

Ormen Lange, Norway

Monitoring Ormen Lange's amazing journey in energy



“The rear projector display cubes render razor-sharp, crystal-clear images with smooth, accurate color tones, providing an easy, unifying overview of operational as well as security aspects of Ormen Lange’s operations.”

*Morten Hansen, Sales Manager,
VideoSystem*

Hydro’s exploration team could not believe its eyes when it found a vast new reservoir of natural gas 120 kilometers off the Norwegian coast in 1997. Ten years later, the Ormen Lange gas field came on stream. At its peak performance, it is estimated to produce 70 million standard cubic meters of gas every 24 hours, thus covering 20% of the UK’s gas needs for the next 40 years. Three high-end Barco video walls are one of the many state-of-the-art technologies supporting Norske Shell, Ormen Lange’s operator, in its challenging task.

BARCO

Visibly yours

"We have made the impossible possible," said Ormen Lange's project manager during his inauguration speech in October 2007. And, indeed, the challenges the project met were daunting. But the steep and uneven seabed, harsh weather, subzero temperatures and many other issues did not prevent the teams from completing this ambitious project within the agreed budget and on time. On 6 October 2007, King Harald of Norway opened Ormen Lange: a series of sea-floor installations at depths of between 800 and 1,100 meters and an onshore plant at Nyhamna (near the town of Molde) where the gas is processed. From the onshore facility, the gas is exported beneath the North Sea through the world's longest subsea export pipeline (1,200 km) to the reception center in Easington, on the east coast of the UK.

Oil and gas references

Hydro, which operated the field during the development phase, insisted on working with only the very best business partners, in order to meet the project's huge technological and organizational challenges. ABB was one of them. As an expert in power automation and telecoms solutions to the oil and gas industry, the company was contracted to deliver the control, safety and information management systems for the gas processing plant. "Ormen Lange needed a visualization solution to monitor the plant and the flow of gas through the pipelines, plus display solutions for the simulation and collaboration rooms. ABB resolutely included our product offering in their tender, as we had already proven our market leadership and dedicated 24/7 support services in many successful oil-related installations," said Morten Hansen, Sales Manager of Barco's Norwegian distributor, VideoSystem.



Three Barco video walls

ABB elaborated a comprehensive design proposal for the control room, the heart of the on-shore processing plant, including recommendations on Barco displays and supporting projection systems. "The human aspect and ergonomics were of key importance for the control room," Morten Hansen recalled. "In addition, Hydro insisted on the highest possible level of automation and wanted a solution that exceeded the latest standards." ABB designed an ergonomically optimized room featuring a giant 14 x 50" central Barco video wall system (7 x 2 configuration) with rear projection, controlled by a Barco display controller and management software. For the simulator room, an innovative video wall system (4 x 2 50" cubes) on castors was delivered, to allow front projection. In addition, a wall of 3 x 3 cubes was set up in the collaboration room.

Operational and security details

The main task of the operators manning the control room is to monitor and control production at the onshore Ormen Lange plant and minimize safety risks. During normal operations, the Barco video wall therefore displays process overviews, live CCTV camera feeds, an

alarm list and a fire and gas overview, among other data. During an emergency shutdown, the on-screen content can be changed to zoom in on security-relevant information. "The operators have an easy, unifying overview of operational as well as security aspects of their operations. In case of a problem, they can spot it straight away, as the alarm is clearly visible, and then look at the desktop for more details," said Morten Hansen.

Brightness and contrast

Morten continued: "Barco's rear-projection display cubes, based on DLP technology, render razor-sharp, crystal-clear images with smooth, accurate color tones. For someone who routinely puts in long hours in front of the wall, like the Ormen Lange operators, their eyes might not get as tired. That little bit of difference can help them to do a better job." To make sure the video wall retains that high quality year after year, VideoSystem offers a complete overhaul of the installations once a year. And they are, of course, available 24/7 in the event of questions or problems. In this way, Barco can play its part in Norway's – not to say Europe's – most groundbreaking oil and gas project.

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