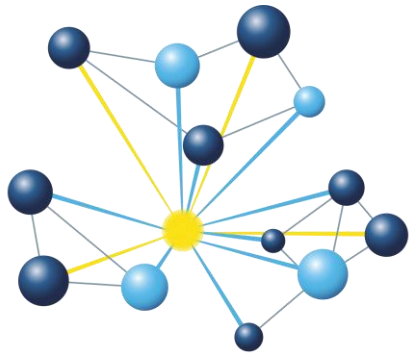
REGIONE AUTONOMA
FRIULI VENEZIA GIULIA

H2 in Shipping

H2 Pilot Summit - Bruxelles, 18 November 2024

Roberta Padovan
Maritime Technology Cluster (mareFVG)

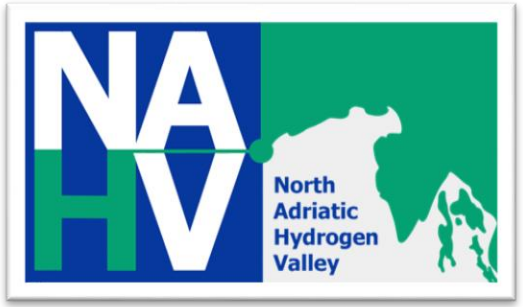
mare Technology Cluster FVG

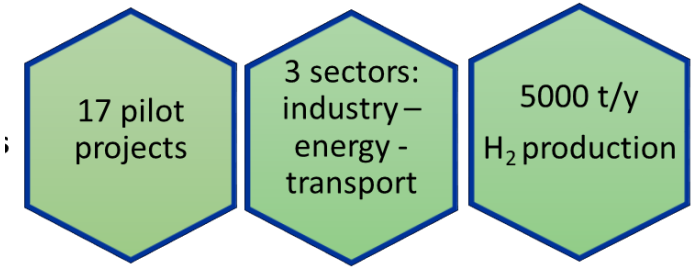


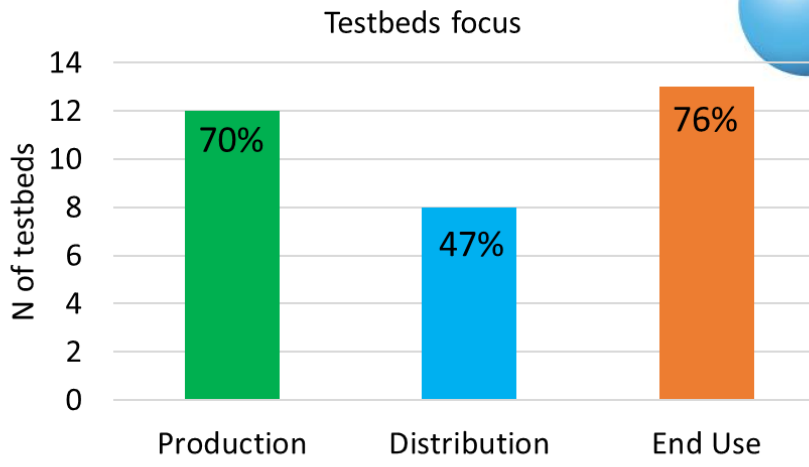
VANGUARD INITIATIVE
New growth through smart specialisation

Friuli Venezia Giulia: cross-border cooperation and connections

- **North Adriatic Hydrogen Valley (NAHV) initiative:** A strategic, cross-border initiative focused on decarbonization, innovation, and regional cooperation, driving **energy transition** and **sectoral integration** to build a sustainable hydrogen ecosystem in the North Adriatic.





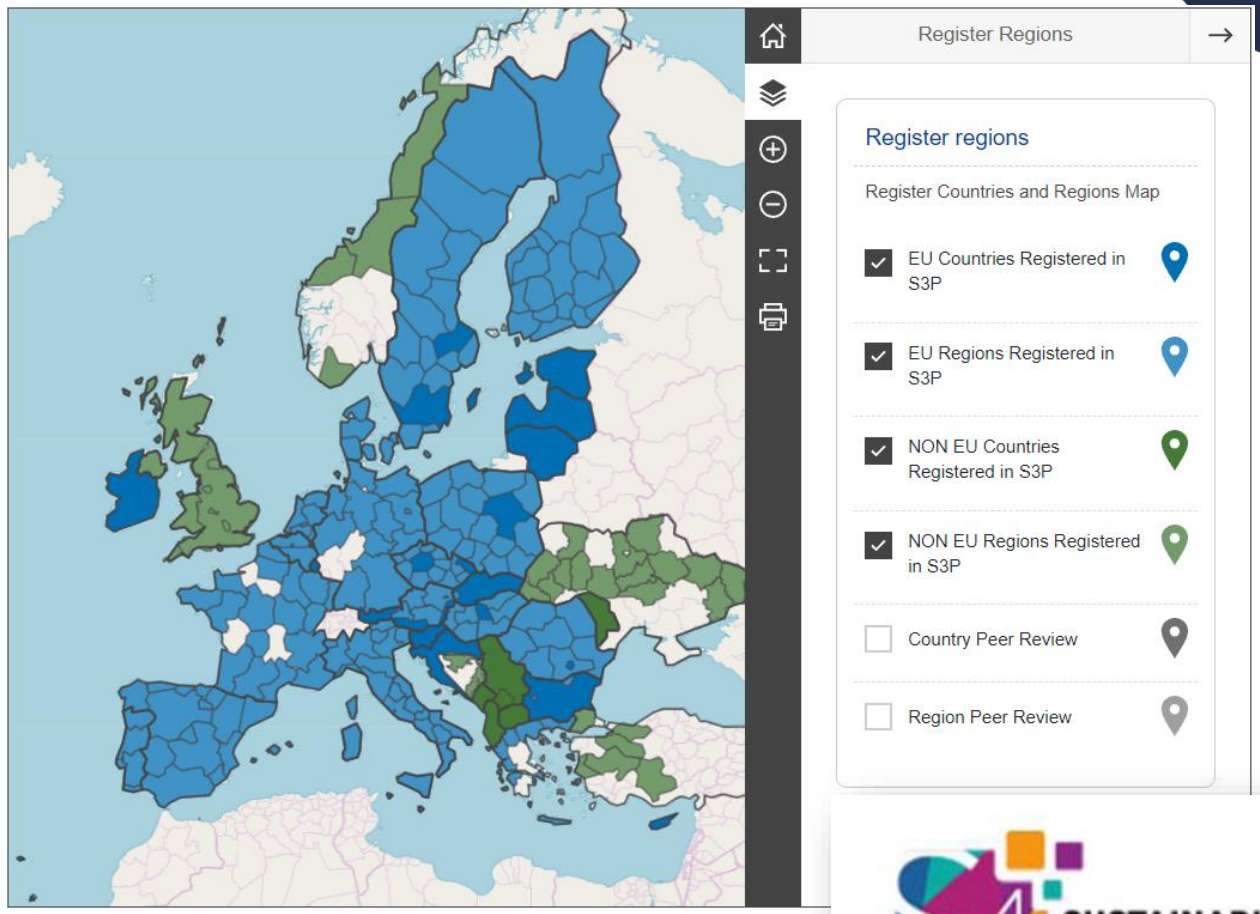


Source: www.nahv.eu

S4 2021-2027: SUPPORTING S3 IMPLEMENTATION

Maritime Technologies – Sustainable Waterborne Mobility and its land connections

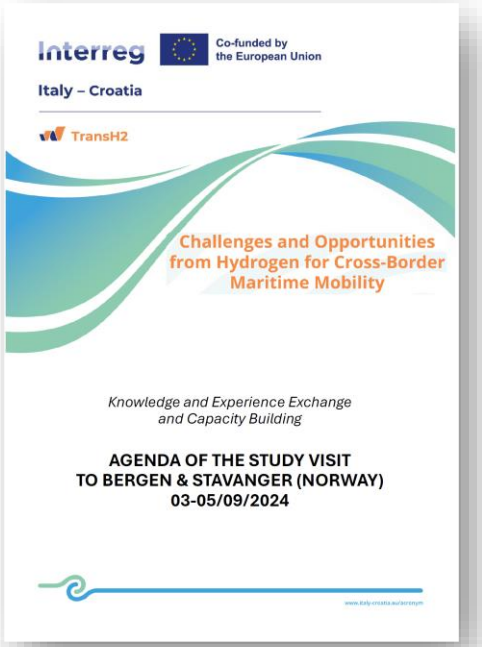
- **GREEN MOBILITY**
  technologies, systems and solutions for the production and operation of maritime vehicles and for commercial and tourist ports
- **SMART MOBILITY**
  smart technologies, systems and solutions for vessels, shipyards, ports and their land connections
- **SEA MADE IN FVG**
  technologies, systems and solutions to improve competitivity and resilience of local maritime ecosystem



...Towards a sustainable blue economy

S4 SUSTAINABLE SMART SPECIALISATION STRATEGY FVG

EU funded Projects involving H2 technologies on-board ships within Friuli Venezia Giulia Region



IL VIAGGIO

MareFvg studia in Norvegia i possibili impieghi marittimi

LA SPEDIZIONE

Un "viaggio di studio" in Norvegia alla scoperta dell'idrogeno nelle tecnologie marittime. È quanto organizzato da mareFvg nell'ambito del progetto europeo, finanziato dal Programma Interreg Italia-Croazia 2021-2027, "TransH2 – Transition to hydrogen fuelled crossborder sea-mobility". Il cluster regionale delle tecnologie marittime è rientrato da pochi giorni da una visita agli enti e alle autorità di Bergen e Stavanger a capo di una delegazione di esperti, ricercatori, aziende e amministrazione regionale dall'Italia e dalla Croazia per visionare e apprendere sul campo dall'applicazione all'avanguardia delle tecnologie a idrogeno nell'industria marittima.

Lucio Sabbadini, amministratore delegato di mareFvg: «Grazie alla visita in Norvegia, organizzata dal cluster mareFvg in collaborazione con il cluster norvegese Cleantech e Innovation Norway, l'intero partenariato di progetto, che comprende anche i partner della Regione Fvg, Università di Trieste, Navalprogetti e amministrazione Rfvg, ha avuto modo di confrontarsi con buone pratiche e conoscenze nell'applicazione

i partner del progetto in visita al traghetto MF Hydra MF Hydra

North Adriatic Hydrogen Valley

The NAHV comprehends the territories of Friuli – Venezia Giulia region (Italy), Slovenia and Croatia and aims to develop 17 testbeds across the region demonstrating the integration of hydrogen within hard-to-abate sectors by the production and use of 5000 ton/year of hydrogen within the valley. Status: Ongoing

Sustainable HYdrogen powered Shipping

The project will develop a novel LH2 swappable storage solution, which can be adapted to multiple types of vessels.
Status: Ongoing

TRANSITION TO HYDROGEN FUELLED CROSS-BORDER SEA-MOBILITY

The project will focus on developing innovative hydrogen-fueled vessels and infrastructure, ensuring a full hydrogen supply chain for maritime transport in Italy and Croatia. Status: Ongoing

Renewable Energy Ship Propulsion (RESHIP) – Low Energy Ship Design tool (LESS)

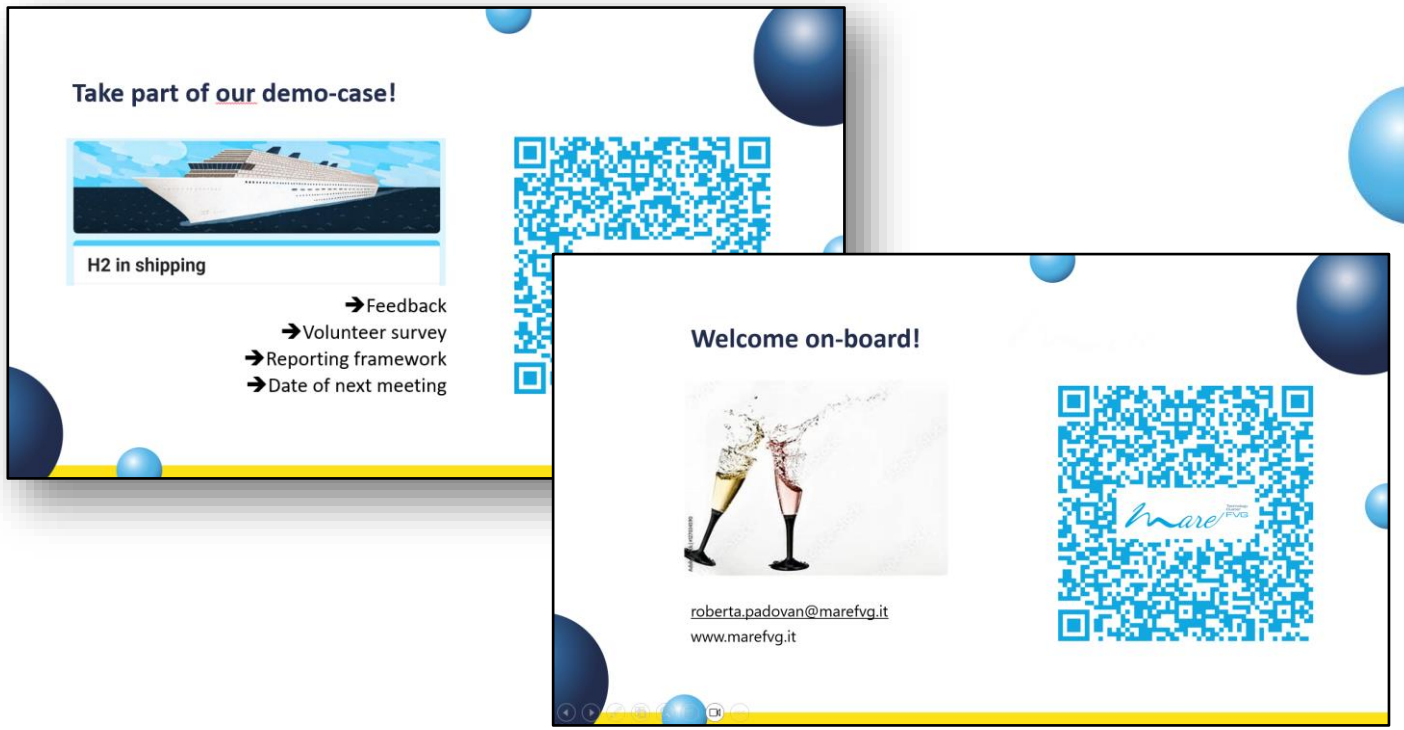
Projects connected with the shipboard installation of a innovatives power generation system for propulsion and on-board use. Status: ended projects

Support of ENESYS LAB in UniTS H2 projects

H2 in shipping: objective

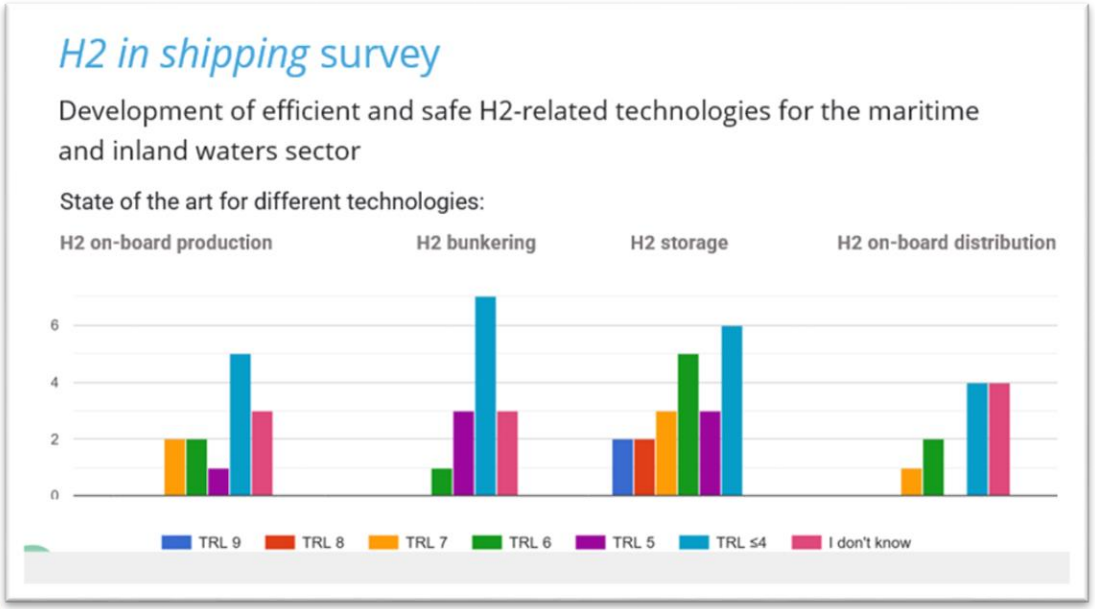
Promotion of partnerships in the maritime & inland waters value-chain, aimed at innovation projects including green H2

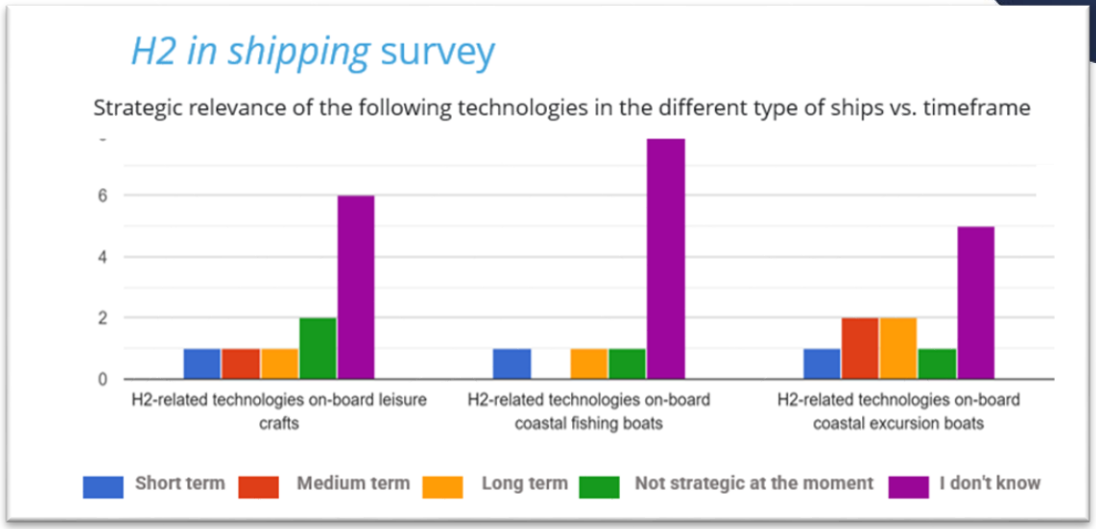
- Kicked-off in October 2023
- Mapping among the Pilot H2 regions

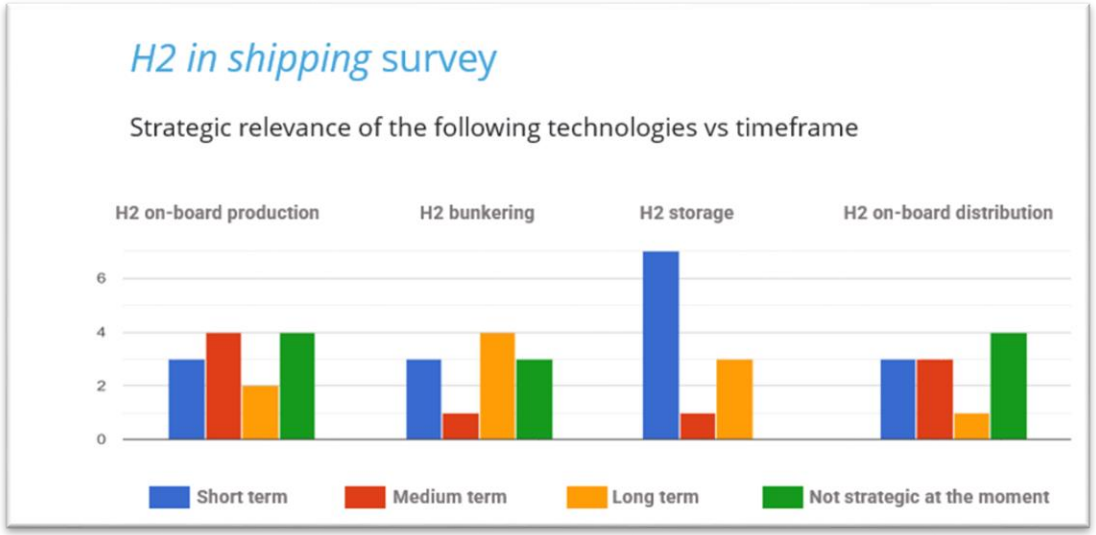


H2 in shipping: deliverables

…some results:





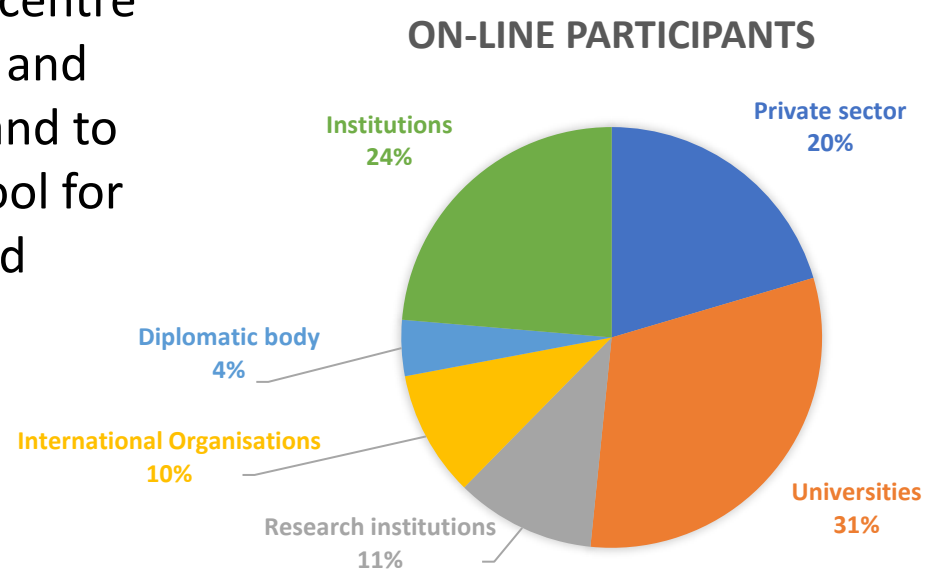


H2 in shipping: deliverables

Global Manufacturing and Industrialisation Summit

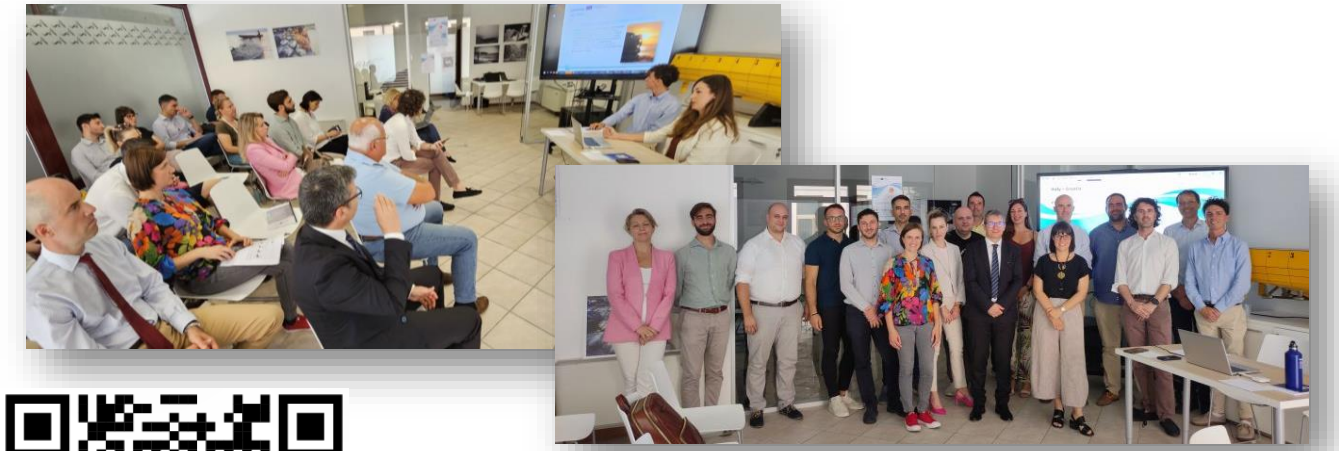
(GMIS, November 2023)

The Summit aimed to put manufacturing at the centre of economic recovery and government policies and to use technology as a tool for global cooperation and collaboration.



H2 in shipping: deliverables

- **Organization of a hybrid workshop sul future of transborder H2 based waterborne mobility**



Interreg Co-funded by the European Union

Italy – Croatia

TransH2

Challenges and Opportunities from Hydrogen for Cross-Border Maritime Mobility

WORKSHOP AGENDA

10:00 **Registration for the attendance in presence**

10:30 **Morning session: Political and Investment Strategies**
Workshop opening and initial welcome *(Maria Cristina Pedicchio, Maritime Technology Cluster FVG)*
Introduction on the workshop structure and objectives *(Carlo Kraskovic, Maritime Technology Cluster FVG)*
Introduction to the project *(Borana Vlastelić, University of Rijeka - Faculty of Maritime Studies)*

- Friuli Venezia Giulia Regional perspective on H2 integration
  Ketty Segatti and Giulio Pian, Friuli Venezia Giulia Region
- Port authority of Trieste and Monfalcone perspective on H2 integration
  Sergio Nardini, Port authority of Trieste and Monfalcone
- Introduction of hydrogen into the Croatian maritime sector: National strategic framework
  Vedran Krušvar, Institution Regional Energy Agency Kvarner
- Policy strategies and development plans for hydrogen in the Port of Zadar
  Ive Surić, Zadar County Development Agency ZADRA NOVA
- Investment opportunities for the energy transition
  Bora Aydin, Seastock
- Vanguard Initiative in the European framework for hydrogen transition
  Roberta Padovan, Maritime Technology Cluster FVG
- Industry perspective in the green transition of the maritime sector
  Speaker from Innovation Direction, Fincantieri
- Q&A

12:30 **Lunch break**

13:30 **Afternoon session: Technical innovation, challenges and safety**

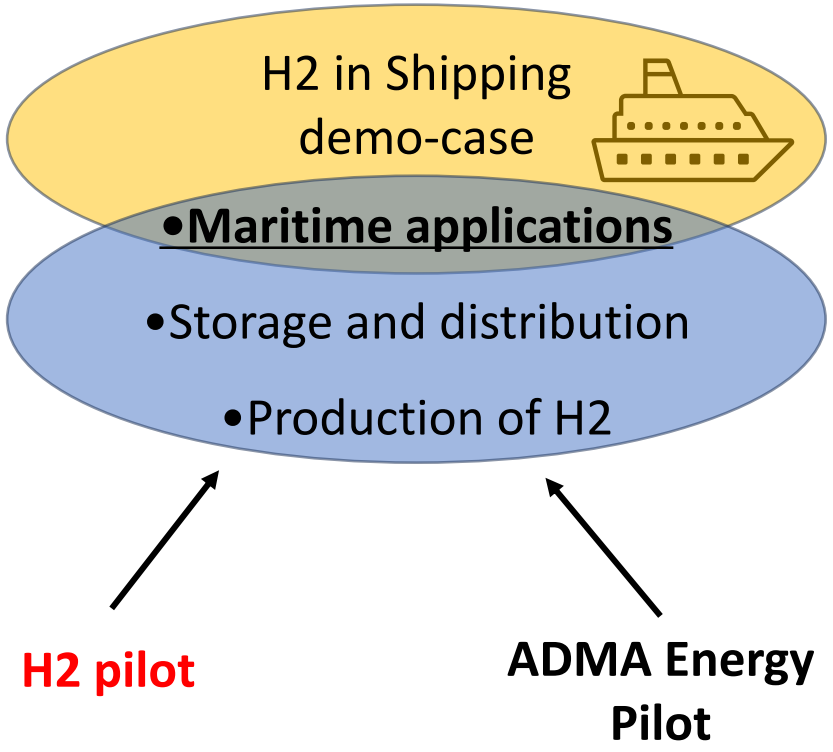
- Managing risks in explosive gases: best practices and experiences
  Alessio Cogliati, Linde Gas, as board member of the Hydrogen Energy Carrier Group of Assogastecnici
- State of the art in Norway: hydrogen technologies in maritime industry
  Øystein Huglen, Maritime Cleantech Cluster
- International regulations and standards for hydrogen in the maritime sector
  Fabrizio Cadenaro, Lloyd's Register
- Driving innovation in yachting with green hydrogen
  Elena Marolla, NatPower H
- Actions to support H2 introduction in maritime sector
  Dinko Durdevic, Gitone Kvarner, funding member of MARINN – Maritime Innovation Cluster
- Innovative technologies for hydrogen storage: safety and performance
  Bora Aydin, Walter Tosto
- Q&A

15:15 **Conclusions**

The event has been funded by the Interreg Italy-Croatia Programme 2021-2027. TRANSH2. The project falls within Specific Objective 3.1: “to develop an intermodal, safe, intelligent, climate-resilient, and sustainable Trans-European Transport Network (TEN-T).”

Latest tasks

- **Participation in cross-pilot activities H2-ADMA:**
  - **Mapping of the FVG enterprises interested in EU projects** - December 2023
  - **Attendance at Key Energy Expo and involvement of 4 enterprises** – March 2024
  - **Support for Coordinators in Project Proposal Submission for the I3 Call -** July – present



Thank you!

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www.marefvg.it