



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Office of Topography swisstopo

wissen wohin
savoir où
sapere dove
knowing where

Official street name index:

From data acquisition to web availability

April, 24th 2019

Federal Office of Topography swisstopo:

Grégoire Bögli, Patrick Ibele, Elias Raymann, Stefan Neudeck

Federal Statistical Office:

Fabian Trees

Swisscom:

Peter Vogt, Beat Egger



Agenda

- The goal
- The first release
- The technology
- The register for buildings and apartments
- Userstory Swisscom
- Federal Spatial Data Infrastructure FSDI



What is the right spelling?

Thalstrasse or **Tal**strasse?
Glatt**ttt**alstrasse or Glatt**tt**alstrasse?



Background and history

Switzerland is one of the last European countries without an official address register. Why?

2012: Meeting with 5 parties:

- Federal Statistical Office (register for buildings and apartments)
- Federal Office of Topography (Direct supervision of cadastral surveying)
- Federal Office for Spatial Development
- Federal Office for the Environment
- Swiss Post (commercial address-product)

2015 Petition on second homes

2017 Revision of the “regulation on geographical names”



Purpose of the project

- To provide an official address directory / register to
 - Administrations
 - Business
 - Citizens
- This information is binding for the authorities.
- The register is published as open data
 - free of charge
- The provision of geo-services enables easy distribution and use.



The registers

There will be two registers:

1. Register of street names
2. Register of addresses

The legal basis is

**Verordnung
über das eidgenössische Gebäude- und Wohnungsregister
(VGWR)**

431.841

vom 9. Juni 2017 (Stand am 1. Juli 2017)

*Der Schweizerische Bundesrat,
gestützt auf Artikel 10 Absatz 3^{bis} des Bundesstatistikgesetzes
vom 9. Oktober 1992¹ (BStatG),*

**Verordnung
über die geografischen Namen
(GeoNV)**

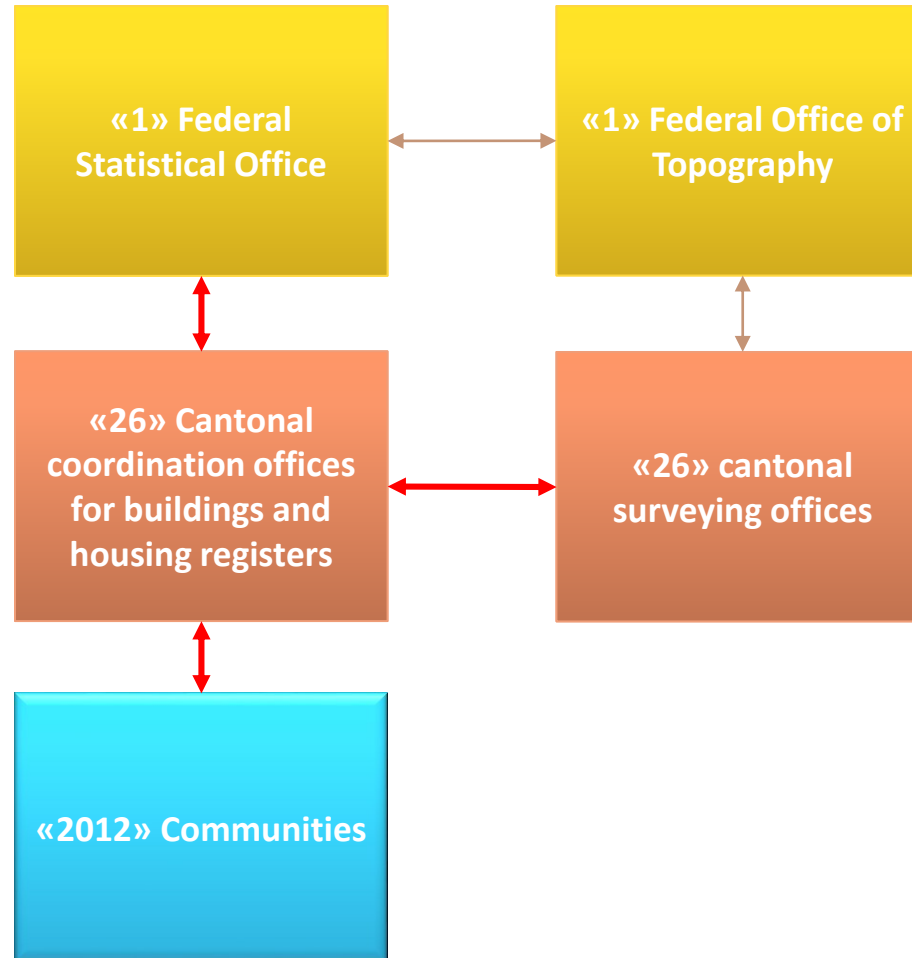
510.625

vom 21. Mai 2008 (Stand am 1. Juli 2017)

*Der Schweizerische Bundesrat,
gestützt auf Artikel 20 des Registerharmonisierungsgesetzes vom 23. Juni 2006¹,
die Artikel 5 Absätze 2 und 3, 7, 22 Absatz 3 und 29 Absatz 3 des
Geoinformationsgesetzes vom 5. Oktober 2007²
und Artikel 6 Absatz 2 des Transportgesetzes vom 4. Oktober 1985³,*

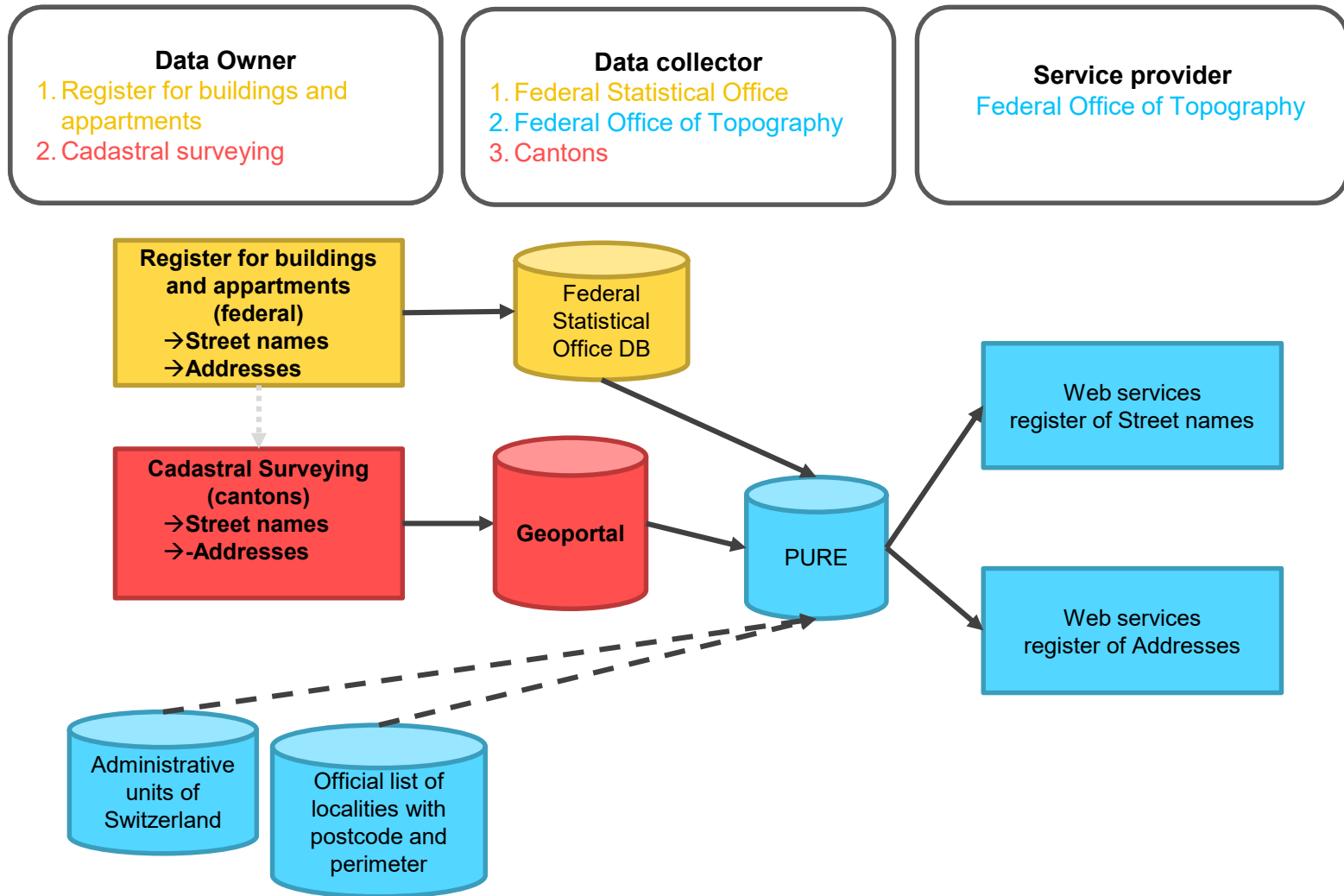


Organisation



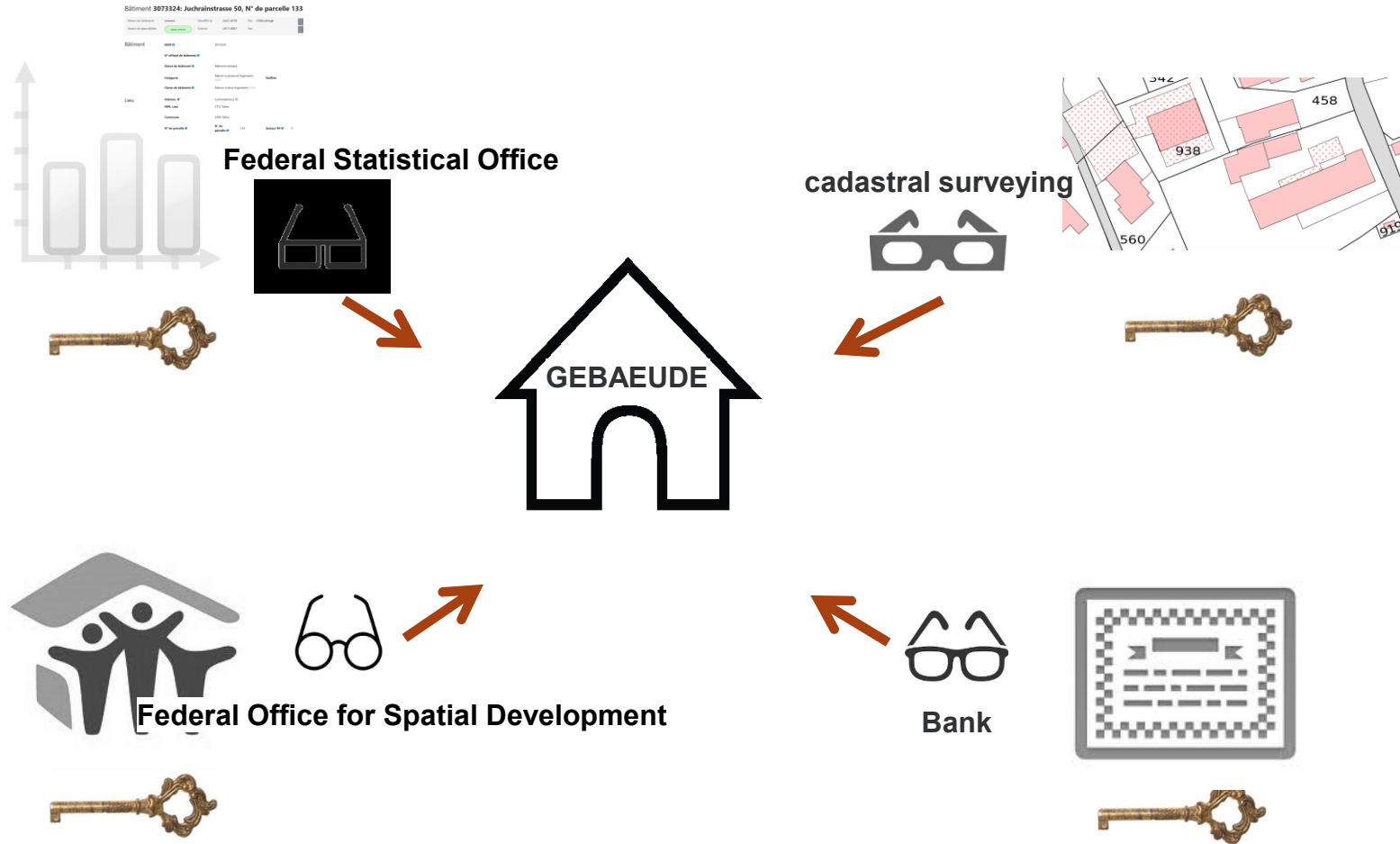


Responsibilities and competences





Different models and objects



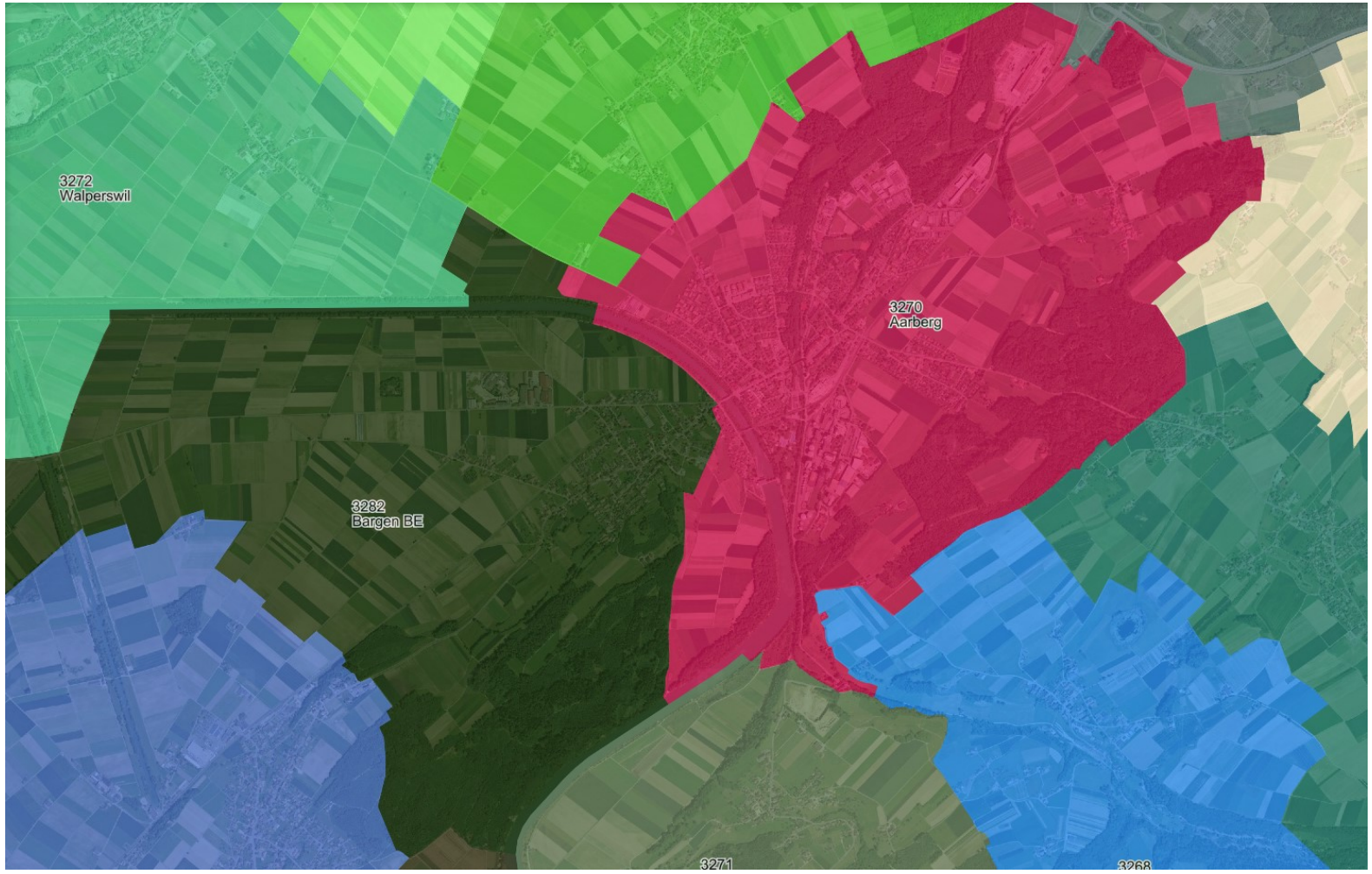


Initial situation





Data synchronisation: Postal Codes

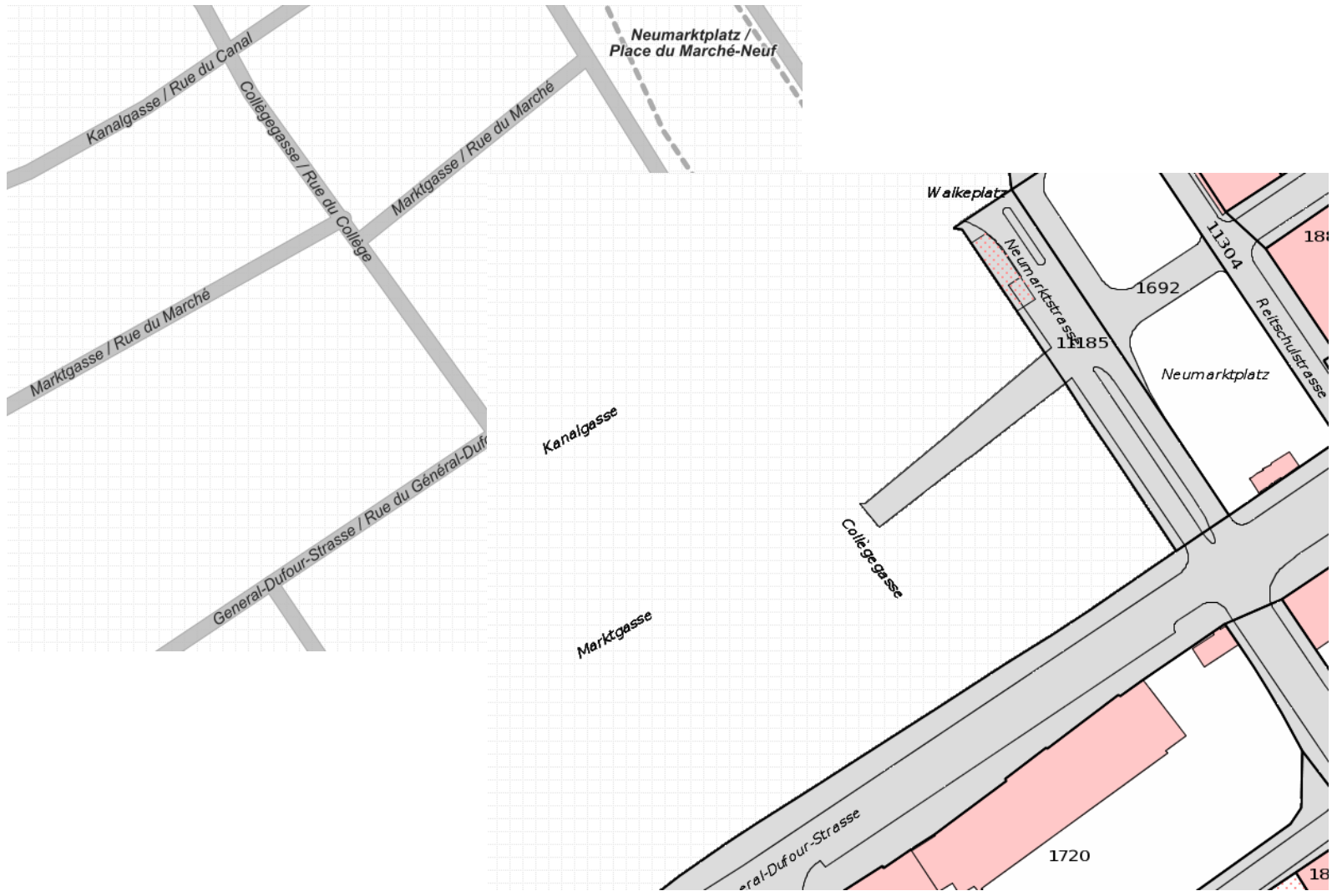






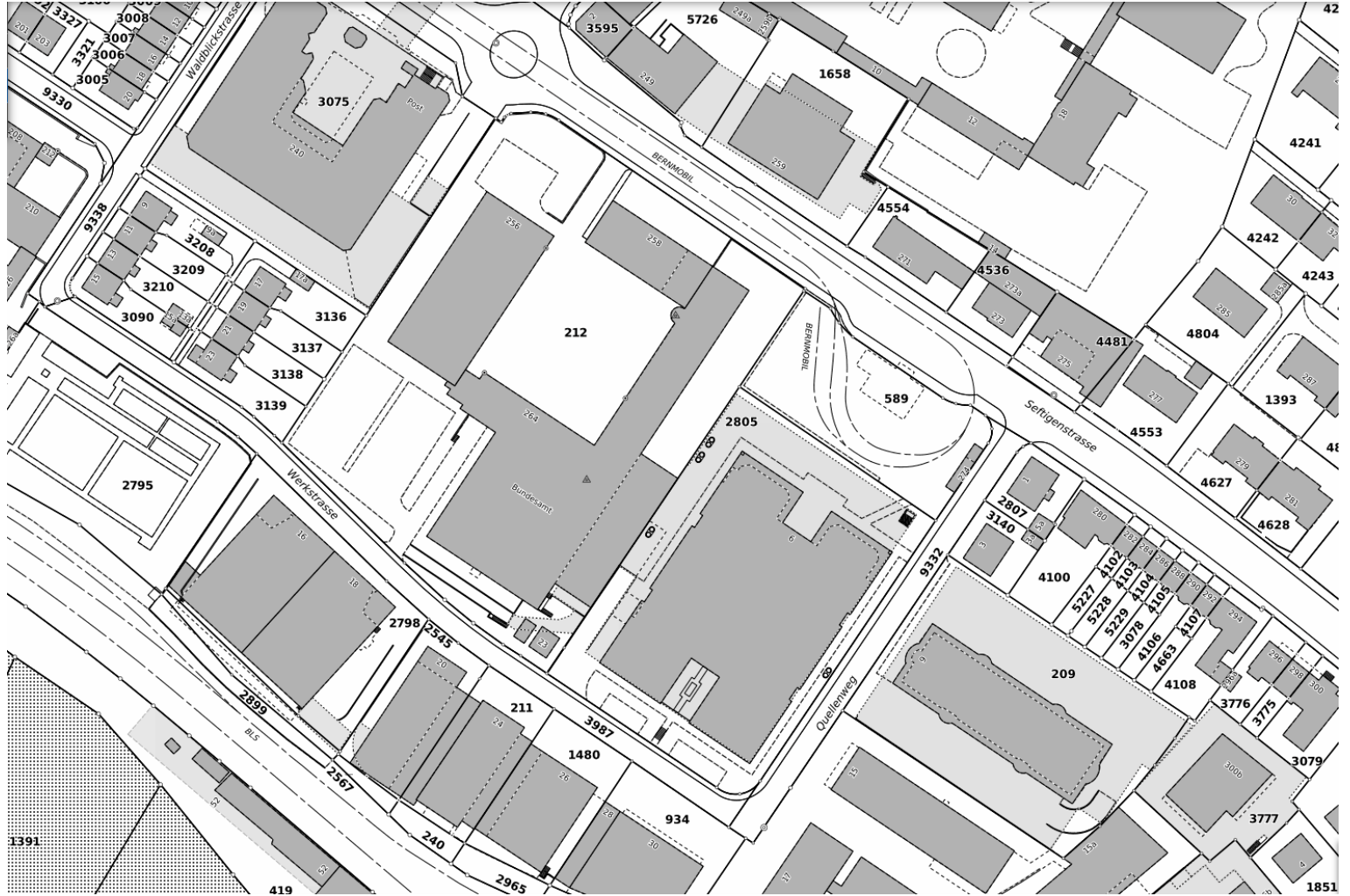


Multilingualism





Data synchronisation: Address-Cadastre





Data synchronisation: Address-Register for Buildings



Federal Office of Topography swisstopo

April, 8th 2019

16



Future enhancement: Register for buildings

Buildings without residential usage





Schedule

Data synchronisation

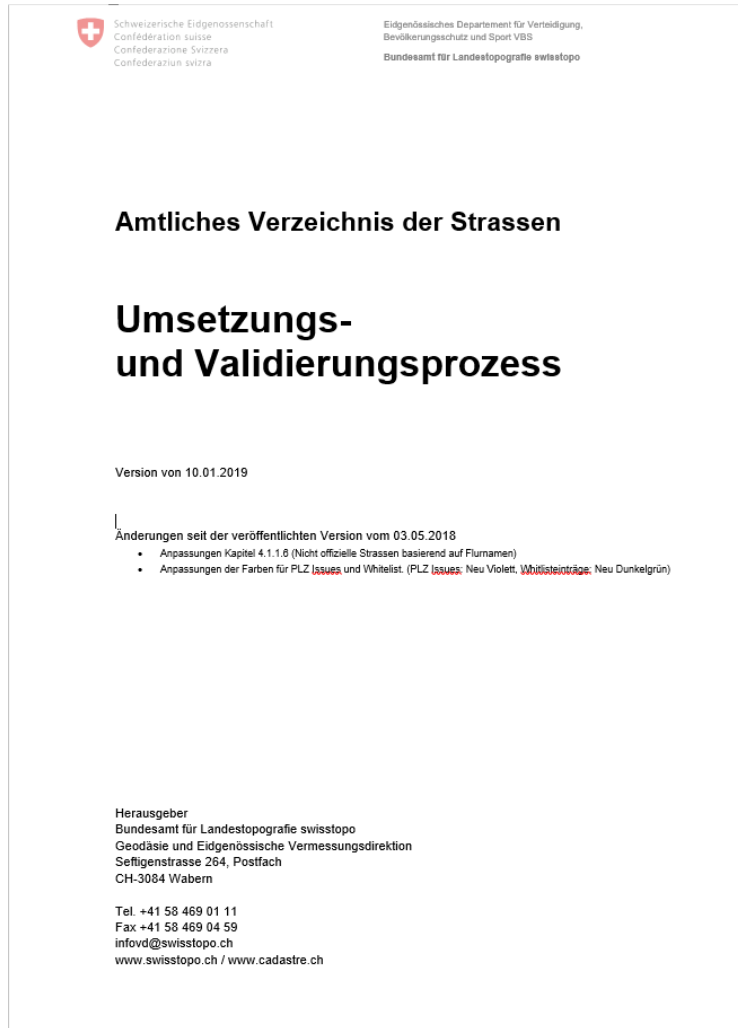
- | | | | |
|----|--------------|---------|---|
| 1. | Postal code | 03.2019 | ↑ |
| 2. | Street names | 08.2019 | ↓ |
| 3. | Buildings | 12.2019 | |
| 4. | Adresses | 12.2019 | |

enhancement

2021



The first release: Documents for validation



This document contains:
Examples
What should I do?
.....



The first release:

Lists for validation with link to issue

ISSUES	STR_ESID	STR_ESTRIPLZ_PLZ6	LINK	DE_S
1 Manuelle PLZ Zuweisung	10004687	1016399 3283-00	link	Aspi
0	10079005	1016400 3282-00	link	Beun
0	10004688	1016401 3282-00	link	Brunr
0	10190109	1016402 3282-00	link	Brügg
0	10220128	2393272 3282-00	link	Chalc
0	10109055	1016403 3282-00	link	Damr
0	10220131	2393275 3282-00	link	Dorfp
1 Gleiche ESID für mehrere nicht zusammenhängende Strass	10009203	1016404 3282-00	link	Fisch
0	10108585	2064455 3282-00	link	Gren
0	10220135	2393279 3282-00	link	Hahle
0	10220139	2393283 3282-00	link	Hahle

[Kt]_Streetnames_All
[Kt]_Streetnames_AV_only
[Kt]_Streetnames_Issues
[Kt]_Streetnames_listed

331	only in AV	0 German name only in AV	4932-00	link	Rappechopf
342	only in AV	0 German name only in AV	4922-00	link	SBB
358	only in AV	0 German name only in AV	3066-00	link	Kartonfabrik
360	only in AV	0 German name only in AV	3043-00	link	Aspiwaldweg
371	only in AV	0 German name only in AV, German name in AV might be implausible, French name only	2504-00	link	Autobahn A5
371	only in AV	0 German name only in AV, German name in AV might be implausible, French name only	2555-00	link	Autobahn A5
		implausible, French name only	2503-00	link	Autobahn A5
			2606-00	link	
			2333-00	link	
			2576-00	link	Allme
			2576-00	link	Butte Acker

DE_GDENR	STR_ESID	AV_STN_STRNAME	COMMENT
385		Mühlemattweg	Inherits from longer line
385		Oberer Mühleweg	Inherits from longer line
717		Les Bouleaux	Inherits from longer line

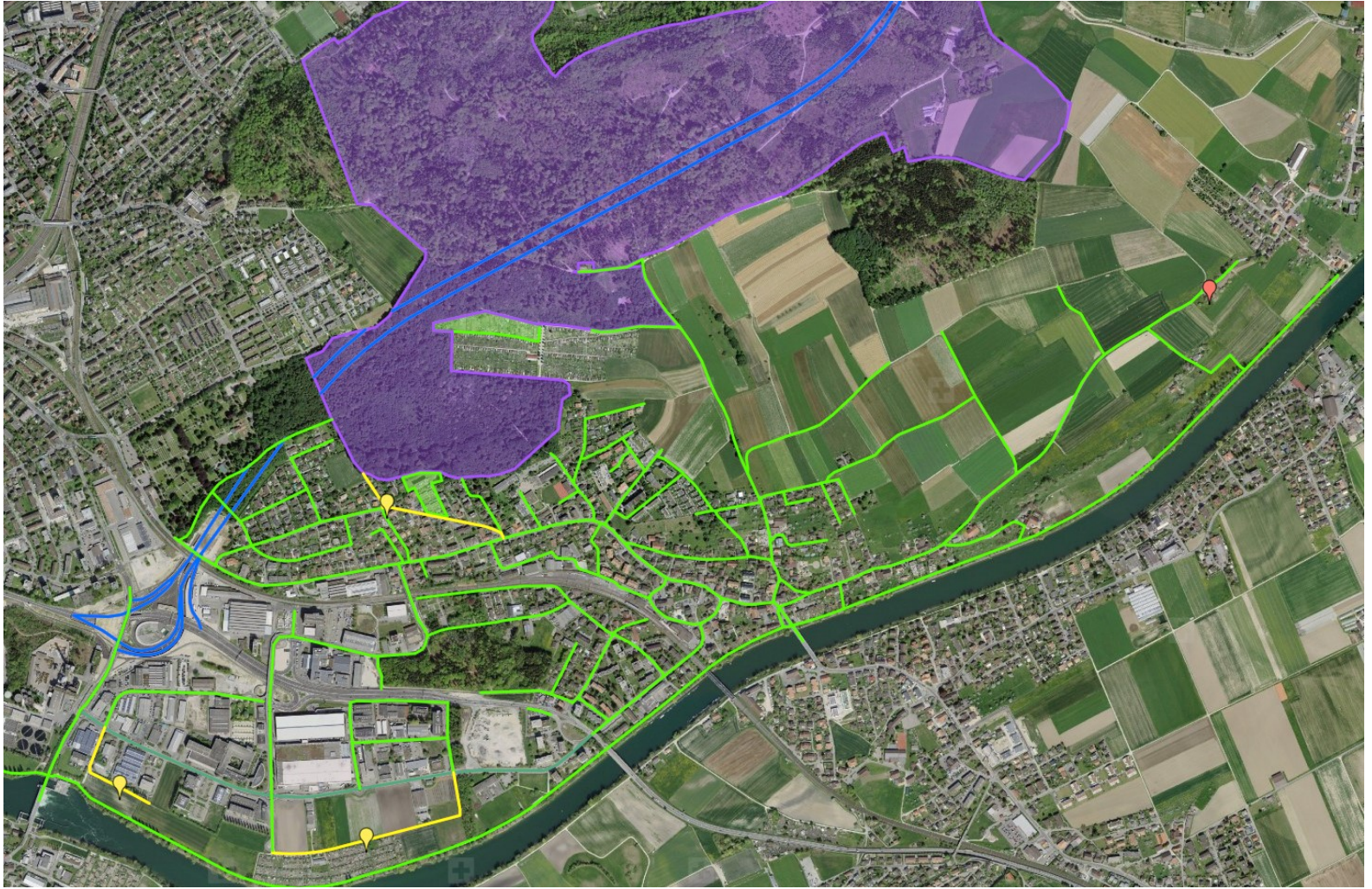
LINK	DE_STN_STRNAME
link	Kappelenstrasse
link	Leimern
link	Zelgliweg

ISSUES	STR_ESID	STR_ESTRIPLZ_PLZ6
1 Manuelle PLZ Zuweisung	10079002	1016359 3270-00
0 Street part crosses 3270-00 which is not registered in GWF	10051836	1016364 3250-00
1 Manuelle PLZ Zuweisung	10004686	1016398 3273-00



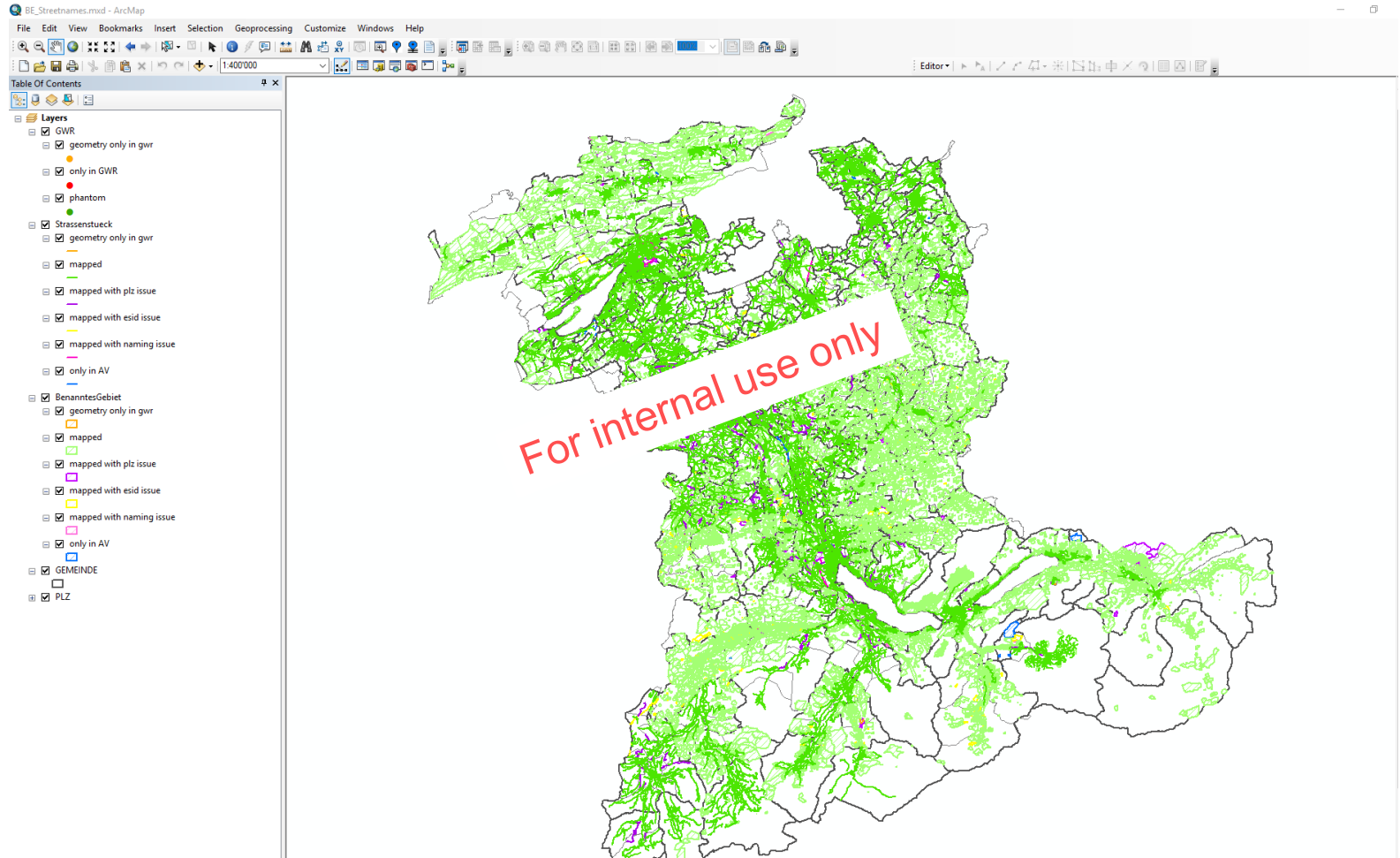
The first release:

KML-Files hosted on S3





The first release: ESRI FGDB and ArcMap MXD





The first release

- All data are every night reprocessed
- All lists, .kml's and the FGDB's are every night reprocessed
- Issues are categorised

	Available in cadaster	Not available in cadaster
Available in register for buildings and appartments	Mapped Mapped with plz issues	Only in GWR
	Mapped with naming issues	
	Mapped with esid issues	
Not available in register for buildings and appartments	Only in AV	New



The validation process 1/4

common	Street part crosses 8841-00 which is not registered in GWR	10065323	1054305	8840-00	link	Birchli	keine Korrektur
common		10019359	1054306	8840-00	link	Birchlimatt	
common		10019360	1054307	8840-00	link	Birchlistrasse	
common		10065324	1054308	8840-00	link	Birkenhainweg	
common	ESID used for multiple streets	10115665	1054309	8836-00	link	Birkenweg	Birkenweg, 8836 00 Bennau, neuen ESID vergeben.
common	ESID used for multiple streets	10115665	1054309	8840-00	link	Birkenweg	Birkenweg, 8840 00 Einsiedeln ist korrekt.
common		10065325	1054310	8846-00	link	Bisigshalden	



Adaptions and corrections by the register for buildings and apartments



Nightly validation by swisstopo





The validation process 2/4

Completion «Black-» and «Whitelisting»

A	B	C	D
GDENR	ESID	NAME	COMMENT
%	%	namenlos%	Namenlos ignoriert
1323	%	Bergweg	Nicht benötigtes kurzes Strassenstück

6623	10102482	Route de Ferney			Gleiche ESID für mehrere nicht zusammenhängende Strassenstücke
6623		Route de l'Aéroport	1215-00		Manuelle PLZ Zuweisung
6623		Route des Morillons	1218-00		Manuelle PLZ Zuweisung
6623	10222170	Route Douanière			Gleiche ESID für mehrere nicht zusammenhängende Strassenstücke
6623	10041211			10048167	Strasse in Nachbargemeinde
6624	10124224			10222105	Strasse in Nachbargemeinde
6626	10235339	Place du 700e			Schreibweise korrekt
6628	10046834	Chemin du 1er-Août			Schreibweise korrekt
6628		Esplanade de Pont-Rouge	1227-00		Manuelle PLZ Zuweisung
6628	10175627	Passage du 1er-Août			Schreibweise korrekt
6628	10096030	Place du 1er-Août			Schreibweise korrekt
6628		Rampe QUIDORT	1227-04		Manuelle PLZ Zuweisung
6628	10046841	Route des Jeunes	1227-04		Manuelle PLZ Zuweisung; Gleiche ESID für mehrere nicht zusammenhängende Strassenstücke
6628		Route du Grand-Lancy	1212-00		Manuelle PLZ Zuweisung
6628	10048146			10082196	Strasse in Nachbargemeinde
6628	10096035			10046933	Strasse in Nachbargemeinde
6628	10096045			10048671	Strasse in Nachbargemeinde
6628	10178329			10096341	Strasse in Nachbargemeinde

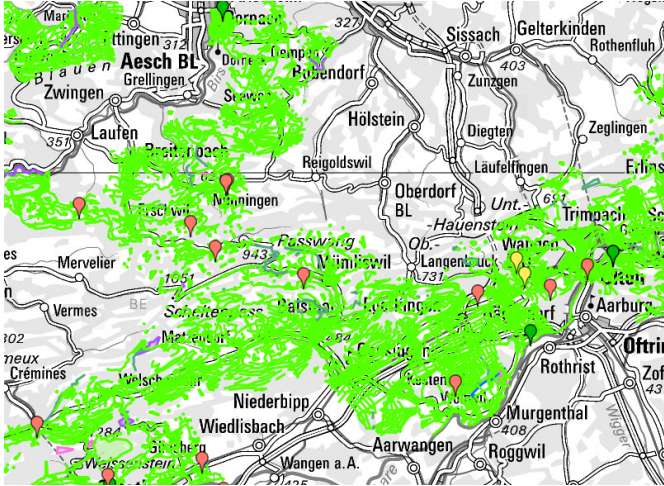


Validation by swisstopo





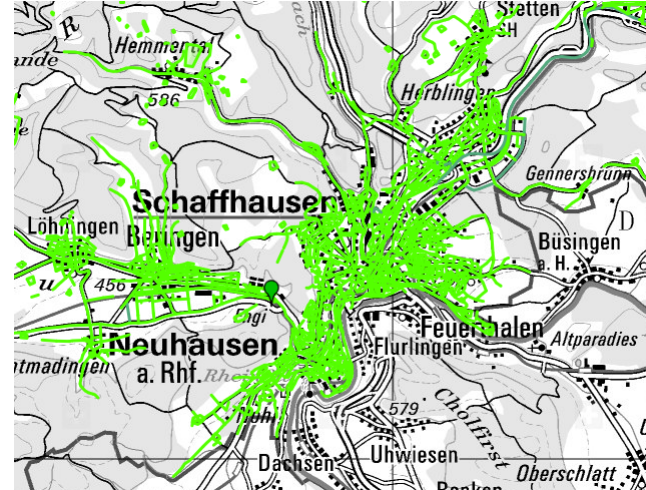
The validation process 3/4



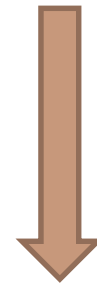
Issues found



Consulting with cantons and / or
the register for buildings

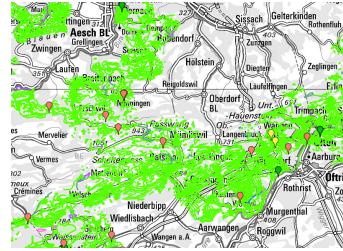


No issues





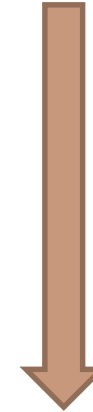
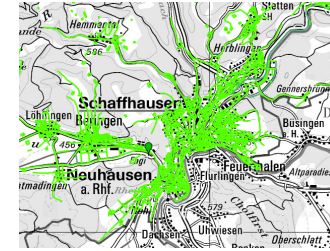
The validation process 4/4



Fix the data or «black-/white-list»



Validation by swisstopo

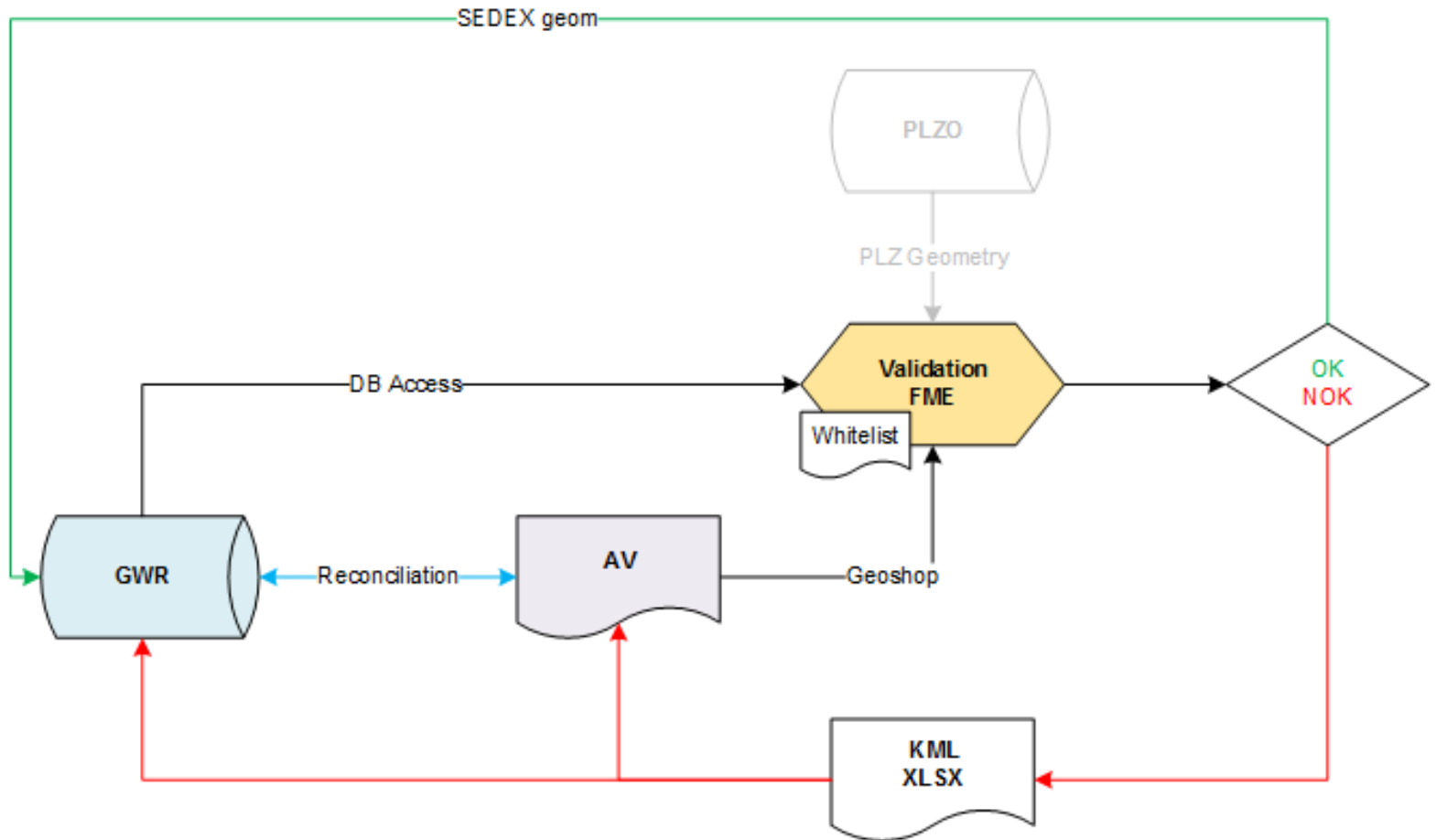


Streets are considered validated
Change the attribute at the register for
buildings and apartments



The technology:

The idea





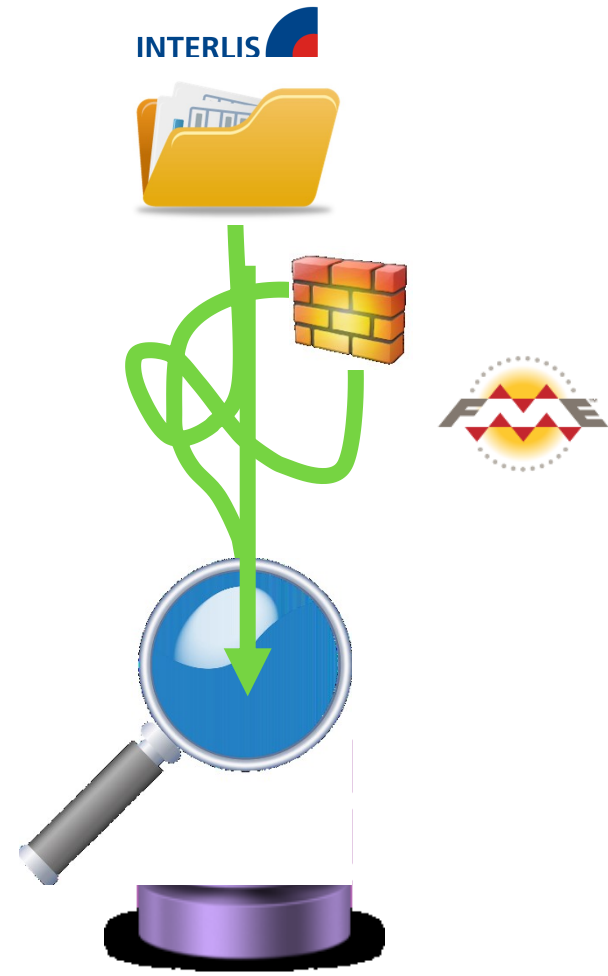
The data sources

The register for buildings and apartments



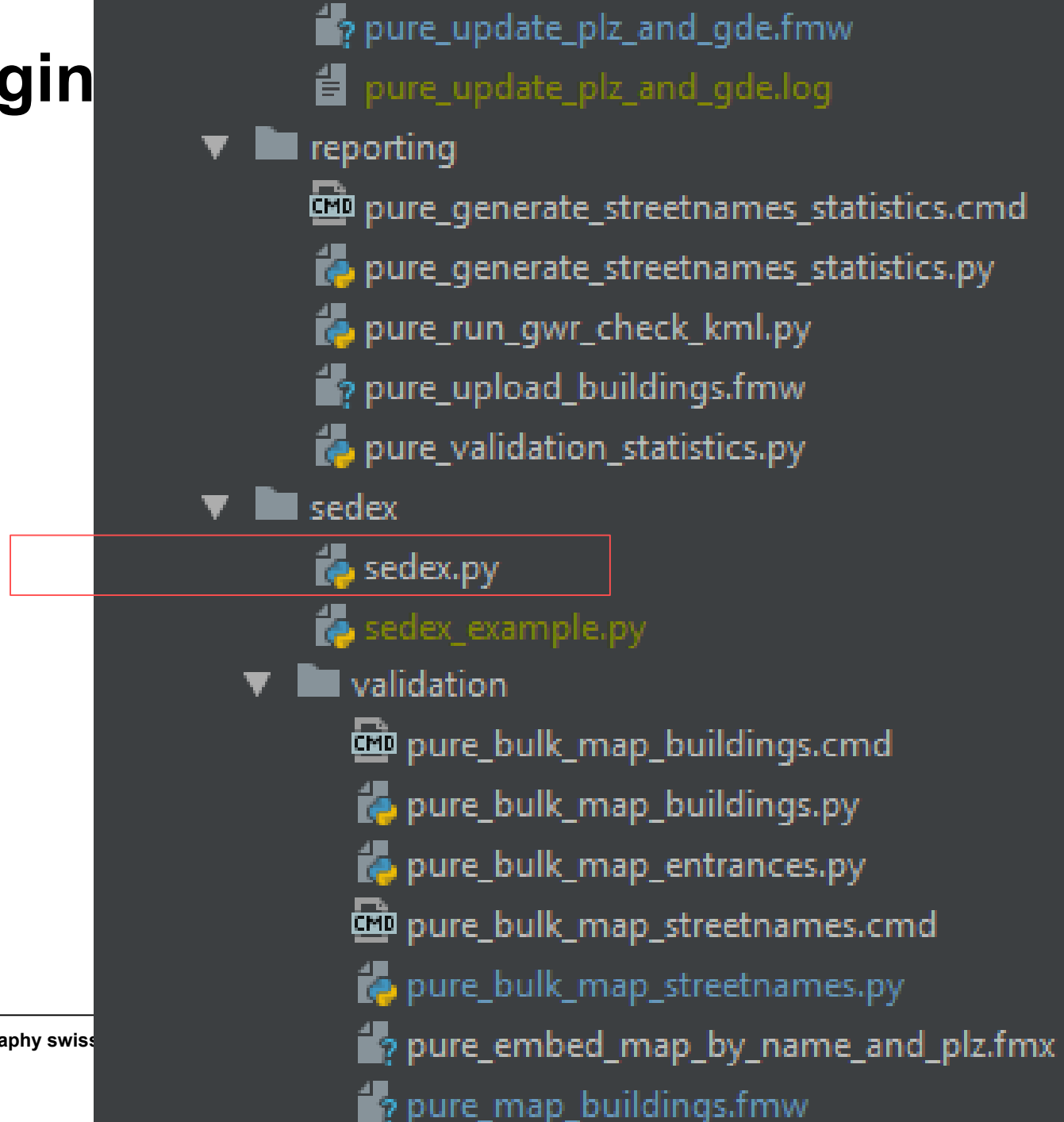


Get the data



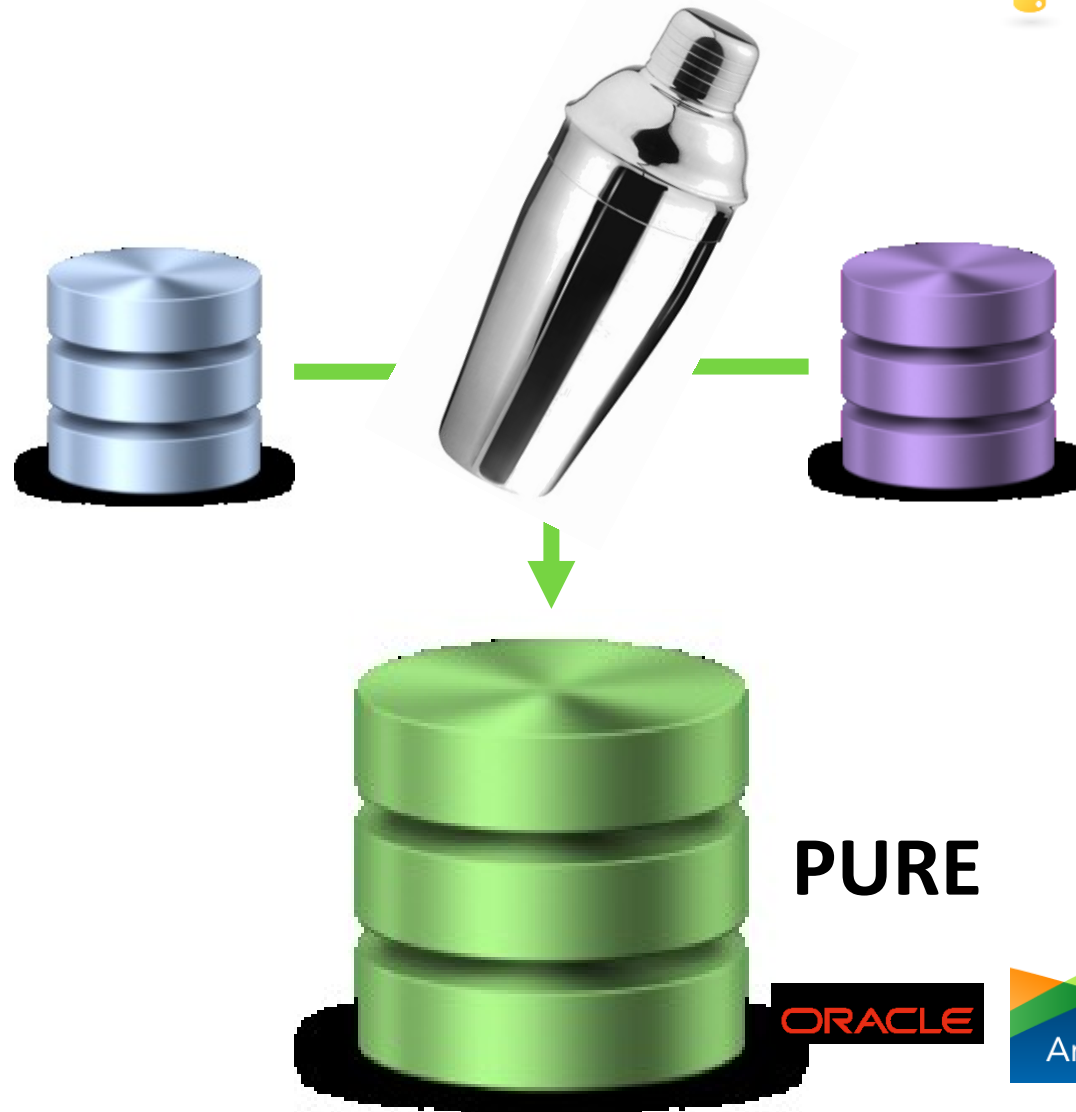


The engine



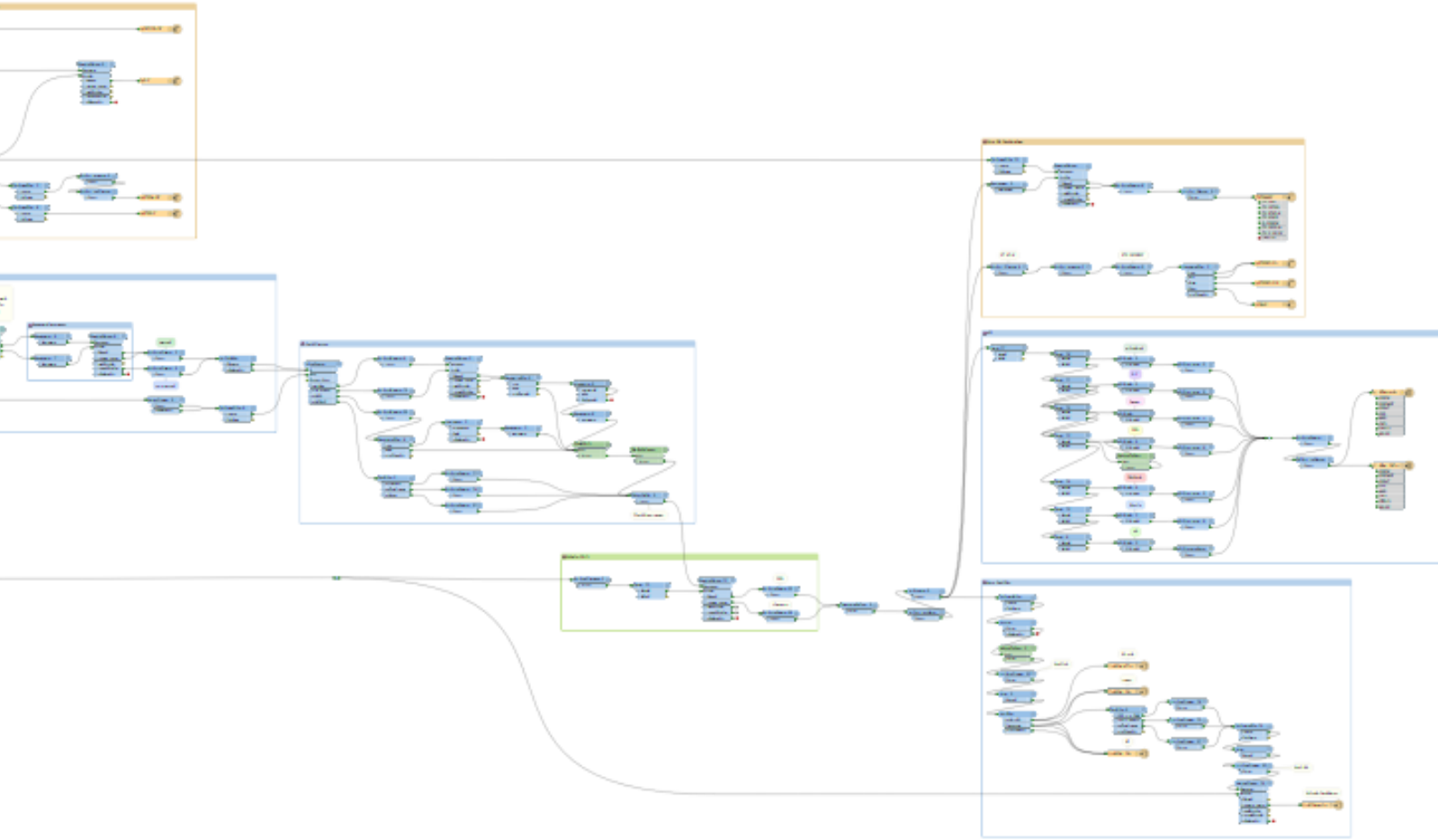


Shake the fairy dust



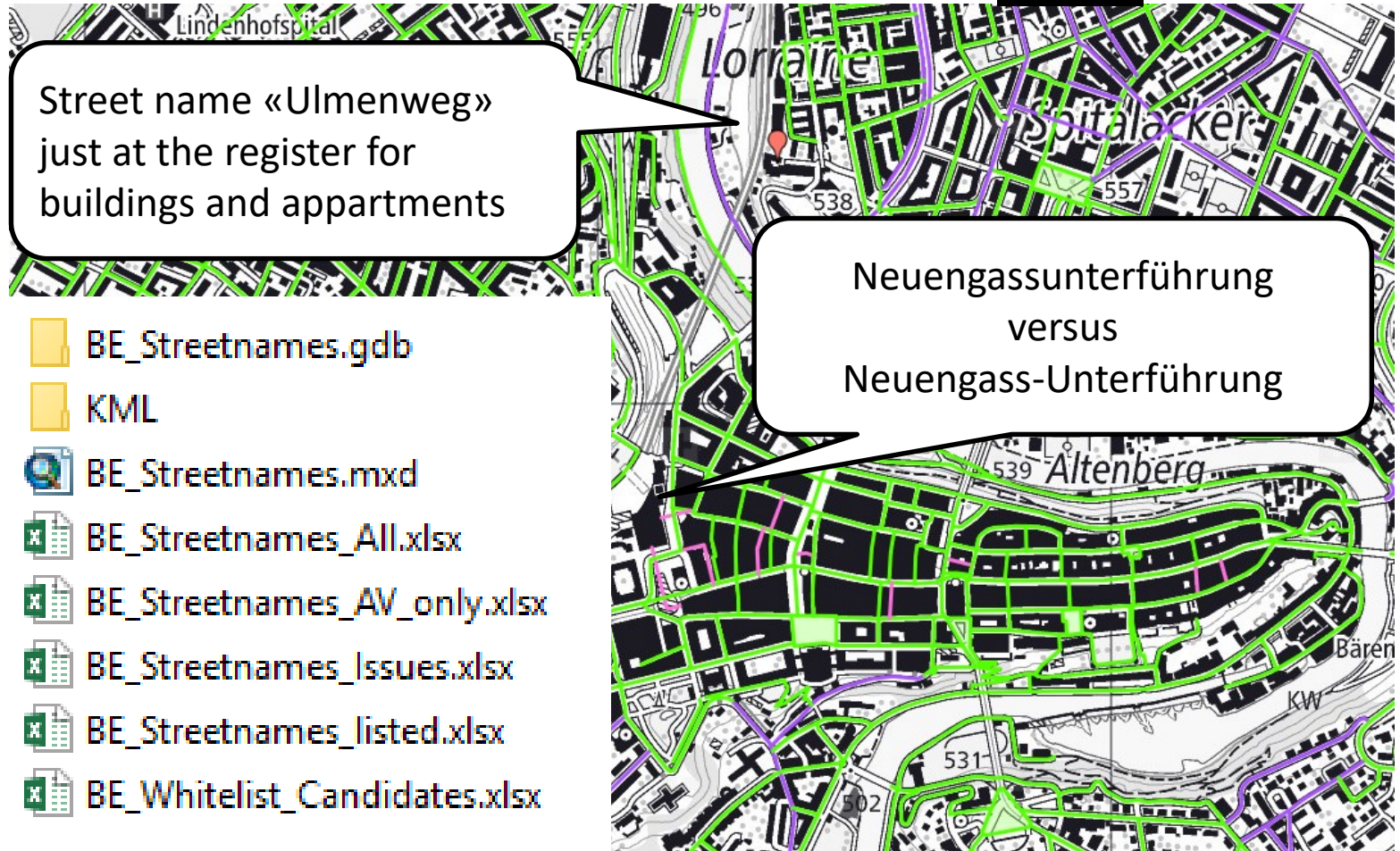


The overnight-flow



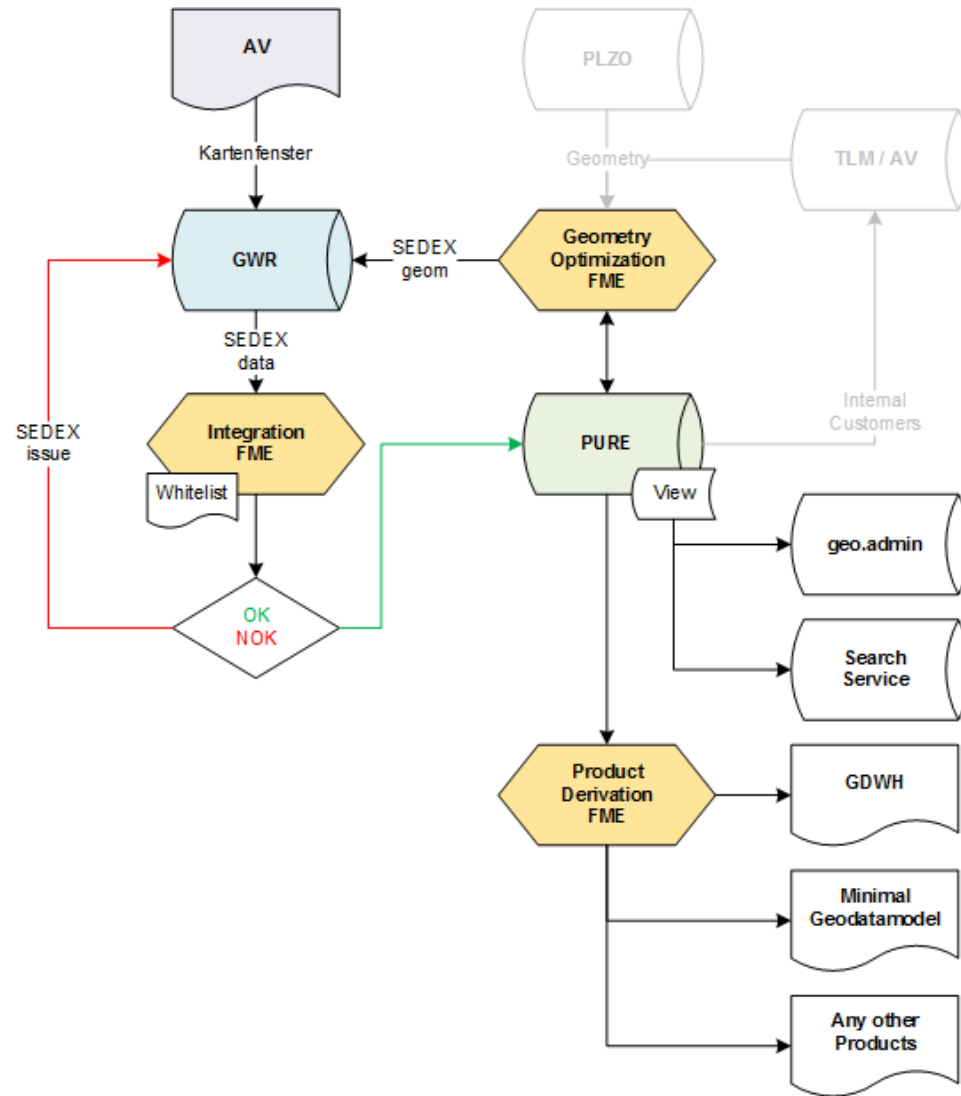


“Every” morning the results





Behinde the scenes: PURE





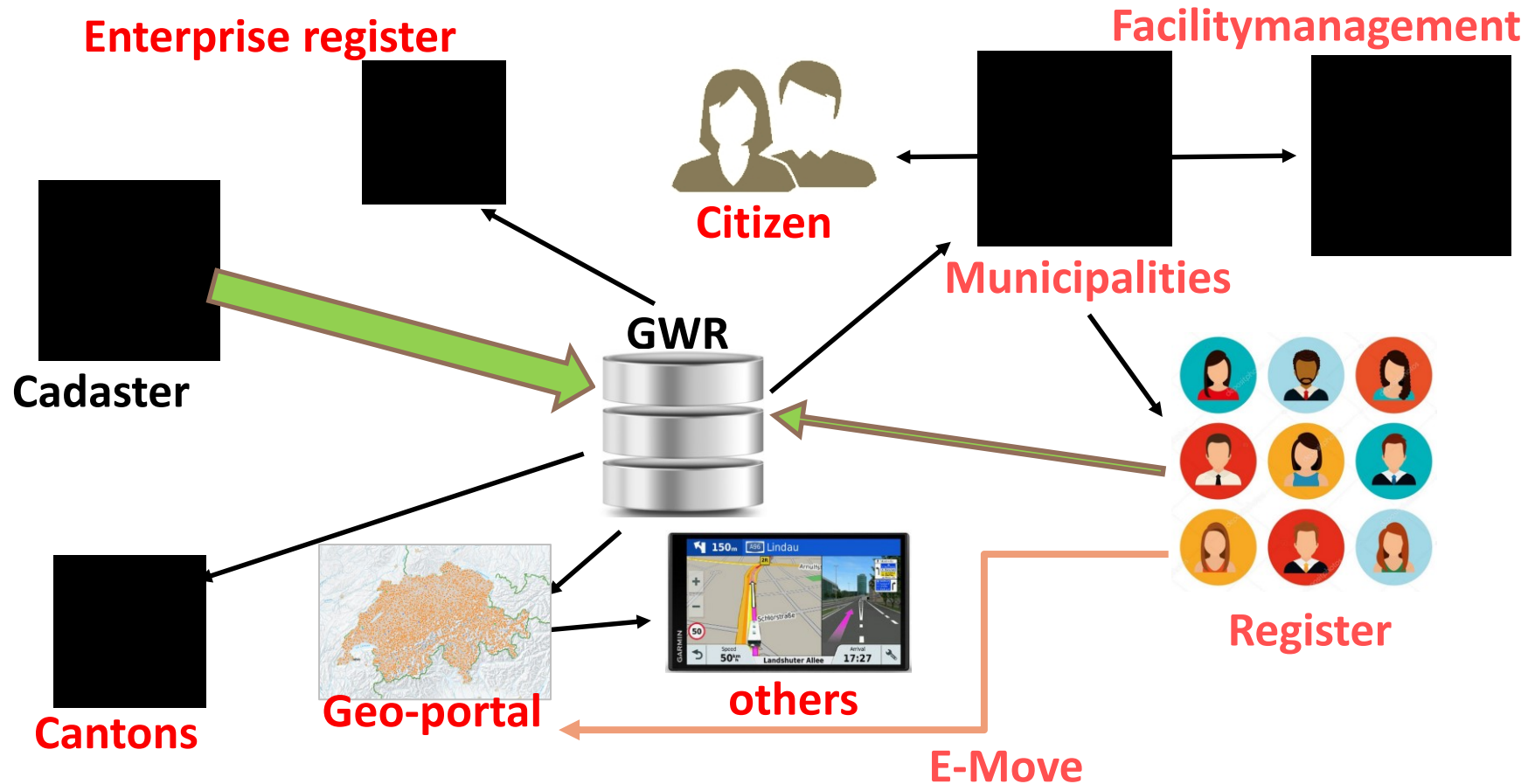
The register for buildings and apartments:

4 Usecases

1. Add new street name
 - Easy, there was «nothing»
 - Normally this case does not occur because the street names have already been added from the cadaster.
2. Delete street name
 - If there is no building attached no problem
 - If there is a building attached the address has to change
3. Split existing street name
 - delete one add two or more
 - If there are buildings attached the old street, first the addresses has to change
4. Change existing street name



The register for buildings and appartments: Stakeholder / Dataflows



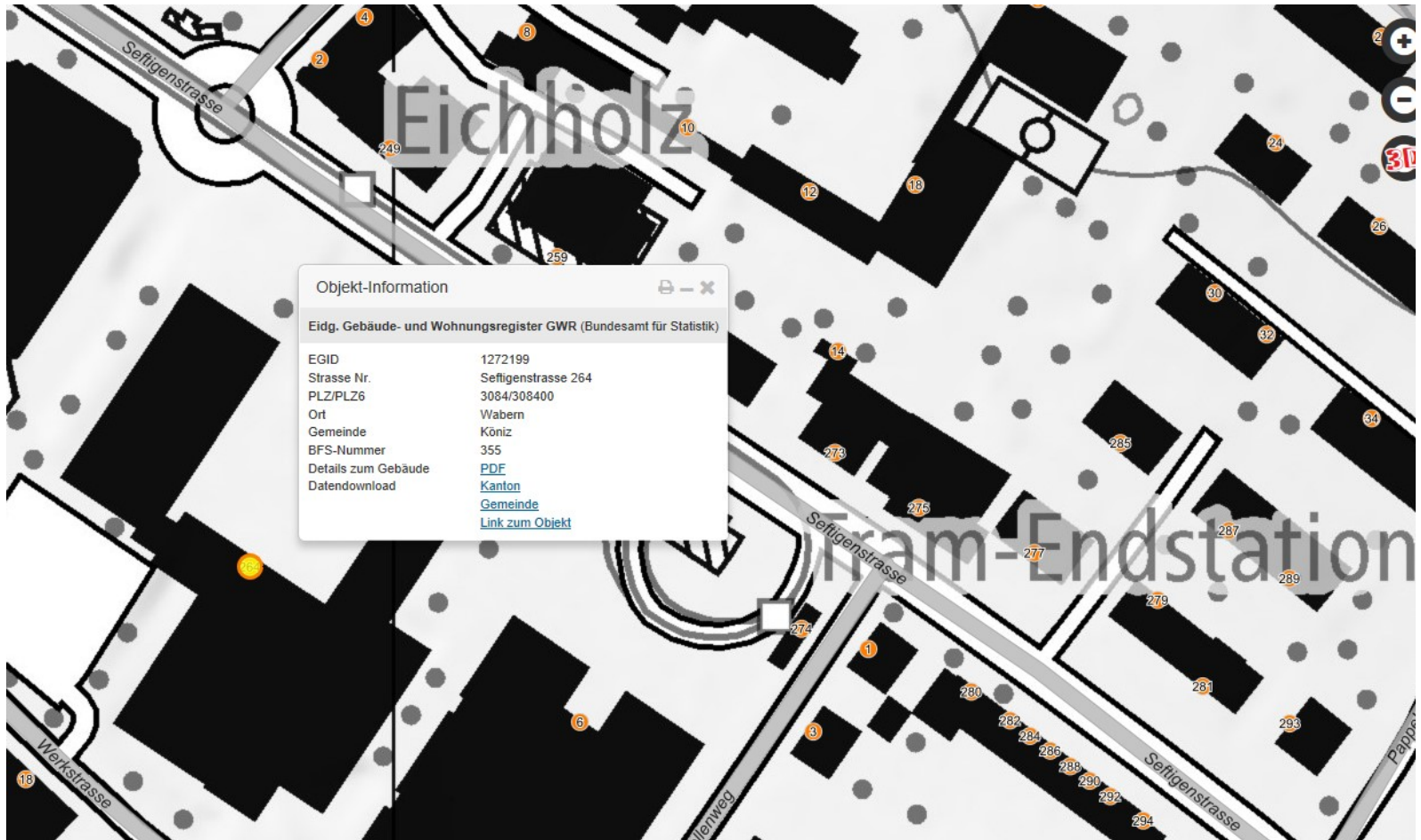


Addresses are emotional

- <https://www.srf.ch/news/regional/bern-freiburg-wallis/hochdeutsche-strassennamen-walliser-sorgen-sich-um-dorfcharakter>



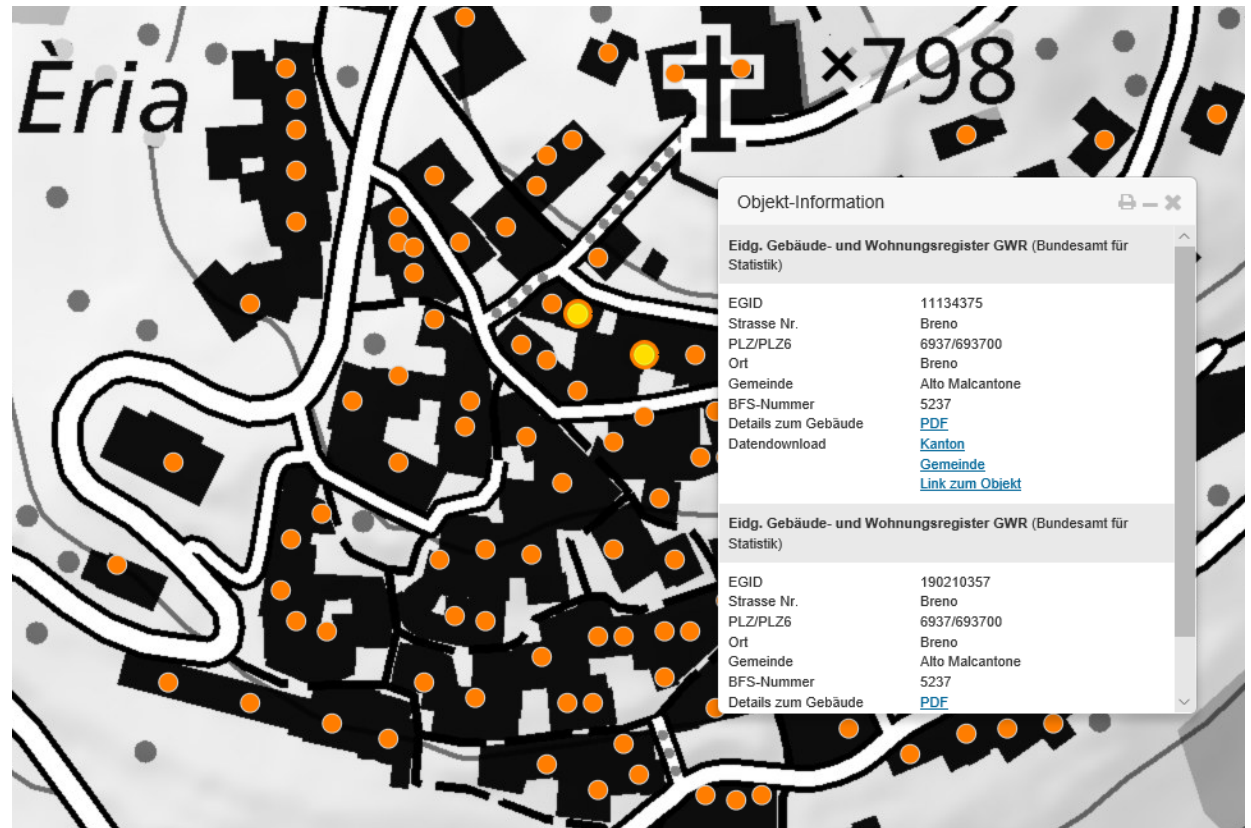
Next step addresses more than 80% ist ok





Next step addresses but

The postman knows all the addresses but the fire department, and ambulance hopefully too. Every house has the same address





Next step addresses

Two houses one address

Objekt-Information

Eidg. Gebäude- und Wohnregister GWR (Bundesamt für Statistik)

EGID	958578
Strasse Nr.	Eya
PLZ/PLZ6	3929/392900
Ort	Täsch
Gemeinde	Täsch
BFS-Nummer	6295
Details zum Gebäude	PDF
Datendownload	Kanton
	Gemeinde
	Link zum Objekt

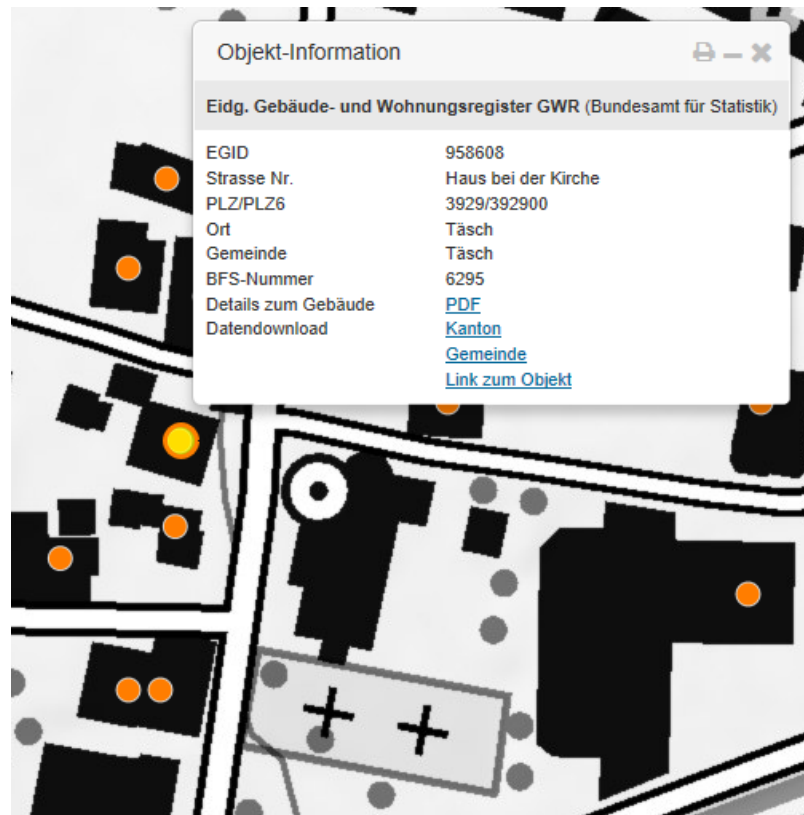
Eidg. Gebäude- und Wohnregister GWR (Bundesamt für Statistik)

EGID	958603
Strasse Nr.	Eya
PLZ/PLZ6	3929/392900
Ort	Täsch
Gemeinde	Täsch
BFS-Nummer	6295
Details zum Gebäude	PDF



Next step addresses house with name

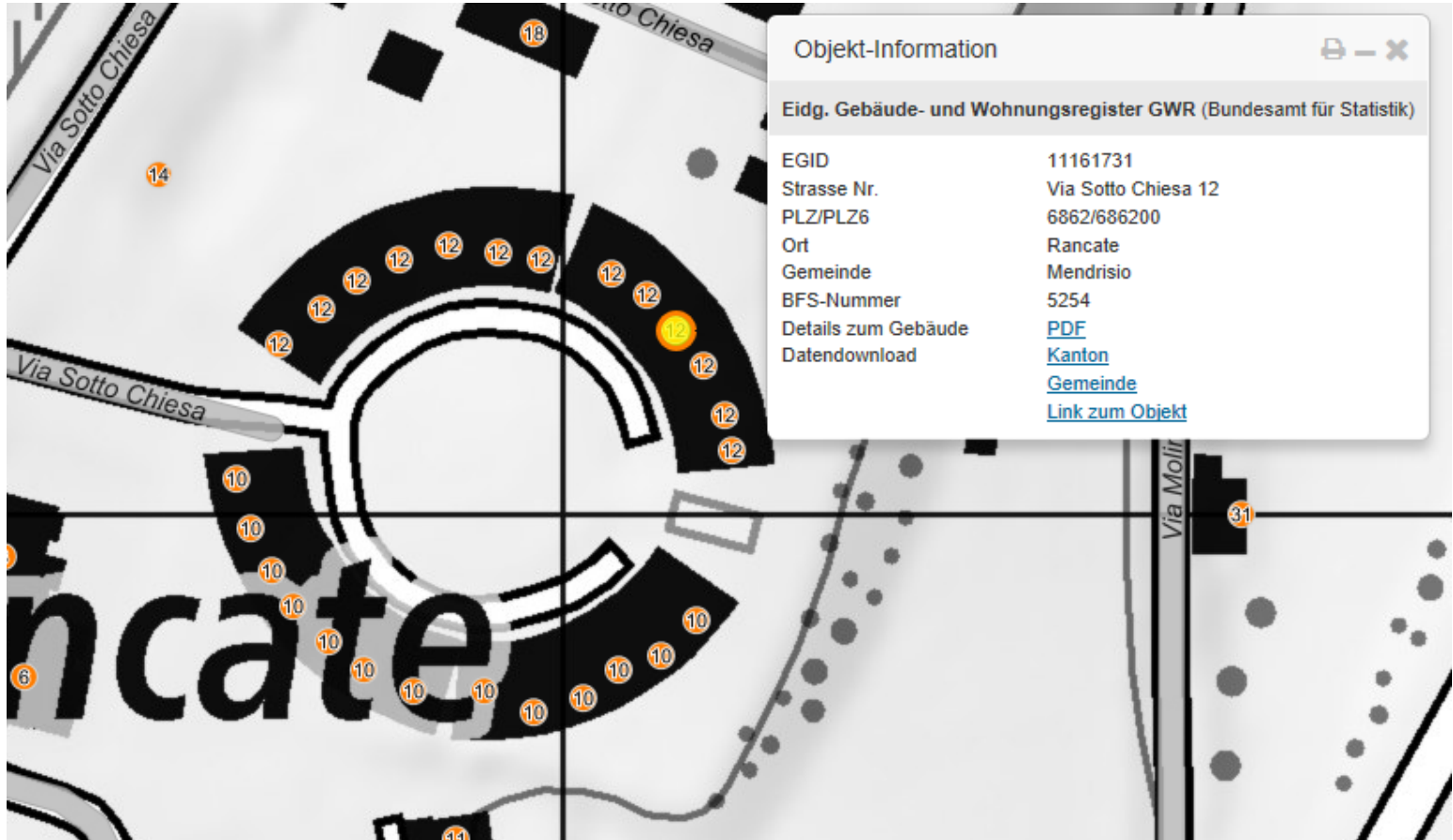
“Haus bei der Kirche” -> House at the church
Hope there is only one church





Next step addresses

Where is number 10? Near to number 12?



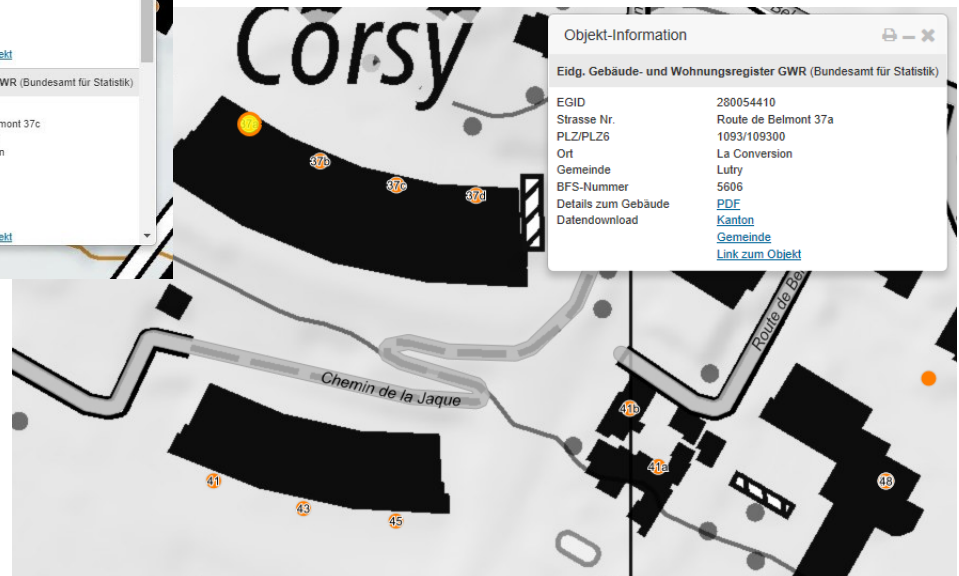


Next step addresses

Visualization helps



You will now find the entrance



Ok we will change the coordinates 😊



Federal Spatial Data Infrastructure (FSDI)

Available web services inspired by ESRI GeoServices REST specification

- Search

<http://api3.geo.admin.ch/services/sdiservices.html#search>

- Identify (reverse geocoding, intersection)

<http://api3.geo.admin.ch/services/sdiservices.html#identify-features>

- Find (check exact spelling)

<http://api3.geo.admin.ch/services/sdiservices.html#find>

Available OGC-Webservices

- WMS
- WMTS

It is for free 😊



Federal Spatial Data Infrastructure (FSDI)

Planned web services

- Download (ATOM?)
- LinkedData (if there is a need)





There is an open question?

Thalstrasse or **Tal**strasse?
Glatt**ttt**alstrasse or Glatt**tt**alstrasse?



Thalstrasse or Talstrasse?

[https://api3.geo.admin.ch/rest/services/api/MapServer/
find?layer=ch.swisstopo.amtlisches-
strassenverzeichnis&searchText=Thalstrasse&search
Field=label&returnGeometry=false&contains=false](https://api3.geo.admin.ch/rest/services/api/MapServer/find?layer=ch.swisstopo.amtlisches-strassenverzeichnis&searchText=Thalstrasse&searchField=label&returnGeometry=false&contains=false)

[https://api3.geo.admin.ch/rest/services/api/MapServer/
find?layer=ch.swisstopo.amtlisches-
strassenverzeichnis&searchText=Talstrasse&searchFi
eld=label&returnGeometry=false&contains=false](https://api3.geo.admin.ch/rest/services/api/MapServer/find?layer=ch.swisstopo.amtlisches-strassenverzeichnis&searchText=Talstrasse&searchField=label&returnGeometry=false&contains=false)

