



Simplifying the Complex

Enabling the next era of marine streamer acquisition via an intelligent toolkit of technologies

■ The marine seismic market continued to sizzle in 2007. Buoyed by high oil & gas prices, E&P companies continued to conduct an ever-increasing number of offshore surveys. The announcements of basin-changing discoveries in the Gulf of Mexico (Jack) and Brazil (Tupi) only served to reinforce the industry's excitement about marine exploration. Benefiting from high commodity prices and fleet utilization, seismic contractors were confident about the future. They announced new-build vessels and moved to upgrade the technology systems carried on existing boats. At the same time, new contractors entered the market with plans to build multi-vessel fleets in the years ahead. Several of these new contractors ended up being acquired, in some cases before they had shot a single line of seismic data.

■ Given all this activity, it would be easy to lose sight of one of the most important trends in marine seismic today – the move toward complex acquisition. There are many variants of complex acquisition, with acronyms like WAZ (Wide-Azimuth) and WATS (Wide-Azimuth Towed Streamer) becoming commonplace; reservoir monitoring using time-lapse (4D) seismic also qualifies as a type of complex

marine survey. Regardless of the name, the fundamental premise of complex acquisition is to improve the quality and utility of the seismic image by using multiple vessels and multiple vessel passes over targets of interest.

■ Designing and implementing a complex survey isn't easy. One has to simulate how image quality might change with different acquisition geometries. Multiple source and streamer recording vessels must be orchestrated to ensure each is in the right place at the right time. Advanced systems are required to determine where the streamer cables are and where they should be, and steer them into the proper place. All of this must occur with no compromises to acquisition efficiency or adverse impacts upon the health and safety of the acquisition crew or the environment. As a technology-focused solutions provider, the challenge of simplifying the complex is something we yearn for. Given that we have two of the top names in marine seismic technology within the ION family – Concept Systems and DigiCOURSE® – we are well positioned to deliver against the industry's complex survey requirements.

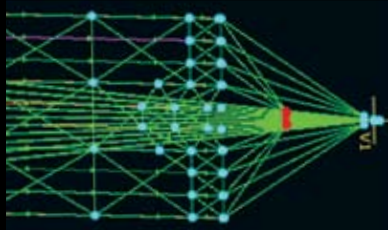


■ Concept Systems, the leader in marine command & control systems, has seen its Orca software product become an integral part of complex survey operations. Seismic operators view Orca as the brain of an emerging 'intelligent acquisition' network that controls everything from the energy sources to the positioning and control of the streamer cables. Perhaps even more importantly, Orca helps coordinate multiple source and recording vessels on the survey.

■ DigiCOURSE is the second part of the equation, providing vessel operators with advanced in-water instrumentation and dry-end recording systems. DigiSHOT® (energy source control), DigiRANGE™ II (streamer positioning), DigiBIRD® and DigiFIN (vertical and lateral streamer control), and by mid-2008, DigiSTREAMER™ (streamer cables and recording system) all act as key enablers in our complex marine solution.

■ As we continue to enhance and integrate these component technologies, we believe we have an opportunity to become the preferred supplier to the global marine streamer fleet.

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