

CFD SPECIALIST IN SHIP PROPULSION ENGINEERING

Shaping the future of ship performance
and efficiency

+1500 projects
+500 customers
+50 countries

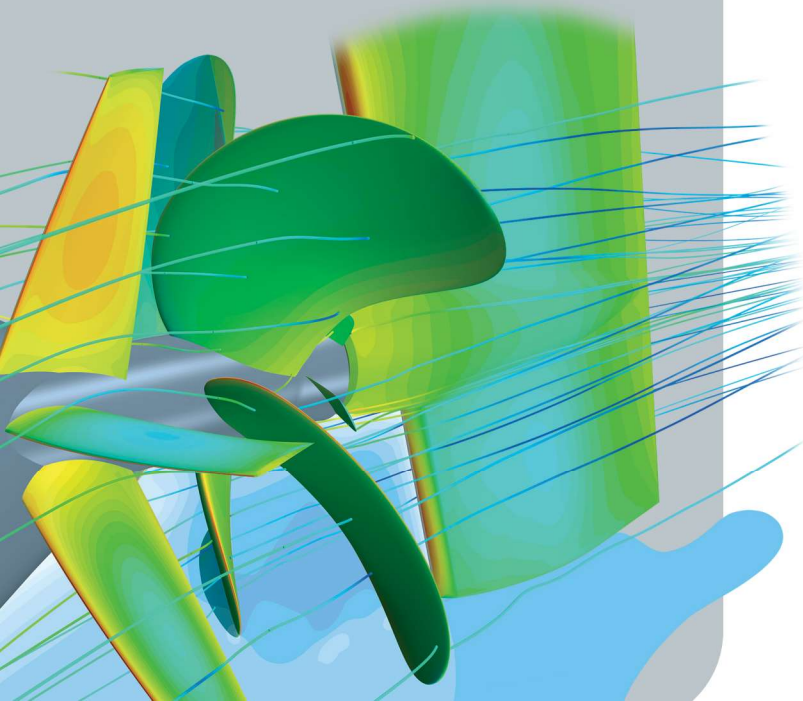
VICUSdt is a ship propulsion engineering company specialized in Computational Fluid Dynamics applied to ship hydrodynamics.

We offer a complete range of engineering services and propulsion products to improve the performance of your vessel.

Since our establishment in 2007, we have successfully completed over 1,500 projects for more than 500 customers across 50 countries.

Our clients, spanning the shipbuilding, shipping, offshore, and energy industries, benefit from our extensive experience and versatile capabilities.

Our team of +17 experienced naval architects and engineers brings a wealth of knowledge and expertise to each project, ensuring high efficiency and innovation in our solutions.



OUR EXPERTISE IN CFD ALLOWS US TO PROVIDE CUSTOMIZED AND INNOVATIVE SOLUTIONS THAT ENSURE OPTIMAL HYDRODYNAMIC RESULTS



CFD HYDRODYNAMICS

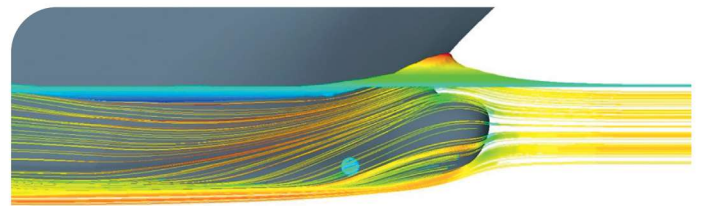
Resistance & Power Prediction: Analyzing ship resistance in still water or any sea state for bare hulls or hulls with appendages.

Self-Propulsion: Evaluating propulsive coefficients and overall propulsion performance.

Hull Optimization: Reducing resistance and optimizing wake fields for better efficiency.

Trim Optimization: Achieving significant savings by optimizing trim dependent on service speed and loading conditions of merchant vessels.

Seakeeping and Maneuvering: Assessing ship behavior in various conditions to improve safety and performance.



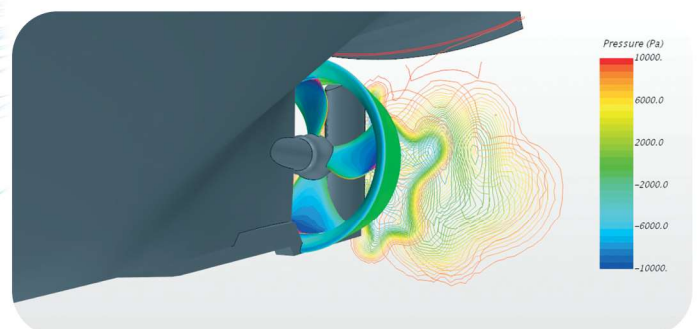
SHIP PROPULSION ENGINEERING

Propellers and Rudders Design: Enhancing propulsion and maneuvering efficiency, and designing cavitation-free propellers.

Shaftline Analysis & Design: Ensuring alignment and vibratory response (axial, whirling and torsional).

Nozzle Design: Customizing nozzles through CFD and FEM calculations for structural and hydrodynamic optimization.

Noise and Vibration: Tackling these problems with a global approach with our knowledge of powertrains and hydrodynamics.





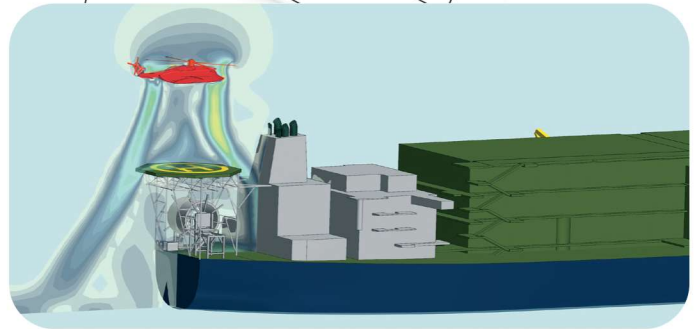
+ 17 experienced
naval architects
and engineers

CFD AERODYNAMICS

Helideck Analysis: Ensuring safe helicopter operations through detailed flow and turbulence analysis.

Exhaust Gas Dispersion: Analyzing the dispersion of exhaust gases and smoke for improved environmental compliance and passenger comfort.

HVAC: Optimizing HVAC systems for efficient airflow and improved comfort within ship compartments.



PROPULSION EQUIPMENT

Propellers: Custom design, manufacturing, and technical support for fixed pitch propellers.

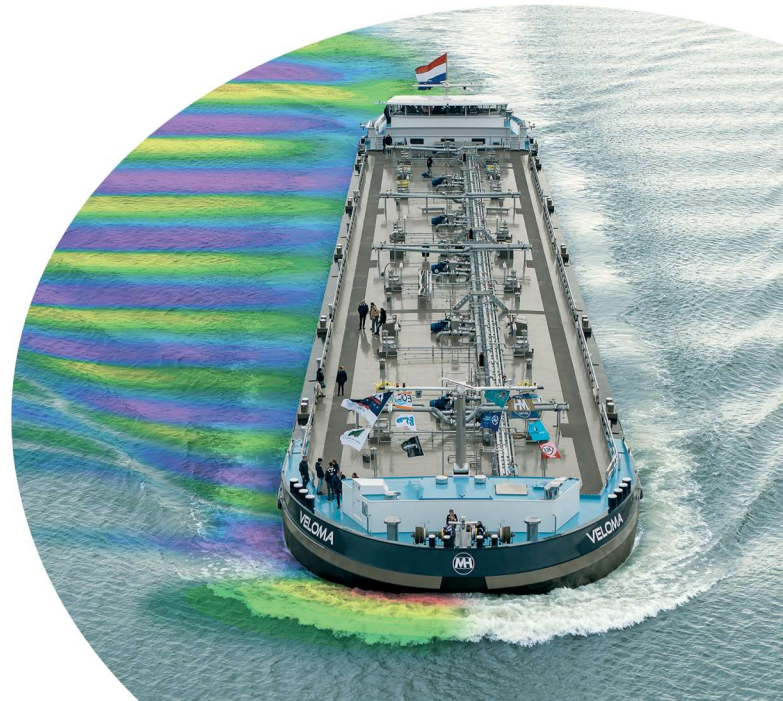
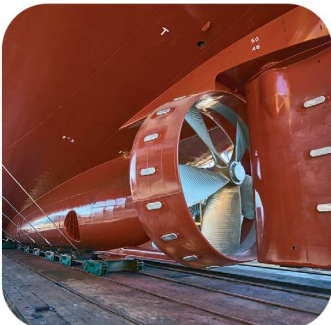
Energy Saving Devices (ESDs): Design, manufacturing, and implementation of ESDs to enhance propulsion efficiency. Using validated CFD-based design methodologies and FEM analysis, our robust solutions are tailored to each vessel and integrated with the propeller or the propeller-nozzle assembly.

Propeller blades: We redesign and supply controllable pitch propeller blades for all propulsion brands.

Nozzles: Design and supply all types of propeller nozzles, using CFD and considering the interaction among the nozzle, hull and propeller.

Rudders: Our CFD maneuvering capabilities enable us to offer various types of rudders, including flap and twisted rudders with bulbs.

Torque meters: As an official distributor of Binsfeld Engineering, we provide reliable solutions for non-contact power and torque monitoring on drive shafts on ships.



WE PRIDE OURSELVES ON
OUR ABILITY TO ADAPT AND
RESPOND TO TIME-SENSITIVE
CHALLENGES





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