



## CUSTOMER CASE STUDY

# AVEVA helps Det Norske tackle its largest offshore oil and gas project

Det Norske  
Industry - EPC / Oil and gas

## Goals

- To ensure staged, incremental flow of validated data, based on data maturity.
- To gain early availability of information for operational readiness.
- To complete the first stage to full Asset Life Cycle Information Management.

## Challenges

- Traditional event-driven handover from the project phase to operations was risky.
- Continual assessment and reporting of information status was necessary throughout the project.

## Solution

- AVEVA™ Asset Information Management
- AVEVA™ Information Standards Manager

## Results

- Handover costs have been significantly reduced.
- Operational readiness has been accelerated.
- Operations information retrieval time has been shortened.
- Processes are now more transparent and straightforward.



## AVEVA helps Det Norske tackle its largest offshore oil and gas project

**Fornebu, Norway** – In 2008, Det Norske Oljeselskap discovered a major hydrocarbon deposit in the North Sea. Now known as the Ivar Aasen field, it contains the equivalent of around 210M barrels of oil.

Because Ivar Aasen was Det Norske's first large field development, the company did not have all the IT infrastructure and business systems that are common among owner operators in the industry. Not only would the company need to quickly upgrade its technology systems, Det Norske would also need to deploy the business processes and workflows necessary to effectively manage such an important and complex project.

Det Norske turned to technology consultancy VisioNova for advice. Together, VisioNova and Det Norske identified AVEVA technology as the tool of choice for managing the handover of critical engineering and execution data from the capital project to operations.

### Life cycle information of the digital twin

Recognizing the importance of life cycle information management to the success of this project, VisioNova advised Det Norske to adopt AVEVA's progressive handover solution with AVEVA Asset Information Management and AVEVA Information Standards Manager to accelerate and de-risk the transition of a new facility from its EPC-managed CAPEX project phase into production by the operations team.

This introduced Det Norske to the concept of the digital twin. As the project progressed, it was essential to coordinate and control all the technical information, drawings, documents, databases, and 3D models pouring in from the design teams around the world.

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“A key element of a digital twin approach is to understand that OPEX costs are largely determined during the CAPEX phase. So, future operations, maintenance and modification needs must be properly considered from the very beginning of the project. Now that EPCs are able to hand over good quality information, too often it is left to go out of date once it has reached the OPEX side. Best practice would be for the owner operator to define, long before handover, how they will exploit and maintain this digital asset throughout the life of the asset. That way, not only can the contractor deliver a more operations friendly asset, the operator will also be ready and able to accept and deploy all of its associated information assets.”

- **Asbjørn Mangerud**

Head of Business Development, VisioNova

Not only did all of this information need to meet predefined requirements, the digital twin needed to also be kept up-to-date throughout the life cycles of both the project and the in-service asset. The information forms a foundation for the digital twin, an accurate representation of the continually evolving condition of the real physical asset.

## Progressive handover

A progressive handover approach accelerates operational readiness by populating systems in time for first production, and reduces information retrieval time in operations. Handover changes from the traditional discrete event into a progressive incremental flow of approved data into the operations systems, well in advance of commissioning.

“By asking important questions before handover, you can have information management and plant maintenance strategies already in place, potentially saving you a lot of money. Owner operators need to ask: Should I maintain my 3D model? What should I do with my instrument database? How should this information be maintained? How should I handle the period from first oil to my first modification project? Do I have work processes for this? And did I also do my tagging at the end of the field development? If you can trust the information that you have, and can plan modifications based on it, you can save a lot of money.”

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**Asbjørn Mangerud**

Head of Business Development, VisioNova

To achieve this, Asbjørn asserts that the EPC must understand, and be committed to, what the owner operator is trying to achieve. AVEVA's solution enables information submitted by the EPC to be monitored and automatically validated against contractual standards at regular stage gates.

This enables the operator's CAPEX team to know exactly what information it is receiving and that it conforms to their operational requirements. Progressive handover not only eliminates the resource overload common during transfer to operations, it also provides key metrics on information completeness and progress through the CAPEX project phase, and delivers a validated and readily accessible source of actionable information in operations. It is extremely important to have this infrastructure in place.

“Often the problem is that, by definition, managing handover effectively is not an owner operator's core business. But this phase of the project will impact their core business by either saving or increasing operating costs.”

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**Asbjørn Mangerud**

Head of Business Development, VisioNova

Mangerud also believes that to be successful and efficient, handover must be a continuous process that runs alongside the design and engineering stages of the project. Ensuring that all the necessary information is verified and accurate is vital to achieving right-first-time construction. AVEVA Asset Information Management enables this by ensuring that information is consistent and is validated against predefined criteria from AVEVA Information Standards Manager. Now, Det Norske engineers know not only how up-to-date information is, but also how much they can trust it. Discrepancies are highlighted, while any design already released for fabrication requires explicit approval of any proposed modifications.

With help from AVEVA, Det Norske was able to take on this large project with confidence.