

Geological modelling (mapping) with GSI3D*

Intended audience

Geoscientists needing to investigate and characterise the near-surface geology in 3D. Attendees should have a basic knowledge of geology and good IT skills.

Course objectives

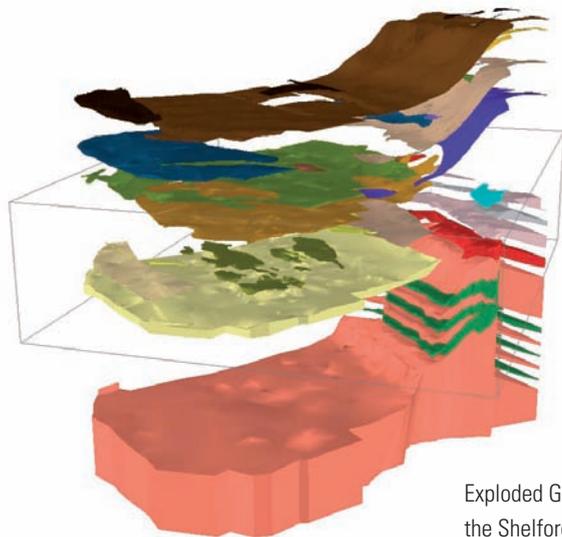
To enable participants to:

- Become familiar with the principles and methods of 3D geological surveying.
- Gain a sound working knowledge of the GSI3D software.
- Learn how to analyse these 3D models and how to present meaningful outputs to colleagues and non-geologist professionals.

Course description

The course is delivered by means of tutor-presented on-screen demonstrations, interactive sessions supported by exercises and a course manual. The availability of two trainers enables efficient teaching and individual attention. Open discussions are encouraged throughout the course which in the past has often led to new initiatives and suggestions for improvement to the software.

*GSI3D (Geological Surveying and Investigation in 3 Dimensions) is a methodology and associated software tool for 3D geological modelling developed by Hans-Georg Sobisch over the last 17 years initially in collaboration with the Geological Survey of Lower Saxony (Germany). GSI3D utilises a digital elevation model, surface geological linework and downhole borehole data to enable the geologist to construct cross sections by correlating boreholes and outcrops to produce a geological fence diagram. Mathematical interpolation between the nodes along the drawn sections and limits of the units produces a solid model comprising a stack of triangulated objects each corresponding to one of the geological units present. Users draw their sections based on data such as borehole logs correlated by intuition so that the shape 'looks right' to a geologist. This 'looks right' element draws on the geologists' wealth of understanding of earth processes, examination of exposure and theoretical knowledge.



Exploded GSI3D model of the geology underlying the Shelford site, Nottinghamshire.

Course duration

2 days

Delivery mode

Classroom-based course

Course fee

€500

Course fee based on delivery at BGS's training centres

Date(s)

As required

Location

The course is available at BGS's Nottingham (Keyworth) or Edinburgh training centres, or at customer premises worldwide by arrangement (and subject to the availability of the software)