

Communication & collaboration

- Rapid and effective visualisation of geology in combination with planned and existing structures/projects
- Improved communication between geologists and engineers, clients and other project stakeholders
- Free viewer software and online viewer (web browser)

Risk reduction

- Synthesis of all relevant available information (database structure) as a basis for the modelling process
- Identification of information deficits for planning of additional site investigation
- Comprehensive geological interpretation based on complete data pool

Efficiency

- Processing of large data sets thanks to database structure
- Direct import of model elements to software for geotechnical calculations, hydrogeological modelling etc.
- Cloud-based working, continuous access to latest state of the geological model
- Integration into BIM design process interaction with other subject-specific models
- Continuous update with links to schedule and cost planning

Dimensions of iC

innovative
integrative
international

Complex projects and tasks demand integrative solutions based on a broad spectrum of experience.

This conviction has systematically characterised our method of working. We involve participants and affected parties in all project phases. We take all boundary conditions into account and address all the possible alternatives.

If you wish to know more about us, please visit our website.

The partners of iC



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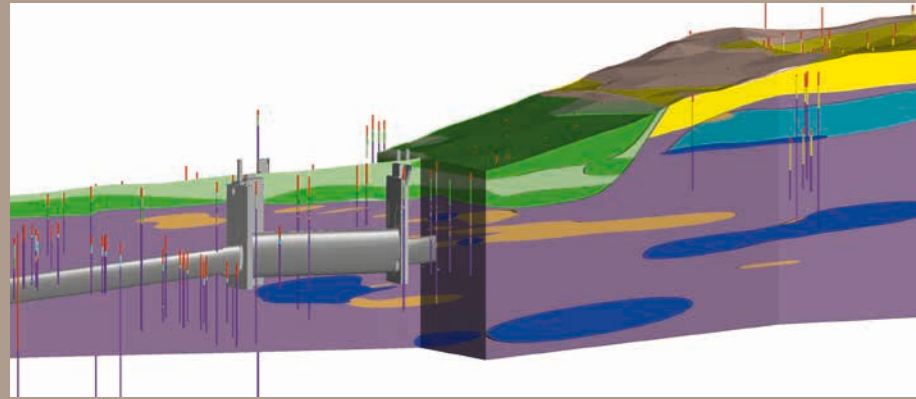


Engineering geology Geological 3D Modelling

Underground Construction
Infrastructure
Hydropower & Dams
Mining
Natural hazards



Methodology & Application



Geological data from field mapping, remote sensing and geological documentation, as well as from bore holes, geotechnical and geophysical investigation or other sources, are synthesised in a 3D model and interpreted comprehensively.

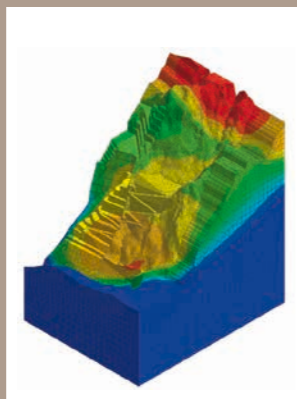
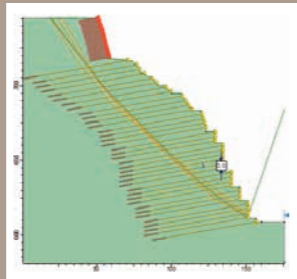
Terrain models with photorealistic texture (e.g. from drone flights) provide an outstanding basis for geological fieldwork, particularly when dealing with natural hazards.

This is the basis for the modelling of geological structures, such as geological layers or lithologic contacts, tectonic structures or other relevant content. Any kind of volume models can be generated by the intersection of surfaces.

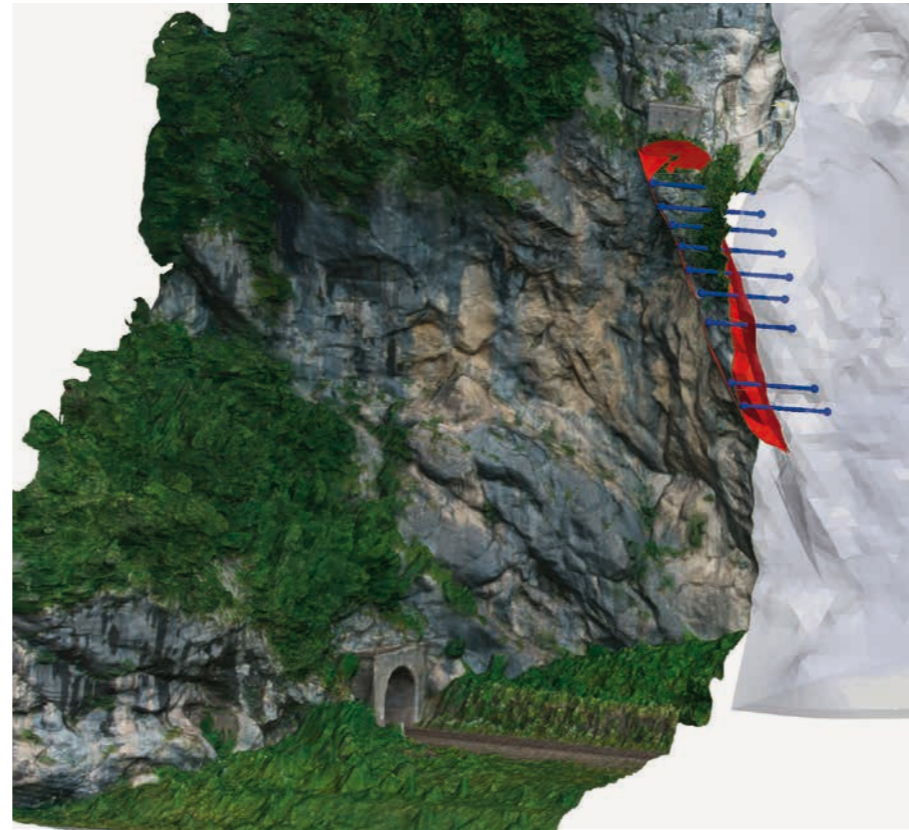
Existing and planned engineering structures, terrain models and survey- or monitoring data can be imported to the geological model and visualised jointly.

Typical applications

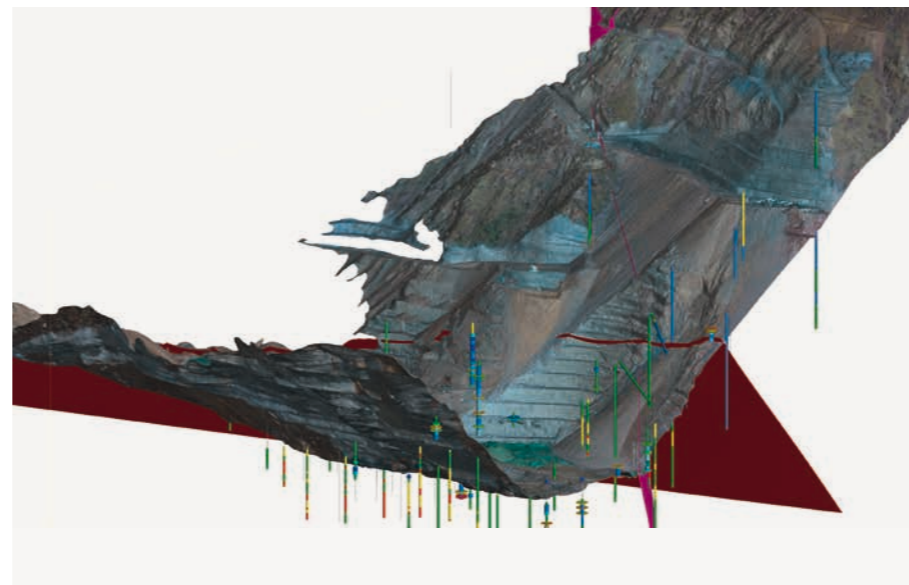
- Export of 2D sections and plans, import to CAD and alignment design software
- Integration in software for geotechnical or hydrogeological calculations or special applications for the analysis of natural hazards
- 3D model provided in free viewer software and online in the web viewer
- Continuous update during construction, based on encountered conditions
- Visualisation of monitoring data
- Integration in BIM design (export in IFC format)



SLOPES AND NATURAL HAZARDS



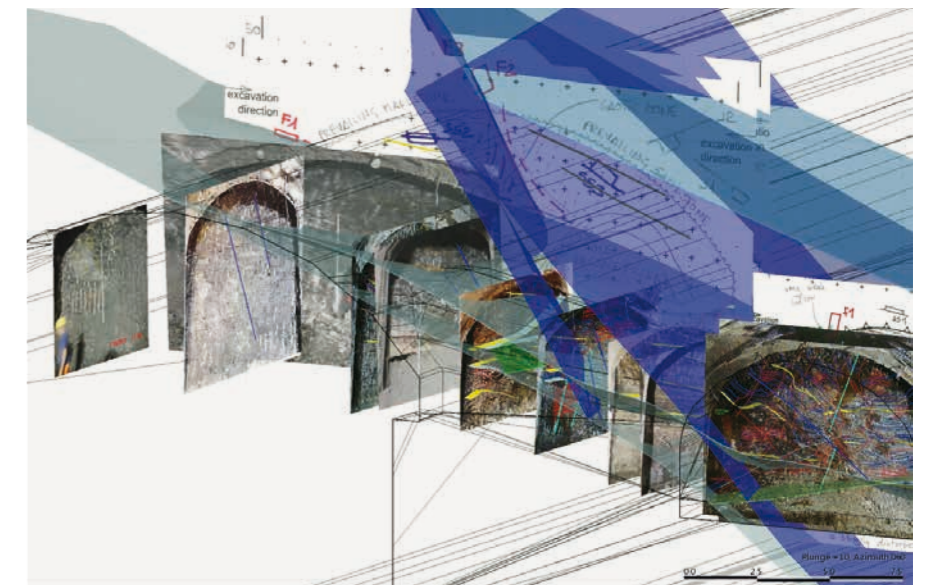
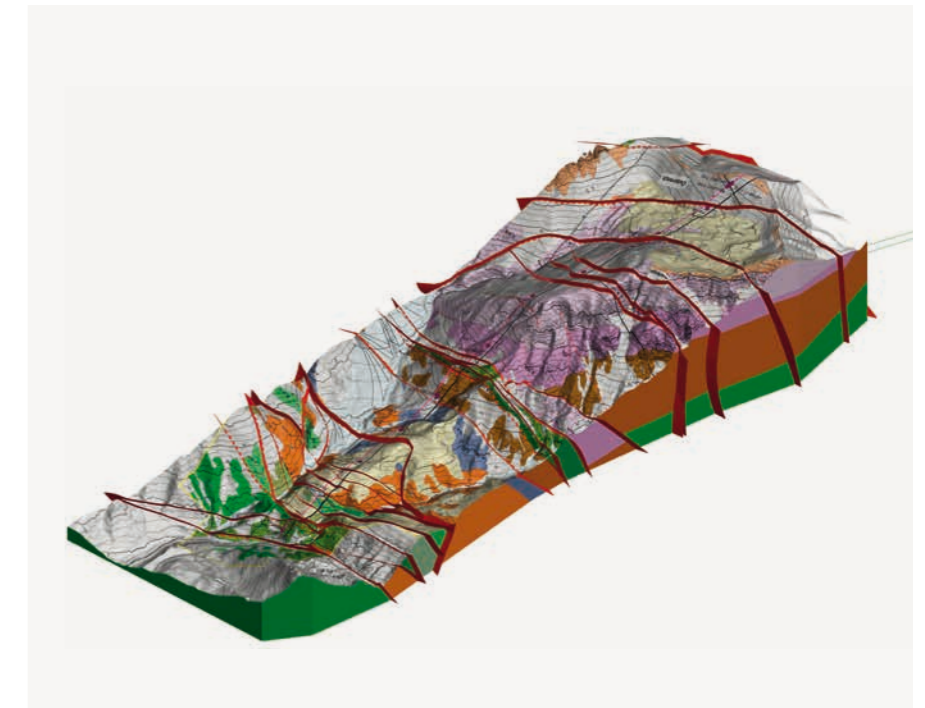
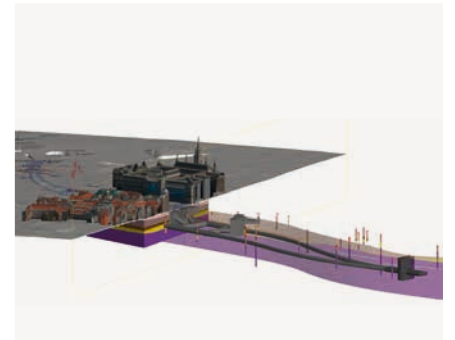
Dimensioning of slope support measures. Based on a high-resolution (photogrammetric) terrain model, a complex geometry can be analysed and modelled in 3D. The model serves as the basis for stability assessments and support design.



The combination of high-resolution terrain models with data from field mapping, bore holes and geotechnical tests, along with geological documentation of underground excavations and cut slopes, enables a comprehensive analysis of slope stability.

UNDERGROUND CONSTRUCTION

Tunnels/caverns for metro, railway, roads, water or storage: Detailed 3D modelling of geological features provides a consistent basis for approval procedures, design, consulting during construction and claim management.



The implementation of geological documentation, site investigation data and geotechnical survey/monitoring during construction allows optimum interpretation of deformations and quick improvement of the design (enhancing value engineering approach).