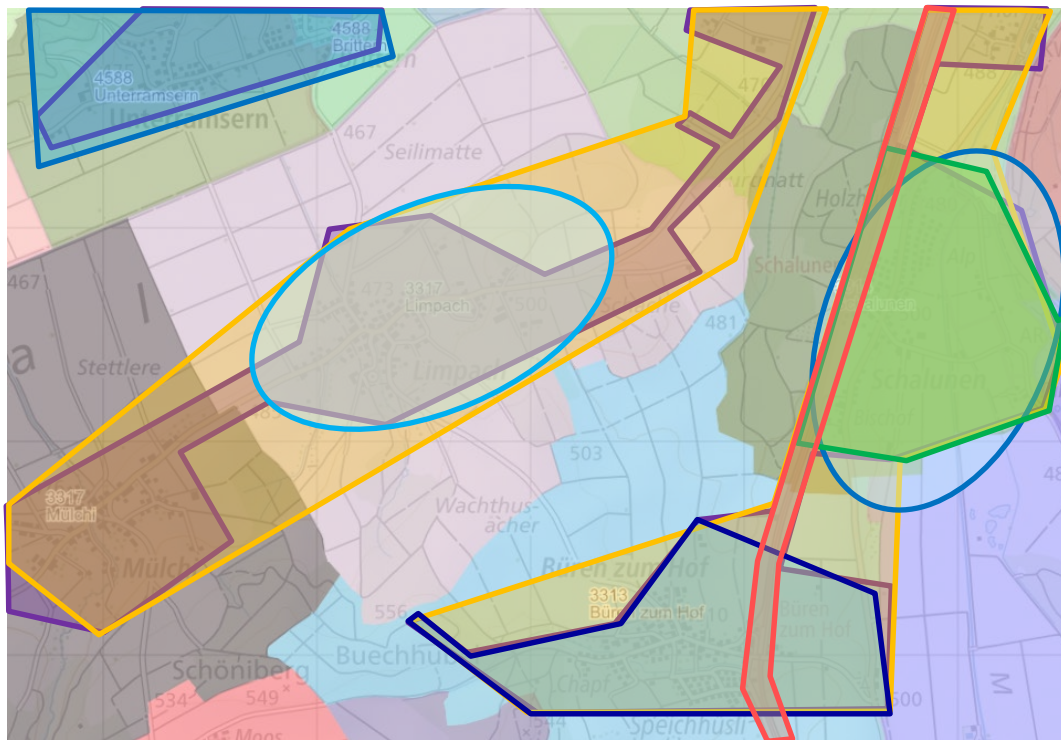


# Example for Utility Grid: Electricity





# Rough Perimeter of the Supply Areas



Owner of Utility:

Swisscom

BKW

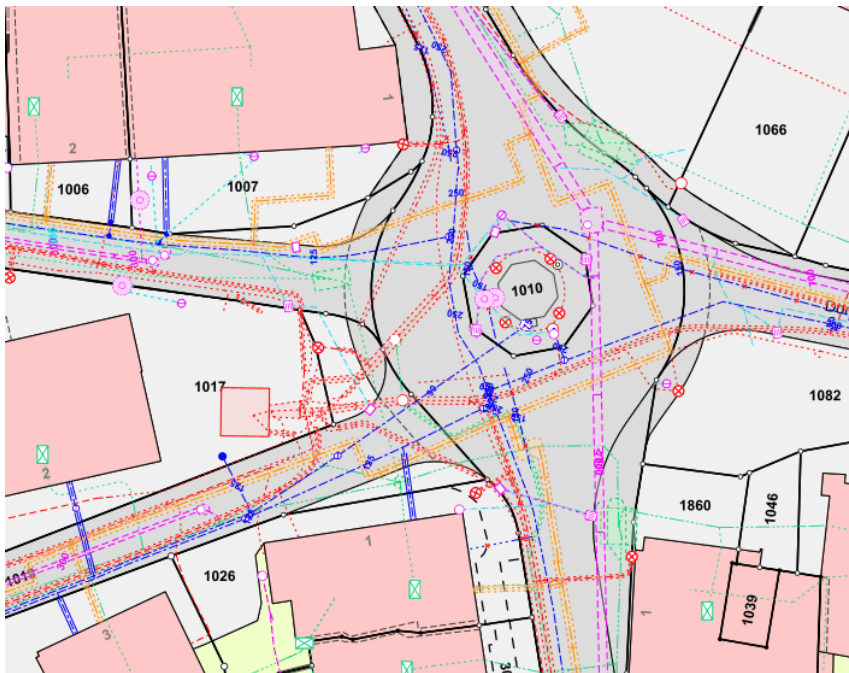
ARA

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

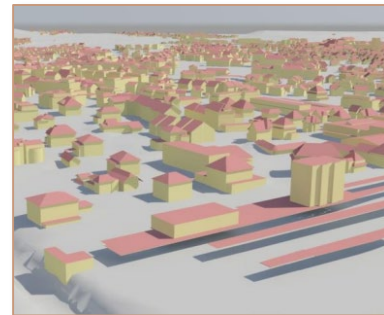
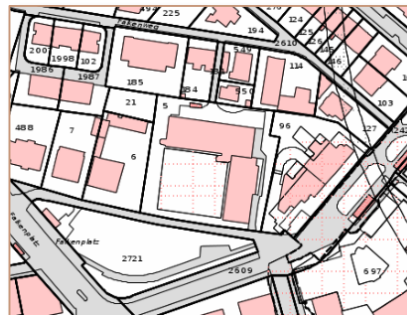
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# Objective

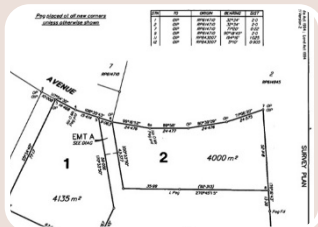
Synchronise and harmonise the following three "products" so that real estate companies and public administrations can integrate binding information about a building into their future digital processes (e.g. BIM):

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





# International Standards



## LandInfra

Focus Surveying and  
Documentation  
Australia: e-Paper



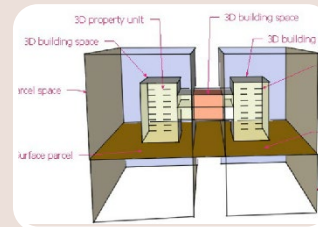
## CityGML

Focus Visualisation  
OGC Standard



## IFC

Focus Building  
ISO 16739,  
buildingSmart  
Standard

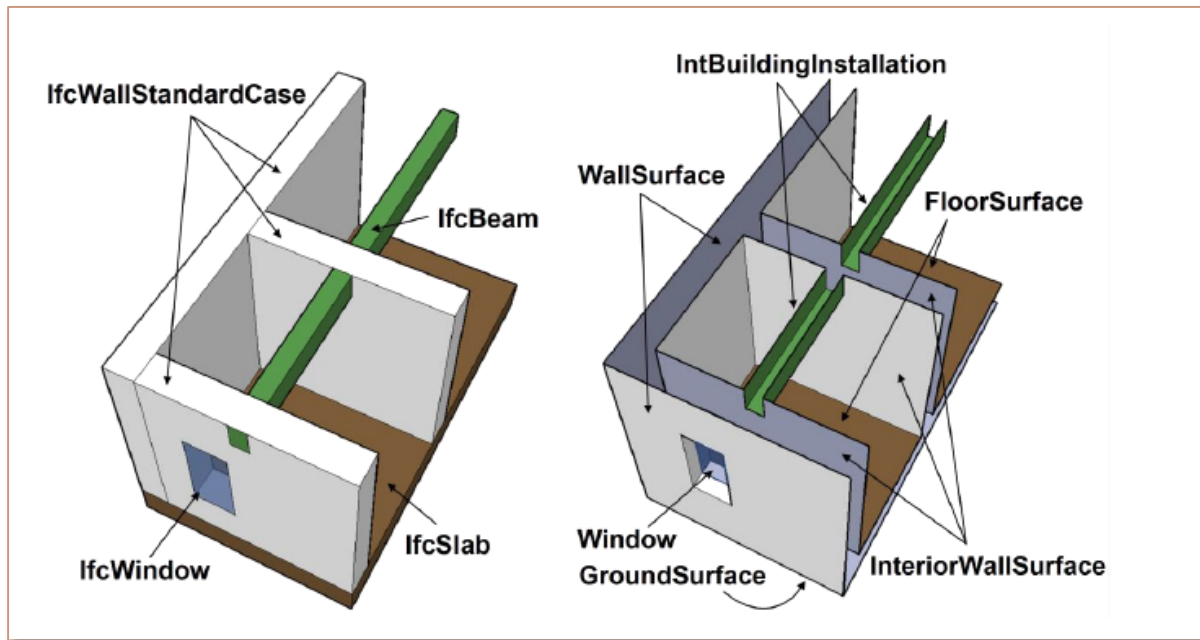


## LADM

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



# IFC - CityGML

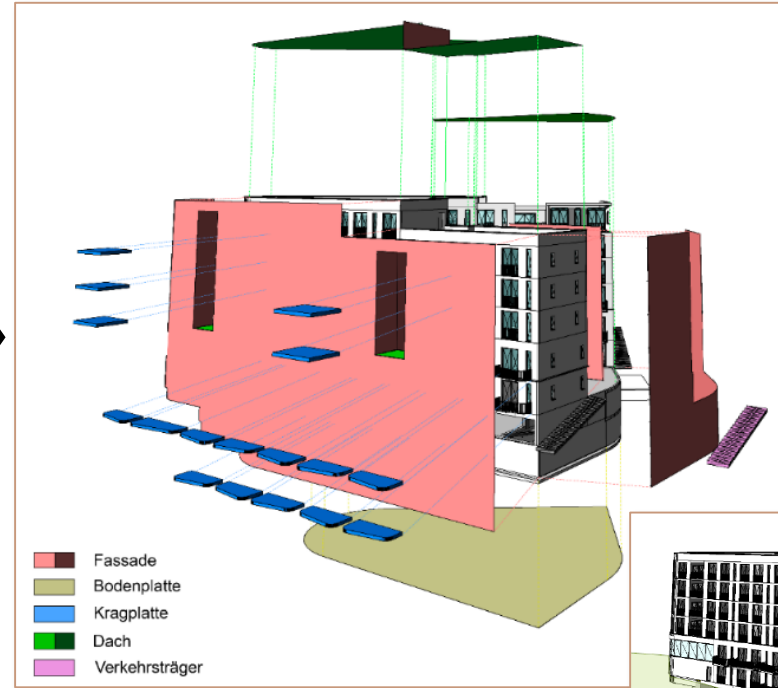


«If you can't break the silos, connect them»

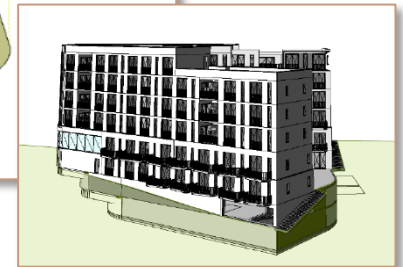


# Study: 1st Data Model Draft

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



Source: SIA Documentation D 0270





# Roadmap Project

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





# Agenda

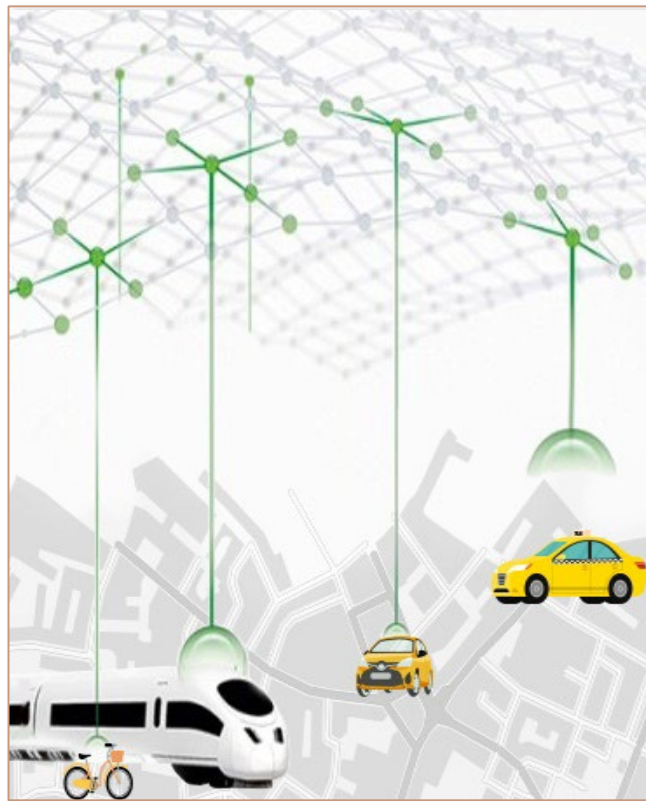
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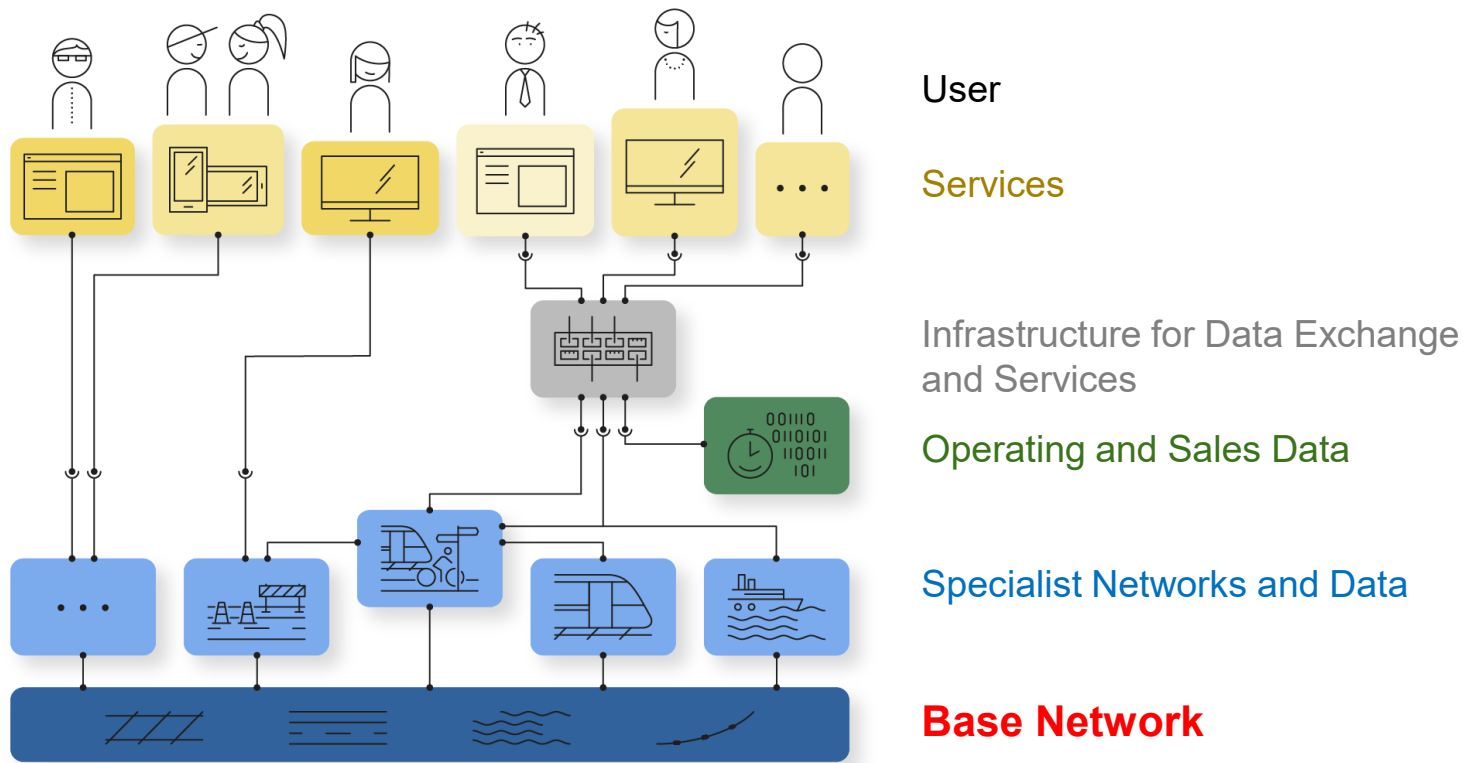
Switzerland is striving for more efficient overall mobility by means of optimal networking of mobility data

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





# Overall View of Multimodal Mobility

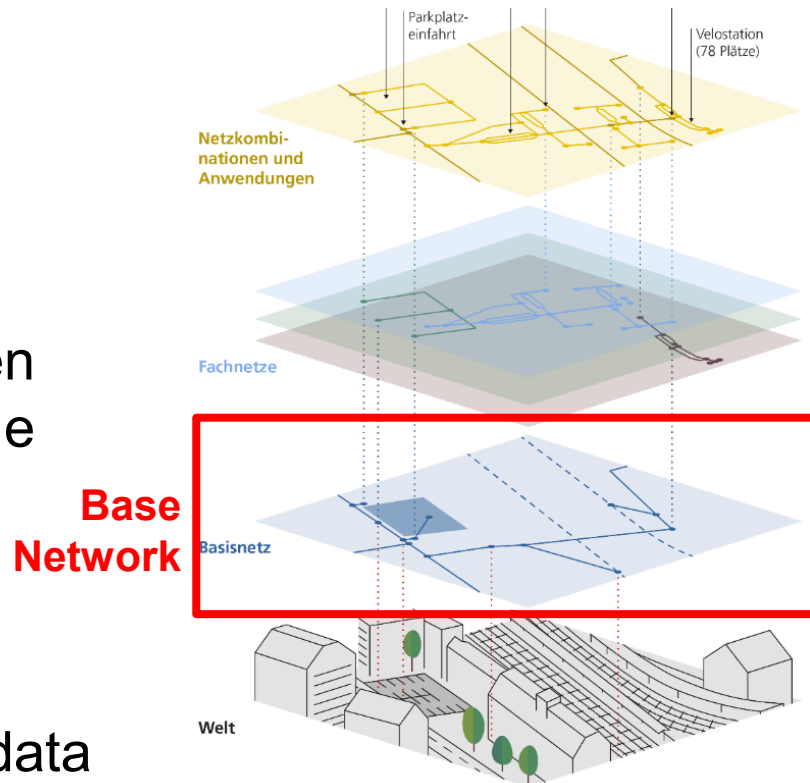




# The Spatial Component

- 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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