leapfrog | GEO

SOLUTION BRIEF

3D GEOLOGICAL MODELLING WITH LEAPFROG GEO

Whether planning day-to-day operations or long-term mining strategies, geologists rely on modelling to confidently validate mineral resources and guide critical decisions.

Seequent's Leapfrog is the industry's leading 3D geological modelling software. As the pioneer in implicit modelling, Leapfrog Geo offers a workflow-based design to maximise efficiency, improve subsurface understanding, and support seamless collaboration across teams.

With Leapfrog Geo, exploration and production geologists can build and share intuitive, dynamic geological models that reduce project timelines and increase confidence in critical decisions.

SEEQUENT

Seequent, The Bentley Subsurface Company



> “Leapfrog Geo is critical to develop a realistic presentation of the geology at each site.”
>
> David Rowe
> Resource Geologist

Organisations around the world rely on Leapfrog Geo to:

- Maximise efficiency with intuitive, dynamic geological modelling
- Make better decisions based on comprehensive data
- Accelerate decision making with powerful 3D visualisation
- Increase confidence in resource modelling and estimation
- Minimise manual work with effortless model updates
- Enhance communication with seamless collaboration

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Maximise efficiency with intuitive, dynamic geological modelling

Leapfrog Geo's advanced implicit modelling rapidly transforms raw data into actionable 3D models which geologists can refine and modify to match their own geological interpretations. This efficiency not only speeds up the path from data to insights but also empowers geologists to model and test multiple interpretations, leading to a deeper understanding of subsurface conditions.

Make better decisions based on comprehensive data

Exploration and mining projects depend on integrating diverse data sources—such as drillholes, structural measurements, geophysics, mapping, and topology surfaces—into a unified geological model. Leapfrog Geo consolidates all data in one place, allowing geologists to build comprehensive models that give decision-makers a complete view. This leads to better planning, reduced downtime, quicker responses to new information, and improved confidence in project viability, ultimately lowering the risk of costly errors.

Accelerate decision making with powerful 3D visualisation

Leapfrog Geo delivers high-quality 3D data visualisation that simplifies the complexity of subsurface geology. This clarity allows exploration and mining companies to communicate resource potential and project risks to both technical teams and non-technical stakeholders, including investors and regulators. This supports faster approvals, better project alignment, and informed strategic decisions directly impacting the bottom line.

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Increase confidence in resource modelling and estimation

Leapfrog Geo makes it easy to build geology domains from all your data, including drillholes, structural data, and polylines. These surfaces can be incorporated into your model, letting you visualise geological continuity more clearly in 3D to increase confidence in resource definition and minimise uncertainty during key project phases like pre-feasibility and feasibility studies. What's more, the Leapfrog Edge extension lets you fully integrate your resource estimation workflow with your geological modelling.

Minimise manual work with effortless model updates

Whenever new data or interpretations are added, Leapfrog Geo dynamically updates your models and ensures you are always working with the latest, helping to reduce manual updates and prevent costly mistakes. This dynamic approach enables your team to remain responsive to changing project conditions and make decisions with up-to-date information, ultimately keeping projects on track.

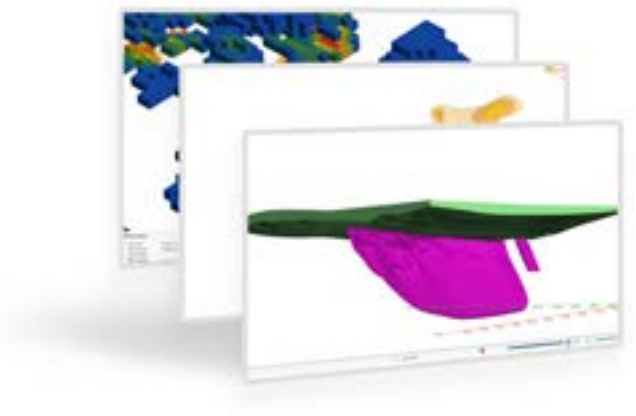
Enhance communication with seamless collaboration

Leapfrog Geo provides tools for sharing models and documenting key decisions, ensuring that all stakeholders — from engineers to executives — are working from the same reliable data throughout the project lifecycle. Plus, Leapfrog Geo's ability to connect to Seequent Central enables even more robust collaboration capability. This minimises miscommunication and fosters a transparent decision-making process, reducing project risk and improving overall operational efficiency.

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Explore the key features that drive Leapfrog Geo's performance

Leapfrog Geo enables organisations to transform raw data into actionable insights with a range of advanced modelling and visualisation tools. Here's a look at the key features that support efficient workflows, better collaboration, and more confident decision-making.



Geological modelling Use drillhole data, structural data, points, polylines, and meshes to:	Define surface chronology and cutting relationships Model surfaces, volumes, veins, and stratigraphic sequences Handle complex vein systems and fault networks with ease
Numeric modelling Explore and analyse spatial relationships in numeric data, such as grade, by creating and visualising detailed 3D models that include:	RBF and indicator interpolants to capture quantitative variability Multi-domain interpolants for more comprehensive insights Unified geological and numeric models for a deeper understanding of your deposit's characteristics
Block modelling Keep block models current with real-time updates and gain:	The ability to assign properties and perform block model calculations from geological and numerical models Streamlined resource estimation workflows through Leapfrog Edge extension Support for regular and sub-block models in common industry formats

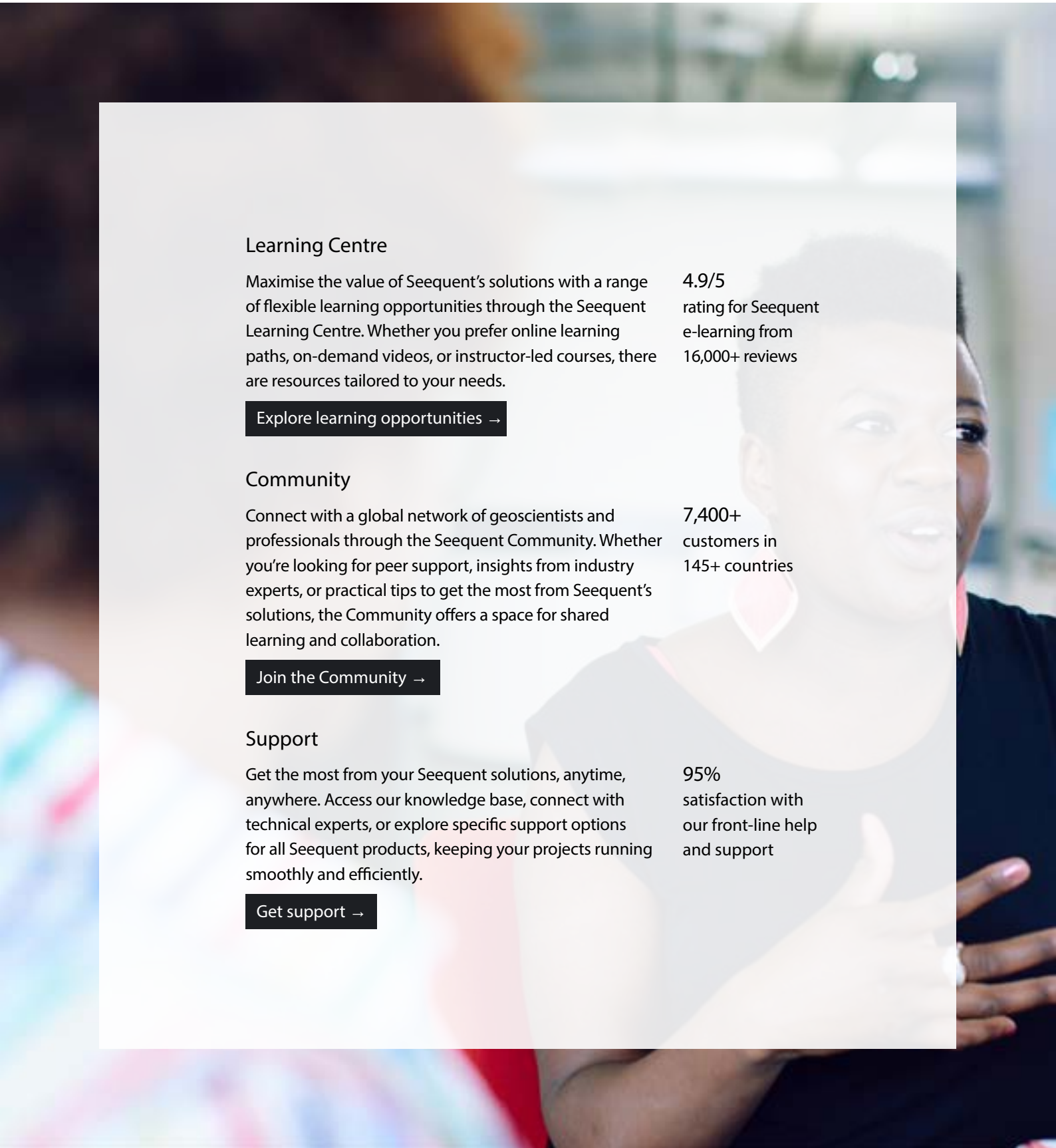
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2D & 3D visualisation Gain deep insight into geological data with advanced interactive visualisation that lets you:	Analyse data with scatter plots, box plots, and other statistical tools Build scenes to collate data and help identify trends, insights, correlations, and errors Visualise data and resulting models from all angles to improve analysis and interpretation
Industry interoperability Ensure seamless compatibility with industry standards and other common software. Leapfrog Geo supports:	Compatibility with leading mining software Open Mining Format (OMF) for easier data exchange 3D scene functionality to visualise data from multiple sources in a single view
Collaboration tools Effortlessly share geological insights and work in tandem with teams and stakeholders:	Export and share 3D scenes, movies, and cross-sections Annotate scenes for enhanced clarity Collaborate via Seequent Central for version control and team alignment
Intuitive interface Leapfrog Geo is designed specifically for geologists, offering intuitive workflows that allow users to	Learn the fundamentals in just days Start modelling faster and spend more time on analysis Navigate tools with ease, focusing on geological tasks
Flexible access Access Leapfrog Geo any time, wherever you are:	Work offline for up to 30 days without internet access Ensure uninterrupted access during remote fieldwork Receive software updates and support with an internet connection

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A world of support at your fingertips

Beyond the powerful features of Leapfrog Geo, Seequent offers comprehensive support and learning resources to help you get the most out of your investment.



Learning Centre

Maximise the value of Seequent's solutions with a range of flexible learning opportunities through the Seequent Learning Centre. Whether you prefer online learning paths, on-demand videos, or instructor-led courses, there are resources tailored to your needs.

Explore learning opportunities →

4.9/5
rating for Seequent e-learning from 16,000+ reviews

Community

Connect with a global network of geoscientists and professionals through the Seequent Community. Whether you're looking for peer support, insights from industry experts, or practical tips to get the most from Seequent's solutions, the Community offers a space for shared learning and collaboration.

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Support

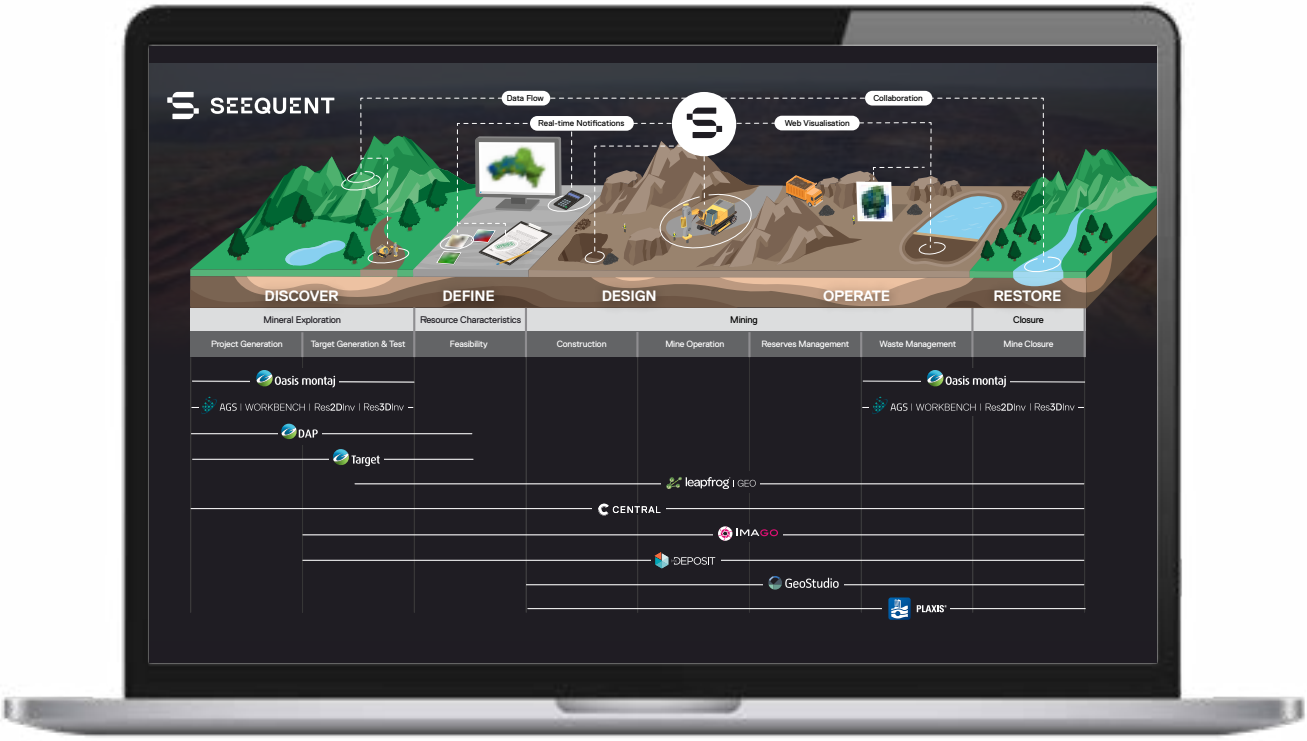
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Intelligent geoscience for mining: See deeper with Seequent

Unlock the full value of your subsurface data and optimise every stage of the mining lifecycle with Seequent's innovative geoscience solutions. From exploration to mine closure, our connected workflows help you minimise subsurface uncertainty, inform critical decisions, and ultimately mine smarter.



Discover the power of Leapfrog Geo for mining today

Visit seequent.com/leapfrog-geo to explore product videos, customer success stories, or request a free 14-day trial or live demo.

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About Seequent

At Seequent, we've spent decades empowering geoscientists with the tools they need to make better, faster decisions. Trusted by industry leaders in mining, environmental, civil, and energy sectors, Seequent's innovative solutions help professionals turn complex data into actionable insights. Whether it's enhancing subsurface knowledge or supporting strategic decisions, Seequent is the global leader in transforming geological data into informed action. See more at seequent.com.

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World's largest mining companies use Seequent

750+
Employees across 25+ global locations

500+
Institutions in our academic program

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