

H2PORTS

IMPLEMENTING FUEL CELLS AND HYDROGEN TECHNOLOGIES IN PORTS



Project ID:	826339
PRD 2023:	Panel 3 – H2 end uses – transport
Call topic:	FCH-03-1-2018: Developing fuel cell applications for port/harbor ecosystems
Project total costs:	EUR 4 265 947.50
Clean H₂ JU max. contribution:	EUR 3 999 947.50
Project period:	1.1.2019–31.12.2024
Coordinator:	Fundación de la Comunidad Valenciana para la Investigación, Promoción y Estudios Comerciales de Valenciaport, Spain
Beneficiaries:	Agencia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile, Atena Scarl – Distretto Alta Tecnologia Energia Ambiente, Autoridad Portuaria de Valencia, Ballard Power Systems Europe AS, Cantieri del Mediterraneo SpA, Centro Nacional de Experimentación de Tecnologías de Hidrógeno y Pilas de Combustible Consorcio, Enagás SA, Grimaldi Euromed SpA, Hyster-Yale Nederland BV, Mediterranean Shipping Company Terminal Valencias SA, Sociedad Española de Carburos Metálicos SA, Università degli Studi di Napoli Parthenope, Università degli Studi di Salerno, Valencia Terminal Europa SA

<https://h2ports.eu/>

QUANTITATIVE TARGETS AND STATUS

Target source	Parameter	Unit	Target	Target achieved?
Project's own objectives	HRS daily capacity	kg/day	60	
	Reach stacker vehicle power	kW	90	
	Vehicle power	kW	70	

PROJECT AND OBJECTIVES

H2Ports will demonstrate and validate two innovative solutions based on fuel cell technologies. A reach stacker and a terminal tractor will be tested on a daily basis during 2 years of real operational activities at the Port of Valencia, and a mobile hydrogen refuelling station (HRS) designed and built during the project will provide the required hydrogen. All three elements are currently in advanced stages of building, and the piloting period is planned to start in summer 2023.

NON-QUANTITATIVE OBJECTIVES

- The project aims to disseminate H₂ technologies to the ports and maritime sector. This goal has been accomplished through the organisation of the stakeholder advisory group.
- H2Ports will gather information on the use of H₂ in port environments.
- It will gather information on the use of H₂ as fuel for vessels.

PROGRESS AND MAIN ACHIEVEMENTS

H2Ports has completed the HRS construction phase and is currently undertaking safety testing prior to the start of the operative period.

The fuel cell Reach Stacker is at a very advanced construction stage. The fuel cell's commissioning process has started, and the testing phase has been scheduled, prior to the delivery of the machine to the Port of Valencia.

The design and component selection of the terminal tractor has been completed; it is entering the final stage of the construction process, and the commissioning of the machine, the safety tests and CE certification will take place before its delivery to the Port of Valencia.

FUTURE STEPS AND PLANS

The pilot period was expected to start in August 2023.

