

Actions to support H2 introduction in maritime sector

TransH2 | Gitone Kvarner | Dinko Đurđević

Workshop:

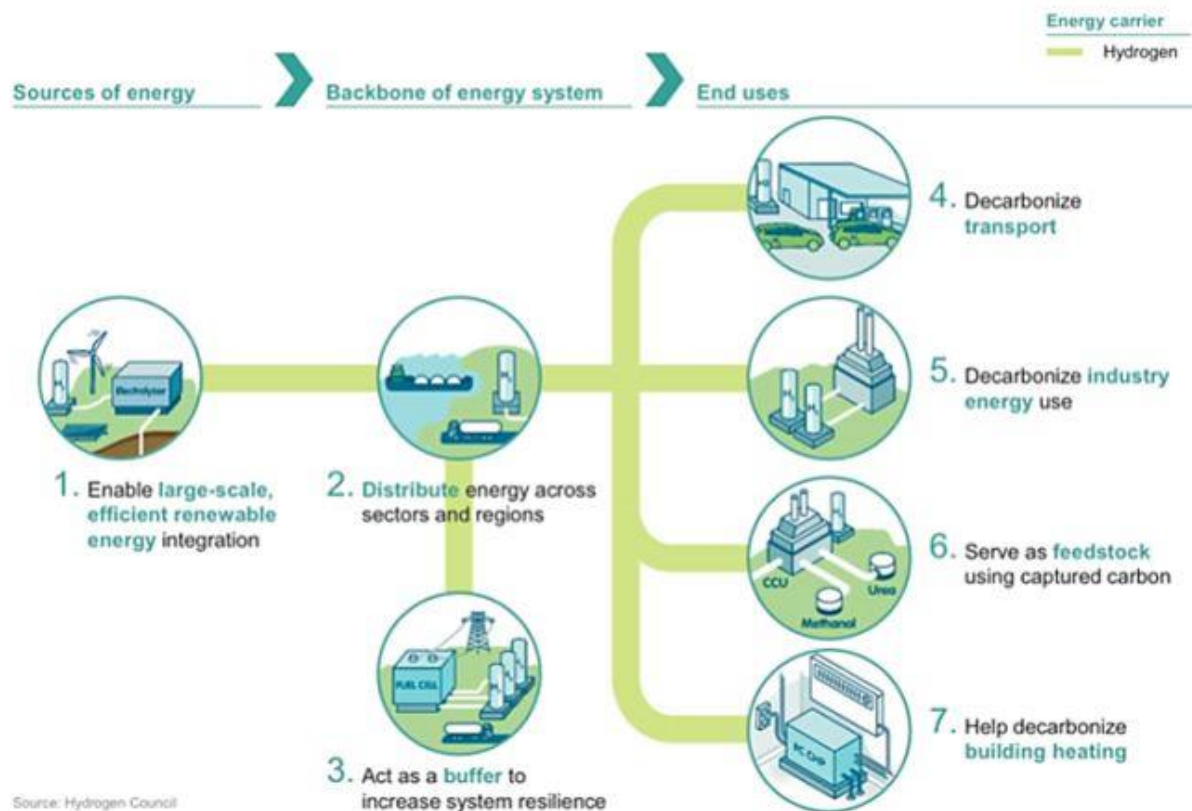
**“Challenges and Opportunities from Hydrogen
for Cross-Border Maritime Mobility”**

Monfalcone, Via Garibaldi 64c

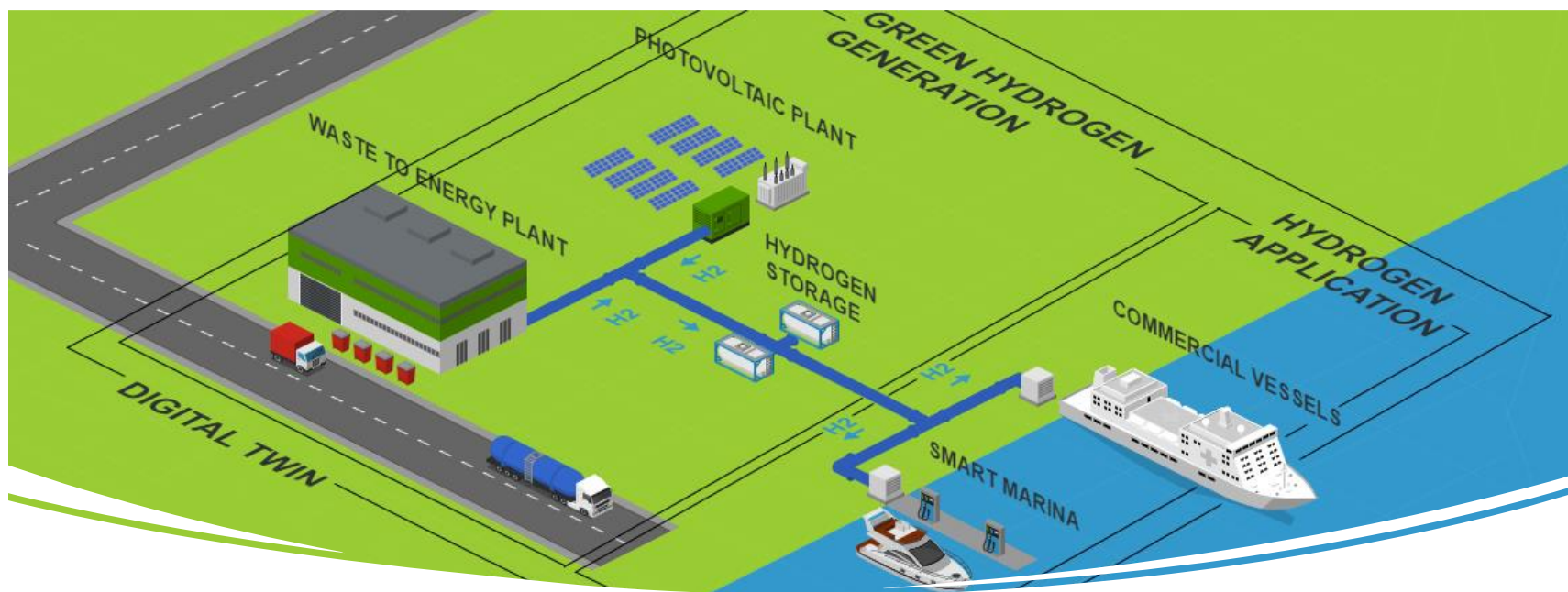
20 June 2024

<https://www.italy-croatia.eu/web/transh2>

Decarbonization with hydrogen...



...within Gitone, projects and partners

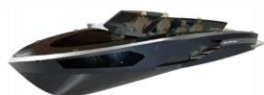


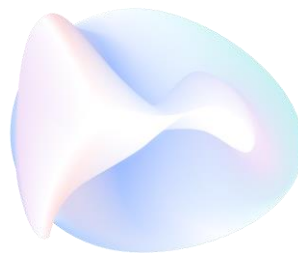
- H2 ecosystem: from RES/waste production to utilization in maritime sector
- North Adriatic Hydrogen Valley, ZEAS, Smart Marina



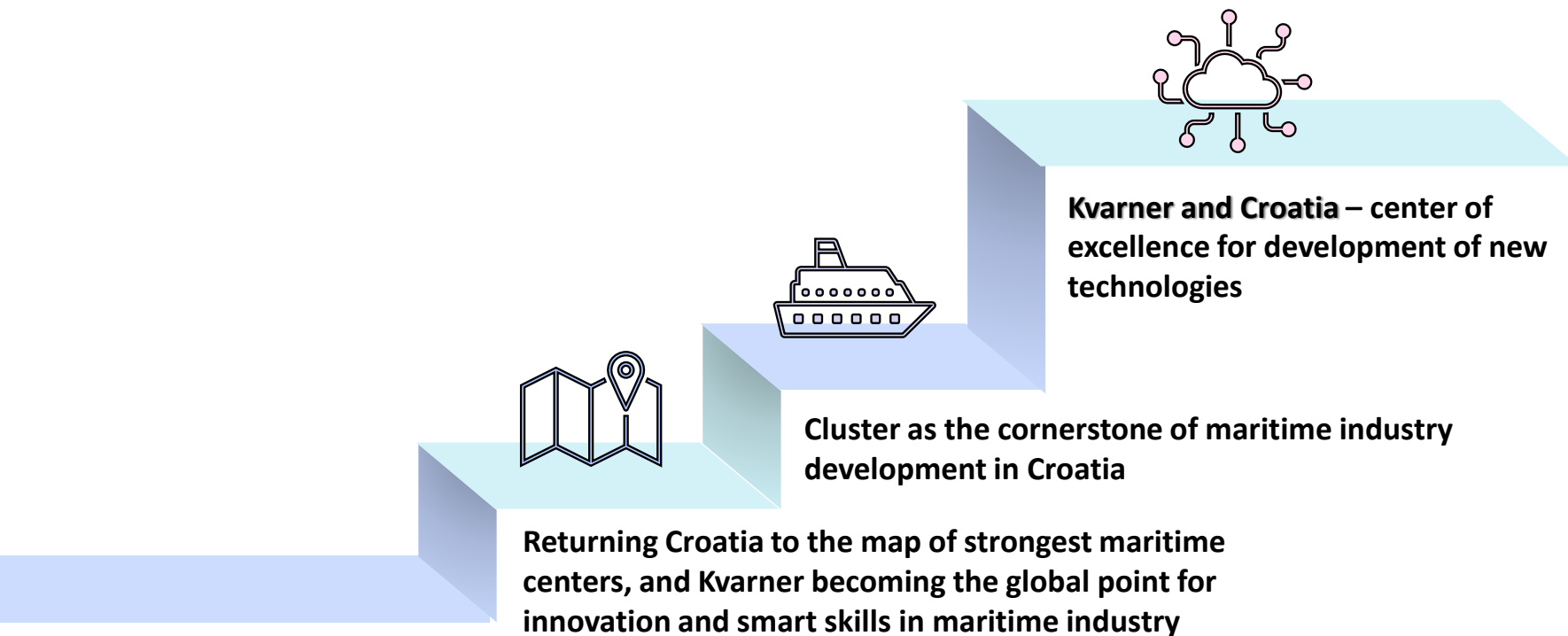
Maritime Innovation Cluster (MARINN)

- Innovation cluster
 - Platform for R&D projects development and development of research infrastructure in maritime sector
- Founders (2021 in Rijeka):
 - Gitone Kvarner
 - Lürssen Design Center Kvarner
 - Maritime Center of Excellence
- Goals:
 - Connecting public, private and scientific community
 - New added value creation in maritime
 - Innovation and knowledge transfer
 - Trainings and education for jobs of the future
 - Cross-sectoral networking and internationalization
- Areas of development:
 - Autonomous ships
 - Smart and green marinas
 - Green technologies
 - Clean powertrains





Green & digital vision of the maritime industry future





NAHV – Regional center for hydrogen

- Defined within the Croatian Hydrogen Strategy until 2050
- For scientific sector and industry
- Hydrogen and hydrogen economy
- Goals:
 - Connection and cooperation between science and industry
 - Aligning research, educational and industry activities from hydrogen:
 - Electrolyser systems
 - Storage systems
 - Implementation in maritime sector ...

MINISTRY OF ECONOMY AND SUSTAINABLE DEVELOPMENT

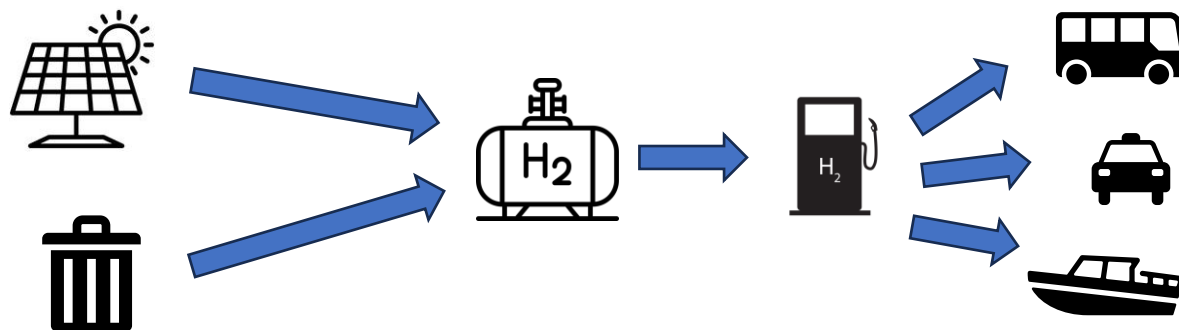
HYDROGEN STRATEGY
OF THE REPUBLIC OF CROATIA UNTIL 2050



Zagreb, March 2022

New concept: H₂ mobility ecosystem in Kvarner

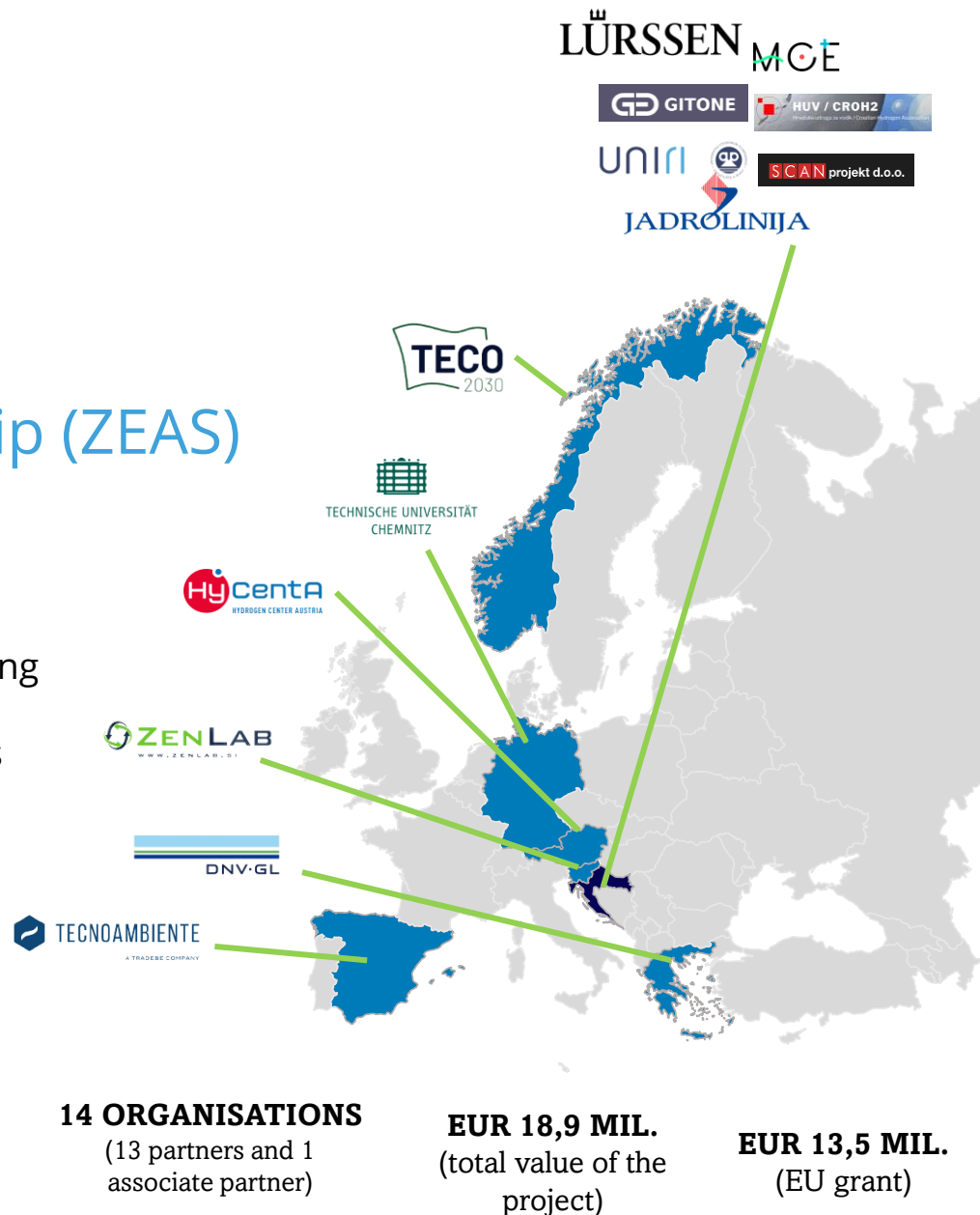
- From production to the end use in mobility
- Green and smart city concept
- Introducing green infrastructure and technology
- Clean and efficient transport connecting the City and surroundings
- Circular management of resources

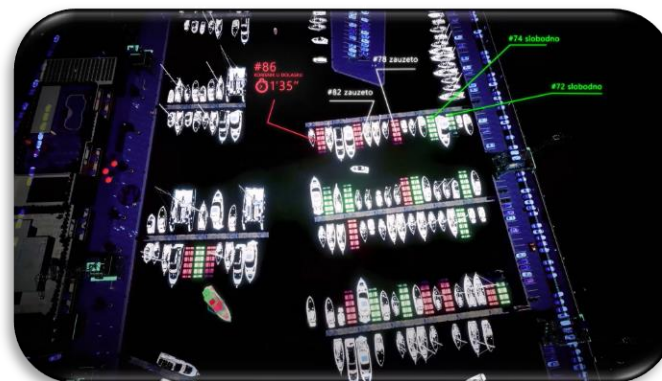




Zero Emission Adriatic Ship (ZEAS)

- Goals:
 - Development of a zero-emission ferry, powered by hydrogen
 - 1st H₂ distribution, storage and bunkering solution in the Adriatic region
 - Innovative smart digitalisation solutions
- Passenger ferry will travel on shorter routes (operated by Jadrolinija)
 - Depending on the final project documentation and studies





Smart Blue Tourism – Smart Marina

- Goals:

- Increase the resilience and sustainability of maritime sector
- Digital transition
- Higher operational efficiency
- Modular solutions
- Perservation of sea and cultural heritage
- New jobs

- Project:

- 11 partners
- Duration: 7/2023 – 6/2025
- Project value: 4.5 MEUR
- Grant value: 2.6 MEUR
- TRL 2-7

- Activities:

- Green fleet (e-vehicles)
- Smart waste disposal bins
- Charging and/or refuelling infrastructure (BEV/FCEV)
- Smart pumps and water filter
- Autonomous cleaning vehicles

Interreg



Co-funded by
the European Union

Italy – Croatia



MARINN

Maritime Innovation Cluster



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<http://marinn.co/>