



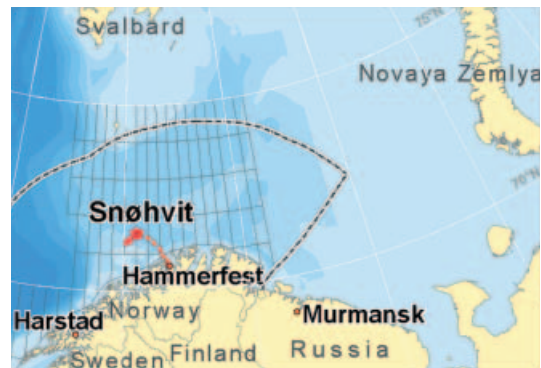
## ABB Helps Statoil Set New Records with Europe's First LNG Facility

A competitive multi-scope delivery by ABB that seamlessly integrates Automation and Safety system, Power Distribution Control system, Power Management system, Electrical Equipment, Field instruments, and Analyzers. ABB's Industrial<sup>IT</sup> systems and equipment put Statoil operators and engineers in complete control of the new energy efficiency benchmark for LNG plants.

<b>Client:</b>	<b>Statoil</b>
<b>Location:</b>	<b>Melkøya island, Norway</b>
<b>Scope of Work:</b>	<b>Safety and Automation System, Power distribution control system, power management systems, operator and engineer stations, training simulator</b>

*Competitiveness is a matter of keeping your price at the most competitive level, but also demonstrating the capacity and skill set, competence, and solutions to provide us with a professional deliver. We felt comfortable with ABB's ability.*

Ole Hausken,  
Senior Advisor for Statoil's Hammerfest LNG plant



**During more than three decades of service to the oil and gas industry, ABB has pioneered many solutions, including fully digital AC drives, integrated digital fieldbus technology, and fully configurable Aspects Objects control technology. ABB's life-cycle simulators offer unparalleled realism in preparing operators to control oil and gas facilities on-shore and off-shore. They also enable engineers to establish world-class performance from the first design through the system's entire operating life. Thus, for Snøhvit project, Statoil naturally turned to ABB, a company that understands all about being first.**

Norway's Statoil has become accustomed to leadership in the oil and gas industry. The company is one of the world's largest net sellers of crude oil and a substantial supplier of natural gas to Europe. As the biggest retailer of petrol and other oil products in Scandinavia, Statoil is involved in every aspect of development, production, and transportation of the resources found throughout the Norwegian continental shelf.

With the Snøhvit project, Statoil has achieved Europe's first facility for liquefied natural gas (LNG), the first development in the Barents Sea, and the first major development on the Norwegian Continental Shelf with no surface installations. After production begins in 2006, and for an estimated 30 years thereafter, the Snøhvit area will deliver 5.67 billion standard cubic meters of LNG and as much as 250,000 tons of liquefied petroleum gases each year.

For this project, ABB has provided an Industrial IT Safety and Automation System (SAS), Power Distribution control system, electrical and drive systems, and field instrumentation, all seamlessly integrated through the Profibus interface. Snøhvit is the largest subsea production to be remotely operated from a land facility-in large part, thanks to ABB's Industrial IT technology.

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provide us with a professional delivery,” says Ole Hausken, Senior Advisor for Statoil's Hammerfest LNG plant. “We felt comfortable with ABB's ability to meet our standards for a professional execution of the job.”

In addition to its other achievements, the Snohvit project sets a record for piping unprocessed well stream safely over long distances. The well stream flows through a 143 km multiphase pipeline from the Snohvit Area to Melkøya island in the Barents Sea, where receiving, processing, storage, and shipping facilities are located. The well stream is separated and the gas cooled down to liquid form before it is shipped out in special carriers to markets in Europe and the United States. The subsea installation is remotely monitored and controlled via fiber optic cables from the control center at the LNG plant on Melkøya island.

ABB supplied, installed, and commissioned the Safety and Automation System, which includes process and subsea control; generator, turbine, and compressor control; process shutdown and emergency shutdown systems; a high integrity pressure protection system (HIPPS); fire and gas instruments and protection system; and the information management system.

Using ABB's Operator IT A portal, Statoil operators control both the power distribution system and the power management system. Through the operator stations, engineers can also remotely set parameters for the status and analog values, relays, and motor starters.

ABB conducted network studies and then supplied, installed, and commissioned the electrical and drive systems, including

## Benefits

- Highly integrated, fast information access and navigation
- Reliable operation in environmentally sensitive environments
- Lower operating and maintenance costs
- Improved energy efficiency

switchgears, intelligent motor starters (INSUM), distribution boards, motors, supervisory system, and power management system. In addition, ABB supplied field instrumentation, such as pressure and differential pressure transmitters, level transmitters, temperature transmitters, and analytic instruments. The Profibus interface connects more than 4000 instruments. The remote I/O meets both Zone I and Zone II requirements.

An Industrial IT ABB life-cycle simulator ensures that the design, engineering, startup, and operation of this integrated system proceeds smoothly. On a long-term basis, the simulator helps operators keep their skills sharp and thus improve the overall plant availability.

ABB's products and solutions help Statoil to monitor and control the subsea installation from one on-shore location. According to Statoil, selected technology will also ensure an energy efficiency of 70 percent, “the best result obtained so far for such a facility.”



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