

**Press release**

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MAN's subsea compression solution proves its worth

The world's first subsea compression trains at Equinor's Åsgard field have achieved 50'000 operation hours with an availability of close to 100%.

In 2015, Åsgard became the world's first subsea gas compression facility to commence operation 300 meters below sea level – featuring two HOFIM™ motor-compressor units by MAN Energy Solutions Switzerland Ltd.

“In the early days we just had a few valves on the sea floor. Now there's almost a complete factory down there,” explains Roald Sirevaag, Chief Engineer Subsea Technology of Equinor. “With Åsgard subsea gas compression, we are one step closer to realizing our vision of a subsea factory. MAN's technology for subsea gas compression represents an essential factor for the successful operation of the Åsgard facility.”

“The development of the Åsgard subsea compression system was one of the most demanding technology projects in the history of our company. The important achievement of 50'000 operating hours highlights the reliability of our technology and proves that this great effort paid off,” says Dr. Uwe Lauber, CEO of MAN Energy Solutions SE. “MAN provides the core solution for future offshore gas recovery applications to become more sustainable and efficient.”

By carrying out compression on the seabed, the operator clearly benefits in the form of improved energy efficiency. Compressors are used to maintain output as reservoir pressure at gas-producing fields drop over time. The closer the compressor operates to the well, the higher the efficiency and production rates become.

The subsea technology also contributes to improvements in recovery rates and lifetime of gas fields. By the end of 2015 analyses indicated that the pressure in Åsgard's reservoirs would have been too low to ensure stable flows and satisfactory production. Thus, compression was needed – the MAN units, which are currently in operation, help to extend the reservoirs' productive life for another 15 years. Overall, around 282 million barrels of oil equivalent will be added.

“The two HOFIM™ compressor systems in service at Åsgard Subsea have been operated at full load since start-up in 2015 and have delivered reliability and availability above 99% since the beginning. The overall performance has exceeded all expectations and ensured reliable gas deliveries from Åsgard to Europe” states Lars Klevjer, VP Operations Åsgard and Stig Folgerø, Leading Advisor Rotating Equipment at Equinor.

MAN's subsea compression technology for Equinor's Åsgard field has been granted the highest Technology Readiness Level 7 according to API in 2017. The Equinor & MAN team behind the innovative Åsgard project has received the UTF (Underwater Technology Foundation) Subsea Award in June 2017. In December 2017, MAN Energy Solutions won the Platts Global Energy Award (the Oscar of

the energy industry) for its subsea compression system solution in the “Commercial Application of the Year” category.

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow’s challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.



The installation of the compression modules on the Åsgard field – © Equinor



Subsea HOFIM™ compressor system by MAN Energy Solutions – © MAN Energy Solutions