

Big Science for Smaller Ships

Our Mission: To Take on Titans

The ocean is unpredictable, powerful, and unforgiving. It's the domain of legends, but it's also your workplace. At DMS, our mission is to even the odds.

We help everyday operators and startups punch above their weight by building smarter, stronger ships with tools once reserved for megayachts and oil tankers. With advanced simulations, performance tuning, and system design, we bring big-league engineering to vessels of every size.



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Member of:



SNAME
MAKING WAVES IN THE MARITIME INDUSTRY



DATA DRIVEN

We dig into the details, read the fine print, and find solutions driven by science, not just industry bias. Go beyond copying your competitors.

DIVERSE EXPERIENCE

We draw experience from multiple maritime segments: offshore, fishing, passenger vessel, cargo, etc. This yields flexible and creative solutions that change the game for your business.

PERSONAL TOUCH

Don't suffer through layers of VP's, project managers, and bureaucracy. At DMS, you work directly with the engineer in charge. We explain our approach and results in plain language. We listen to your experience and customize our engineering to match.

BUSINESS FOCUSED

We frame ships in the context of business. Match engineering effort to return on investment (ROI). Align the ship with your business brand. Use your ship as an investment to achieve better profits in the future.

Competitive Edge

With the competitive market, you need something extra to differentiate yourself. Stand out from the crowd. DMS applies high performance design to smaller ships and smaller companies. We translate your goals into engineering, using science-backed designs. The net result is increased function and longevity for your vessel.

We then deliver that engineering in simple, easy to understand terms. Not just a long-winded report. We take the time to explain our results and provide simple recommendations. **Call us today to discuss how you can achieve more.**

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Advanced Engineering

Better tools mean better results and more flexibility in the design.

We handle the tough problems.

- CFD
- FEA
- Seakeeping
- Mooring Analysis

Ship Structures

Efficient structures mean fuel savings, faster speeds, and lower production costs.

- Equipment foundations
- Hull design
- Class society calculations
- Fatigue analysis
- Composites

Vessel Stability

When extreme weather strikes, vessel stability is the safety system that protects you. Keep your crew safe.

- Stability test
- Stability modeling
- Intact and damage stability analysis
- Trim and stability booklets

Hydrodynamics

Your ship starts at the sea, where we work. DMS understands the physics of the water, and we make those physics work for you.

- Vessel powering
- Propeller design
- Waterjets
- Hull optimization
- Motions analysis

Design Services

Design is about details and passion. We have the passion, and we know the details.

- Vessel technical drawings
- 3D modeling and 3D rendering
- Vessel arrangements
- Whole vessel design

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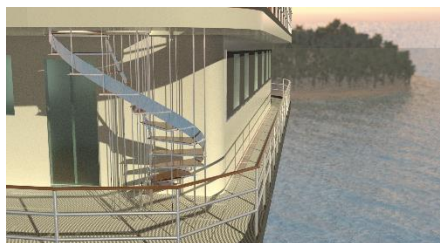
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Unstoppable Research Drone



DMS worked with our Client to develop a nearly unstoppable drone. Designed for long term ocean operations, this drone can flip itself upright, survive flooding to major compartments, and boasts a range to cross the Pacific ocean, twice! The extreme capabilities allowed the Client to offer services above and beyond their competitors.

The Playhouse



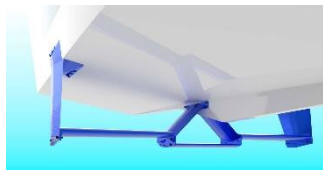
DMS had the opportunity to reimagine a piece of history. We worked with the Client to restore an older luxury vessel, and update it with modern technology. Our work included overall hull design and design of a gorgeous floating staircase.

COI Pontoon Passenger Vessel



Its difficult for a pontoon boat to get a commercial license (COI). Even more difficult for double deck pontoon. But DMS achieved it! We designed a COI approved pontoon boat for a major manufacturer, creating a whole new market that will grow into the majority of their revenue.

Hydrofoil Design



DMS designed an experimental hydrofoil for our Client. The goal was to improve performance of recreational boats by combing a planing hull with a hydrofoil.

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Floating Caribbean Houseboat



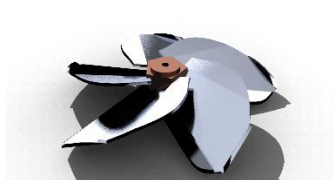
Our Client had a vision: to produce a vacation resort made from many small floating homes. Take your small dingy out to enjoy solitude in the serene beauty of a Caribbean bay. DMS created a structural design for the vessel and coordinated with the interior designer.

Crane Barge, EM385-1-1 Stability Analysis



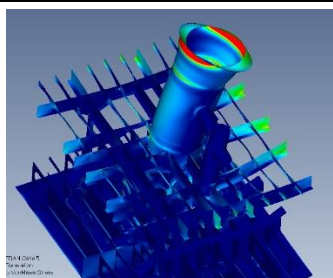
Stability analysis of several barges to meet Army Core of Engineers (COE) requirements for crane lifting stability (EM385-1-1, Part L). Analysis included onsite inspection of barge, live stability demonstration, and stability analysis. Final deliverables included crane load chart, restricted to ensure compliance with all COE Requirements

Manure Agitator Optimization



A manufacturer of industrial farming machinery hired DMS for our expertise in hydrodynamics. The client wanted to optimize and improve their new product, designed for agitation of large manure ponds.

Tractor Tug, Structural Analysis



DMS conducted a finite element analysis (FEA) of two crane foundations on a tug with extremely light scantlings. Analysis included detailed modeling of tug structure and crane foundation.

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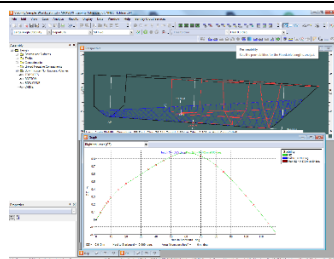
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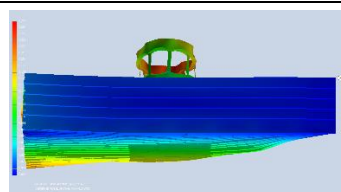
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Oil Barge, Stability Analysis



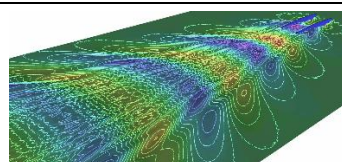
Stability analysis of several oil barges regulated under Subchapter D (oil barge) and Subchapter O (hazardous chemical barges) for USCG review and approval. Analysis included intact and damage stability, MaxVCG curves, and load condition evaluation. DMS also provided support for USCG review.

COE Crane Barge, Structural Analysis



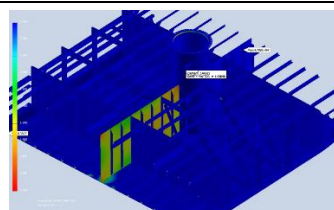
DMS conducted a finite element analysis (FEA) of a large crane foundation for a crane barge designed for service with the Corp of Engineers (COE). The analysis supported multiple barges and two crane options. **Analysis was accepted on first submittal with ABS.**

NovaLuxe, Electric Repowering



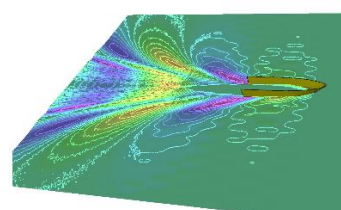
DMS worked with Nova Luxe yachts to perform an engineering analysis for an electric conversion of a catamaran yacht. This included speed and range projections for the new yacht concept.

Crane Barge, Structural Analysis



DMS conducted a finite element analysis (FEA) of a large crane foundation for a crane barge. This included detailed analysis of crane structure, load calculations, revision support, and support for ABS review. **Analysis was accepted on first submittal with ABS.**

Trimaran, Resistance Study



DMS conducted a resistance estimate on a small trimaran vessel for use in powering calculations. Our client faced a limited budget, but we were able to devise a combination of standard series calculations and slender ship theory methods to deliver results within the expected budget.

Vessel Concepts

These are examples of DMS concept designs. Some are practical . . . and some experimental. DMS designs for business applications, but also in pursuit of creating better ship designs. These may inspire you for a future design.

COI Party Vessel

This passenger vessel hosts parties, corporate meetings, and tours. Designed as an entry level ship for small operators, the design limits construction and operating costs. **COI capable, the ship can carry up to 49 passengers.** The simple hull design allows for easy construction, but provides a host of luxury items. Seating can be reconfigured for a night club, restaurant, or tour boat. The bar includes storage plus electrical outlets to serve either a bachelor party or afternoon lunch. For ultimate luxury, the generator stays hidden below deck, nearly silent. **This small boat brings major revenue.**

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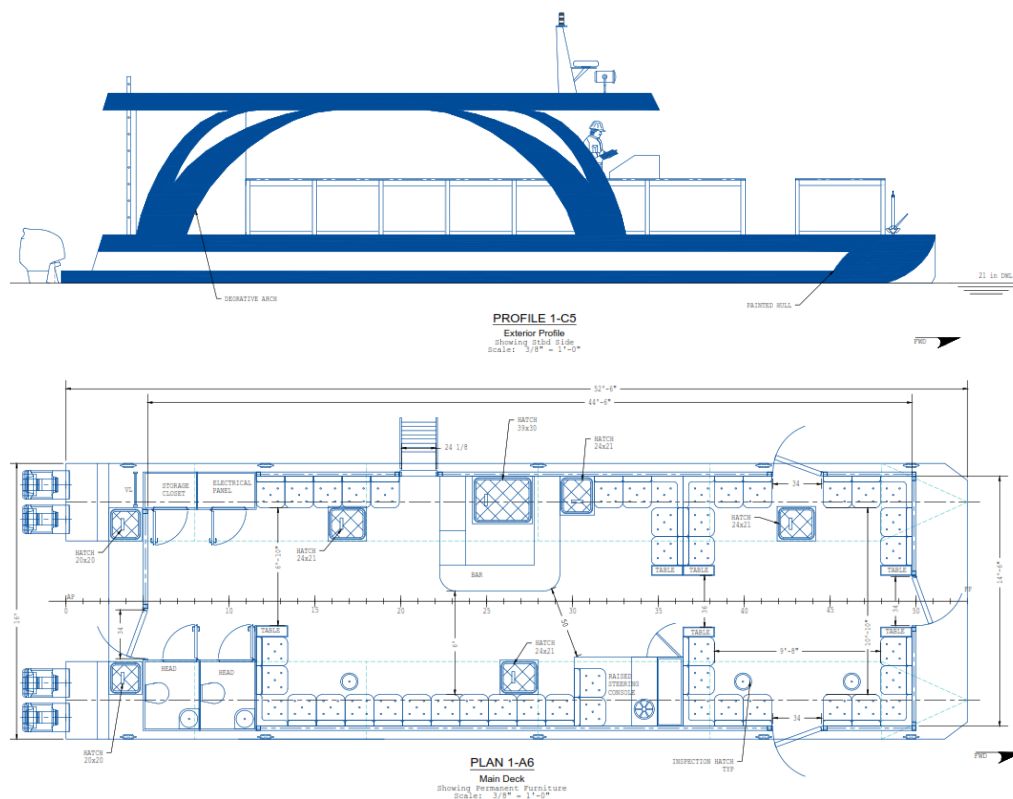
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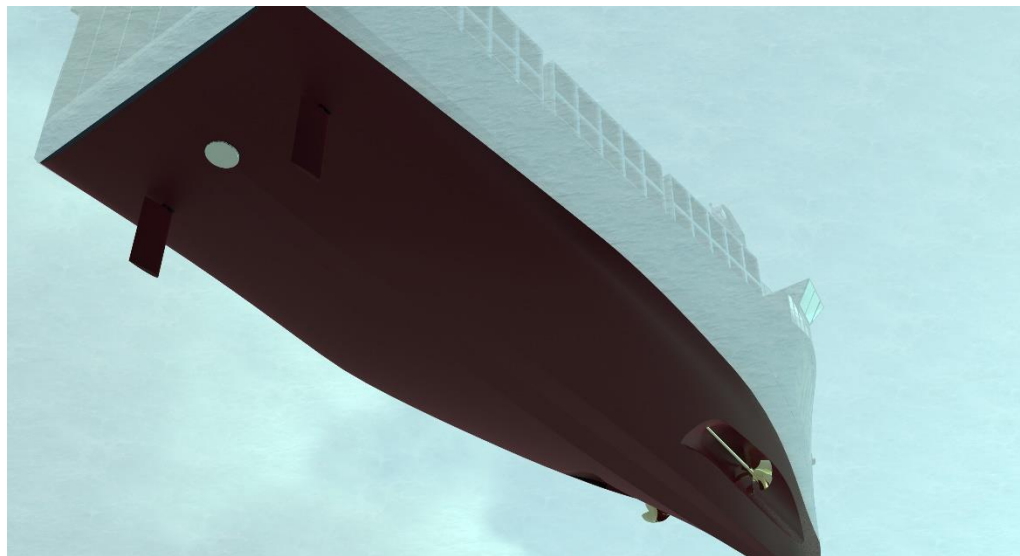
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Vessel Concepts

Shore Hopper

DMS developed a concept to relieve road congestion. The Shore Hopper can replace over 84 commercial trucks. Optimized for extremely shallow draft, it travels the coasts and lower Mississippi river. **Most important, it requires virtually no port infrastructure!** The vessel unloads its own containers for delivery to any city with minimal water access.



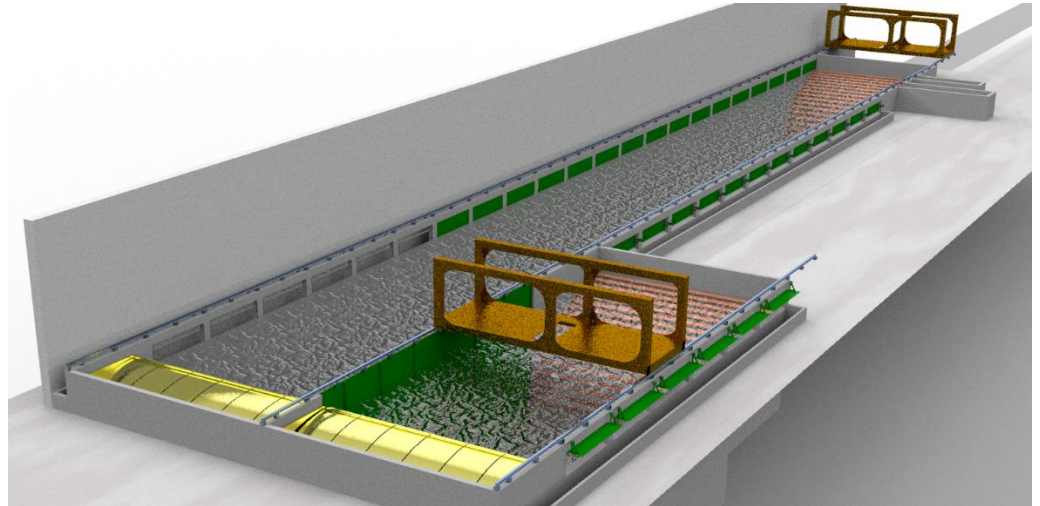
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Vessel Concepts

Towing Tank

DMS developed a concept towing tank for a university. This concept attempted to combine a standard towing tank with a small maneuvering basin for autonomous underwater vehicle research. The tank also had a removable bulkhead that separated the maneuvering basin and allowed parallel operation to double the productivity.



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