Using GIS with GST – OGC API

GST User Meeting 2024

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What is the OGC API



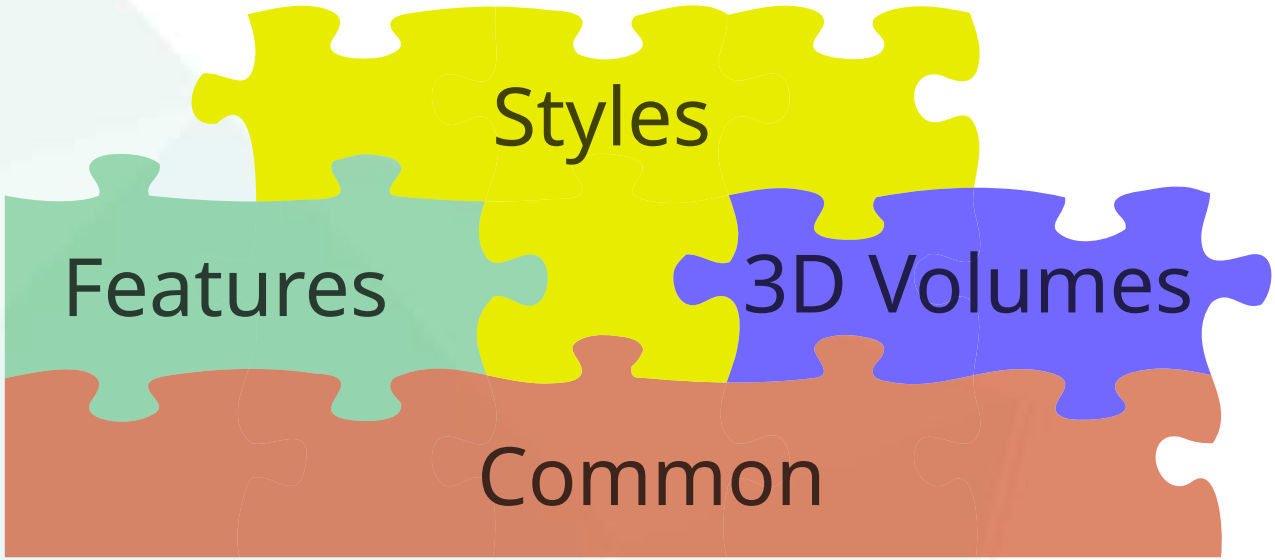
- Standard for providing spatial data via HTTP
- Successor of WMS, WFS, WCS, WPS API's with modern technology
- Consists of modular building blocks that extend each other
- Enables to reuse the same interface to communicate with different data providers and consumers
  - Providers:
    - GeoServer
    - ArcGIS Pro
    - Many more
  - Consumers:
    - ArcGIS
    - QGis
    - Different WebGis systems
    - Many more

OGC API Parts



- The OGC API consists of many different building blocks
- Parts:
  - Common (Everything builds on top of this)
  - Features (Successor of WFS)
  - Tiles (Successor of WMS)
  - Coverages (Successor of WCS)
  - Processes (Successor of WPS)
  - Styles
  - 3d Geovolumes
  - Many more
- Includes authentication in the specification

OGC API Parts



OGC API and GST



- Idea: Provide data stored in GST via a defined open API for consumption
- Allows to easily work with the stored data in any compatible application
- Share data based on the MoMa structure from GST Web

OGC API and GST

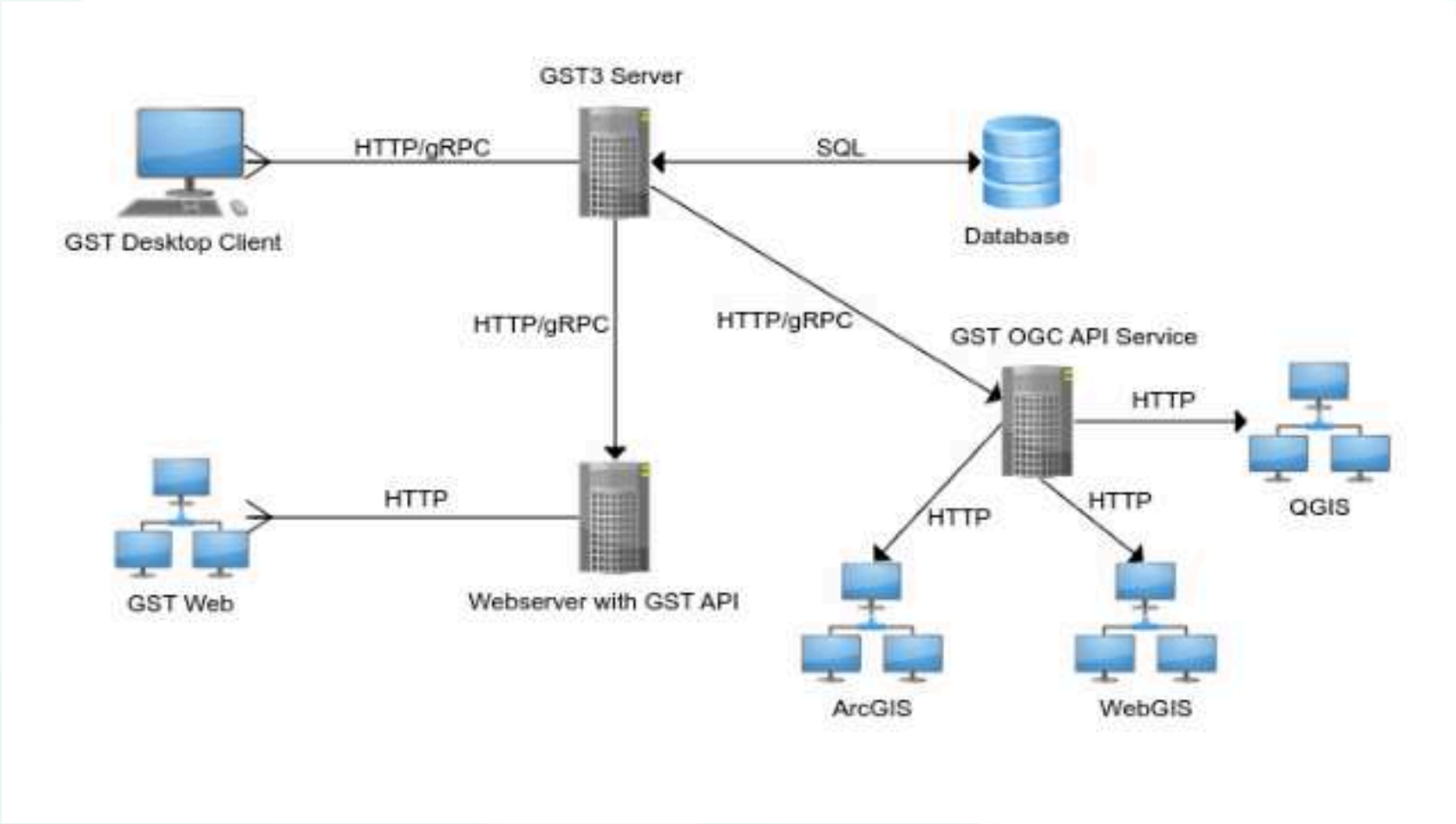


Figure 2: Experimental incomplete implementation of the OGC Features API for GST

Demo with QGIS



Figure 3: Setup the Connection in QGIS

Demo with QGIS



Figure 4: Show the tree in QGIS

Demo with QGIS

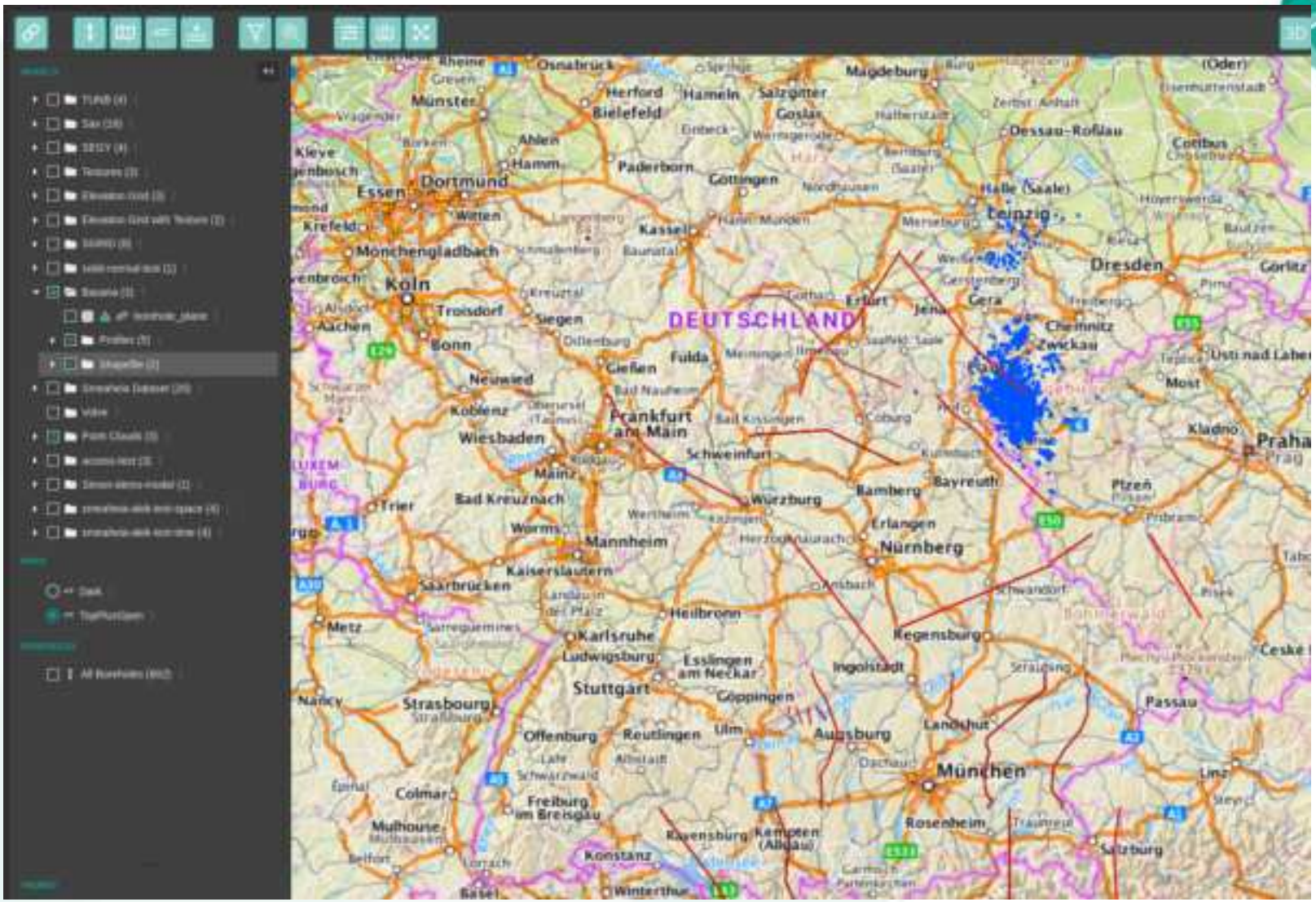


Figure 5: Points/Lines in GST Web

Demo with QGIS

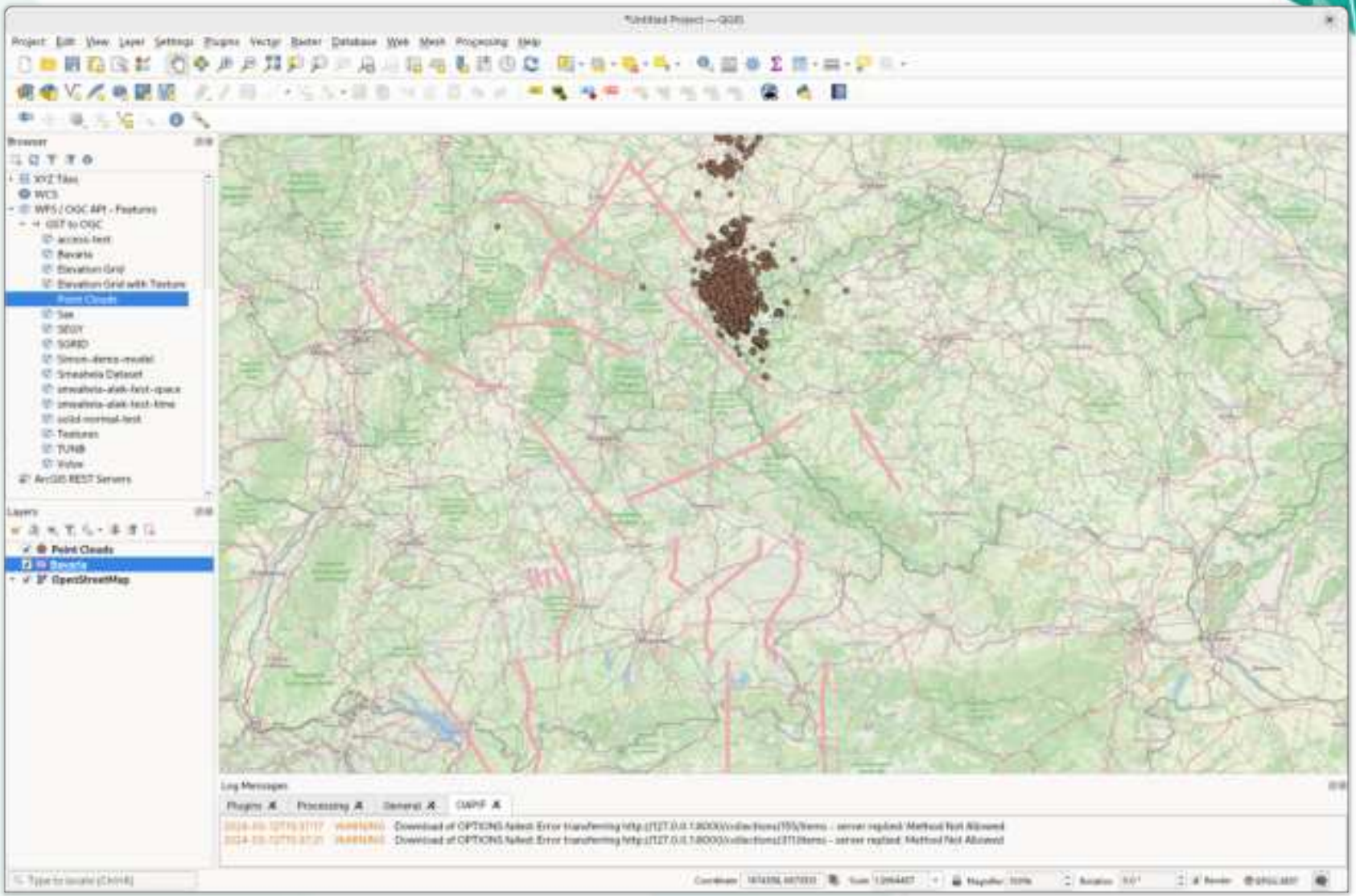


Figure 6: Points/Lines in QGIS

Demo with QGIS

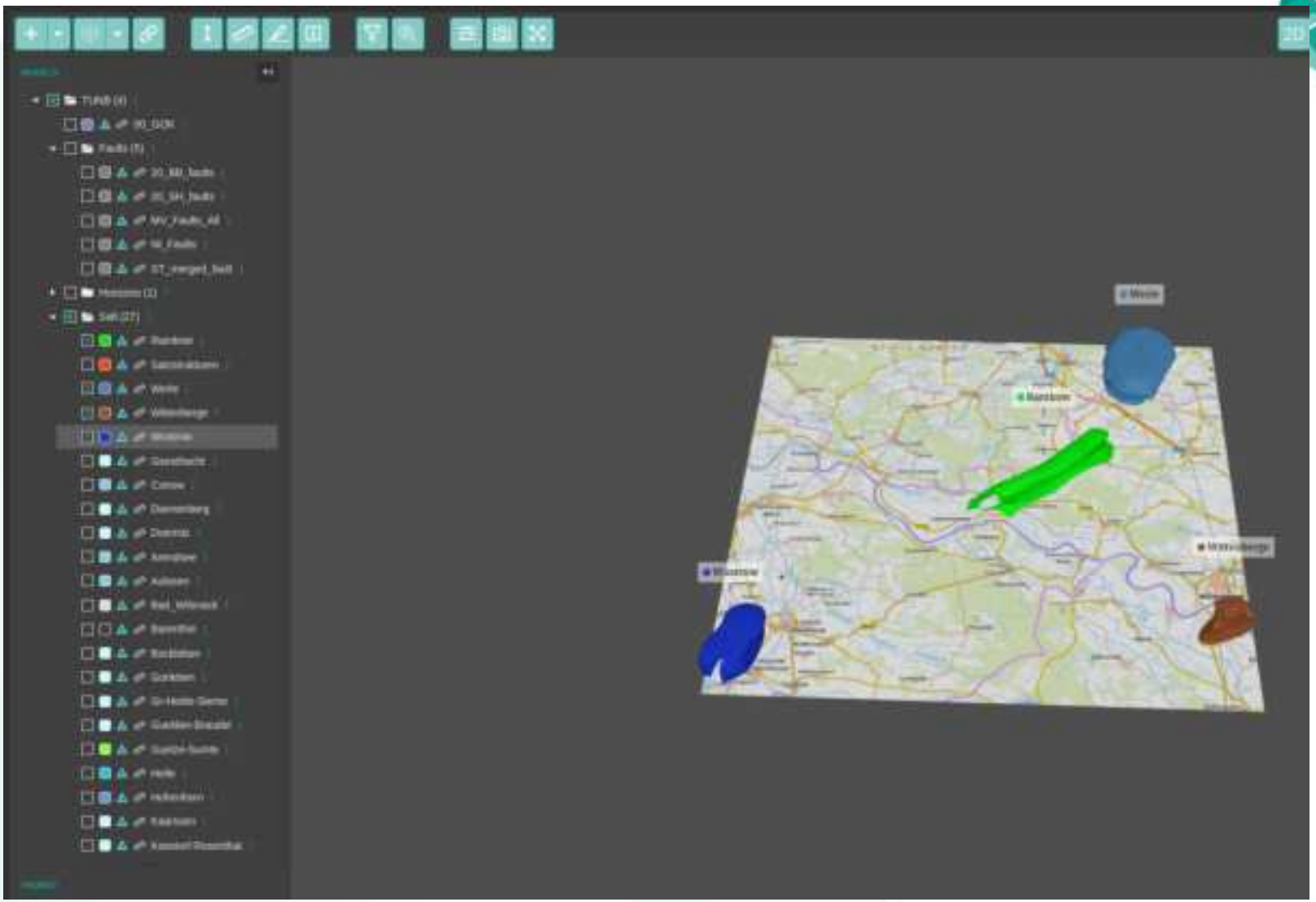


Figure 7: Surfaces in GST Web

Demo with QGIS

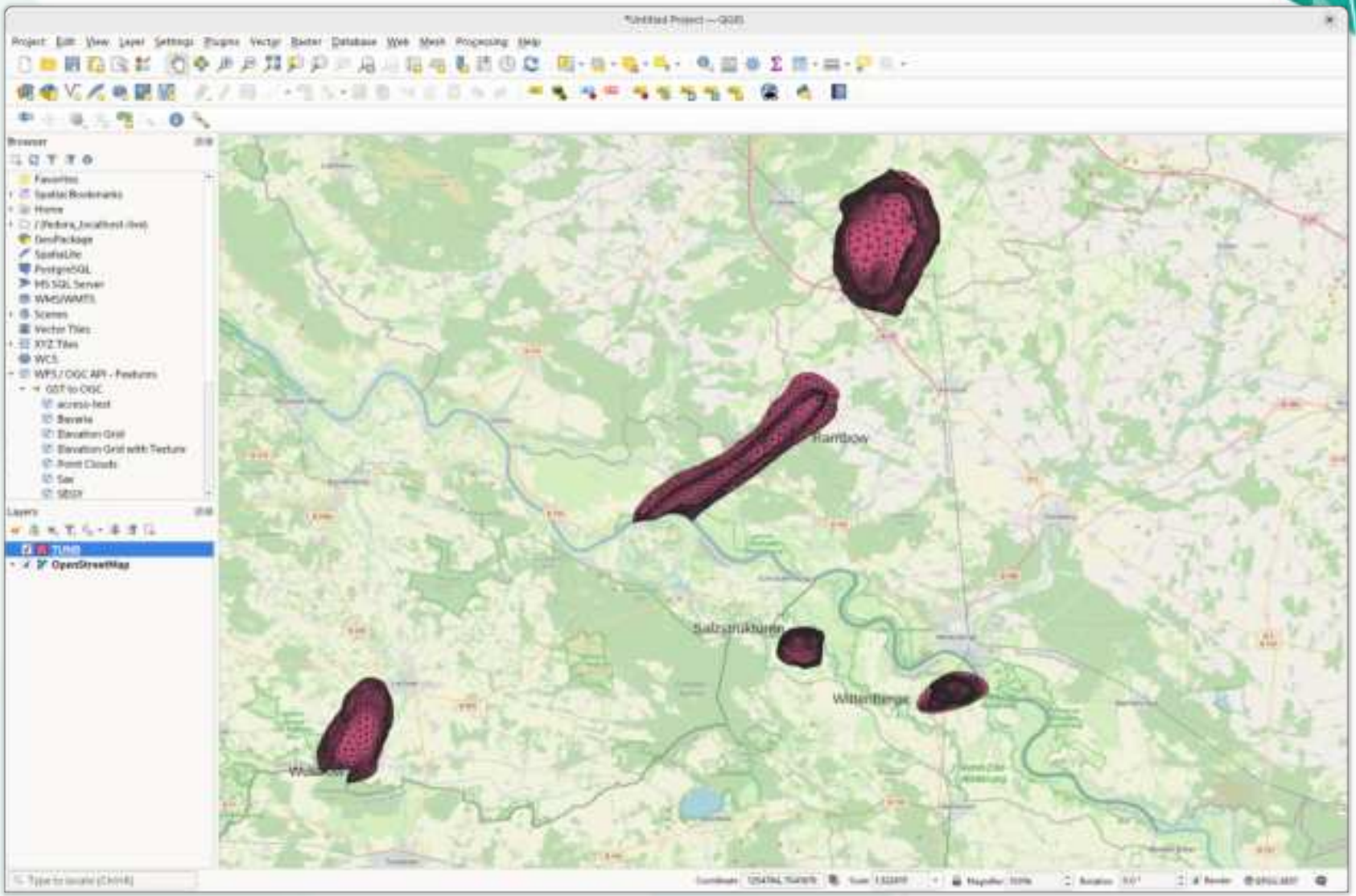


Figure 8: Surfaces in QGIS

Demo with QGIS

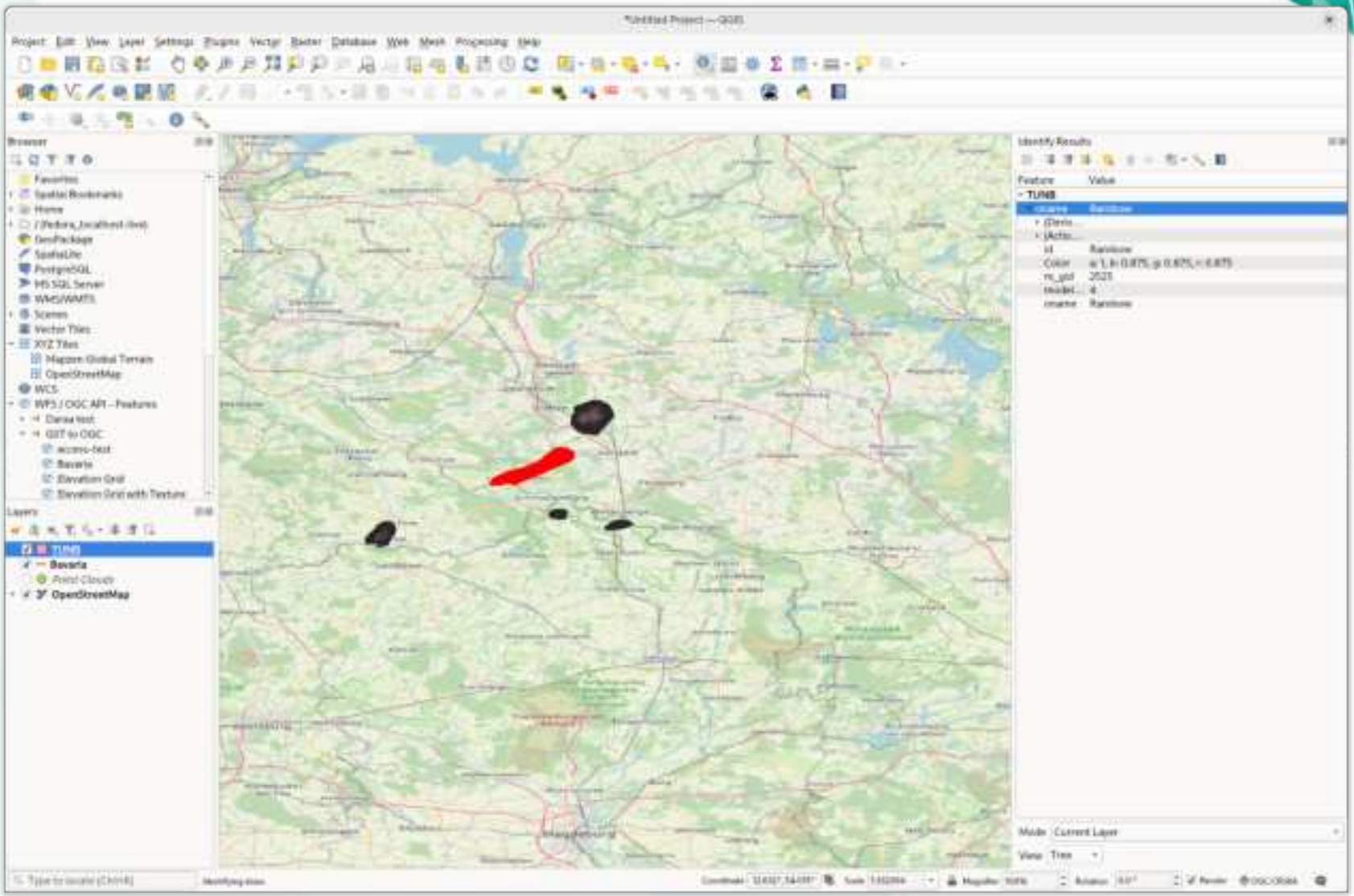


Figure 9: Attributes in QGIS

Potential Problems



- How to represent non-native geometry types (SGrid, Voxet, TIN)
- Large Datasizes
- Mixed feature classes
- Spatial distributed properties

Roadmap



- Implementation of 3d Geovolumes API and Styles API with HLNUG (Hesse)
- Allows to expose stored geometries as 3D tiles for visualisation purposes
- Looking for partners to implement other API parts
- Great potential for:
  - Exposing data as stored in the database
  - Exposing data transformed in a more fitting representation
  - Write back modifications from consumer to GST (Requires draft extensions to standardised parts of the API)