



Photo: Equinor



CASE STUDY

The Johan Sverdrup Field

A strategic approach to offshore completion

Project Summary

The Johan Sverdrup Field is one of Europe's largest offshore oil developments, emphasizing sustainable extraction and advanced technology for maximizing efficiency and reducing environmental impact.



Field Name

The Johan Sverdrup Field



Location

Utsirahøgda in the central part of the North Sea, 65 km northeast of the Sleipner Fields



Early Completion

5 October 2019



Cost Efficiency

Realized a saving of 40 billion NOK compared to original estimates



Peak Production

Producing 750 000 barrels of oil daily

Overview of the project

The Johan Sverdrup Field is one of the largest oil fields in the North Sea, located on the continental shelf of Norway. The field is operated by a Norwegian multinational energy company and ranks among the most significant industrial projects in Norway's history. The development of the field was conducted in multiple phases, with production commencing in late 2019.

The Johan Sverdrup Field is estimated to contain around 2.7 billion barrels of oil equivalents, making it one of the most substantial discoveries on the Norwegian continental shelf in recent decades. Its longevity is expected to last for over 50 years.

The revenue from The Johan Sverdrup Field is of great importance to the Norwegian economy, and its production plays a vital role in maintaining Norway's position as a significant nation in the global energy market.

Challenges with large-scale projects

Complexity of offshore completion

Offshore completion is a complicated task requiring coordination across multiple disciplines and departments; managing such complexity presents significant challenges.

Scale of the project

The massive scale of the project and its long-term nature require scalable solutions. Ensuring that the systems, technologies, and procedures handle the large-scale demands without losing efficiency is a significant concern.

Project management execution

Such a complex and high-stake project as the Johan Sverdrup Field necessitates a multifaceted approach, involving strategic planning, technical expertise, cross-functional collaboration, continuous monitoring, and adaptability to changing conditions and requirements.

Omega 365's role in the project

Omega 365 contributed to The Johan Sverdrup Field by supplying the project management system and providing expertise for hook-up and project completion.

"We had heard from one of our partners in Johan Sverdrup that, for the Edvard Grieg development, they had used Omega 365 for the hook-up and were very satisfied with that. And we were looking into the experiences from that project to see how we could further develop them for our case," said Karl Inge Ulveseth, Hook-up Manager for the Johan Sverdrup Phase One development.

“ My key takeaway was that it was very advantageous to have this digital arena and company system for monitoring the progress of the hook-up work.

Karl Inge Ulveseth, Hook-up Manager

Their strategy was to have more than one hook-up contractor in order to facilitate these hook-up hours offshore. For that reason, they were looking for a digital arena to ensure control of the hook-up work that was performed.

"Offshore completion is a complex task that demands coordination across multiple disciplines and departments. Omega 365's digital Workflow ensured that project management maintained attention to detail. This tool was instrumental in identifying potential issues early on, fostering better collaboration, and improving the project's overall quality," explained Thomas Sundsøy, former Department Manager at Omega 365 Solutions.

He explained that Omega 365 created a digital platform to facilitate this interaction, drawing from the organization's extensive experience. Omega 365's focus was on enhancing efficiency and visualizing the offshore plan to ensure control and decrease costs.

Omega 365's contribution to the Johan Sverdrup project extended beyond the offshore phase. The company also provided additional Omega 365 products, including Risk, Cost, Document Control, and Quality Management tools, which were utilized throughout the project.

Sundsøy noted, "A combination of expertise, work procedures, and Omega 365 products culminated in a comprehensive delivery."

"My key takeaway was that it was very advantageous to have this digital arena and company system for monitoring the progress of the hook-up work. It was

also a very lean process to get the information from the engineering system, follow through on the work orders, and report status," said Ulveseth.

Sustainability in Omega 365

Omega 365 demonstrates a commitment to sustainable practices. The software actively supports environmentally conscious efforts, helping to reduce resource use and pollution.

The development of The Johan Sverdrup Field has used modern technology to help lessen environmental impact, while also improving efficiency. By primarily drawing the field's electricity from onshore sources, emissions have been cut substantially, marking a significant improvement over conventional oil and gas production methods. This innovative approach not only underscores a commitment to environmental stewardship but also exemplifies a modern means of energy production that aligns with sustainability goals.

Economic aspects of the project

Utilizing modern software technologies like Omega 365's in offshore construction projects, including the Johan Sverdrup Field, may contribute to notable economic improvements. With the inclusion of functionalities like live tracking, effective data processing, and issue resolution, there is scope to boost cost efficiency across the entirety of the project.

Operations at the Johan Sverdrup Field were initiated on October 5th 2019, a full two months ahead of the original schedule, and at a cost that was 40 billion NOK lower than anticipated, as per the declarations from the field operator.

About Omega 365

Company: Omega 365 Solutions

Headquarters: Ølensvåg, Norway

Mission: Improving project performance

Main products utilized in this project:

- Document Management
- Cost Management
- Quality Management
- Risk Management
- Work Preparation
- Material Management and Logistics
- Interface Management
- Technical Queries
- Action Tracking

Big enough to deliver - small enough to care

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