

Paramarine® for commercial vessels

Leading independent European naval architecture consultancy uses Paramarine® for commercial vessel design projects

Executive summary

Ingenieurbüro Mühlhoff – a Germany-based naval architecture consultancy company serving mainland Europe – required a fully-integrated software stability analysis tool. QinetiQ developed Paramarine®, one of the world's only fully-integrated Naval Architecture Design and Analysis products.

The brief

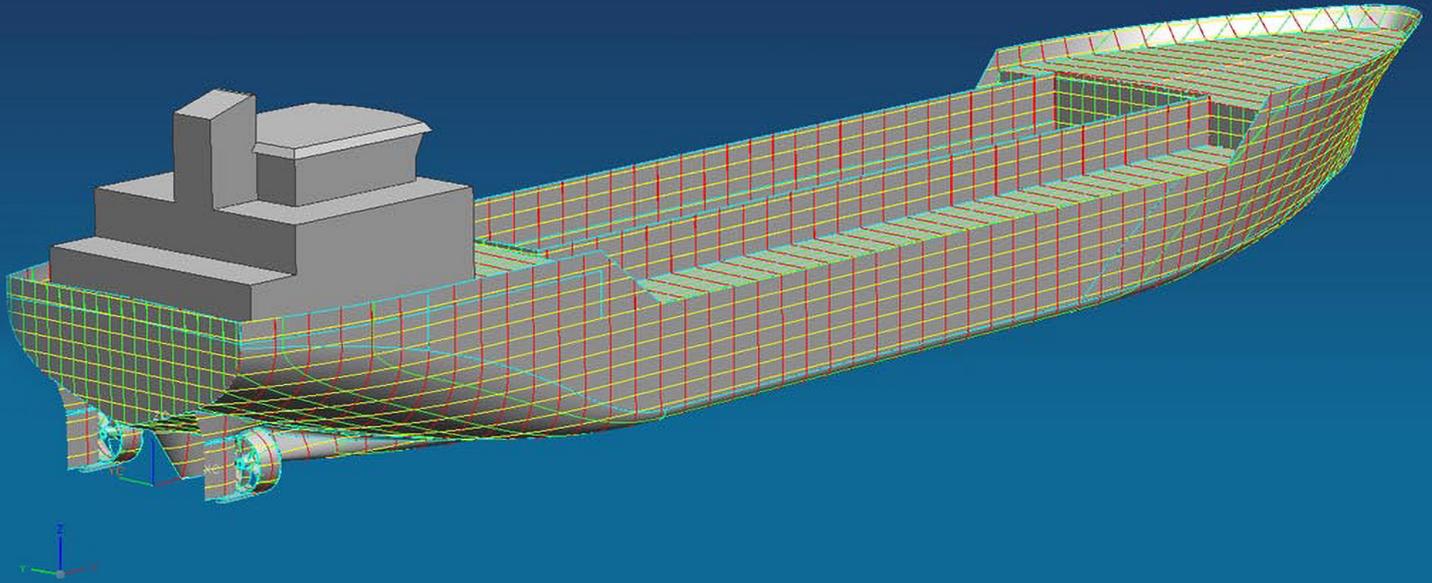
Ingenieurbüro Mühlhoff provides services for the design of a wide range of vessels, including complete designs of superyachts, river boats and passenger ships. The company has been operating for more than 15 years, delivering a variety of services including:

- Manufacturing documents
- Strength calculations
- Development of building packages
- Construction supervision
- Intact and damaged stability analysis
- Ships stability submissions
- Consulting

Until 2009, Ingenieurbüro Mühlhoff had been using a software stability analysis tool that was not integrated with Siemens NX, the company's preferred CAD tool. This caused issues during the design process, so a search began to find a software package that was integrated with Siemens NX and that also had all the functionality that Ingenieurbüro Mühlhoff required across a broad spectrum of vessel types and levels of complexity.

“ Introducing Paramarine® immediately gave us a massive benefit in that it allowed us to integrate our NX CAD data into Paramarine® without any issues. This has had a significant impact on the time it takes to design a boat, speeding up the whole process by as much as 40%. ”

Felix Mühlhoff, Founder and Owner, Ingenieurbüro Mühlhoff



Our solution

QinetiQ developed Paramarine®, one of the world's only fully-integrated Naval Architecture Design and Analysis products that can handle the complexities of ship and submarine design. Paramarine® is based on 20 years' experience in advanced marine design. Thousands of concept vessels have been modelled and their stability analysed using Paramarine®. It is used by many of the world's leading shipbuilders, as well as many leading universities around the globe, including the Massachusetts Institute of Technology and University College London.

Paramarine® was the perfect integrated solution for Felix Mühlhoff's business, combining easily with the existing software because it uses the same geometric modelling kernel, Parasolid. This integration allows Paramarine® to interrogate the highly accurate 3D CAD geometry when conducting simple volumetric or more advanced stability analysis, in contrast to measurements based on simplified sectional data.

Paramarine® delivers:

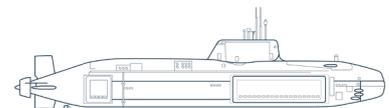
- extensive and comprehensive early stage design capabilities
- integration with leading CAD packages, such as NX, to deal with all levels of complexity
- powerful real-time reporting, capable of converting into a range of formats for regulatory review
- a high degree of in-use flexibility, giving users total control, full compliance with all relevant commercial yacht-building regulations, and an extensive range of stability criteria
- ease of installation and use
- support from a wide range of consulting services
- fast manipulation and calculation of data
- a quicker design process

Outcomes and benefits

The implementation of Paramarine® has provided a great deal of scope and flexibility, allowing Ingenieurbüro Mühlhoff to deal with the most complex requirements its

numerous clients from across Europe might have. Another key benefit of Paramarine® is its ability to produce reports as and when required. Using Paramarine®, naval architects are able to easily and rapidly create reports to Excel that can be customised in a format to meet regulatory requirements.

Paramarine® has been built on the back of QinetiQ's 20-plus years' experience in naval architecture and is capable of dealing with the most complex designs and engineering requirements.



Paramarine® is one of the world's only fully-integrated Naval Architecture Design and Analysis products that can handle the complexities of ship and submarine design

For more information, please contact customercontact@qinetiq.com

QinetiQ is always on your side, protecting, improving and advancing your vital interests

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