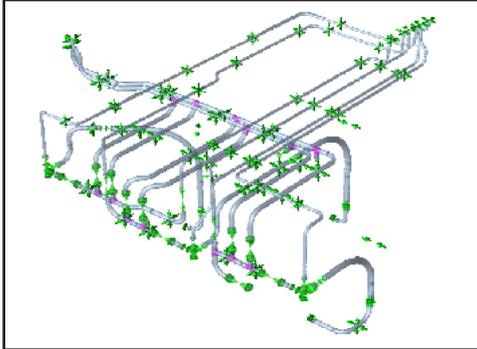


# CASE STUDY



# CADWorx & Analysis Solutions



## Agility Group benefits from Intergraph CAESAR II® and Smart™ 3D interface on offshore rig upgrade in North Sea

Agility Group provides full service engineering, procurement, construction and installation (EPCI) for major clients engaged in onshore, offshore and subsea areas. Drawing upon more than 150 years of workshop experience, the Norwegian-headquartered company today employs 1,500 people.

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, they 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.

### Managing multinational project databases under short project deadline

The project's multinational work force 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.

### Speeding deliverables by leveraging Intergraph CAESAR II and Smart 3D interface

Agility Group chose Intergraph Smart 3D and CAESAR II for the project which allowed them 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 hook's law like other metal pipes so can't be accurately modeled using standard piping codes. Technical assistance from CAESAR II experts provided a viable solution and the results provide satisfactory for the customer.

### Eliminating uncertainty and late isometrics delivery

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 Smart 3D and CAESAR II, Agility Group was able to eliminate uncertainty of late delivery of isometrics and stress reports and completely eliminate manual error. "By leveraging the Smart 3D and CAESAR II 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 them all future rig upgrade projects.

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#### PRODUCT INDEX

Intergraph CAESAR II®

#### INDUSTRIES SERVED

- Offshore
- Marine
- Oil
- Gas