GST AT NAGRA

GST user Meeting, 27/03/25

Mek et. al

nagra.

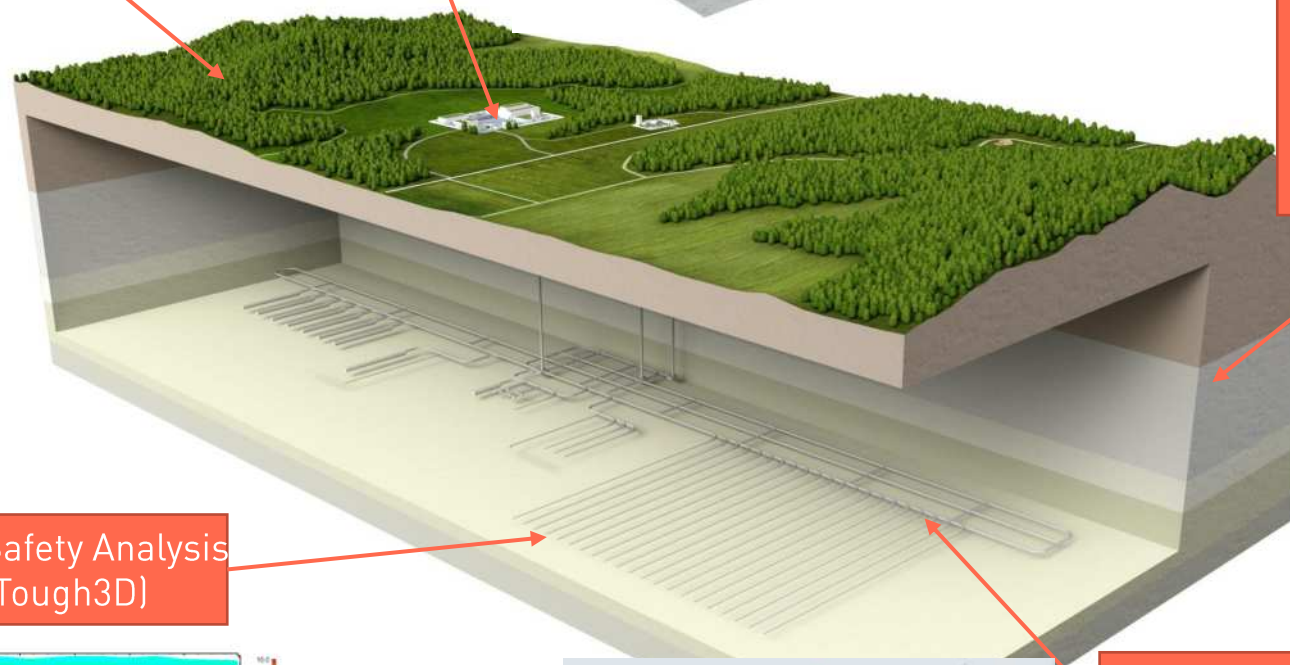
DATA FLOWS DEEP GEOLOGICAL REPOSITORY

Spatial Planning (GIS)

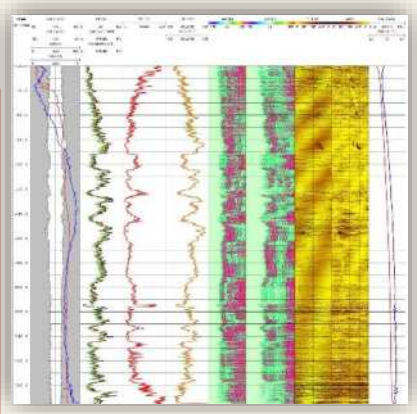


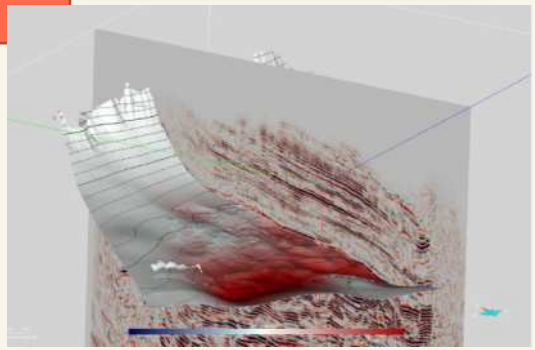
Surface facilities (CAD/BIM)



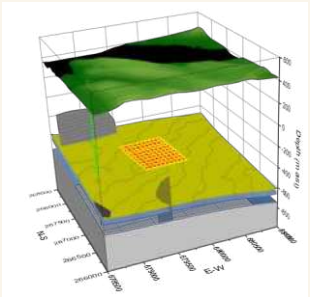


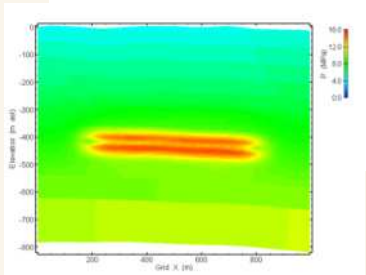
Geology
Cross sections
Logging
Seismics
Hydrology
3D-Models (Petrel + other)



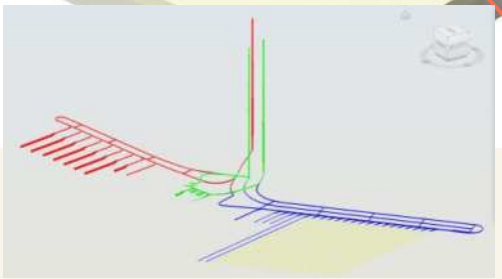


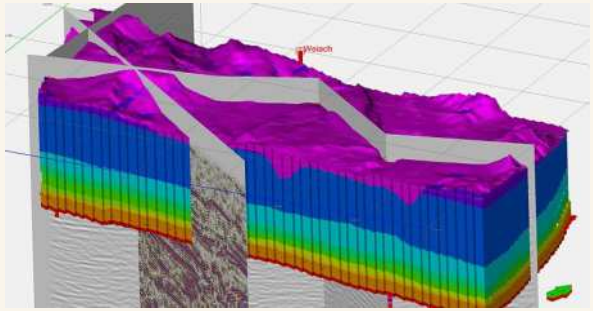
Safety Analysis (Tough3D)



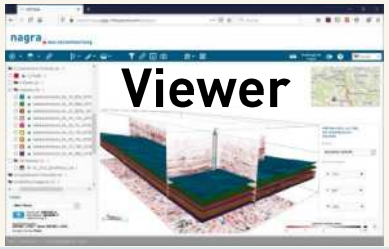


Tunneling (CAD/BIM)

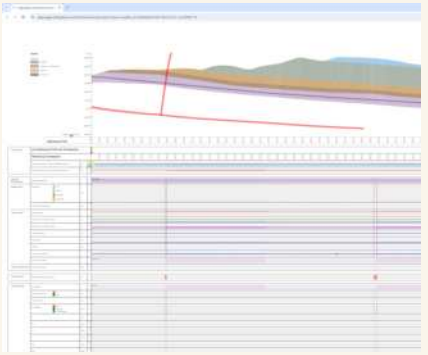




DATA FLOWS

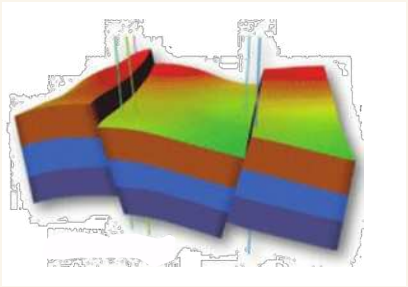


IngGeo Tool



Json

PETREL/TOUGH3D



Volume Model

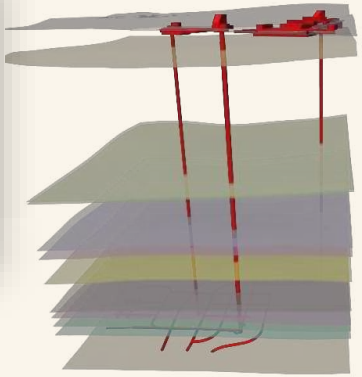
Resqml

GST

IFC



BIM

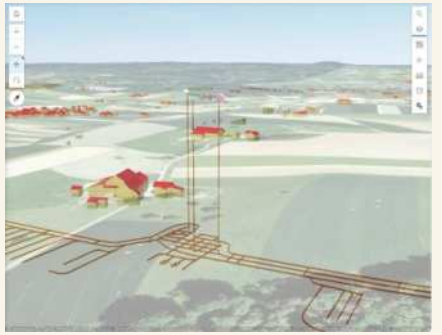


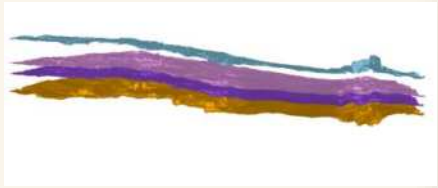
DXF

ArcGIS Pro

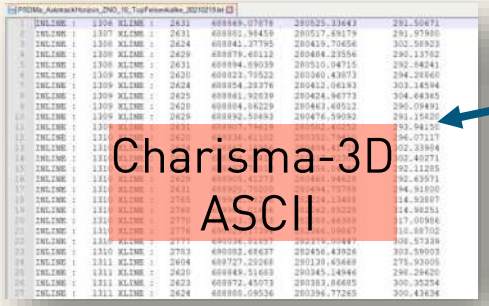
I3S

AGOL





Layer Models

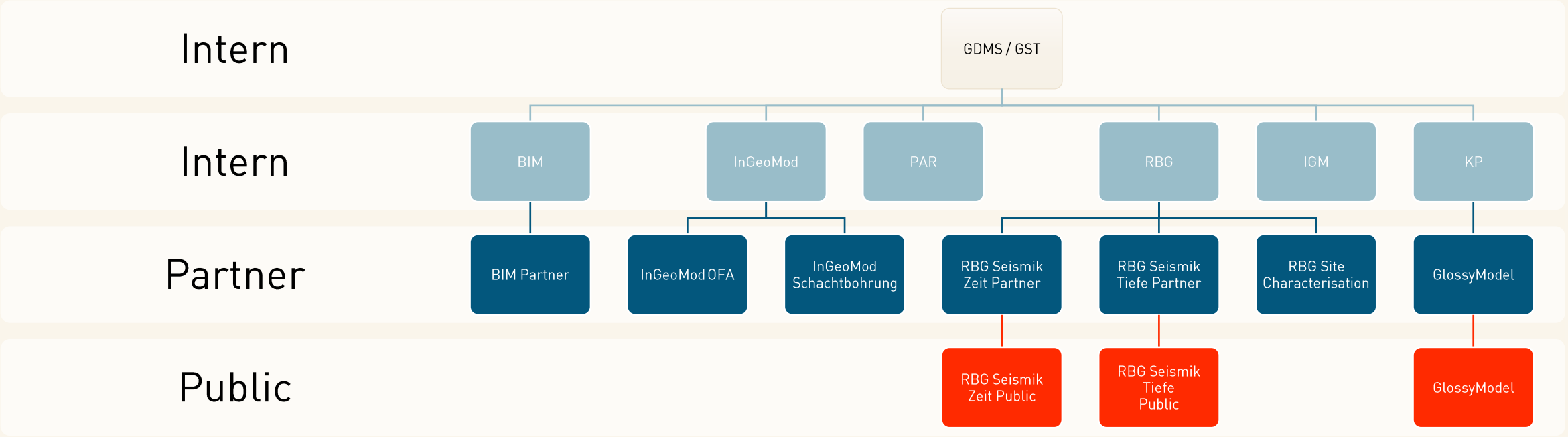


WMS

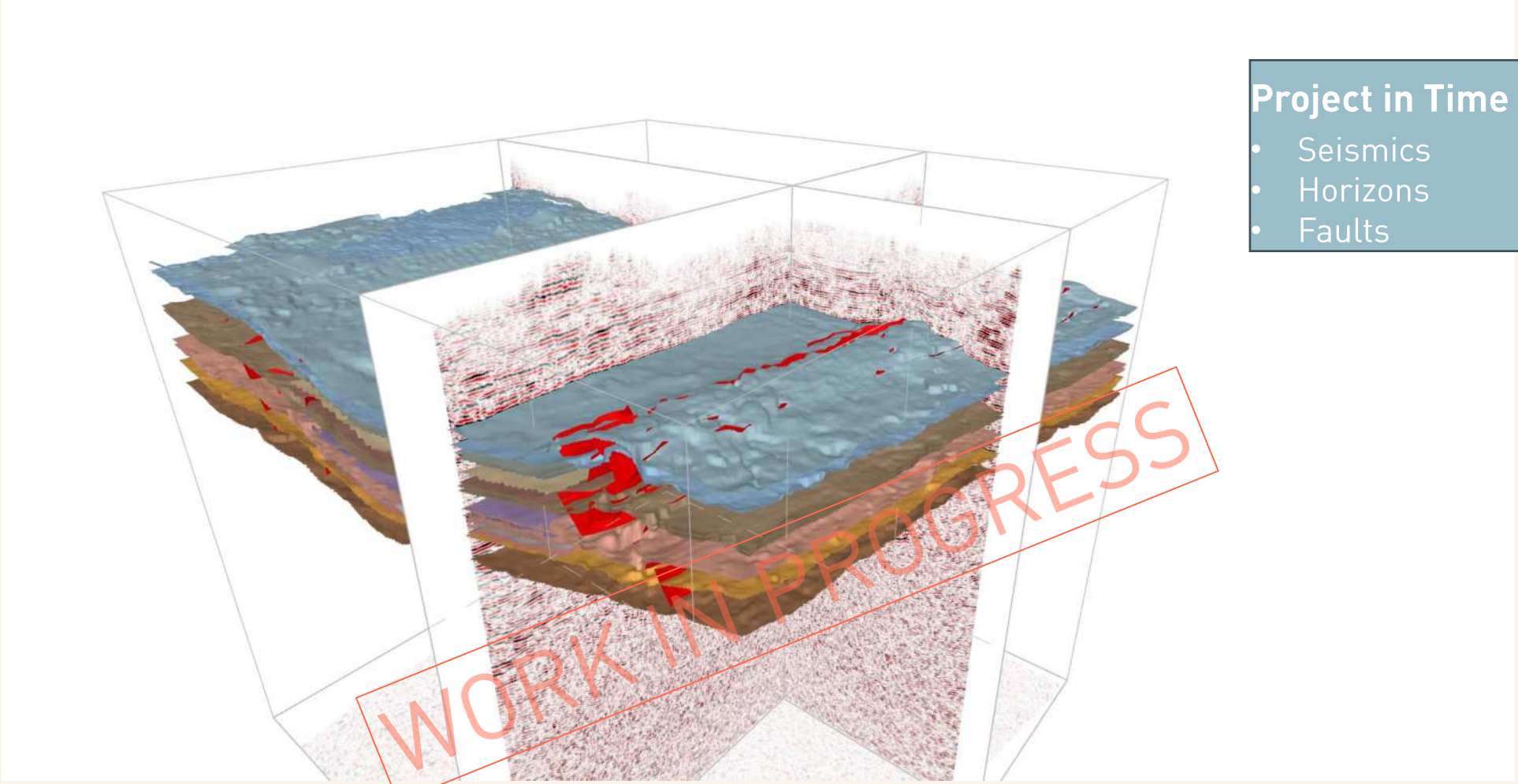
WebGIS

Data Management

PROJECT ORGANISATION



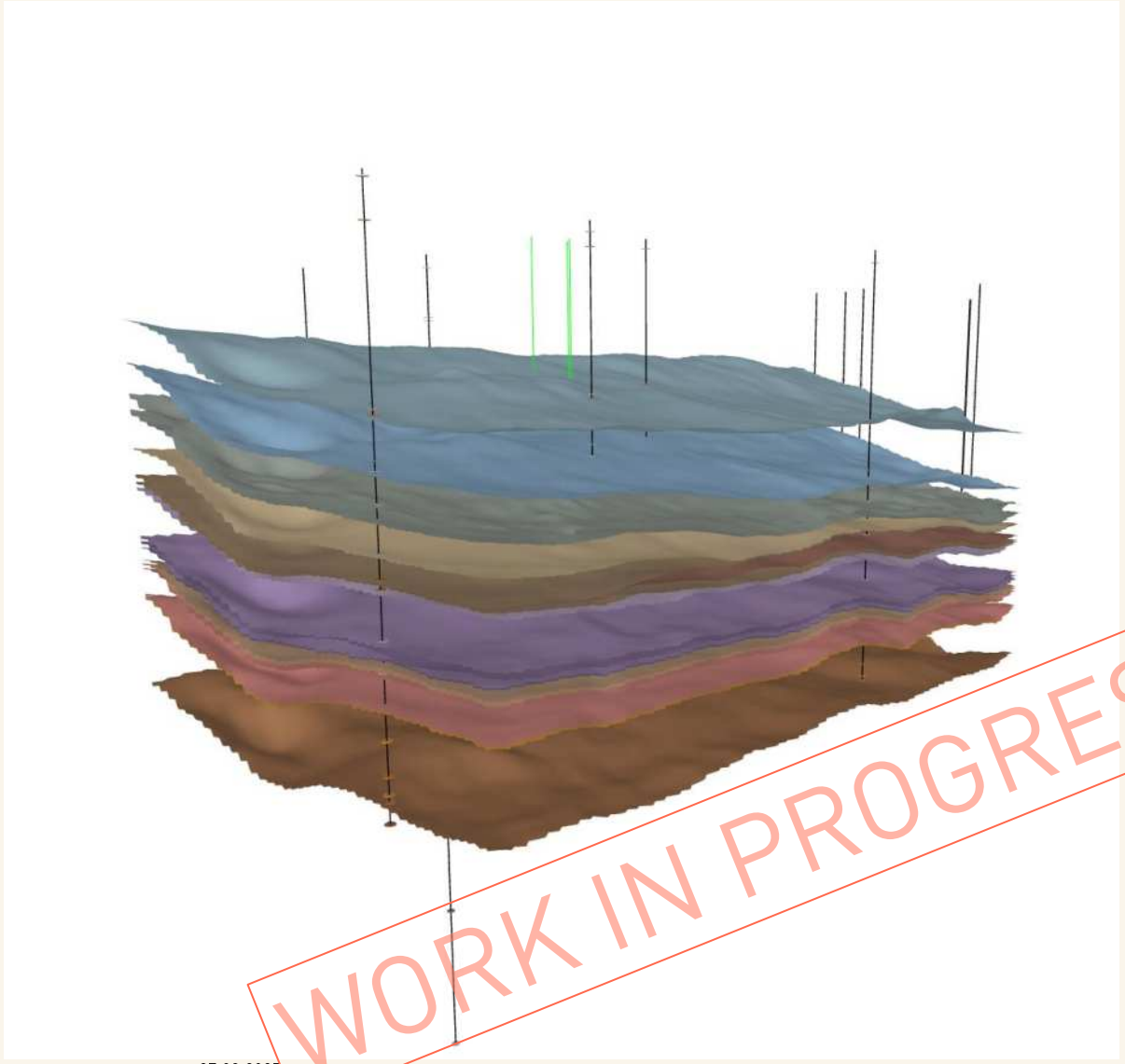
GST FOR GEOLOGISTS / GEOPHYSICISTS



Project in Time Domain

- Seismics
- Horizons
- Faults

GST FOR GEOLOGISTS / GEOPHYSICISTS

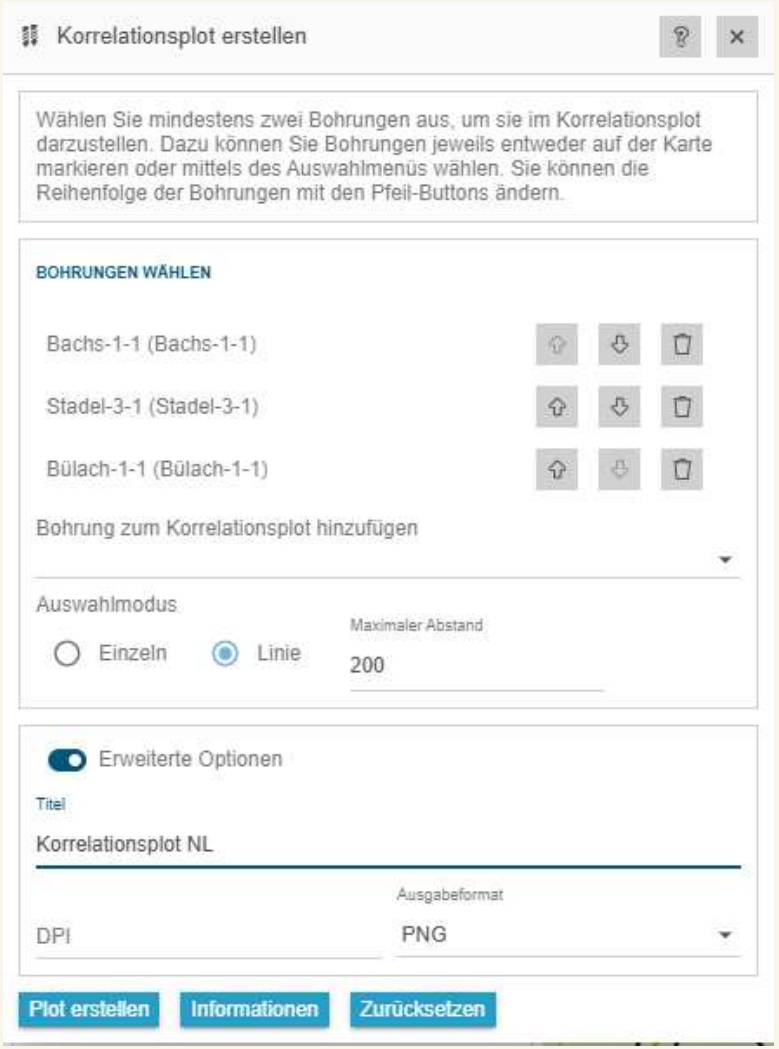


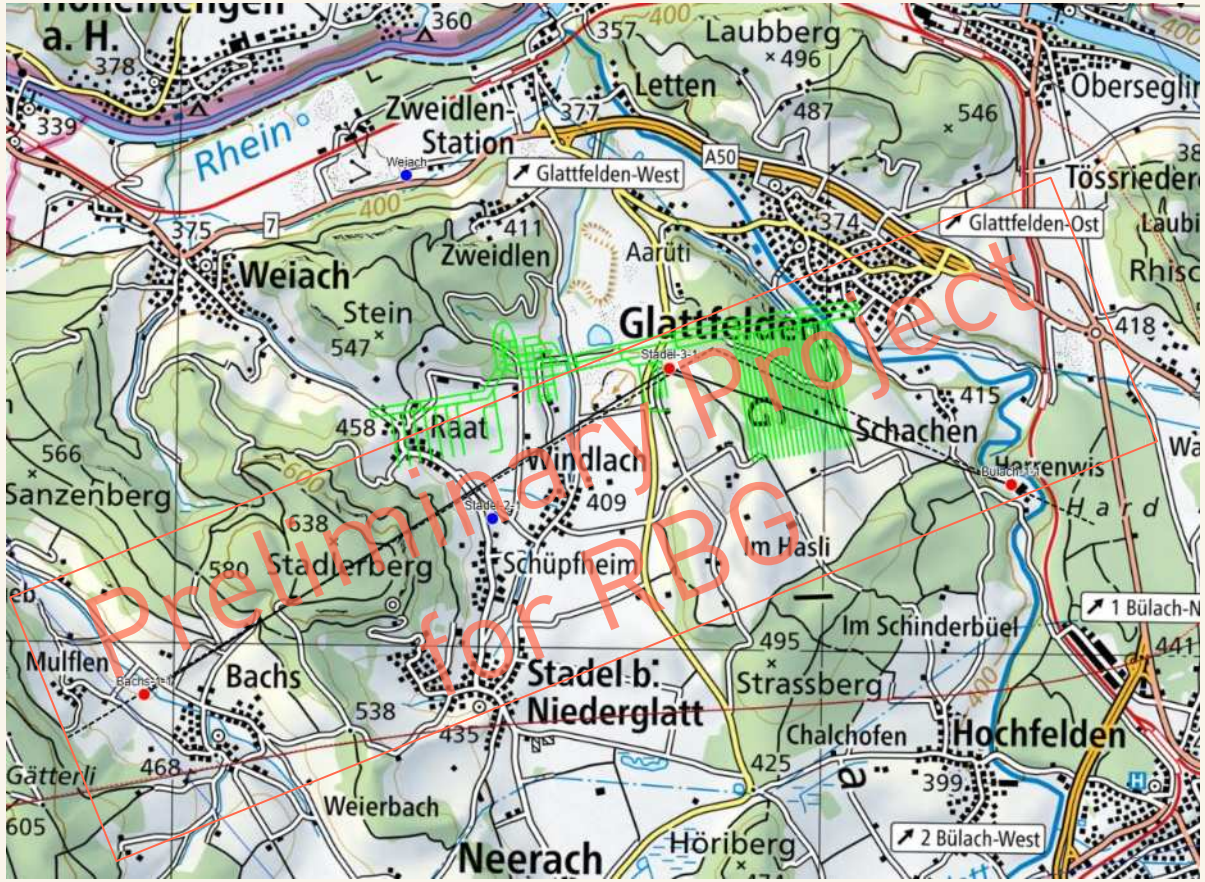
Project in Depth Domain

- Horizons
- Faults
- Boreholes
- Earthquakes
- Repository

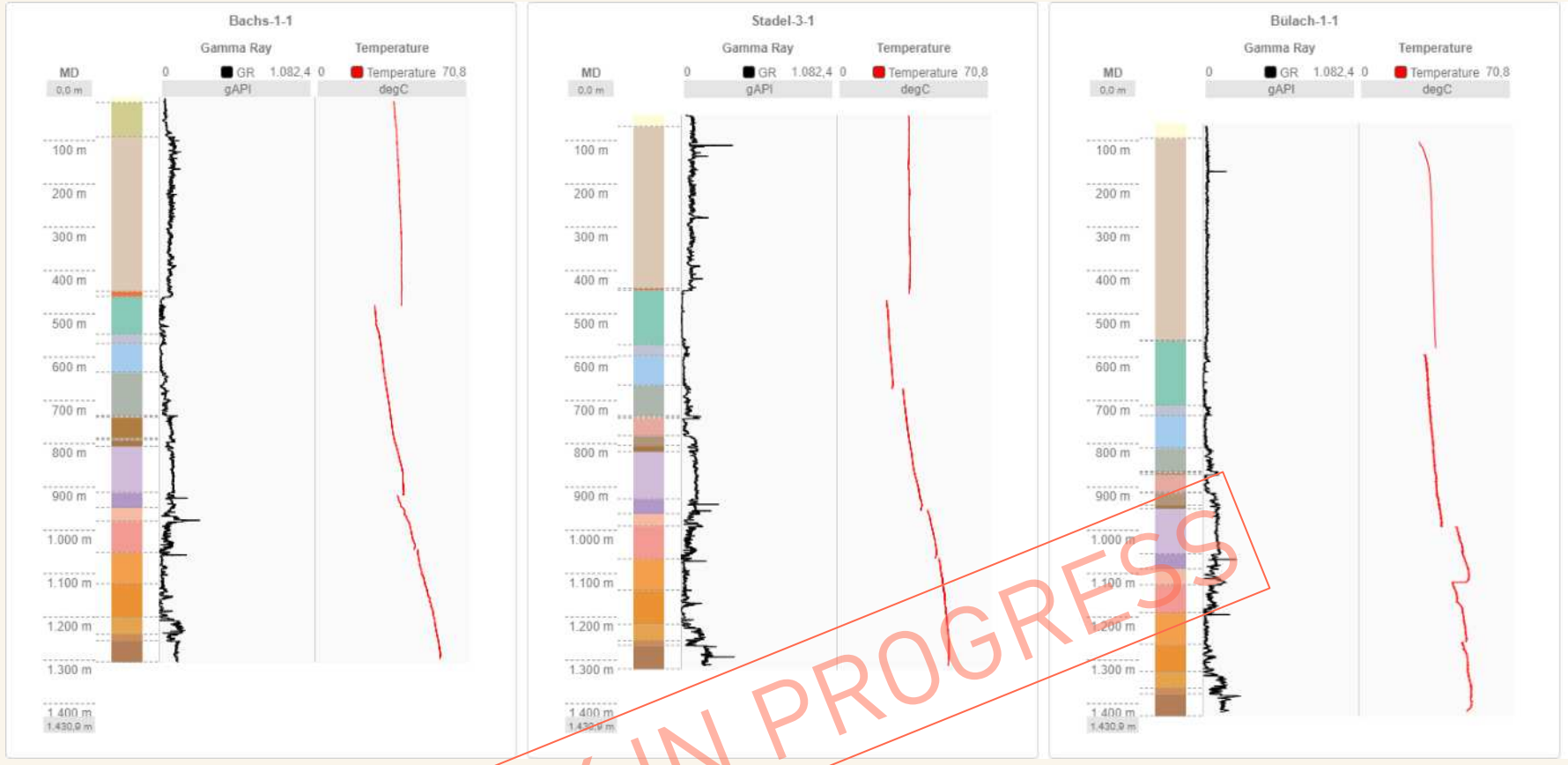
WORK IN PROGRESS

GST FOR GEOLOGISTS / GEOPHYSICISTS





GST FOR GEOLOGISTS / GEOPHYSICISTS

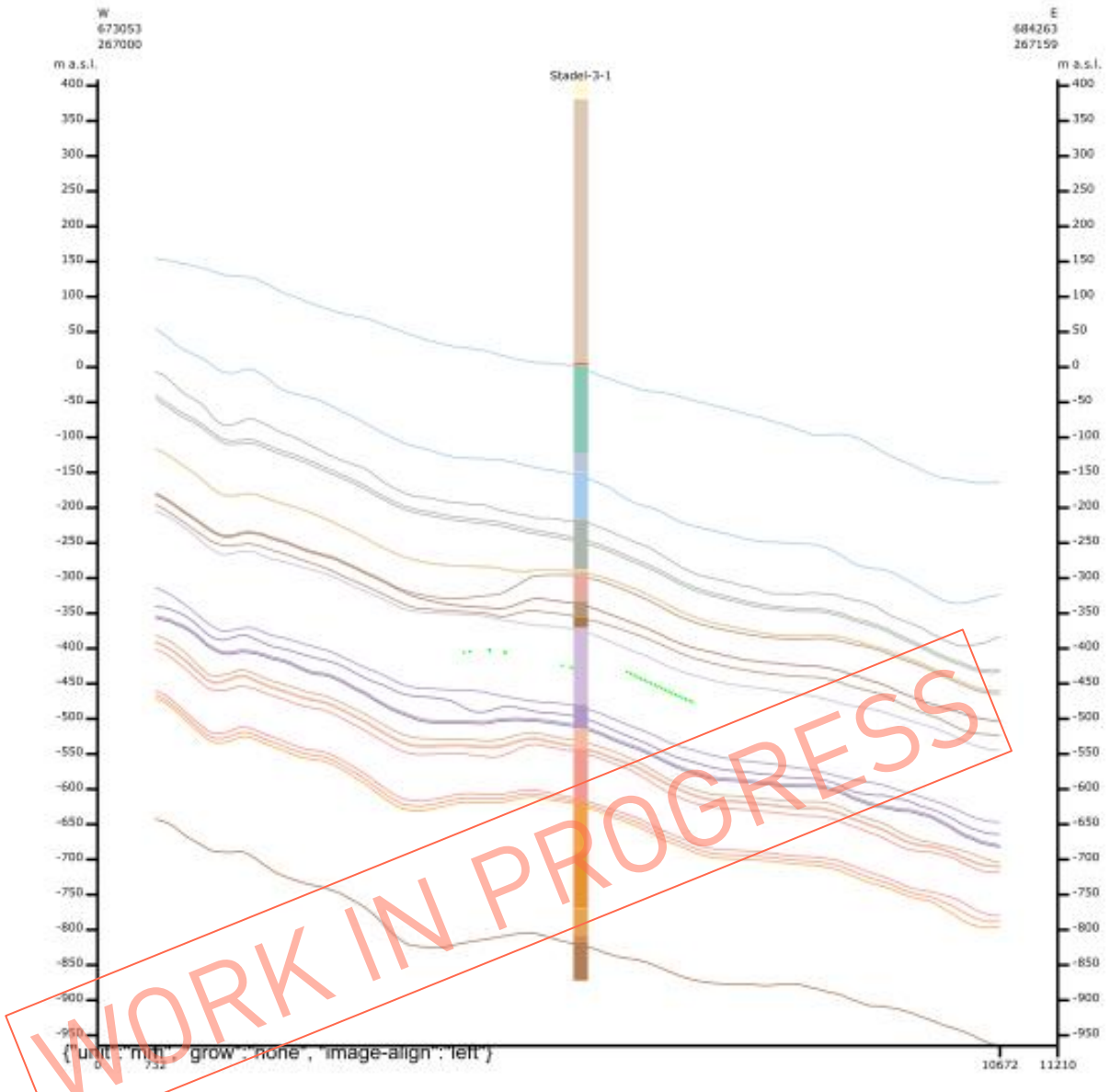


Correlation plots

- Lithology
- Stratigraphy
- Logs
- Source: Nagra borehole database

WORK IN PROGRESS

GST





Objects

- LocMod2023_v1_NL_149_2_Kim_100_Base_Cenozoic
- LocMod2023_v1_NL_149_2_Kim_700_nTop_Villigen_Fm
- LocMod2023_v1_NL_154_8_Oxf_300_nTop_Wildegg_Fm
- LocMod2023_v1_NL_154_8_Oxf_700_nTop_Gerstenhuebel_Bd
- LocMod2023_v1_NL_154_8_Oxf_750_Intra_Wildegg_Fm
- LocMod2023_v1_NL_154_8_Oxf_975_Top_Dogger_Gr
- LocMod2023_v1_NL_170_9_Aal_300_Top_Opalinus_Clay
- LocMod2023_v1_NL_174_7_Toa_100_Top_Lias_Gr
- LocMod2023_v1_NL_192_9_Sin_100_Top_Frick_Mb
- LocMod2023_v1_NL_208_5_Nor_100_Top_Seebi_Mb
- LocMod2023_v1_NL_227_Car_100_Top_Gansingen_Mb
- LocMod2023_v1_NL_227_Car_200
- LocMod2023_v1_NL_227_Car_300_Top_Baenkerjoch_Fm
- LocMod2023_v1_NL_237_Lad_200_Intra_Baenkerjoch_Fm
- LocMod2023_v1_NL_237_Lad_300
- LocMod2023_v1_NL_237_Lad_400_Top_Muschelkalk_Gr
- LocMod2023_v1_NL_251_9_Per_100_Base_Mesozoic

Stratigraphy La

0 1 2 3 4 5
km

nagra www.nagra.ch

Länge: 1 : 24000
Höhe: 1 : 2900

Hardstrasse 73
Postfach
CH ? 5430 Wettingen

Virtueller Schnitt | DAT.: 27.03.2025

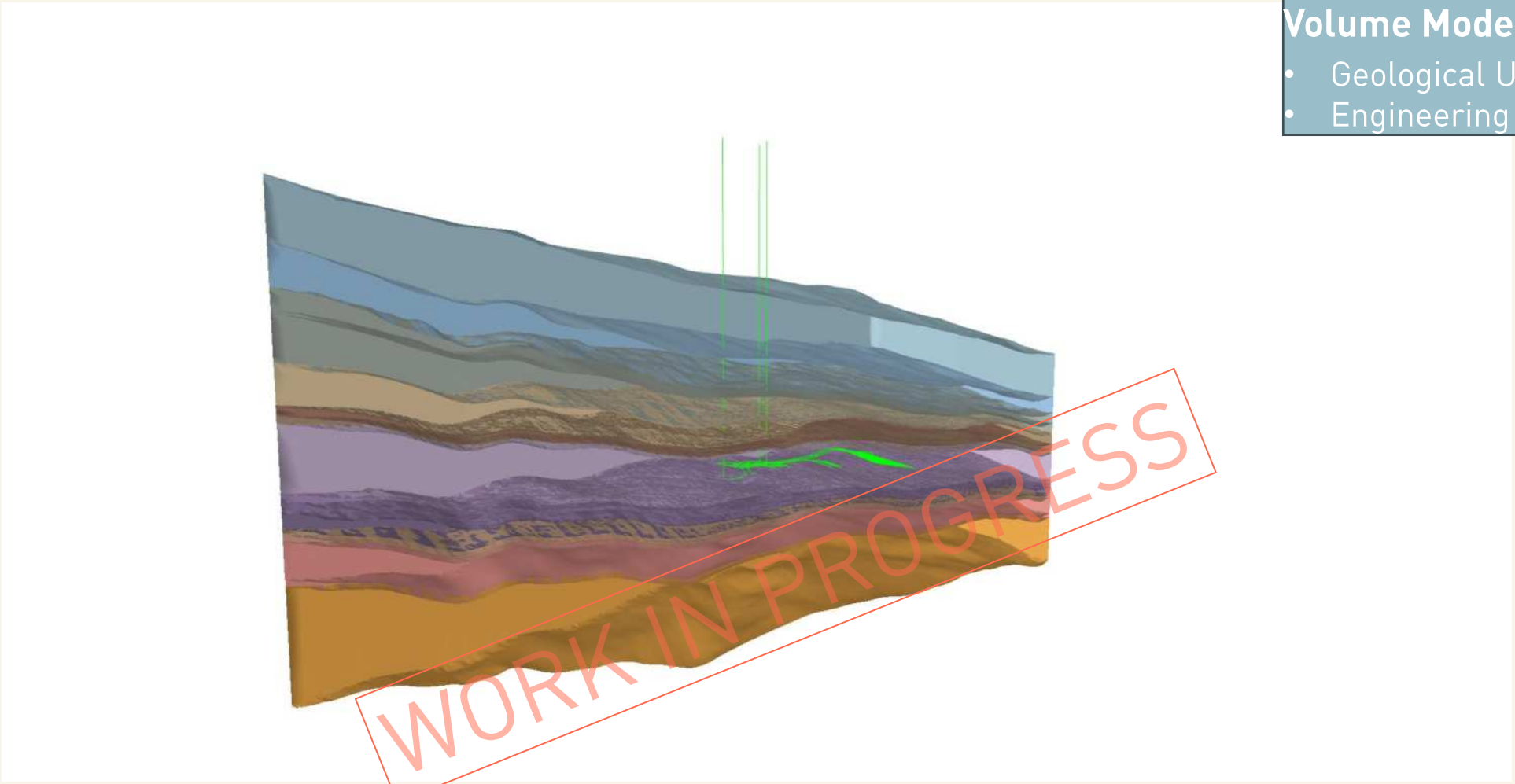
Cross Sections

- Geological Units
- Boreholes
- Repository

WORK IN PROGRESS

Mek

GST FOR ENGINEERS



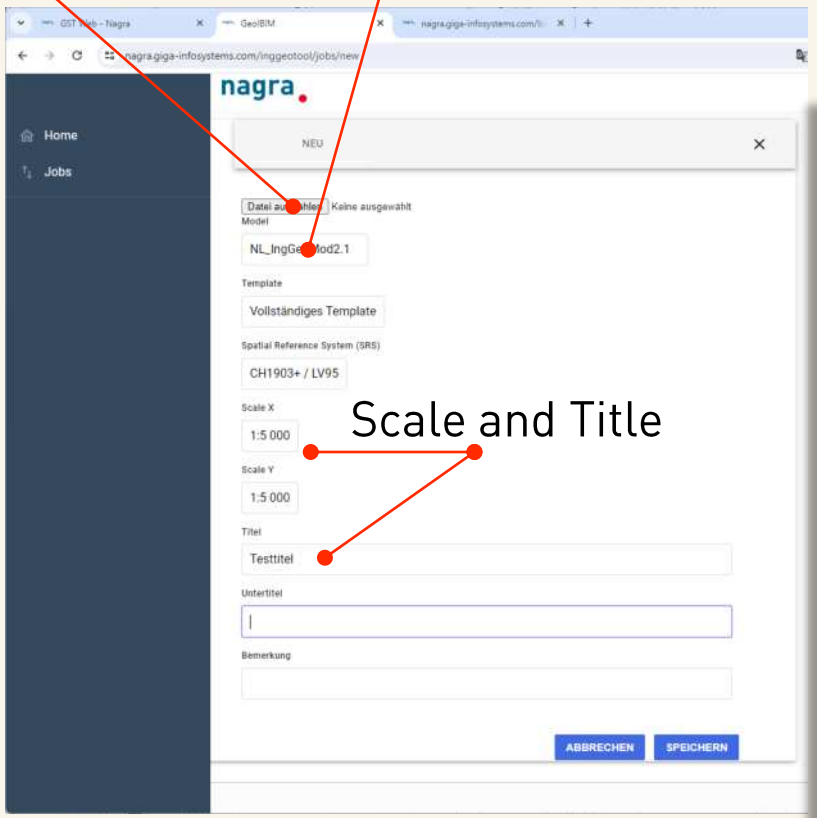
Volume Models

- Geological Units
- Engineering Parameters

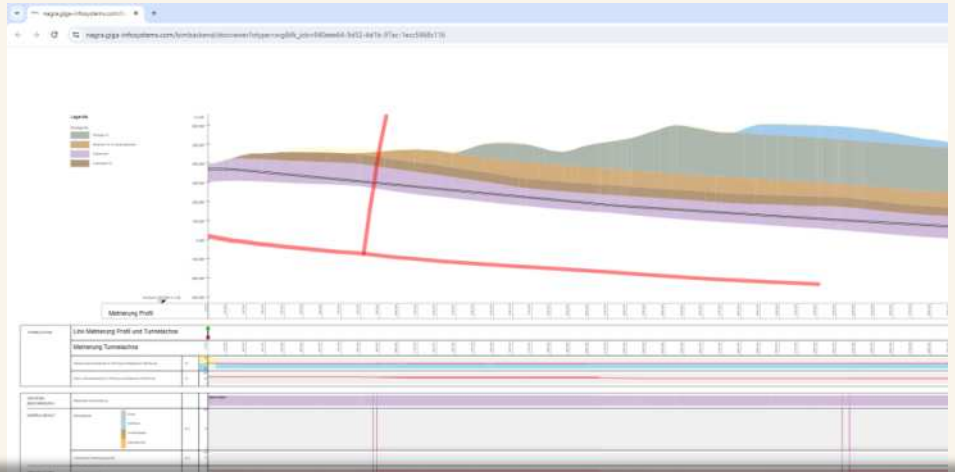
GST FOR ENGINEERS

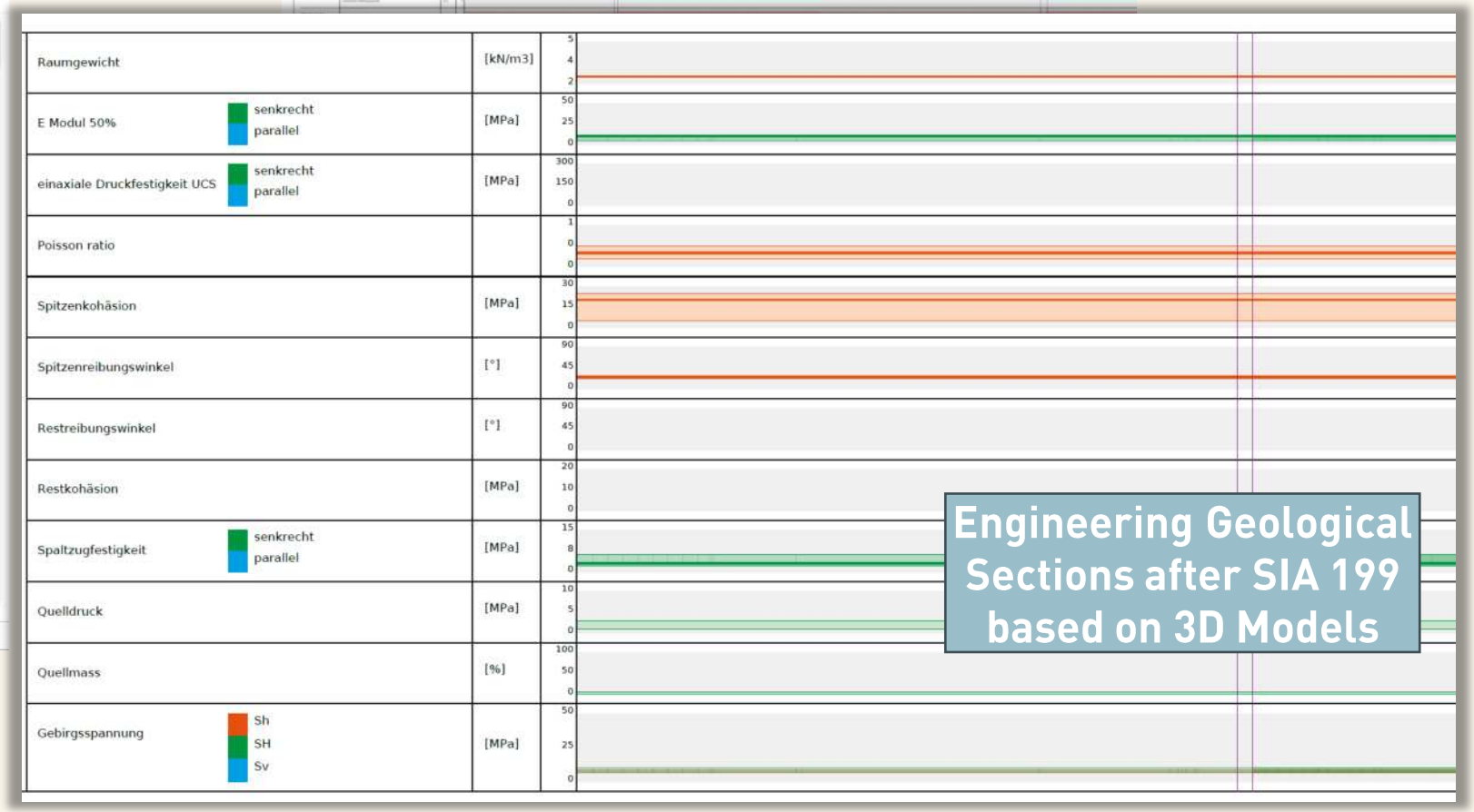
Upload Tunnel Axis (ifc or Gocad pl)

Select Model



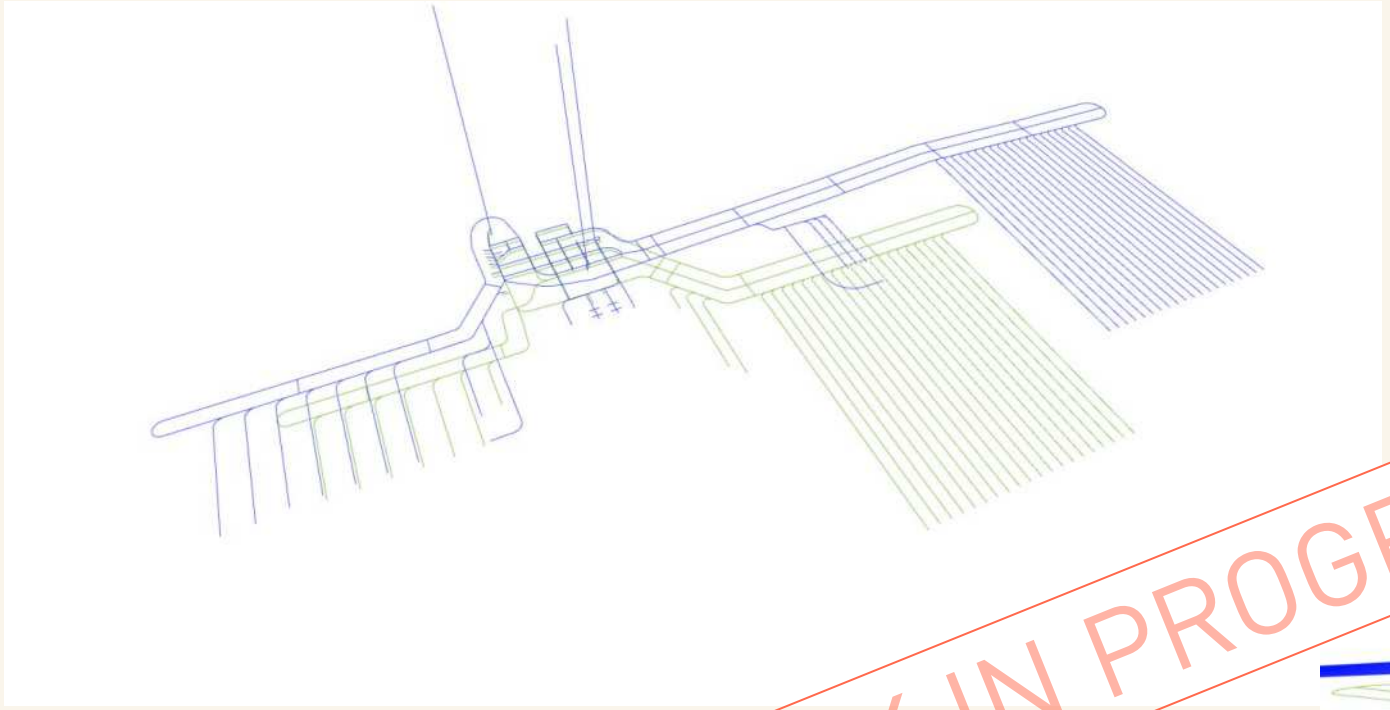
Scale and Title





Engineering Geological Sections after SIA 199 based on 3D Models

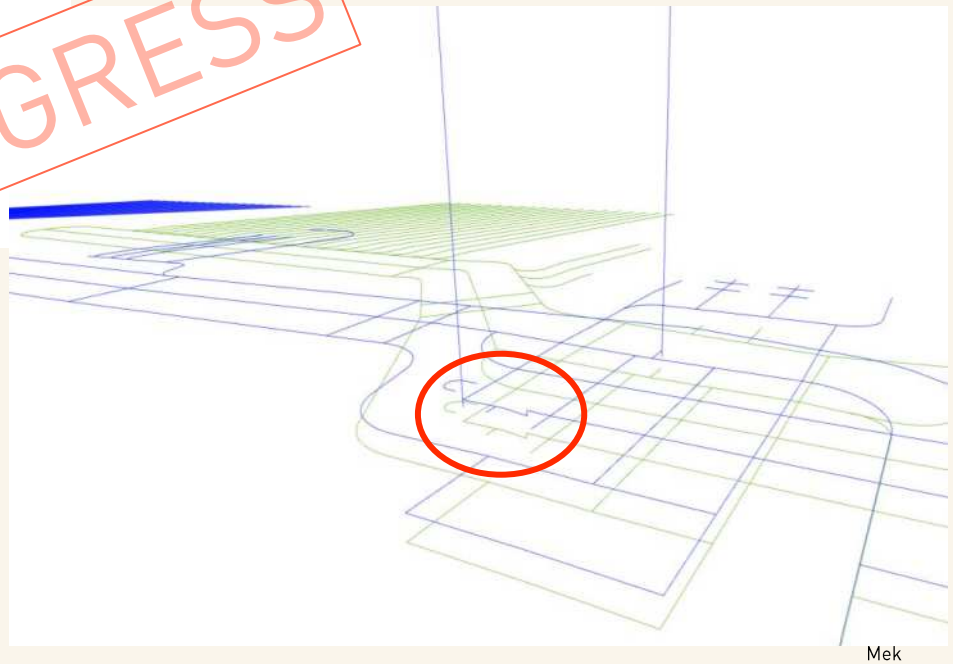
GST FOR OPTIMISATION



Data QC

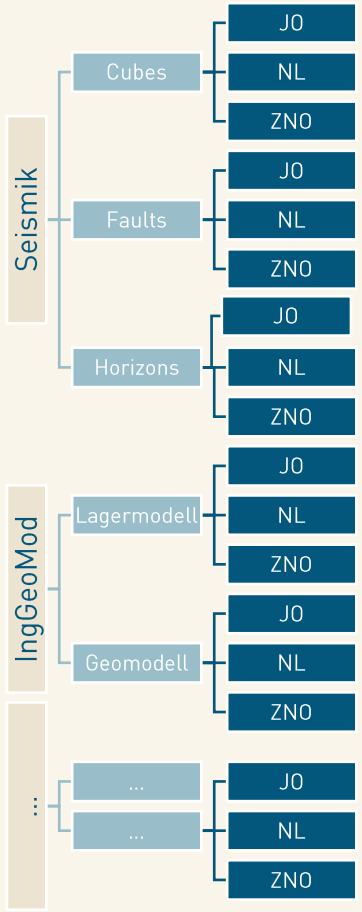
- Repository Plans
- Modelling results

WORK IN PROGRESS

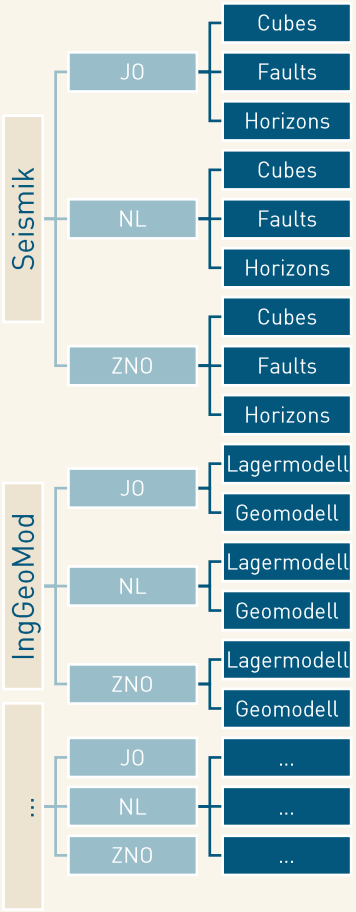


MODEL ORGANISATION: WHAT AND WHERE?

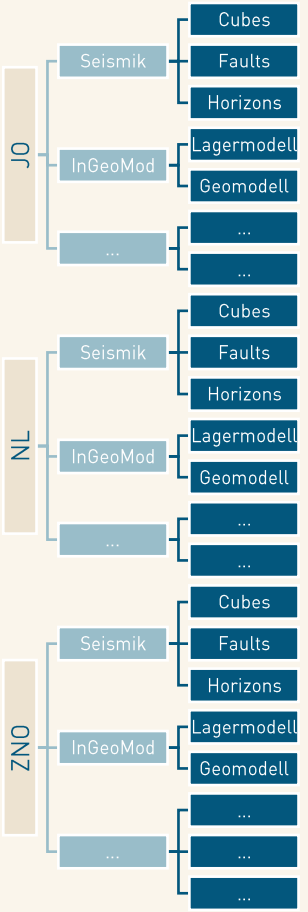
Topic – Data - Area



Topic – Area - Data



Area – Topic - Data



FRAGEN ODER SHOWTIME!

nagra.