SERCEL

QuietSeis® OBN

GPR^{NT} and MicrOBS^{NT}

SEABED NODAL SOLUTION

Nodal TECHNOLOGIES

QuietSeis® OBN

Precision-led nodal solutions for seabed operations

Sercel's QuietSeis® OBN node portfolio meets the needs of E&P companies and service providers who require efficient and environmentally friendly subsurface imaging solutions to obtain high-quality data for a variety of surveys ranging from shallow water to depths of up to 6000 m.

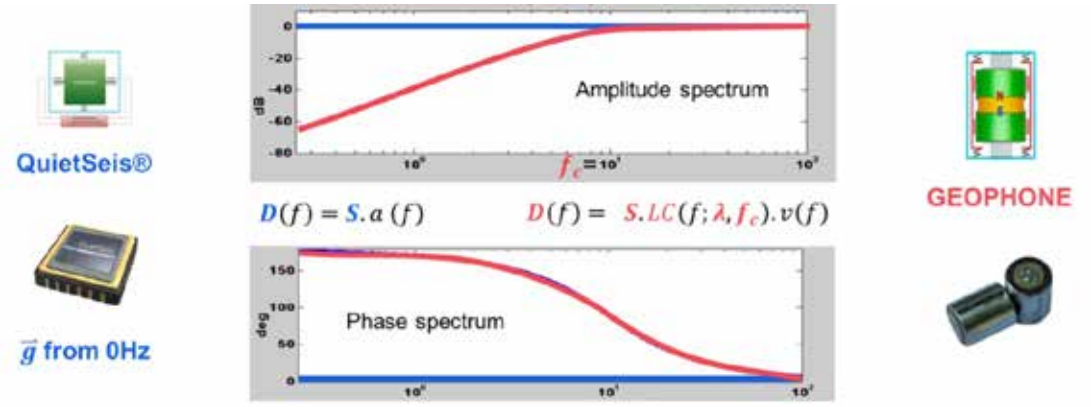
Each node is fitted with QuietSeis®, an unmatched 3C MEMS sensor technology that enables the most accurate measurement of seismic signals. The QuietSeis® MEMS sensor's unmatched digital fidelity and ultra-quiet performance represent a step change in seismic data quality.

TRUE BROADBAND AND TRUE FIDELITY SENSING

Clear Data for Smarter Decisions

With over two decades of expertise in digital sensors, Sercel stands at the forefront of the industry.

Unlike 3C geophones, the QuietSeis 3C MEMS sensor is a true broadband and true fidelity acceleration sensing device over the entire frequency range in both amplitude and phase.

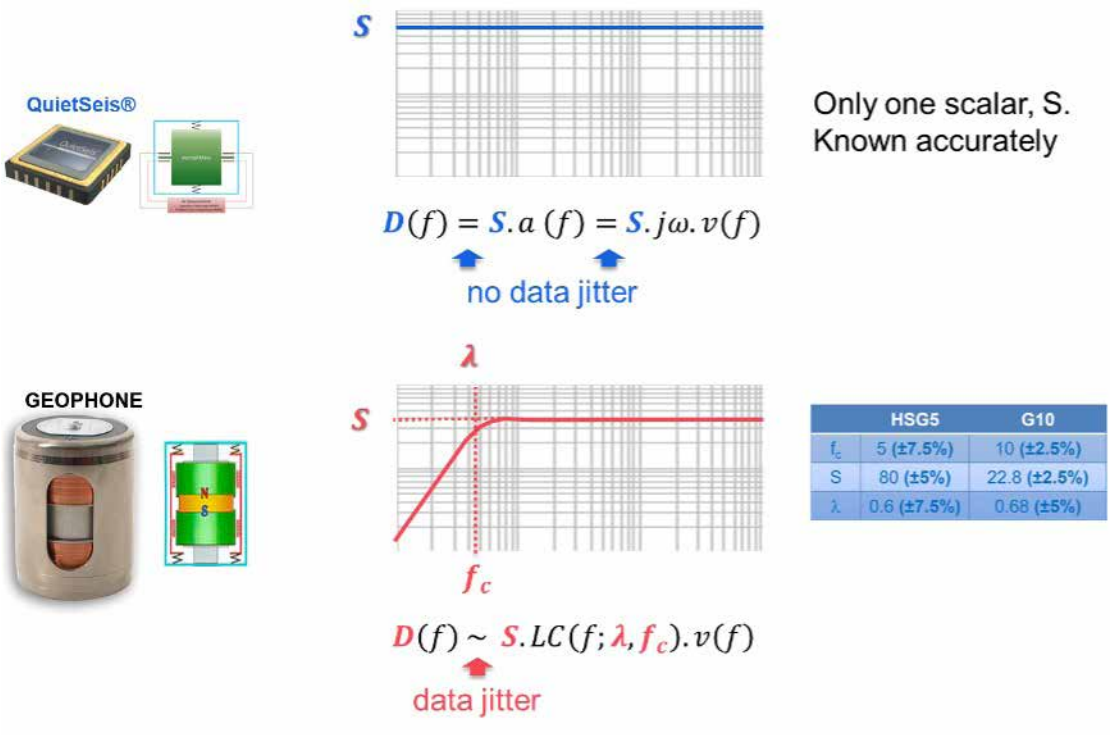


With extremely low manufacturing tolerances and an invariant response to temperature change and aging, QuietSeis MEMS allow for an exact conversion from digital to physical units, which can be acceleration, velocity, or displacement. Additionally, Sercel's manufacturing excellence ensures a certified high-precision orthogonality between the three components.

These unique characteristics guarantee a high-fidelity measurement of the wave polarization.

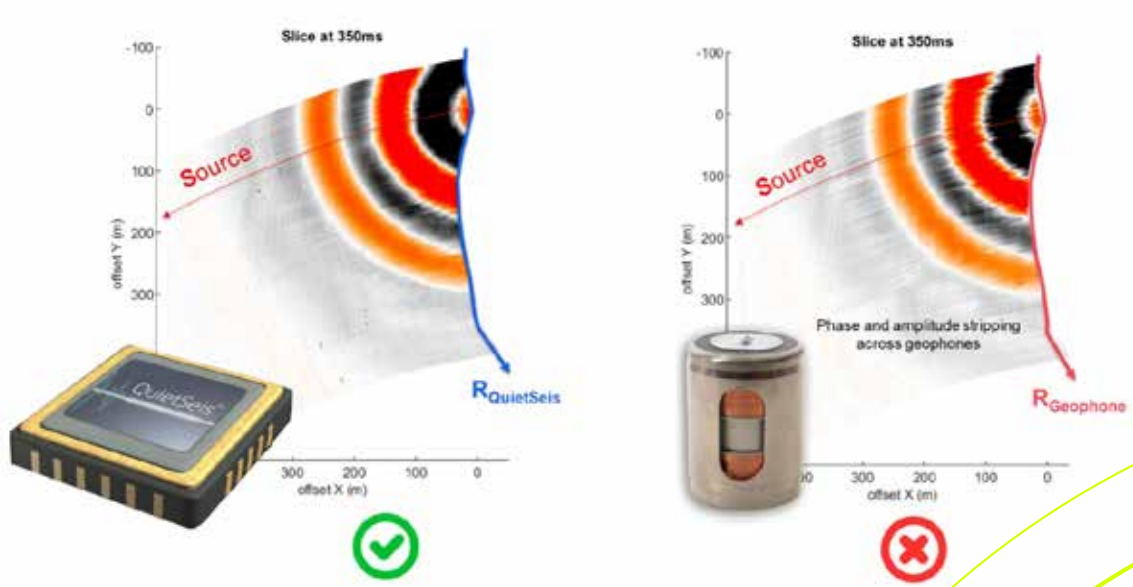
Immune To Any Data Jitter

QuietSeis MEMS only involve one parameter to get back to the physical acceleration measurement; this parameter is defined by design and invariant in time and temperature.



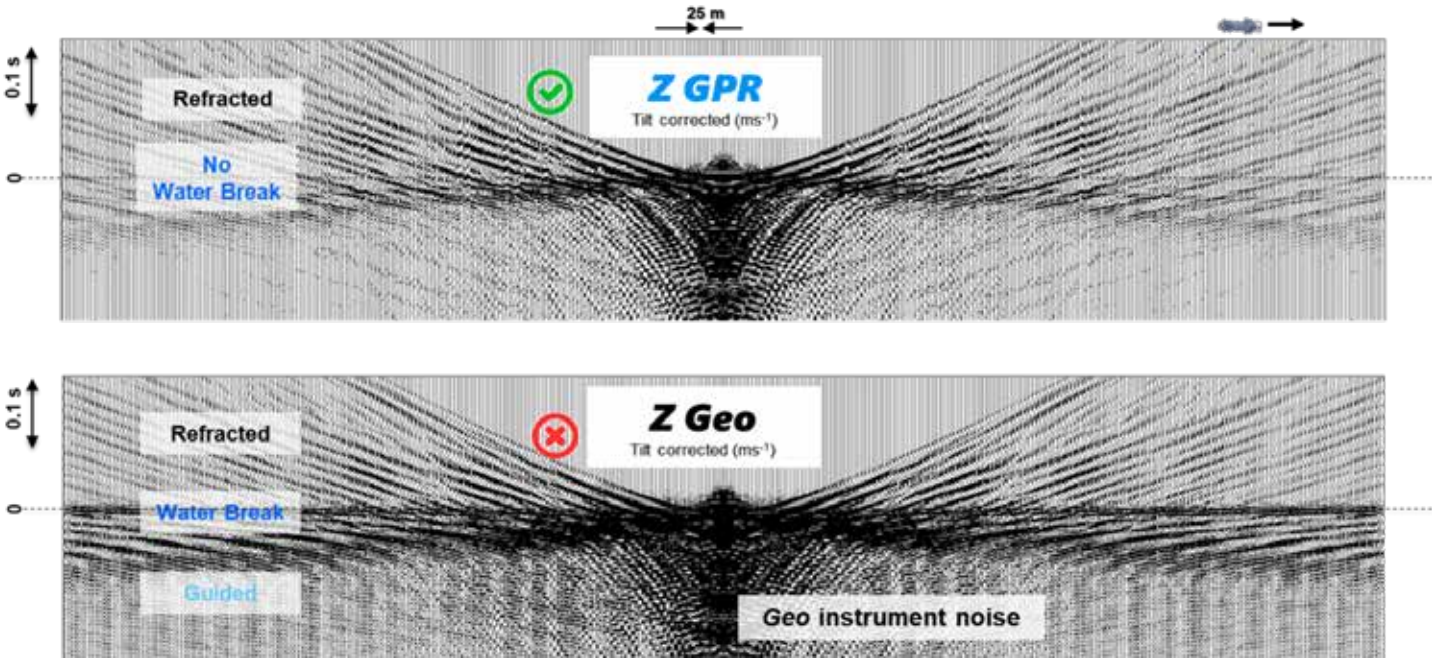
	HSG5	G10
f_c	5 (±7.5%)	10 (±2.5%)
S	80 (±5%)	22.8 (±2.5%)
λ	0.6 (±7.5%)	0.68 (±5%)

Geophones, on the other hand, involve up to 5 parameters (only 3 are presented in this illustration for the sake of simplicity), all of which vary at the manufacturing stage and during the geophone's lifetime. This creates data jitter, which can easily be observed in the data recorded with geophone-based nodes.



True Verticality

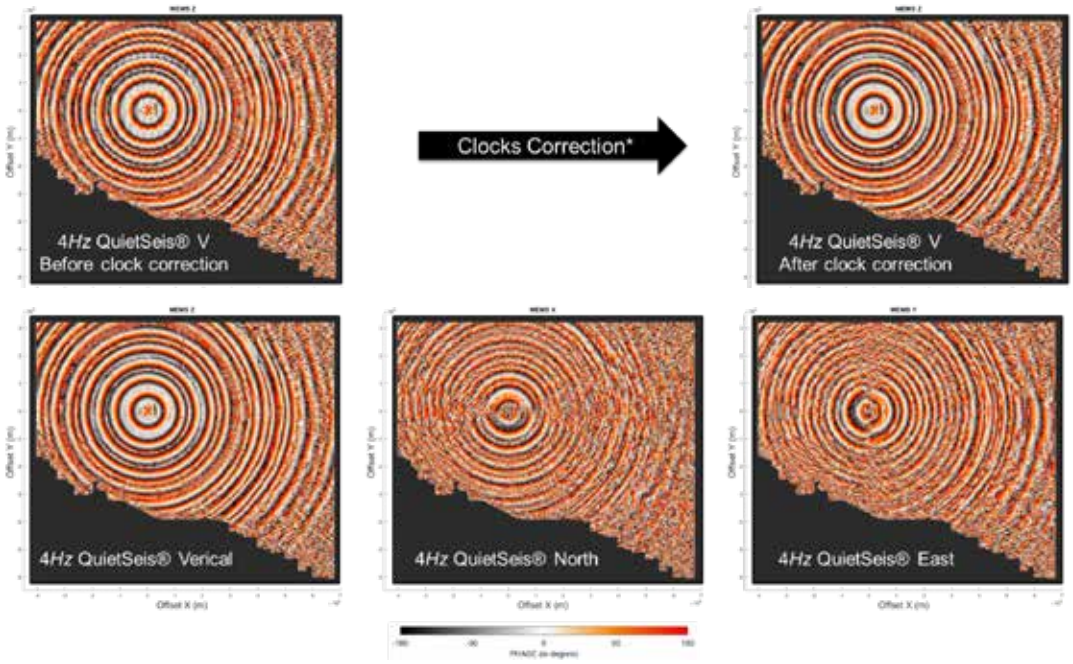
QuietSeis® True Fidelity enables direct access to built-in true verticality and excellent vector fidelity. As an example, in a shallow water context, it is expected that the direct and guided waves will be polarized horizontally, while the refracted waves will be polarized vertically. Here illustrated in these collocated receiver gathers, where direct arrivals have been aligned at zero time.



True Fidelity: The Perfect Sensing of the Seismic Wavefield

QuietSeis® OBN gives the industry high-fidelity datasets and helps E&P companies with the processing of the highly blended datasets that are often used in OBN operations.

Thanks to the predictability of the QuietSeis® response, the perfect orthogonality, the tilt correction, but also the azimuthal correction provided by the integrated compass, and the perfect synchronization delivered by the clock solution, the seismic wavefield has never been so precisely measured. This can easily be verified when displaying phase rings.



DATA CERTIFICATION AND COLLABORATION SOLUTIONS

Data-Driven Collaboration Solution for E&P Marine Seismic Projects

MetaBlue assists E&P companies and service providers in reducing project turnaround times by seamlessly connecting every phase of a marine seismic project. It is a game-changing solution that facilitates the involvement of all project stakeholders, leading to enhanced efficiency in offshore survey planning and management, the delivery of high-quality data, and improved operational performance.

At the planning stage, Sercel's support and services teams assist the seismic project team to define the correct configuration for the OBN system in coordination with other key aspects of the survey, such as the source, the positioning constraints or other operational restrictions.

In the acquisition stage, the Sercel team ensures that the operator can properly monitor the nodes and verify their harvesting in order to deliver true-fidelity seismic data.

Certified Data

At the heart of Sercel's new nodal system is the DCM (Data Completion Manager), which includes a single, integrated environment from which you can monitor all operational aspects of your nodal survey. The platform collects information from receivers to produce complete SEGD files on node retrieval, immediately providing operators with all seismic data and meta-data in one place and in one format. On retrieval, the nodes undergo simultaneous rapid data harvesting and recharging to ensure a quick operational turnaround.

GeoData Organizer (GDO)

GeoData Organizer (GDO) is a new platform that has been developed specifically to address the challenges of high data volumes, throughput, and high-speed data formatting and output. GDO can generate receiver domain and, if desired, shot domain data, as well as consolidate seismic data sources from other Sercel systems.

IMPROVED OPERATIONAL EFFICIENCY

Proven Reliability

The design of the new nodal system was undertaken using Sercel's internal quality assurance program, which has been producing industry-leading products for decades. Sercel's unrivaled reputation is backed by our desire to guarantee the delivery of the best seismic data in the industry. To achieve this, we have focused our efforts on combining the highest technological solutions with the best in-sea mechanics.

Covering the Full Range of Water Depth

From shallow to deep water

ROV or NOAR Deployment Capability

The QuietSeis OBN family adapts to whatever the chosen mode of operation.. The form factor of the all-in-one node was designed for deployment either by a remotely operated underwater vehicle (ROV) or via node-on-a-rope (NOAR).

Compatible with Hybrid Streamer, Sparse OBN Surveys

Sercel's nodal technology is also compatible with sparse OBN surveys. Sparse operations are expensive to deploy and recover with the conventional NOAR or ROV methods. More specific operationally efficient methods, such as free-fall deployment in shallow-water environments, are also possible with GPR^{NT} devices. In such operations, the GPR nodes are fitted with acoustic pingers such as GeoTag to provide accurate positioning of the node. This information is primarily used in seismic processing but also for node recovery.

Sercel's OBN nodal technology uses the QuietSeis cutting-edge MEMS sensor to provide unparalleled data fidelity in the harshest of offshore environments.

GPR300
- Water Depth: up to 300 m
- Weight: 11kg
- Battery life: 60 days

GPR700
- Water Depth: up to 700 m
- Weight: 13.2kg
- Battery life: 60 days

GPR3000
- Water Depth: up to 3000 m
- Weight: 22.2kg
- Battery life: 120 days

MicrOBS^{NT}
- Water Depth: up to 6000 m
- Weight: 23kg
- Battery life: 60 days

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