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Siemens PLM Software

Using PLM for Shipbuilding to meet the needs of the Future Fleet

Siemens PLM Software solution improves quality and lowers total cost of ownership

Benefits
- Improves total enterprise productivity
- Reduces cost to develop ships
- Improves quality and alignment with requirements
- Develops ships that are on-time and on-budget
- Lowers ownership costs
- Improves fleet availability and reliability

Summary
The Siemens PLM Software holistic product lifecycle management solution, PLM for Shipbuilding, helps shipbuilders transform business processes to align with the requirements of the Future Fleet. This solution takes advantage of ground-breaking, 4th-generation technology for accelerating development of ships and offshore structures, driving innovation, collaboration and competitiveness.

The PLM for Shipbuilding solution enables a comprehensive approach to shipbuilding that will improve total enterprise collaboration, synchronization and productivity as well as lifecycle ship service and support by optimizing the following processes:

Shipbuilding program and process management
Leading shipbuilders around the world have established new program launch records using PLM for Shipbuilding by leveraging ship design software with embedded templates that accelerate ship delivery, boost team productivity and facilitate the use of proven best practices that mitigate potential risks and eliminate program delays. In addition, by leveraging configuration management, shipyards can

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Features
- Lifecycle ship knowledge management
- Automated, efficient workflows
- Ship version control over the design evolution
- Design re-use
- Open format to facilitate data exchange
- Validates optimal build plan in a virtual environment
- Displays assembly sequence step-by-step and can be complemented by collision analysis

seamlessly track the configuration of a ship from concept development through production and across the ship's entire operating lifecycle.

Ship design and engineering
Shipbuilding involves some of the most challenging design and engineering problems from a scalability standpoint. With PLM for Shipbuilding, this next-generation industry solution takes advantage of innovative, 4th-generation design technology for accelerating development of modern ships and offshore structures, driving shipbuilding innovation and facilitating global collaboration. Using the shipyard design solution, designers and engineers can create and maintain 3D models in context for key work groups that are addressing areas such as major ship modules, compartments, systems and locations.

Digital ship construction
To limit the cost of development and production as well as mitigate related risks, shipyards must optimize their facilities and processes across an entire lifecycle by leveraging the shipyard production process solution. By digitally simulating complete ship assemblies and their associated processes, you can optimize process flows before production begins, implement lean

practices at the start of new programs and avoid the cost of building expensive physical models.

Supply chain management
Shipyards rely on a global supply chain of partners and suppliers to help design, develop, manufacture and test new ship concepts. Leveraging the JT™ data format, support for multi-CAD design content and flexible round-trip supplier data exchange, PLM for Shipbuilding allows shipbuilders to reliably and flexibly exchange data with suppliers and partners, some of whom may use a different authoring tool. PLM for Shipbuilding also can be used to synchronize supply chain operations by ensuring that the right parts are available at the right time.

Ship service and support
Shipyards also focus on managing sustainability requirements and achieving continuous improvement in fleet availability, reliability and overhaul cycle reduction. PLM for Shipbuilding enables the shipyard to easily develop and publish all handover documentation included in the vessel specifications and contract. Fleet owners and repair yards can better manage all

maintenance and regulatory reporting requirements, service planning, execution, service processes, metrics monitoring and reporting in a single environment.

Shipbuilding Catalyst
The Siemens PLM Software Shipbuilding Catalyst accelerates time-to-value for implementing PLM for Shipbuilding while providing an environment for swift adoption of future shipbuilding solutions and related technologies.

The Shipbuilding Catalyst delivers:

- Industry best practices, which function as a reference for PLM across the entire product lifecycle

- Deployment accelerators, which include recommended product selections, network design decisions, configuration procedures, deployment best practices and user training

- An open and configurable shipbuilding solution that allows you to control the appearance and behavior of an implementation. These include data model extensions, data structures and validation checks

The Shipbuilding Catalyst provides preconfigured elements for activities, such as defining data objects and roles that can be used in automated workflows.

The Shipbuilding Catalyst also supports:

- Departmental schedule management

- Weight information management

- Issue management

- Ship design

- Supply data exchange

- Assembly planning for outfitting

- Electronic work instructions

The Shipbuilding Catalyst enables shipyards to accelerate digital transformation of the enterprise, optimizing productivity with preconfigured elements for key processes. This allows operators to improve fleet support and achieve greater availability and reliability while reducing total ownership cost.

Conclusion
Shipbuilders can use PLM for Shipbuilding and the Shipbuilding Catalyst to develop, build and maintain the next generation of ships in less time and for less money.

PLM for Shipbuilding will benefit future fleets by enabling them to achieve greater performance, lower ownership cost, higher fleet availability and reliability and great compliance with the latest marine safety and regulatory requirements. Ultimately, it will make ships easier to build and repair, lowering construction, service and total ownership costs.