Seabed Acquisition

Seabed Geosolutions provides cost-effective ocean bottom seismic solutions to the global oil and gas industry using proven technologies. Our experienced teams work with you at every life stage of your reservoir asset to resolve operational and geophysical challenges in water depths up to 3000 meters. We deliver robust multi-component data to resolve ambiguity in your reservoir model and extract maximum value from your assets.
Seabed Delivers a Paradigm Shift

While it is widely recognized that seabed data deliver superior image quality, oil companies have traditionally considered it too expensive for large scale application. Recent innovations in seabed technologies, in conjunction with optimized survey designs that balance source and receiver efforts, expand the application of seabed acquisition to a much wider range of E&P objectives than in the past.

![Graph showing relative project costs vs. area (km²)]

### Optimizing Acquisition

With seabed surveys, the independent nature of sources and receivers provides significant flexibility in survey geometry and design. By balancing source and receiver effort so that at no time are the sources waiting on receivers and vice versa, surveys are acquired optimally. Seabed Geosolutions are adopting advances in multiple source technology and receiver deployment to deliver highly efficient full azimuth seabed surveys at a cost that is competitive with WAZ streamer surveys.

### Improved Receiver Deployment

Recent innovations in ROV technology, such as automatic subsea docking, are dramatically improving node deployment rates, making sparse node surveys more cost effective. In addition, very high receiver count node on rope operations, coupled with automated node handling systems, enables Seabed Geosolutions to offer advanced seabed seismic technology to be used more widely, including for exploration objectives.

### Blended / Simultaneous Sources

Traditionally, seabed seismic projects have been constrained by the limited number of receiver channels available and the consequential increase in shooting time arising from the resulting duplicated shots. With the increasing size of receiver spreads, blended or simultaneous sources are the key to improved efficiencies. On a project-by-project basis, Seabed Geosolutions works with clients to develop the best blending / de-blending approach to maximize both data quality and operational efficiency.

### Managing Complex Projects Using an Integrated Approach

Seabed Geosolutions monitors and controls seabed projects to implement and ensure safe, predictable and quality acquisition operations in the presence of significant SIMOPS activity. Successfully executing complex projects requires the integration of multiple service providers which is accomplished by incorporating process management and QHSE programs using substantiated methodologies and techniques. Seabed Geosolutions has a proven track record of successfully applying an integrated project management approach specifically designed for seabed seismic data acquisition projects.
Time for a re-think?

4-C full-azimuth OBS surveys for the cost of a high-end streamer survey. Now you’re thinking...

Data courtesy of Maersk Oil*

*Results from Dan Field Ocean Bottom Node (OBN) Survey – A Shallow Water Case Study, Zaske et al., EAGE Conference (2014)
Efficiency Enhancing Technologies
In All Water Depths

Manta®, Seabed Geosolutions’ key to unlocking the potential of ongoing source and receiver efficiency improvements, provides an ocean bottom node solution for water depths up to 3,000 meters. Manta overcomes challenging environments with complex geologies and delivers 4-C multi-component seismic data for exploration 2D, high-density 3D or development 4D programs. Manta is a compact, autonomous node solution which offers:

- High efficiency in all survey configurations up to 3000 meters of water
- Flexible and innovative deployment methods
- Cost effective alternative to high-end streamer data acquisition

Seabed Geosolutions’ can accommodate mixed source, mixed receiver, and/or hybrid land-transition zone surveys using the Sercel 428®, 408® WPSR and 408 ULS systems. Utilizing the Sercel SeaRay® ocean bottom cable (OBC) system, we can acquire 4-C multi-component seismic data down to 300 meters. Seabed Geosolutions’ flexible new Manta seabed node technology was designed to seamlessly deliver improved geophysical illumination with flexibility for dense source grid, full-azimuth and long offset surveys.

There are occasions where towed streamers or cabled systems will have restricted access for imaging the subsurface. In these circumstances, we offer several proprietary ROV deployable ocean bottom node systems including Manta, Trilobit™ and CASE Abyss™ with capabilities up to 3,000 meters. Seabed Geosolutions’ node technology delivers 4-C multi-component seismic data and are ideal in environmentally sensitive environments or for avoiding obstacles. Prolonged recording endurance and versatility in deployment method make our node systems a highly viable option for resolving operational and geophysical challenges.
Seabed Geosolutions leverages the most efficient seismic technology positioned on the seabed to acquire multi-component exploration, appraisal or development 4D programs in up to 3000 meters of water.

Seabed Geosolutions delivers high quality multi-component data utilizing the most versatile and efficient seabed imaging technologies including ocean bottom nodes (OBN) and ocean bottom cables (OBC).
Seabed Geosolutions delivers a scalable, on-demand solution for projects constrained by time, obstructions or geophysical complexities.

Flexible survey designs with scalable node counts are just the beginning. FlexNode provides an integrated project management approach which incorporates efficient mobilization and de-mobilization utilizing a transportable modular solution.

FlexNode is the best choice when:

- Unsurpassed repeatability is necessary
- The target is in obstructed areas up to 3,000 meters of water
- Time is of the essence
- Geophysical complexities call for multi-component data
- Under-utilized assets are available on-site

This express service also offers expedited processing turnaround of multi-component data.

Seabed Geosolutions’ highly experienced crews work safely within your project constraints to deliver an express seabed seismic solution, when and where you need it most.
Seabed Geosolutions is committed to conducting business in a manner that is compatible with the communities in which we live and work, and that protects the health, safety and security of our employees, contractors, customers, and the public. These commitments are documented in our corporate Quality, Health, Safety & Security and Environmental policies.

These policies are put into practice through a disciplined management framework called the Operating Management System (OMS). The OMS is the cornerstone of our commitment to managing potential hazards and risks associated with our operations and achieving excellence in performance. This system establishes common, worldwide expectations and best practices for addressing risks inherent in our business. It provides us with one systematic and controlled holistic approach for how we manage our business with respect to safety, risk management and operational integrity.

Seabed Geosolutions uses Guardian, our on-line document control and event reporting system, to store our documents as well as track and manage QHSE events. The system is divided into two modules: one module provides a secure document control system, and the other provides us with an event reporting program.

This system allows for simplified and enhanced internal documentation processes, as well as event reporting, management, investigation and analysis.

Safety Excellence: Where safety is a Corporate Value, not just a priority.
About Us

Our History

With headquarters in Leidschendam and offices in Houston, Bergen, Dubai, Massy and Kuala Lumpur, Seabed Geosolutions was established in 2013 as a joint venture between Fugro (60%) and CGG (40%) – uniting the Fugro’s ocean bottom node expertise with CGG’s ocean bottom cable, node and transition zone operational experience.

Our People

In our fast moving industry, investing in people is vital to maintaining our position as the global leader in providing seabed seismic solutions. Our teams represent decades of experience and knowledge in the field in our offices worldwide. We are committed to continuously educating and developing our most important resource – our people – by providing growth opportunities and industry leading training facilities.

Research & Development

As a leading provider of innovative seabed solutions, we are committed to the development and application of the most advanced, safe and efficient seabed technologies available in the market. Our Research and Development (R&D) team comprises some of the industry’s most talented and experienced geoscientists, engineers and programmers who are engaged with meeting our client’s needs and delivering quality seismic data.

Global Expertise

Seabed Geosolutions has acquired more than 33,000 km² of 3D and 13,000 km of 2D ocean bottom seismic data since 2005.
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