

Awards Put Spotlight on Five New Technologies

Adam Wilson, Show Daily Editor

Technological advancement is crucial to ensure offshore exploration is optimized. Regional industry players are still announcing new offshore discoveries and inking new drilling contracts to manage production and assets effectively. The Offshore Technology Conference (OTC) Asia has announced the five technologies that will receive the prestigious Spotlight on New Technology Award. The awards will be presented on Wednesday.

New at OTC Asia, the Spotlight on New Technology Awards—an exclusive program for OTC Asia exhibitors—recognize the latest and most advanced hardware and software technologies that are propelling the industry into the future. The program is a hallmark of OTC events worldwide, with only 20 Spotlight Awards presented each year.

In support and recognition of innovative technologies being developed by small businesses, OTC also features a Spotlight on New Technology Small Business Award.

“Our Spotlight Award winners embrace OTC’s mission to advance technical knowledge of offshore developments and environment-friendly innovations,” said Arnis Judzis, OTC Asia Oversight Committee chairman and head of development and innovation at the Energy and Geoscience Institute of the University of Utah.

The OTC Asia Spotlight winners for 2016 are

- Airborne Oil and Gas for its Thermoplastic Composite Pipe
 - Frigstad Engineering for the Frigstad D90
 - Halliburton for its CoreVault System
 - MIT Technologies for the Intelligent Circulation While Drilling (iCWD) tool
 - Weatherford for its Renaissance Systems
- MIT Technologies is also the recipient of the Small Business Award.

“I congratulate this year’s Spotlight Award recipients for helping the industry improve performance and increase productivity in an ever-more-challenging oil-price environment. Cutting-edge technologies like these are always a highlight of OTC events, as they demonstrate the ingenuity and forward thinking that is advancing the industry,” said Joe Fowler, OTC Board of Directors chairman and cofounder of Stress Engineering Services.

Thermoplastic Composite Pipe by Airborne Oil and Gas

Thermoplastic Composite Pipe (TCP) is a fully bonded fiber-reinforced pipe. Robust, lightweight, spoolable, and corrosion-free, the pipe—TCP downline, TCP flowline, and TCP jumpers—is available in sizes from 1.5 to 7 in. inner diameter.

The pipe uses a one-material design concept, in which the internal liner, the composite layers, and the outer coating are all of the same polymer thermoplastic material.

The pipe is made with an in-situ consolidation manufacturing process that melt-fuses all layers together to form a strong and stiff solid wall. This creates a pipe that is collapse resistant, spoolable, lightweight, and corrosion resistant.

The combination of the solid wall, flexibility, and not being affected by corrosion makes TCP very attractive for production flowline applications.

Petronas supported Airborne in the qualification of its products and will install TCP to replace existing corroded steel pipelines. Petronas recently awarded Airborne Oil and Gas with the first contract for the supply of flexible flowline. The flowline has an internal diameter of 6 in. and a pressure rating of 100 bar.

TCP Flowline resolves pipeline-corrosion issues and mitigates the risk of pipeline leakage. The primary interest for Petronas to have qualified the nonmetallic TCP and replace steel flowlines with TCP is to eliminate microbiologically induced corrosion. Furthermore, the lower as-installed cost of TCP compared with conventional steel or unbounded flexible flowlines reduces costs.

Frigstad D90 by Frigstad Engineering

The Frigstad D90 rig design is a new ultradeepwater semisubmersible drilling rig using several groundbreaking designs that reduce environmental impact, improve safety for both equipment and crew, and provide significant time-saving and efficiency features, minimizing down time and reducing the cost of construction of offshore wells.

The D90 design will have a major effect on the offshore drilling industry. Its many special features significantly reduce the overall cost of drilling an offshore well. It also improves the safety for both equipment and crew and performs most operations more efficiently and with less environmental impact than other designs. This is achieved through high capacities, several fully redundant systems, full dual activity in two equally capable well centers, elimination of blind-lifts, improved logistics and material handling on all levels, vertical storage of both riser and drillpipe, and a unique containment and storage of drill cuttings.

CoreVault System by Halliburton

The Halliburton CoreVault system can capture up to 10 samples in a sealed container in one run. This prevents reservoir fluids from escaping during core retrieval and transport. Keeping 100% of fluids in place enables accurate measurements instead of estimates, resulting in better information for making critical decisions about reservoirs.

The CoreVault system integrates fluid sampling with rock coring, enabling fluid samples to be obtained from low-permeability reservoirs, while preventing fluids from escaping during the acquisition of high-quality, rotary sidewall cores. This solution provides a more accurate volumetric picture of the oil and gas trapped in unconventional reservoir rocks. Operators can contain and bring reservoir fluids within rock samples to the surface, allowing for the volume measurement of hydrocarbons in place.

To compensate for the pressure and fluid loss of traditional coring methods, operators use a mathematical model to estimate fluid

loss on the basis of experience from area wells. Because natural variances occur between wells and even zones in a well, this estimate can be inaccurate. Operators had to fracture and complete an entire well to learn how much oil and gas they actually had. The CoreVault system allows up to 10 cores to be sealed at reservoir conditions in a wireline run.

Intelligent Circulation While Drilling (iCWD) Tool by MIT Technologies

The iCWD tool is a drilling valve system that provides remote-controlled operation using agile activation. iCWD tools spaced apart in any configuration can be operated individually to any of four modes using revolutions per minute, flow, or pressure in a few minutes, improving well control and drilling economics.

In bypass mode, a large side port and positive seal allows for safe lost-circulation material or cement plug placement reducing the risk of damaging bottomhole assemblies (BHAs) below the tool or pulling out of hole to place a cement plug. This mode allows both circulation and reverse circulation as needed by operator.

In hole-cleaning mode, high flow rates can be pumped beyond the BHA limitation by diverting part of the mud through the side port and part through BHA below the tool. This is valuable in improving annular velocity and hole cleaning in extended-reach wells and when having multiple iCWD tools in the same string.

In isolation mode, the iCWD tool acts as a downhole barrier, isolating the string above the tool, a feature that is of importance in certain well-control situations.

Renaissance Systems by Weatherford

Renaissance Systems is a unique combination of brownfield technologies including safety valves, wellheads, completion tools, and capillary services. Renaissance Systems offers solutions to revive old wells and meet the challenge of extending the productive life of aging wells and reservoirs.

The Weatherford Damaged Control Line (WDCL) safety-valve system is an integrated solution for wells that are experiencing a loss of functionality of existing surface controlled subsurface safety valve because of damaged control line. The crux of this solution is to install a new control line internal to the production tubing, eliminating the need to rely on a storm choke or perform a major workover.

The standard WDCL system uses Weatherford’s line of Optimax wireline retrievable safety valves, which is landed in the profile of existing tubing-retrievable safety valve or safety valve landing nipples. A stinger assembly is stung on to the newly installed wireline-retrievable safety valve and allows communication to the surface through a control line.

The control line terminates and is hung off at the tubing hanger profile or nipple profile at the wellhead by the control-line hanger. Wellhead penetration of control line fluid is achieved through a Weatherford Ren-Gate modified lower master valve.

The WDCL safety-valve system comes in a wide range of sizes and working pressures and is installed through slickline and capillary unit operations. ●

OFFSHORE TECHNOLOGY CONFERENCE ASIA

SAVE THE DATE
20 - 23 March 2018
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