CAPONNETTO HUEBER

SENIOR MARINE CFD ENGINEER

Reference : CH_JOB_26_02_CFD
Publication Date: 2026-01-16
Contract : Full-time, on-site
Location : Valencia, Spain
Start Date : Q1-Q2 2026
Experience Level: 8+ years
Education : MSc or PhD
Apply to : jobs@caponnetto-hueber.com

ABOUT CAPONNETTO HUEBER

Caponnetto Hueber (CH) is a leading engineering and innovation firm specializing in high-performance hydrodynamics, foiling technologies, and smart maritime systems. Acting as both a scientific laboratory and an engineering consultancy, CH delivers advanced engineering services and performance-driven design solutions for yachts, ships, and autonomous vehicles, from concept development to prototype validation.

Based in the Marina of Valencia, Spain, CH combines a rigorous scientific approach with state-of-the-art CFD, optimization, and simulation tools. The company supports clients across the nautical and maritime sectors with advanced expertise in naval architecture, propulsion systems, energy efficiency, fluid dynamics and performance prediction, with a strong focus on innovation, performance, efficiency, and sustainability.

CH has participated in the last six consecutive America's Cup campaigns, contributing to victories in 2010 and 2013, and collaborates with top-tier shipyards, design offices, and marine innovators worldwide. Its work spans from high-performance foiling yachts to wind-assisted ships, and from racing sailing yachts to autonomous marine vehicles, shaping the future of marine design through innovation and applied research.

Main Services:

- Hydrodynamics and Computational Fluid Dynamics (CFD)
- Naval architecture, including hull, appendage, and hydrofoil design
- Naval engineering, prototyping and testing
- Propulsion, energy-saving devices and energy-harvesting systems design and optimization
- Simulation and Performance Predictions for sailing yachts, wind assisted ships, motor yachts and autonomous marine vehicles

Main R&D activities:

- High-efficiency hydrodynamic concepts for yachts, ships, and USVs (including hydrofoils)
- Wind Propulsion Technologies: performance and emissions prediction methods and tools
- AI-assisted design, simulation and performance prediction tools
- Smart and autonomous vessel systems

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

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THE ROLE

Description:

We are looking for a **Senior Marine CFD Engineer** to strengthen our advanced CFD capabilities and support the execution and development of complex numerical simulations for yachts, ships, and innovative marine systems.

The role focuses on advanced CFD, numerical methods, and high-performance computing, while leading and coordinating CFD studies for external clients and internal naval architecture and design activities. The successful candidate is expected to work across the full spectrum of CFD fidelity, from potential-flow and RANS to high-fidelity LES/DNS and in-house tools, contributing to unsteady, dynamic, and multi-physics simulations, mentoring CFD engineers, and actively participating in R&D activities, including scientific publications, benchmarks, and technical workshops, in close collaboration with the Technical Director and CH's CFD experts.

The role is primarily on-site in Valencia, with the possibility of a temporary transition or relocation period if required, before full relocation.

Key Responsibilities:

- Lead and execute advanced CFD studies for yachts, foiling vessels, ships, and innovative marine systems
- Coordinate and technically supervise CFD studies for external clients, naval architects, and yacht designers
- Develop, validate, and improve CFD methodologies, workflows, and best practices
- Perform and support unsteady, dynamic, and multi-physics simulations, including seakeeping analyses
- Work with RANS, potential-flow solvers, and complementary CFD tools; develop or extend LES, DNS, or in-house analysis codes where relevant
- Manage, maintain, and optimize the in-house HPC cluster (CPU/GPU), including Linux environments, schedulers, and resource allocation
- Mentor and technically guide junior CFD engineers, reviewing work and supporting skill development
- Contribute to and lead R&D activities, including scientific publications, benchmarks, and collaborative research initiatives
- Collaborate closely with the Technical Director, naval architects, and internal and external CFD experts

CANDIDATE PROFILE

Background:

- **Engineer or scientist specialized in CFD**, holding an MSc or PhD in Naval Engineering, Aeronautical Engineering, Applied Mathematics, Physics, or a closely related field

Experience:

- **Minimum 8 years of professional experience in CFD applied to racing, nautical or maritime applications or high-performance engineering applications**
- Deep expertise in Star-CCM+ or equivalent CFD solvers
- Proven experience with advanced CFD methods, unsteady simulations, and complex flow problems

- Experience managing HPC resources and coordinating CFD activities

Technical Requirements:

- Strong to expert-level knowledge of CFD theory, turbulence modelling, and numerical methods
- Advanced proficiency with Star-CCM+
- Ability to critically interpret CFD results and translate findings into actionable design improvements
- Strong experience with dynamic simulations, transient analyses, and multi-physics problems
- Expert-level knowledge with high-performance computing (HPC) environments, including cluster management and administration
- Proven ability to manage and optimize CFD workflows
- Proficiency in Python scripting and shell (bash) for automation and workflow optimization

Additional Valuable Skills:

- Expertise in naval architecture and engineering
- Experience with optimization and design exploration tools such as HEEDS, ModeFRONTIER, Dakota, or equivalent
- Knowledge of Finite Element Analysis (FEA), Fluid–Structure Interaction (FSI) and co-simulations
- Prior involvement in scientific publications, benchmarks, or collaborative R&D projects

Other Requirements:

- Fluent English (working language)
- Italian, French, or Spanish fluency is a plus
- EU residency or valid EU work permit (Visa sponsorship may be considered for exceptional candidates)
- Willingness to relocate to Valencia, Spain
- Proactive, organized, rigorous, autonomous, and flexible
- Open-minded with the ability to adapt to innovate
- Passion for technology, yachts, the ocean, and water-based activities

CH values candidates who want to push the boundaries of CFD and numerical methods, contribute to high-level engineering projects, and help position the company as a leader in advanced marine hydrodynamics and simulation.

HOW TO APPLY

If you would like to be part of an international team that aims to lead innovation, technology development, and the transformation of the nautical and maritime industries toward more efficient, cleaner, and more sustainable solutions, please contact us at **jobs@caponnetto-hueber.com** using the offer reference in the email subject and include your **CV and references in English**.