

# ENERGY, OIL & GAS

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## The tide of change

Tidal arrays and lagoons have the potential to supply significant amounts of energy and new technology is helping build confidence in the market

**The full potential**  
Emphasis is increasing on the use of cryogenic gases in hydraulic fracturing

**Survive and thrive**  
ERP can bring advantages including easier asset management to businesses in the oil and gas sector

**Also in this issue** - Data analytics for upstream oil and gas

# Breaking waves



Above  
Sunset on eDrill-1 in  
the Gulf of Thailand

#### Oil States Skagit SMATCO

Oil States Skagit SMATCO is a trusted provider of offshore equipment and services in some of the world's most demanding environments. Its Skagit mooring systems, SMATCO anchor-handling equipment, and Nautilus marine cranes can be found on tender, drilling, AHTS, and production vessels as well as fixed platforms.

Oil States Skagit SMATCO's expertise in designing and manufacturing large, complex machinery is complemented by its manufacturing facilities in the USA, Thailand, and India. Its worldwide support and network of service, parts and manufacturing facilities enable the company to respond to its customers' needs regardless of where the vessel is located or technical requirements.

Energy Drilling was established in April 2012 to develop, build and operate the next generation of self-erecting tender assist drilling rigs," begins VP Marketing, Lyle Ewashen. "The company was born out of a notable achievement in which the core management group from Smedvig and Seadrill Tender Rig Divisions refined an asset class and delivered premium services in order to dominate a profitable niche market. Inspired by these past successes and confident of the future potential to replicate the model, Energy Drilling has progressed from a small start-up venture with 15 full time employees in 2012 to an established contractor in 2015, employing 120 personnel both onshore and offshore."

Pairing compact drilling equipment (DES) with a tender vessel, the concept of a tender rig includes everything needed to carry out drilling and completion operations. As well as heavy lifting cranes to assemble the DES the

vessel includes power generation, drilling fluid circulation and treatment facilities, material handling and storage functions, cementing services, personnel offices and accommodation.

"Operator priorities for in-field production drilling campaigns are to drill multiple wells of similar design at the lowest possible cost," continues Lyle as he explains the uniqueness of Energy Drilling's next generation rigs. "Our tender assist rigs are known as 'Factory Drillers' in that they have the largest possible carrying capacity for material supplies and personnel and are designed to undertake multiple simultaneous operations (SIMOPS). Our rigs can drill, trip bottom hole assembly or run casing strings on critical path at well centre while offline crews are concurrently carrying a number of other support or associated works. SIMOPS is a proven method of reducing construction costs by up to 20 per cent and is now standard operation procedure for several operators."

Overcoming the non-productive time (NPT) challenge of rig moving, Energy Drilling places safe and timely mobilisation as a top priority in the development of its rigs, and as such the EDrill rigs are designed and proven to be 'best in class' for vessel stability, superior motion characteristics in adverse weather conditions and ease of DES load handling. "This is attributed to the vessel's increased size and displacement, deeper draft, advanced ballasting system, oversized heavy lift crane, reduction of DES lifts to four and ample deck space for landing these

Right  
eDrill-4 Concept Study



DES components,” highlights Lyle.

At present, Energy Drilling’s rig fleet consists of two tender assist barge rigs and one semi-submersible hull tender assist rig. EDrill-1 is on a long-term charter to PTTEP Thailand, currently being used on the Bonkot Asset for drilling and completing new and re-entry wells. “After a year of operation the rig is already outperforming other tender assist and jack-up units in the Gulf of Thailand by drilling similar development wells in around 12 per cent less time and by mobilising from wellhead platform location to location with as much as one to two days saving,” notes Lyle.

EDrill-2 was recently secured by PTTEP Myanmar, for mobilisation in advance of the Zawtika Phase 1B and 1C campaign. Lyle is keen to highlight the success of EDrill-2 alongside three semi-tender assist rigs, commenting: “In final technical analysis the rig has proven to possess comparable rig move performance in the challenging Andaman Sea at a significantly lower cost.”

EDrill-3 is currently going through its final commissioning at the COSCO Guangdong Shipyard in China and is the largest, most advanced unit of its kind. EDrill-3 design originates from GustoMSC’s deepwater design pedigree and its hull design is actually based on a semi-submersible exploration unit. “Gusto has been excellent in anticipating our specific needs and working with us to reprogramme functions and layout. EDrill-3’s semi-tender hull has demonstrated unmatched performance in numerous computational fluid dynamic modelling analyses, couple analyses and severe environmental survival/mooring analyses,” details Lyle. “Some of the rig’s remarkable characteristics include its ability to operate in the most severe sub-tropical environments, to drill ‘as is’ from any trussed spar or tension leg platform without costly upgrades, to operate in 250 metre water depth with its independent mooring system, or in water depths up to 7000 metres with a pre-laid mooring system, and to safely survive a typhoon event without leaving its drilling location.

“We aim to capitalise on our solid partnership with Gusto and COSCO and have engaged them to begin detailed design and engineering of a lower CAPEX, compact semi-tender design with reduced material, construction and equipment costs that will eventually become EDrill-4. Our objective here is to become the first contractor to offer semi-tender performance at tender barge day rates.”



Left EDrill-1 Rigging Up September 2014 - Most landed and secured atop Drill Floor

Despite challenges in the offshore industry prevalent across the international market, Lyle is keen to express Energy Drilling’s confidence in certain market conditions. Most significantly, he notes that the cost effectiveness of next generation rigs aligns well with the heightened cost sensitivity in the market during these tough economic times. He also comments on the construction advantages of the downturn: “Although access to capital is tighter and shipyard payments terms are more conservative, it’s actually an excellent time to build quality, next generation tender assist rigs. Shipyard and vendor costs are lower than ever and the outlook for production drilling is much better than the exploration drilling segment. During a downturn most operators will reduce expenditure on capital intensive, high risk exploration programmes in favour of maximising returns from existing, producing assets. This translates into increased development drilling in order to maintain production levels and development drilling is the target market for tender rigs.”

With a team of highly experienced and competent people behind it and premium rigs that are consistently proving themselves in the challenging physical and economic conditions facing operators, the future for Energy Drilling looks positive. Making sure EDrill-2 has a successful, safe and trouble free start-up on the Zawtika Project will be the company’s immediate focus. Beyond that implementing and even more cutting edge, world-leading design to EDrill-4 will undoubtedly be a top priority. By doing so, the company is set to achieve more of the rapid growth and success that has defined its short but focused, three-year journey until now. ●

#### PEMAC

PEMAC is proud to be an approved vendor for Energy Drilling. For the past few years, it has been entrusted by Energy Drilling to manufacture oilfield equipment for its projects to API Standards.

Regardless of size of orders, PEMAC has been at Energy Drilling’s service to make sure that all projects are smoothly delivered, despite the urgent timeline. Quality has never been compromised even though most projects have a very quick turnaround.

With its skilled, experienced and dedicated workforce, PEMAC strives to be the preferred vendor to Energy Drilling.

#### Petroleum Equipment International

Petroleum Equipment International is a specialised supplier and master distributor providing OEM drilling equipment to international drilling contractors such as Energy Drilling. PEI has been doing business in South East Asia since the late 1970s. Because of its extensive vendor base it is able to provide a variety of parts including MRO parts. It is also a master stocking distributor for M & M valves and Bestlife Thread Compound. It takes great pride in its work and its main goal with each order is to provide a quality product and excellent customer service at a competitive price.

Energy Drilling  
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#### Services

Company established to develop, build and operate the next generation of self-erecting tender rigs