GiGa infosystems

GST User Meeting 2024

Webex Meetings

* Everyone is muted by default
* We welcome to see your face, but it is not a must
* Raise your hand if you want to ask an immediate questions
* Use “Questions & Answers” or “Chat” to ask a general question; will be answered later
* Easy chat/Further questions during break

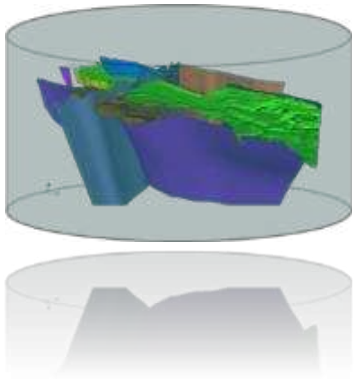
Disclaimer

* We are not geologists/geoscientists, we may use wrong terms
* We demonstrate with possibly wrong examples here and there
* We are happy if you correct us or provide us with real data we can use and show
* We can provide guidance to achieve nice results with your data, don't hesitate to ask

Agenda

* 9.00 – 10.30 Developments of 2023, Paul Gabriel
* 10.40 – 11.00 Using GIS with GST – OGC API, Georg Semmler
* 11.00 – 11.15 Discussion/Break
* 11.15 – 11.45 Updates on GST[AR], Björn Wieczoreck
* 12.00 – 13.00 Future Developments – Ideas –Feedback, Paul Gabriel

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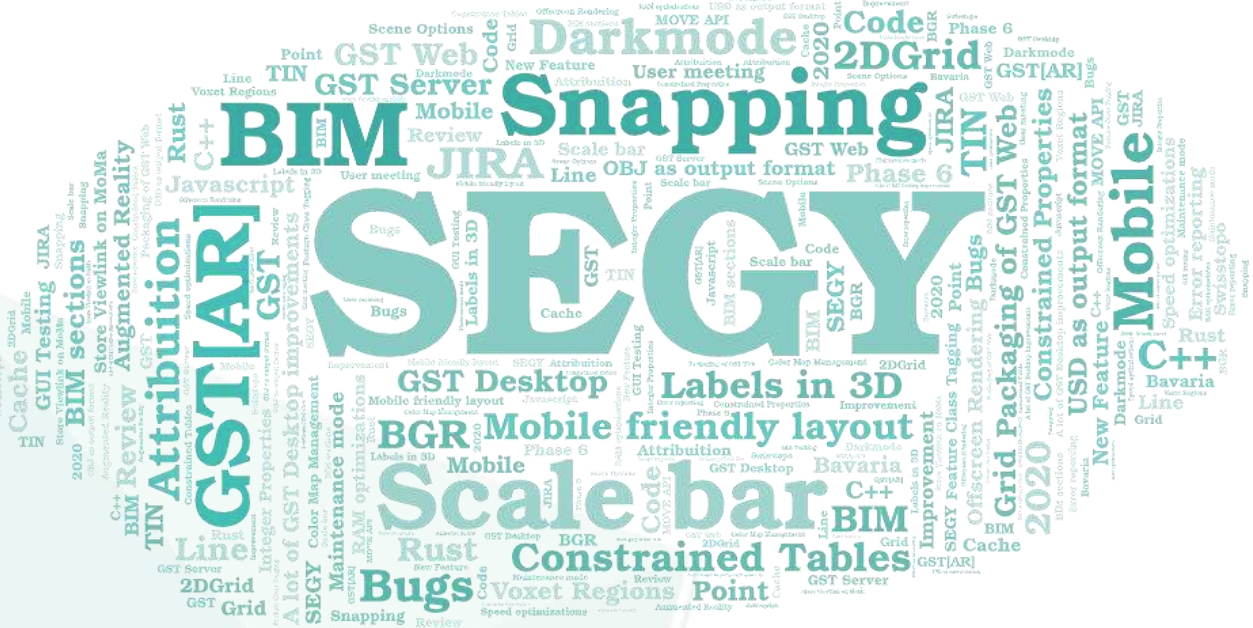


* Team of 8
  (2.5 Backend, 1.5 Desktop, 3 Web, 1 DevOps)
* **Oracle Partner, GIS Award**
* Cooperation with
  * TU Bergakademie Freiberg
  * Petex (MOVE)



Developments in 2023

* 322 Bugs fixed
* 191 Improvements
* 64 New Features
* 2.5 GST Releases



* 105 Issues closed in Servicedesk, 32 new ☹ (1 waiting for customer, 8 in progress)

Developments in 2023

* HLNUG, Hesse, with SaaS
* Niedersachsen Wasser with SaaS
* LAGB, Saxony Anhalt, with SaaS
* TU Bergakademie with SaaS

Developments in 2023

- Main developments with LfU Bavaria, swisstopo and LfULG Saxony, nagra and BGE:
  - **3d tiles export**
  - **Improved OBJ, KML/Collada export**
  - **Mechanism for defining a stratigraphic order**
  - **Mesh simplification**

BGE BUNDESGESELLSCHAFT FÜR ENDLAGERUNG

Bayerisches Landesamt für Umwelt

nagra

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Landestopografie swisstopo

LANDESAMT FÜR UMWELT, LANDWIRTSCHAFT UND GEOLOGIE

Freistaat SACHSEN

Developments in 2023

* Main developments with LfU Bavaria, swisstopo and LfULG Saxony, nagra and BGE:
  * **Borehole info dialog rework**
  * **Download SEGY as GeoTIFF**
  * **Extension of Borehole metadata**
  * **Borehole filter**

Developments in 2023

- Main developments with LfU Bavaria, swisstopo and LfULG Saxony, nagra and BGE:
  - **ResqML import and export**
  - **IFC import and export**
  - **Addition of seismographic data**
  - **netCDF import**
  - **Timestamp support for Attributes**
  - **Stable API**

Developments in 2023 – GST[AR]

* More features on GST[AR] for Android
* Themes support
* QR Code Support
* Simple news system
* Endpoint creator

GST Desktop

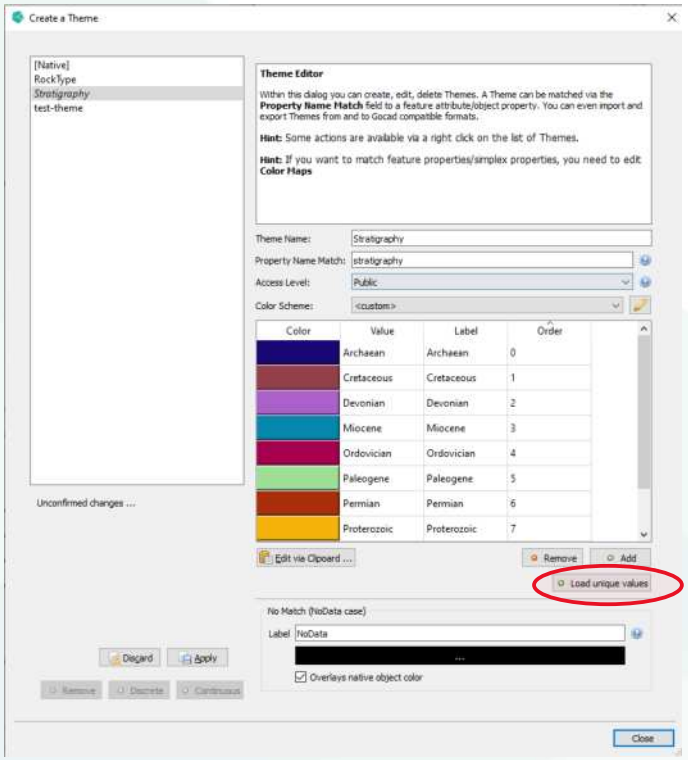
* Stratigraphic Sorting
* New Download options and formats
* Distinct Feature Types
* Improved Histogram
* Improved Error Messages for connection errors
* Improved Feature Class handling

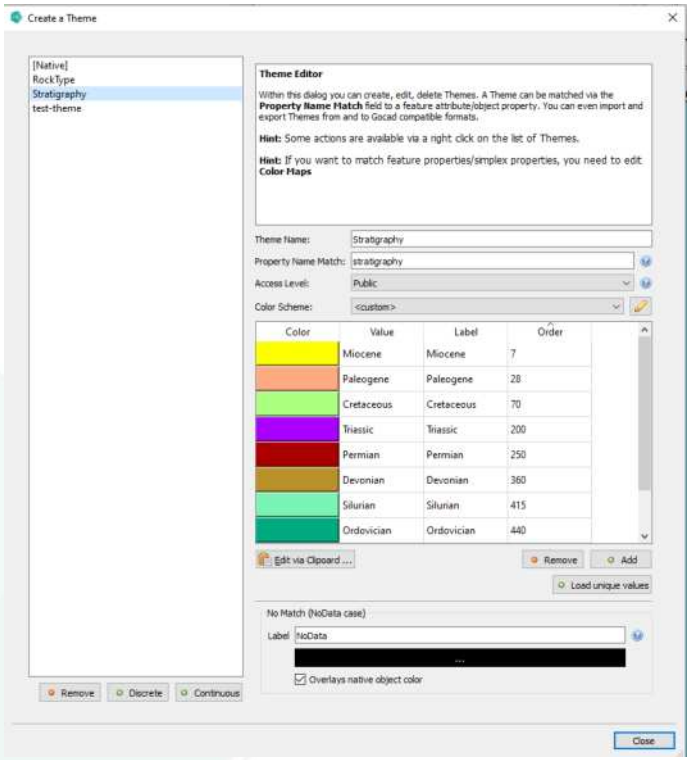
Stratigraphic Sorting



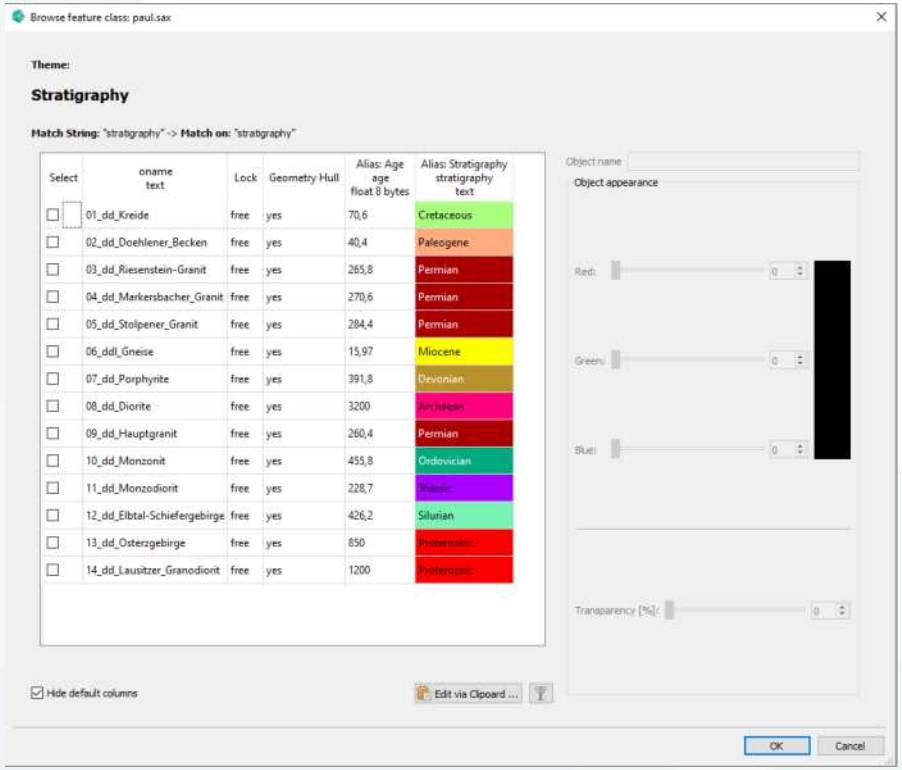
- Yet no full stratigraphic table
- More flexible by allowing:
  - To Use Themes as sort base
  - To Use Attribute as sort base
- Smaller improvements

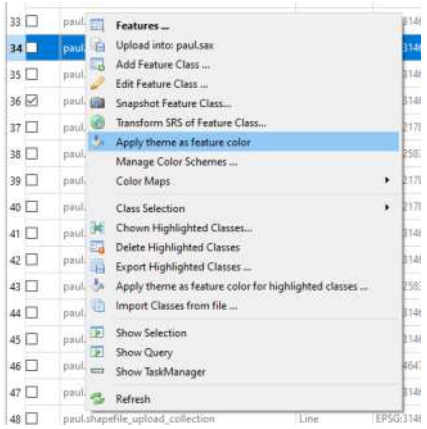
Stratigraphic Sorting

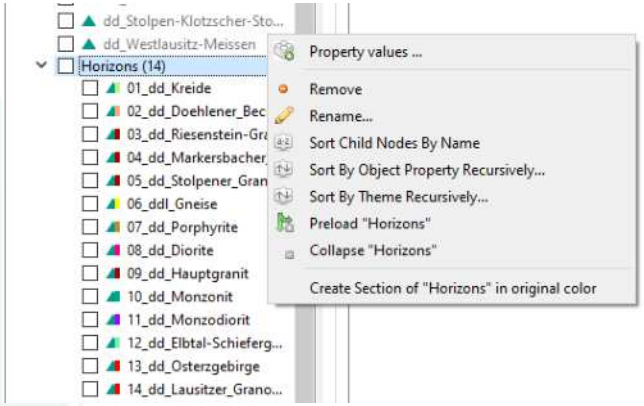




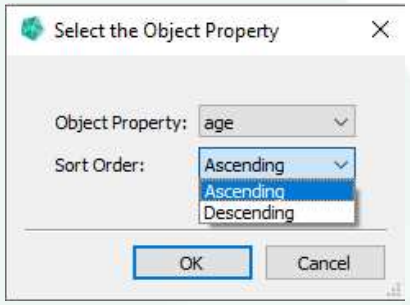
Stratigraphic Sorting

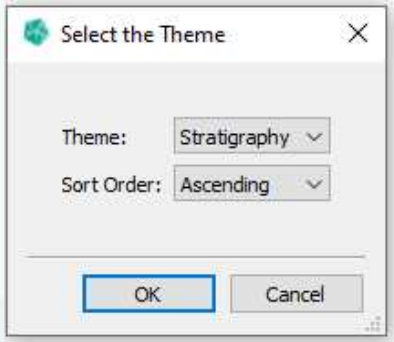


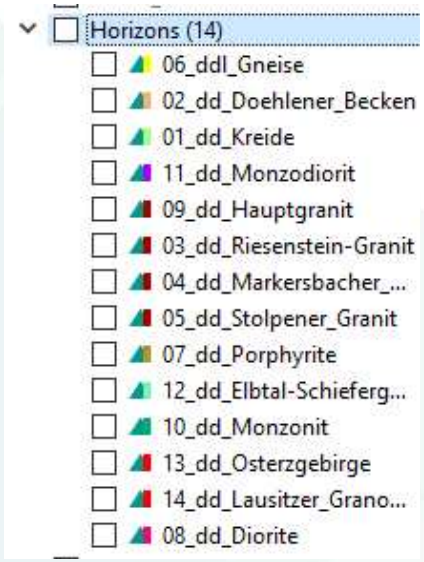




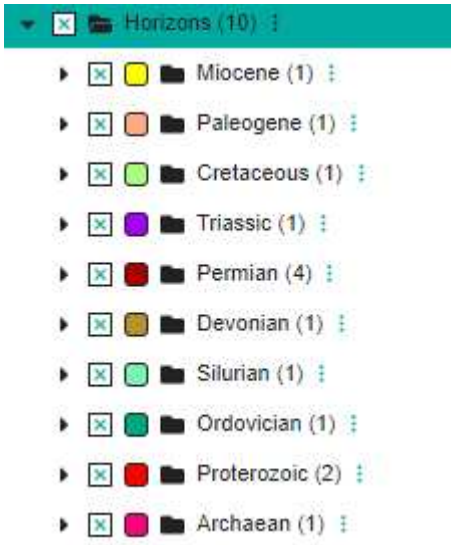
Stratigraphic Sorting









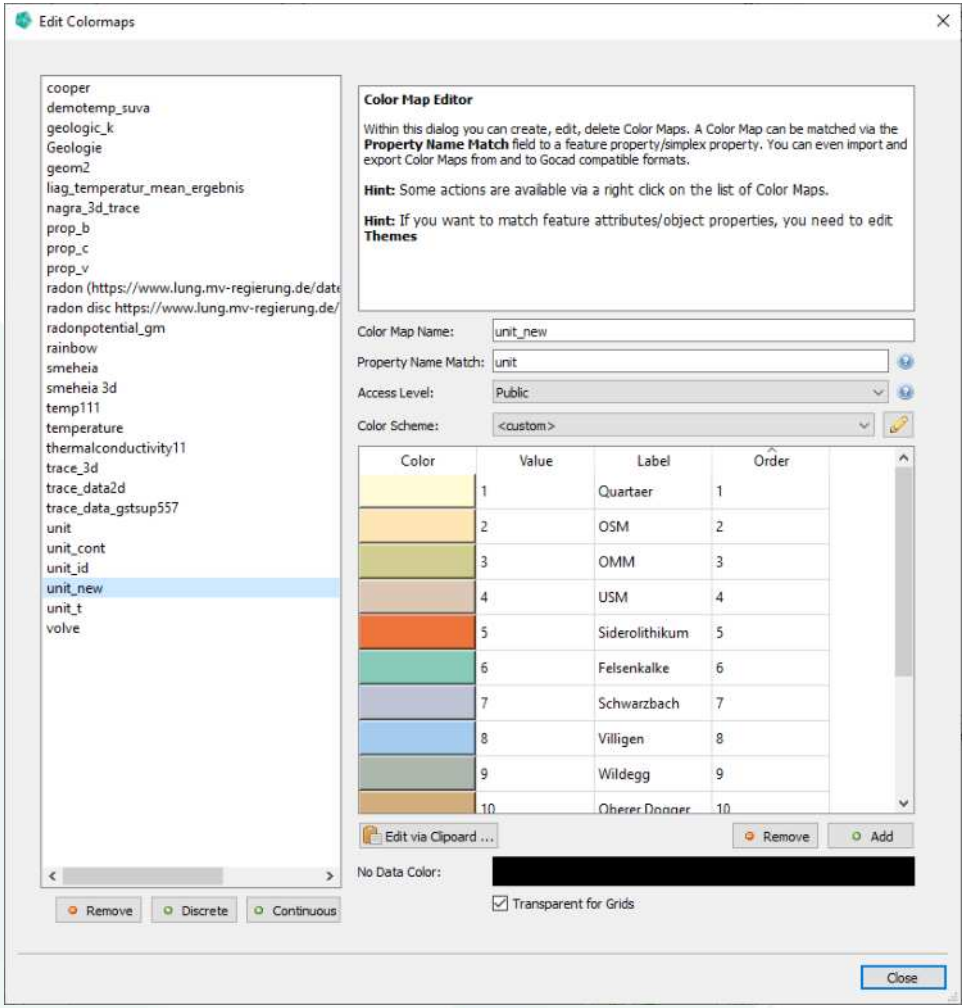


Segmentation – Isosurfaces

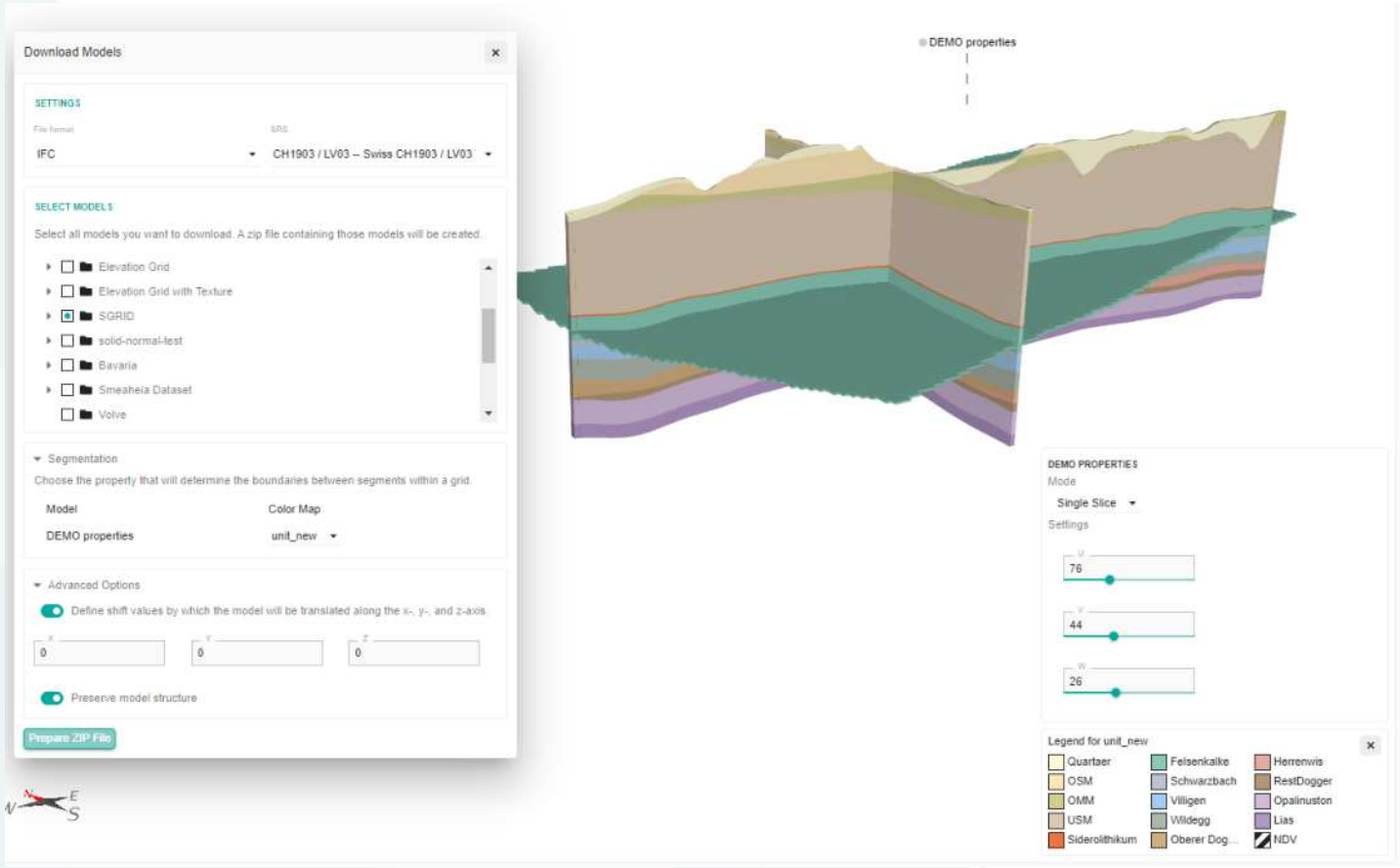


- Similar to isolines
- “a surface that represents points of a constant value within a volume”
- Works via themes
- Implemented for stratigraphic grids and voxets
- Can be created via web
- Can be used as visualization mode
- Extensive property transport

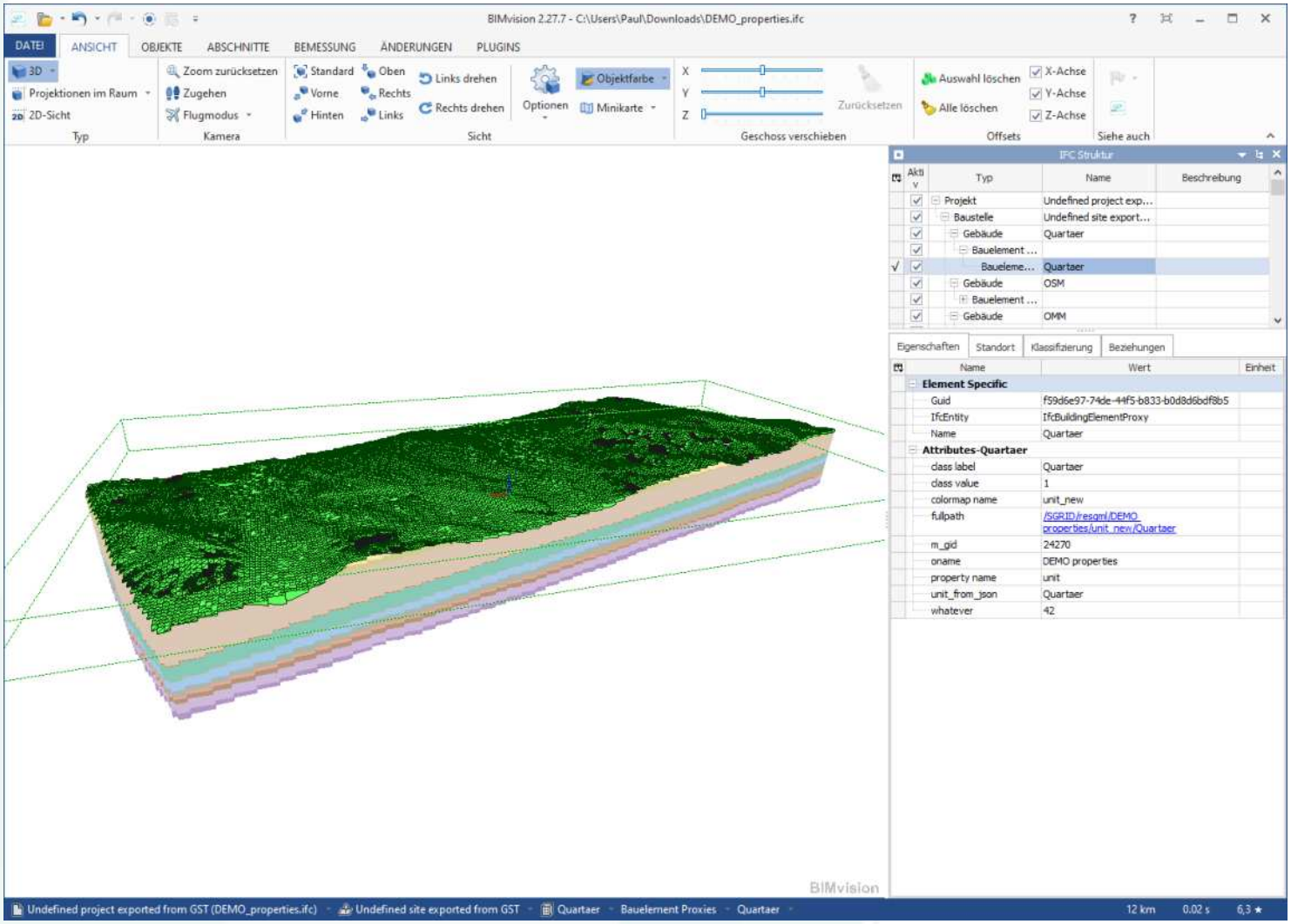
Segmentation – Isosurfaces



Segmentation – Isosurfaces

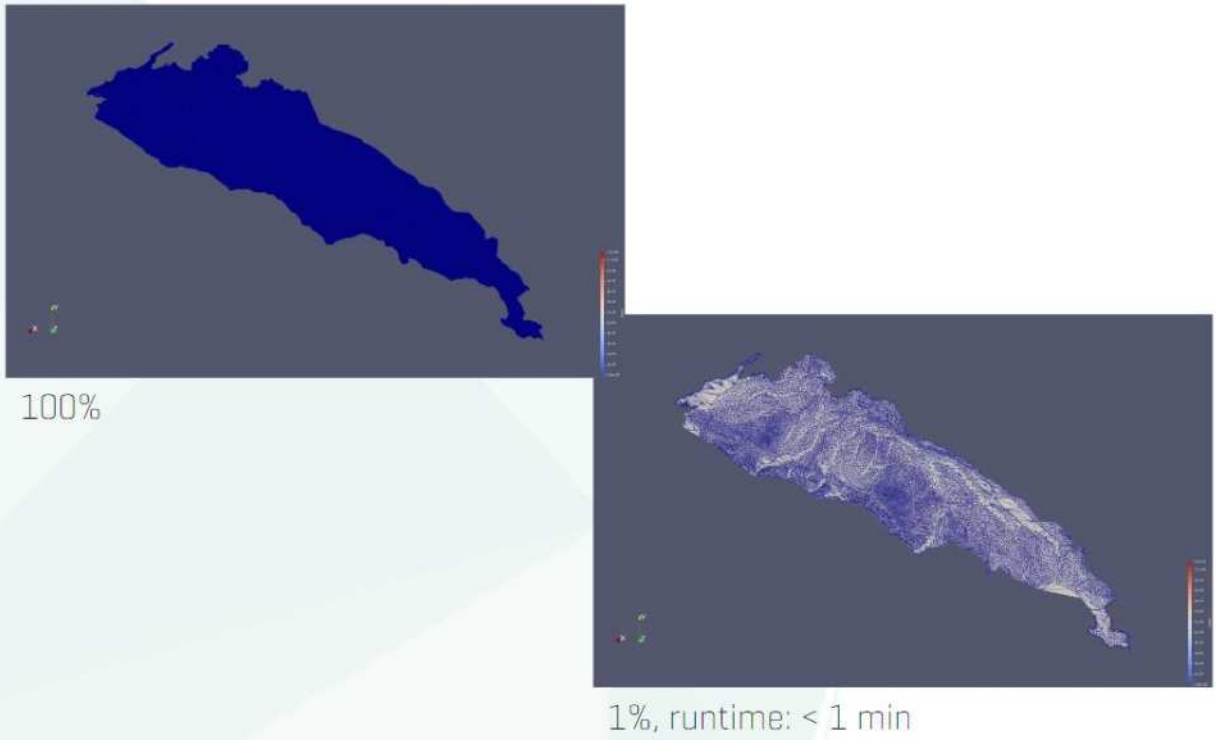


Segmentation – Isosurfaces

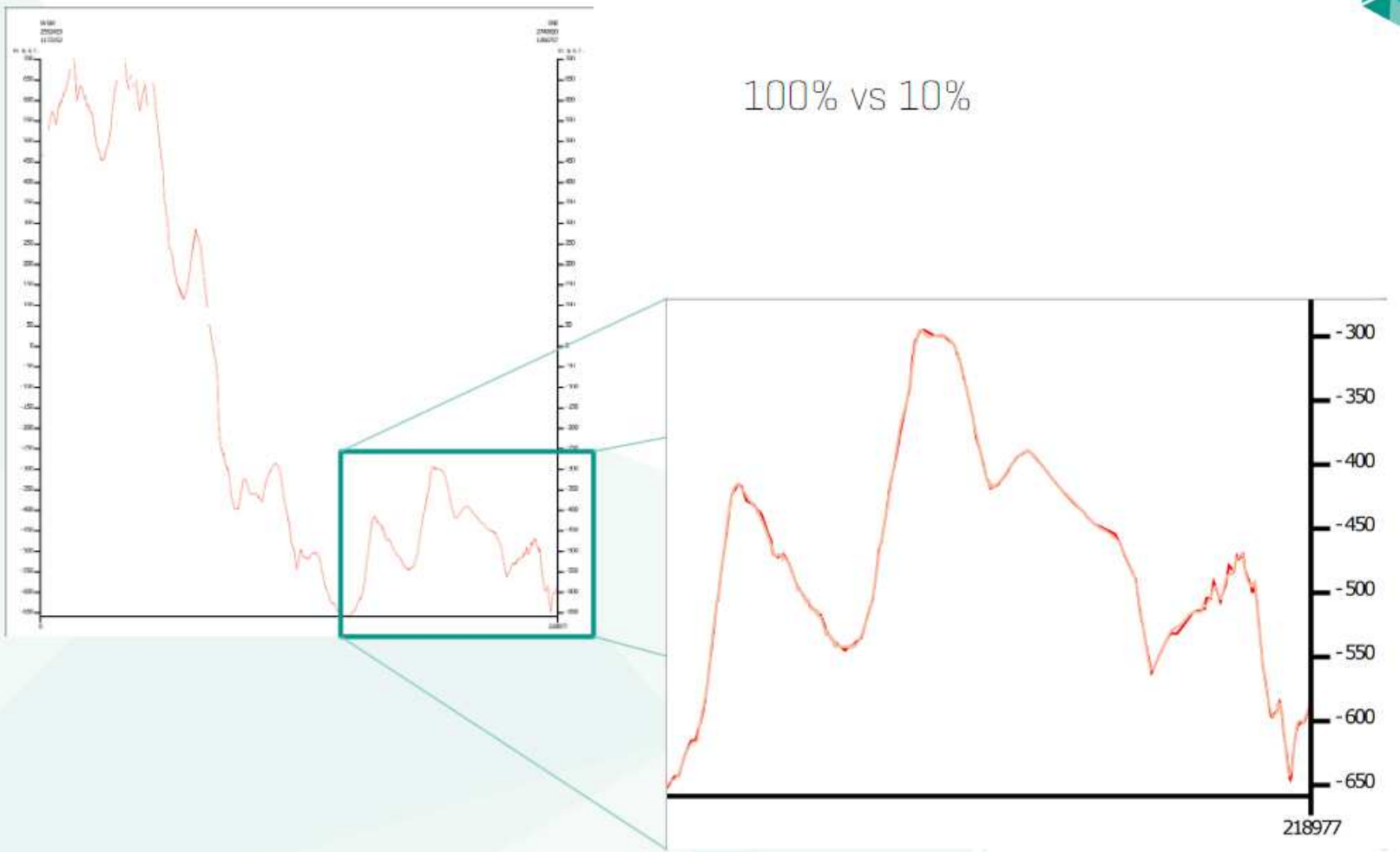


Mesh simplification

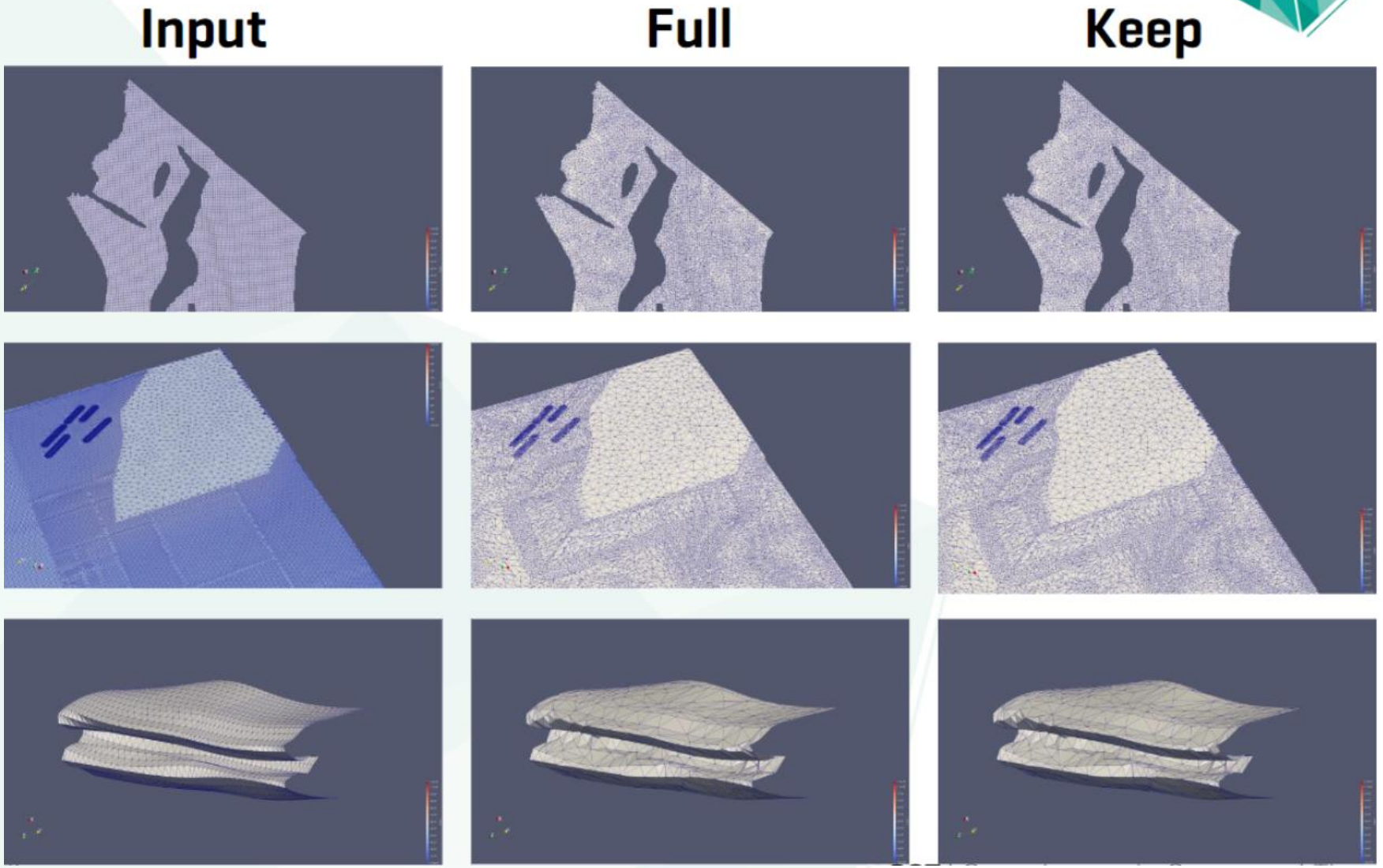
* Simplify meshes on download
* Option to keep the border, avoids shrinking



Mesh simplification



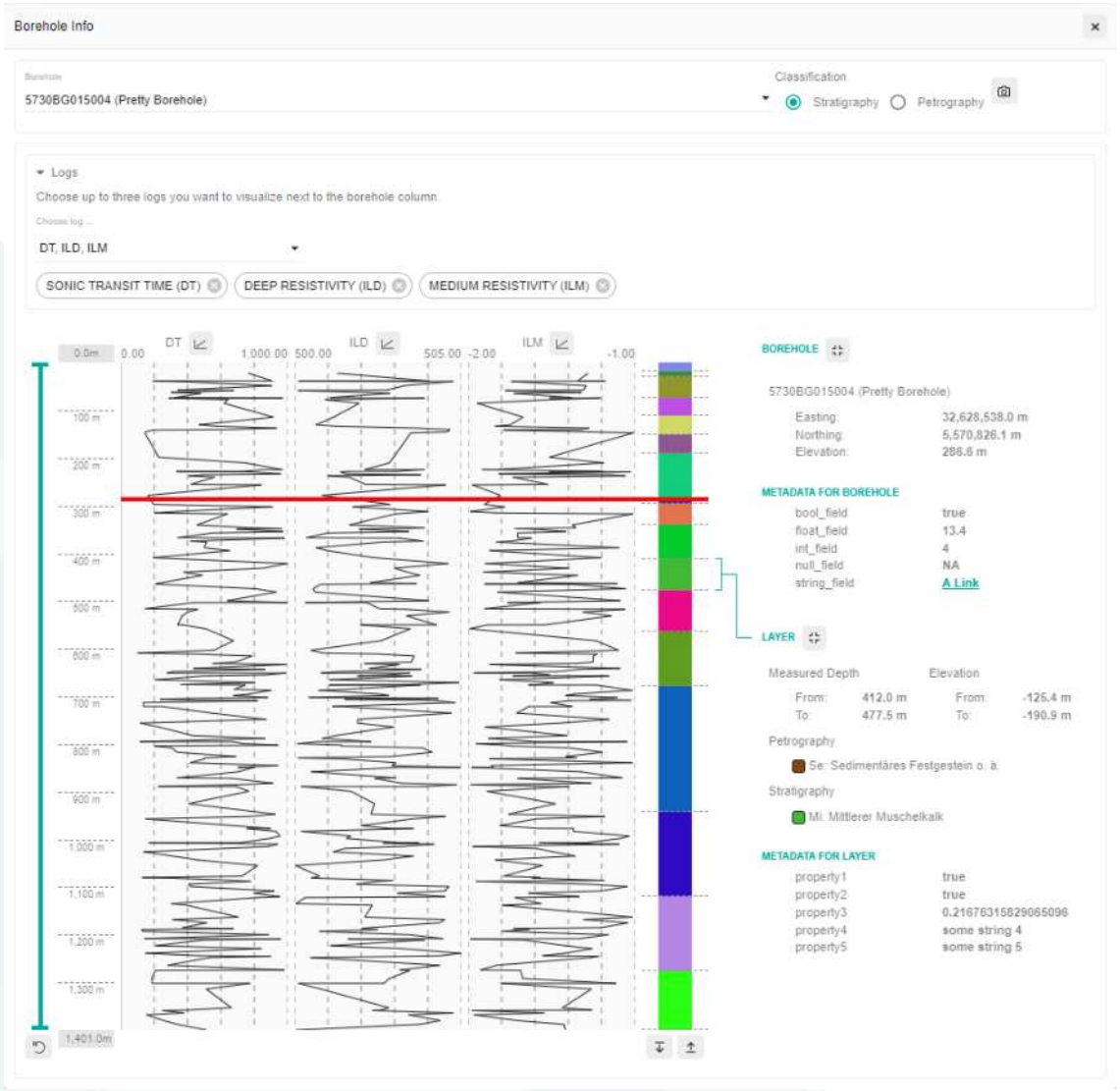
Mesh simplification



Borehole info dialog

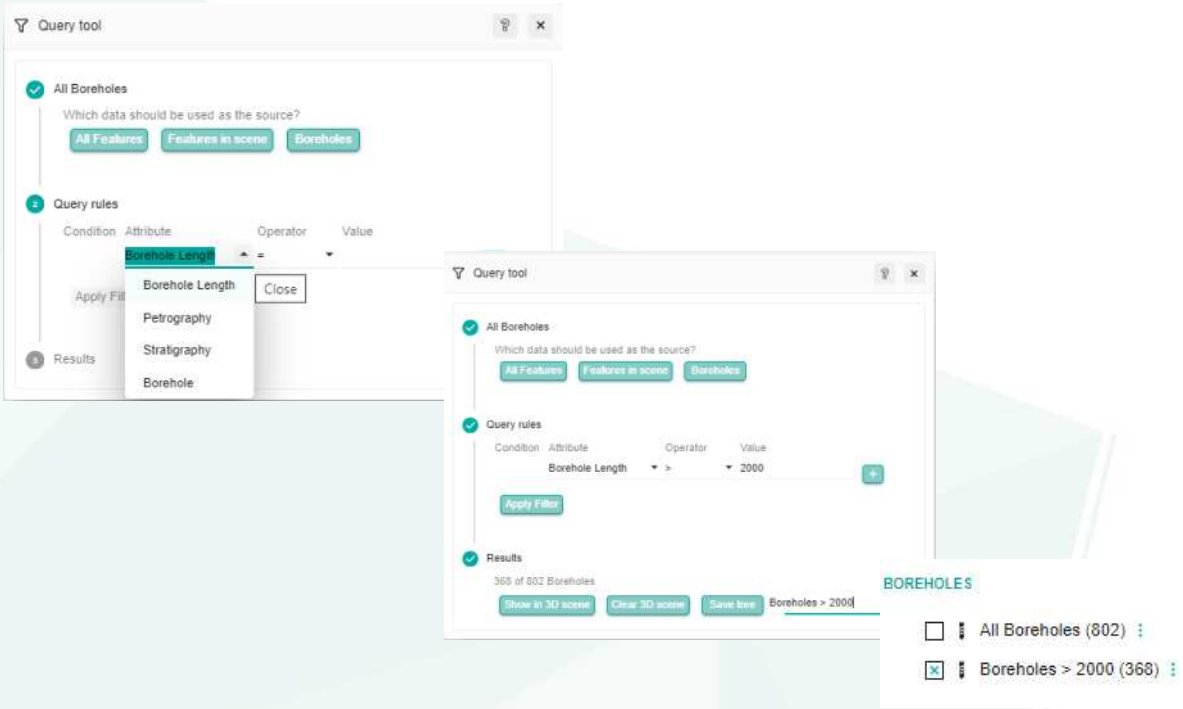
- Extended to display the complete borehole
- Single layers can be selected
- Additional metadata allows for more information
- Logs can be provided as LAS files from external sources or in database
- Search boreholes

Borehole info dialog

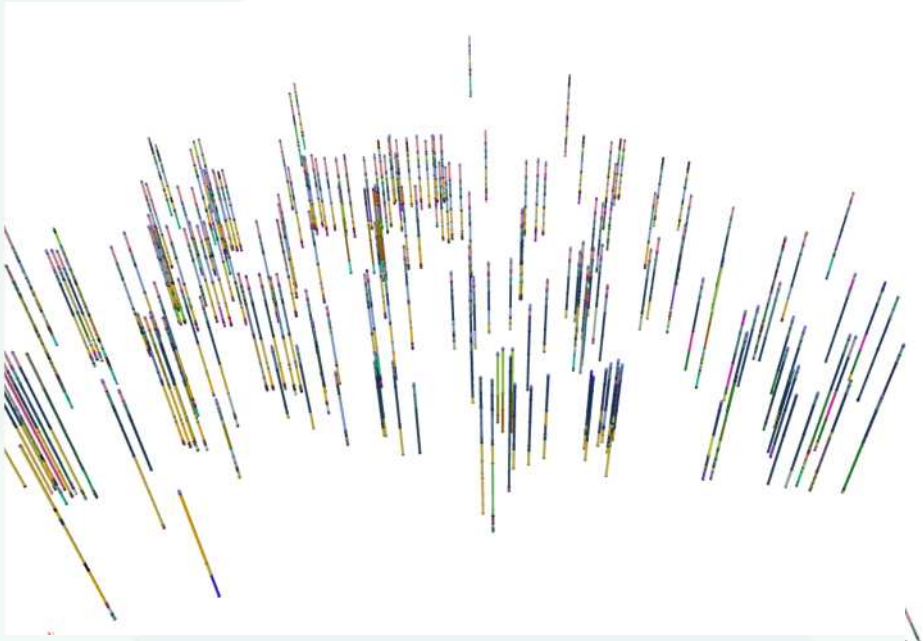


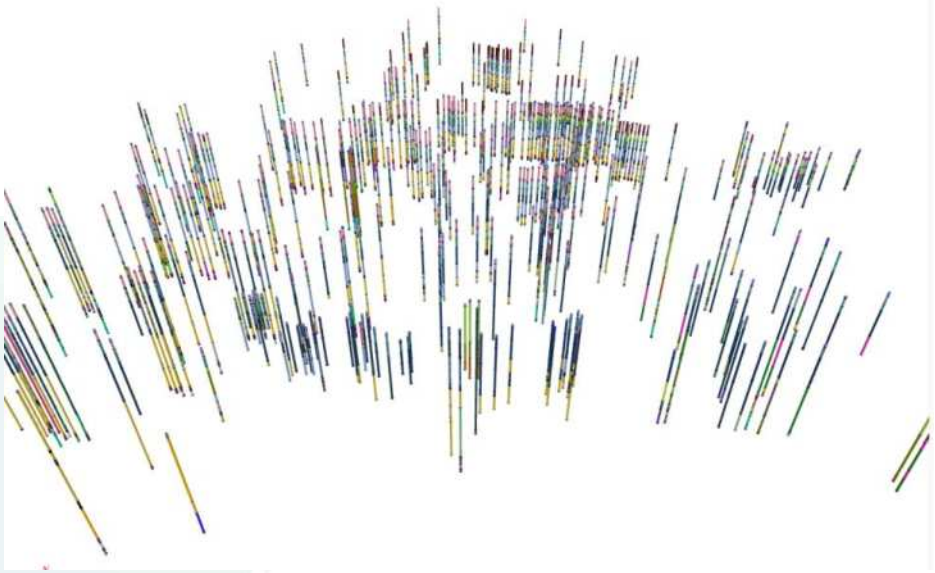
Borehole filters

* Search for boreholes with id or name, petrography, stratigraphy or total length



Borehole filters

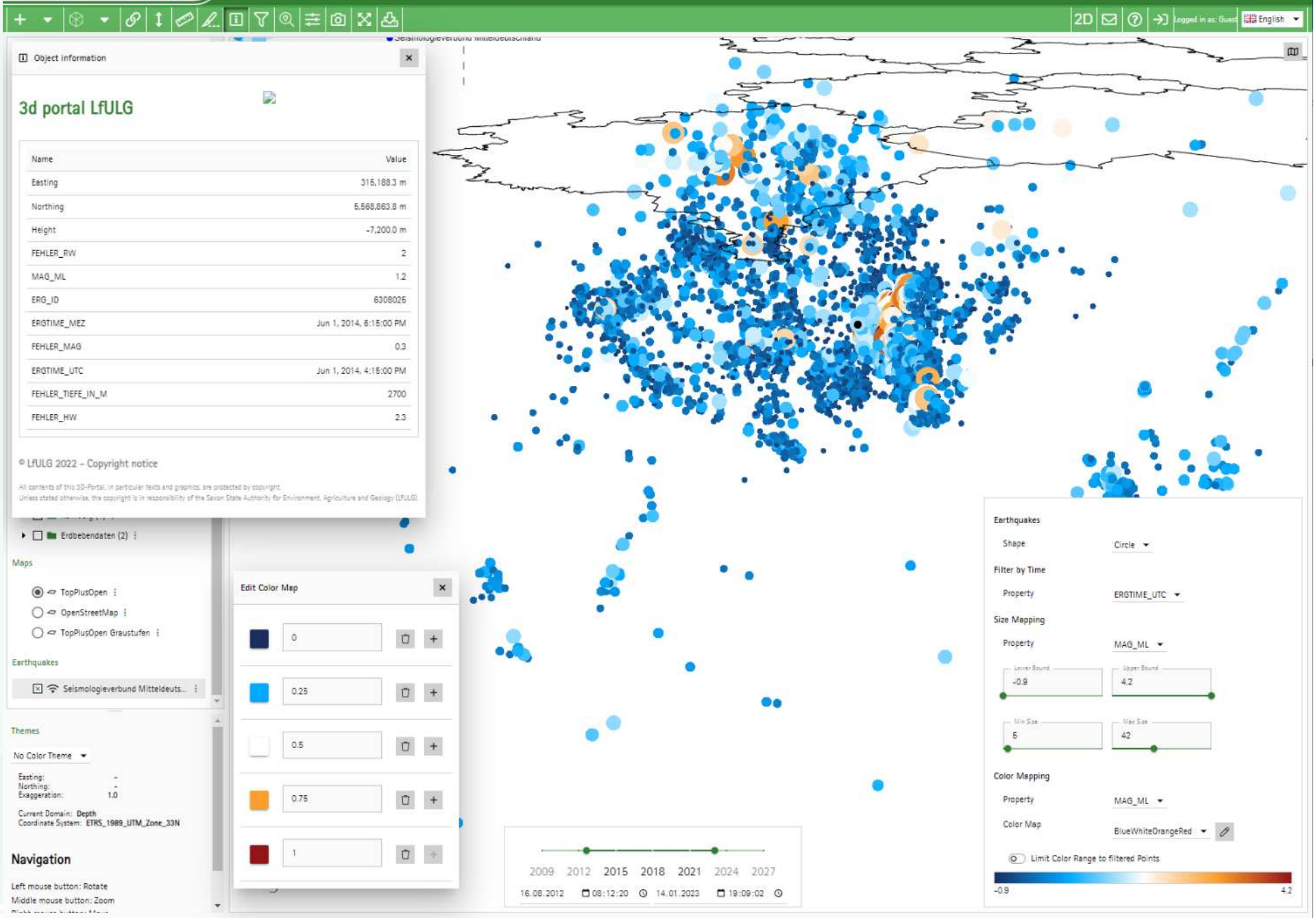




Seismographic data



- Can be added in GST Web
- Allows on the fly visualization
- Supports FDSN Event 1.1 and 1.2
- Supports Custom format of Seismologieverbund Mitteldeutschland



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New formats



- Added 3d tiles
  - allows direct use with e.g. Cesium
- Added ResqML v2.0
  - Import and Export
- Added IFC v4.2
  - Import and Export
- netCDF
  - Import
- GeoH4
  - Import
- Custom Smeaheia Horizon format
  - Import

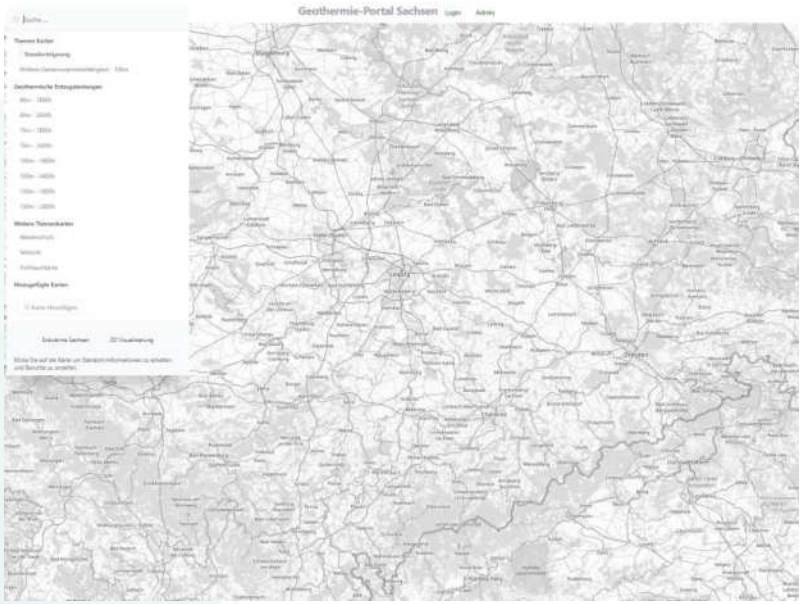
GST Web Misc



* SGrid Cell lines can be toggled
* SGrids can be visualized with segmentation
* More default settings for view
* Performance improvements
* Bugfixes

Informationsportal Erdwärme Sachsen

* Contract with LfULG Saxony
* Project runtime: Jan 2024 – Aug 2024
* Implementation of an Information portal for geothermal energy
* Several prepared maps
* Incorporation of WMS
* Generation of reports
* Address search
* Admin area to change texts
* Based on Geoplasma project



Questions?

Remarks?

Wishes?



Georg Semmler (GiGa infosystems)
Access GST from GIS via OGC API



Björn Wieczoreck (GiGa infosystems)
Updates on GST[AR]



One more thing ...

GST Convert (as a Service)

* Easy to use web application allowing to transform between 3d file formats and coordinate systems
* Features all file formats GST supports: Gocad Ascii, ResqML, IFC …
* Features same coordinate systems as GST
* Free to use with basic functionality
* GST Users will get 90 days for free
* Registered users keep their data private

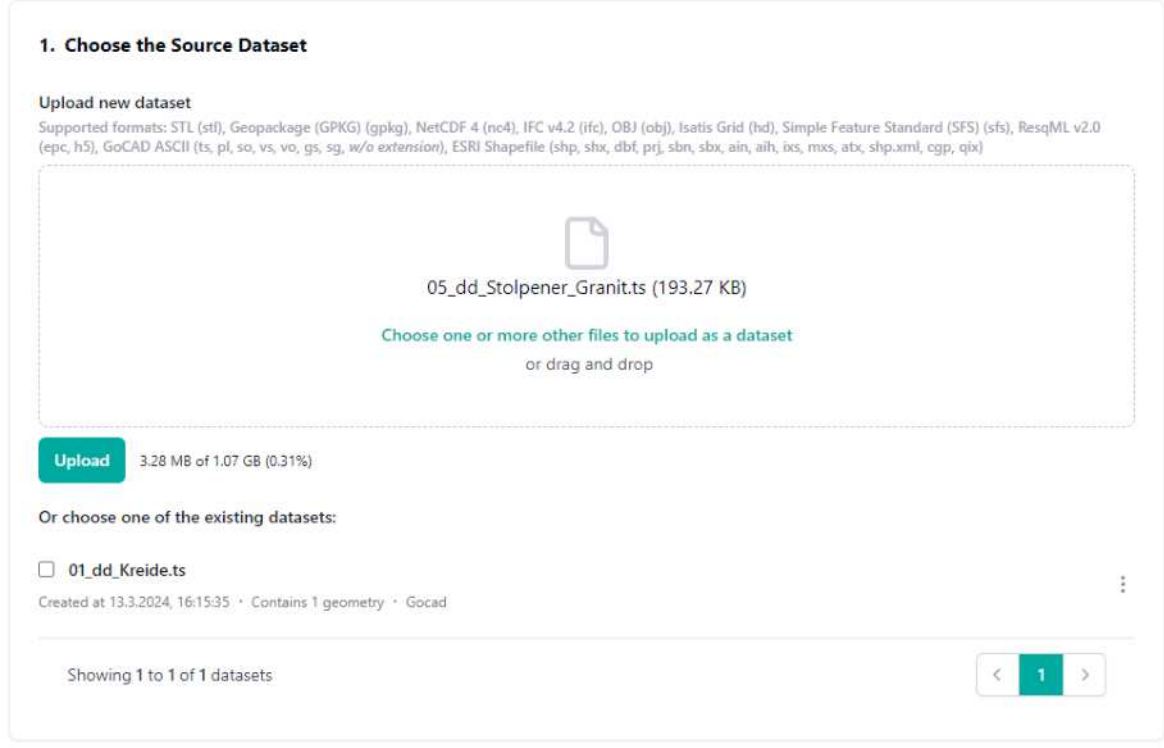




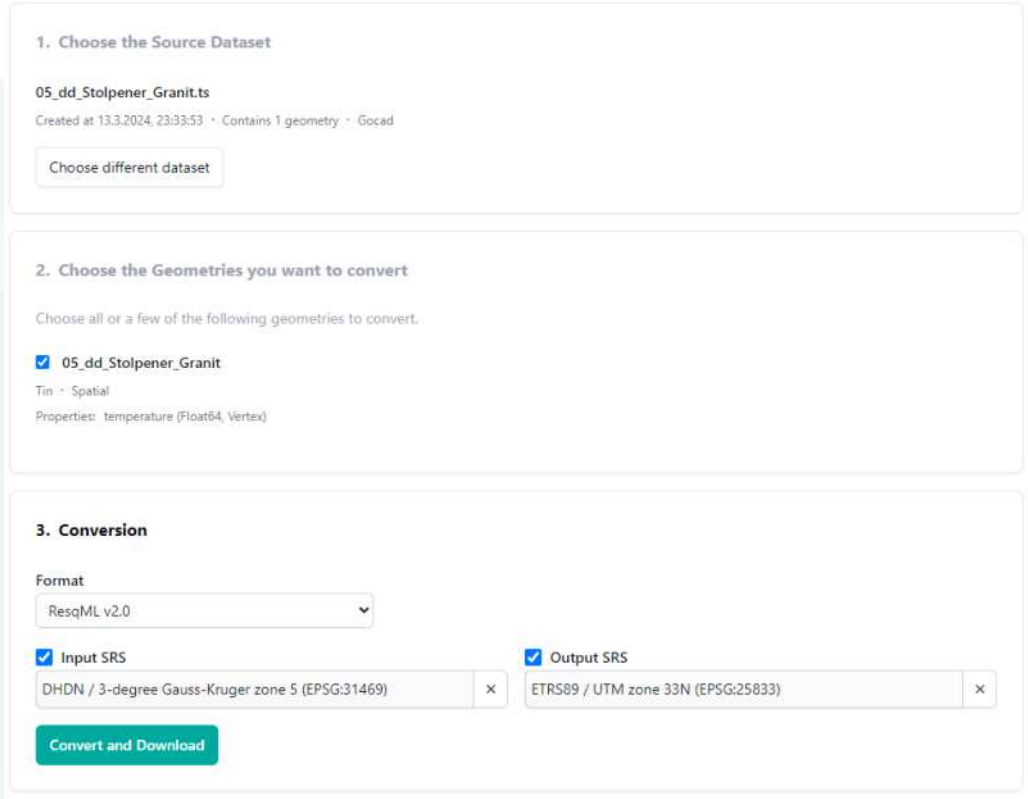
GST Convert (as a Service)

- Will also support (late 2024)
  - segmentation/iso surface generation
  - Simplification of geometries
  - API access to be included in other software
  - Encryption of data
  - Share files with others
  - 3d preview

GST Convert (as a Service)



GST Convert (as a Service)



GST Convert (as a Service)





GST Convert (as a Service)

Try at: https://convert.giga-infosystems.com/



GST Convert (as a Service)

* Register with your email address
* Confirm mail address via link
* Let us know and we upgrade you to premium for 90 days

GST Convert (as a Service)

* Subscription model on monthly basis
* Credit based use
* We collect statistics which functions are being used (no personal information)

Provisional Roadmap 2024

* Improvements on borehole logs (colors, min, max)
* Create interactive correlation plots
* Flatten horizon functionality
* Export boreholes to IFC, LAS
* Finish Infoportal Geothermie

Provisional Roadmap 2024

* Desktop (pre)View tab (2D map±sections OR simple 3D)
* Store colors on Points / Simplexes
* SEGY info Dialog
* Multiple borehole classifications
* Dynamic coloring in GST Web
* Predefined borehole filters

Provisional Roadmap 2024

* Support of different borehole sets (shallow, deep, geothermal, etc pp)
* Integration with Gocad, ArcGIS, QGIS
* Basic feature manipulation
  * e.g. move 300m higher (z = z + 300)
* Your input ...

Thank you!





Questions?

Remarks?

Wishes?

Thank you!

@ www.giga-infosystems.com
info@giga-infosystems.com
@gigainfosystems