

Project Profiles

ShipConstructor®

Ice-Class General Cargo Vessel

Designer & Shipbuilder

Peters Shipyards, The Netherlands

Project

"Ice-Runner" project compiling 11 ice-class 3600 DWT general cargo vessels for various European clients

ShipConstructor® Modules

Structure, Pipe, Nest, NC-Pyros, Report



Courtesy Peters Shipyards, The Netherlands

Project Highlights

Peters Shipyards started the design for the "Ice-Runner" project in 2004, delivering the first of eleven vessels midway through 2006. The remaining vessels are due to be constructed in Europe - two in The Netherlands, and eight in Croatia.

Preliminary Visualization - ShipConstructor was brought into this project at a very early stage of development. To provide class and authority approvals for the vessels, Peters Shipyards utilised the software suite to produce a complete 3D model for easy visualisation, as well as 2D drawings.

Complete Pipe Modeling - This was the first project that Peters Shipyards made complete use of ShipConstructor's pipe modeling module throughout the entire project, going a step further with this project than they had done in the past. Modeling all general piping as well as engine room piping not only meant one single model for all piping to be referenced from, but ensured consistency of parts throughout the project, very important requirements with well over 1000 isometric pipe spools throughout the model.

Design Efficiency - Initial design of the project was started at Peters Shipyards' office in The Netherlands, but once ready for detailing, the project database was shared with Alex Naval in Lithuania for final detailing. Being able to share the model database allowed for the project to be completed more efficiently, making best use of the expertise held by specialised companies around the world.

Interference Checking - Once all modeling was completed Peters Shipyards took the time to "clean" the project by analysing interference drawings, checking structural elements, piping, and solids. Taking the time to check for interferences and making adjustments in the model prior to production was a very important step in the design process, ensuring no costly, time-consuming mistakes were made in the construction process.

www.petersshipyards.com

U.S. Coast Guard Deepwater Program

Shipbuilder

Northrop Grumman Ship Systems Avondale Operations, USA

Project

U.S. Coast Guard Deepwater Program: National Security Cutter and Offshore Security Cutter

ShipConstructor® Modules

ShipCAM, Structure, Pipe, HVAC, Equipment, Nest, NC-Pyros, Report



Courtesy Northrop Grumman Ship Systems Avondale Operations, USA

Project Highlights

NGSS has more than 60 users working on the National Security Cutter project who found ShipConstructor to be very user-friendly and easy to use.

Stock Libraries - During start-up a number of users have been busy building the libraries and loading existing data from other in-house systems into ShipConstructor. Avondale and SSI have together developed a file exchange mechanism that lets Avondale users import large amounts of pipe stock into the ShipConstructor libraries.

Network Installation - During initial testing ShipConstructor was run as a standalone installation and then moved to a full network installation very easily and quickly. No stoppage to production was encountered.

Excellent Customer Support - NC-cutting was tested and found to work well, with the response time from SSI's expert support team said to be excellent and timely. SSI provided configuration files for the Avondale specific NC-cutting machines within 24 hours of receiving burning machine details.

Nesting - The lofting department is very happy with the ease of using NC-Pyros, and the nesting module. Changes to the nests can very easily be implemented before cutting and ShipConstructor's revision checking functions ensure they always have the latest parts in the nests.

SQL Database - The National Security Cutter project consists of 40 structural units, and is anticipated to consist in excess of 50,000 modeled parts when completed. The SQL database runs smoothly and requires very little maintenance other than the scheduled backups. There has not been a single data corruption or loss of data to date. Users noted improvement in efficiency and closer cooperation between departments with implementation of ShipConstructor.

www.ss.northropgrumman.com

Project Profiles

ShipConstructor®

Sail Catamaran

Naval Architects & Designer

Van Peteghem Lauriot Prévost, France

Production Designer

BMT Nigel Gee & Associates Ltd., England

Shipbuilder

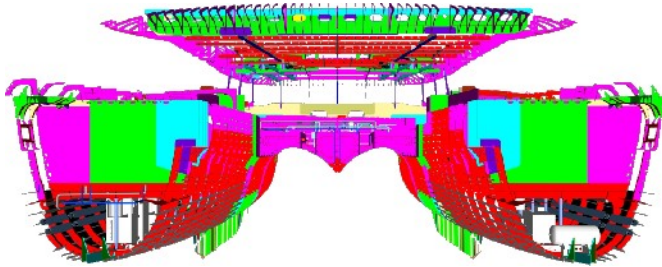
Derecktor Shipyard Bridgeport CT, USA

Project

44 m aluminum sail catamaran - currently under construction at Derecktor Shipyard

ShipConstructor® Modules

Structure, Pipe, Equipment, ProductHierarchy, Nest, Report



3D Product Model courtesy BMT Nigel Gee & Associates Ltd., England



Courtesy Derecktor Shipyard Bridgeport CT, USA

Project Highlights

Software Integration – ShipConstructor2005 was used with AutoCAD 2005 and Rhino v3 software packages. Preliminary design and styling was provided by Van Peteghem Lauriot Prévost (VPLP). BMT Nigel Gee & Associates (NGA) produced the construction and systems drawings for class approval. The detail design of the vessel was produced by NGA using ShipConstructor and included full structural and pipe work modeling. ShipConstructor was used to provide production information code, nest plans, isometric booklets, pipe arrangements, and pipe spool drawings to Derecktor Shipyard (DSY) for construction. NavisWorks Jetstream files were provided to DSY who used NavisWorks Freedom as the visualisation tool to enable a walk-through of the vessel during the modeling process.

Interference Checking – NGA used the interference checking element of ShipConstructor to verify clearance between all items of machinery, equipment, cable trays and HVAC ducting. Removal and maintenance space requirements were checked to ensure equipment manufacturer's requirements were met. NGA used NavisWorks to take a walk through of the vessel model as a visual method of interference checking and also for 'in-work' liaison with DSY during build to ensure maximum efficiency between designer and shipyard.

www.vplp.fr, www.ngal.co.uk, www.derecktor.com

Island Home Ferry

Designer

Elliott Bay Design Group, USA

Shipbuilder

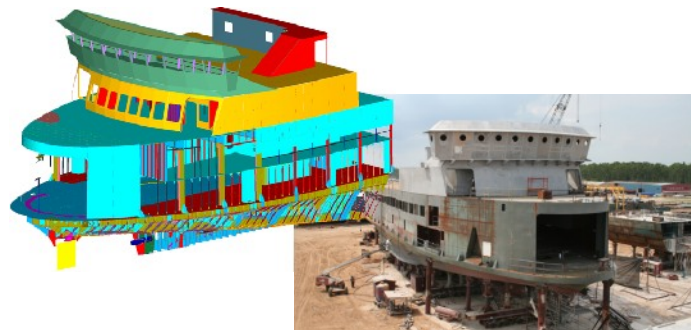
VT Halter Marine, Inc., USA

Project

Design and construction of a 255-foot double-ended vehicle and passenger ferry for the Woods Hole, Martha's Vineyard, and Nantucket Steamship Authority

ShipConstructor® Modules

Structure, ProductHierarchy, NC-Pyros, Report



Courtesy VT Halter Marine, Inc., USA

Project Highlights

The complex state-of-the-art Island Home Ferry is called a "double ender" because of the major design feature it has consisting of a propeller and rudder at each end, an important feature to the operator as it means the ferry does not have to do a 180 degree turn on each return trip, saving valuable time and allowing for more trips per day.

VT Halter Marine, Inc. (VTHM) was able to consult with the customer during the design process, through the use of ShipConstructor, and easily identify problem areas which would have impacted production and the supply of materials for use in the construction of the vessel. Identifying these issues early in the design phase helped to accommodate for changes between the engineering department and the customer prior to the construction of units, and also address future issues such as the need for a common window to be purchased and stocked for later use in case of a window being broken during operation. VTHM was further able to save time on the design-side of the project by using a 3D modeling subcontractor, also utilizing ShipConstructor, to work on the upper units of the vessel. Once the upper units were completed the files were simply sent to VTHM for integration into the final model.

Fabrication of the vessel consists of a mix of steel and aluminum. Steel construction has been used from the keel to the "02 deck", and aluminum from the detacouple seam on the "02 deck" to the top of the vessel, contributing to the increased capacity for vehicles on the ferry. The breadth of the vessel is 64 feet allowing for five rows of vehicles on the freight deck and two rows on each of the two lift decks, supplementing the vessel's vehicle carrying capacity. Seating is arranged to achieve the most comfort for the 1200 passengers and crew, with interior space laid out to meet as many of ADA's (Americans with Disabilities Act) recommendations as are possible for a vessel.

www.vthaltermarine.com, www.ebdg.com