

PRESS-RELEASE

Issue N° 1, July 2022



sustainable HYdrogen powered Shipping Research and Innovation Action Acting towards a cornerstone in the Decarbonisation of the Maritime Industry

On 29th and 30th of June 2022, 13 leading representatives from different industries, R&D and technology areas from 7 European countries got together in Brussels for the kick-off meeting of sHYpS.

sHYpS budget is €14,295,314. The project has received €8,621,612.45 funding from the European Union's [Horizon Europe](#) research and innovation programme and will contribute to the deployment of net zero economy. The main goal of sHYpS project is **to support the decarbonisation of the maritime industry and secure the energy system of the future, using sustainable hydrogen.**

The consortium wants to accelerate the adoption of hydrogen as renewable fuel in the maritime industry, by developing fast and feasible technical solutions, able to facilitate sparking the hydrogen supply-chain development and the logistics, while defining safety and handling requirements.

This meeting was a unique opportunity for all partners to review the project objectives, activities, and work plan. Both the technical and logistic concepts are centred around the idea of **swappable storage system for the liquid hydrogen**, based on new c-type of ISO containers. **The project will use the window of opportunity of 1 Viking's newbuilds Ocean Cruise vessel to install a storage system onboard with the complete gas handling and energy management system and test it during the shakedown cruise by 2026.**

To achieve the project goals, the following objectives are defined:

- Development of a novel liquid hydrogen fuel storage, designed for road transport and to marine codes, based on an intermodal 45' C-type container that can be easily loaded and unloaded by on-board facility.
- Design a suitable Fuel Cell based powertrain /modular containerized powertrain based on optimized PEM Fuel Cells.
- Design an integrated logistic network for the delivery of liquid green hydrogen to vessels based on swapping pre-filled containers.
- Use of the results through demonstration of the 2 hybrid cruise ships starting already by 2025.
- Validation of the business cases.



Co-funded by
the European Union.

Funded by Horizon Europe, the European Union's research and innovation programme under Grant Agreement N° 101056940, the consortium of 13 members represents 5 European countries Italy, France, Czechia, Germany, Norway and UK. UK participants are supported by UKRI Grant Numbers 10038162 (RICUK) and 10039049 (Lloyds).

By developing and scaling up viable hydrogen solutions, sHYpS would significantly contribute to a more resource efficient and competitive economy in Europe.

Europe aims to be **the pioneer on the road to world' climate-neutrality** by 2050, with an interim goal to drop its GHG emissions level by 55% within 2030. To meet this target, the European commission has launched a series of legislation to transform Europe to a climate-neutral and prosperous society under the European Green Deal (EGD) strategy. The EU Emission Trading System (ETS) is a backbone of the EGD and covers various sectors including *maritime and shipping*.

The shipping industry accounts for 10.6 % of transport emissions and is responsible for ca. 3% of the global GHG emissions. In July 2020 the European Commission introduced **“A Hydrogen Strategy for a climate-neutral Europe”**. This strategy aims to decarbonize various sectors including maritime industry by installing at least 6 GW of renewable hydrogen electrolyzers in the EU by 2024 and 40 GW of renewable hydrogen electrolyzers by 2030. Using hydrogen-based solutions in the maritime industry is still complicated and it is in its early stage.

In this regard, sHYpS results are expected to impact on:

- ✓ Kick-starting a market for this new Mobile Marine Fuel Tank container for ships and their logistics, giving the opportunity to speed up a supply of thousands tons of LH2 per year in the next 20 years
- ✓ Creating a secure, modern, sustainable, and resilient maritime value chain by transferring the new solutions to other marine segments including river cruise, ocean passengers and commercial vessels with different sizes.
- ✓ Promoting Europe's technological leadership and increasing the manufacturing expertise to ultimately boost the creation of new jobs across the whole value chain.
- ✓ Contributing toward the International Maritime Organization's (IMO) 2030 and 2050 GHG reduction targets.
- ✓ Contributing towards the evolution of the environmental legislation/directives that entail incentives to reduce GHG emissions.
- ✓ Embarking the hydrogen markets for various industries such as transportation, pharmaceutical, chemicals, food through adoption of a certified Liquid Hydrogen C-type ISO 45' Container for onboard fuel storage developed under sHYpS solution.

The sHYpS project will be carried out over the next 4 years. **Navalprogetti S.r.l. (Italy)** will coordinate 13 consortium partners during all the project phases. The consortium members will be actively involved to design and industrialise the novel technology, establish the value chain and validate and demonstrate the hybrid cruise ships with a view to transfer the results to other market segments in sea and IWW applications, looking to hundreds of vessels in the order book of commercial fleets.

All consortium partners are committed to collaboratively communicate, disseminate, and exploit the project's results and activities.

CONTACT

Project Coordinator: *NAVALPROGETTI SRL*.

Pierluigi Busetto, pierluigi.busetto@navalprogetti.net



Co-funded by
the European Union.

Funded by Horizon Europe, the European Union's research and innovation programme under Grant Agreement N° 101056940, the consortium of 13 members represents 5 European countries Italy, France, Czechia, Germany, Norway and UK. UK participants are supported by UKRI Grant Numbers 10038162 (RICUK) and 10039049 (Lloyds).

Consortium members:



Co-founded by
the European Union.

Funded by Horizon Europe, the European Union's research and innovation programme under Grant Agreement N° 101056940, the consortium of 13 members represents 5 European countries Italy, France, Czechia, Germany, Norway and UK. UK participants are supported by UKRI Grant Numbers 10038162 (RICUK) and 10039049 (Lloyds).