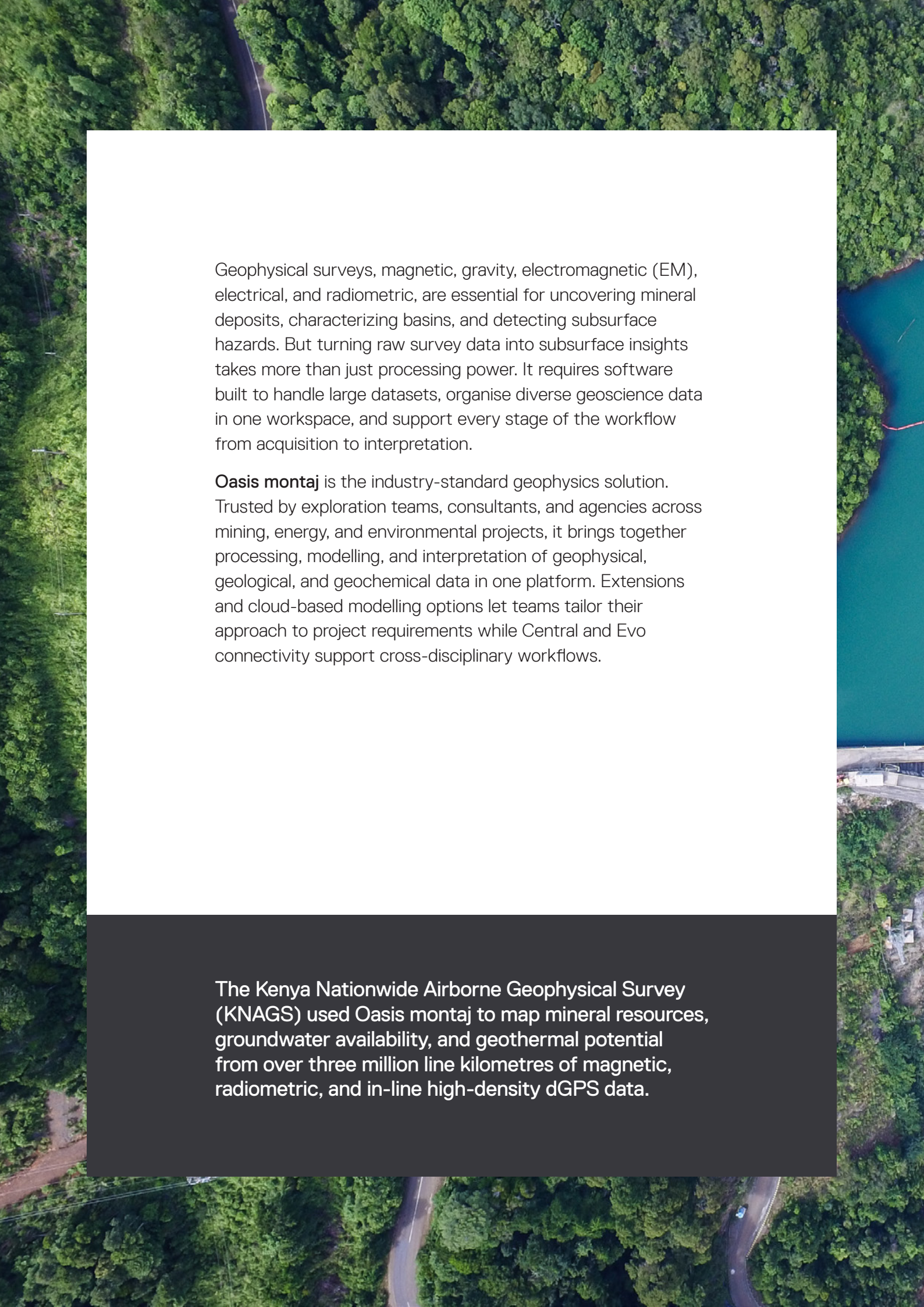
Oasis montaj

SOLUTION BRIEF

TURN GEOPHYSICAL DATA INTO SUBSURFACE INSIGHTS WITH OASIS MONTAJ

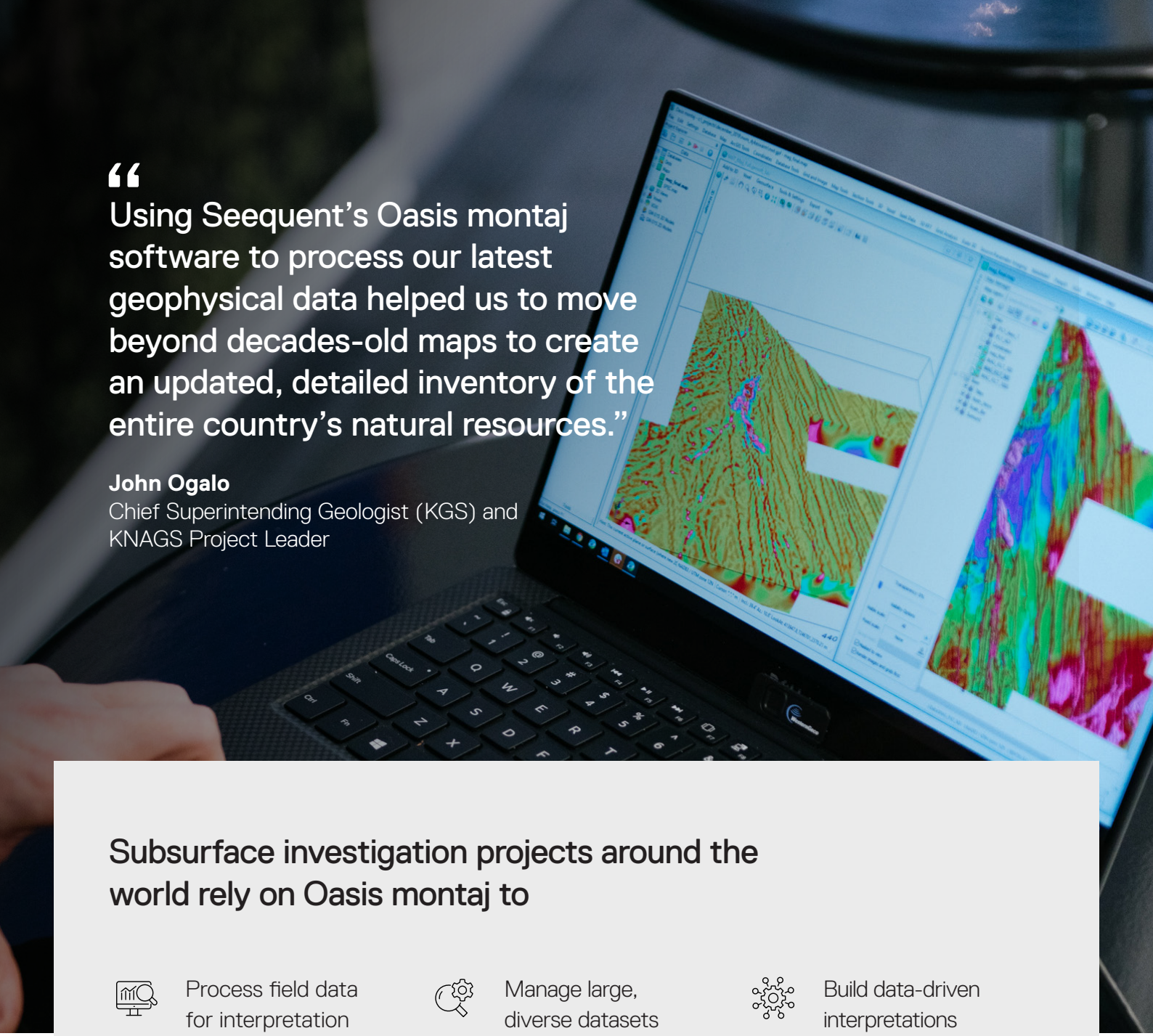
SEEQUENT



Geophysical surveys, magnetic, gravity, electromagnetic (EM), electrical, and radiometric, are essential for uncovering mineral deposits, characterizing basins, and detecting subsurface hazards. But turning raw survey data into subsurface insights takes more than just processing power. It requires software built to handle large datasets, organise diverse geoscience data in one workspace, and support every stage of the workflow from acquisition to interpretation.

Oasis montaj is the industry-standard geophysics solution. Trusted by exploration teams, consultants, and agencies across mining, energy, and environmental projects, it brings together processing, modelling, and interpretation of geophysical, geological, and geochemical data in one platform. Extensions and cloud-based modelling options let teams tailor their approach to project requirements while Central and Evo connectivity support cross-disciplinary workflows.

The Kenya Nationwide Airborne Geophysical Survey (KNAGS) used Oasis montaj to map mineral resources, groundwater availability, and geothermal potential from over three million line kilometres of magnetic, radiometric, and in-line high-density dGPS data.

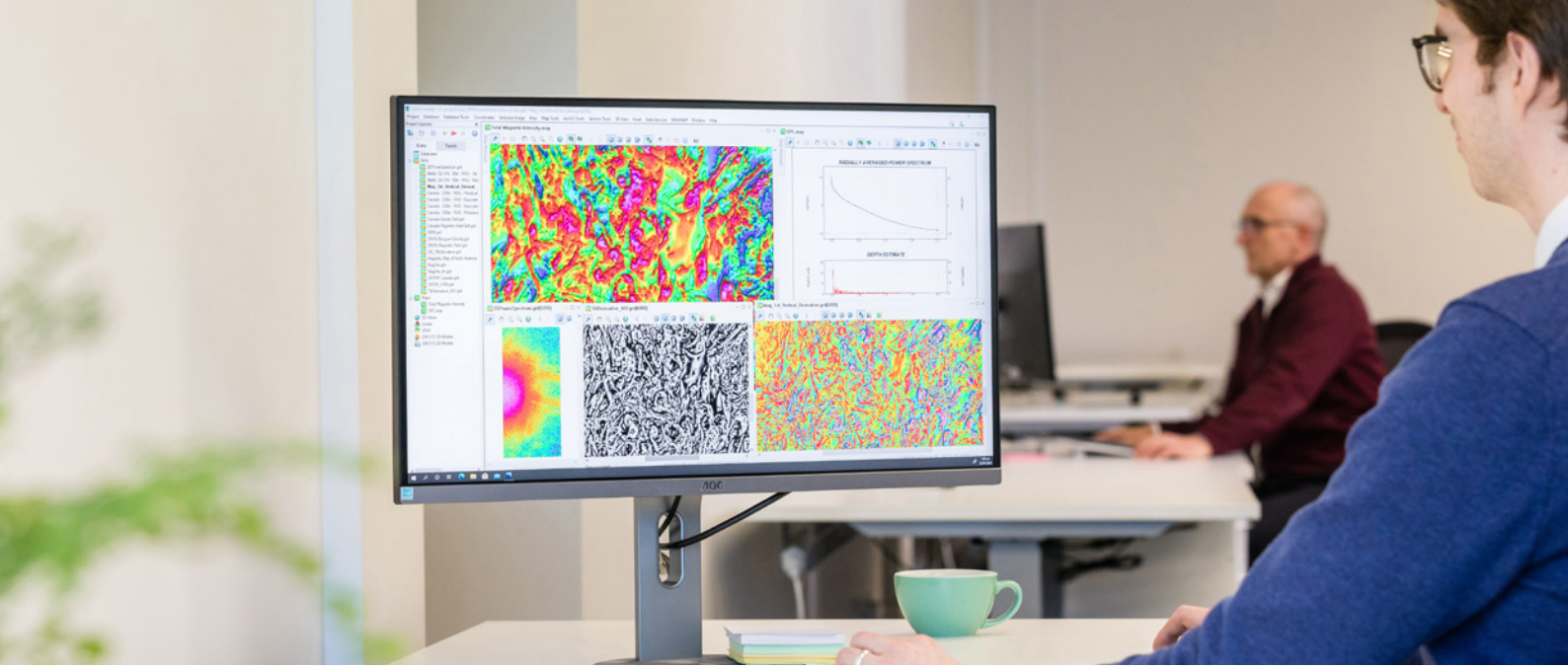


> “Using Seequent’s Oasis montaj software to process our latest geophysical data helped us to move beyond decades-old maps to create an updated, detailed inventory of the entire country’s natural resources.”

John Ogalo
Chief Superintending Geologist (KGS) and KNAGS Project Leader

Subsurface investigation projects around the world rely on Oasis montaj to

- Process field data for interpretation
- Manage large, diverse datasets
- Build data-driven interpretations
- Tailor workflows to project needs
- Collaborate across disciplines and workflows
- Reduce drilling or remediation risk and cost



Successful projects are powered by Oasis montaj

Process field data for interpretation

Oasis montaj supports the full geophysical workflow from survey planning and field-level QC to data processing, modelling, and interpretation. Geophysicists can validate data quality during acquisition, preventing costly re-flights or re-surveys, and then continue directly into office-based analysis. With every stage of the workflow connected, teams move quickly from acquisition to interpretation, reducing hand-offs and duplication.

Manage large, diverse datasets

Whether you're working with massive airborne magnetic surveys, gravity grids, or EM lines, Oasis montaj is built to handle it. Its high-performance database manages millions of points across more than 50 geophysical formats without artificial size limits. Users can view and overlay survey data with geological maps, drillholes, and geochemical results within a single project, without switching between tools. This scalability makes Oasis montaj ideal for both national survey programs and targeted site investigations.

Build data-driven interpretations

Oasis montaj delivers industry-standard processing routines and advanced interpretation tools, including edge detection, depth-to-source estimation, and 3D voxel modelling. Users can apply multiple geophysical methods in a single workflow to inform and support defensible subsurface interpretations. These interpretations support exploration reporting, stakeholder engagement, and, where applicable, permitting documentation.

Tailor workflows to project needs

Every geophysics project is different, and Oasis montaj adapts with powerful tools and extensions. From radiometric processing and DC-IP surveys to gravity corrections and UXO detection, extensions provide tools to build workflows that match your project requirements. Geoscience teams can add drillhole and geochemistry tools for integrated studies, while the Ultimate package covers the full set of supported data types. VOXI Earth Modelling runs 3D inversions in the cloud, freeing your PC for other work.

Collaborate across disciplines and workflows

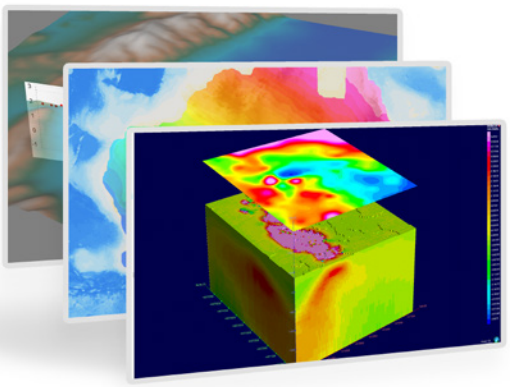
Geophysicists rarely work alone. Oasis montaj works with Leapfrog, Central, and Evo to support collaborative, cross-disciplinary workflows. Geological models can be imported into Oasis montaj to constrain geophysical inversions, while processed geophysical data can be shared back to refine geological interpretations. This iterative exchange helps teams maintain a single, unified, multidisciplinary interpretation of the subsurface.

Reduce drilling or remediation risk and cost

From mineral exploration to geothermal energy, groundwater, or offshore infrastructure, Oasis montaj helps teams make better-informed decisions before committing to expensive drilling or construction. By detecting errors early, refining targets, and improving subsurface understanding, the platform reduces both technical risk and project costs. Its versatility across domains makes it a long-term, future-proof investment for geoscience organisations.

Explore the key features that power Oasis montaj

Oasis montaj is built for geoscientists who need to process, model, and interpret geophysical survey data using trusted methods in one integrated environment.



Survey planning and field QC

Plan efficient surveys and check data quality as it's acquired

- Design airborne and ground surveys to meet project specifications
- Run daily QC checks during acquisition to confirm survey specifications are met
- Catch errors in the field to re-acquire data on site and avoid costly re-mobilisation
- Determine if your survey will detect whatever subsurface deposit or feature it's been designed for

Data import and processing

Prepare geophysical datasets for reliable interpretation

- Import gravity, magnetics, EM, radiometric, resistivity, and other data (50+ formats)
- Apply corrections, filters, and mathematical transformations to improve data quality
- Merge datasets and reproject them between different coordinate systems and datums

Mapping and visualisation

Display data in 2D and 3D

- View data in database profile windows to more easily identify noise and other features
- Create 2D maps with grids, symbols, profiles, images, and annotations
- Visualise surfaces, voxels, drillholes, points, cross-sections, and 3D volumes together in a single view
- Export high-quality maps, map snapshots, and 3D animations for stakeholders
- Visualise array and spectral data using purpose-built viewers

Interpretation and modelling tools Enhance subsurface insight with specialised modelling and interpretive tools	· Automatically detect lineaments and other anomalous features in gridded data · Rapidly estimate the location, depth, and geometry of subsurface sources from potential field data · Use inversions to derive 2D and 3D subsurface models from gravity, magnetic, EM, and electrical data · Constrain inversions with geological data for more accurate results
Geoscience integration Bring geophysics into multi-disciplinary workflows	· Integrate geophysical data with geological maps, drillholes, and geochemistry · Constrain geophysical inversions with geological input for higher confidence · Share outputs in GIS, CAD, and Seequent platforms like Leapfrog and Central
Automation and extensibility Configure Oasis montaj to your workflow and add functionality as your project needs change	· Automate repetitive steps with GX scripts or embedded Python routines · Add extensions for specific geophysical workflows or data types · Run inversions and other complex processes in the cloud to keep your computer free

Oasis montaj (Base)

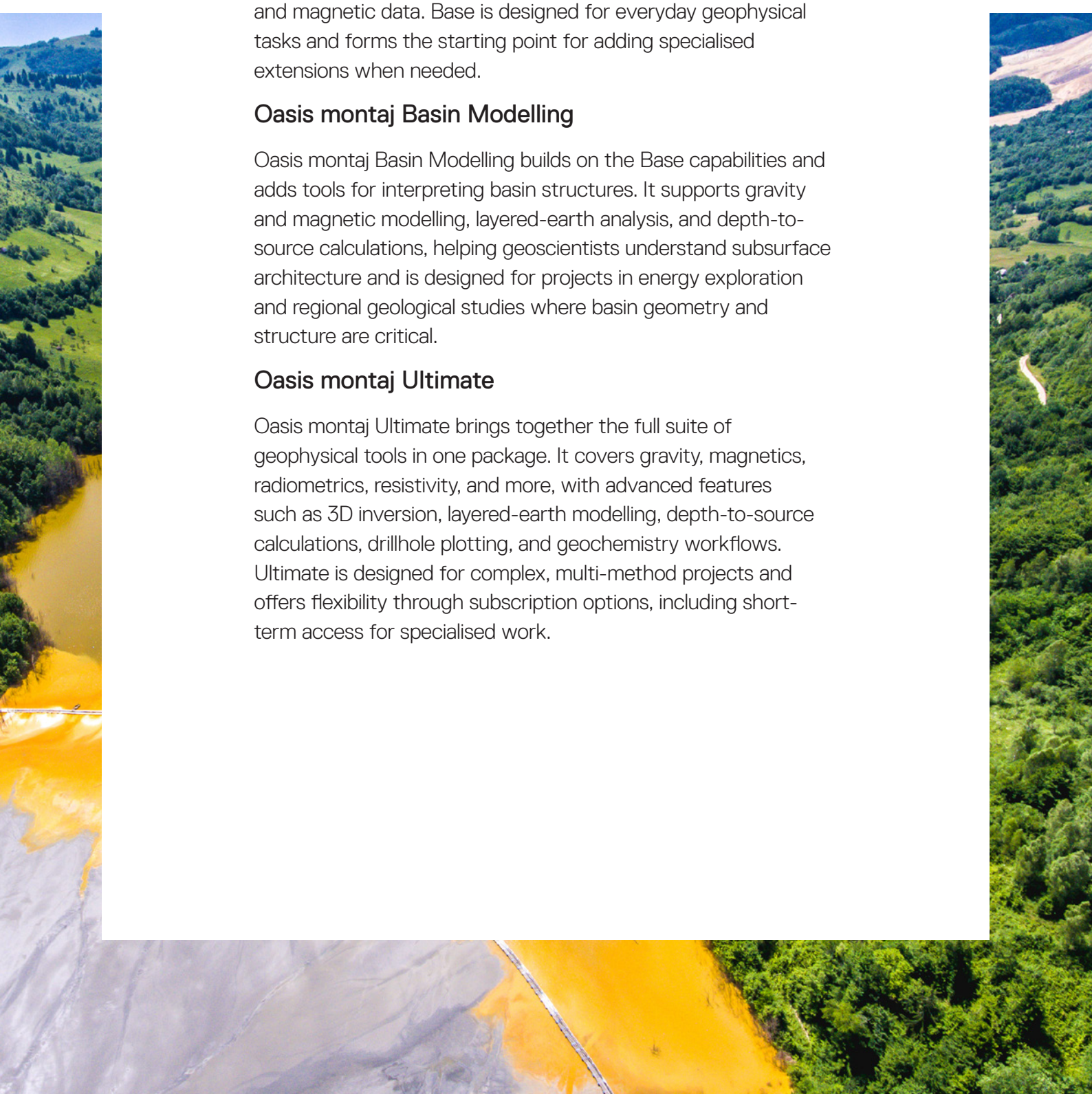
Oasis montaj Base provides the core tools for working with geoscience data. It includes the Geosoft database for managing large datasets, along with essential functions for data import, visualisation, and quality control. Users can create maps, profiles, and grids, and apply standard processing workflows for gravity and magnetic data. Base is designed for everyday geophysical tasks and forms the starting point for adding specialised extensions when needed.

Oasis montaj Basin Modelling

Oasis montaj Basin Modelling builds on the Base capabilities and adds tools for interpreting basin structures. It supports gravity and magnetic modelling, layered-earth analysis, and depth-to-source calculations, helping geoscientists understand subsurface architecture and is designed for projects in energy exploration and regional geological studies where basin geometry and structure are critical.

Oasis montaj Ultimate

Oasis montaj Ultimate brings together the full suite of geophysical tools in one package. It covers gravity, magnetics, radiometrics, resistivity, and more, with advanced features such as 3D inversion, layered-earth modelling, depth-to-source calculations, drillhole plotting, and geochemistry workflows. Ultimate is designed for complex, multi-method projects and offers flexibility through subscription options, including short-term access for specialised work.



EXTENSIONS

Extend your geophysical workflow with Oasis montaj extensions

From survey planning to 3D inversion, Oasis montaj extensions support every stage of the workflow and a wide range of geophysical methods.

Acquisition

Import and manage raw gravity, magnetic, EM, and radiometric data to support early-stage workflows like survey planning, quality control, and data validation/QC.

The Acquisition extension helps users prepare airborne and ground surveys to meet project requirements, run daily QC checks to confirm survey parameters, and catch errors before they impact downstream processing. It supports line data and raw survey files, and is ideal for validating data integrity, ensuring survey consistency, and setting up projects for success from day one.

Processing

Prepare geophysical datasets for modelling and interpretation with a comprehensive suite of correction, filtering, and transformation tools.

The Processing extension supports 1D and 2D filtering, FFT routines, and advanced mathematical expressions to apply corrections to magnetic, gravity, EM, and radiometric data. Users can perform terrain and instrument corrections, gridding and profile draping, working with line, point, and gridded data formats.

Whether adjusting for drift, tides, or survey geometry, this extension ensures data is accurately processed and ready for the next stage of interpretation.

Interpretation

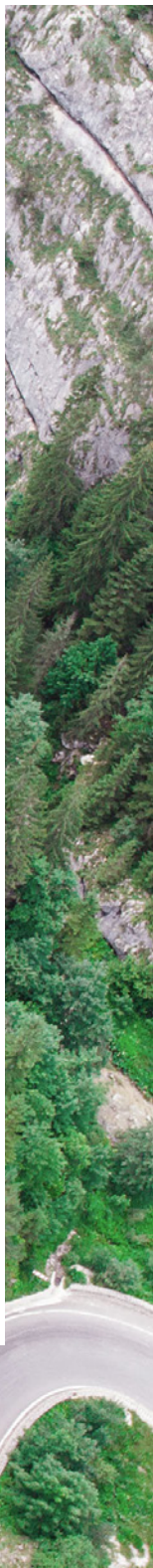
Interpret magnetic and gravity survey data using advanced tools for depth-to-source estimation, Euler deconvolution, and 3D visualisation.

The Interpretation extension supports structural analysis and subsurface modelling workflows and integrates with Leapfrog and Evo to connect geophysical results with geological models. Whether working with gridded data or voxel models, this extension helps teams explore subsurface structures with clarity and confidence.

Resistivity and induced polarisation (DC-IP)

Process and prepare DC resistivity and induced polarisation survey data for interpretation and inversion.

The DC-IP extension supports 2D and 3D survey workflows, including tools for managing electrode configurations, validating survey geometry, and generating pseudosections. It helps



users organise and quality-check datasets before sending them to VOXI for 3D inversion, and is used across mineral exploration, groundwater studies, and environmental investigations.

Radiometric processing

Process airborne and ground-based gamma-ray spectrometry data with tools for spectral calibration, stripping, and advanced noise reduction techniques such as MNF and NASVD.

The Radiometric Processing extension, developed in collaboration with Medusa Radiometrics, supports the creation of potassium, thorium, and uranium concentration maps, helping teams interpret radiometric signatures for geological mapping, environmental assessments, and resource exploration. It works with line and gridded data formats and is designed to support high-quality radiometric workflows from raw data to final interpretation.

Geology

Integrate geological and geochemical data into geophysical workflows with tools for drillhole plotting, geochemistry analysis, and geological mapping.

The Geology extension enables users to display and interpret drillhole data alongside magnetic, gravity, EM, and radiometric results, helping teams build more complete subsurface models. Generate sections and map layouts that combine multiple data types in one project, supporting cross-disciplinary collaboration and more informed decision-making.

Offshore hazard detection

Detect unexploded ordnance (UXO), cables, and pipelines in offshore and nearshore environments using marine magnetic data.

The UXO Marine extension supports workflows for importing and processing survey lines and gridded datasets, applying inverse modelling routines, and working with target libraries. It helps teams assess risk, tailor seabed survey planning to sensor arrays, and generate reports for regulatory compliance and safe infrastructure development.

Onshore hazard detection

Identify and assess UXO and other subsurface hazards in terrestrial environments using magnetic and electromagnetic data.

The UXO Land extension includes tools for importing, processing, and interpreting line and gridded datasets, generating target lists, and integrating geophysical data into broader site characterisation workflows. It supports remediation and clearance operations for safe land development.

Onshore hazard classification

Classify UXO targets using advanced electromagnetic sensor data workflows.

The UX-Analyze extension enables users to import HDF v1 datasets, perform detailed target analysis, and meet US Department of Defense DAGCAP standards with built-in quality control and reporting tools. It is designed to complement UXO Land workflows for high-confidence classification and regulatory compliance.

EXTENSIONS

VOXI cloud add-ons

Scale beyond desktop limits with cloud-based 3D inversion and modelling. VOXI runs demanding computations in the cloud, delivering voxel models that integrate seamlessly into Oasis montaj workflows.

VOXI Essentials

Generate 3D voxel models from magnetic and gravity data. Supports density and susceptibility modelling and integration with geological and geochemical constraints.

VOXI Gravity Gradient

Build high-resolution 3D density models using gravity gradiometry data. Suitable for structurally complex environments and subtle density contrasts.

VOXI IP and Resistivity

Create 3D conductivity and chargeability models from time-domain IP and DC resistivity surveys. Supports diverse electrode configurations and time-series data for subsurface investigations.

VOXI Frequency Domain EM

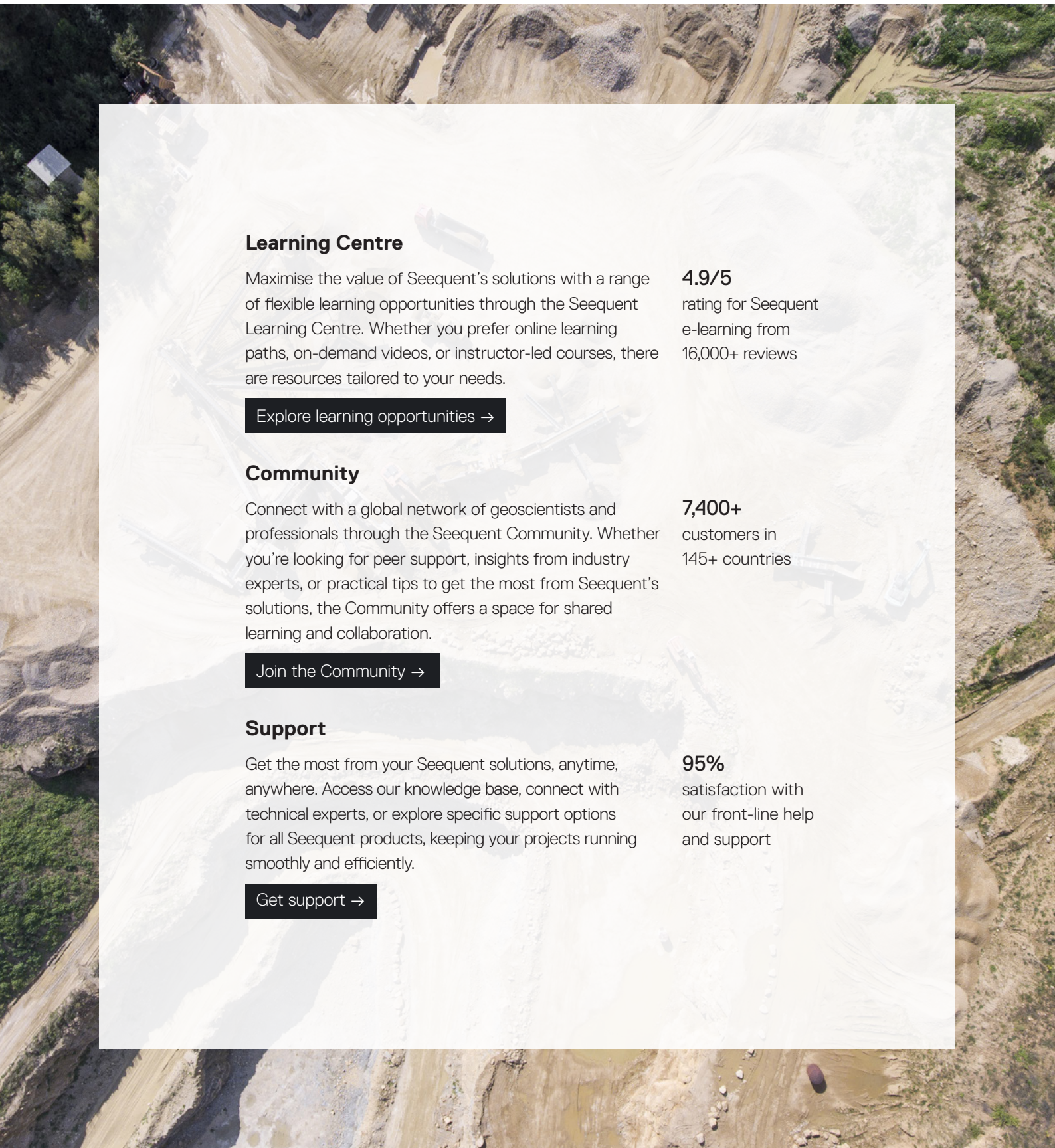
Model conductivity from airborne and ground-based frequency-domain EM surveys (e.g. Dighem, Resolve). Supports frequency response data for geological structure delineation.

VOXI Time Domain EM

Produce 3D conductivity models from time-domain EM systems (SkyTEM, VTEM, Xcite). Designed for imaging conductive bodies at depth in mineral exploration and groundwater studies.

A world of support at your fingertips

Beyond the powerful features of Oasis montaj, 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.

Join the Community →

7,400+
customers in 145+ countries

Support

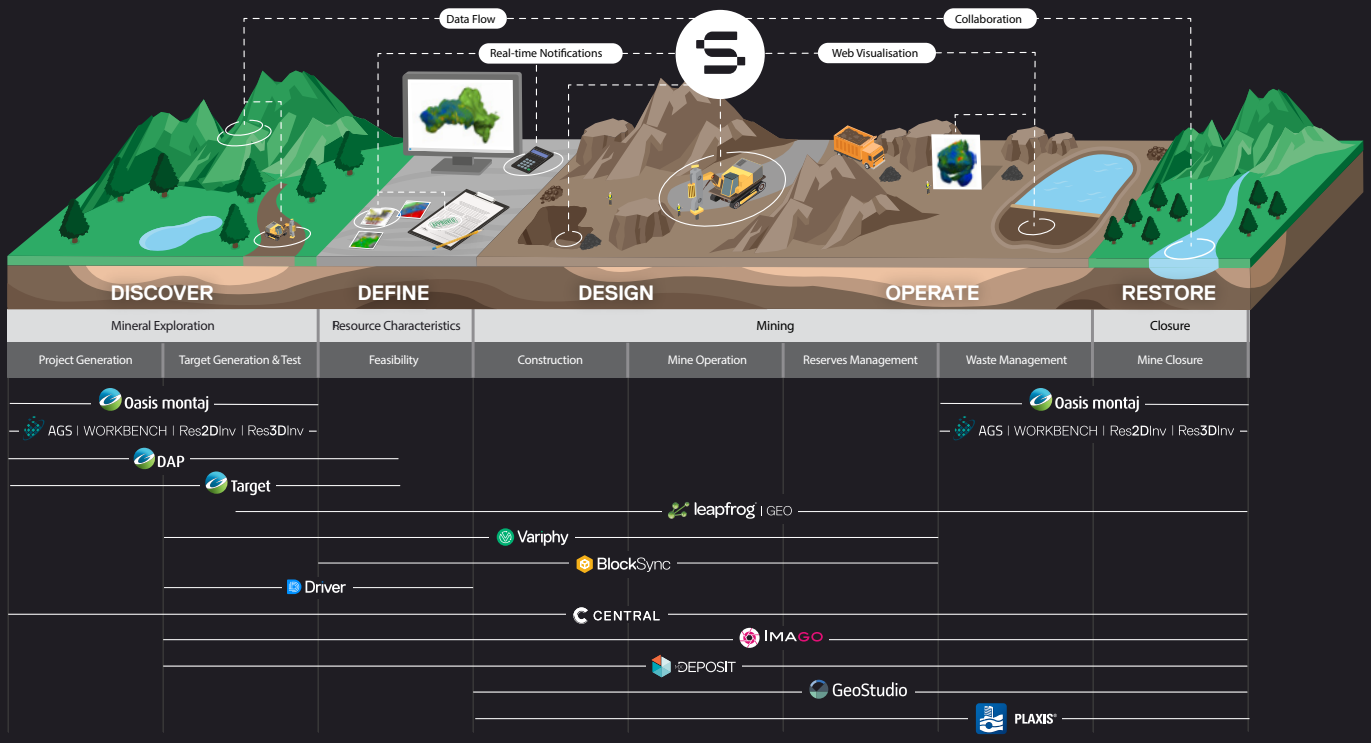
Get the most from your Seequent solutions, anytime, anywhere. Access our knowledge base, connect with technical experts, or explore specific support options for all Seequent products, keeping your projects running smoothly and efficiently.

Get support →

95%
satisfaction with our front-line help and support

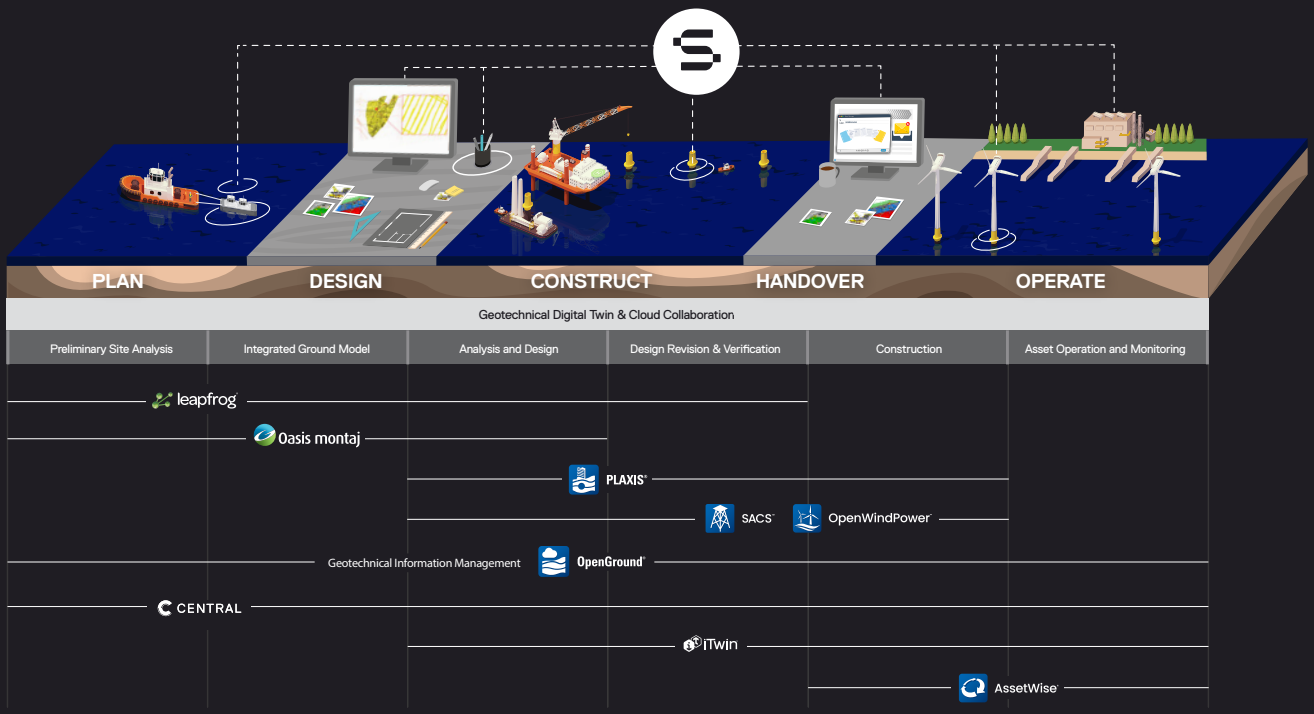
A geophysics workflow that keeps mining projects on course

Oasis montaj gives exploration and mining teams the tools to refine targets, delineate orebodies, and monitor tailings. Connected with Seequent tools, it keeps geology and geophysics aligned across the mine lifecycle.



Plan and deliver safer wind projects with subsurface hazard detection and classification

Oasis montaj helps developers assess subsurface conditions, locate unexploded ordnance and buried infrastructure, and plan foundations with confidence throughout wind projects.



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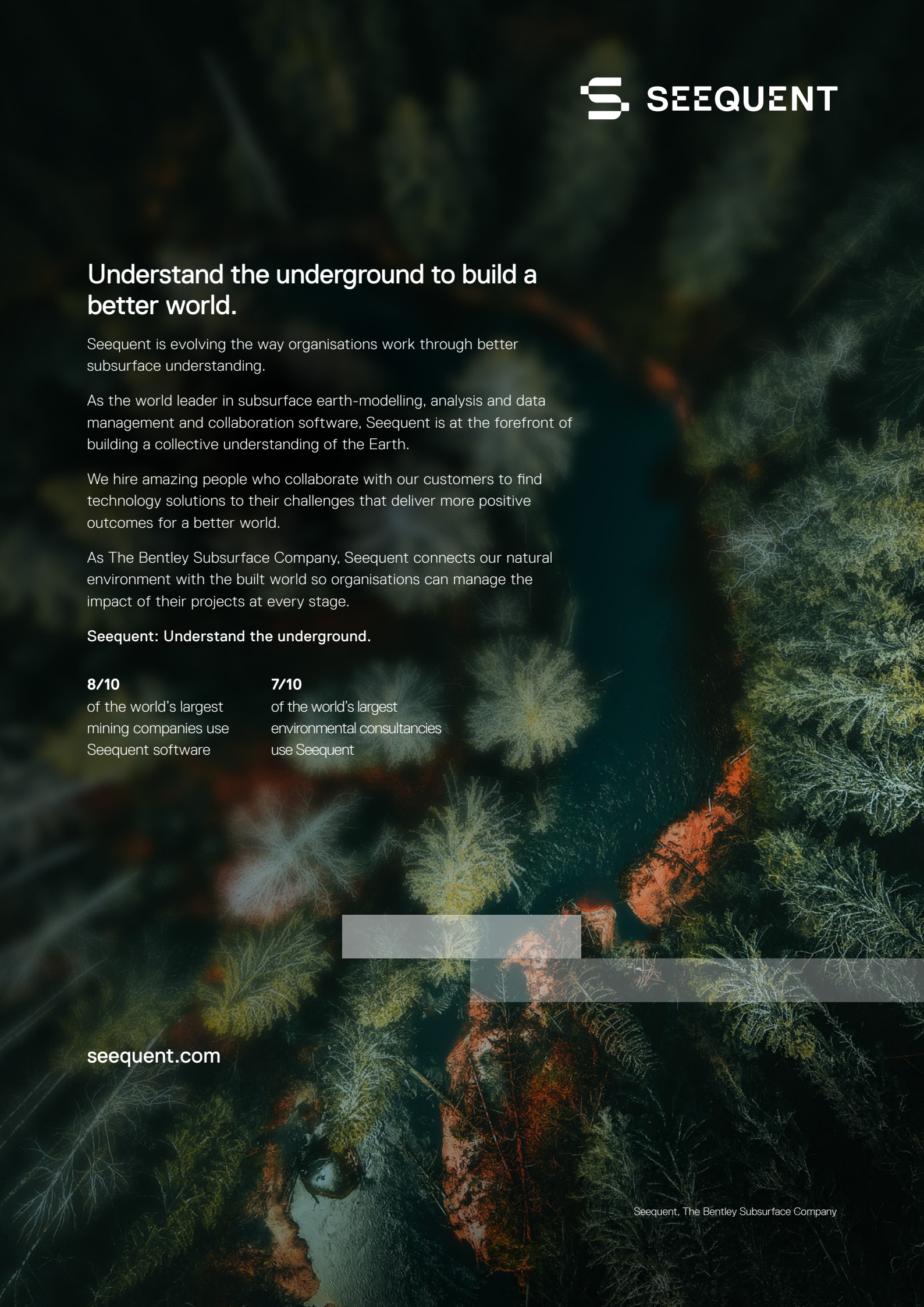
Visit www.seequent.com explore Oasis montaj product videos, customer success stories, or request a free 14-day trial or live demo.


SEEQUENT
Understand the underground to build a better world.
Seequent is evolving the way organisations work through better subsurface understanding.
As the world leader in subsurface earth-modelling, analysis and data management and collaboration software, Seequent is at the forefront of building a collective understanding of the Earth.
We hire amazing people who collaborate with our customers to find technology solutions to their challenges that deliver more positive outcomes for a better world.
As The Bentley Subsurface Company, Seequent connects our natural environment with the built world so organisations can manage the impact of their projects at every stage.
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