



NauticusTM

Managing your ship throughout its life cycle

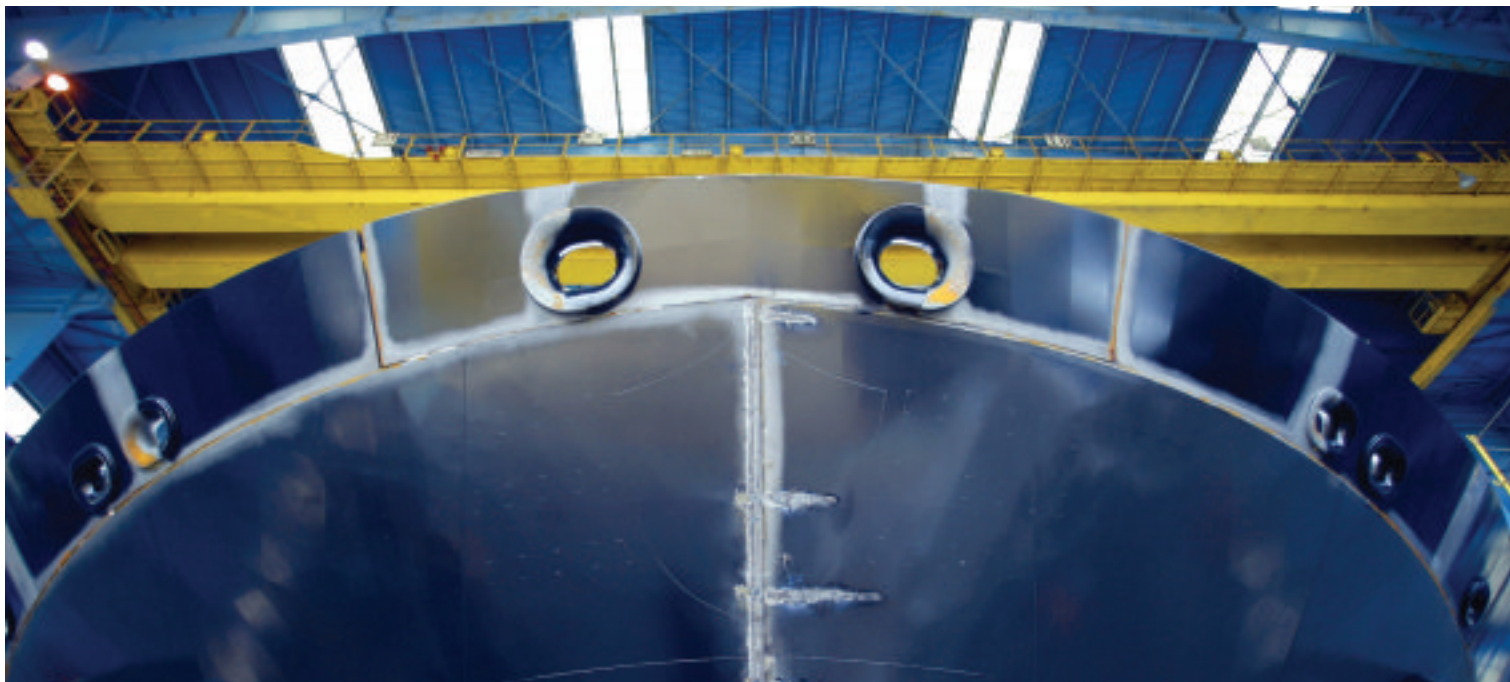
DNV Software



MANAGING RISK

Maritime industry challenges

Stakeholders focusing on the entire value chain



Maritime industry challenges

According to Takeo Koyama, Professor Emeritus, University of Tokyo: “Stakeholders in shipbuilding will increase in numbers. Standard design will not only be a shipyard’s matter, and collaboration within stakeholders will be the key issue for successful design. A longer life cycle of ships requests new aspects for maintenance and recycling.”

New rules

During 2006, new common structural classification rules became effective for tanker vessels and bulk carriers. These new requirements introduce a radical shift towards more computerisation of the rule formulations and structural assessments.

Integration and collaboration

At the same time, more effective integration of disciplines and systems with improved collaboration between people and organisations at different locations are recognised by shipbuilders as an important means to improve their competitiveness in a changing business environment.

“Reducing time to market for new ship designs is a key concern of ours. By introducing Nauticus Early Design, we are achieving better integration and better collaboration between the involved

parties, ensuring significant time reductions and improved solutions. In short – NED means better ships quicker.”

Torben Andersen, Senior Vice President, Odense Steel Shipyard

Practical innovation

Our focus is to help our customers improve their operational performance by reducing costs and downtime, while improving quality and efficiency.

We deliver a solid information base for managing ships throughout their life cycle.

Your issues – our concern

With the Nauticus product suite, DNV Software can offer a broad range of products and services to address the issues facing the maritime engineering industry. We can also provide comprehensive customised solutions to help ship designers, yards, and ship operators to meet their challenges.

Collaboration towards excellence

An effective integration of disciplines and systems for machinery and ship design improves collaboration with suppliers, authorities, and classifications societies. By implementing the ship specification in our tools for tendering and workflow management, you will become better positioned towards operational excellence.

Best engineering practice

Learning from history to ensure optimum performance and high quality



Refining information into knowledge

Integration of systems and people will only be successful if you are able to monitor and control the processes going on among them. This is why we introduce Best Engineering Practice as a concept.

Nauticus gives your organisation a means for improved engineering performance by combining process support and state-of-the-art services within the same portal.

Descriptive templates

Using business process templates to describe engineering work is how DNV Software offers a way to capture, preserve, and spread knowledge, facilitating a learning and acting global organisation.

Defining a process and associating the appropriate application to the different activities promotes consistency in working methods, as well as reducing time and effort spent on information searching.

By implementing **information workflow** as an important innovation in most of our products, DNV Software aims to help existing and new customers find the right balance between emerging technologies and new ways of engineering.

In order to succeed when refining information into knowledge, it is critical to consider all aspects related to data integrity, consistency, and distribution. DNV Software solves this using Brix Foundation with a loosely coupled architecture. It allows diverse applications to efficiently merge into one single work process template – without the need for costly and comprehensive integration projects.

Less costs – shorter time

Today companies find it difficult to transfer best practices across units and countries. The Nauticus product suite provides the next generation software tools and workflow-oriented solutions that will enable ship designers and shipbuilders to improve their work at reduced costs in less time.

All information in one place

Being able to work from a single active process template enables you to benchmark your business performance by capturing and measuring your company's way of working.

These results can be used to improve your best practices – to make them the very best!

Concurrent engineering workflow

Better and more efficient ship design



Newbuilding

Our process-oriented applications are tailored to support customised business processes, enabling changes to be made in how to perform business as well as promoting optimisation.

Supporting all phases

TenderSuite™ is a suite of software tools to support the specification phases of the project life cycle. New projects can be created according to the project structure in use, and you can easily maintain a type library of projects. Projects can also be exported to other systems, such as ERP and material management systems.

Closing the information gap

Nauticus Early Design is a solution for ship early design integrating 3D CAD and ship analysis systems. The system enables ship designers to perform contract and classification design in a fast and efficient way. It is a complete package for early design of ship hull structures that closes the gap between traditional draftsmen, structural engineers, and naval architects. This enables the naval architect to efficiently fabricate the class drawings from the early design model, making this a unique solution.

Nauticus Hull is a powerful software package for strength assessment of ship structures.

Nauticus Hull covers a wide range of analyses including:

- Rule check calculations
- Midship section analysis with Section Scantlings
- Beam analysis
- Simplified and advanced fatigue analysis
- Finite element analysis
- Linear and non-linear hydrodynamic analysis
- Weight assessment
- Coating estimations

Already in use by more than 200 shipyards and ship design offices around the world, Nauticus Hull has established itself as a preferred software tool for design and verification as well as structural and hydrodynamic analysis of ships.

Nauticus Machinery is a set of calculation tools for strength assessment of rotating machinery components and systems. The tools focus on everything from mechanical strength analysis to more complex fatigue capacity and vibration calculations.

Life cycle management

Using ship design information from cradle to grave



Ships in operation

Quality ship operation management ensures a vessel's fitness for purpose while complying with company policies and regulatory requirements. Regular maintenance and continuous upgrades therefore become increasingly important to prolong the vessel's operational lifespan.

Changes to ships and people

Many vessels have been through numerous modifications over the years to comply with their operational environment. In addition, organisations and people responsible for the operations and the modifications have also changed throughout the life cycle.

Other challenges throughout the life cycle

A considerable amount of data is generated through operational life, and most likely different systems (covering the range from written reports to spreadsheets) and databases have been used. Data management and house-keeping have thus become a challenge for several operators. Likewise, assessing and forecasting the technical conditions and establishing a cost-effective inspection and maintenance regime becomes more demanding.

Life cycle management solutions

Nauticus HULC enables ship operators to improve the overall control of their fleet's conditions by optimising inspection, repair, and hull maintenance.

This software will help you to:

- Optimise inspection
- Analyse hull condition
- Organise management functions
- Structure work orders and repair specifications

The system consists of an onboard system and an onshore management solution. The transfer of information between these two systems is managed by an automated database that keeps you updated via e-mail messages.

Optimise and plan

Thus, a life cycle management solution enables operators to improve overall control of their vessels by optimising and planning inspections, modifications, mitigations, and repairs.

The Nauticus system can organise and provide management of the information needed to make the right decisions for safeguarding life, property, and the environment.

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