CASE STUDY

# Agility Group benefits from Octave Aspect Pipe Stress and Forte 3D interface on offshore rig upgrade in North Sea

## Key facts:

**Company:** Agility Group

**Website:** www.agilitysubsea.no

**Industry:** Oil & Gas - Offshore

**Country:** Norway

**Octave products used:** Aspect Pipe Stress *(CAESAR II),* Forte 3D *(Smart 3D)*

Agility Group provides full service engineering, procurement, construction and installation (EPCI) for major clients engaged in onshore, offshore and subsea areas.

## Identifying goals

COSL Europe, a division of China Oilfield Services Ltd. (COSL), awarded Agility Group a major engineering and design project to upgrade its COSL Pioneer Drilling rig for Statoil in the North Sea. Designed in Norway and built in China, the semi-submersible rig arrived and, within three months, the company determined it would require numerous modifications to comply with Norway's NORSOK regulations. The rig had a signed contract to drill offshore for Statoil, so there was intense pressure from the customer to finish all the upgrade tasks quickly, plus four more sister rigs under production would have to follow the similar upgrade path as this rig.

## Overcoming challenges

The project's multinational workforce meant sharing information among multinational project databases. Because of the major differences between engineering methods in China and Norway, most of the important information was not readily available and they had little time to get the data run plus the project entailed numerous modifications running concurrently. In some cases, they had to estimate the data and proceed with engineering and design.

Agility Group chose Forte 3D and Aspect Pipe Stress for the project which allowed it to interface design with engineering analysis to expedite turnaround times. Among the many project challenges were the design, engineering and fabrication of three high pressure hoses six meters in length. High pressure hoses do not follow Hooke's law like other metal pipes so they can't be accurately modeled using standard piping codes. Technical assistance from Aspect Pipe Stress experts provided a viable solution and the results provide satisfactory for the customer.

## Key benefits:

- Enhanced data accuracy with the automation of the Forte 3D and Aspect Pipe Stress interface.
- Streamlined collaboration and achieved operational efficiency using a shared database for concurrent engineering.
- Decreased remodeling times, enabling on-time delivery of project deliverables.
- Facilitated cost savings with reuseable data for future projects.

## Realizing results

One piping designer, one stress analysis engineer and one support engineer worked together in a common database, in a concurrent engineering method, in an efficient manner. With Forte 3D and Aspect Pipe Stress, Agility Group was able to eliminate uncertainty of late delivery of isometrics and stress reports and completely eliminate manual error.

"By leveraging the Forte 3D and Aspect Pipe Stress interface capabilities and customizing our approach, we minimized remodeling times and were able to produce all deliverables on time," said Raj Shetty, senior engineer at Agility Group. "We generated stress isometrics efficiently plus we can reuse the data for future projects." They were able to develop accurate stress analysis drawings and reports and pipe layout, support and manufacturing isometric drawings.

Against all odds, Agility Group was able to successfully meet the project's challenging schedule. Because of this work and other similar projects, the customer has rewarded it all future rig upgrade projects.

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**Raj Shetty**
Senior Engineer, Agility Group

## About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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