

No best practice.

Erik Sverre Jenssen, Lundin Norway's COO, does not believe in best practice. "We must constantly get better, or we've lost." (Photo: Trym Bergsmo/Lundin Norway)

An alternative approach

Lundin aims to keep costs down and the pace of drilling up when the Brynhild, Edvard Grieg and Johan Sverdrup fields are to be brought on stream.

"Our approach has been a bit different to that taken by others," says Erik Sverre Jenssen, chief operating officer at Lundin Norway in Lysaker outside Oslo.

Not everyone is able to start from scratch. But that was what this aggressive exploration enterprise did when it was founded in 2004.

It concentrated on hiring a limited number of experienced staff, made heavy use of consultants and contractors, and developed a minimum of management systems.

That provides flexibility and rapid decision processes. "I'm not concerned about passing one milestone before starting on the next," says drilling manager Johan Bysveen.

He wants to work on several phases simultaneously, and prefers to bring together the drilling team, review the risks and take it from there. Things can quickly get over-elaborate, he observes.

Five rigs

With 43 exploration wells drilled over seven years, Lundin has had five rigs in operation this year and plans to spud 11 wells as operator with five units in 2015.

These rigs will also be drilling one and a half production wells on the Brynhild subsea

development and three-four on Edvard Grieg.

The company's exploration experience will be used to sink producers safely, quickly and cheaply – not least on the giant Johan Sverdrup development, where 80 wells are planned up to 2026.

"Maintaining sufficient focus on efficiency and the use of new technology is incredibly important," observes Harald Mortensen, who is responsible for Johan Sverdrup.

This field's reservoir extends very widely and offers a few challenges. Mortensen says that the licensees are now trawling the industry for technology projects to support.

Much is happening on many fronts, including automation, drilling fluids and more exact metering technology. New ways of treating drill cuttings are another priority area.

Lundin also notes the importance of dry wellheads and Xmas trees, which make maintenance and improved recovery measures much easier than with subsea solutions.

"We have clear views about this on Johan Sverdrup," explains Mortensen, and adds that experience transfer is particularly important on this field – both at operator Statoil and through active exchanges with other licensees.

Lundin itself is using wired pipe on Edvard Grieg, where a signal cable is integrated in the drill string to replace transmission through the mud.

This allows an almost unlimited amount of data to be conveyed directly from the bit to the surface, making efficient control much easier and quicker.

"Although it's well-known, the technology hasn't been much used in Norway," reports Jenssen. "We're completely committed to it."

Research

Lundin spends NOK 100-200 million annually on research and development. While much of this was devoted earlier to geology-related work, budgets for drilling are increasing.

One of the technologies sponsored by the company, being developed at Stavanger-based Fishbones, involves drilling boreholes 20-30 centimetres in diameter.

Equipment is then run down with a couple of hundred little drill bits, which emerge individually from the string to produce a lot of small holes.

This makes it much easier to achieve flow from tight rocks in the reservoir, and could potentially permit far more effective – and thereby fewer – production wells.

"Multilateral wells have made a big contribution, and Fishbones is taking them a step further," explains Mortensen. "We're also sponsoring a lot of other projects, but we don't want to say too much about some of them."

Bysveen is hoping that the drilling department will be left a little alone on new fields such as Johan Sverdrup, without too much involvement from other parts of the company. That can quickly become a case of too many cooks.

He also hopes that the industry will make a proper collective effort, where all competent partners are genuinely brought in – including the drilling contractors.

"Today's drilling industry is highly competent," Bysveen observes. "That wasn't the case 30 years ago, but the oil companies still have a tendency to believe they know it all."

Although the industry has been pursuing experience transfer for several decades, he still has to see a perfect example of this working. Lundin is now studying a new computer system which makes it easy to access information.

"We've also been indoctrinated with the idea that best practice doesn't exist," adds Jenssen. "We must constantly get better, or we've lost."