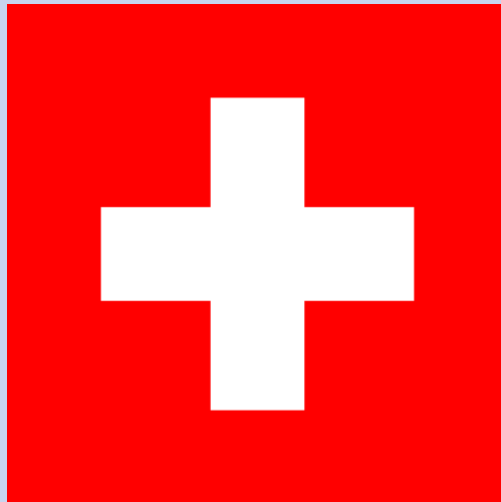


**TARGETED ANALYSIS //**

**DIGIPLAN – Fact sheets on digital  
plan data in Switzerland**

Annex 2.15 of final report

Final delivery // June 2021



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This deliverable does not necessarily reflect the opinions of members of the ESPON 2020 Monitoring Committee.

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**TARGETED ANALYSIS //**

**DIGIPLAN – Fact sheets on  
digital plan data in Switzerland**

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These three fact sheets summarise three experiences in digitisation of plan data in Switzerland. This explorative investigation includes information on the digitisation of plan data, on the digital platform that contains plan data, the current uses of digital plan data as well as foreseen developments of the investigated platforms. The inputs are based on both a desk study and interviews with experts at the:

- Federal Office for Spatial Development for the investigation at the federal level.
- Cadastre of Public-law Restrictions on landownership - PLR (ÖREB) for another investigation at the federal level.
- Municipality of St.Gallen for the investigation at local level.

## Switzerland (Federal; three levels of government) – Federal geoportal

The responsibilities of spatial planning in Switzerland are divided between the three federal levels. The federal government is responsible for the Spatial Planning Act as a legal framework as well as the national plan data. The cantons implement the law in cantonal structure plans. At the local level, municipalities have the planning sovereignty for their land use planning, within the boundaries provided by the cantonal structure plans.

The digital plan data portal investigated is the federal geoportal (<https://map.geo.admin.ch/>)



### Background information

Main stakeholder(s)	Federal Office for Spatial Development (FOSD)
Level of digitalisation of the geoportal	Intermediate: the user can make a limited number of simple operations based on the available plan data (e.g. 3D visualisation; request, visualise and share digital plan data).

### The digitisation of plan data

Main purpose(s)	Open government: Visualise and communicate spatial information for population
Added value	The centrally stored information can be quickly distributed, it is available at any time and the contents are comparable. In addition, digital plan data facilitates transparency and coordination.
Main driver(s)	Due to an increased general competence with digital data, administrative and planning processes were converted step by step from analogue to digital. Meanwhile, the cantons demand digital plan data from the municipalities.
Main obstacle(s)	Within the Federation, the cantons are responsible for the enforcement of the Geoinformation Act, which is key for the digitisation process of plan data. The federal government therefore relies on cantonal data, which is not completely coincident. The tradition of (analogue) working processes is considered a more relevant obstacle than technical difficulties.

## Switzerland (Federal; three levels of government) – Federal geoportal

Standards and methods	<p>The FOSD developed minimal geodata models for describing the structure and visualisation of the plan data. They are implemented by the data owner (federal authority, municipality, canton, private actors) who provide the plan data.</p> <p>The FOSD approves the digital plan data and their compliance with national regulations and concepts.</p>
<b>The current platform</b>	
Type of digital plan data included	National sectoral plans and concepts as well as a map of harmonised building zones of all municipalities in Switzerland (9 general classes) are available on map.geo.admin.ch. There are efforts to add harmonised data of the cantonal structure plans.
Legal status of the digital plan data	<p>The digital plan data on the national level (concepts and sectoral plans) are legally binding on the authorities. The plan of harmonised building zones serves only for information purposes and is therefore not legally binding.</p> <p>The land use plans of the municipalities are not published on map.geo.admin.ch. The municipalities decide which version is legally binding. In most cases, the signed paper plans are still legally binding, not the digital plans.</p>
<b>The current uses of digital plan data</b>	
Type of users	There is no monitoring or identification of users on the national portal. It is nevertheless assumed that the planning data is mainly used by planners.
Number of users	(no info)
Example of evaluation of planning practices or innovative practices	The FOSD examines cantonal structure plans. It uses digital plan data to determine the densification of settlement areas by calculating the current occupancy rate of building zones.
<b>Foreseen developments</b>	
<ul style="list-style-type: none"> <li>There are efforts to include data for 'agglomeration programs' as well as for projects to bundle infrastructure in the portal.</li> <li>Currently, minimal geodata models are elaborated for digitalisation of cantonal structure plans.</li> </ul>	

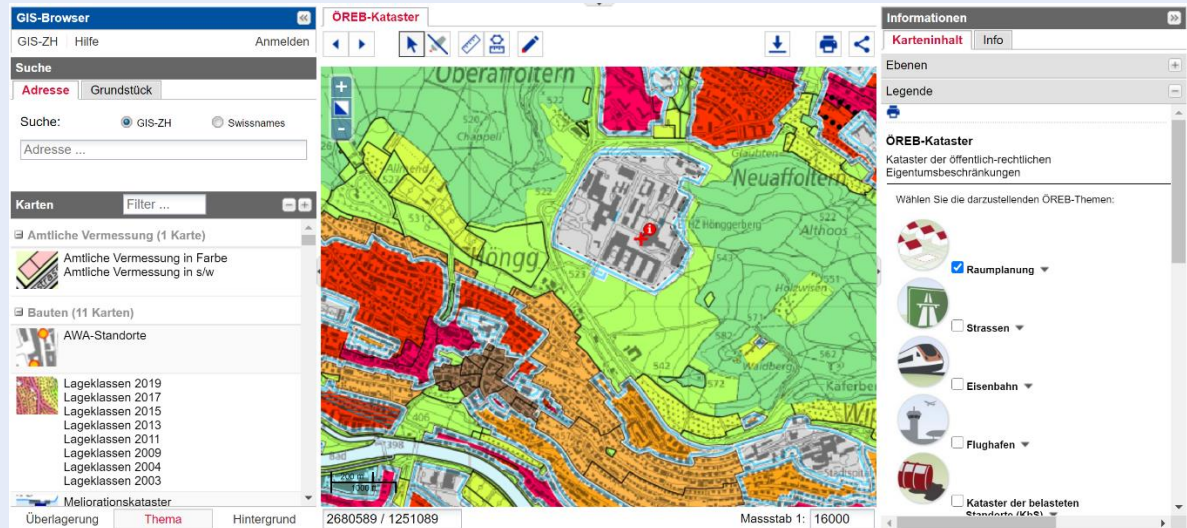
Level	Planning instruments (Name in English)	Planning instruments (Name in local language)	Included in the geoportal?
National	Sectoral plan	Sachpläne des Bundes /Plans sectoriels de la Confédération/ Piani setto- riali della Confederazione	Yes
	Concepts	Konzepte/Conceptions/ Concezioni	Yes
Sub-national	Cantonal Structure Plan	kantonale Richtpla- nung/Plan directeur canto- nal	No (information is available on cantonal geoportals)
Local	Building zones (harmoni- sied)	Bauzone/Zones à bâtir/ zone edificabili	Yes
	Land use plan	Nutzungsplanung/Plan d'affectation/ Piani di uti- lizzazione	No (information on the land use regulations can be found in the cadastre portal) ( <a href="https://www.cadastre.ch/en/oereb.html">https://www.cadastre.ch/en/oereb.html</a> )

## Switzerland (Federal; three levels of government) – Public law restrictions cadastre PLR

The responsibilities of spatial planning in Switzerland are divided between the three federal levels. However, to provide information of public law restrictions (PLR), the PLR cadastre was established as a collaborative top down – bottom-up project of federal, cantonal and municipal authorities. It is a highly accurate and reliable, official information system for the most important public law restrictions on property ownership, including land use planning, throughout Switzerland.

[www.cadastre.ch](http://www.cadastre.ch)

The digital plan data portal investigated is the PLR of the Canton of Zurich (<https://maps.zh.ch/?topic=OerebKatasterZH>)



### Background information

Main stakeholder(s)	Geodesy and Federal Directorate of Cadastral Surveying, Cadastral surveying and PLR cadastre Cantonal authorities and cadastral offices
Level of digitalisation of the geoportal	Intermediate: the user can make a limited number of simple operations based on the available plan data (e.g. store, share, analyse digital plan data). Advanced: the user interacts with the planning authority and the digital plan data (e.g. creation of planning excerpt).

### The digitisation of plan data

Main purpose(s)	Data availability and open governance: Make available the georeferenced public law restrictions (PLR) on property ownership to the public in an updated and reliable form, including information which is not recorded in the land register. In contrast to the PLR cadastre, the land register contains private law regulations on a property (e.g. ownership).
Added value	Improved planning practices: Land use plans are of great importance in the settlement area and many actors use these plans. For them the PLR-cadastre brings great added value. With the introduction of the PLR, the digitisation process was advanced by establishing data models and procedures, which in turn is expected to improve planning practice. It was also positive that all authorities had to systematically organise their current and legally binding plan data.
Main driver(s)	The PLR was a statutory mandate by the federal government. In addition, it is implemented as a collaborative task, with the costs being shared by the federal government and the cantons resulting in a strong incentive system.
Main obstacle(s)	The process of implementing the PLR can be hindered by actors who expect the PLR to be the same as the analogue plans. However, in the PLR redundant information is removed for easier understanding, so that differences between analogues plans and PLR may occur. The discussions about digitalisation procedures and processes were complex and time-consuming. Due to the collaborative organisation, some obstacles caused by different actors due to different administrative structures and priorities had to be overcome in time-consuming cooperation processes.

**Switzerland (Federal; three levels of government) – Public law restrictions cadastre PLR**

Standards and methods	<p>The PLR cadastre was implemented in two phases:</p> <ul style="list-style-type: none"> <li>- Phase 1 (2012-2015): Eight (out of 26) pilot cantons implemented the PLR in the canton and the municipalities</li> <li>- Phase 2 (2016-2019): All cantons implemented the PLR in all municipalities</li> </ul> <p>Swisstopo, the Federal Office Topography developed one framework model (Rahmenmodelle) for all PLR. It describes and defines attributes to ensure that the plan data is comparable between the cantons and authorities. The framework model is compatible with the federal minimal geodata models.</p> <p>Exception: The municipalities can manage the land use planning rather autonomously. In order to maximise the recognition effect with the legally binding plans, the presentation models are very generally defined.</p>
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**The current platform**

Type of digital plan data included	Only the current plan data is displayed. The partial revisions of the land use plans are also visible.
Legal status of the digital plan data	The legal status of the plan data is defined by the authority. In most cases, the original printed and signed plan is legally binding.

**The current uses of digital plan data**

Type of users	The digital plan data is available to anyone. The following user groups were identified: Municipalities, notaries, land registries, banks, real estate industry, planner and architects, surveyors, cantonal authorities as well as citizens
Number of users	In 2019: 23'000 static extracts per month
Example of evaluation of planning practices or innovative practices	<p>Some cantons are considering whether an extract from the PLR-cadastre should also be required to be submitted for the building permit procedure in the future.</p> <p>In the real estate business, many notaries provide an PLR cadastre extract together with the land register excerpt in order to disclose the legally binding situation.</p>

**Foreseen developments**

In the first phase of the next four-year strategy (2020 - 2023), the PLR cadastre will be implemented throughout Switzerland. In the second phase, the PLR will be expanded by six additional topics as well as new functions (e.g. changes to PLR should be made visible). In the third phase, the PLR will be further developed and the next cycle (2024-2027) will be prepared.

Level	Planning instruments (Name in English)	Planning instruments (Name in local language)	Included in the geoportal?
Local	Land use plan	Nutzungsplanung/Plan d'affectation/ Piani di utilizzazione	<p>The portal of PLR cadastre leads to portal of the responsible authority (cantons) for land use plans (approx. 90% of all municipalities are available)</p> <p>(<a href="https://www.cadastre.ch/en/oereb.html">https://www.cadastre.ch/en/oereb.html</a>)</p>



## Switzerland (Federal; three levels of government) – City of St Gallen

At the local level, municipalities have the planning sovereignty for their land use planning. The capital of the canton of St.Gallen with about 80'000 citizens is located in the northeast of Switzerland. With the digital city map, the municipality has created its own portal to display a wide variety of maps and plans, including land use plans and special district plans. In addition, various plan data are also available to the public via a 3D portal of the city.

The digital plan data portals investigated are City map St.Gallen (<https://map.stadt.sg.ch/stadtplan/>) and 3D City map St.Gallen (<https://3d.geoport.ch/sg/>, illustrated below)



### Background information

Main stakeholder(s)	City of St.Gallen
Level of digitalisation of the geoportal	Intermediate: the user can make a limited number of simple operations based on the available plan data (e.g. store, share, analyse and edit plan data in the geoportal; 3D visualisations).

### The digitisation of plan data

Main purpose(s)	Enhanced data availability and improved evaluation possibilities
Added value	There is an improved data flow: - All information is stored at one place - All information is available from anywhere with an internet connection - There is no need to collect data from different departments
Main driver(s)	The technical progress was decisive. With the possibility of digitising plans, planning practice was improved because data became easier to handle. This in turn increased the production of digital plan data.
Main obstacle(s)	Before the national Geoinformation Act (2007), the development of data models suitable for data exchange and the search for a common format were difficult due to different local specifications. In addition, certain sensitive data or information was withheld for data protection reasons.
Standards and methods	The City Department of Geomatics and Surveying enters all plan data into the portal (with exception of utility infrastructure). The official cadastral survey of the city of St.Gallen has developed guidelines for the digitisation of plans and maps, considering standard norms (SIA Norm 405).  In contrast, in many small municipalities in Switzerland private companies digitise the municipal plans, rather than the municipal administration.

### The current platform

Type of digital plan data included	Today, current land use plans are available. Parallel to the land use plan, partial revisions of land use plans are also illustrated.
Legal status of the digital plan data	On the portal the current status of plan data is shown. However, the legally binding plan is the analogue, printed and signed version. Nevertheless, this situation may change in the future, and the vectorized digital data might become legally binding.

## Switzerland (Federal; three levels of government) – City of St Gallen

### The current uses of digital plan data

Type of users	There is a distinction between internal and external users of the portal. About half of the users come from the municipal administration and the other half are external users, e.g. planners, interested citizens.
Number of users	Compared to the past, today every session (not every data call) is counted. There are approximately 10'500 sessions per month.
Example of evaluation of planning practices or innovative practices	In the city of St.Gallen, digital 3D city models are used internally (for stakeholders and city parliamentarians; not publicly) to support administrative and participation processes for, for example, granting building permits or developing large planning projects. There are also plans to introduce a web app or web scene for 3D visualisation, which could be used to increase participation.

### Foreseen developments

It is planned that all remaining analogue plans will be digitised and provided at least in scanned form. The frequently used plan data, on the other hand, should be available in vector form.

Further progress is planned in the form of an open data portal, a participation portal and the establishment of a service portal for data access without download.

Level	Planning instruments (Name in English)	Planning instruments (Name in local language)	Included in the geoportal?
Local	Land use plan	Nutzungsplanung	yes
	Special district plans	Sondernutzungspläne	yes





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