Oiled Machinery

We buy turnkey solutions from the yards, says Alex Monsen, Vice President Asset Management in Seadrill, with a staggering 26 new build projects in progress.

Generations caught up with Monsen in his office in Singapore the week after he took delivery of a new jack-up rig from Keppel and the day before he headed off to christen three new drill ships at Samsung Heavy Industries in South Korea. The triple-launch is illustrative of the “assembly line” approach to newbuildings at Seadrill.

Since Monsen started working for the company in 2006, Seadrill has acquired Smedvig, Mosvold Drilling, Scorpion Offshore and built an organization that now operates 75 drillships, jack-up rigs, semi-submersible rigs and tender rigs.

The company is listed on the New York Stock Exchange and is – like its chairman John Fredriksen – famous for its focus on financial performance. Being responsible for building and delivering drilling units to operations all over the world, Monsen has no room for experimentation. Proven designs from yards that meet deadlines without cost overruns is an absolute must.

“The way we can get a good price from the yards”, Monsen explains, “is by giving them room to negotiate with suppliers. Our approach has been to establish a makers list that we can live with and then get involved in the technical evaluations together with the yard to make sure specifications are met.

“Of course we listen to suppliers, and when we see solutions that we believe have advantages, we write them into the specifications.

“But it’s not like when I worked in Stena Drilling where we were much more enthusiastic about new technology. At Seadrill we go for things that we know work.”

Cost-benefit and risk management

Seadrill’s focus on financial performance allows no single piece of equipment or unproven technology to jeopardize timely delivery of new units and uninterrupted operations once they are in service. This is the reason why new developments must provide a real step forward in performance to be considered.
Experience and feedback from 75 units has built a unique knowledge on what works and what doesn’t at Seadrill.

It is all based on cost-benefit analysis. In some cases we have gone back to more basic solutions, says Monsen and mentions VFD (Variable Frequency Drive) on jack-up motors as one example of a feature that did not add value as expected.

Experience and feedback from 75 units has built a unique knowledge on what works and what doesn’t in Seadrill. “We have seen solutions that we don’t want to use again, admits Monsen, and we keep suppliers that provide equipment with consistent performance”.

Asked about which category ABB belongs to,
Monsen says: “I can’t remember a single incident related to their equipment that has caused us major problems, and ABB has never caused a delay for us in the yards.” However, he quickly adds, “the reason their equipment is found in so many of our units is that they are also competitive on price”.

Global support
Monsen would like to see new suppliers enter the market – for increased competition and development. However, without global support he cannot afford to take the risk.

He recalls a decision to change a supplier because they charged a very high fee for their engineers. The new supplier offered lower cost on both systems and service, but the problem was that they did not turn up fast enough when something went wrong. The savings were lost after only six months in operation and the equipment was torn out and replaced. All equipment needs service, according to Monsen, and the cost of down-time makes speed and reliability of service extremely important.

With operations in Brazil, the Gulf of Mexico, UK and Norway, Africa, South East Asia and China, Seadrill must rely on suppliers with a network of service engineers worldwide. Rigs operate on 3-5 year contracts
and he mentions the semi-submersible West Aquarius as an example of their mobility. It has been operated in Singapore, Malaysia, Indonesia, the Philippines, Vietnam, China and Myanmar and is now in Canada.

**Improvements on the horizon**

Seadrill is clearly conservative when it comes to the implementation of new technology, still they need to identify their competitive advantage five years down the road. The last five years very little new has happened, according to Monsen.

“Everyone builds drillships now, I have looked at 15 different designs, but none are significantly better than the Samsung design that became so popular.

“We are trying out a completely new drilling system on one of our projects and we have a discussion on DP systems (see page 93) right now”, Monsen says.

“DP with ‘closed bus’ could reduce fuel costs. Traditionally, a 3-split DP system has been used; now technology seems to be available for higher performance in normal operation while maintaining the same safety in the case of systems failure. This will be considered in our next series of vessels and even for upgrade of our existing units.

“The oil companies pay the diesel bill themselves, but we need to make sure that our units are competitive in terms of overall costs to win new contracts. As long as we can maintain the same safety as with traditional DP class 3, fuel savings are very important.

“What are the drivers for new solutions in offshore drilling? The oil companies are always driving for more capacity, space for more deck loads, bigger fluid tanks, and operability in all kinds of weather. They also push for separate systems for oil-based and water-based mud to allow switching from one mode to another without flushing the system.”

**Space savings increase capacity**

All the new demands compete for a limited amount of space on board. This is why Monsen has his eye on space-saving solutions. When we ask what could make Azipod® an attractive option in future designs, he points to its space saving features as a possible argument.

Due to the requirements for redundancy, propulsion systems, switchboards, transformers and other parts of the electric installations take up a lot of space that

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Seadrill – setting the standard in drilling

Seadrill has grown significantly since it was established as a Bermuda-based company in 2005 with an offshore drilling fleet of 11 units. The company now has a fleet of 75 units for operations in shallow to ultra-deepwater areas in both harsh and benign environments – the second-largest ultra-deepwater fleet in the industry and the largest fleet of modern high specification jack-up rigs.

This growth is set to continue. Seadrill currently has 26 rigs under construction, and long-term contracts have already been secured for 12 of these. The delivery schedule ranges from the first quarter of 2013 to the second quarter of 2015, with the majority to be delivered in 2013 and 2014.

A booming offshore drilling market is conducive to further growth. In the ultra-deepwater market, oil and gas companies are increasing their spending on exploration to offset declining maturing fields, and demand is strong in the Gulf of Mexico, West Africa, East Africa and the North Sea. Very limited rig availability in 2014 and 2015 is boosting demand for harsh environment units as newbuilds replace an ageing rig fleet. Increased demand for premium jack-up rigs is being driven by the Middle East, Asia and West Africa as older units are replaced to increase efficiency. The market for tender rigs is also showing further room for growth.

Seadrill, which is listed on the New York Stock Exchange and the Oslo Stock Exchange, is also poised to increase the scope of its listings. The company is part of Norwegian-born shipping tycoon John Fredriksen’s sprawling business empire. Fredriksen has served as Chairman of the Board, President and a director of Seadrill since its inception in 2005. He is also Chairman, President and CEO of Frontline, a director of Golar LNG and a director of Golden Ocean Group.

Keeping the number of suppliers to a minimum

“Ten years ago we bought the top drive from one supplier, the pipe handler from another and the control system from a third one,” Monsen recalls. The market was much more open to small, innovative companies.

“Today there are typically three suppliers that compete for each package. MH (Aker Solutions Maritime Hydraulics), NOV (National Oilwell Varco) and Camron compete for the drilling package while ABB, Siemens and GE (General Electric) compete for the electro package. For us DP is a field where Rolls-Royce and Kongsberg Maritime are important, whereas the boundaries can be more blurred when it comes to vessel control systems and automation.

“The ideal situation for us is to have as few suppliers as possible, but still enough players in the market to create real competition”, Monsen explains.

Increased availability

With nine units approaching five-year classification, Seadrill is focused on reducing the time this takes to a minimum. Thrusters are in need of dismantling and service, other vital parts and systems are up for inspection and approval for a new five-year period.

With each vessel earning day-rates of 550-600,000 US dollars, shortening classification procedures would be worth millions to Seadrill. “To achieve this we work with the class societies for continuous, condition-based class inspections rather than the traditional interval-based inspection and maintenance.”

Equipment that needs reclassification after ten instead of five years could be what Monsen looks for in his next series of projects. He mentions the designers at Samsung, GVA Consultants, Moss Maritim, Bassoe Technology and Friede & Goldman as design houses that he shares his expectations with.

Text: Johs Ensby and Vibeke Larøi
Photos: Fredrik Refvem and Seadrill