Be ready for Node seismic

review published in October 2017

Guidance for operating companies

Whilst multi-component seabed seismic is traditionally considered to be restricted to bespoke applications (typically heavily obstructed & shallow waters or those requiring 4D repeatability), the massive recent improvements in sensor technology & technique are re-writing the rulebook! Several innovative providers of services and products now complement the more established sector to provide a new value proposition – high fidelity seabed seismic acquisition at a fraction of its former cost.

This review has been designed to assist operating companies determine their seismic acquisition programs and is therefore aimed at organizations with limited recent experience of seabed seismic acquisition. This review is forward-looking and focusses squarely on node solutions which are believed by many to be the future technology-of-choice in this sector.

This review will present the node solutions available currently and includes a comprehensive series of important factors that the operating companies should consider as part of their risk management processes.

The review will also present the findings of a pulse survey taken late Q3 2017 of operating companies which gauges their plans for seabed seismic together with their technological and commercial concerns. In other words, you can understand your peers’ considerations and appreciate what is important to them.

And what do the exploration professionals think?

“We recognize the geophysical uplift of OBS (eg full azimuth and full wavefield data), and the operational advantages of getting into areas inaccessible by streamers. Hybrid solutions of combining streamer seismic with OBS for undershooting are also quite interesting.”
Lead Geophysicist, IOC

“We have just seen some OBN data that is a significant upgrade on a non-operated block we will inherit, so the possibility of doing an OBN survey is not out of the question”
Chief Geophysicist, IOC

“This year, we will have acquired OBN in the North Sea, GOM and Asia. Demand will vary from year to year but it is likely that OBN will continue to be a larger portion of our proprietary seismic”
Lead Geophysicist, Supermajor OilCo

“No immediate plans for acquiring node seismic in the near future, but merits of technology are understood and opportunities are regularly reviewed”
Exploration Manager, IOC

“Yes, I do believe the future is for nodes more than streamer seismic, certainly in mature basin”
Geophysical Manager, Supermajor OilCo
Why is this important to operating companies?
With moves to routinely incorporate seabed operations into seismic programs, operators confidently expect greater volumes of seabed data to be acquired & processed in future. The quality of such high-fidelity datasets is without question adding tremendous value to operators keen to improve their production activities.

This 50-page review includes:

- Summary of seabed seismic techniques
- Technical review and comparison of:

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<td>Geospace Technologies</td>
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including the systems’ technical specifications, depth ratings, deployment, recovery and acquisition method & speed, node spacing, typical costs, availability & reliability. The review also highlights certain non-node seabed seismic systems.

- Pulse Survey gauging operating companies’ concerns – both technical and commercial – and the developments they would like to see addressed.
- Important factors for operating companies to consider as part of their risk management processes.

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