



Pioneering Sustainable Hydrogen Transportation

The LH₂CRAFT project will develop next generation, sustainable, commercially attractive, and safe long-term storage, and long-distance transportation of Liquid Hydrogen (LH₂) for commercial vessels.



LH₂CRAFT will create highly skilled jobs, offer efficient technological solutions, and set international regulatory standards.



LH₂CRAFT will implement a life cycle assessment (LCA) model to evaluate the environmental impact from production to disposal, including sustainability and recyclability aspects, to determine the project's overall environmental advantages.

The objectives of the LH2CRAFT project are divided into six groups:

- 1** Develop cutting-edge technology for the long-term storage and transportation of Liquid Hydrogen (LH₂).
- 2** Create an innovative membrane-type containment system, validated through a 10-ton (180 m³) prototype, capable of storing high-capacity LH₂ (up to 200,000 m³) at temperatures as low as -253°C.
- 3** Conduct a comprehensive analysis of alternative conceptual designs while emphasizing safety and risk assessment from the early stages of cargo containment system (CCS) design, surpassing currently demonstrated sizes.
- 4** Develop designs that will enable the storage of LH₂ on large commercial vessels, similar in scale to existing LNG carriers. Special features, such as storage tanks, handling, distribution, and safety and monitoring subsystems (HDMSS), will be detailed to prove the modularity and scalability of the proposed solution.
- 5** Attain Approval in Principle (AiP) and general approval from a major classification society, with three IACS members actively participating in the process.
- 6** Achieve a remarkable reduction in LH₂ boil-off rates to just 0.5% per day, ensuring efficient and cost-effective long-distance transportation.

The LH2CRAFT consortium is composed of a multidisciplinary group of **14 partners** from **9 different countries** within the **European Union, Republic of Korea and UK** including IACS Classification Societies, major Engineering Designers and Consultancies, leading Technical Universities, Industrial Partners and SME's, as well as one of the largest Shipbuilding and Offshore Engineering Company globally.



For more information about the LH2CRAFT project, please feel free to **contact us** at info@lh2craft.eu



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