

## Senior Marine CFD & Hydrodynamics Engineer

**Reference:** CH\_JOB\_25\_04\_CFD\_Hydro

Publication Date: 2025-06-23

Education Level: Master or PhD

Duration: Full-time, On-site

Seniority: 6+ years of experience

Start date: Q3 or Q4 2025

Location: Valencia, Spain

**Answer to:** [jobs@caponnetto-hueber.com](mailto:jobs@caponnetto-hueber.com)

### COMPANY PRESENTATION

#### About us:

Caponnetto Hueber (CH) is a scientific laboratory and a consulting company specialized in fluid dynamics, energy efficiency and performance-driven naval architecture.

CH delivers high-end engineering services and develops innovative, efficient design solutions, from concept to prototype, for the nautical and maritime industries.

Headquartered in the iconic Marina of Valencia, Spain, in a former America's Cup base, CH combines a rigorous scientific approach, state-of-the-art CFD and optimization tools. Driven by a passion for innovation, CH shapes the future of marine design, from high-performance foiling yachts to zero-emission vessels, and from sailing yachts to autonomous vehicles.

CH has participated in the last six consecutive America's Cup campaigns (with victories in 2010 and 2013), and collaborates with top-tier shipyards, design offices, and marine innovators worldwide.

#### Main services:

- Computational Fluid Dynamics (CFD) and performance simulations.
- Hydrodynamic and aerodynamic optimization.
- Hulls, appendages, foils and propulsion design.
- Naval engineering and prototyping.
- Efficient and foiling yacht development.
- Low and 0-emission yachts and vessels.

#### R&D Lab activities:

- Wind Assisted Ship Propulsion (WASP) performance and emissions predictions.
- Propulsion and energy harvesting systems design and optimization.
- Hydrodynamic concepts for yachts, ships, and marine autonomous vehicles.
- Custom design software and simulation tools development.

Caponnetto Hueber is expanding and looking to integrate motivated, committed professionals ready to work in a competitive, high-tech, and impactful international environment.

**Are you passionate about developing and designing cutting-edge, energy-efficient yachts and crafts?** If so, we have an exciting opportunity for you to join our team as a Senior Hydrodynamic Engineer and contribute to the development of efficient yachts and marine technologies.

## COLLABORATOR PROFILE

### Profile:

- **Marine CFD engineer, hydrodynamicist or naval architect specialized in CFD** with a MSc or PhD in Naval Architecture, Marine Engineering, Fluid Dynamics, or a related field.

### Experience:

- **6+ years experience as a CFD engineer, a naval architect using CFD or hydro / aero- dynamicist**
- Involved in a wide range of RANS CFD studies on yachts, vessels, or ships.
- Familiar with dynamic yacht behavior modeling (e.g., seakeeping, maneuverability), and with high-fidelity CFD methods such as DES and LES

### Job Description:

We are looking for an experienced Marine CFD & Hydrodynamics Engineer to join our team and lead advanced CFD activities. You will coordinate internal CFD resources and consultants, guide complex simulations, and contribute directly to the design, optimization, and performance evaluation of hulls, foils, appendages, and propulsion systems.

This role involves technical leadership, method development, quality control, and active collaboration with naval architects and hydrodynamic designers.

### Key Responsibilities:

- Lead and support CFD consultancy studies, coordinating both internal resources and external partners
- Contribute to the design and optimization of hulls, hydrofoils, appendages, and propulsion systems for advanced yachts and foiling vessels
- Define and maintain CFD best practices, including standards, procedures, documentation, and templates
- Conduct advanced CFD analyses, with a focus on dynamic behavior modeling (e.g., seakeeping, maneuverability) and high-fidelity simulations (e.g., DES, LES, FSI)
- Perform benchmark studies and lead quality control of CFD results and their interpretation
- Communicate analysis outcomes effectively to clients and internal stakeholders (e.g., naval architects, hydrodynamics team)

### Technical Requirements:

- Strong theoretical background in fluid dynamics and naval hydrodynamics
- Extensive experience with RANS solvers; proficiency in Star-CCM+ is a significant plus
- Familiarity with high-fidelity CFD techniques such as DES, LES, or FSI simulations
- Skilled in dynamic yacht behavior analysis, including seakeeping and maneuverability
- Proficiency with automation and scripting tools (e.g., Python, Bash); knowledge of optimization platforms (e.g., HEEDS, modeFRONTIER, Dakota) is a plus
- Comfortable managing HPC workflows, simulation pipelines, and resource allocation
- Experienced in benchmarking, validation, and interpretation of CFD results for design feedback
- Ability to work in coordination with naval architects and multidisciplinary teams

### Other Requirements:

- Fluent in English as it is the working language at the office.
- EU resident or in possession of an EU work permit.
- Relocate to Valencia, Spain.

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- Proactive, organized, rigorous, autonomous and flexible.
- Open-minded with the ability to adapt to innovate.
- Passionate about innovation, technology, yachts, the ocean and water activities.

**CH values candidates who have a real passion and interest for making a meaningful impact in the maritime and nautical sectors by actively contributing to decarbonization efforts.**

If you are willing to be part of an international group who aim to lead the innovation, the technology development and the transformation of the nautical and maritime industries towards more efficient, cleaner and more sustainable industries, please contact us at [jobs@caponnetto-hueber.com](mailto:jobs@caponnetto-hueber.com) using the offer reference in the title and include your **CV and references in English**.