

CAPE HORN ENGINEERING

CFD Specialists

From America's Cup to Motor Yachts & Ships



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BRIEF COMPANY HISTORY


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



TECHNOLOGY TRANSFER

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 breaks 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

THINGS THAT MATTER



- 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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