



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Federal Office of Civil Aviation FOCA
Safety Infrastructure/ section Airspace

Managed Obstacle- Environment – developments Switzerland

OLS Symposium ICAO

December 10, 2021

Markus Luginbühl, FOCA Switzerland

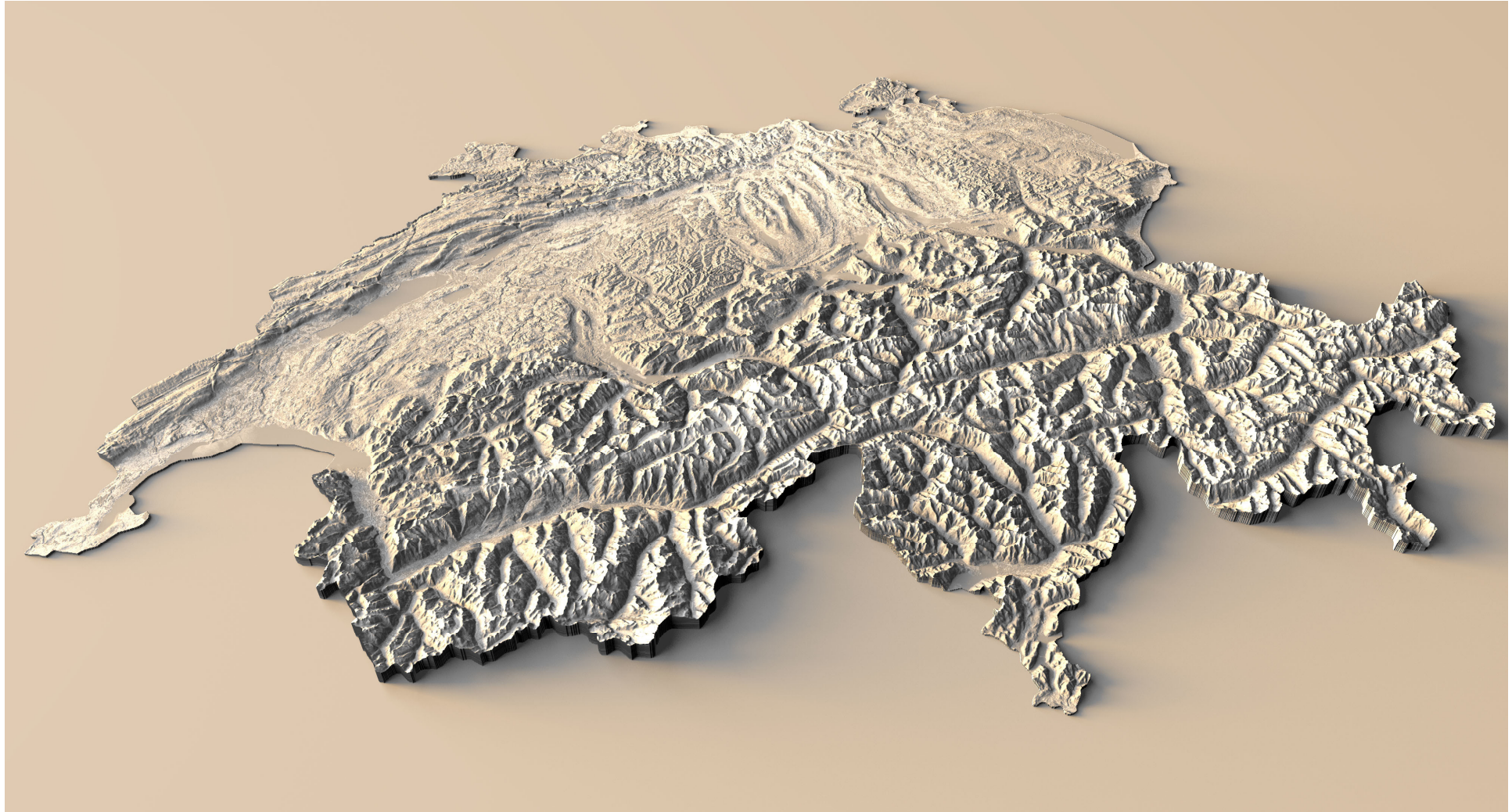


Agenda

1. A bit of background to the 'Obstacles Switzerland'
2. Challenges for the Obstacle management
3. Need for Change
4. New Obstacle and terrain data management including Data Collection Services (DCS) Switzerland
5. Q&A

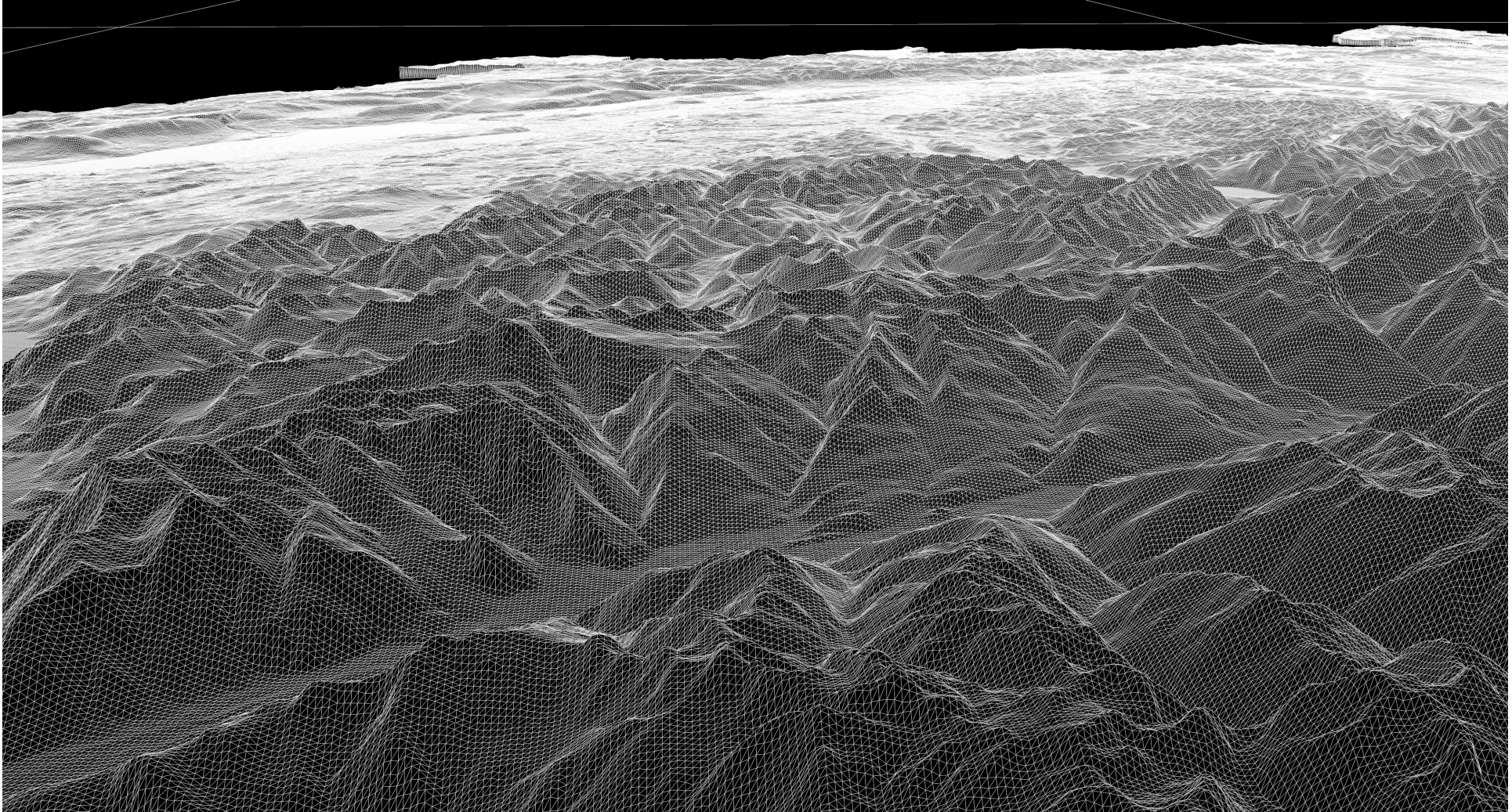


Obstacle Situation Switzerland





Obstacle Situation Switzerland



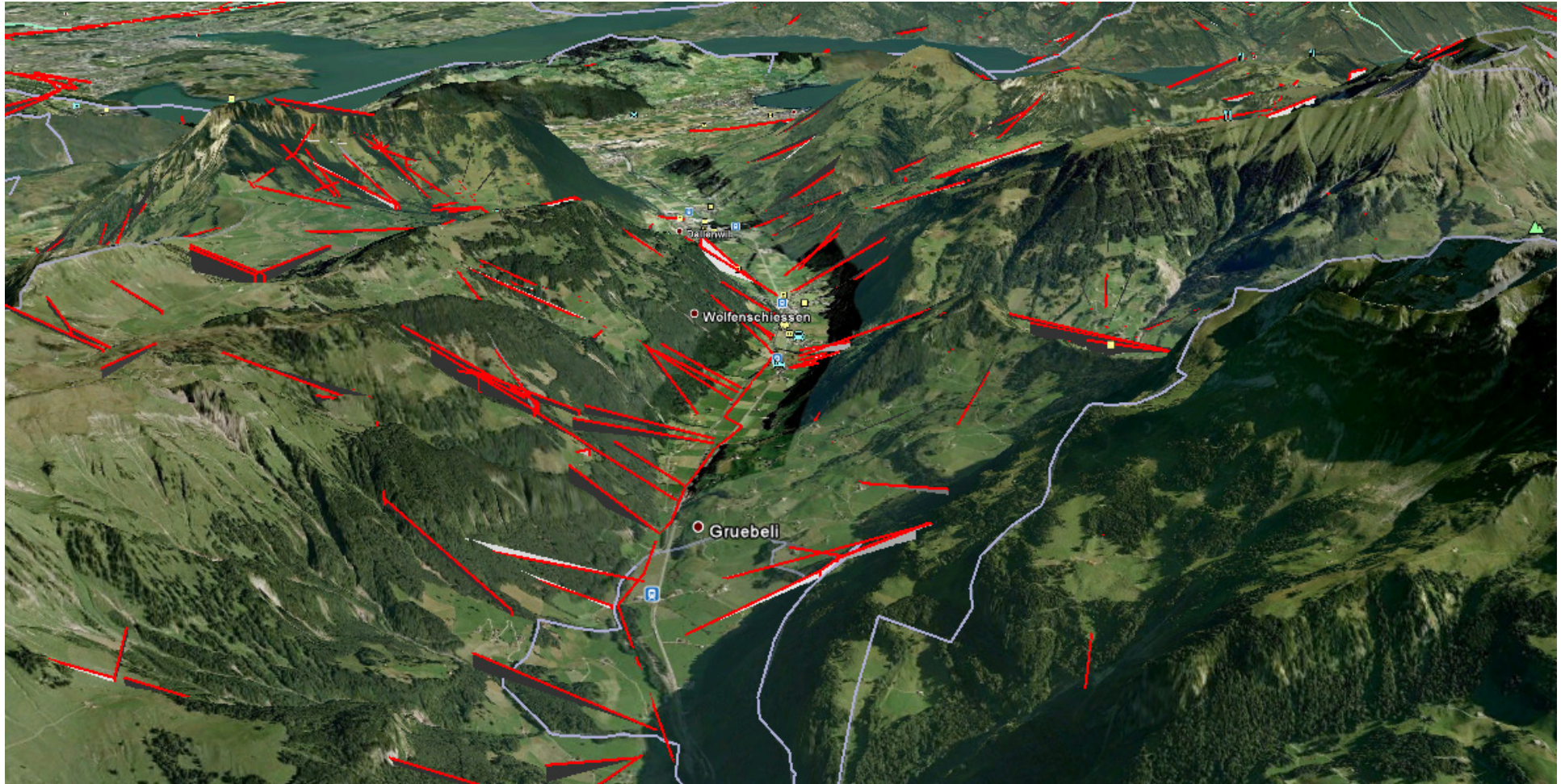


Obstacle Situation Switzerland



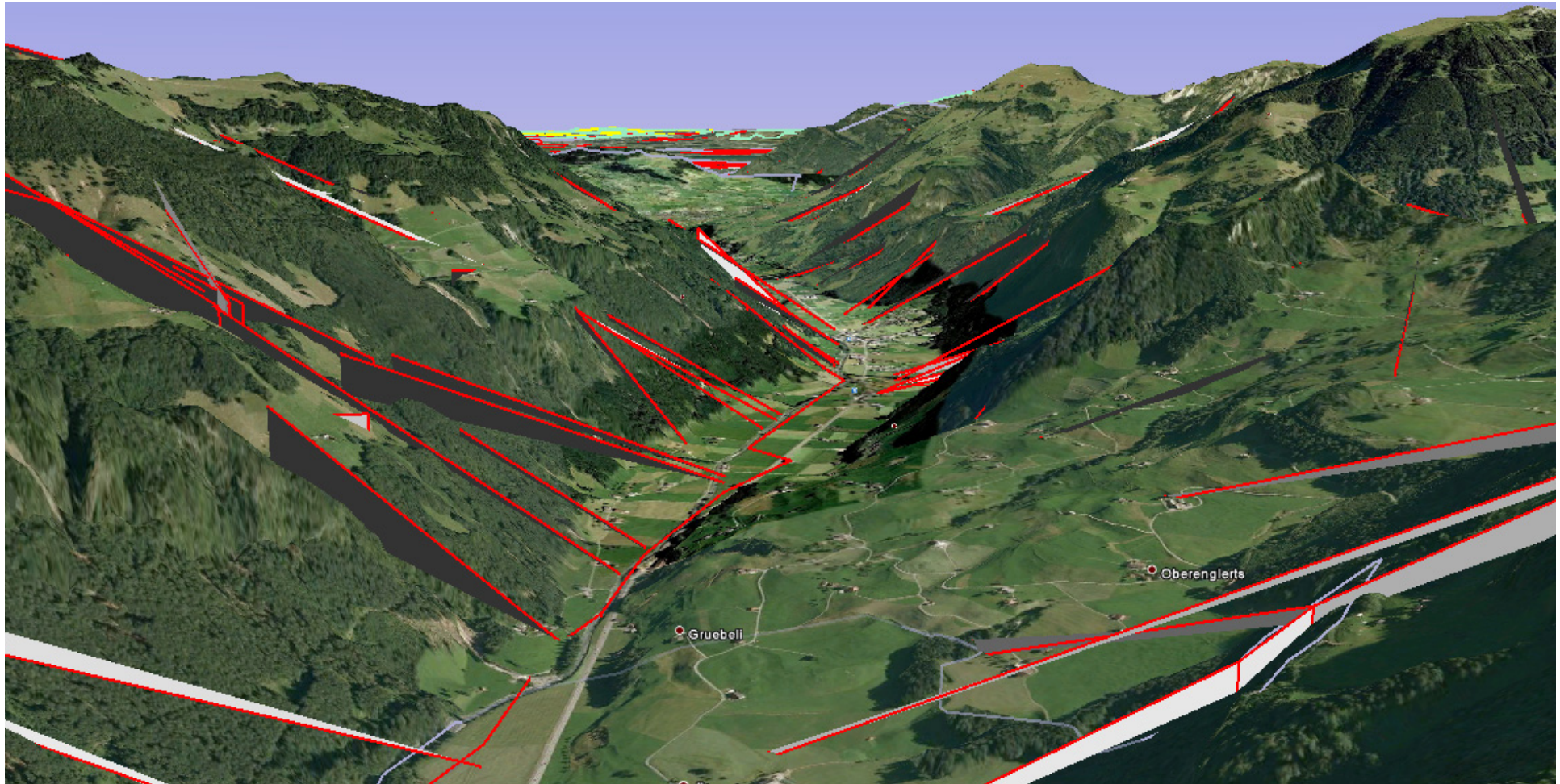


Obstacle Situation Switzerland



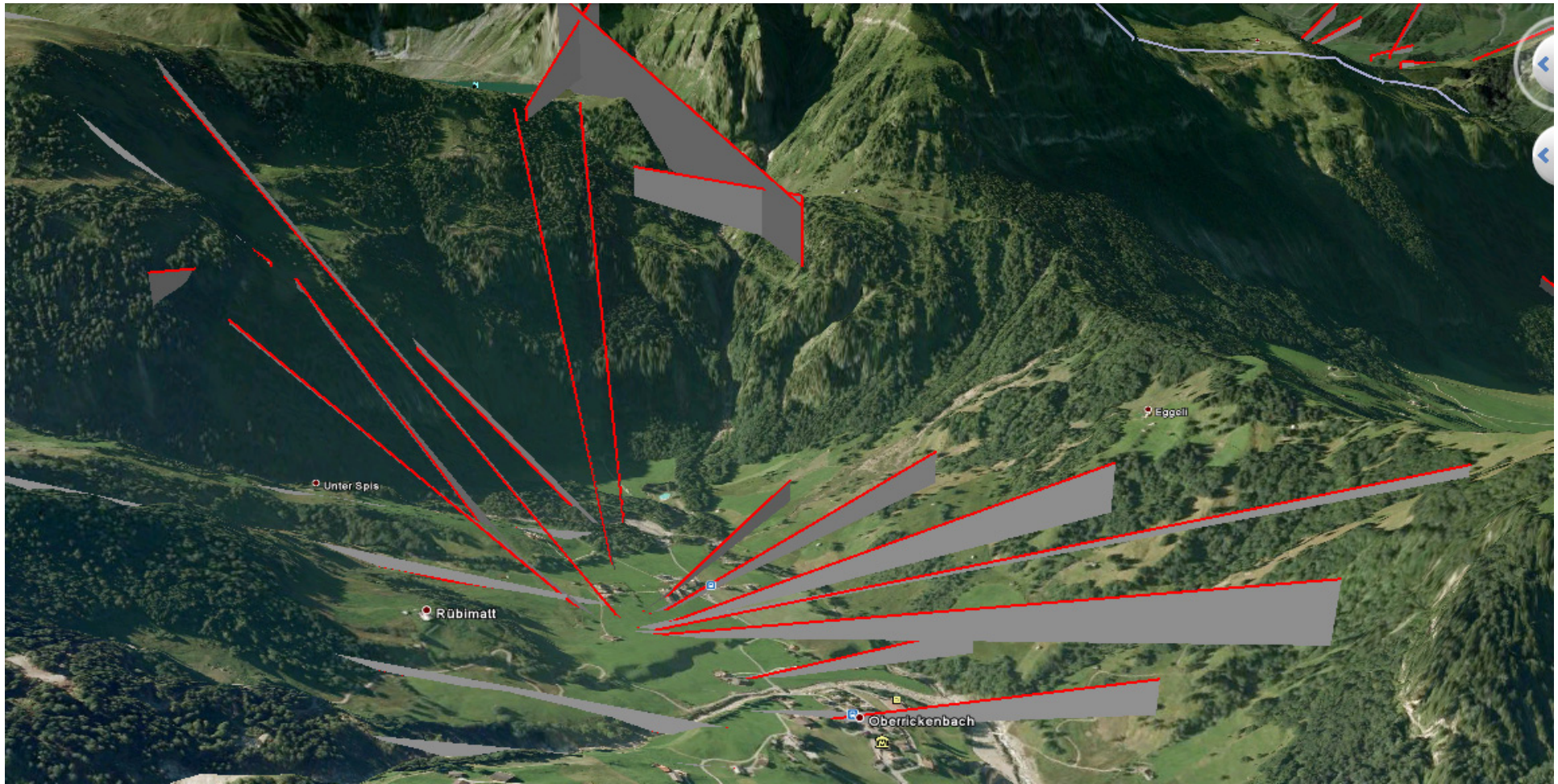


Obstacle Situation Switzerland





Obstacle Situation Switzerland



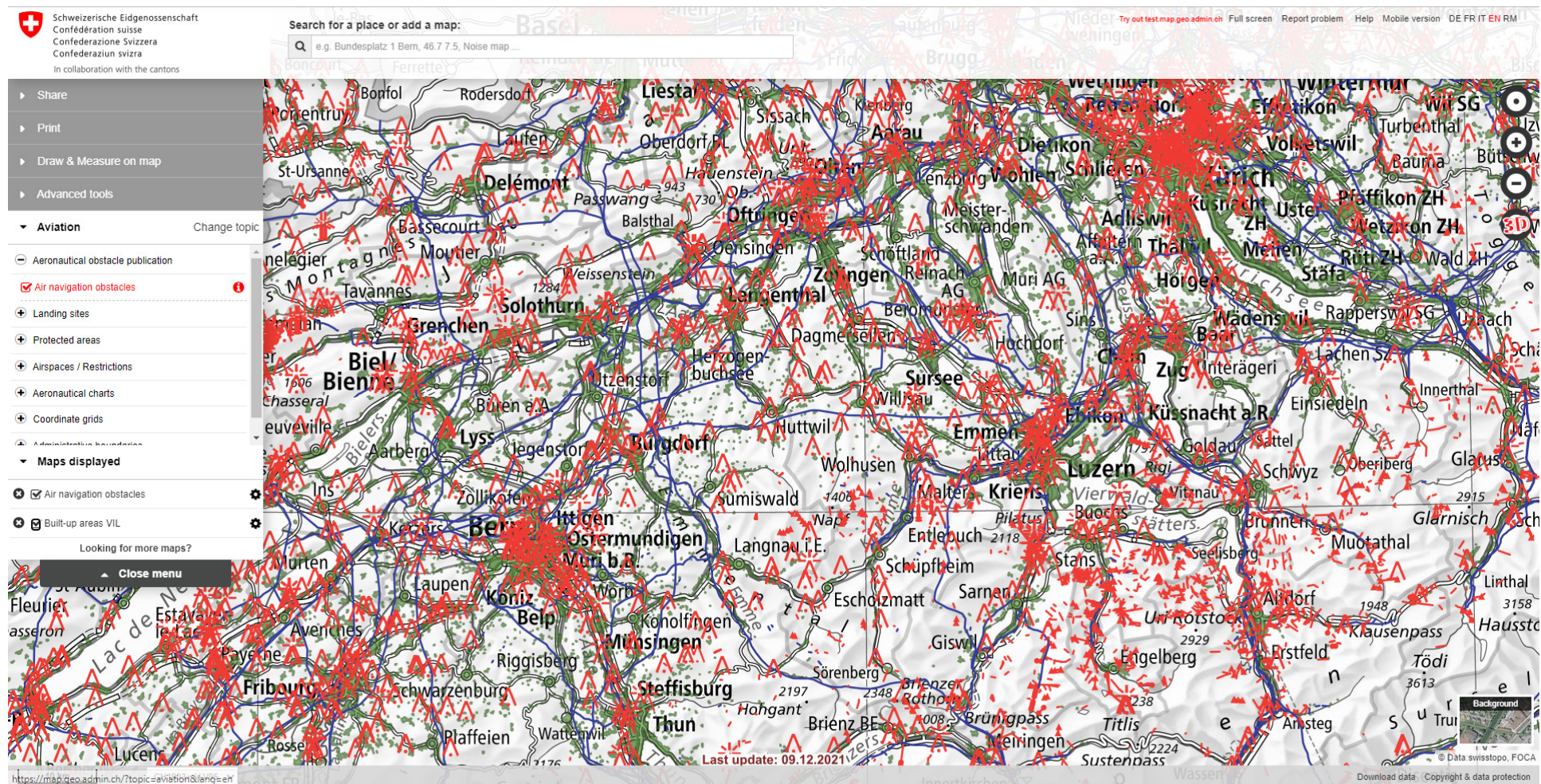


[Maps of Switzerland - Swiss Confederation - map.geo.admin.ch](http://map.geo.admin.ch)

9



Obstacle online publication

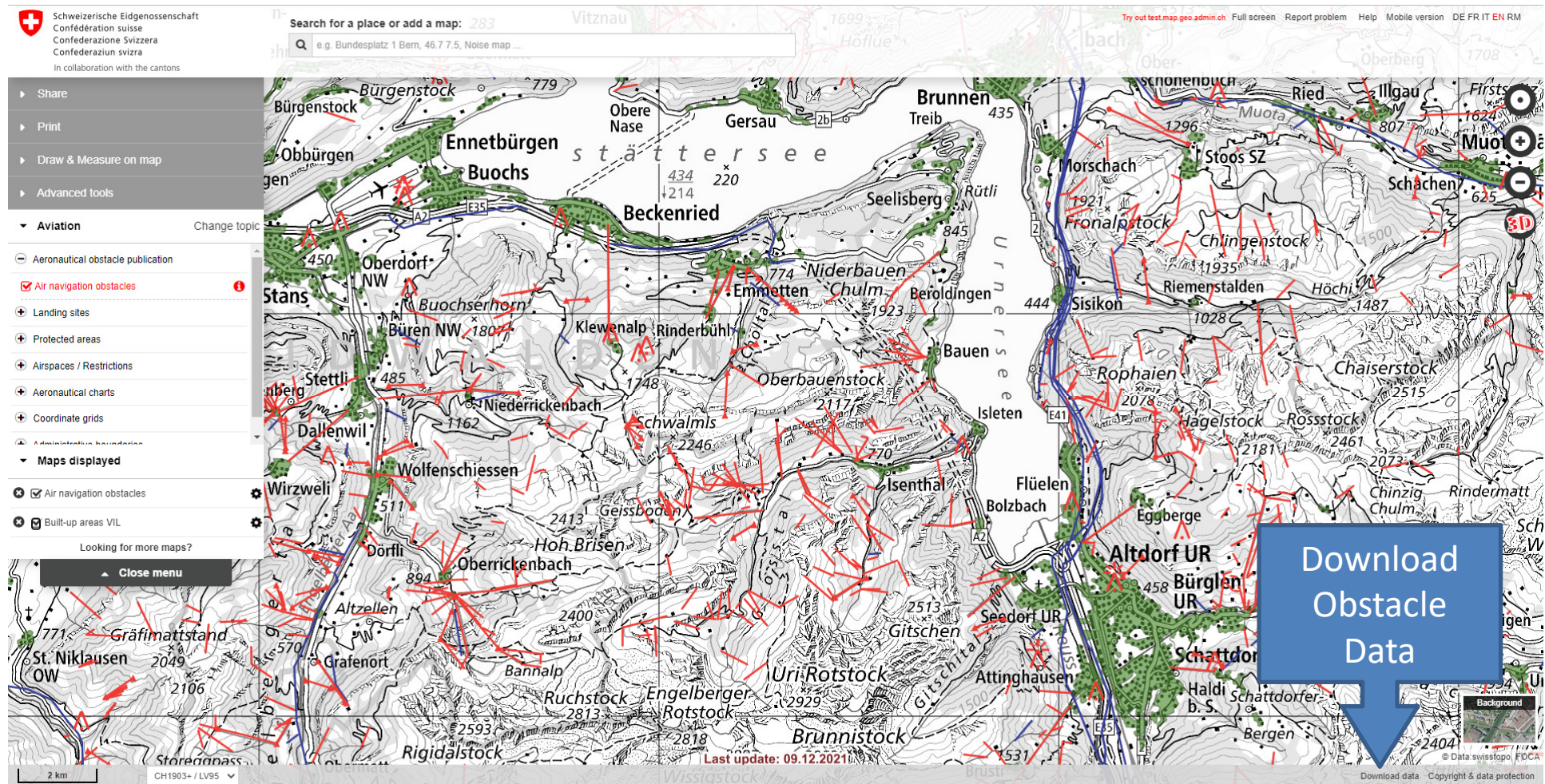


OLS Symposium ICAO – MANAGED OBSTACLE-ENVIRONMENT – DEVELOPMENTS SWITZERLAND

FOCA, Section Airspace, GPL DCS Switzerland



Obstacle online publication

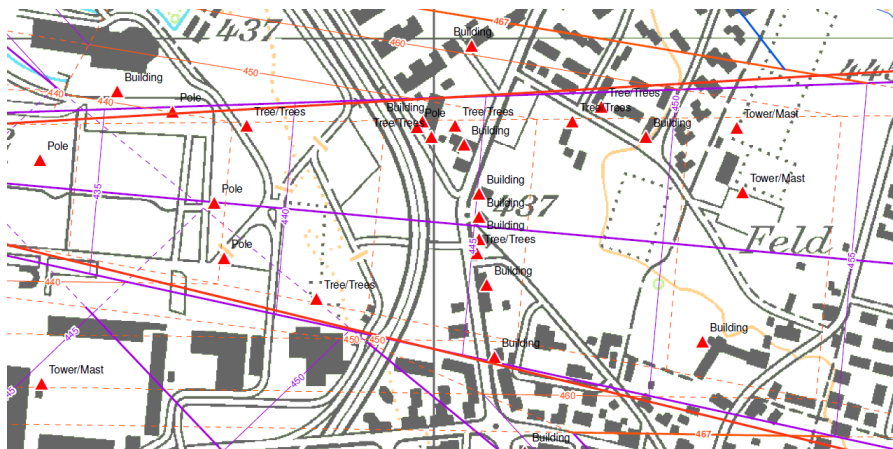
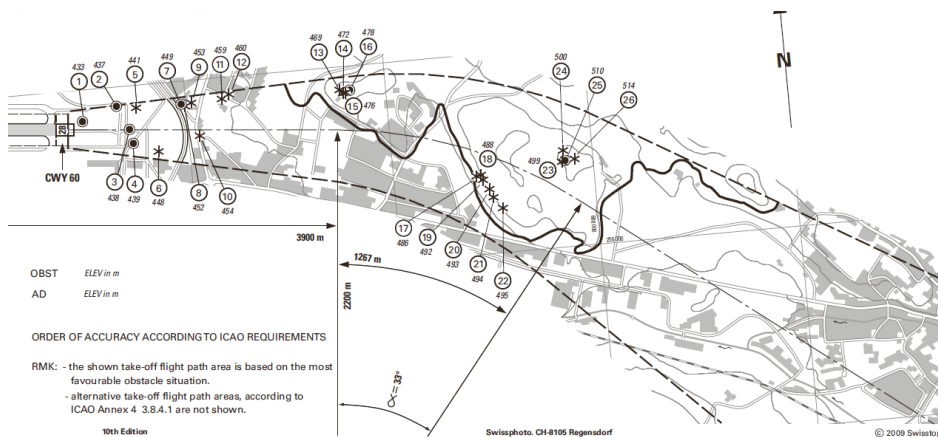




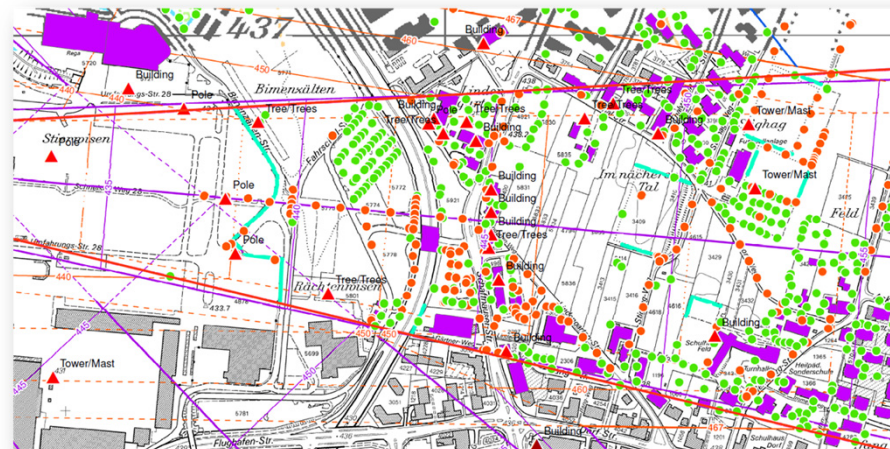
Challenges at Aerodromes

AOC Type A - RWY10 –
LSZH AD 2.24.4 - 1

- Enorme increase of Data and demanding requirements?
- Data Quality?



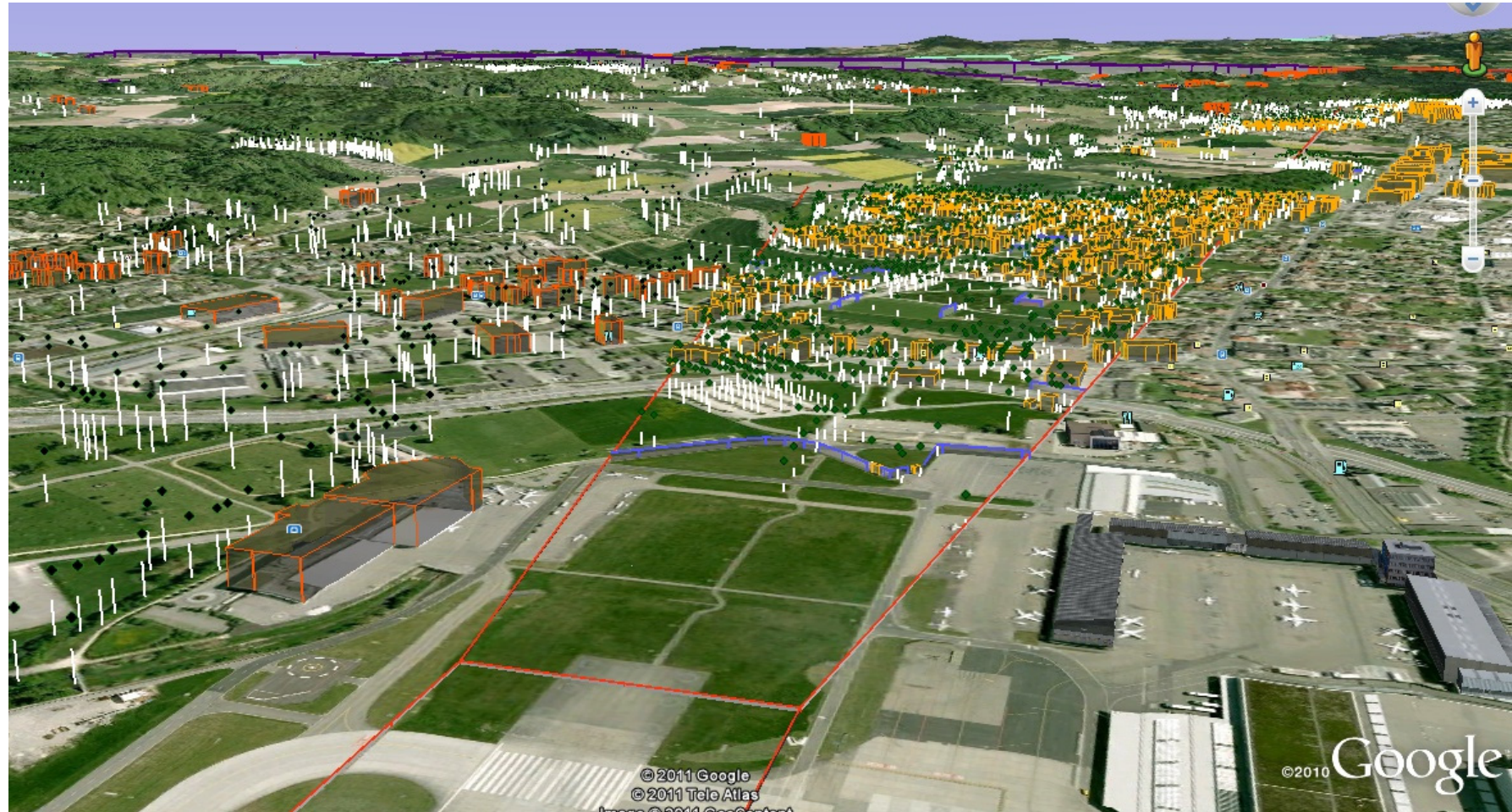
Before eTOD



including eTOD

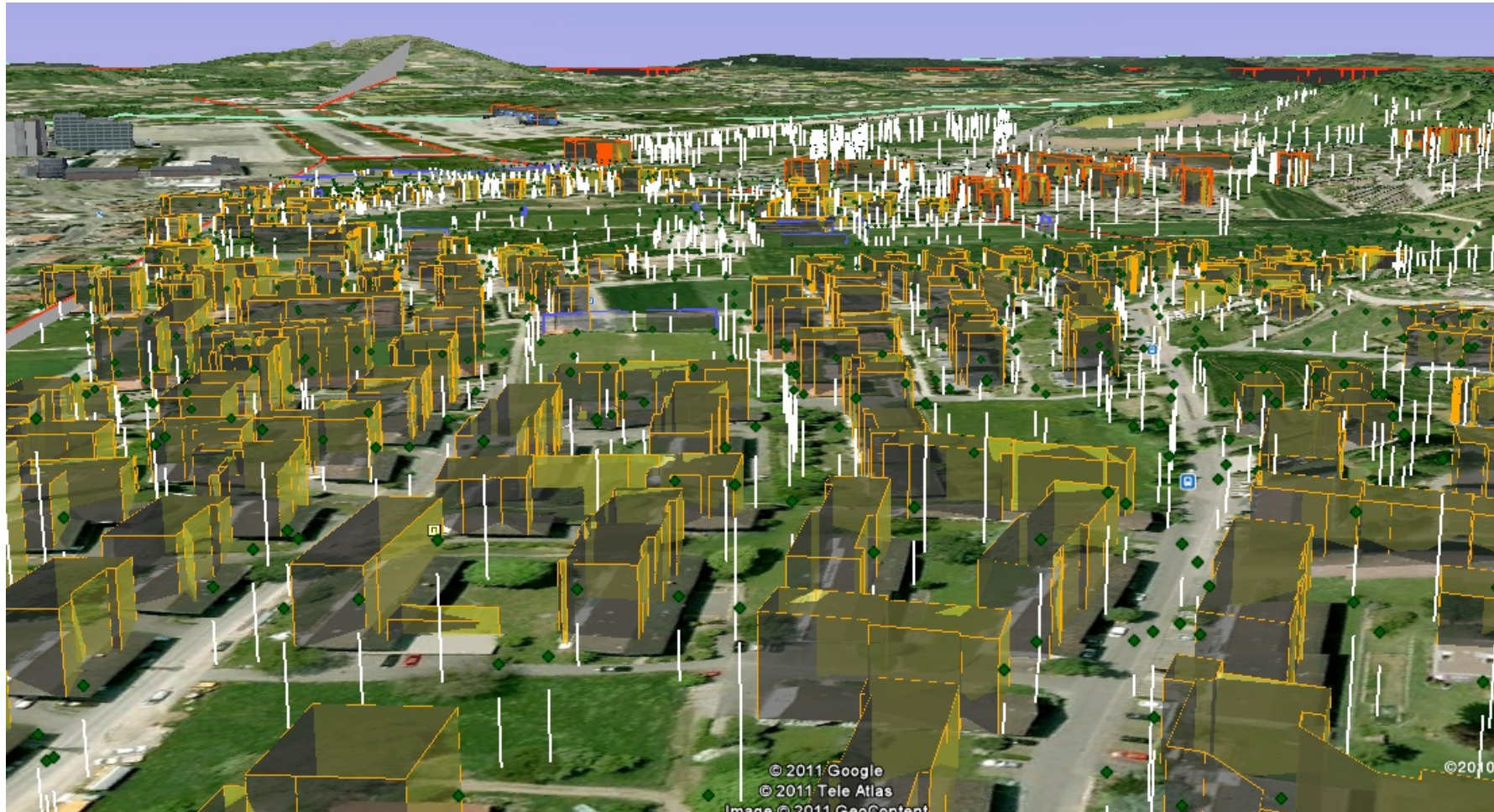


Challenges at Aerodromes - Areas 2b and (2c)





Challenges at Aerodromes - Areas 2b and (2c)





Challenges at Aerodromes - Areas 2b and (2c)





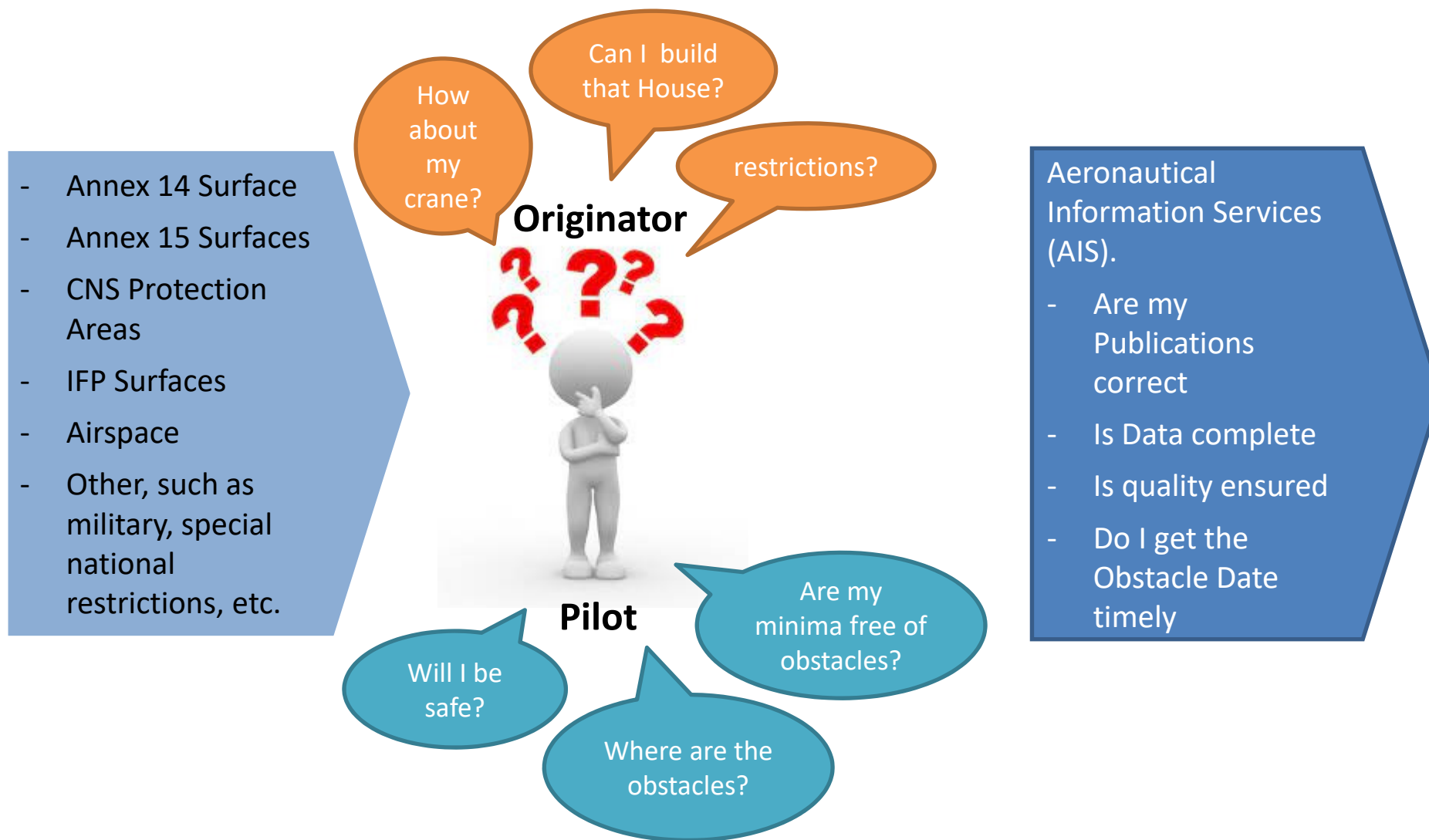
Challenges CNS – Protection surfaces/ areas



- How to ensure
undisturbed operation?

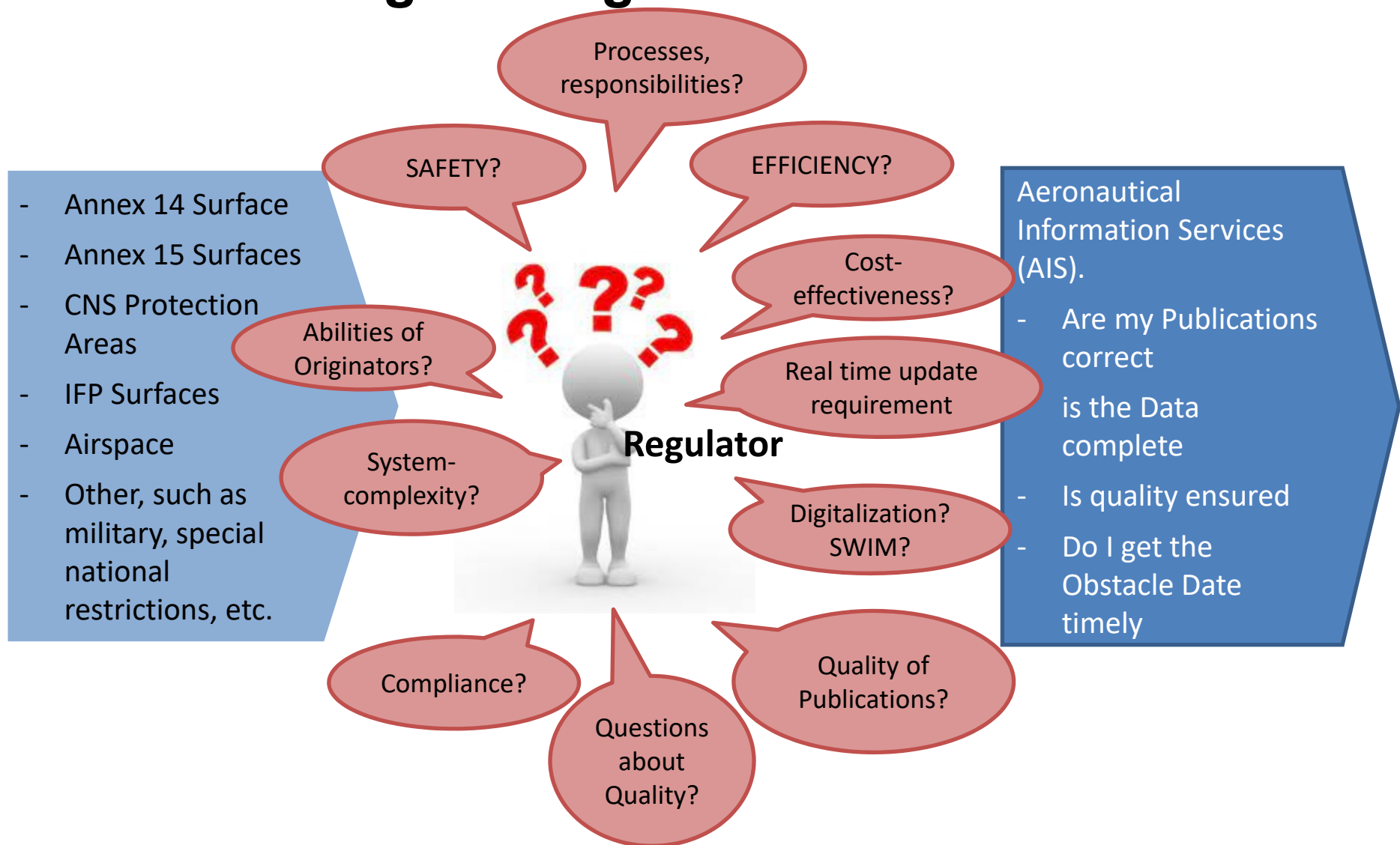


Challenges – Originator and Pilot





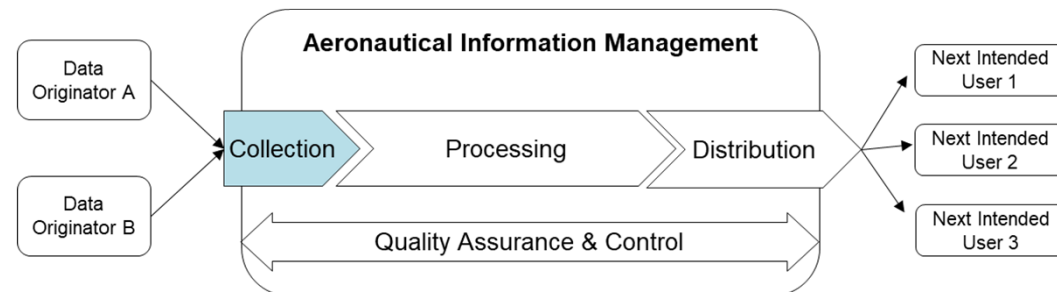
Challenges - Regulator





Process-Change

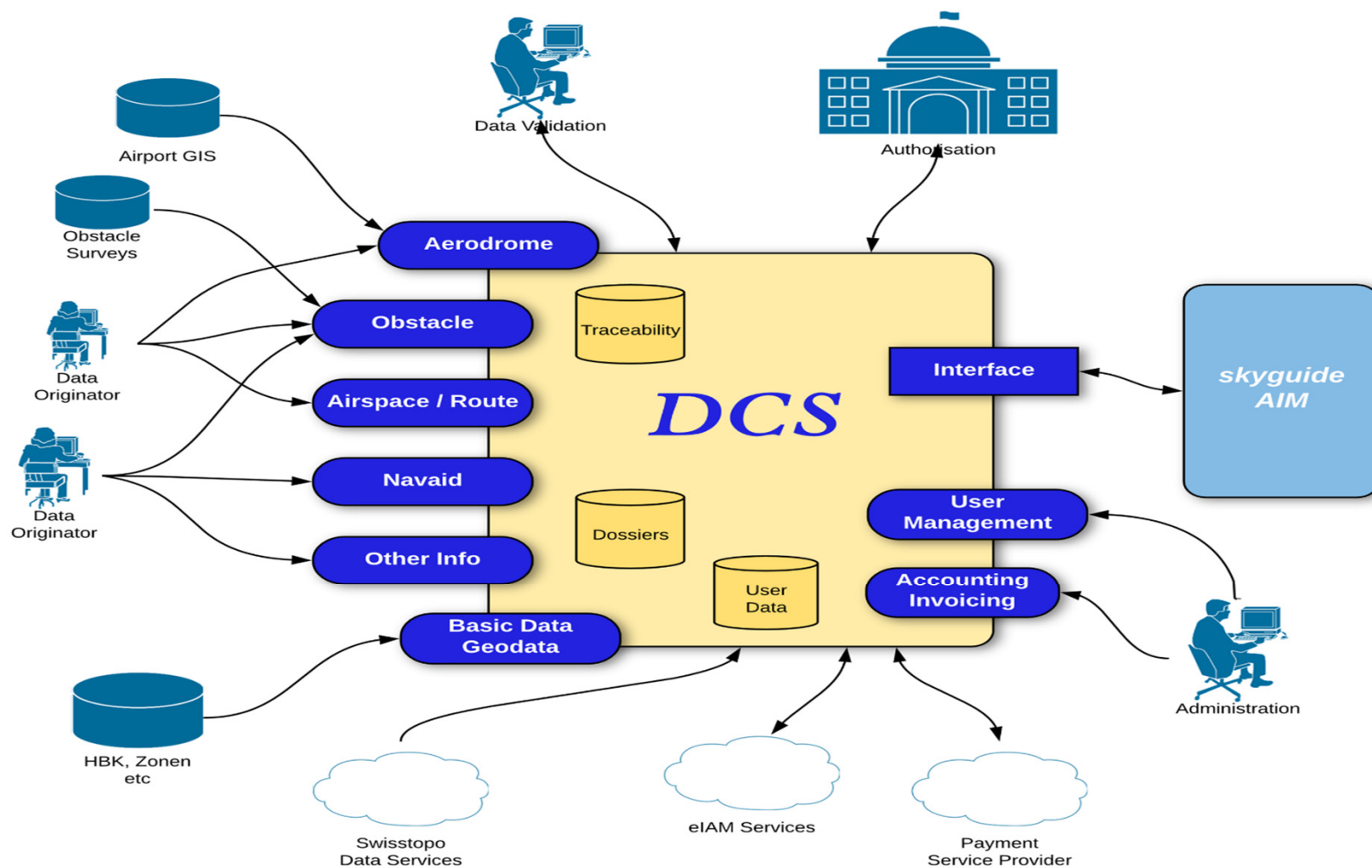
- **Decision** for national Data Collection Services late 2019
- To move from mainly analog and electronic Processes to a **full digital and data-centric Environment**
- Making **aviation-understanding** easy for non aviation originators
- Improving safety by
 - > ensuring **data quality**
 - > providing **digital Data**
 - > enabling **continuous surfaces monitoring** of alle relevant aviation surfaces
 - > ensuring **stakeholder-integration** by workflow-engine



Quelle: ICAO Doc 8126, AIS Manual, Part II Aeronautical Data Process



New Data Collection Services Sitzerland





Data Collection Services Switzerland

- Build-up Project launched in February 2021
 - Going operational of First Phase (Obstacle basic) in April 2022
 - Second Phase Obstacle Full services: beginning 2023
 - Full DCS (full Data catalogue) by summer 2024
- Major Challenges on the DCS Implementation
 - Timely availability of digital 3D-Surfaces (Annex 14, Annex 15, IFP, CNS Protection, etc)
 - Going from Analog to data-centric – mind-change required!
 - Complexity of Surfaces, national and international restrictions, workflow engineering (data centric)
 - Migration – Data of existing quality



Data Collection Services Switzerland

Home

AERODROME

Aerodromes

Runways

ETOD

Change Requests

My Actions

Obstacles

CNS MODULE

CNS

Building

AIRSPACES

Home | Change Requests

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Create

Create Change Request

Search Change Request

Page 1 of 6 (87) ☐ Active States

Status

Sort By

 15

First

 1 2 3 4 5

Next

Change Requests List

Name	Description	Assessment	Status	
		No	TERMINATED	Action
		Yes	CANCELED	Action
abc RS	test	No	CANCELED	Action
Antenne	18.10-3	Yes	APPROVED	Action



Data Collection Services Switzerland

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Aerodromes

Runways

▼ ETOD

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My Actions

Obstacles

▼ CNS MODULE

CNS

Building

► AIRSPACES

Registration # (Antenna)
UN21 000 061

In Built Up Area: No
In Surface Perimeter:

Obstacle Type
Antenna

Height: 472.1 Meters, Vertical Datum: 5728
Max Height: 472.1 Meters, Vertical Datum: 5728
Max Structure Height: 100 Meters
Terrain Elevation: Meters, Vertical Datum:

Elevation (Meters)
372.1

Vertical Datum
5728

Structure Height (Meters)
100

CRS
4326

Swiss Grid: /
Canton:



Data Collection Services Switzerland

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Summary

View Antenne

PENDING

Created By: Pam Public | Originator: | Authority: Bundesamt für Zivilluftfahrt | Assessment: No

Action Back to Summary

1 Change Request Form

2 'A' Obstacle

Obstacle Form

Registration # (Antenna)
ZH21 000 087

In Built Up Area: Yes
In Surface Perimeter:
Obstacle Type
Antenna

Height: 543.1 Meters, Vertical Datum: 5728
Max Height: 543.1 Meters, Vertical Datum: 5728
Max Structure Height: 22 Meters
Terrain Elevation: 521.1 Meters, Vertical Datum: 5728

Elevation (Meters)
521.1

Vertical Datum
5728

Structure Height (Meters)
22

CRS
2056

Swiss Grid: 2672436.6 / 1258399.4
Canton: ZH

Easting
2672436.6

Northing
1258399.4

Owner Information

Name
hugo

Family Name
Fountain

Company Name
fountain

Department

Powered by CGH Technologies | ITV | API: 0.6.0-SNAPSHOT



Conclusion

- Complexity of our **geografic Situation**
- Unfortunately **on complexity growing regulatory requirements**
- the **users requirements** and needs
- future **SWIM-Applications** and overall much more dynamic needs
- the **Safety of aviation**

-> Require to change to a **fully integrated, quality ensuring and Data-centric** obstacle environment!



Q and A



Thank you!