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DIGITAL SOLUTIONS · SESAM™

COWI IMPROVES EFFICIENCY WITH SESAM CLOUD SOLUTION

Customer story - COWI

When COWI performs structural analyses for offshore wind projects, structural engineers run several thousand load cases. With DNV GL's cloud-based solution for Sesam, COWI's heavy analyses are completed in a matter of hours.

Sesam's unmatched cloud capabilities

"The main reason we started using Sesam was the cloud computation," says Erlend Gjelstad Jakobsen, Project Manager at the international engineering company COWI, which is in a premier position in the market for offshore wind foundation design. "Now our key tool for jackets in offshore wind is Sesam."

The company is a leading user of Sesam, and strongly involved in the development of Sesam for offshore wind through membership of DNV GL's Customer Advisory Board. The results are tangible. "The rapid developments that we have done together over the last year and a half are really important for us," says Jakobsen.

Jakobsen is a structural engineer with core background from primary steel design of offshore structures. At COWI he mainly works with project management and design of offshore wind foundations. He is also responsible for business and technical development for floating wind.

Offshore wind projects

COWI are currently handling several offshore wind projects in parallel in Taiwan and Europe, including bottom-fixed offshore wind structures and floating foundations. COWI uses Sesam in every phase, including concept design, FEED design, detailed design and certification. "With Sesam we have one go-to tool for structural analysis, both for bottom-fixed foundations and floating foundations," says Jakobsen.

"We can reduce some risk by calculating more load cases," he says. "Sesam allows us to run a decent number of load cases. We can do multiple runs within one day, which is important to speed up the design process and to do several design iterations in one day," he says. The alternative of overnight runs, would have a negative impact on the delivery time. And in the offshore wind market, designers are under immense time pressure. "We cannot use several weeks of calculation time," he says.

“With Sesam we have one go-to tool for structural analysis, both for bottom-fixed foundations and floating foundations for offshore wind.”

- Erlend Gjelstad Jakobsen, project manager, COWI

“The offshore wind market is developing rapidly. We need to adapt rapidly. Sesam allows to keep up with the expectations in the market,” says Jakobsen.

Prior to COWI’s move to Sesam, they were using multiple tools, including in-house tools for offshore wind foundations, which previously centred on monopile structures. But with the industry’s increased demand for jacket structures, COWI realized they needed to move to a cloud solution to efficiently run the necessary analyses. “Today, the number of load cases that we have to check for an offshore wind farm is up to several thousand. That’s why we need the cloud. We’re depending on that to be able to run all the necessary analyses.”

Sesam leads in offshore wind

COWI did thorough research on the available alternatives. “We were looking at different solutions and Sesam was most progressed in terms of offshore wind. It is important to use tailor-made software for the applications we design for, to allow us to execute and streamline the design process.”

“For these types of calculation-heavy structures, it’s important to be able to free up time to mature the actual design, that’s what matters in the end,” says Jakobsen.

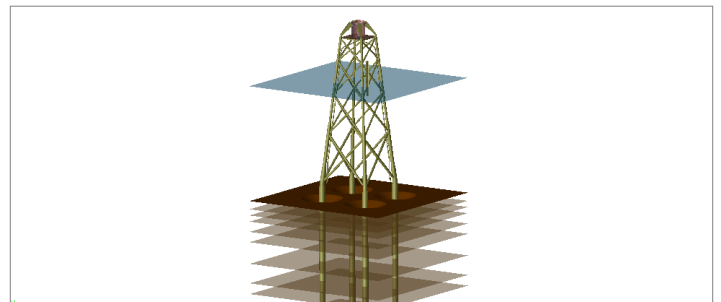
Sesam is a complete and advanced tool for offshore wind structures, supporting main industry workflows and standards. It is easy to use in both preliminary and detailed design, and includes seamless integration with wind turbine design tools. It is also strong in code checking, fatigue and re-design.

“With Sesam, the modelling is efficient and calculations run smoothly,” says Jakobsen. “Of course, the post-processing and code checking are extremely important. Even more so when running the amount of design load cases that we do. It’s a big challenge to handle all the data properly,” he says.

As for the future, COWI is in progress of recruiting more staff and increasing the number of Sesam users for the company’s growing number of offshore wind projects.



Erlend Gjelstad Jakobsen, project manager, COWI



COWI IN BRIEF:

COWI, founded in Denmark in 1930, is a leading international consulting group within engineering, economics and environmental science. COWI creates value for customers, people and society through a unique 360° approach. Based on the world-class competencies of 6600 employees in offices across the globe, COWI tackles challenges from many vantage points to create coherent solutions.

PROFILE

- Customer name: COWI
- Website: cowi.com
- Market: engineering, economics, environmental science
- Product: Sesam

BRIEF ACCOUNT

Why we chose DNV GL - Digital Solutions

- Sesam has the most advanced cloud solution for offshore wind
- Ability to reduce risk and mature design by calculating more load cases
- The software has a large pool of users, easing recruitment of engineers
- The user friendliness of Sesam, especially the GeniE tool, means that engineers can start using it quickly with a low threshold for learning

This is what we gained:

- Close collaboration on software development through the Customer Advisory Board
- Quick response to requests for new developments
- One go-to tool for structural analysis, both for bottom-fixed foundations and for floating foundations
- COWI, in a leading position in the market for offshore wind foundation design, is able to keep up with the latest market demands
- Very good support from DNV GL - Digital Solutions