Inggeo-Tool

A web application for 3D-model based automated tunnel profile generation
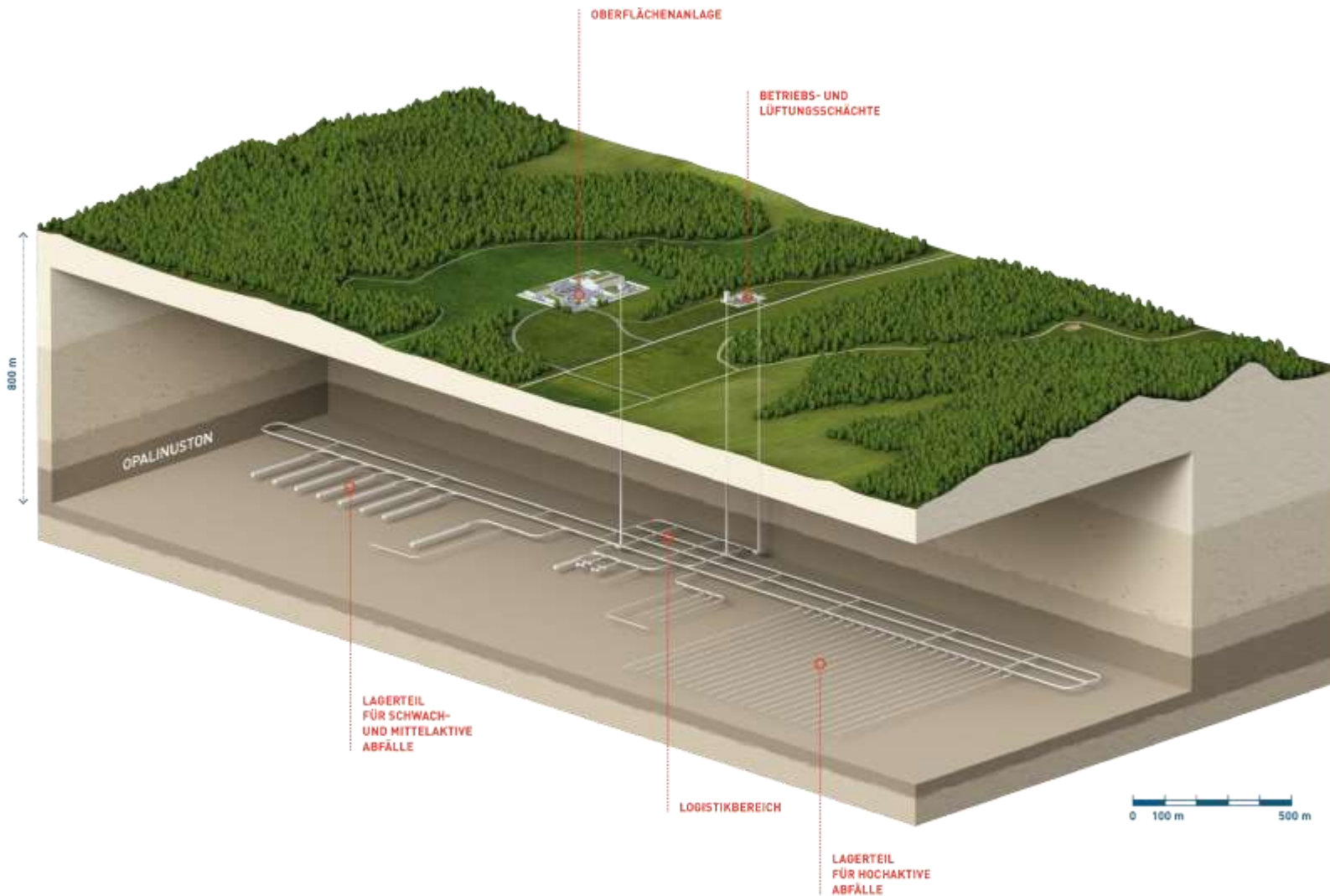
Yvo Weidmann, GEOIDEE (yvo.weidmann@geoidee.ch)

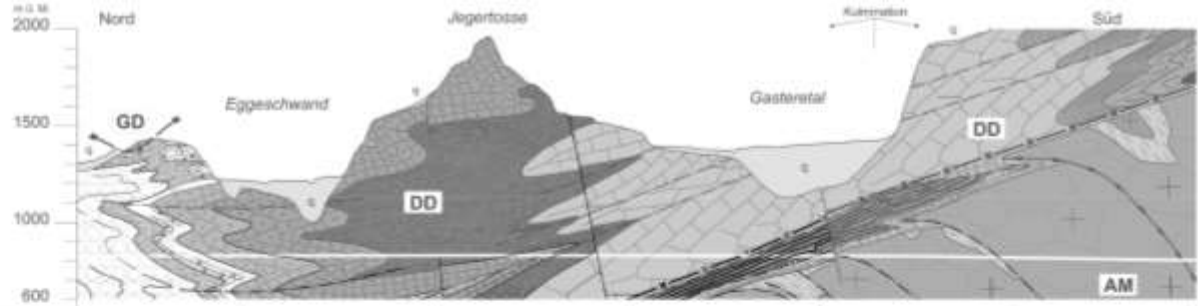Paul Gabriel, GiGa infosystems (paul.gabriel@giga-infosystems.com)

Dr. Dirk Arndt, Nagra (dirk.arndt@nagra.ch)

Dr. Marco Filipponi, Nagra (marco.filipponi@nagra.ch)

Rapid generation of tunnel-profiles

Inggeo-Tool - automated tunnel profile generation

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Requested output to be generated automatically

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Requested output to be generated automatically

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3D tetrahedral geological-model

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3D tetrahedral geological-model

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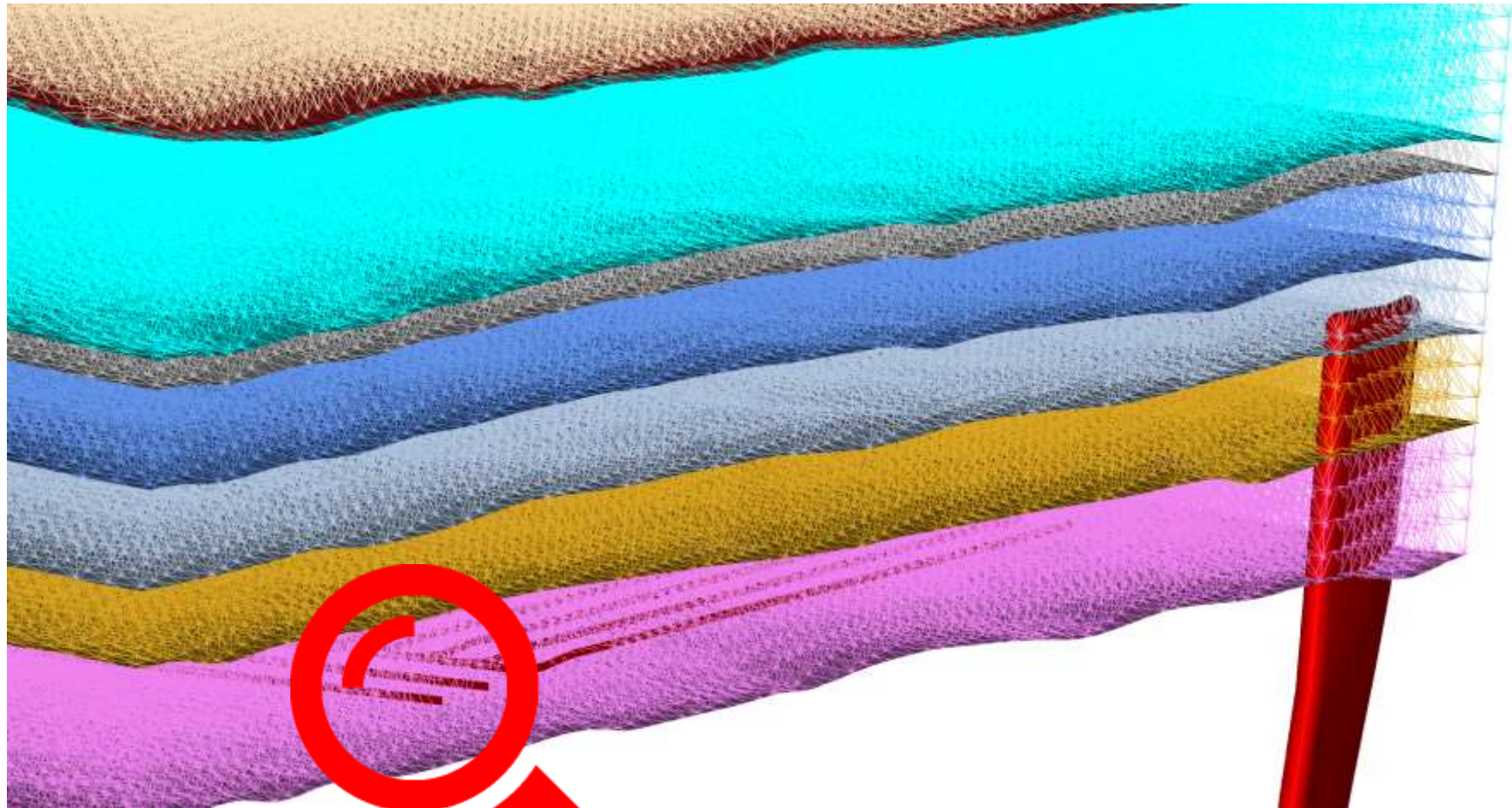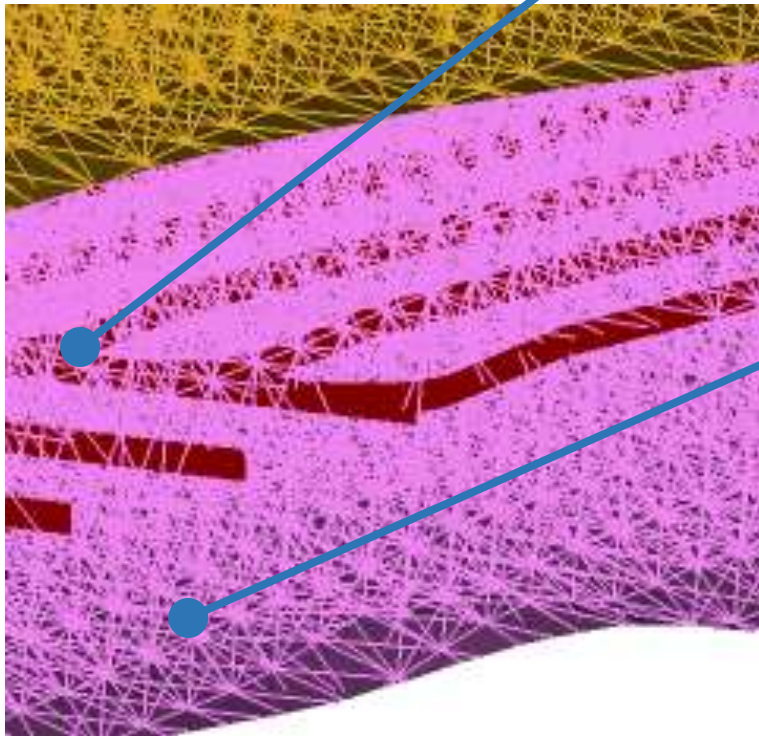

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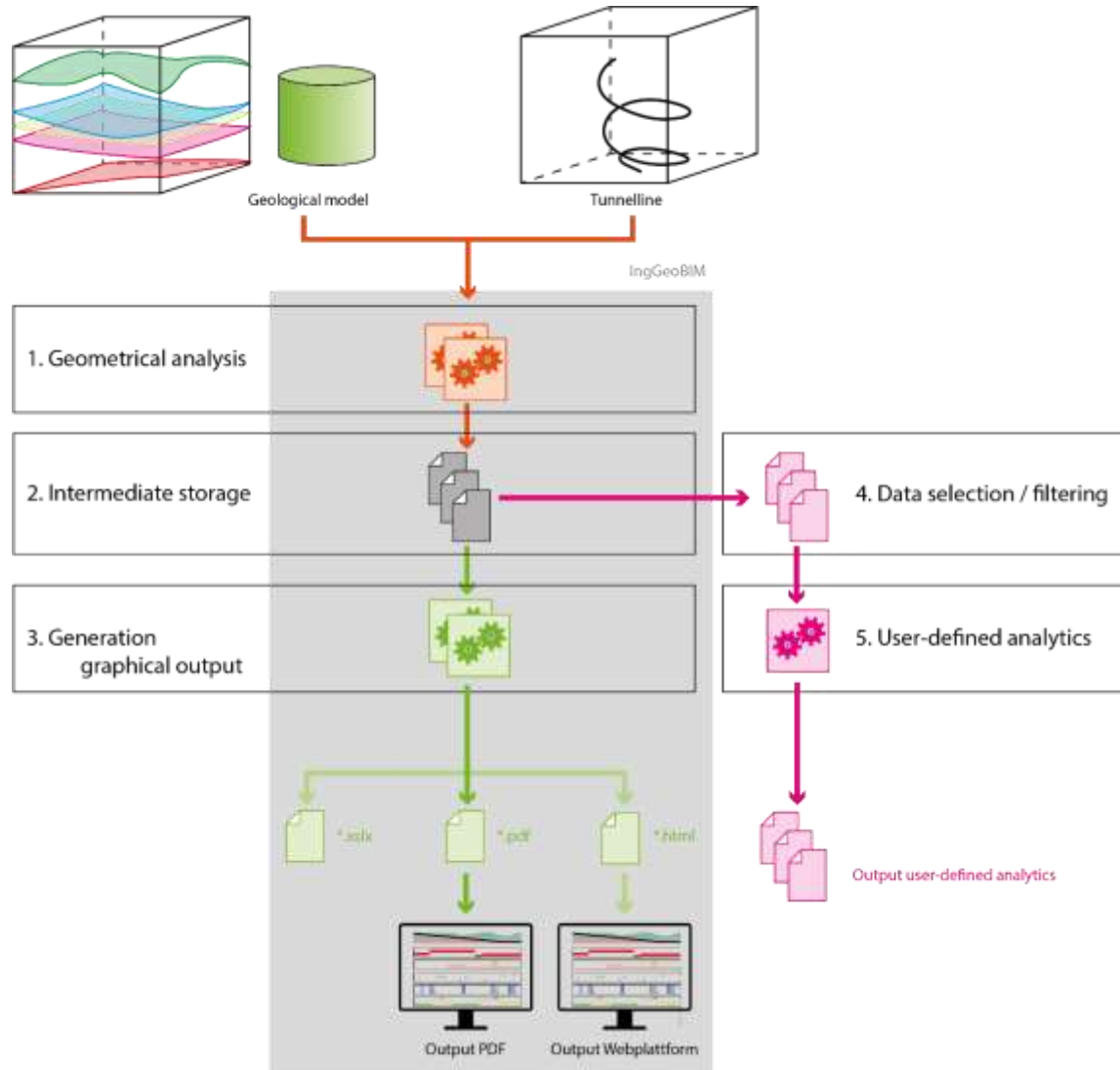
3D tetrahedral geological-model

Planned tunnel-axis

Tetrahedral mesh
- Geological formation
- Attached Key-Value-Pair of further data / information

…
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Overall workflow, inputs and outputs

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Structure and content exchange file

Attributes geo-bodies

Intersected formations

Profile

Tunnel-axis

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Dependencies and rules for graphical representations
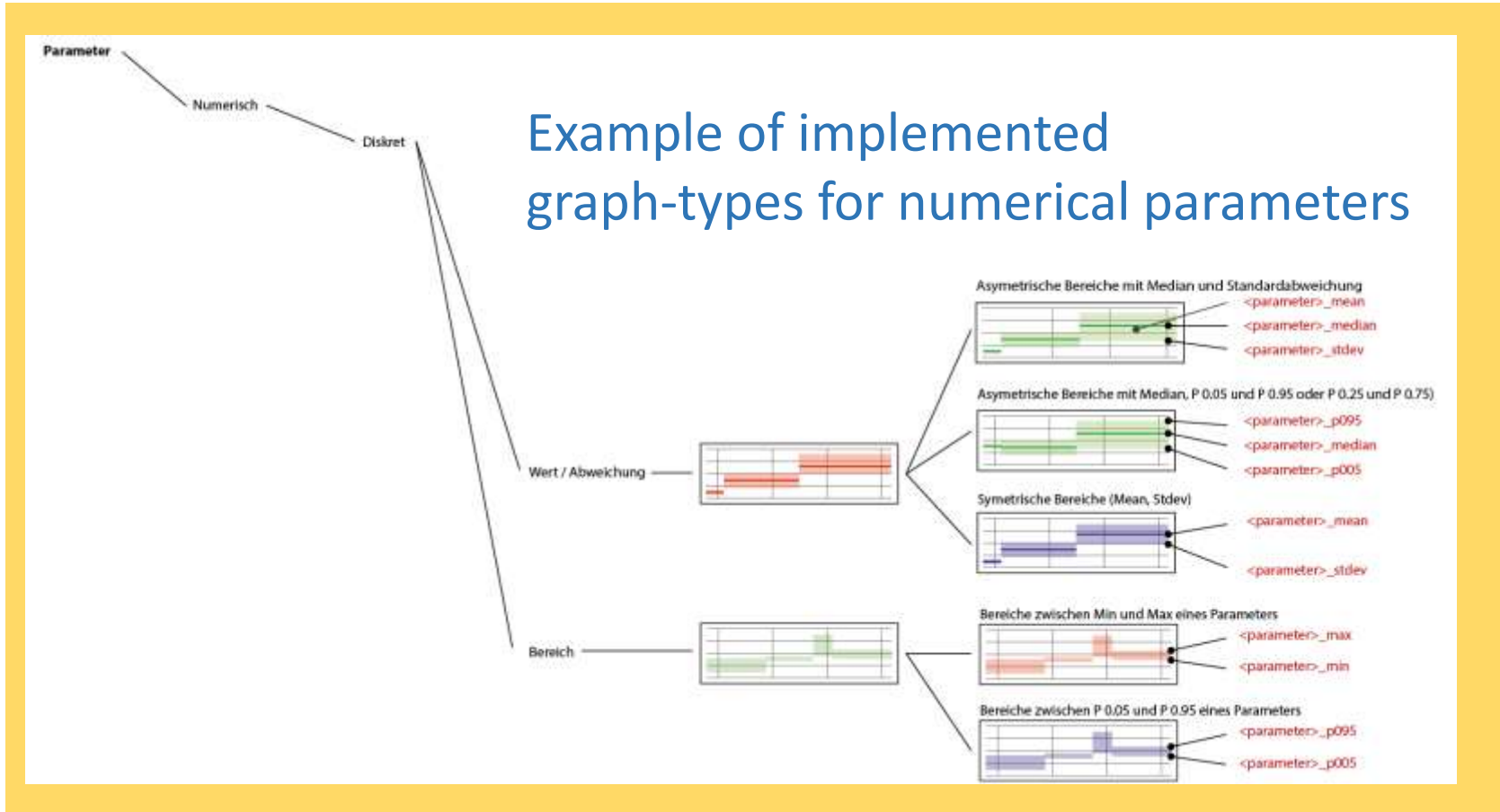
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Representation developed tunnel-axis

Graph-types alphanumerical parameters

Graph-types numerical parameters

Dependencies and rules for graphical representations

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Example of implemented
graph-types for numerical parameters

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User-access and –interface web-access

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Tunnel-axis
to use

Geological model
to use

Graphical
template to use

Title and remarks
to be set in output

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User-access and –interface web-access

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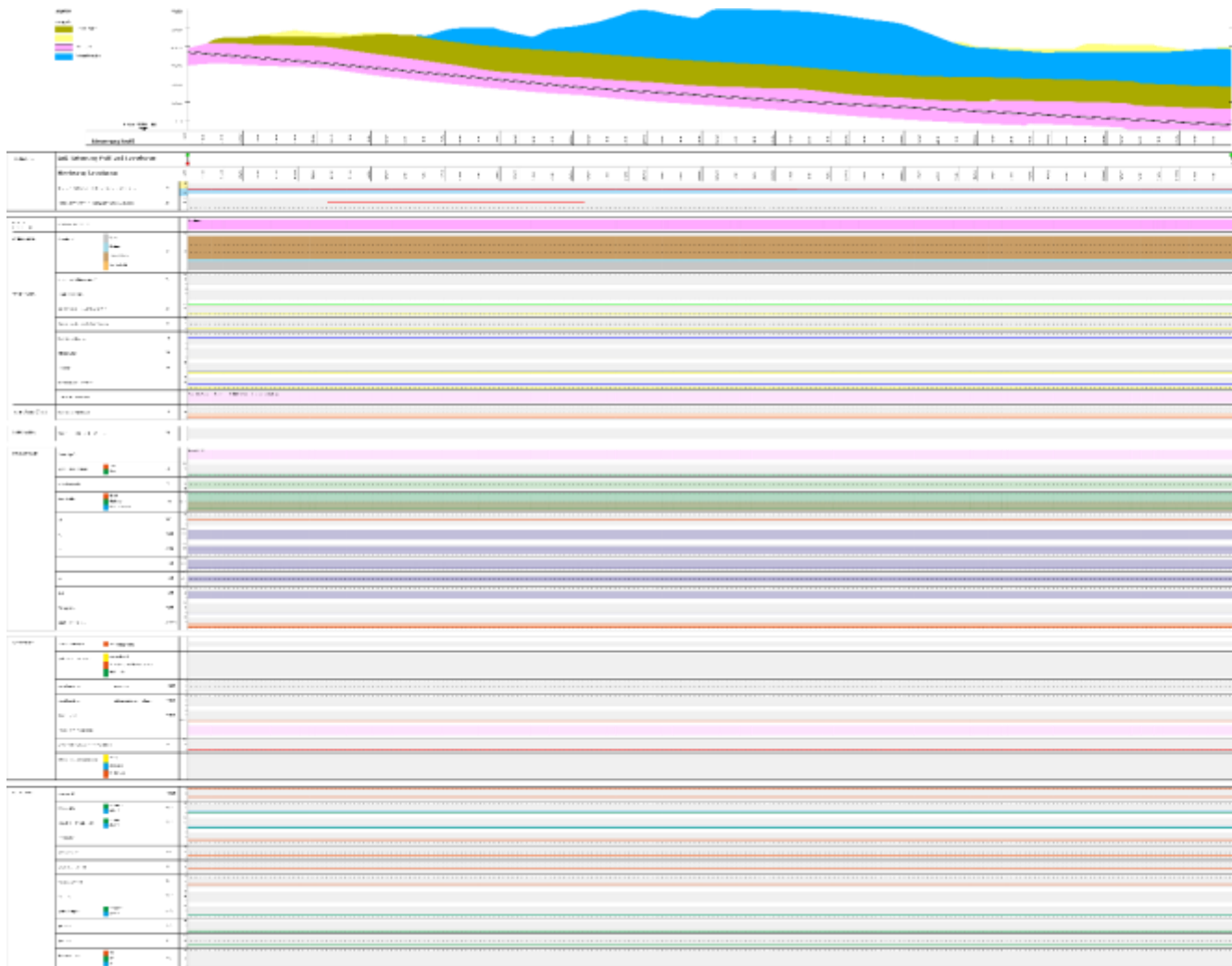

Download pdf/svg

Model used

Graphical template used

Tunnel-axis used

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Automatically created output (pdf, svg)

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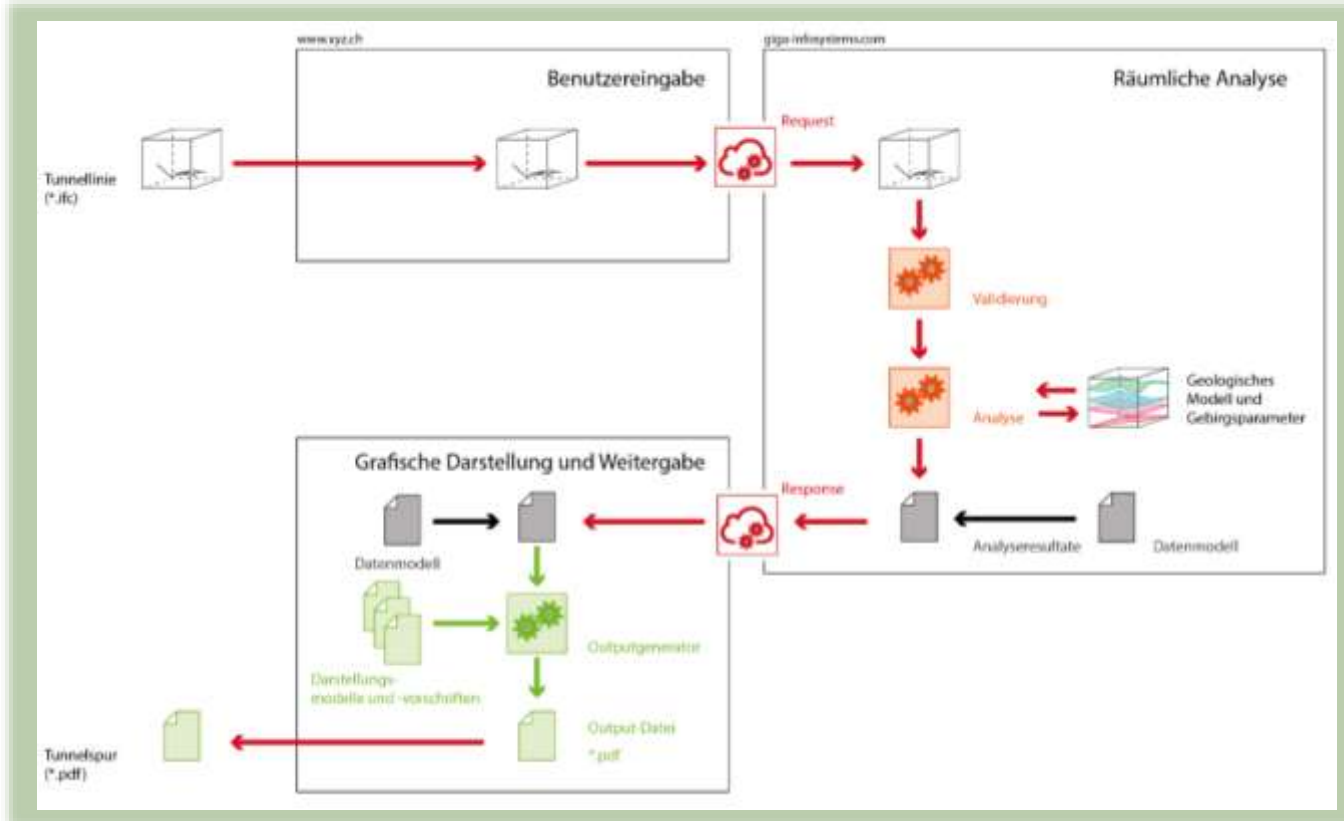
Automatically created output (pdf, svg)

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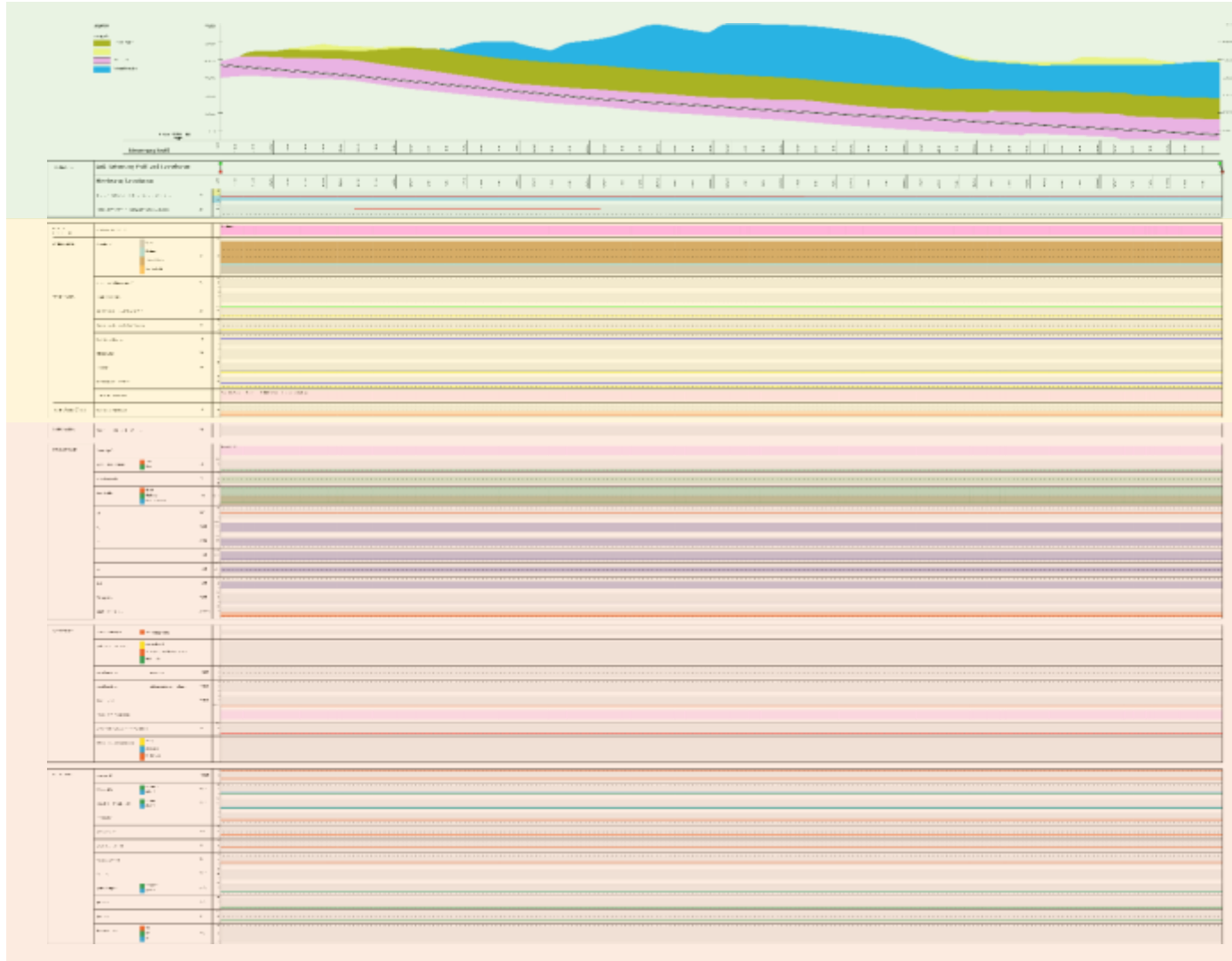
Profile

Geology

Further data

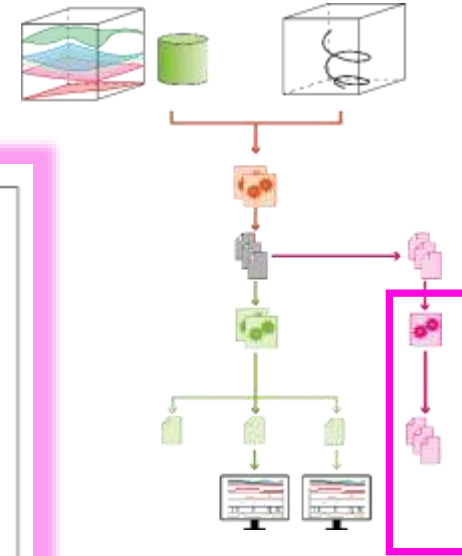nagra.   GiGa-infosystems   GEOIDEE

Finally implemented workflow and access

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Finally implemented workflow and access

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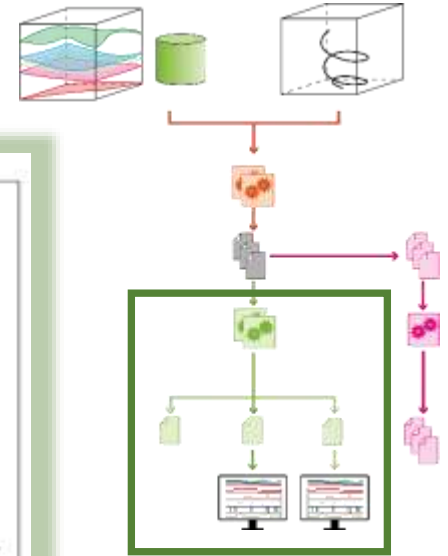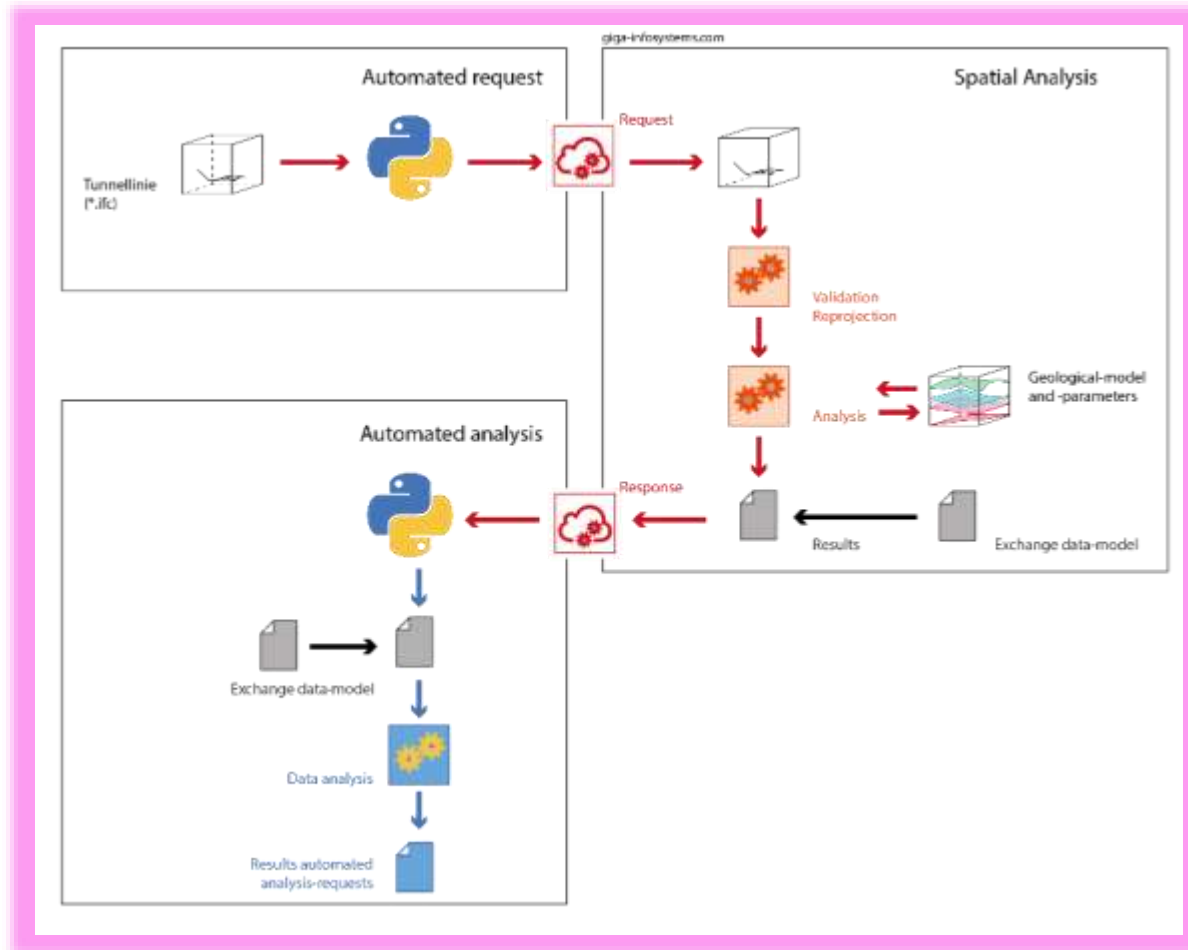
Hartmann-IT-Architecture

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20th Swiss Geoscience Meeting 2022