

# STX Shipbuilding

Designing and manufacturing anywhere with ENOVIA



## Overview

### ■ Challenge

STX Shipbuilding wanted to realize the full value of a Design Anywhere, Manufacture Anywhere strategy by improving design-to-manufacturing productivity and enabling real-time product data visibility.

### ■ Solution

STX Shipbuilding chose ENOVIA and its global collaboration capabilities to provide the framework for a worldwide process innovation project.

### ■ Benefits

The company has improved engineering productivity by 50% enhancing design innovation and manufacturing transparency across its shipyards.



"Using ENOVIA, our engineers have real-time access to a vast amount of data which has allowed them to cut engineering work by 50% and production work by 30%."

Hyo-Gwan Leem, Senior Vice President  
STX Shipbuilding

## STX Shipbuilding Co., Ltd.

### Continuous R&D investment leads to rapid growth

With 21 shipyards around the world, Korea's STX Shipbuilding has played a key role in the development of the shipbuilding industry since its inception in 1962. Today, STX Shipbuilding builds container ships, bulk carriers, LPG carriers, and most recently, cruise ships, with the purchase of Norway's Aker Yards, the world's largest cruise ship builder. The Aker Yards add to STX Shipbuilding's existing production bases in Korea and China.

The world's fourth largest shipbuilder (Clarkson World Shipyard Monitor) with a workforce of 4,600, STX Shipbuilding has expanded its operations successfully through strategic business activities focusing on high value-added ship products.

### Shipbuilding's first process innovation project

STX Shipbuilding is challenging the top tier of global ship builders by deploying ENOVIA to leverage its Process Innovation (PI) project across all three of its

production bases: Jinhae Shipyard in Korea, Dalian Shipyard in China, and the Aker Yards in Norway. STX Shipbuilding's PI process, a first in the shipbuilding industry, focuses on promoting greater collaboration and best practices between key internal functions (e.g. inventory, production, quality control and accounting) and external suppliers. The project integrates various information technologies including ERP, PLM, and SAPS (STX Advanced Planning System).

The PI project is a companywide management innovation system that STX Shipbuilding has adopted to organize its efforts to develop new engineering methods, ensure that change requests can be easily incorporated into the final data, and improve its production processes. "Shipbuilding takes a long time and accordingly, continuity is the key to successful production," said Hyo-Gwan Leem, Senior Vice President of STX Shipbuilding.

### ENOVIA improves collaboration

A prerequisite of quality shipbuilding is keeping track of details. STX



Shipbuilding's ENOVIA solution, including the Product Central, Program Central and Engineering Central products, enables the company to create a Master bill of materials (BOM) for each ship under construction. The Master BOM is then broken into 'Project BOMs' that detail all the parts for that particular project.

"In particular, we used a Master BOM to better integrate disparate data between the 120,000 to 150,000 parts per ship building project and to share this data among engineers. The fully integrated product lifecycle management platform is mission critical for improving organizational collaboration and best practices."

Based on a Master BOM, STX Shipbuilding customized its sale BOM with its sales template. The Project BOM streamlines many simulations and quotations while synchronizing the design data. Specialists can easily revise the final datasheet with customer changes by applying any modifications to very specific areas as necessary. Engineering errors and re-design have essentially been eliminated.

In addition, ENOVIA supports STX Shipbuilding's 'ECR' or 'efficient consumer response' strategy, an approach that makes the manufacturer more responsive to customers' demands and helps remove unnecessary costs from the supply chain.

### Better manufacturing planning view

With ENOVIA, materials and standard parts can be connected directly to an STX

Shipbuilding's BOM in the context of a manufacturing planning view. It also gives STX Shipbuilding full visibility of the impact that engineering changes can have on manufacturing, providing enhanced decision-making capabilities. STX Shipbuilding streamlined its business process by eliminating inefficient tasks and currently expects to reduce costs by KRW 100 billion (US\$70 million) in five years.

Sang Byung Shin, Innovation Team Manager of STX Shipbuilding, said, "The BOM has been used traditionally in manufacturing. However, STX Shipbuilding adopted the BOM into the shipbuilding industry by leveraging ENOVIA. It delivered great results. We could accelerate product innovation to achieve top line revenue growth and improve bottom line profitability."

### Further expansion of DS PLM

STX Shipbuilding is taking full advantage of its new DS PLM solution. The company has expanded the existing system in Changwon STX R&D Center, Korea to Dailan, China, recognizing the importance of Dassault Systèmes PLM solutions when addressing the complexity of designing and production of a ship.

"STX Shipbuilding plans to develop each branch as the unmatched powerhouse in the international shipbuilding industry. In order to become the leader in the shipbuilding industry, efficient collaboration worldwide and increased productivity were essential. We are very satisfied with ENOVIA and are considering expanding it to include digital manufacturing in China", said Sang Byung Shin.



"ENOVIA enables STX Shipbuilding to accelerate product innovation aimed at achieving top line revenue growth and improve bottom line profitability."

Sang Byung Shin, Innovation Team Manager  
STX Shipbuilding



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