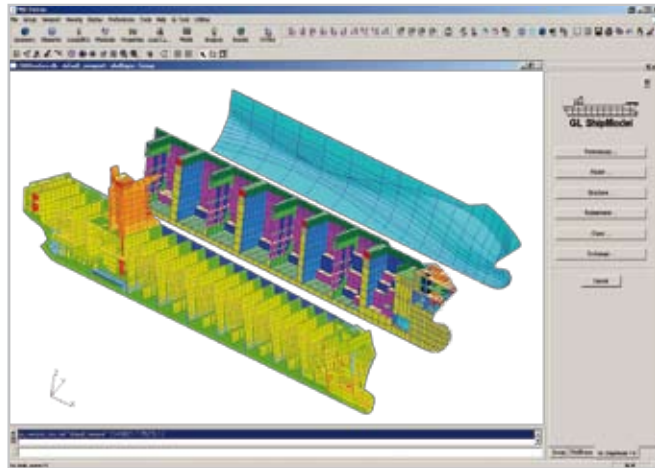


The route to faster, better quality modelling

Nowadays, global finite element analysis is regarded as the most suitable method of examining the structural behaviour of a ship with regard to both strength and vibration.

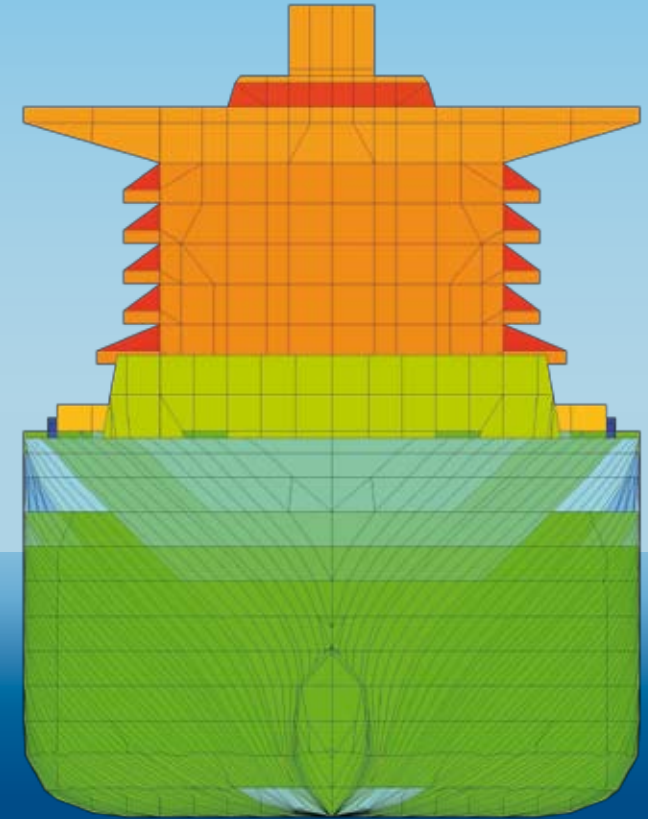
The need for global calculations has been growing in recent years and it is assumed that this trend will continue in future. Consequently, expertise in global strength and vibration calculations and the use of suitable tools are essential for the design of a vessel.

Each global analysis starts with the time-consuming task of establishing a finite element model of the entire ship. To find the right way through this complex task GL offers a software tool known as GL ShipModel. It can significantly speed up the modelling process and enhance model quality.



GL ShipModel

Global modelling of ship structures



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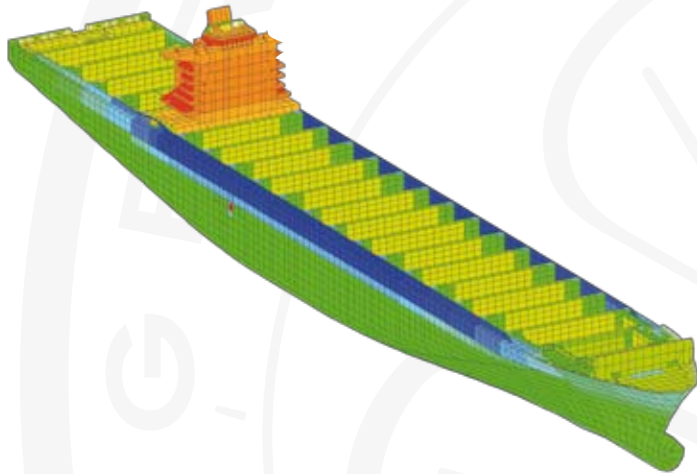
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Why these calculations are so important

Direct global strength and vibration calculations may be required by Classification Societies to ensure the integrity of new design vessels with special dimensions or construction details, or may be requested by the owner in a building contract.

Furthermore, global strength and/or vibration calculation are:

- **Necessary** for exceptional constructions of vessels not directly covered by Regulations and Rules.
- **Essential** for the use of realistic loads and excitation and hence for the prevention of damage on the vessel
- **Needed** for detailed post-processing tools and evaluations, e.g. buckling and fatigue evaluation.
- **Useful** in optimizing the design of a vessel to save steel and production costs



GL ShipModel

GL ShipModel can be used for any type of vessel and for ships of any class. If used in conjunction with a GL Class ship, you also benefit from optimized data exchange with GL experts and easy interfacing to other GL software tools.

GL ShipModel is integrated into MSC PATRAN and turns standard features of this FE pre-processor into compact, design-oriented functions that make fast and efficient modelling with ship-typical attributes possible.

How you benefit:

The main benefits for yards, design offices or research institutes are the time saved and the quality gained in the initial modelling phase. The tool's features include:

- Universally deployable tool with only few basic data required
- Function-specific modelling of structural members, e.g. decks, bulkheads
- Comfortable modelling and control of ship-specific attributes such as plate thickness and openings or cutouts, etc.
- One-step modelling of stiffening systems instead of time-consuming manual modelling of FE line elements
- Support for mesh and element property idealization
- Easy data handling and navigation
- FE model check

Is there a faster way to generate such high-quality models?

Training seminars and workshops

GL runs international seminars and workshops to provide more detailed information about global modelling of ship structures and GL ShipModel:

Seminar objectives

- Intended for structural engineers from design offices, shipyards and research institutes
- Review of the basic aspects of a global finite element analysis of ship structures by using finite elements; focus on the modelling process
- Acquisition or updating of basic knowledge about global calculations; familiarization with all the important aspects and special features relating to the modelling of global ship structures
- Description and demonstration of GL ShipModel

Workshop objectives

- Intended for practising engineers and research scientists interested in or wanting to perform global finite element calculations
- Various practical exercises involving the main features of GL ShipModel
- General aspects of modelling global structures
- Discussion of specific detailed problems

Basic knowledge of MSC PATRAN is helpful but not essential.