Blohm + Voss Naval optimizes manufacturing processes using PDF Generator 3D

3D PDF documents created fully automatically from CAD and PDM systems

Located in Hamburg and Emden, Blohm + Voss Naval GmbH (BVN) is one of the world's leading shipbuilders. Shipping lines and shipyards across the globe benefit from their end-to-end service and wealth of expertise.

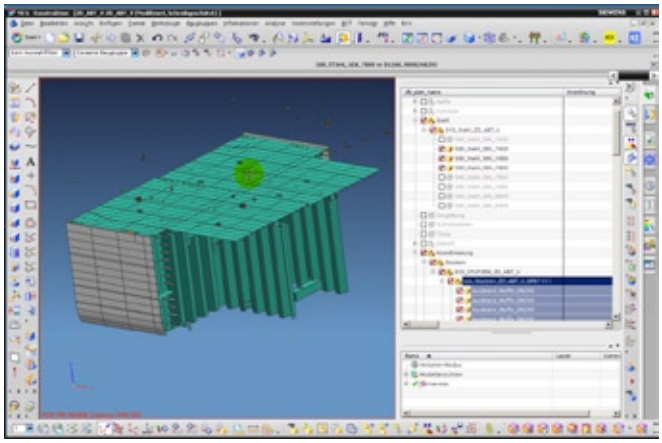
BVN supports its customers

- >> in planning and managing projects,
- >> in design and systems development,
- >> in procurement and sales and
- >> in customer service and with programs for the entire product lifecycle.

Blohm + Voss Naval

Starting point

One of the biggest challenges to be mastered in the context of the distributed development of products is to harmonize changes between the development partners quickly and efficiently, and shipbuilding is no exception in this respect. At BVN, there was room for optimizing collaboration between the development departments for pipework and steel design for shipbuilding. Among other things, it is necessary for the relevant departments to agree on the locations at which holes must be made for the pipes to penetrate.



In order that these holes match the route of the pipework, the pipework design team must request them from the steel design team. Conversely, it is necessary for the pipework design team to be kept constantly up-to-date on the current development status of the steel design in order to identify the need for such holes at all. This is the only way to avoid the planned pipework from colliding with the steel bulkheads and decks, which would result in significant consequential costs during manufacturing.

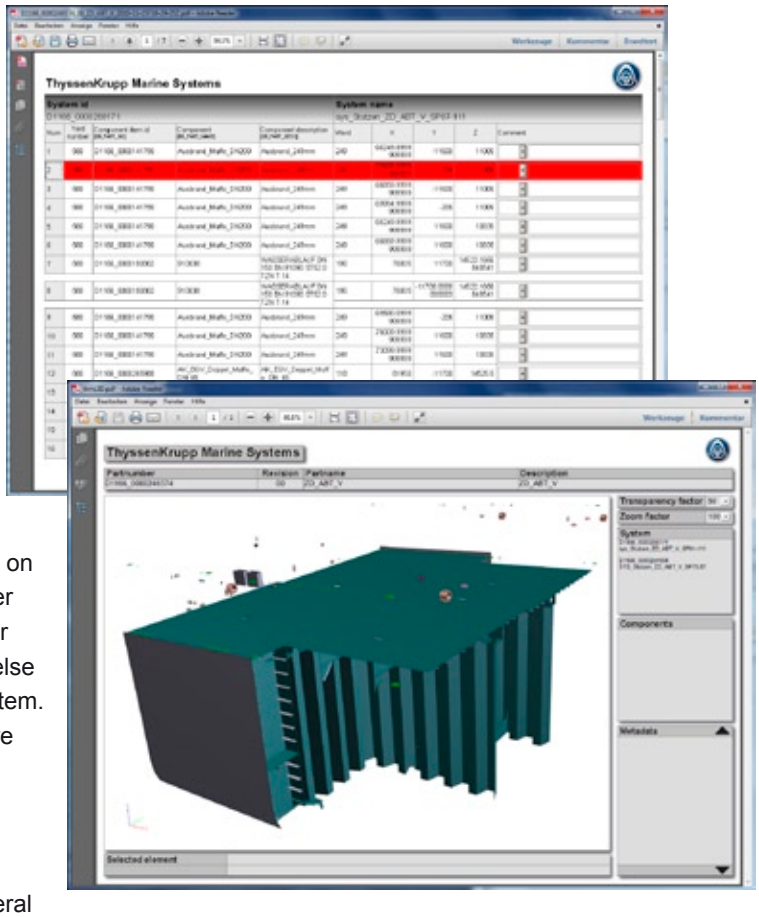
There are two problems here: The first is the physical separation of the two departments, and the second is the different systems used for design. BVN uses programs from Siemens PLM Software: NX for computer-aided design (CAD) and Teamcenter for managing the design data (PDM). The development partner uses a special shipbuilding system from a different vendor.

BVN was looking for a solution that would allow them to exchange the latest version of the design data with their partner quickly and reliably. It was intended that the solution should not involve any financial investment for the partner and nevertheless provide the design data at the necessary level of detail.

„The experts at PROSTEP have a flexible, practical approach. PROSTEP's wide-ranging skill means that they can offer end-to-end solutions. The custom solution using PDF Generator 3D now allows us to perform a crucial step more reliably, as well as more quickly."

Friedhelm Stevens, Development Team Leader, Blohm & Voss Naval GmbH

The appropriate technology was PDF. A PDF file can contain 3D data, 2D data and metadata, does not require high CPU performance and can be displayed using the free Adobe® Reader®, thus avoiding any additional software costs on the part of the recipient. But how does one get the design data into PDF format? Of course, the current software should continue to be used.



BVN was persuaded by the solution offered by PROSTEP: PROSTEP PDF Generator 3D is linked to the existing systems and used to generate the PDF documents. The advantage is that thanks to their extensive expertise and many years of experience in the fields of both CAD and PLM, as well as in the automation of information processes using 3D PDF, PROSTEP is able to offer the entire solution from a single source.

It is quite simple to create a PDF document. The necessary information on the holes is selected in the Teamcenter PDM system, along with a recipient for the document if required. Everything else is carried out automatically by the system. Relevant geometries and metadata are collated in a PDF document and then sent directly.

Benefits

BVN benefits from the solution in several ways: The existing systems can continue to be used and the system infrastructure remains unchanged. At the same time, the design data (3D, metadata) can be made available to a far larger group of users as 3D PDF documents. This results in

>> more efficient use of the design software and data as resources,

>> time savings when conditioning design data for downstream processes,

>> reduction of errors during data conditioning and manufacturing,

>> all of which goes towards improving the overall quality level.

And the staff save time too: Creating the PDF document with the design data and sending it to the service partner is now a quick operation for the design team. It's simply a matter of selecting the required components in the CAD system and specifying the recipient. The 3D PDF is created and sent automatically.
Of course, the potential uses for the PDF documents are not limited to the design of holes for pipework. Other possible fields of application for the 3D PDF technology in manufacturing and service are already under discussion and are planned for implementation in the near future.

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