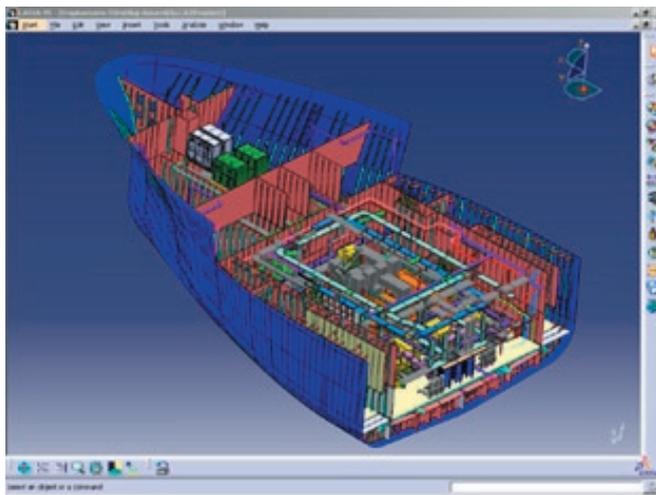


Yantai Raffles Shipyard (YRS) PLM helps shipyard collaborate, compete on a global scale



"Being able to see a digital model of a ship before production begins is an unforgettable experience for our customers." Brian Chang, Chairman/CEO, Yantai Raffles Shipyard

Overview

- *Rework was common because prototyping of custom designs could not keep pace with construction*
- *CATIA and ENOVIA allow YRS to create a complete virtual model of a vessel before physical work begins*
- *YRS has streamlined its design process for all vessels, improving Return On Investment (ROI) through lower material costs and improved quality, a competitive advantage.*

The best technology for the best ships

Yantai Raffles Shipyard, located in Yantai, China, has long enjoyed one of the world's most competitive pricing structures due to a ready supply of skilled labour. But to be truly competitive with the top global shipyards, YRS needed to be as competitive on quality and delivery capabilities as it has been on price.

"Our customers deserve the best and we are determined to give them the best," said Brian Chang, YRS Chairman and CEO. "This is only possible if we use the best technology on the market to build our ships and that is why we chose IBM PLM solutions."

Global clients, global collaboration

Before YRS adopted IBM PLM, its CAD systems did not support creation of a full, 3D virtual model. Physical prototyping took so long that construction had to begin before the design was complete. Employees and partners often discovered they were working with different versions of the same data. Engineering changes were difficult to propagate throughout the system. Mismatches between related ship systems sometimes remained undetected well into construction, driving up cycle times and costs.

"Owners paid more to complete the vessel, the yard lost money and the performance of the vessel was below expectations," Chang said.

Streamlined processes, happier clients

The yard's first 3D design system was a failure, so YRS turned to IBM PLM for complete, digital models of its vessels prior to fabrication. The integrated IBM platform features Dassault Systemes software, including CATIA V5 for collaborative virtual product development and ENOVIA LCA and ENOVIA Portal 3d.com for real-time

product data management. ENOVIA Portal 3d.com facilitates viewing all product data, including digital mockups, with a simple Web browser.

“PLM gave us and our customers many ways to pre-visualise our designs,” Chang said. “In our business, there are multiple parties involved in every project. It’s critical they understand the design. We demand that vendors be involved early. They can better understand the requirements, and making modifications at the digital mockup stage reduces rework later.”



The advanced PLM solution has enabled the shipyard to streamline design processes for all of its vessels, from floating storage and off-take ships to oil rigs and luxury yachts. YRS says it has experienced substantial ROI through lower material costs and improved quality, a combined competitive advantage.

PLM customised for shipbuilding

The CATIA V5 solution comes with a full set of shipbuilding-oriented functionalities to meet the company’s requirements from concept to detail ship design and production. ENOVIA LCA and ENOVIA 3d.com solutions enable full collaborative product development. They also provide other

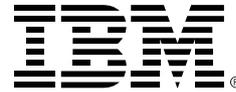
YRS departments, including marketing and production, access to both design information and engineering data, ensuring that YRS staff, customers, partners and suppliers are able to work together in a real-time virtual product development environment.

“IBM PLM technology gives us a complete 3D digital mockup the first time,” Chang said. “The result is much less rework and improved customer satisfaction, together with much less risk and fewer change orders. We have used PLM for a wide variety of projects, and I cannot remember anything that has been very hard for either YRS or IBM to solve. Solutions are always close at hand.”

The response from the shipyard’s customers has been rewarding. “A major client in the top 30 of the Fortune 500, after reviewing YRS with the intention of approving us to participate in a complex, time-critical project of \$1.7 billion U.S. said, ‘Your engineering capabilities are certainly adequate... and in fact it is an overkill for our project,’” Chang remembers. With IBM PLM, YRS is clearly ready to take on any challenge a customer can dream up.

For more information

Contact your IBM Marketing Representative, IBM Business Partner or visit the IBM PLM Web site at: **ibm.com/solutions/plm**



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