



HOCKEMA GROUP

A full-service consulting and engineering firm delivering exceptional service to clients in the marine industry.

**NAVAL ARCHITECTS
MARINE ENGINEERS
ELECTRICAL ENGINEERS**

DESIGN SPOTLIGHT

Barges Tugs





Barges

From the concept design stage through onsite support during cargo loadout, Hockema Group has the breadth of experience to realize the design and operational goals of your next barge project. Our design portfolio includes the following service types:

- General deck and heavy lift ballastable barges
- Container barges
- Railcar and Ro-Ro barges
- Tank barges (oil or chemical)
- Derrick barges
- Hopper barges
- Special-purpose barges

Hockema Group specializes in high speed barge hulls for long haul efficiency. **Our hull designs have achieved fuel savings up to 40-50% over conventional rake barge designs.** Hockema resistance predictions are supported by computational fluid dynamics (CFD) analyses and over three decades of proven barge design service.

Our structural designs minimize lightship weights while extending vessel maintenance periods through efficient scantling sizing, end connections, and construction details. Working with marine transportation operators, Hockema Group can devise loading scenarios, predict cargo accelerations in seaways, design seafastening, and develop loadout and offload ballast plans to ensure your cargo's safety from departure to arrival.



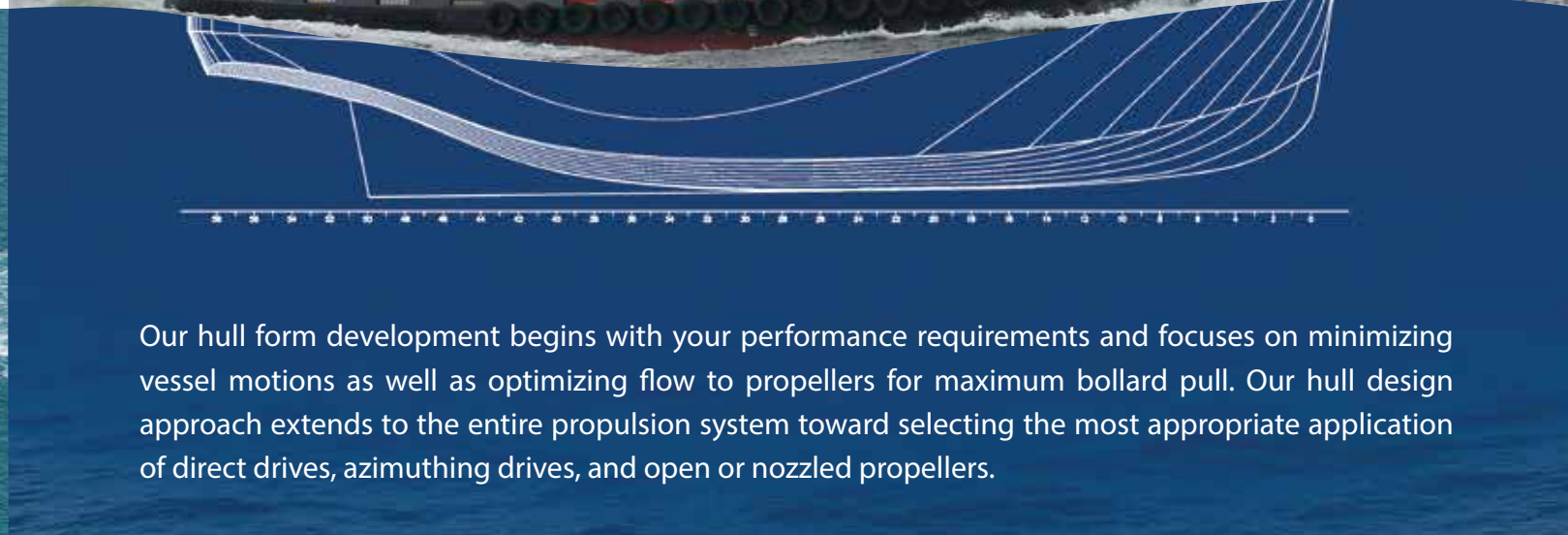
Tugs

Hockema Group has proven designs for line haul, ATB and escort towing vessels with bollard pull ratings ranging from 28 tons to 90 tons. Each tug arrangement offers options to meet your standards for fleet operations and maintenance including:

- Single deck and focsle deck arrangements
- Working deck layouts prioritizing safe and efficient crew movement
- Ergonomic accommodations and pilot house with focus on noise reduction and crew comfort
- Fendering configurations to suit general or specialized operating profiles
- Customer preferred deck equipment suites
- Machinery cooling systems: grid coolers, box coolers, pleat coolers, heat exchangers

Our propulsion trade-off studies evaluate major engine manufacturers' EPA Tier 4 solutions for best fit space utilization, reliability, and integration into existing fleet standards. With fuel being a major operating expense, our propulsion system recommendations include the potential benefits of alternative fuel sources and hybrid technologies.

Hockema Group is well versed in class, Subchapter M, and SOLAS requirements and will capably navigate your project through the regulatory compliance process.



Our hull form development begins with your performance requirements and focuses on minimizing vessel motions as well as optimizing flow to propellers for maximum bollard pull. Our hull design approach extends to the entire propulsion system toward selecting the most appropriate application of direct drives, azimuthing drives, and open or nozzled propellers.



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Hockema Group is an independent, full service naval architecture firm with experience in both commercial and government projects over a range of marine industry market sectors. We provide naval architecture and marine engineering services for tugs, barges, commercial fishing vessels, dredges, cargo vessels, workboats, passenger vessels and government/military service vessels. Our work is balanced between new construction design, conversion/modification design and consulting support.

Hockema's highest priorities center around safety, efficiency, durability and aesthetics. Our team maintains a keen awareness of the specific needs of both owner and builder. We emphasize safety and efficiency in all aspects of design, construction and operations. Our customer-centered approach fosters innovation, with the end goals for each project firmly in focus.

In our business, competency and respect are paramount. We offer our customers, employees and contractors the best solutions we can create. Rewarding and profitable business is a result of these durable positive relationships.

We also believe that innovative small businesses provide important contributions to the advancement of our industry and society.



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