



KONGSBERG

THE “KM SHIP”

Multidisciplinary integration for simulation-based design



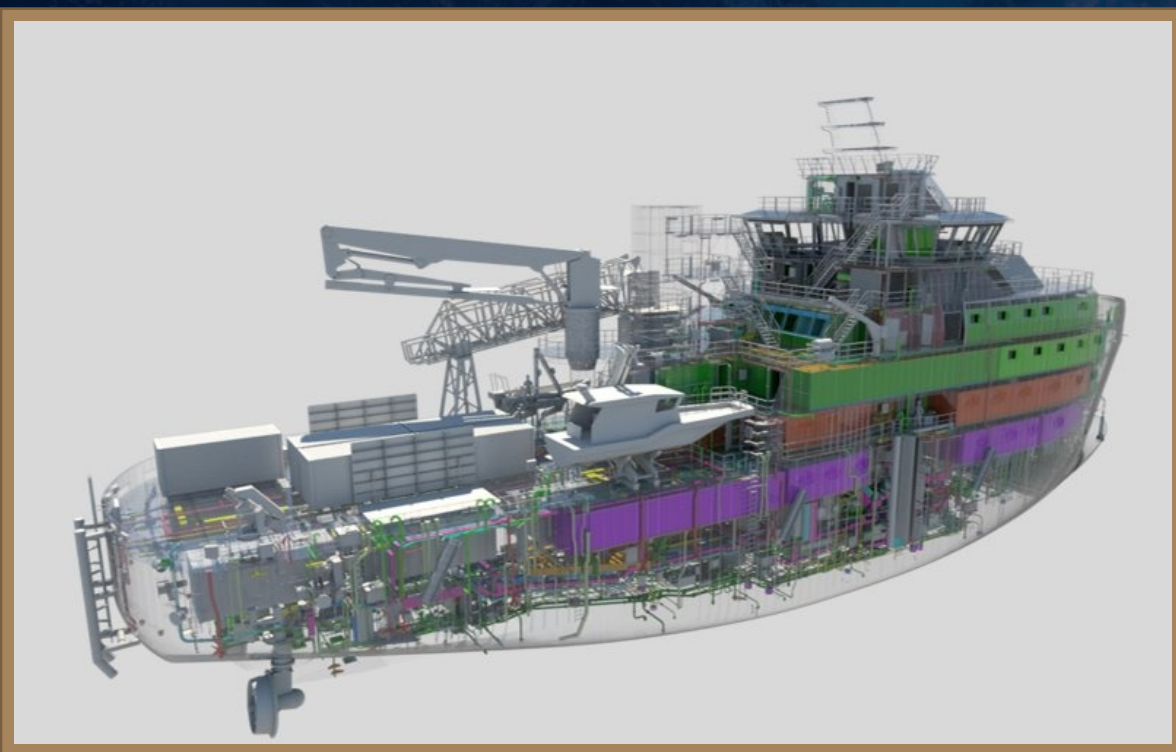
PAULO MACEDO
HYDRODYNAMICS
SHIP DESIGN SOLUTIONS



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>50 years pushing limits

UT-Design and NVC-Design



Facts

Close to 1000 vessels sailing with our Design.
(UT-design and NVC-design)

Efficient and safer operations has always driven us forward and made us push the limits.

A fully integrated 'Kongsberg Ship' is a unique opportunity to deliver beyond sustainability expectations

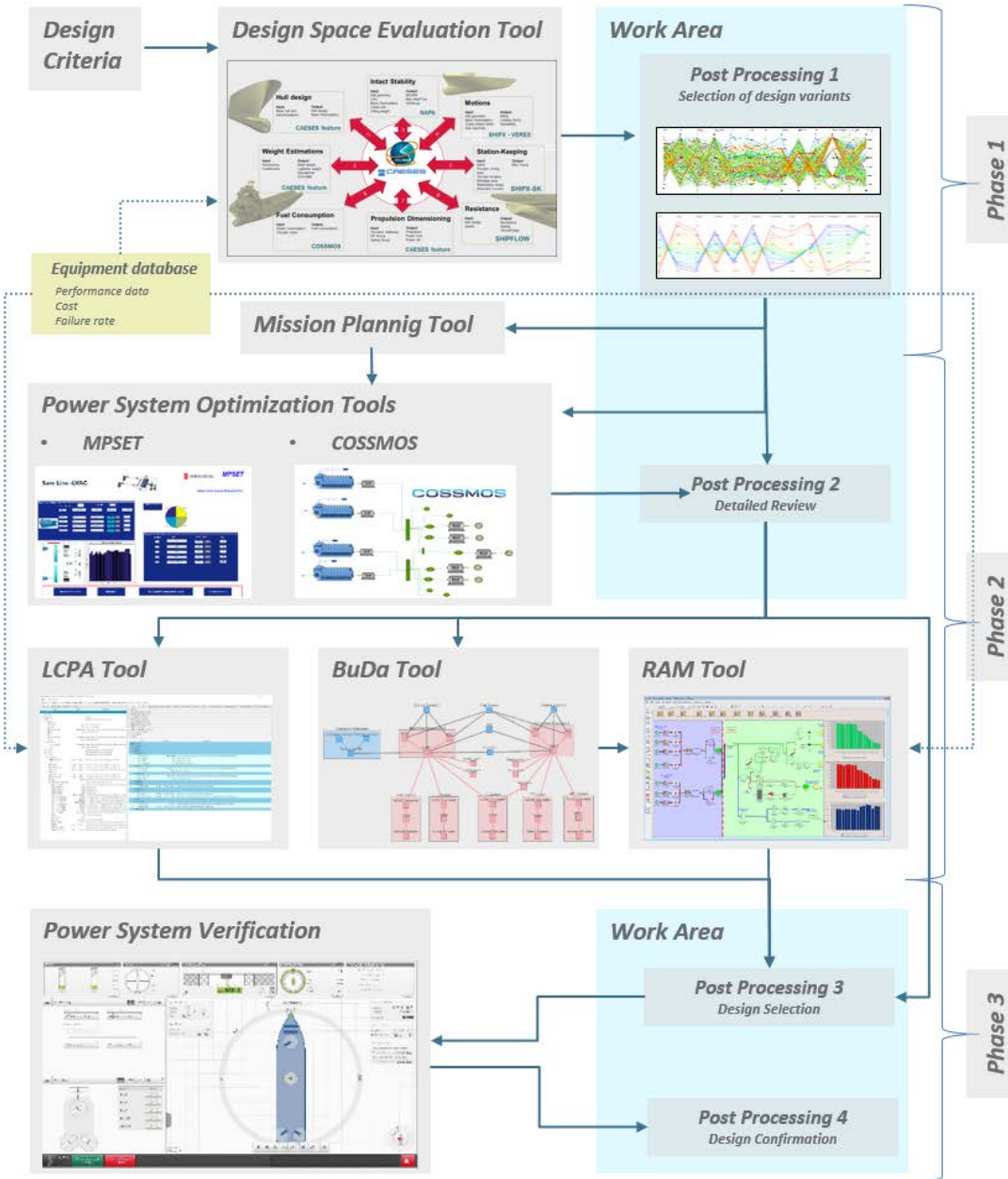
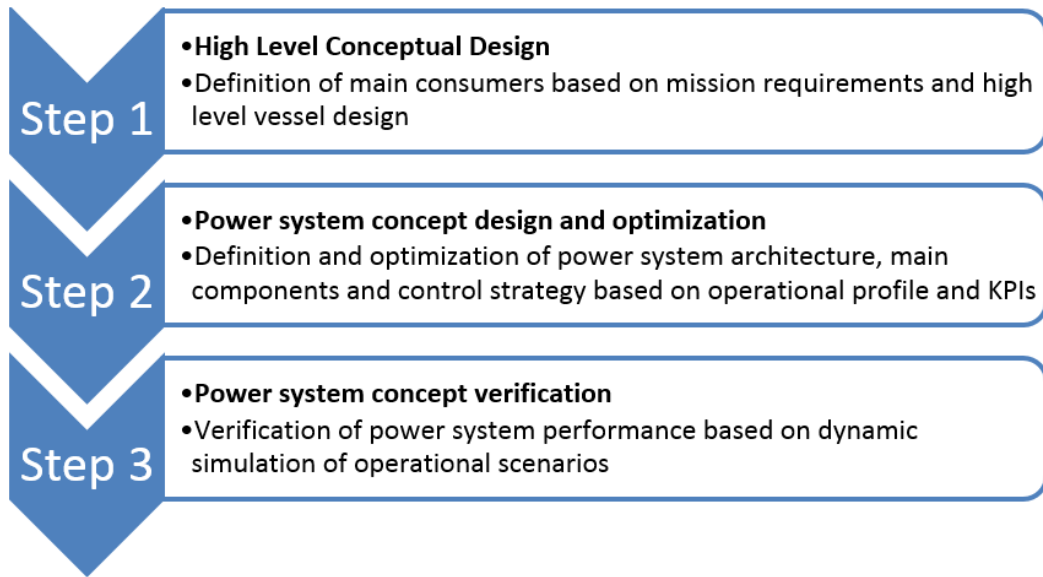


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HOLISHIP – 2018-2020

Design and Verification of an OSV

WP5 - Three step methodology for power system conceptual design

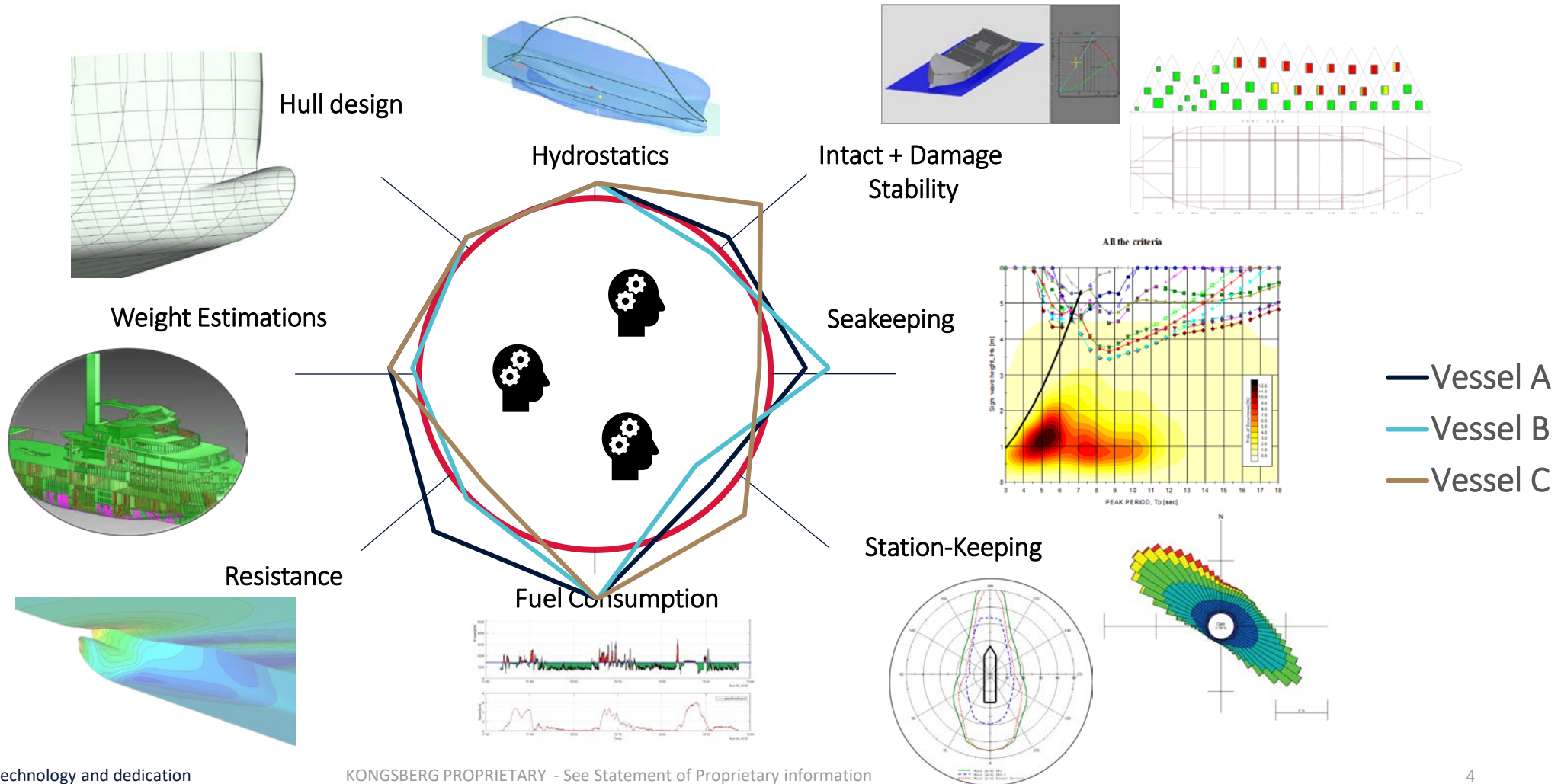




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Multi-Disciplinary Design & Optimization

From design spiral to holistic approach

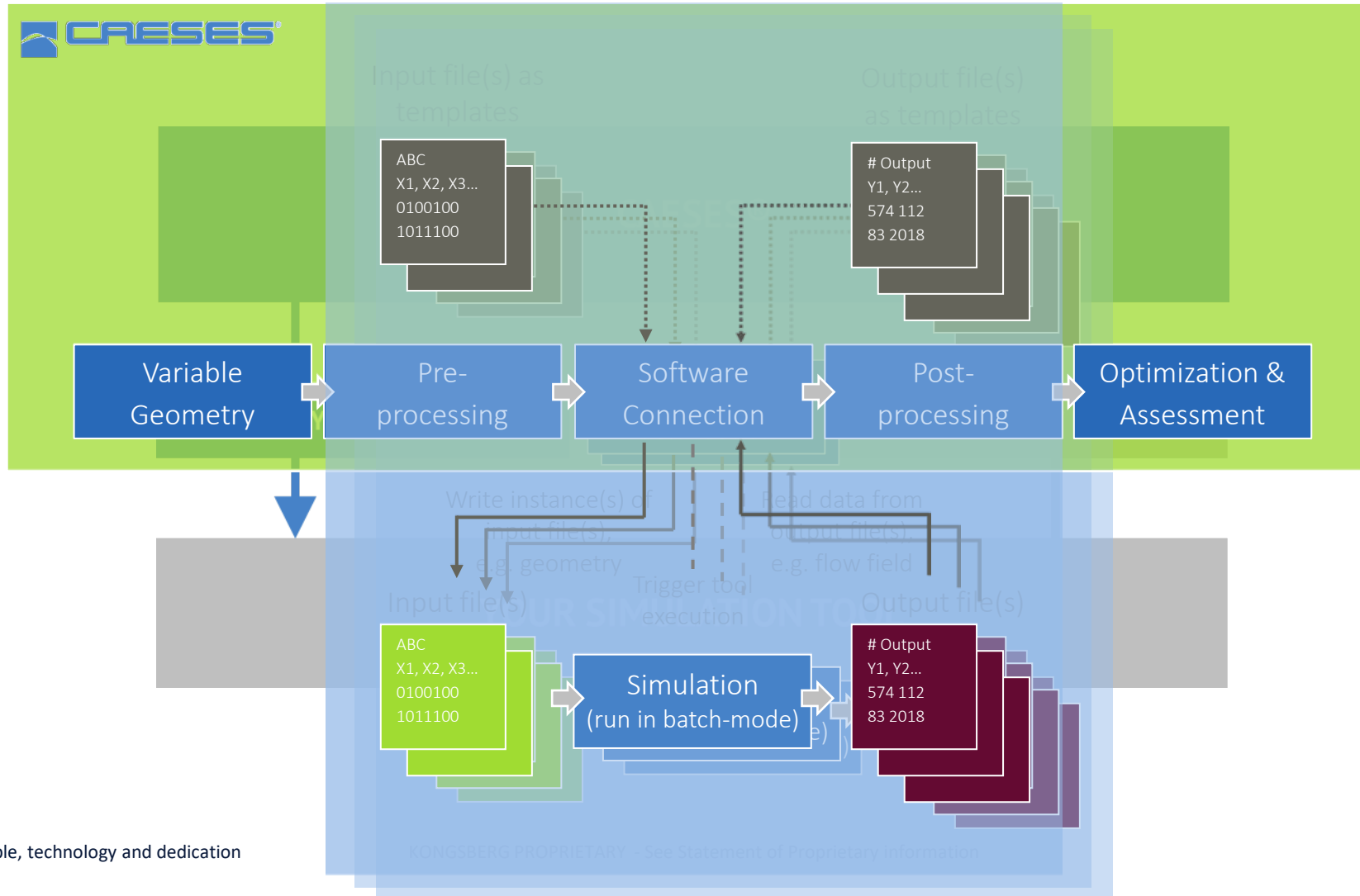




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Multi-Disciplinary Design & Optimization

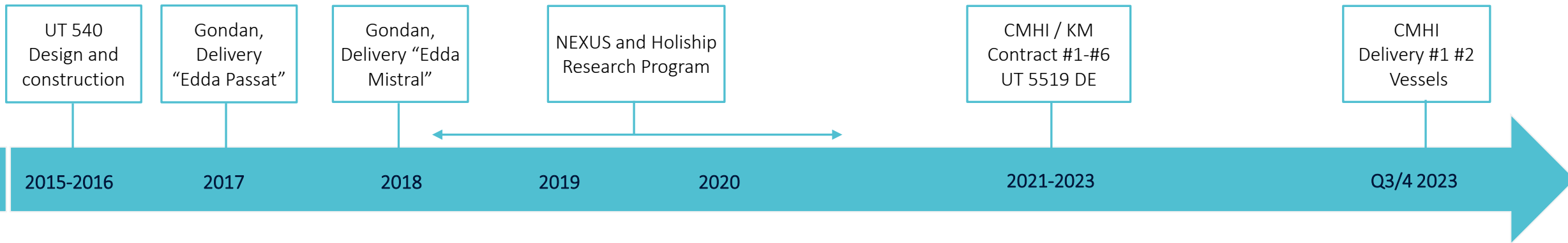
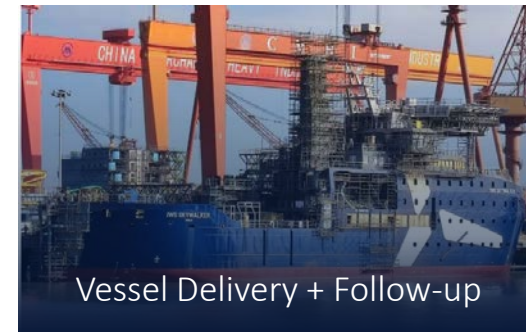
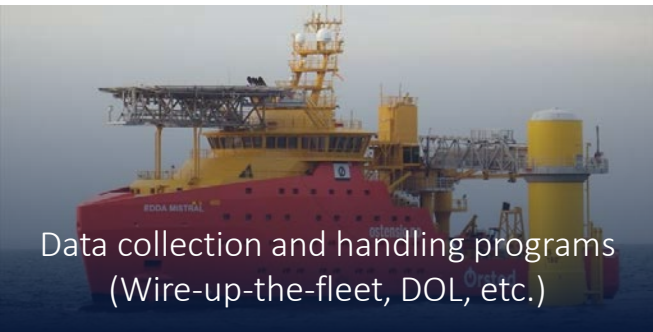
Process Integration and Design Optimization (PIDO)





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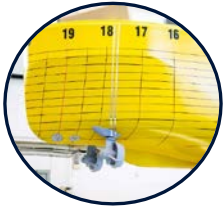
Building Essential Domain Competence





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Offshore Wind Service Operation Vessels



Model Basin Tests



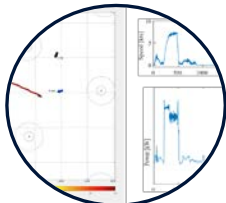
Virtual Model Tests



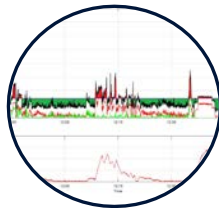
Offshore Charging



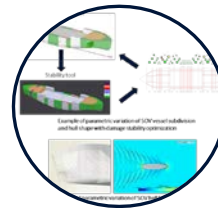
Data Logging



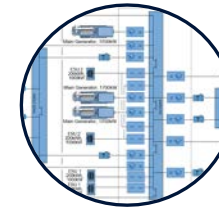
Identify Power Needs



Hull Optimization



Optimized Power System



Alternative Fuels



WORLD CLASS – Through people, technology and dedication

KONGSBERG PROPRIETARY - See Statement of Proprietary information

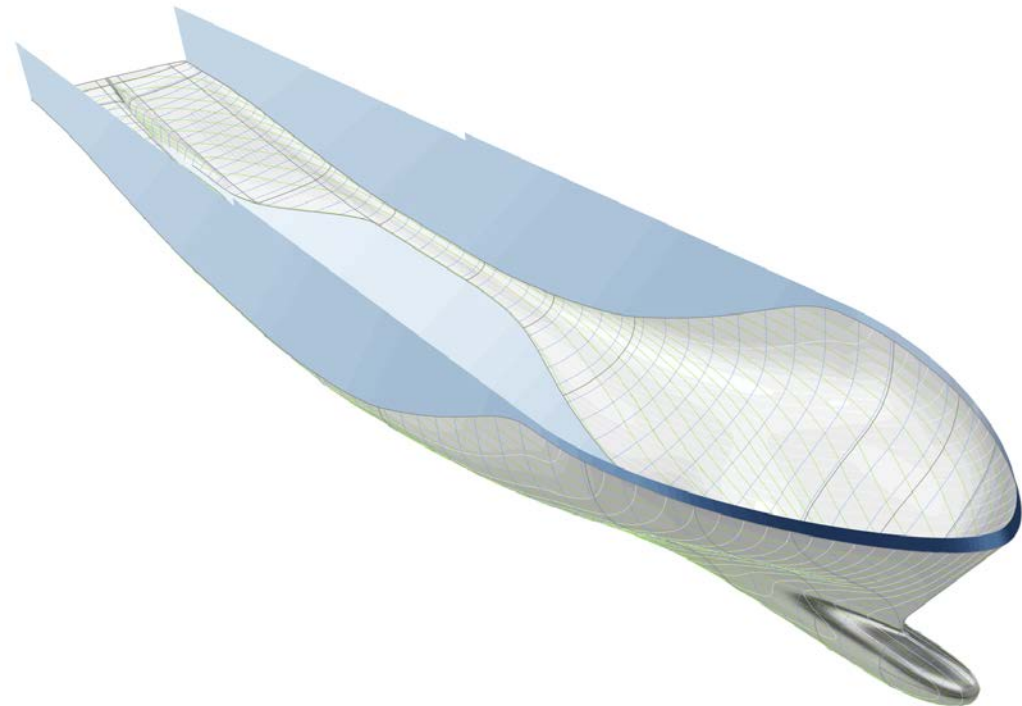


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Hull Design

The Creative Phase

- All vessel performance depends on it
 - Experience, references and history
 - Interdisciplinary Conflict Resolution
 - The «Art of Compromisation»
 - Traditionally a manual process
-
- Rapidly moving towards parametrized models
 - Requires clever parametrization

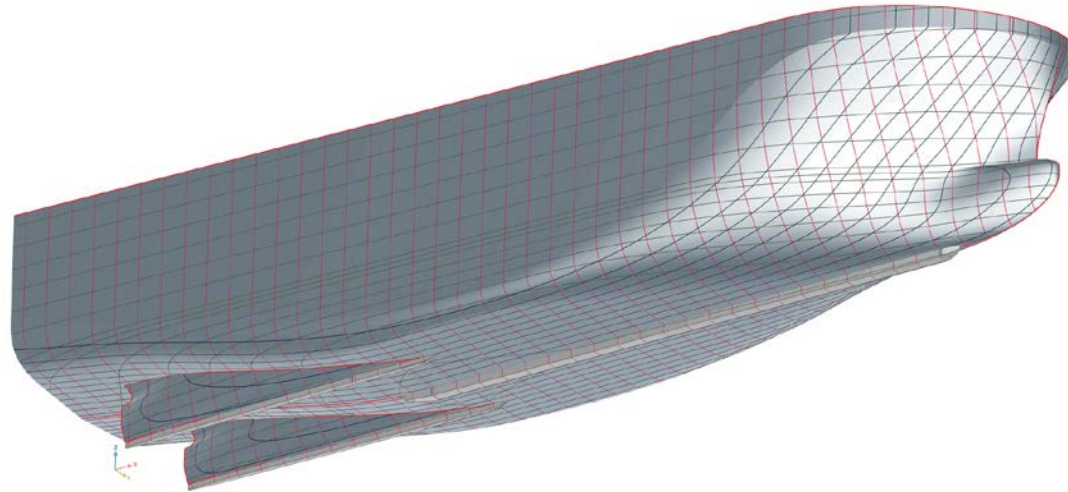




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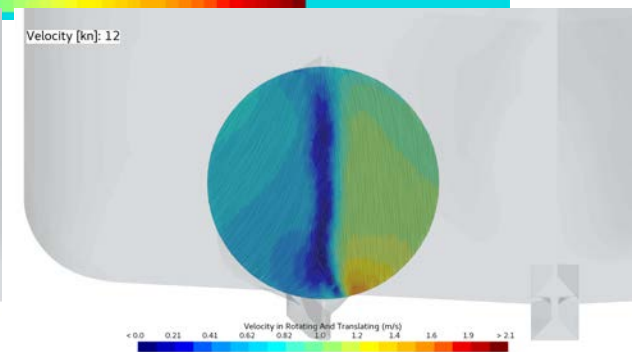
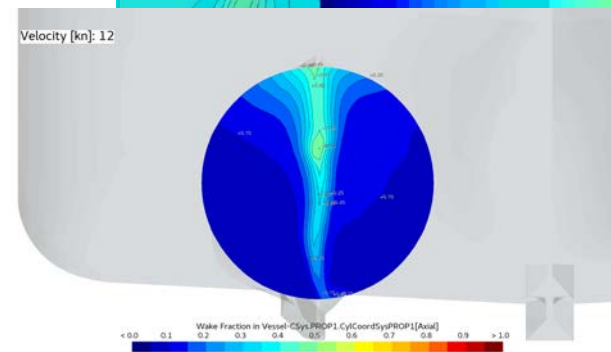
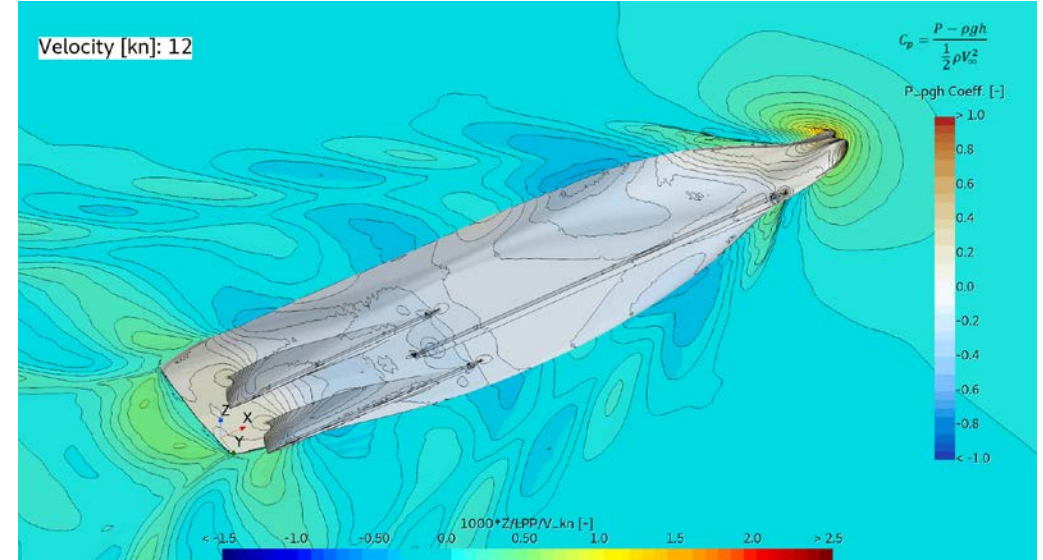
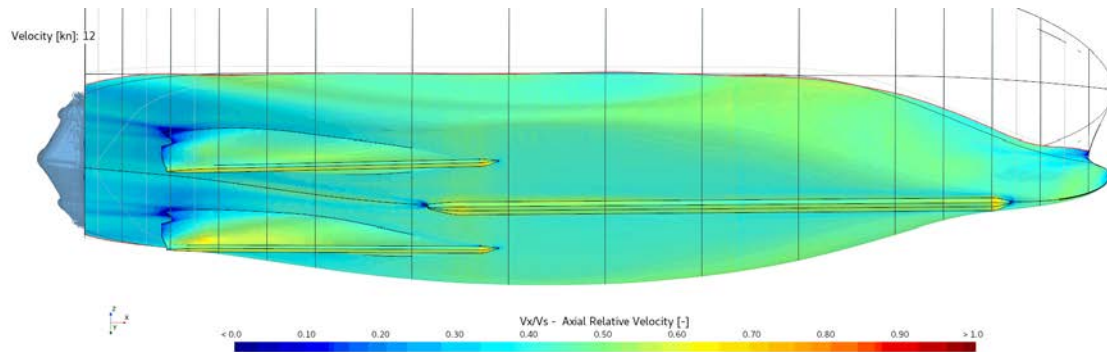
Parametric Fishery Fleet

Flexibility for Optimization



Rake of Keel: 1.5 m
Deadrise: 3.0 deg

Skeg YZ Aft Stem: 0.0 deg
Skeg XY Toe: 1.0 deg

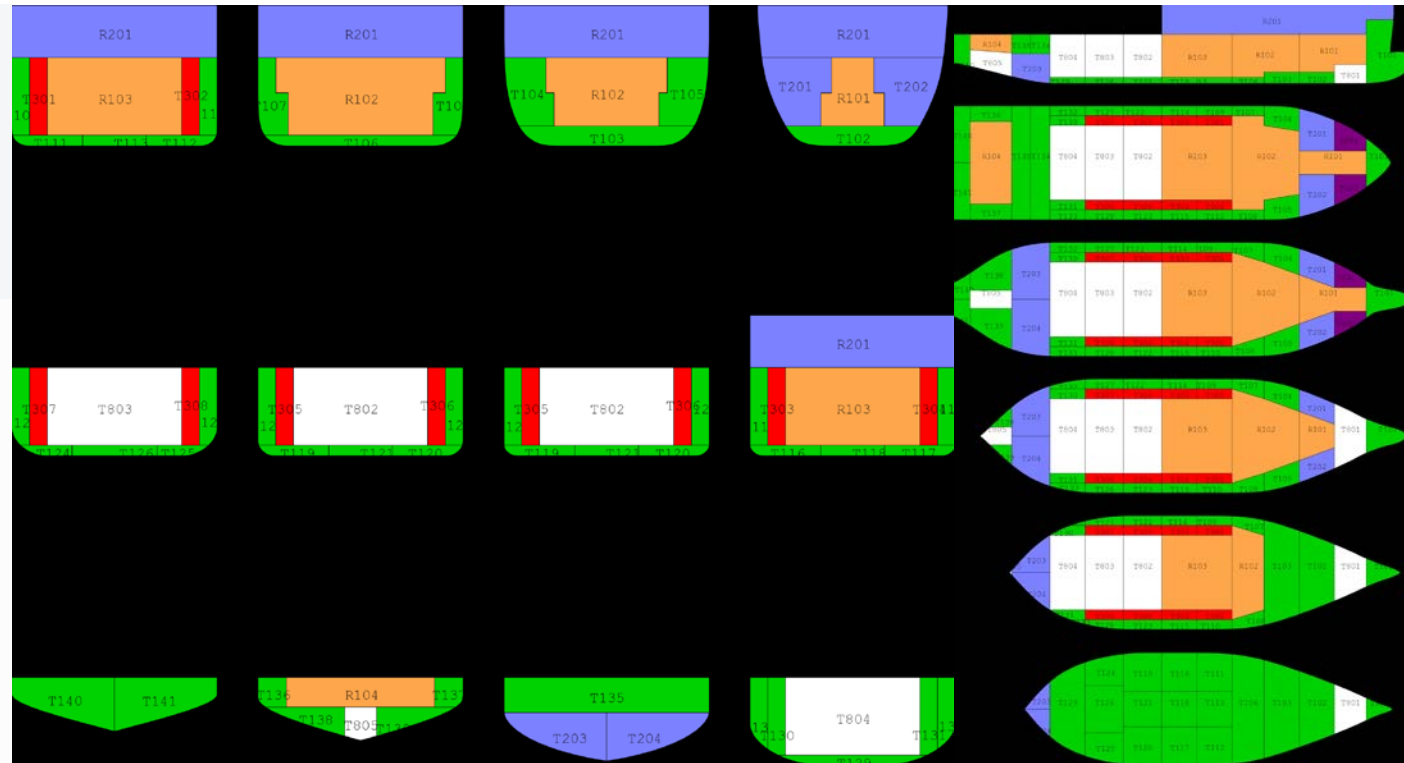
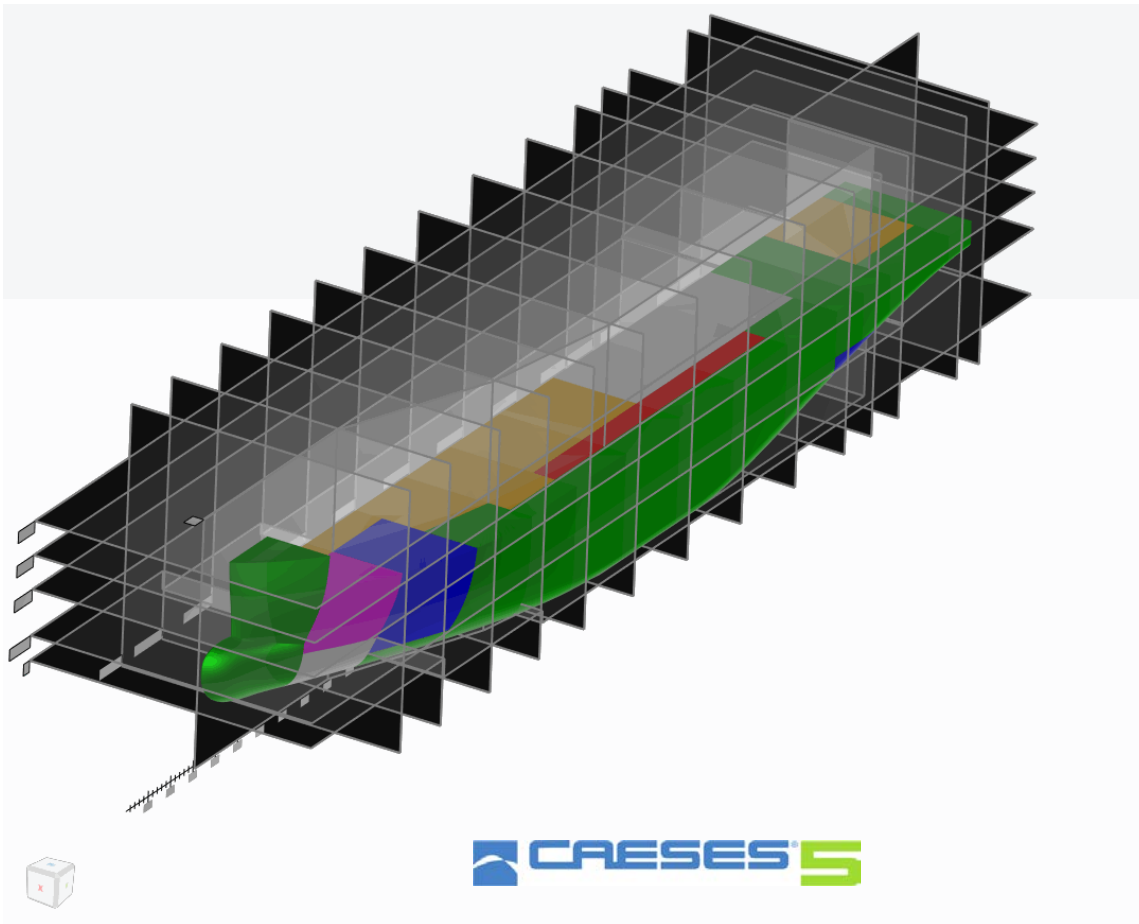




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Hull Arrangement Parametric Design

Example: Optimal Initial Tank Arrangement





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Thank you!

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