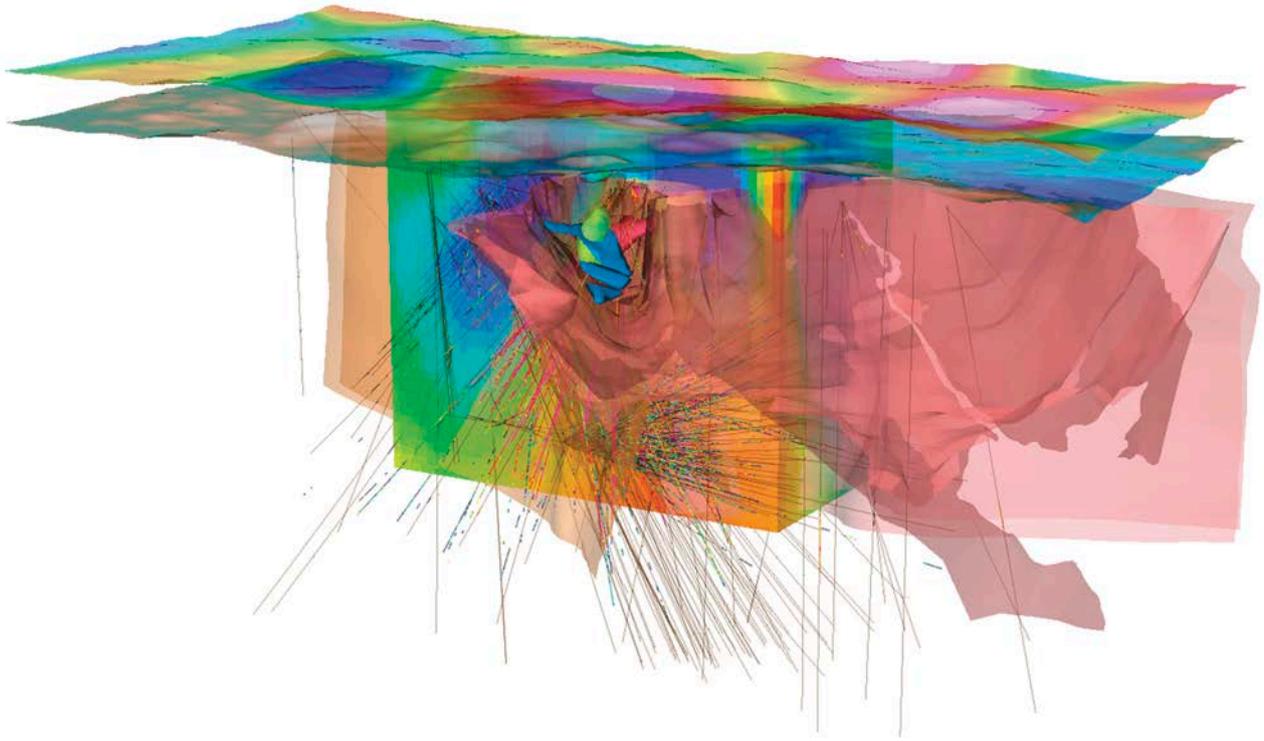


# VOXI Earth Modelling



Build integrated exploration models with geology and geophysics



## Performance Advantages

Cloud-powered speed and responsiveness make VOXI a powerful tool for visualizing the deep subsurface. VOXI provides a solution for large, multi-parameter geophysical inversion modelling that can aid all stages of exploration and is suited for any size of project.

- Apply advanced inversion techniques that have been proven to increase geophysical model accuracy
- Use geophysics for predictive 3D modelling and prospect generation in deeper subsurface environments
- Aid target delineation with integrated geological and geophysical 3D modelling
- Visualize large geophysical survey data – rapidly and cost-effectively

# 3D geophysical data modelling techniques

Model gravity and magnetic data	Generate 3D voxel models from airborne or ground gravity and magnetic data to see and understand the subsurface by producing model of rock properties.
Model frequency domain EM data	With VOXI you can invert frequency domain horizontal coplanar configuration electromagnetic (EM) data to produce a voxel conductivity model. The FDEM inversion is based on 1D inversions interpolated along and between lines, suitable for airborne frequency domain systems such as Dighem or Resolve.
Model the 3D magnetization vector	Traditional susceptibility inversions assume that subsurface magnetization is in the direction of Earth's magnetic field. More often than not, this assumption is false and can yield inaccurate inversion results. Magnetization Vector Inversion (MVI) is a method that solves for both magnitude and direction.
Model gravity gradiometry data	VOXI supports inversion and forward modelling of Gravity Gradiometry Data to yield a detailed 3D model of the rock density. The resulting detailed density model can be used to interpret and to target regions for potential oil, gas and mineral deposits.
Model IP and Resistivity data	VOXI supports inversion and forward modelling of IP and resistivity data to yield a detailed 3D model of conductivity and chargeability. The resulting models can be used to interpret and target regions for mineral and environmental applications.

## Integrated workflows within Oasis montaj

VOXI users have access to a variety of geophysical workflows at every stage of the inversion process, allowing you to customize and refine your geophysical models with all your data for more desirable results.

### Build your models faster

Oasis montaj integration and VOXI preprocessing tools reduce the upfront time required to prepare your input data and build your models.

### Greater insight improves project success

With VOXI Earth Modelling, you can view your geophysical models in the Oasis montaj 3D environment and combine the results with all your project data such as drill results or geological structure for better outcomes.

### Collaborate and share results

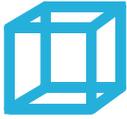
Share your VOXI models with exploration teams and stakeholders easily and efficiently, gather feedback and make recommendations on potential constraints for improving the geophysical model.

### Control, view and analyze results within Oasis montaj

The resulting geophysical model is saved, along with a snapshot of the input data, and can be viewed and manipulated within Oasis montaj platform. Multiple iterations of the models can be generated and viewed concurrently.

*\*VOXI earth modelling is available for use via flexible subscription options*

# Fast, full featured, 3D geophysical inversion modelling

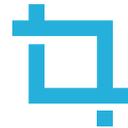


## Generate 3D inversions and forward models

Invert geophysical data and create quantitative 3D models of the earth to further understand the structure and processes beneath the surface. Calculate the response of a given physical property of a user defined 3D voxel model with VOXI forward modelling tools.

## Build and constrain models

Use the Model Builder to incorporate supplementary geological, geophysical and geochemical information. Automatically apply these models as constraints to the inversion using Parameter and Gradient reference models; Upper and Lower bounds; Parameter and Gradient weightings; Active Model; and Reweighting Model.



## Sharpen contacts with Iterative Reweighting Inversion Focusing

Iterative Reweighting Inversion Focusing (IRIF) takes a smooth earth model and uses it as a reweighting constraint when running a new inversion of the same data. It is used to model sharper contacts in the inversion result, providing more refined targets.

# Cloud computing: Software-as-a-service

VOXI users can run and interpret their modelling projects rapidly and interactively, allowing them to customize and refine their geophysical models as part of real time decision making with the exploration team. VOXI service can be accessed from anywhere you have an internet connection. Multiple inversion jobs can be sent to the cloud freeing up your computer to continue to interpret results.

The VOXI service options are available to meet your inversion modelling requirements, which include:

- Access to learning centre and support resources
- Global online technical support
- My Geosoft portal to assign and track team usage, manage projects and service consumption
- Personalized support services for enhanced team onboarding



Learn more

Visit: [geosoft.com/products/voxi-earth-modelling](https://www.geosoft.com/products/voxi-earth-modelling)



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TORONTO | RIO DE JANEIRO | LONDON | PRETORIA | PERTH

Geosoft Inc. | 207 Queens Quay West, Suite 810, Toronto, ON M5J 1A7 Canada | +1 800 363 MAPS

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