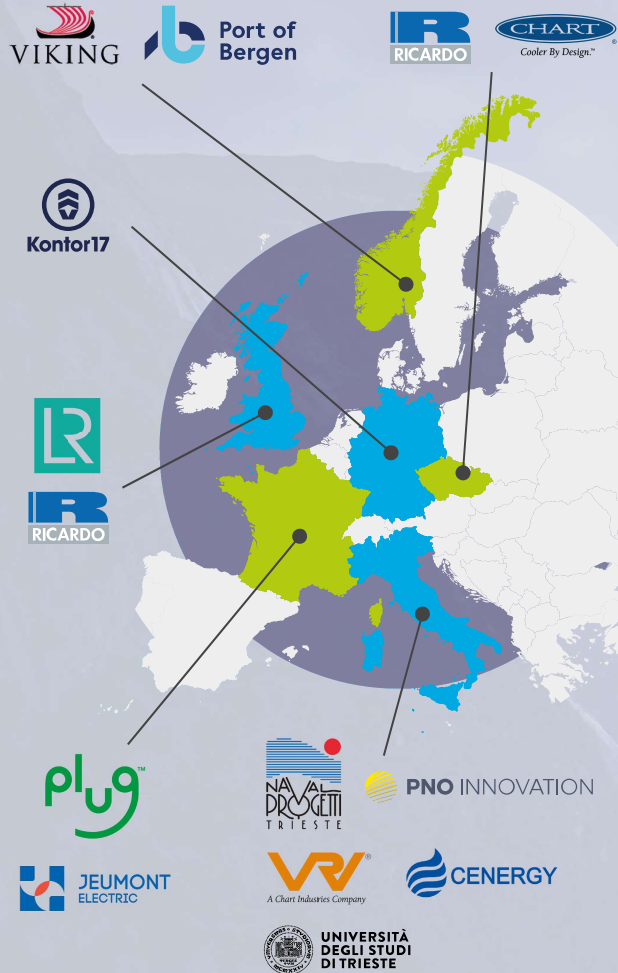


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Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them. UK participants are supported by UKRI Grants.



Sustainable HYdrogen
powered Shipping

THE PROJECT

The shipping industry is facing one of the most demanding challenges ever: to find the way to achieve zero-emission navigation. The time to achieve such goal is very short: the next big deadline imposed by the IMO is to reduce the total annual GHG emissions from international shipping by at least 50% by 2050.

Hydrogen is one of few zero-emission solutions that is very promising, but the technology necessary to use it on board is not completely ready. To combine the tight application times (50 % reduction by 2050 of GHG emissions from shipping) and the technological gap, sHYpS is centered around the idea of a swappable storage system for the liquid hydrogen, based on new c-type ISO containers. This solution can enable a full zero emission ship platform in the needed time.

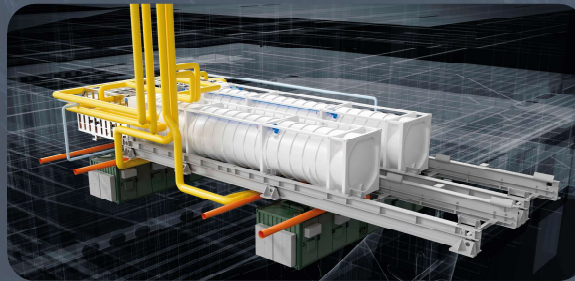
ACHIEVEMENTS



Designed and built a prototype of an intermodal ISO 45 ft LH2 container and the relative tank connection space



Designed, built, and tested a 375 kW PEM fuel cell module suitable for inclusion in a 6 MW powertrain via a 40 ft containerized solution



The entire system will be integrated onboard one Viking's newbuild cruise ship within the end of 2026.

NEXT...

- > Complete extended testing of single components and entire power train to have Lloyd's Register approval and later test the full system onboard.
- > Demonstrate the scalability of the LH2 system and its logistics.
- > Develop a solution which is fully adoptable by many kinds of ships with a conceptual design for 5,000 DWT cargo ship and 700 TEU container vessel.