

# Towards digital full-wave imaging

"About every 20 years, the seismic industry transforms itself to embrace a fundamentally new technology. In the 1980's, our industry transitioned from 2D to 3D. Today, we are on the brink of another era – towards digital full-wave imaging," says Mike Burrett, VP of I/O Sensor .

At the end of April 2005, I/O hosted the 16th Annual Sprowston technical forum (Norwich, UK) "to debate and develop ideas about our industry's current imaging challenges and pathways for innovation," says Bob Peebler, CEO of I/O. "We are confident that there is a strong need for a new era of seismic imaging technology to enable oil and gas companies worldwide to meet their exploration and production objectives," Peebler said.

"Digital full-wave imaging represents a fundamental rethink of everything we know about geophysics, from how surveys are designed to how the data is processed and the final image is rendered. The benefits of full-wave – increased image quality and improved field productivity – are beginning to be appreciated by more of our colleagues around the world," Burrett said at the seminar.

Input/Output gave their 16th technical forum at the Marriott Sprowston Manor Hotel where it also started 19 years ago.

The workshop started in 1986 and has been held annually since then. The 1986 event was held in Voorschoten, in the Netherlands, when twelve leading thinkers from the European industry met to discuss emerging and innovative technologies. At that time, the main focus was on land sensor technology, but over the years the event has grown to cover all aspects of land and marine acquisition and processing, and the 2005 workshop attracted an impressive delegate list of 60 key industry representatives.

With participants from service and contractor companies, universities as well as oil and gas companies, the forum has become established as a valuable tradition in the geophysical community benefiting both industry experts and the company itself.

"I give priority to attending the I/O seminar," says one of the participants who finds great value in: "listening to a series of interesting presentations and the opportunity to meet and discuss geophysics with the E&P industry experts during both the formal and social programs." This year the forum included more than 15 technical presentations from I/O, leading oil and gas companies and contractors, and ample time was given to openly debate and develop thoughts on current technological challenges as well as future pathways for next generation innovations.

"These seminars have been a reservoir of ideas for us at I/O," says Mike Saur, Director of LISD, who prepared a presentation on how input in earlier seminars has resulted in new commercial products for I/O. Key I/O products like VectorSeis and DigiSHOT have all benefited from customers' input at Sprowston seminars. VectorSeis is I/O's land seismic acquisition sensor and DigiSHOT is the marine seismic source control solution.

"Current seismic challenges present opportunities, but only if we are willing to challenge conventional wisdom, to embrace a vision of innovation and next-generation technology solutions, and to partner across industry to successfully leverage resources as we embark upon the next era of seismic imaging," Burrett said at the seminar.

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Photo: Tore Karlsson

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Mike Burrett, Vice President for I/O Sensor, has been a key player since the first seminar in 1986.

## "The world's first"

In the past few years, I/O was transformed from being an equipment manufacturer for the seismic contracting industry, to the world's first technology-focused seismic solutions company. The intention is to develop and deploy advanced technologies and services across the entire seismic workflow – from survey planning through field acquisition and into processing and final image rendering, thereby, fundamentally improving image quality while reducing costs and cycle times for customers. As the owners of advanced hardware, software, processing tools, and value-added geophysical services, I/O provides tailored seismic solutions that address the most difficult imaging and operational challenges.