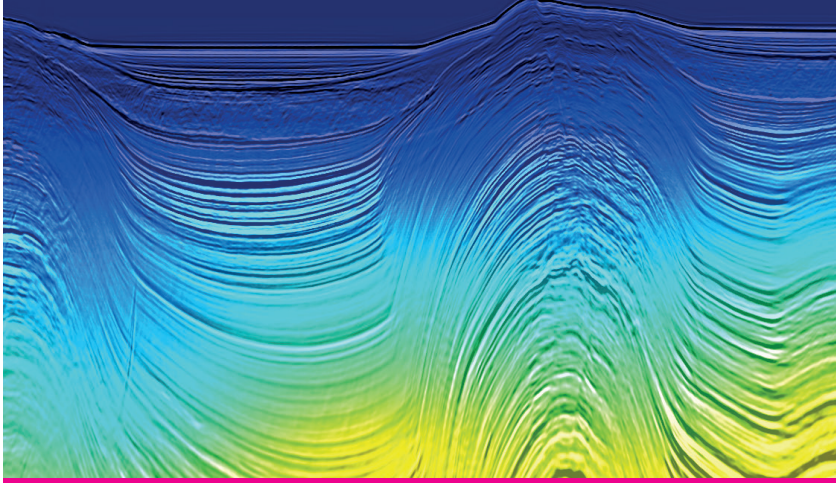
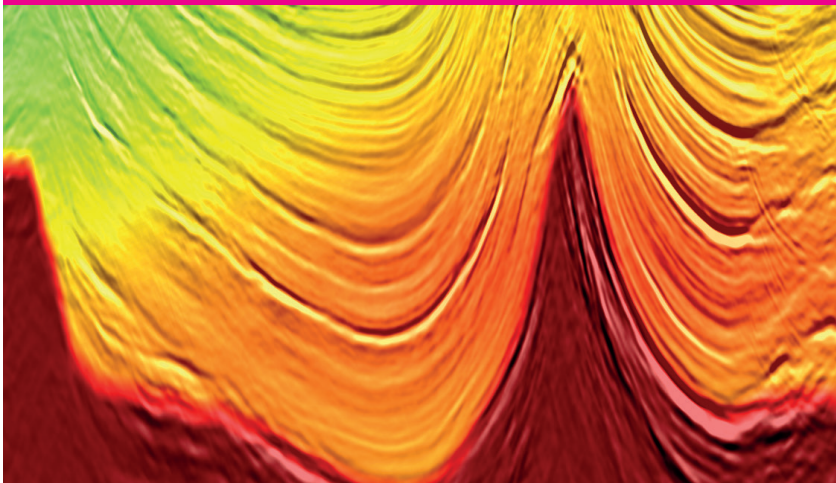
SHEARWATER®

Clearly Better.

Revealing possibilities
shearwatergeo.com



Reveal® Software



SHEARWATER® REVEAL

A modern, powerful and intuitive solution for demanding seismic data analysis, Reveal is a full processing software that can scale to run from a laptop in the field through to the largest data center.

Unique Seismic Processing

Reveal focuses on the user experience to effectively leverage geophysics in seismic processing.

Modern

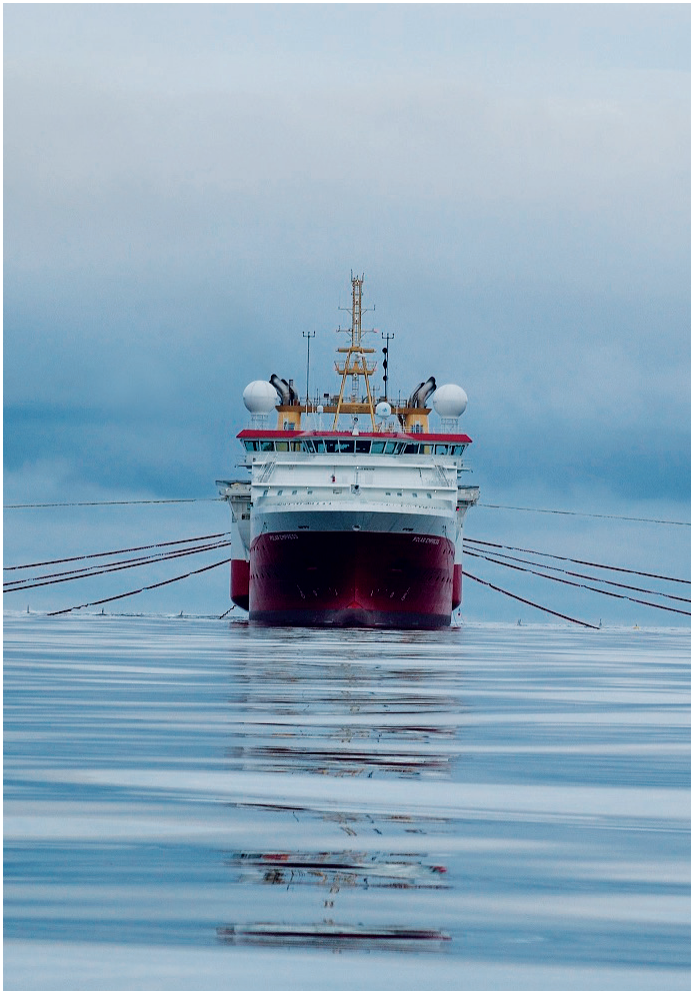
Reveal is an intuitive software providing land, marine, time and depth processing in a modern, single user-friendly interface.

Flexible

This full processing software provides a flexible and interactive geophysical platform with an open development environment.

Software for Everyone

Reveal is used internally by Shearwater and is also licensed to oil companies, contractors, consultants and academics world-wide.



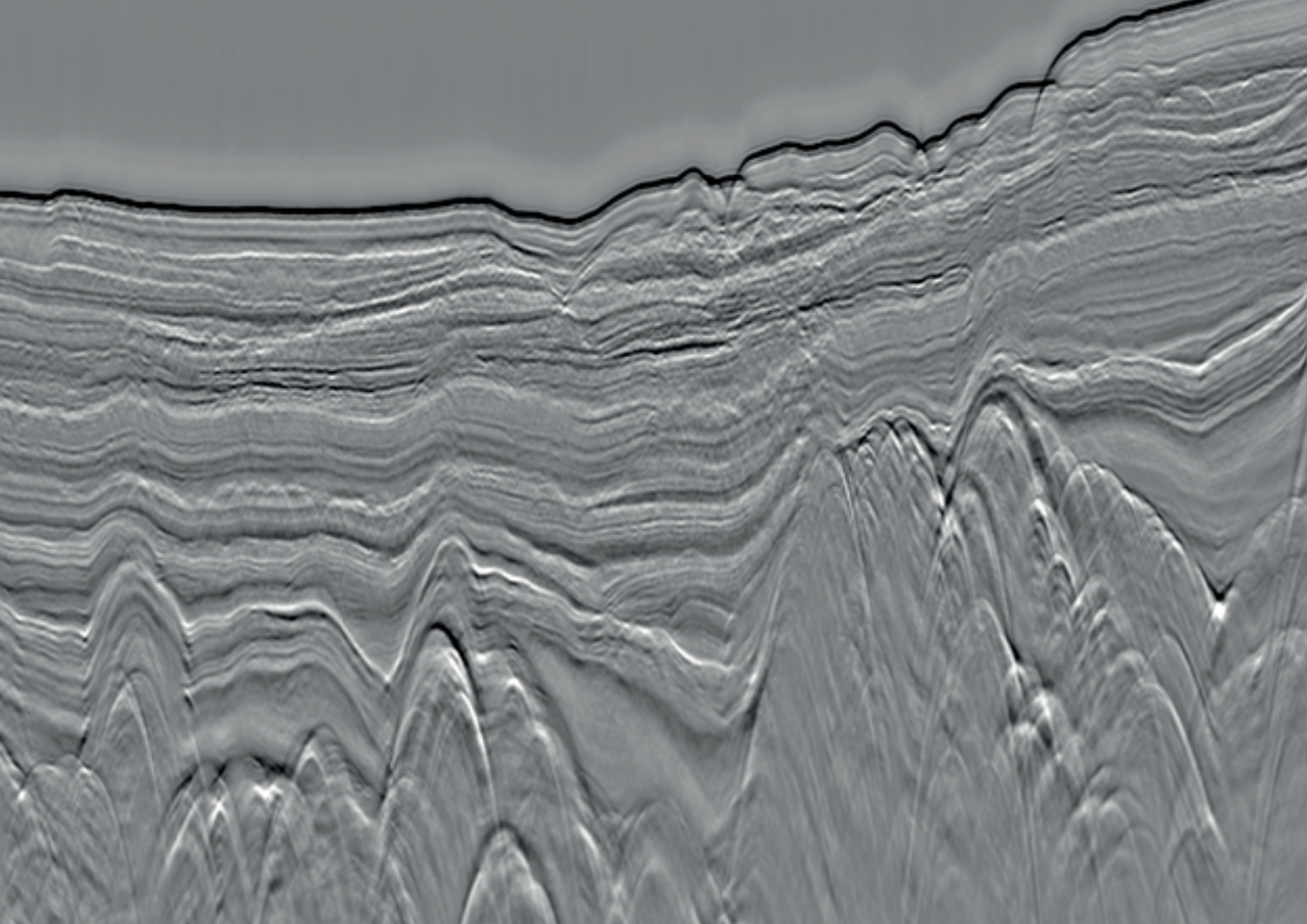
A Platform That's Easy To Use

Reveal performs time & depth processing and imaging of land & marine seismic data within a single user interface.

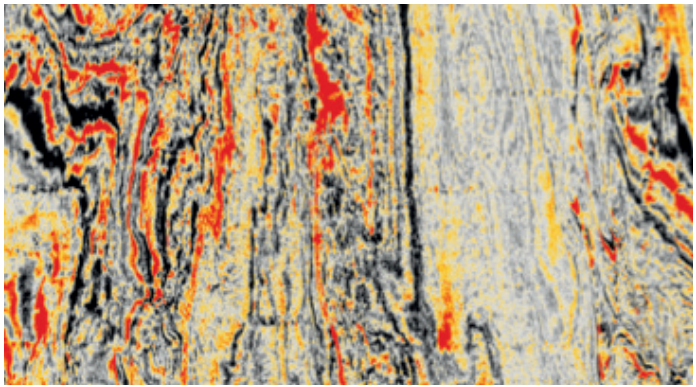
The flexibility of Reveal's full processing platform, and its ability to run in data centers or directly in the field, ensures your projects are completed within efficient time-frames. With its advanced batch job management, parallel processing and cluster scalability, geophysicists can achieve rapid turnarounds.

Data can be read directly from field tapes, SEGYs and other formats. You can create PowerPoint slides directly from the viewer for your presentations and reports and with processing history attached to every seismic file you will remain in full control every step of the way from start to finish.

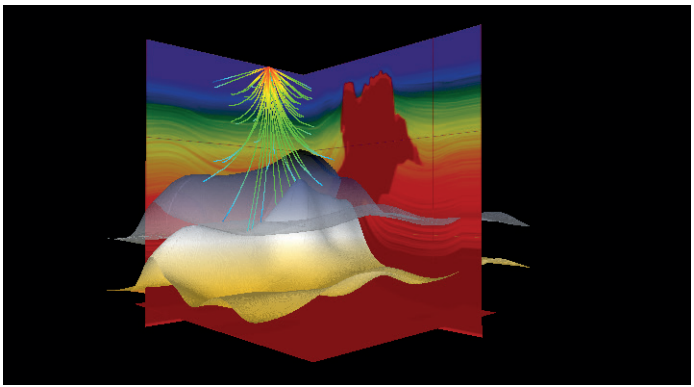
Reveal also provides a developers' environment for customers keen to integrate it with their own software, workflows and processing systems.



Real Time Quality Control



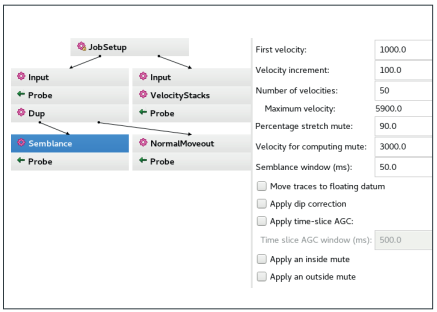
Time Processing



Depth Imaging

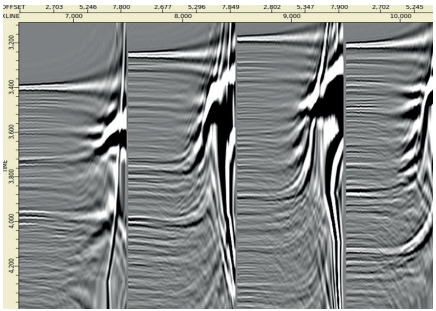
Developers' Environment

Modern Software



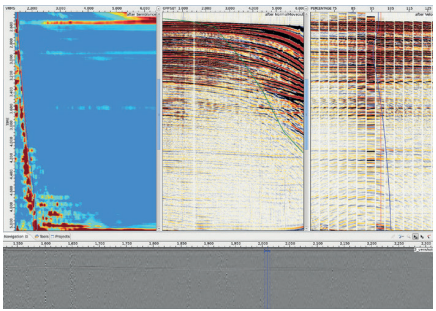
Interactive Job Builder

- Interactive job flow builder
- Build flows instantly while visualizing data
- Job management and parallel processing
- Seamlessly incorporate proprietary modules and technology



Real Time Processing

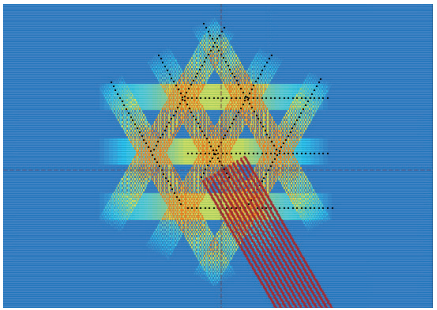
- Change parameters in your processing flow and see your data update in real time
- Operate on actual flows; new picks, modules, sorts are all applied in real time



Velocity Analysis

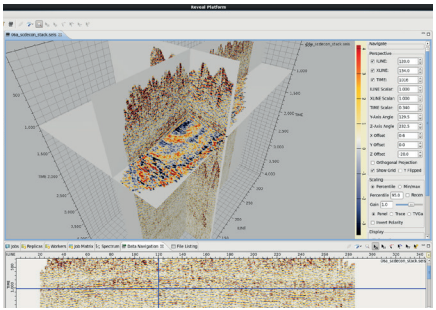
- Full real time configurability
- Machine learning velocity picking
- Live navigation for 2D, 3D & multi-line 2D
- Multi-user
- Velocity line tie analysis

Flexible Processing



Crossplot Visualization

- Plot any header in the crossplot view
- Quick navigation through datasets
- Geometry QC
- Flexible amplitude plots
- Live “hover” plots
- Support for billions of traces



2D/3D Data Visualization

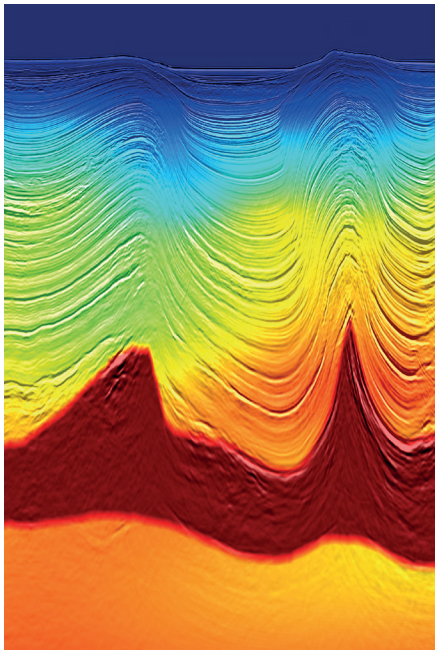
- Inline, crossline and time slices
- Linked, synchronized views
- Velocity field overlays
- Horizons (3D and 2D intersection views)
- 3D Geobodies

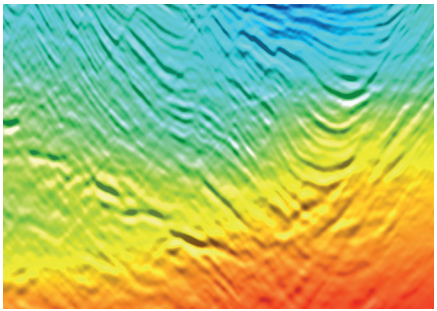
Start to finish

- Read directly from field tapes, SEGYs, or other supported formats
- Process remotely
- Create PPTs directly from the viewer
- Processing history attached to every seismic file
- SEGY header mappings for export

Depth Imaging

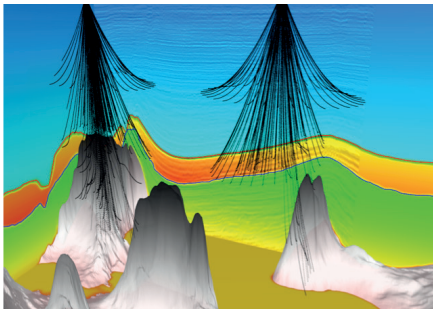
Five advanced depth packages that can be added on to your base package, giving you complete flexibility in your required software functionality





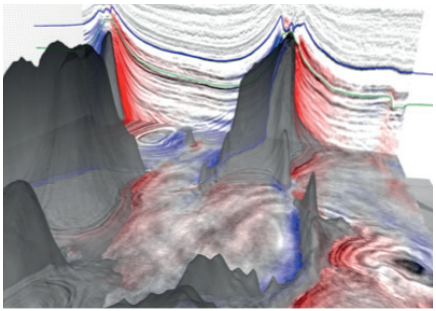
Kirchhoff Depth

Pre-Stack Kirchhoff Depth Migration is a highly versatile algorithm that can be used throughout your imaging. Migrate from topography, correct for amplitude, phase and attenuation all within the migration.



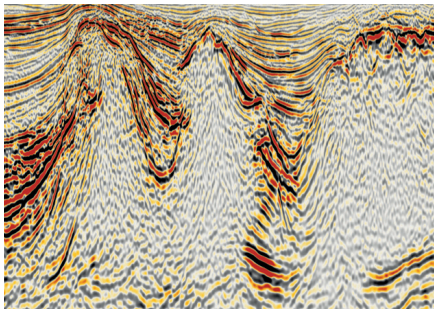
Model Building

Optimize your Model Building with Shearwater's Depth Packages. Capabilities include manipulation with Horizons and visualization using Geobodies. Easily integrate Well data into your Reveal projects.



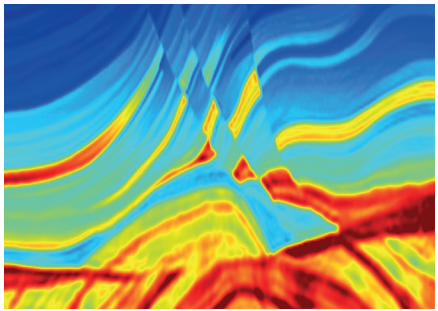
Tomography

Reveal provides grid based reflection tomography with automatic and interactive picking methods. Dip attributes can be automatically estimated and included in the Tomography package. Reveal also provides the ability to estimate anisotropic parameters and Q.



Reverse Time Migration

RTM can run on CPUs and GPUs for imaging challenging pre-salt basins. Perform illumination studies, create angle gathers, filter RTM artifacts, and model wavefields. Reveal also provides a RTM runtime calculator to estimate compute needs.



Full Waveform Inversion

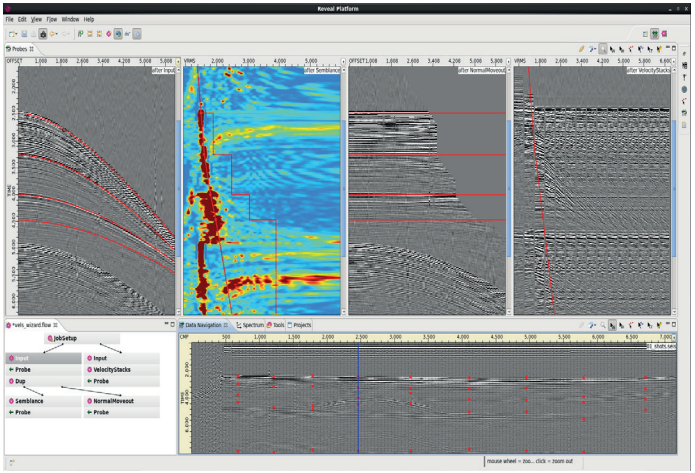
Reveal enables easy incorporation of inversion into larger model building work flows, leading to a much greater resolution. FWI is capable of isotropic and anisotropic inversion modeling.

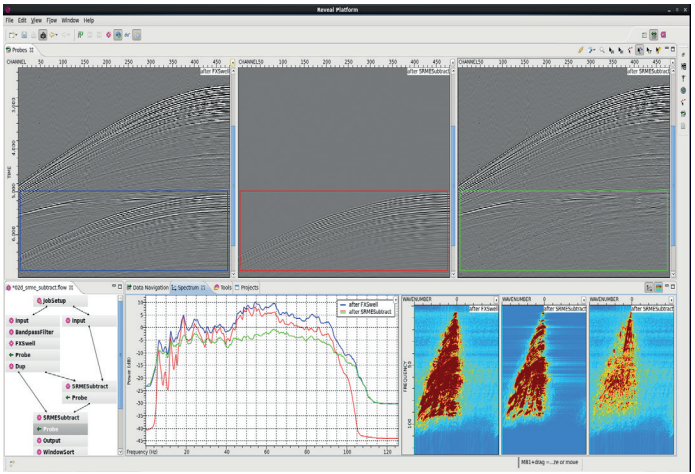
Reveal Your Algorithms

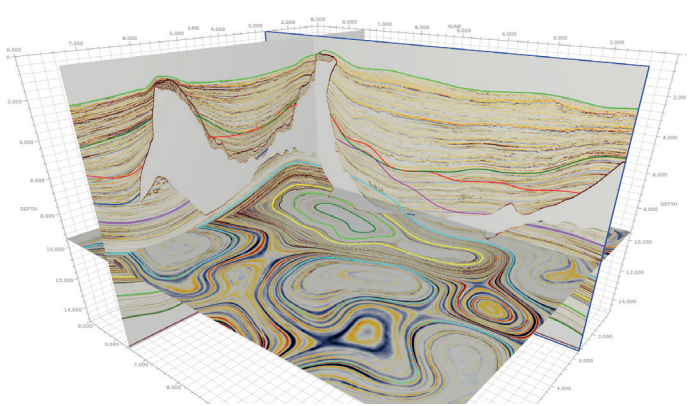
Reveal provides APIs for you to bring your own codes and geophysics into the Reveal interface.

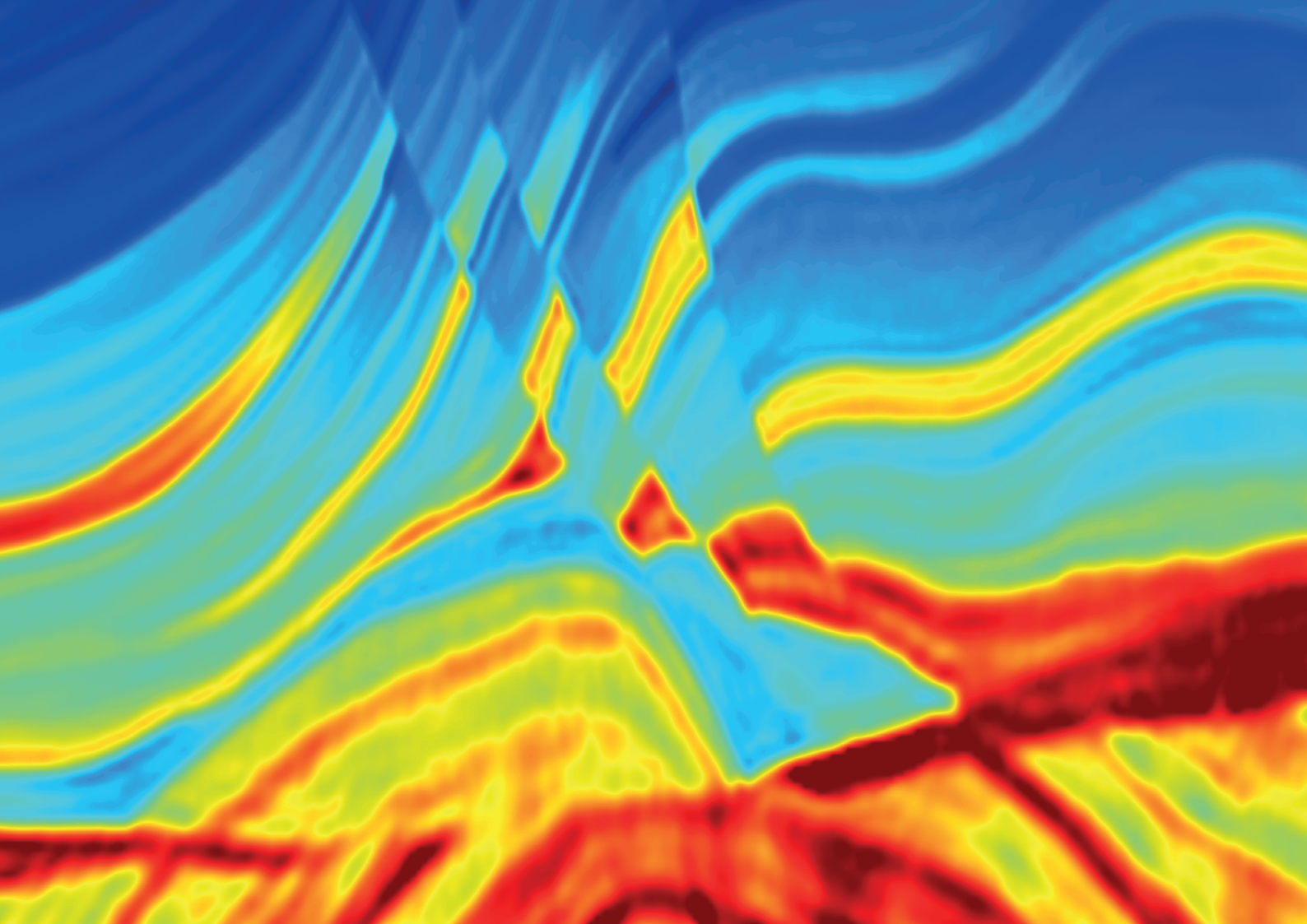
The developer's API can quickly leverage Python directly in your flows. The C++, Java or Fortran APIs can expand to cluster-scales with OpenMP and MPI, increasing your code's capabilities within Reveal.

Our R&D team can help expedite porting code to reveal. This gives the tools a new and interactive life while we use our experience to modernize legacy codes for parallel architectures.



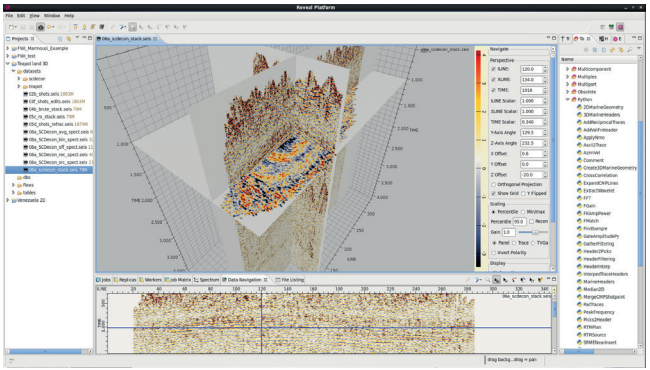




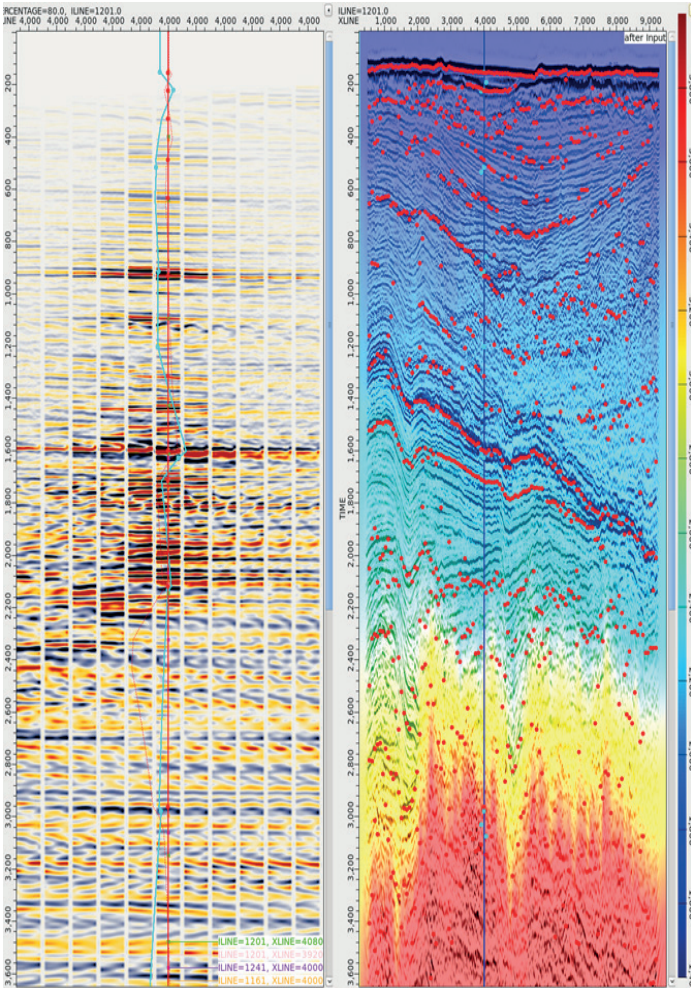


Customize Your Reveal

Build and personalize your preferences



Reveal allows you to customize your interaction and the user experience. Each user can build and personalize their Reveal interface to suit their preference allowing them to adapt to different datasets, processing sequences, and view the seismic and headers from every angle.



Unparalleled Support

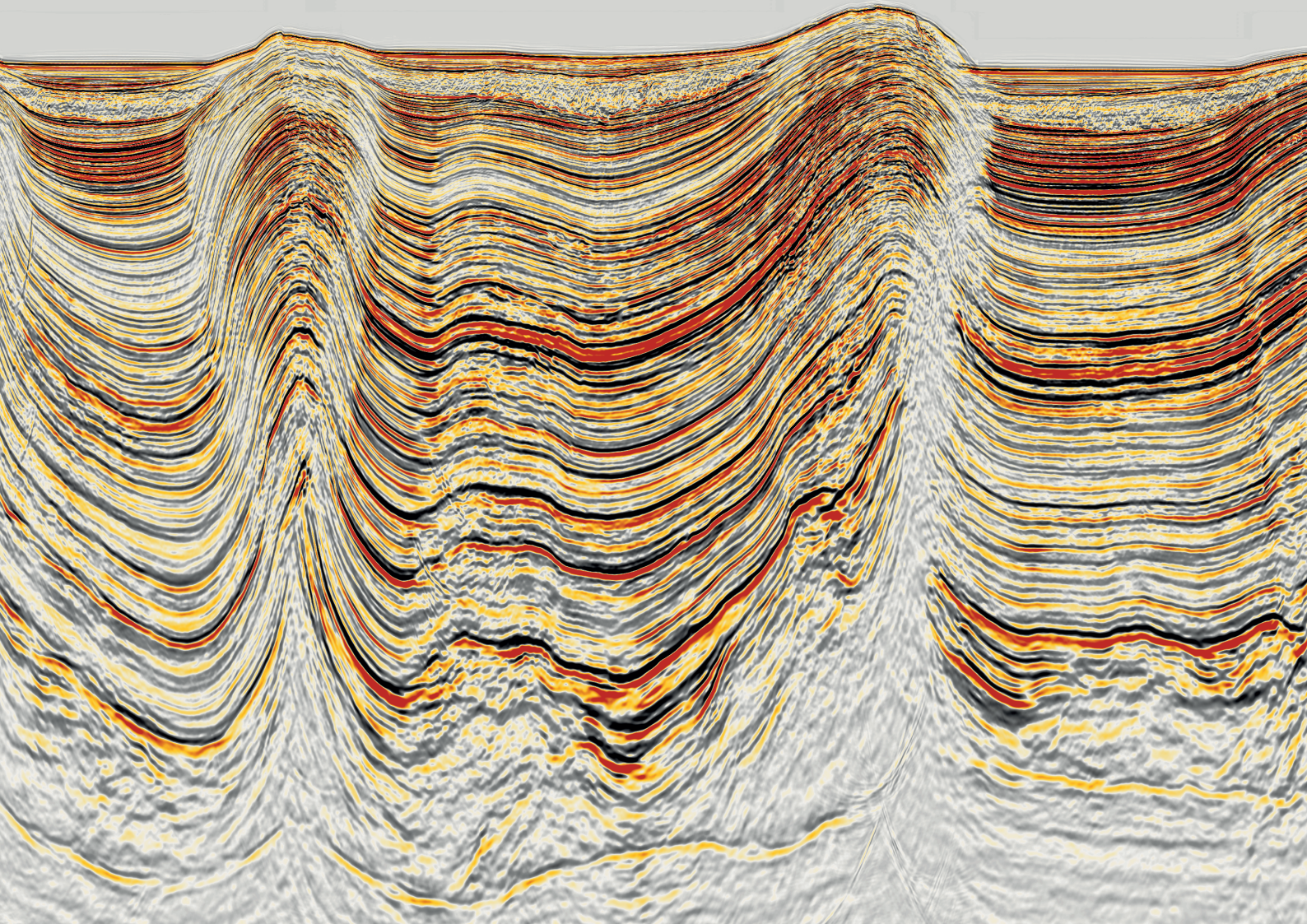
Our support team are committed to providing high-quality customer service.

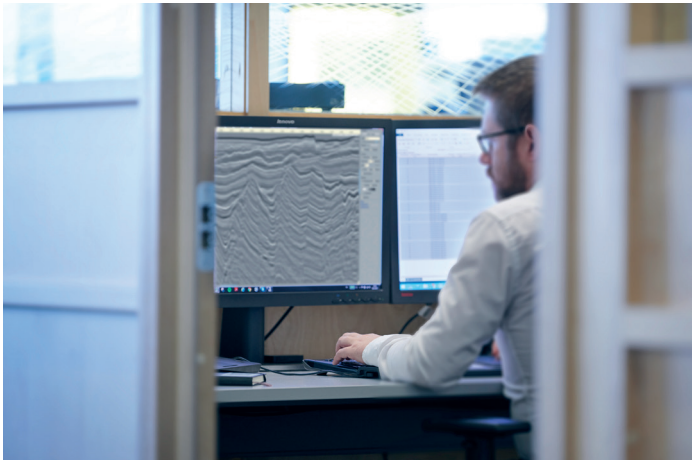
Whether you are an existing client or evaluating Reveal for the first time, our team of experts are here to assist you when questions and issues arise.

Our support system comprises of a ticketing system and direct support phone number. Each query is issued a unique identification number and is delegated to one of our support team members for resolution.
You can rest easy knowing that your query is being handled by a dedicated geophysicist, who will remain in contact with you throughout the resolution process.

If you require more in-depth training and support Shearwater provide a bespoke on-site service. We can arrange for a member of our team to assist you in-house for time-frames that meet your requirements.

Contact the support team direct
Email: support@reveal.shearwatergeo.com
Phone: +1 (713)-224-6225





Research & Development

We continually update and enhance Reveal to ensure you receive cutting-edge technology.

By distributing our R&D team throughout our global centers we ensure that we work closely with our clients and our own regional data processing teams. This means we deliver industry leading technology and implement high performing algorithms.

Being close to your projects and in-tune with your ever-growing challenges, we stay at the forefront of seismic data processing and imaging. This ultimately gives you the best solutions available thereby helping you reduce risk and cost.

Our regular user-group workshops and seminars are just one conduit for ideas and real needs that drive our R&D effort. Innovations, such as our Q Modules and machine learning technology, ensure the future is delivered directly into your project.

Key Processing Tools: Reveal Base Package

Input/Output	Read data from SEG-D, SEG-Y, seis, SeisSpace®, ProMAX®, SEPLib/ Madagascar, SeismicUnix, SEG-B, ASCII Write data in SEG-Y, seis, SeismicUnix, seplib	**Multiple Attenuation**	High-resolution Radon Demultiple, 2D SRME, Tau-P Deconvolution, Wave Equation Demultiple, Adaptive Subtraction
Geometry	P190 Import, DB Merge/Setup, Header Setup, SPS Import, P1, UTM2LatLong	**Regularization & Interpolation**	FX Interpolation, PostStack Regridding, Sinc Interpolation, 2D offset regularization
Amplitudes	SCAmps, Spherical Divergence, Time Varying Scaling, AGC, GateDecon, Gate Amplitude, Survey Match	**Velocity Tools**	Dix Conversion, Semblance Picking, Eta Semblance, LMO, NMO, Residual Moveout, Residual Semblance Spectra, Velocity Muting, Constant and Percentage Velocity Stacks, DBInterp
Statics	Elevation Statics, Residual Statics, Refraction Statics, First Break AutoPicking with Machine Learning Refractor Picking, Static Shift, Trim Statics, Datum Statics	**Time Imaging**	Kirchhoff Post- & Pre-Stack Anisotropic Migration, Post-Stack Wave Equation Migration & Demigration, DMO
Spectral Shaping	Designature, Minimum/Zero Phase Conversion, Spectral Balancing/Whitening, Q Compensation (Phase & Amplitude), Offset Spectral Balancing	**Parallel Processing**	Job replication, MPI-based parallel processing, OpenMP-based parallel processing, Queuing Systems: Torque, LSF, PBS Pro, Slurm, Moab, Maui, SGE
Noise Attenuation	Swell Noise, Linear Noise, FK Filtering, Bandpass Filtering, Time Varying Filtering, TX and FX Deconvolution, Airblast Denoise, Noise Adaptive Filtering, Radial Filter	**Developer's Environment**	Open API; Example code for C++, Java, F90, Python. Interactive programming with Python modules

Advanced Packages: Add-on Technologies

Technology	Tools	Real Time QC	Marine	Land
Offshore Real-Time QC	Offshore Real-Time flows Real-Time dashboard TapeLabel SEGDTapeVerify	✓		
De-ghosting	Deghost2D TVDeghost		✓	
Shallow Water Demultiple	SWMEdesign SWMEapply		✓	
3D SRME	SRMEPredict3D - Shallow water and Peglegs		✓	
Demultiple	HiRes 3D Radon IME Predict		✓	✓
5D Interp – General	ComputePatches FourierRegularize FourierRegularizeND PatchInTime		✓	✓
FXY Deconvolution	FXYDecon		✓	✓
AVO Velocity Autopicking	AVOVelUpdate RVIVelUpdate AVOVelocityPicking		✓	✓
Azimuthal Velocities	AzimSemb AzimVel		✓	✓
Machine Learning	SmartVel Picker ETA ML Picking		✓	✓
Land Processing	ShotRelocate Ground roll predict			✓
5D Interp – Land Specific	OVTHeaders - Offset vector tiles Creates5Dtraces - Spiral bins Reg 5D Headers			✓
Multi-Component	MCProcessing MCSetup PSBinning MCRotate Hodograms			✓

Advanced Packages: Add-on Depth Imaging

Technology	Tools	Kirchhoff Depth	Model Building	Tomography	RTM	FWI
Kirchhoff PSDM	PreStackDepth TTRayTrace TTEikonal TTExtract	✓				
Model Manipulation	HorizonFill HorizonMix GeobodyFill		✓			
Model Visualization	Geobodies		✓			
Model Building Utilities	HeaderTime2Depth Anisoscan TTIlluminate HeaderMapMigration		✓			
Well Logs	LASImport WellEdit Well2Trace/Trace2Well QC visualization of log curves		✓			
Tomography	Tomography TomoPicker TomoPickerClean			✓		
Reverse Time Migration	RTM RTMFilter RTMModeling RTMPlan RTMVarGrid				✓	
Full Waveform Inversion	FWI 2D & 3D					✓

Customer Benefits: All Reveal Users

Remote Support

Easy to use ticketing system and phone access to dedicated geophysicists.

Annual UGM

Automatically invited to annual User-Group Meetings hosted in both Houston, USA and London, UK.

On-Site Training & Support

Our team can customize training and support to your needs in your office or in the field, worldwide.

Quarterly Newsletters

The latest news and update information direct to your inbox.

In-House R&D Team

Continuous and rapid development of leading edge geophysics to the Reveal platform.

Online Portal

Access to the online Customer Zone, via shearwatergeo.com, containing software updates, latest developers build, supporting documents and software archives.

SHEARWATER REVEAL

Enquiries: sales@reveal.shearwatergeo.com

+1 (713) 224-6225

Support: support@reveal.shearwatergeo.com

+1 (713) 224-6225

General: sales@shearwatergeo.com

www.shearwatergeo.com

Norway	+47 55 38 75 00
UK	+44 (0) 1892 701000
USA	+1 (281) 921-8000
Singapore	+65 6597 0987

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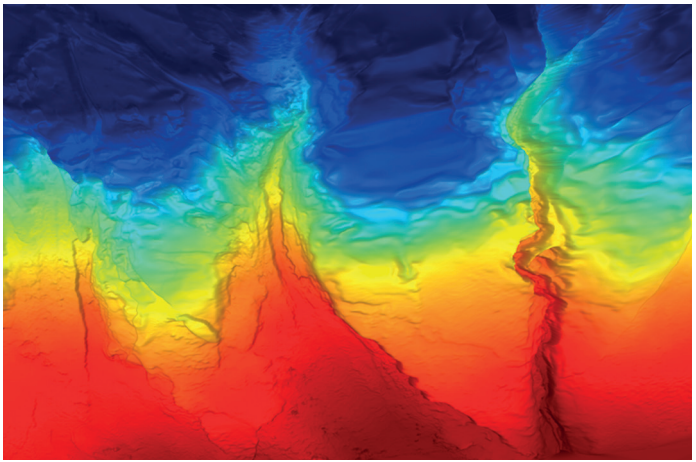
SHEARWATER

Clearly Better.

Our modern fleet, expert imaging teams and innovative software combine to offer exceptional results. Fast, flexible and cost-effective, Shearwater is the cutting edge geophysical services company.

SHEARWATER

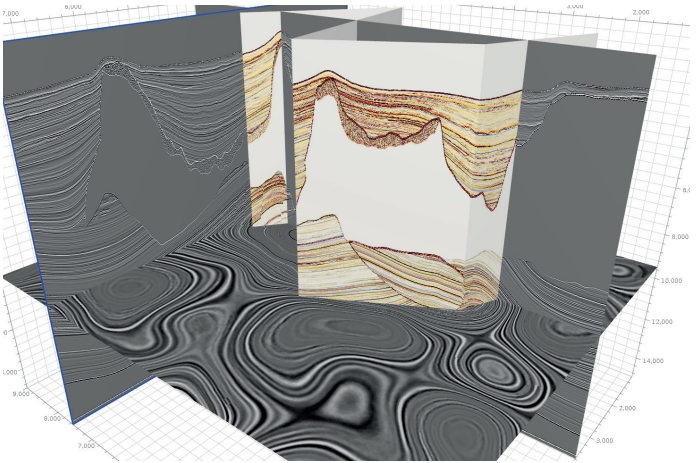


Marine Acquisition

A powerful fleet, complete with modern technology, manned by experienced crews with advanced Fast Track processing capacity. Work safely and efficiently, in all operating conditions - delivering a cost-effective, high-quality service.

Processing & Imaging

Agile, responsive teams of experts, available when, where and for however long you need them. Get high-quality data rapidly, reduce costs and build in flexibility at the heart of your project.



Reveal Software

A modern, powerful and intuitive solution for demanding seismic data analysis, Reveal is a full processing software that can scale to run from a laptop in the field through to the largest data center.

Multi-Client

Our full service Multi-Client business offers refreshing flexibility and clarity. Reduce financial exposure and maximize your exploration returns.

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