



Carbon Reduction Excellence

L'intermodalità negli ecosistemi logistici

June 8, 2022

Inland and sea ports to become **new clean energy hubs** for **integrated electricity systems**, **hydrogen** and other **low-carbon fuels**, and testbeds for **waste reuse** and the **circular economy**.

Sustainable and Smart Mobility Strategy, 2020



Marine



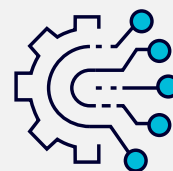
Certification



Real Estate &
Infrastructures



Energy
& Mobility



Industry

Energy transition & Decarbonization

About the Pivotal Role of Multimodal Hubs

Operations

Hinterland Connections

Urban areas

Development of win-win projects leveraging on community outreach and Hub city dialogue



Industries

Hub's facilities and operations have a direct impact on carbon footprint of products, goods and passengers

Energy: supply, diversification and existing infrastructures

(Hydrogen and Ammonia Import, CO₂ Export)

At service of the mobility sector

(Clean Vector Storage & Distribution for Land, Maritime and Aeronautical)

Levers for Decarbonization



The role of H2 for Multimodal Hubs towards NetZero



Renewables and Alternative Fuels

Enhance the use of wind and solar power, in particular for autoconsumption at Hub's facilities



Circular Economy

Wastes and CO₂ could foster the implementation of new projects



Mobility & Logistic

Integration of the sectors, electric and hydrogen mobility (light transport, urban and extra-urban public, material handling, boats for commercial and recreational use)



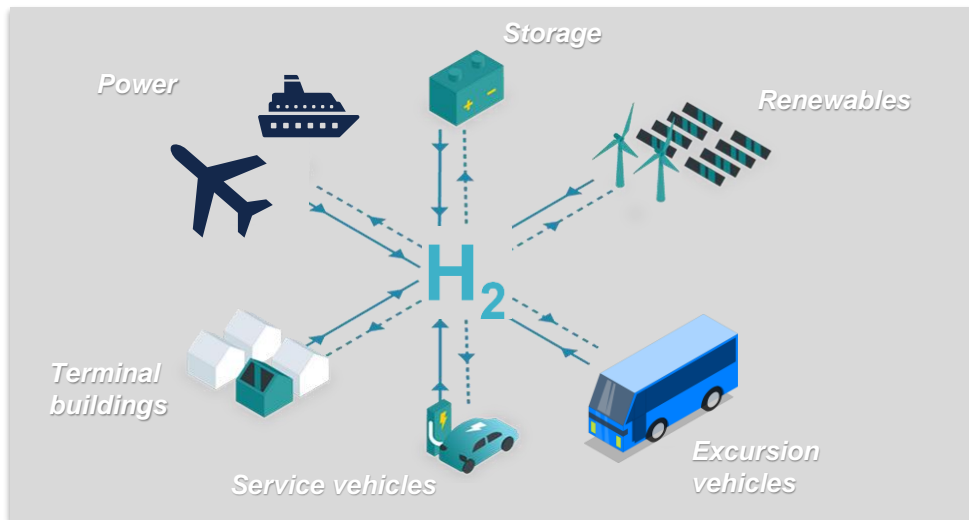
Sector Coupling & Hydrogen Valleys

Combining Industrial, Transport and Logistic to leverage on new solution implementation



Energy Efficiency & Optimization

Insulation and consumptions optimization



Transmission Network and Import/Export

Facilities, infrastructures and storages assuring H₂ supply and trade

The Use of H2 in Multimodal Hubs



Way forward

MULTIMODAL HUB Centric Approach



LOCAL ECOSYSTEM Centric Approach & Stakeholder engagement



The Use of H2 in Multimodal Hubs

Our references



OLGA EU Project hOListic Green Airport

- An **EU-funded consortium** (34 M€) with SEA, Snam, RINA
- **57 partners**, including companies from ADP Paris Airport (Project Coordinator), Franjo Tuđman Airport in Zagreb and Romanian Airport in Cluj, aiming to decarbonise airports for the 2024 Paris Olympics and Milan for the 2026.
- The challenge of reducing the environmental impact of the transport sector as a whole. airports, airlines, handlers, industry, research, SMEs combine a wealth of skills to solve this complex challenge: **efficient and zero-emission airport and air operations, sustainable logistics, smart energy and mobility, intermodality for passengers and freight**, emissions / air quality assessments, green building and circular end-of-life solutions.
- At **Malpensa**, partner of the project, it is **planned to install an electrolyser** and related **storage** and **distribution** systems to ensure the **supply of hydrogen** at the airport **to become the first hub for the generation and use of green H2 in an Italian airport between 2023 and 2024**

HIMET Project Hydrogen in an Integrated Maritime Energy Transition

- The 'Hydrogen in an Integrated Maritime Energy Transition' (HIMET) project will explore solutions for decarbonizing the islands' ferries as well as shore-side activities in port. it aims at encompassing the design, development, and demonstration of four solutions:
 - **Hydrogen systems and future micro-grid architectures for resilient shore-side power,**
 - Combustion of hydrogen in a marine propulsion engine,
 - Containerized and marinized hydrogen storage on board a vessel,
 - and the supply of vessel on-board auxiliary power using a hydrogen fuel cell.

Decarbonization of Multimodal Hubs

Side Effects



Technologies for decarbonisation and environmentally friendly practices as incentive factors for the **attractiveness of the territory** in line with an increasingly **awareness of sustainability** issues among **tourists**.

- **Environmental and acoustic pollution**
- **Sustainability**
- **Waste Management**
- **Integrated mobility**

Why Multimodal Hubs and What to pay attention to



SAFETY, SECURITY & ENERGY SUPPLY

Interference risk, critical infrastructures and guarantee in supply



STAKEHOLDER

Involvement and synergistic planning for the achievement of sustainability objectives



H₂ SOLUTIONS

Clustering and analysis of opportunities according to the specificities of the port infrastructures



VISION

Sustainability initiatives, environmental impact reduction and DNSH

