



## PREPARING YOUR VESSEL FOR THE FUTURE

**Modifications to a vessel's design, such as lengthening or changing the lashing pattern, are proven efficient measures to improve a vessel's attractiveness for potential customers and increase the ship's competitiveness. Yet modifications like these entail quite an investment and they must be verified for their technical feasibility.**

Navis offers dedicated modification and upgrade services with its MACS3 consultancy services. We at Navis have a long history of providing calculation services tailored to our customers' requirements as part of due diligence for planned modifications and upgrades.

Our exceptional team of naval architects and marine engineers supports a wide range of projects involving various types of vessels. This service focuses on increasing cargo intake and/or optimizing a vessel's energy efficiency and performance.

Whether the modification is for a newbuilding in the drawing and design phase or for an upgrade to an existing vessel, all calculations and analyses draw on the ship's profile data and enable the current structural status of the vessel to be compared with planned measurements.

### BENEFITS

- ✓ MACS3 consultancy services for checking the technical feasibility of planned vessel design modifications and upgrades
- ✓ Wider range of calculation services to increase the vessel's commercial and/or performance efficiency
- ✓ Consideration of all standard and current lashing rules issued by the major classification societies including BV, LR, DNVGL and ABS
- ✓ Suitable for all types of vessels
- ✓ Calculations based on the vessel's profile data



## SCOPE OF SERVICE

Our naval architects and MACS3 experts can prepare a broad range of calculations for planned vessel modifications, including:

- ✓ Lengthening
- ✓ Structural modification – e.g., layout of super structure
- ✓ Operational range extension
- ✓ Tonnage
- ✓ Relocation of tanks
- ✓ Simulation of different lashing patterns
- ✓ Simulation of various arrangements for lashing bridges
- ✓ Change from lash gap to ISO gap enabling Russian or mix stowage on the vessel (greater flexibility)
- ✓ Meeting class requirements



## REQUIREMENTS

MACS3 consultancy services require:

- ✓ MACS3 profile is necessary to compare the vessel's current structural status with the planned modification and upgrade measurements.
- ✓ Alternatively, a new vessel profile needs to be created in MACS3.
- ✓ Data relevant to stability and strength, including, for example, hydrostatics, stability cross curves, bonjean data, GA, etc. and in accordance with planned modifications
- ✓ Detailed briefing about the planned modification measurement
- ✓ MACS3 knowledge and shipbuilding basics are helpful but not necessary

» Once all the required data is available, we can deliver the calculations at the desired date. We can also expedite delivery at an additional charge.

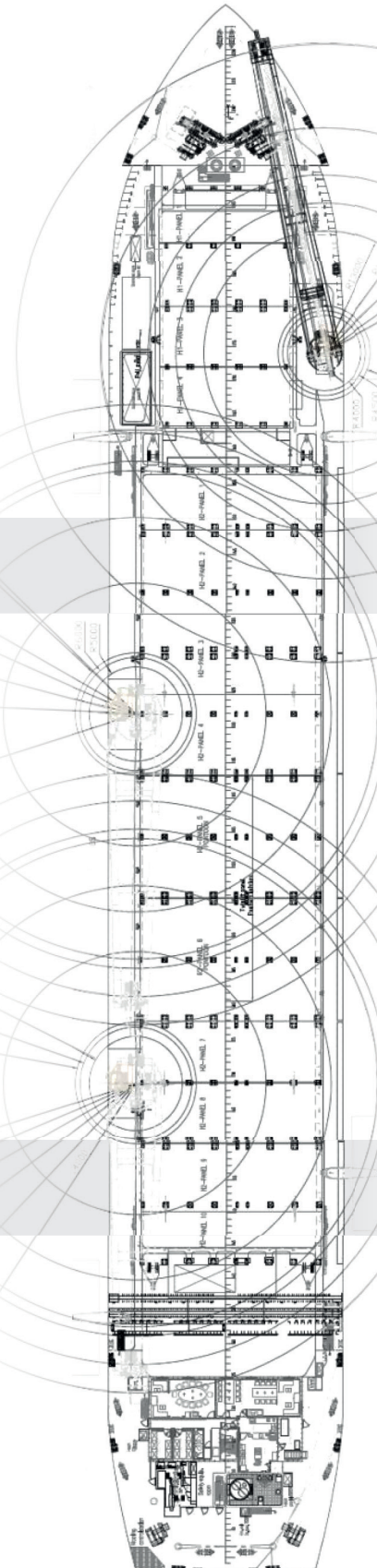


## REFERENCES

The onboard loading computer MACS3 is in use on a wide range of container vessels, multipurpose vessels, bulk carriers and as well on tanker vessels, ro-ro vessels and passenger vessels.

Established since 1984, the ship library includes approximately 5,000 ship profiles. For the container vessel segment MACS3 holds a share of approximately 65%.

Meanwhile maritime colleges and universities worldwide teach the future nautical officers with MACS3 loading computer.



If you have any enquiries or would like to set up an appointment with one of our sales representatives, please phone or e-mail us:

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