Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Landestopografie swisstopo
Technik und Innovation

wissen wohin
savoir où
sapere dove
knowing where

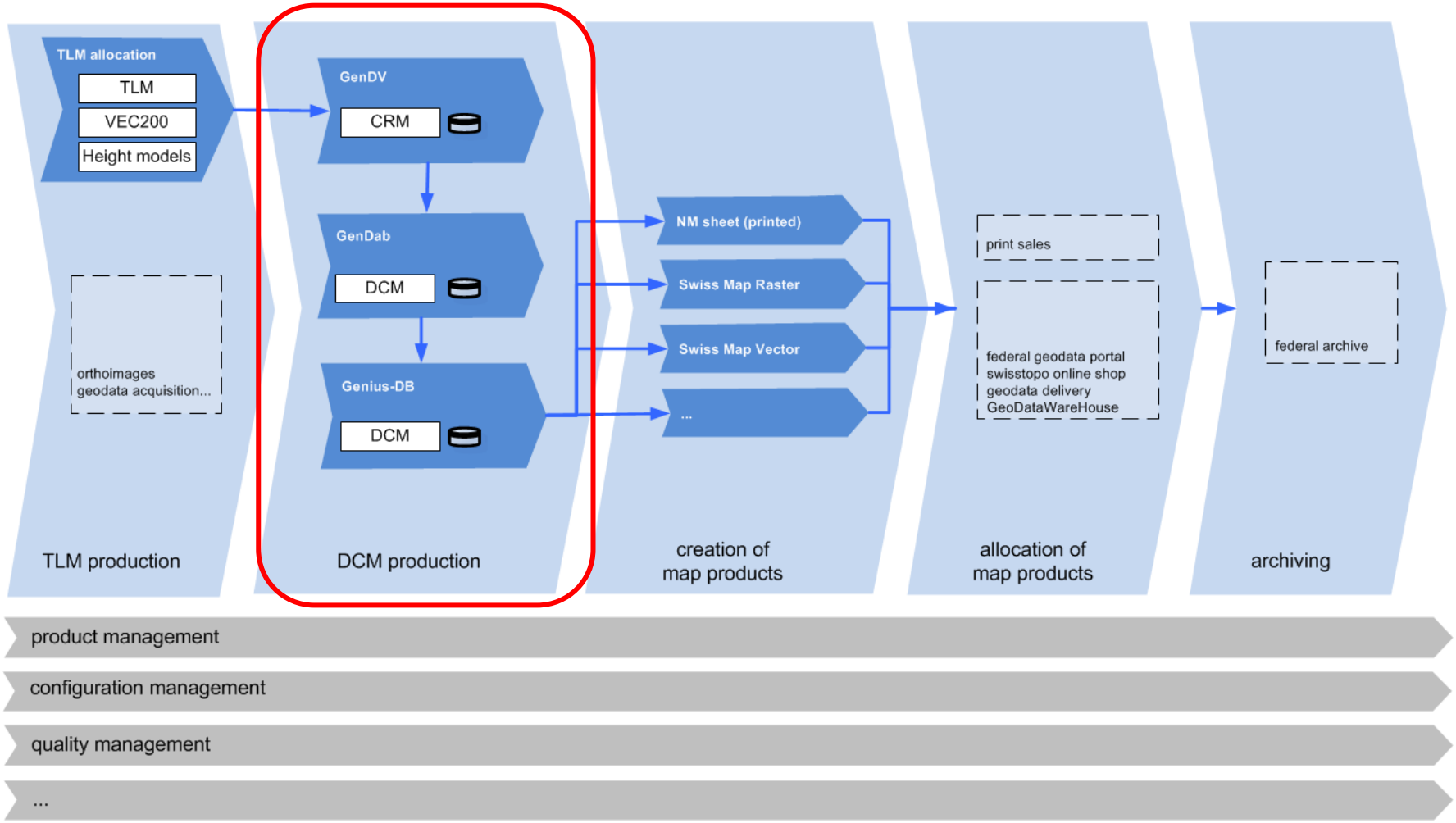
swisstopo

New National Maps for Switzerland

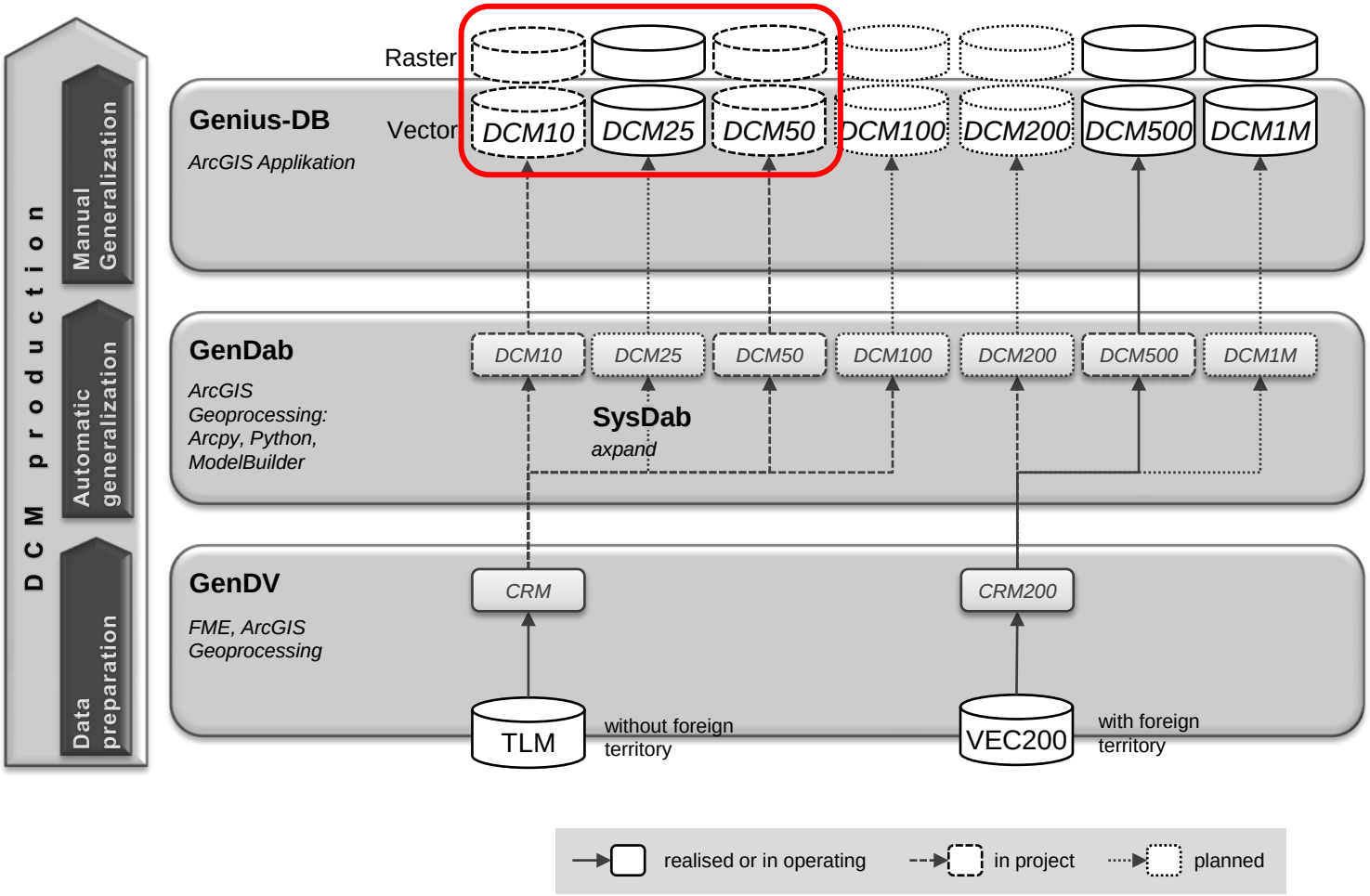
swisstopo multi-scale production line / December 3rd/4th 2015

Dominik Käuferle

National Map Process chain



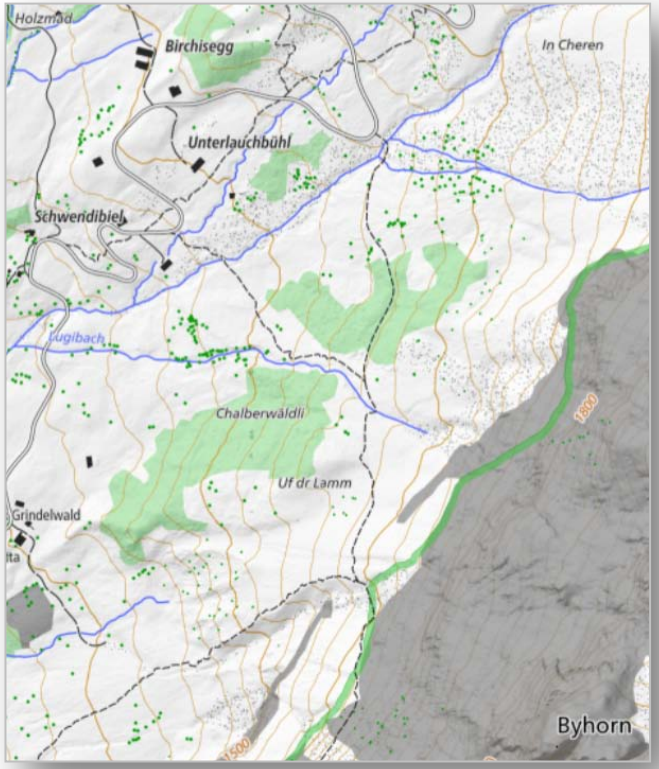
DCM production architecture

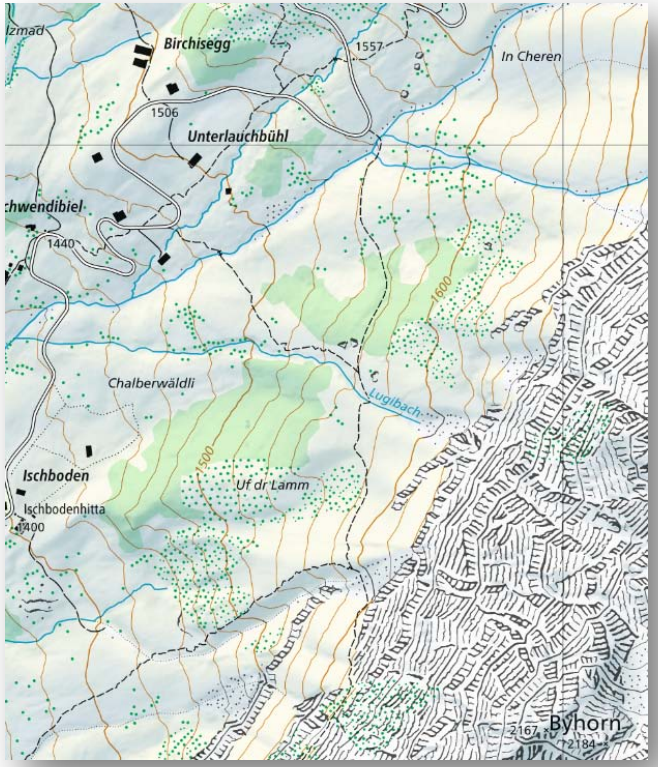


1:10 000: first release June 2016

Digital Cartographic Model 1:10’000 = new national map 1:10’000

- Fully automated production, perimeter Switzerland
- Source TLM, DTM and DCM25 rock/relief-rasters
- Little automatic generalization (vegetation)
- Automatic text placement
- Digital product
- Replaces prior ‘simple’ map:





1:10 000

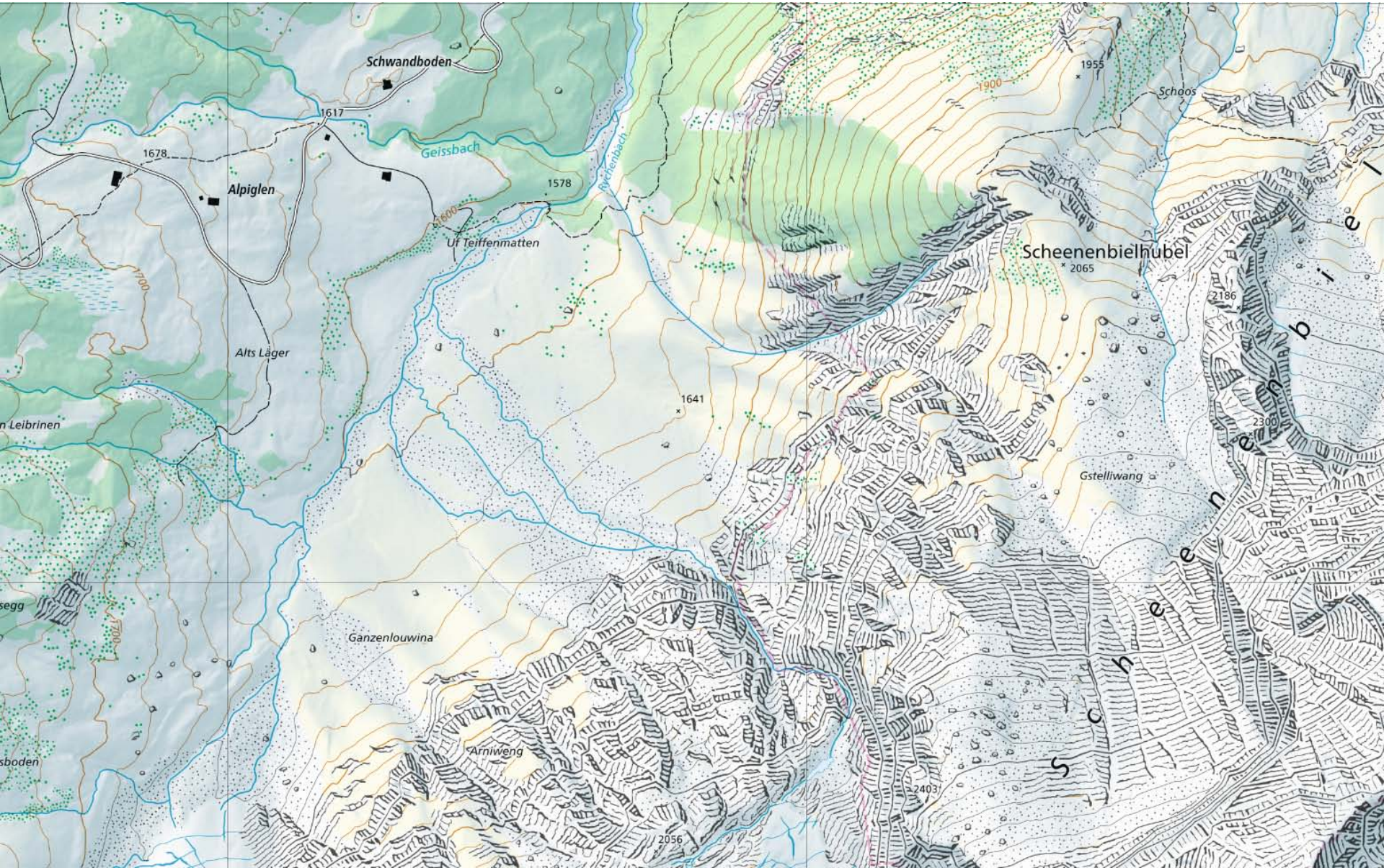

Tannweid
Im Büntli
508
Eihalden
Münchisberg
490
Rosselbaumen
Rosselbaumen
Walterswil SO
Fritz
Hard
Tommehügel
sacker
518
500
Safenwil
Chlini Eie
Lischmatt
Schöpfler
492
467
Walterswil 50m
Schürmatt
Obermatte
Ischlag
483
A1 N1
Mühlbach
479
Gemeinmatte
Mülimatt
Mühle
Löwenmatte
Muserhöfli
Walterswil
Dorfbach
481
Angerech
Safenwil
Farbbach
Dorf
478
Untere Sumpf
Sumpf
Walterswil-Striegel
Ischlag
Neuhaus
Brüelmatte
Linderain
Dörfli
Längacher
Lindefeld
Ober Sumpf
Gässlimatt
484
479
487
Goldacher
Schwähi
Chriesigass
Am Striegel
506
Wannerain
533
Brünnliacher
Höchacher
Bärebode
Gyrhölzli
Maieriesli
Striegel
Talacher
Löörerain
I der Weid
Am Rain
566
Hof
Wegacher
Schnepfwinkel
Löore
Chnabebiel
Safenwil 50m
Triseln
Geissrügge
Löörerain

1:10 000

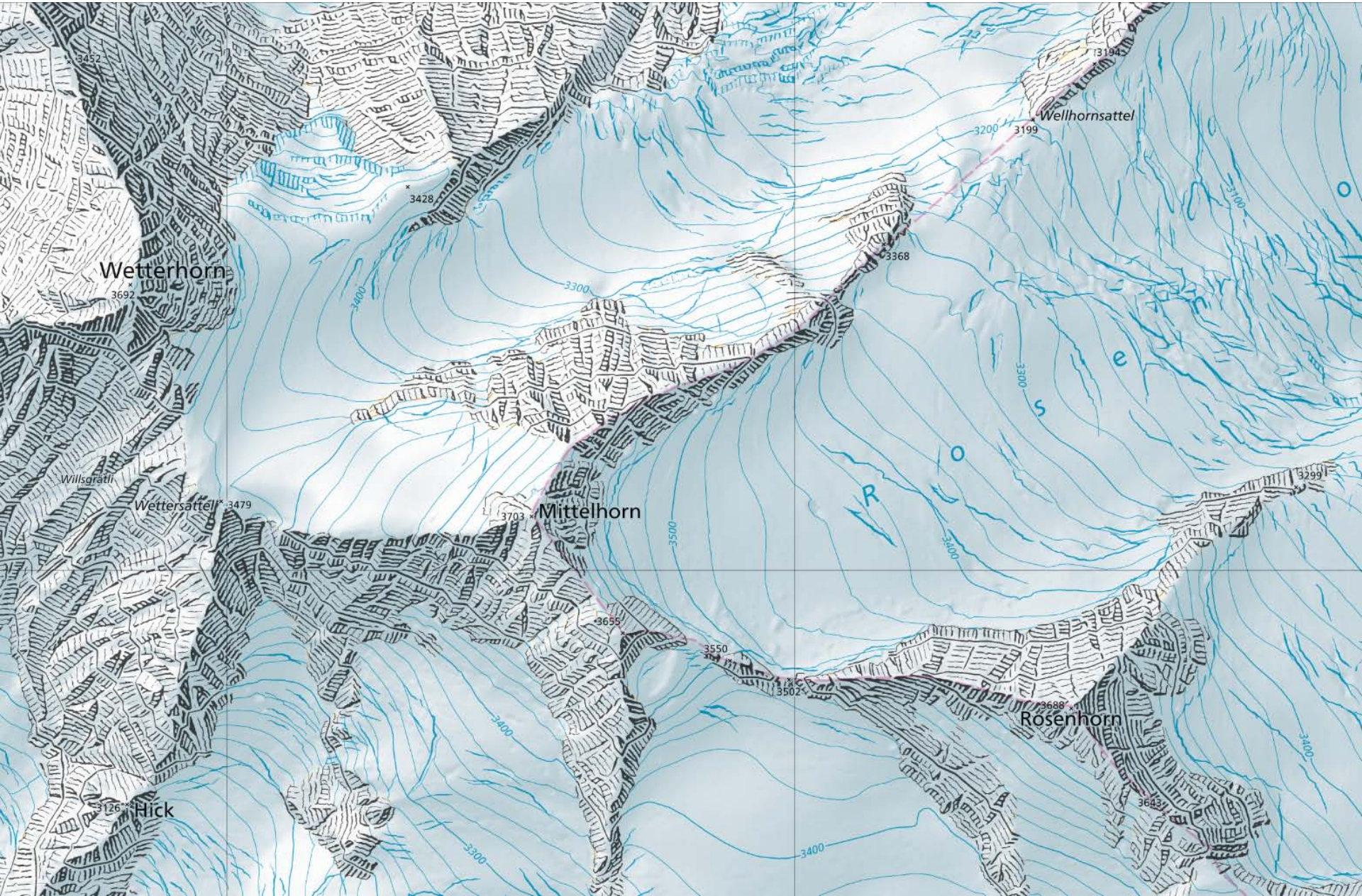

Im Funken
Kirchmoos
Spitalhalde
Lehmgrube
Steinbruchboden
Im Gütli
Grosser Brühl
Schulhaus
Zofingen
Amslerguet
Rosengarten
Reutenen
Mittelwald
Schützenmatte
Finkenherd
Altstadt
Finkenhalde
Friedau
Kunzenbad
Im Henzmann
Im Schürli
Bärenmoos
Brunngrab
Pomernberg
Flora
Obere Vorstadt
Brunngrabenhalde
Obstsortengarten Zofingen
Forstacker
Pomern
Reutenen
Mühlebifang
Mühlematte
Wegweiser
Rosenberg
Erlenmöösli
Falkeisenmatte
Im Tanner
Hirzenberg
Heiternplatz
Zofingen Heitern 300/50/25m
Junkermatte
Junkerbifang
Schlossk
Aeppenhalde
Zielwall
Wildpark Heitern
Spitalhof
Römerbad
Wuhrmatte
Hirschpark
Obere Mühle
An der Luzernerstrasse
Buggeliloch
Innere Altachen
Stiftswald
Bergli
Bad

1:10 000

1:10 000

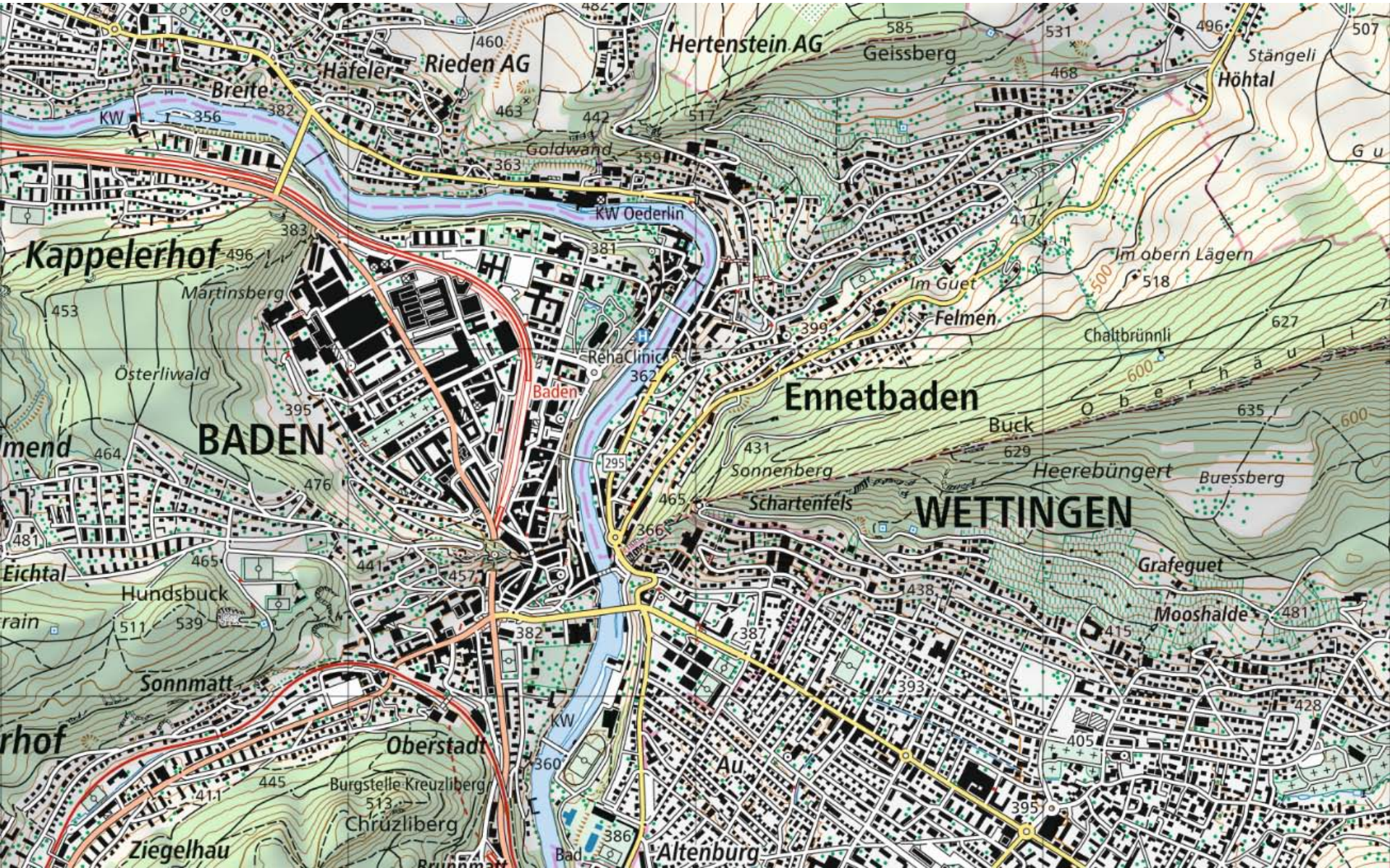

Schwandboden
1617
1678
Alpiglen
Geissbach
1578
Richenbach
1600
Uf Teiffenmatten
1700
Alts Läger
1641
Leibrinen
segg
Ganzenlouwina
Arniweng
sboden
2056
2403
1955
1900
Schoos
Scheenenbielhubel
2065
2186
2300
Gstelliwang
Scheenenbiel

1:10 000


3452
3194
Wellhornsattel
3199
3200
3100
3428
3368
Wetterhorn
3692
3300
3400
3300
Rosenhorn
Willsgratli
Wettersattel
3479
3703
Mittelhorn
3500
3400
3299
3655
3550
3502
3688
Rosenhorn
3400
3643
3126
Hick
3300
3400

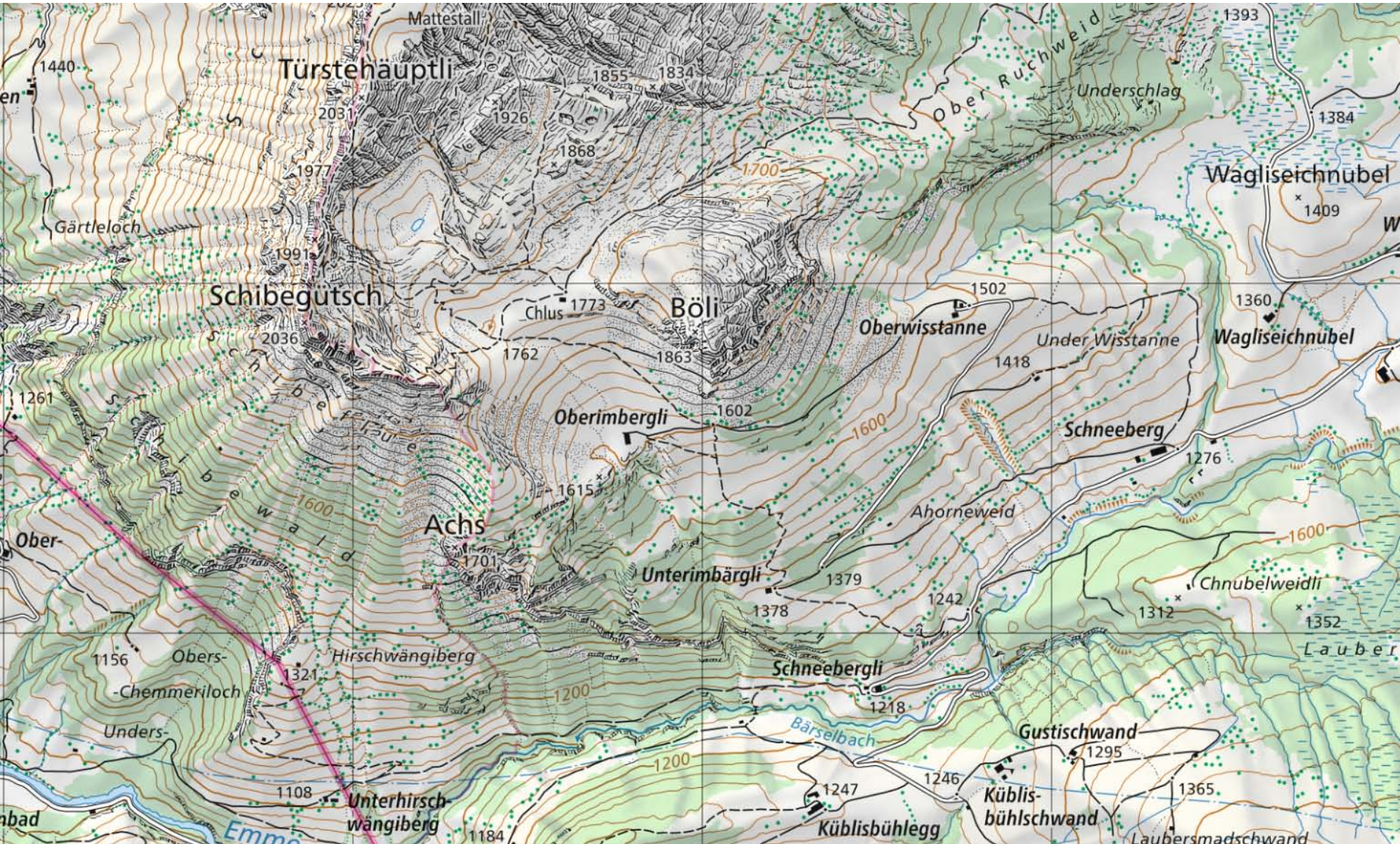
1:25 000: in production

Digital Cartographic Model 1:25 000 = new national map 1:25 000



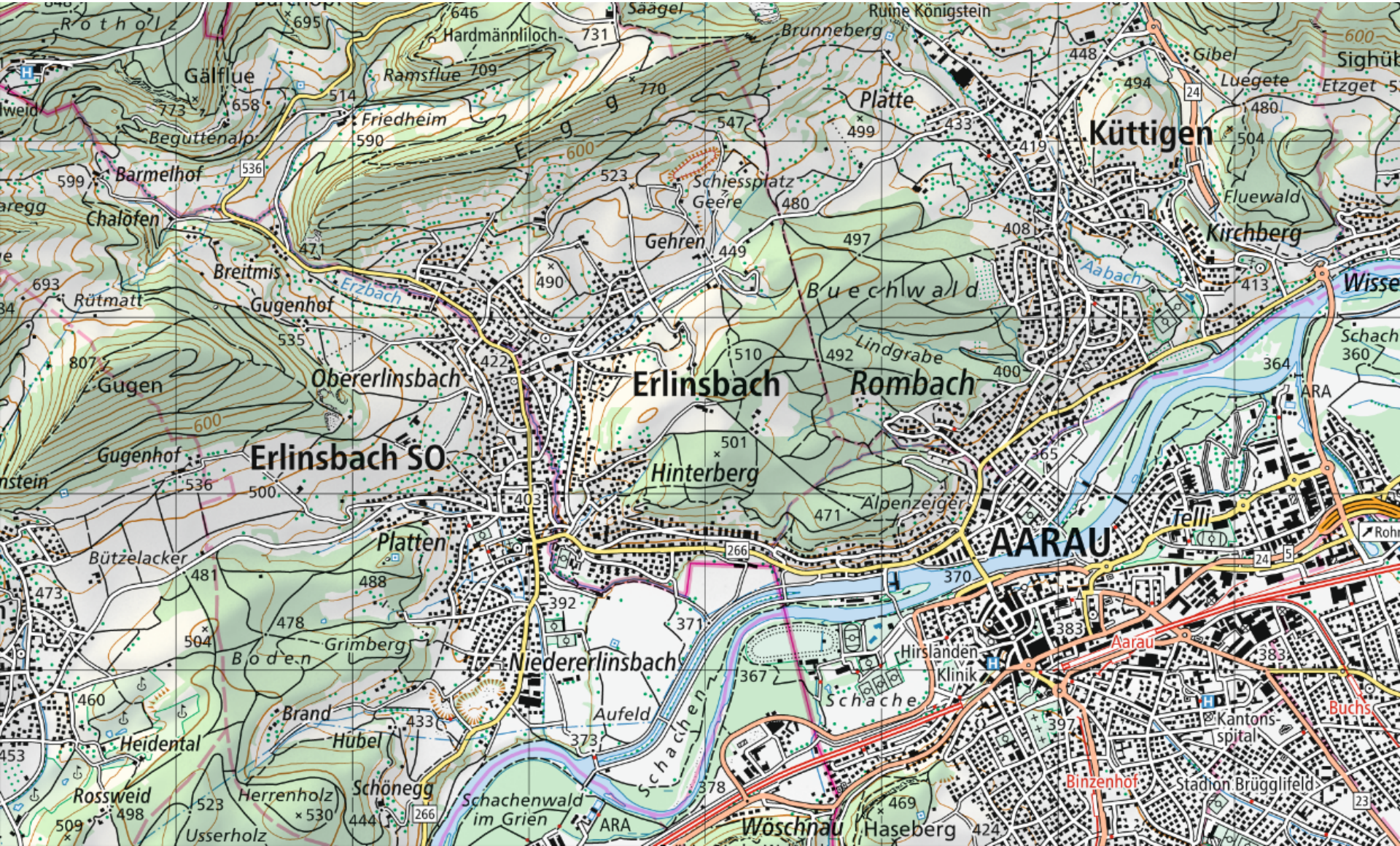
1:25 000

30 map sheets published



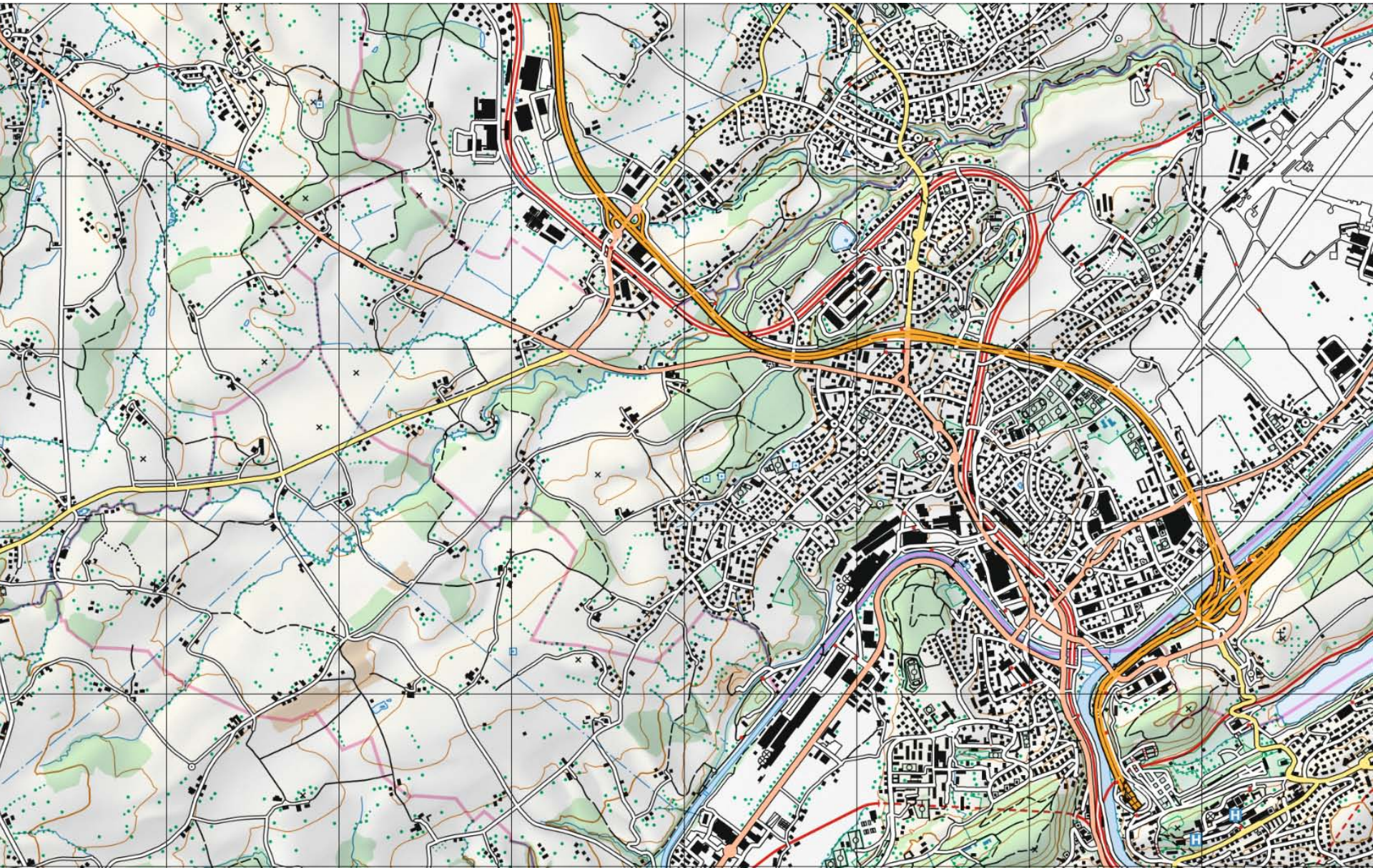
1:50 000 : production starts 2016

Digital Cartographic Model 1:50 000 = new national map 1:50 000



Automatic generalization 1:50 000

test output october 2015

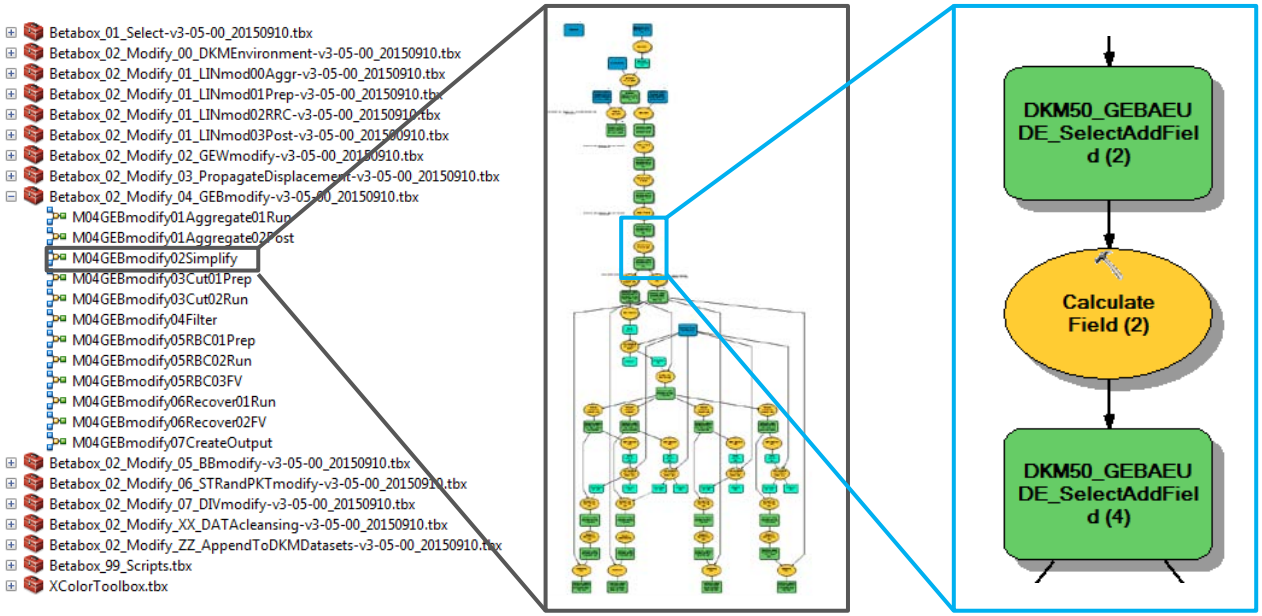


Automatic generalization 1:50 000

TLM vs. DCM50 test output

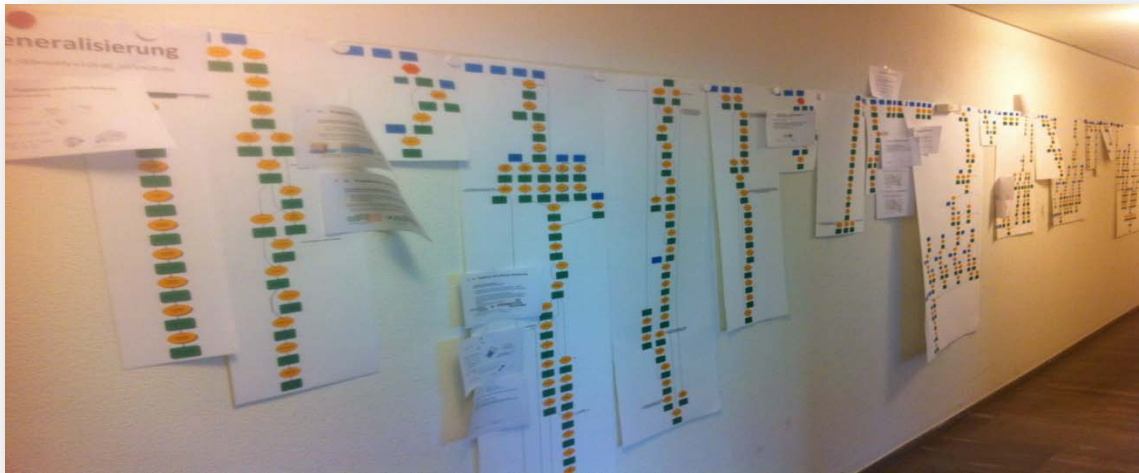
Automatic generalization 1:50 000

ArcGIS geoprocessing models



Toolboxes/Models | one process model | one process module

Currently 85 models with 88 different geoprocessing tools, which are called ~3 100 times in total



Automatic generalization 1:50 000

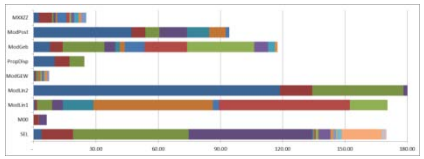
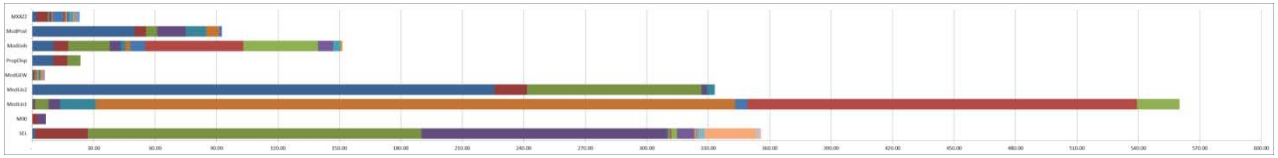
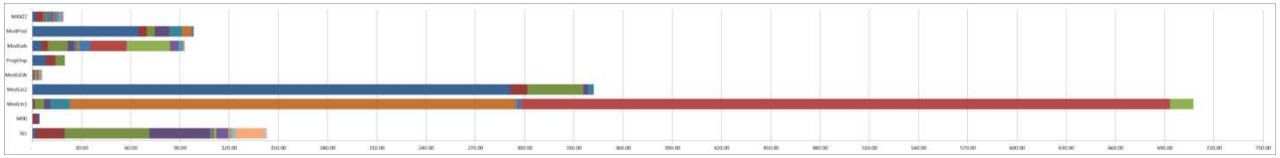
4 step dev process

development & testing
agile / scrum ♥

production →|

Automatic generalization 1:50 000

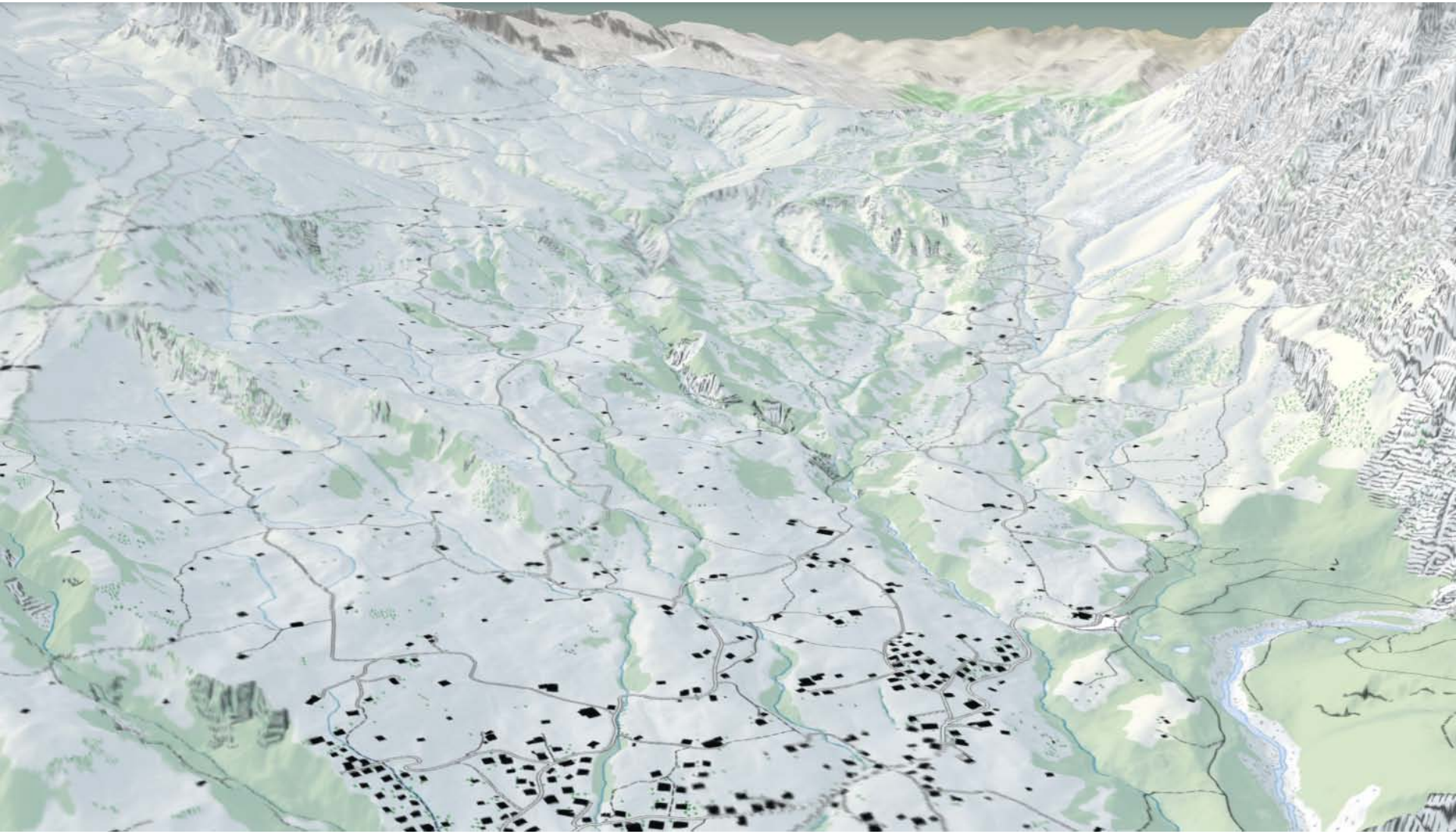
processing times

Map sheet	Duration	Process diagram
224 Olten	13.4h	
225 Zürich	25.8h	
226 Rothrist	23.9h	

Wishes list

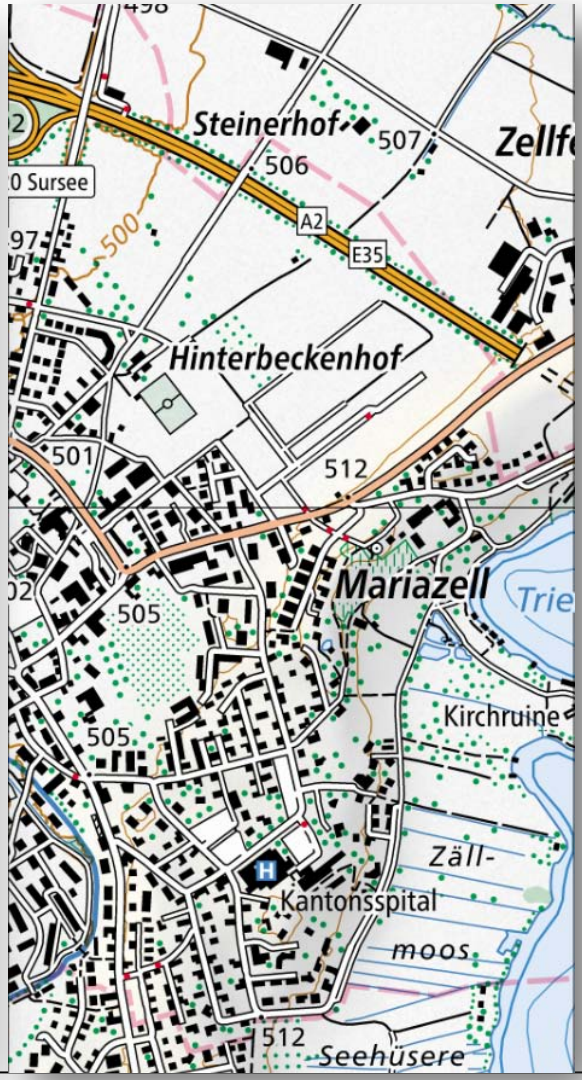
Research	Industry
Explore integrated 2D/3D/4D modelling and visualization	Expand cartographic toolset for geoprocessing
Develop better concepts of quality and ethics for geographic information	Make all (geoprocessing) tools 64-bit or better
Develop better concepts to deal with semantics and fuzzy data	Support Standardization and Interoperability

3D Viewer will be released in 2016



swisstopo


Zyleweng
fhubel
Rinderstutz
2162
Im Band


Steinerhof
507
506
0 Sursee
A2
E35
500
Hinterbeckenhof
501
512
Mariazell
505
Kirchruine
505
Zäll-
Kantonsspital
moos
512
Seehüsere