CAPE HORN ENGINEERING

CFD Specialists

From America’s Cup to Motor Yachts & Ships
Brief company history
  Yacht racing & technology transfer
What we can provide
  Things that matter
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Dr.-Ing. Rodrigo Azcueta founded Cape Horn Engineering in 2007. A naval architect and marine engineer from the Technical University of Hamburg, he was among the first to investigate viscous free-surface flows and ship motions using CFD. He is a well-known grey eminence in the field of yacht racing and has paved the road to success for many sailing teams. Cape Horn Engineering was involved in 4 America’s Cup campaigns, 5 Volvo Ocean Race Teams, several IMOCA Open 60 Teams and many other design projects. Cape Horn Engineering is a truly independent CFD company working with a world-wide base of clients in the yachting world and in the maritime industry.
For many years the company lent its services exclusively to America’s Cup and Volvo Ocean Race Teams. Today, we are involved in all types of projects, from sailing superyachts, foiling and foil assisted racing yachts and cruising yachts to motor yachts, commercial ships and renewable energy.
YACHT RACING PROJECTS

- **Volvo Ocean Race**
  Cape Horn Engineering’s team was involved in three consecutive Volvo Ocean Race wins.

- **America’s Cup**
  Rodrigo Azcueta led a team of CFD engineers during three different America’s Cup campaigns with BMW Oracle Racing, Artemis Racing, and Land Rover BAR.

- **Vendee Globe**
  Alex Thomson comes second after a breath-taking race around the globe and brakes the 24 hour speed record in the Vendee Globe 2016. Cape Horn Engineering participated in the design process for his boat Hugo Boss, undoubtedly the fastest in the fleet.
When contracting a CFD provider there are certain things to bear in mind: tools used, computing resources and experience in past projects.

At Cape Horn Engineering we do not compromise on software solutions; we use the best CFD package on the market (Siemens PLM StarCCM+) and are able to run hundreds of simulations per day thanks to our access to large HPC clusters.
AREAS YOU MIGHT BE INTERESTED IN

- Hull and appendages optimisation
- Motoring performance, propeller selection, fuel consumption
- Energy Saving Devices (ESD)
- Energy Efficiency Design Index (EEDI)
- Fully foiling and foil assisted vessels
- Manoeuvrability and rudder loads
- Appendage torque and bending moments, load cases
- Seakeeping, motions and accelerations
- Exhaust gas on deck and passenger comfort
- Ship Helicopter Operating Limits
- Cavitation on hydrofoils or propellers
- 2D foil section optimisation
- Fluid Structure Interaction (FSI) of appendages
- Slamming, water on deck, sloshing
- Offshore platform motions
- Underwater turbines
PROJECTS & CLIENTS

- BAR Technologies
  - Parametric hull and foil optimisation
- Dixon Yacht Design
  - Motor yachts, powering, seakeeping, slamming
- Feadship
  - Exhaust and comfort on deck analysis, yacht performance
- Repsol
  - Dynamics of offshore floating platforms
- Meyer Werft
  - Parametric ship hull optimisation for cruising ships
- Vroon Shipping Company
  - Platform Support Vessels
- Naiad Dynamics
  - Performance of roll stabilisers, wake into propeller
- Barcelona Yacht Design Group
  - Concept motor and sailing yachts, hydroplanes
CONTACT US

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