



Event in Review - ION Demonstrates How to Overcome Acquisition Challenges using New Technology and Techniques at Singapore Seminar

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ION, in conjunction with our local agent, Sea and Land Technologies (SALT), hosted a technology seminar in Singapore at the end of March. Despite the largest decline in global oil production and consumption since 1982 last year, Asia and the Middle East were one of the few regions whose consumption increased, up over 2% year-on-year. In fact, the IEA estimates that China alone will account for half of the total global oil demand growth. To meet the increasing demand for seismic data in the ASEAN region, ION demonstrated how its comprehensive portfolio of towed streamer and seabed systems simplifies and automates acquisition for any operation — from hi-res to 3D.

A diverse group of over 30 representatives learned about new acquisition technologies and techniques that overcome the latest industry challenges. To reduce exploration risk and cost, oil companies seek high quality images to better understand petroleum systems, optimize well placement, and bring new fields online quickly.

While these approaches address the data challenges, they often increase operational complexity, risk, and cost. Some of the challenges include:



- Spread configurations are growing in length and count, up to 16 x 12 km, making them difficult to control. At the same time, denser spatial sampling drives reduced separation between the cables, increasing tangle risk.
- Prospective fields are smaller and often located in harsh environments. Many targets are in deep water with strong currents where the geology is intricate, with subtle layers and steep faults, even below thick salt domes.
- 4D surveys are repeated over a reservoir to detect fluid movements to maximize recovery. Repeatability of source and receiver positioning in a dynamic marine environment is critical to detecting those minute changes.
- Wide-azimuth has been used to help illuminate salt layers that may be obscuring a reservoir below. To acquire all the different azimuths, it requires close coordination of multiple vessels shooting in a complex geometries.
- Exploration costs have grown exponentially. Service providers are encouraged to reduce costs and cycle time.
- Health, Safety, & Environmental concerns have been heightened as well with mounting pressure to reduce the impact of operations on communities, employees, oceans, and marine life.



IONS integrated towed streamer and seabed systems simplify and automate operations, reducing risk and costs

Surveys must be safe and efficient to cost-effectively deliver high resolution data required to image deeper, more complex targets. The portfolio of ION marine technologies is designed to work together as a single intelligent system to improve the safety, quality, and productivity of operations. Cutting-edge products were displayed that enable customers to proactively position and optimize the spread while decreasing acquisition complexity, cycle time, and cost in the most challenging surveys and conditions.



ION Towed Streamer Technology

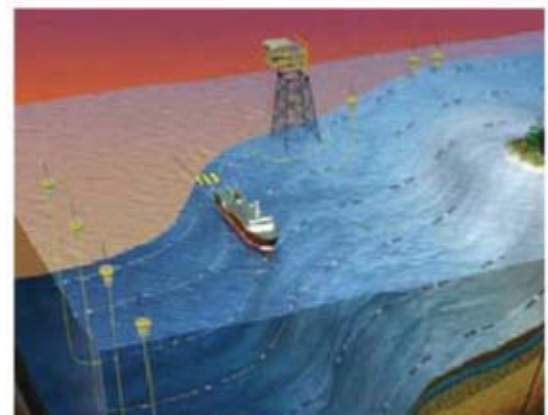
Orca is the heart of the instrument room and the central platform behind ION's Intelligent Acquisition™ real-time survey optimization. The integrated platform harnesses all available data to predict and actively drive the spread to acquire data intelligently for maximum safety, efficiency, and quality. This survey-wide approach executes challenging geometries and multi-vessel operations, while delivering efficient 2D and 3D acquisition.



- Orca® command and control system
- DigiSTREAMER™ solid streamer data acquisition system
- DigiFIN™ lateral streamer control system
- DigiRANGE™ acoustic ranging system
- DigiBIRD™ vertical streamer control system

ION recently introduced VectorSeis Ocean II (VSO II), our second generation redeployable seabed system, with new capabilities that reduce cycle time and HSE exposure. Launched in 2004, VSO has a proven track record of efficiently delivering highest resolution seismic data in the North Sea, the Caspian Sea, off the coasts of West Africa and Brazil, and in the Gulf of Mexico.

VSO II includes continuous recording, advanced diagnostic and reporting tools, and an enhanced power delivery system that further improves the operational efficiency and HSE advantages over conventional OBC systems.



VSO II Redeployable Ocean Bottom Cable System



Attendees enjoy the cocktail reception

ION will continue closely collaborating with our customers to deliver marine acquisition technologies that meet today's complex survey requirements and address the exploration challenges of tomorrow.