

IBM PLM thrusts Brunvoll to forefront of thruster design

“With our super silent thrusters, we deliver form-cut tunnel extensions that have to match precisely with the hull form. The 3D capabilities of CATIA are critical to helping us accomplish this.”

Kevin Isham, Manager of Mechanical Design,
Brunvoll AS



Highlights

- Brunvoll's drive units often penetrate several decks of a ship, while thrusters tunnel across the entire ship. Integration with the structural, electrical, hydraulic and control systems must be flawless.
- CATIA V5 3D allows Brunvoll to ensure a perfect fit between its designs and the ship.
- Brunvoll has achieved significant savings and maintained its competitive edge with faster time-to-market by eliminating steps and delivering smoother product-rollout and after-sales support.

3D design makes thruster integration water-tight

Brunvoll AS, which has been in business in Molde, Norway, for over 90 years, is one of the world's leading suppliers of thruster propulsion units. These units are used in a wide variety of ships for customers including Royal Caribbean Cruiselines, Meyer Werft Shipyard, Chantiers de l'Atlantique, Carnival Cruise Lines and the Norwegian Navy.

Brunvoll's core business is producing azimuth and tunnel thrusters that offer unique manoeuvring capabilities, reliability, quiet operation and

safety features such as emergency propulsion to get a ship back to port if its main propulsion unit fails. The company is famous for its precision, reliability and ability to deliver complex, one-of-a-kind designs that its competitors won't even attempt.

For seven years, Brunvoll has relied on IBM Product Lifecycle Management (PLM) solutions for collaborative product design and data management applications that help the company maintain and build on its reputation for delivering only the best.

PLM helps meet complex customer needs

Brunvoll uses CATIA V5, the world's leading product development application, for all design and documentation. It is implementing SMARTEAM product data management applications for workflow, configuration management and production of customer documentation. The CATIA and SMARTEAM applications, developed by Dassault Systemes, are fully complementary. As part of the

extended platform, Brunvoll will use CATIA to fully automate the design and complete cutting of high-precision propeller assemblies, a first in the industry.

Brunvoll, which recently won a substantial contract to develop a retractable azimuth thruster for the Norwegian Navy's new frigate program, uses its PLM platform to manage complex customer requirements.



"With a large organisation such as a navy, you face the challenge of meeting many special demands that are far beyond those of a normal commercial customer," said Per Olav Lokseth, Brunvoll's Marketing Director. "You must work with multiple contacts at the customer, which can be challenging for a small organisation such as ours. We have the technical skill to do everything they require, but working with so many people and providing so much specialised government documentation can also be a challenge. We anticipate SMARTTEAM is going to be invaluable in helping us manage and respond to these requirements more efficiently."

3D design identifies, eliminates errors

Working with commercial customers has also become more challenging as shipyards transfer more of the design responsibility to suppliers, Lokseth said.

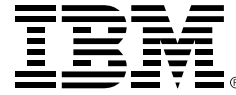
"The yards are subcontracting more and more of the ship. That means they are asking Brunvoll for more services. The trend is toward yards asking for larger and larger pre-made units. They want the thruster to be pre-assembled, pre-mounted, even pre-wired, to simplify the installation and reduce administrative and practical outfitting costs."

All of these requirements increase the need for perfect coordination between the thrusters, the design of the ship's hull, and the systems located around the thrusters. Kevin Isham, Manager of Mechanical Design at Brunvoll, says CATIA delivers.

"We find that having the 3D capabilities of CATIA and being able to communicate with the customer and the shipyard in 3D is invaluable," he said. "Many of the organisations we work with still work in 2D. Because our systems intersect with other systems in the ship at so many points, it's often difficult to grasp all of the nuances of the design in 2D. Using 3D modelling helps us to communicate these needs more effectively and eliminate errors that would be expensive if first detected in production."

For more information

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