

TH₂ICINO

November 2025

Towards H2ydrogen Integrated Economies

TH2ICINO – Clean Hydrogen Partnership

(Towards H2ydrogen Integrated eConomies In NOrthern Italy)

General information

Duration: 4 years (from Sept. 2023 to Sept. 2027)

EU granted budget: 7.4 M€

Total investment: 18.5 M€

Coordinator: RINA

Partners: 9 partners from 4 countries

Scope of work

TH2ICINO aims to develop an **Airport-centered Hydrogen Valley at Malpensa**, integrating a **5MW PEM electrolyzer** for hydrogen production and distribution via truck.

The project focuses on **ground mobility**, **Hydrogen Refueling Stations** (HRS) in airport context developing a **Master Planning Tool** (MPT) to financially derisk hydrogen projects and support **expansion and replication across Italy and the EU**.





















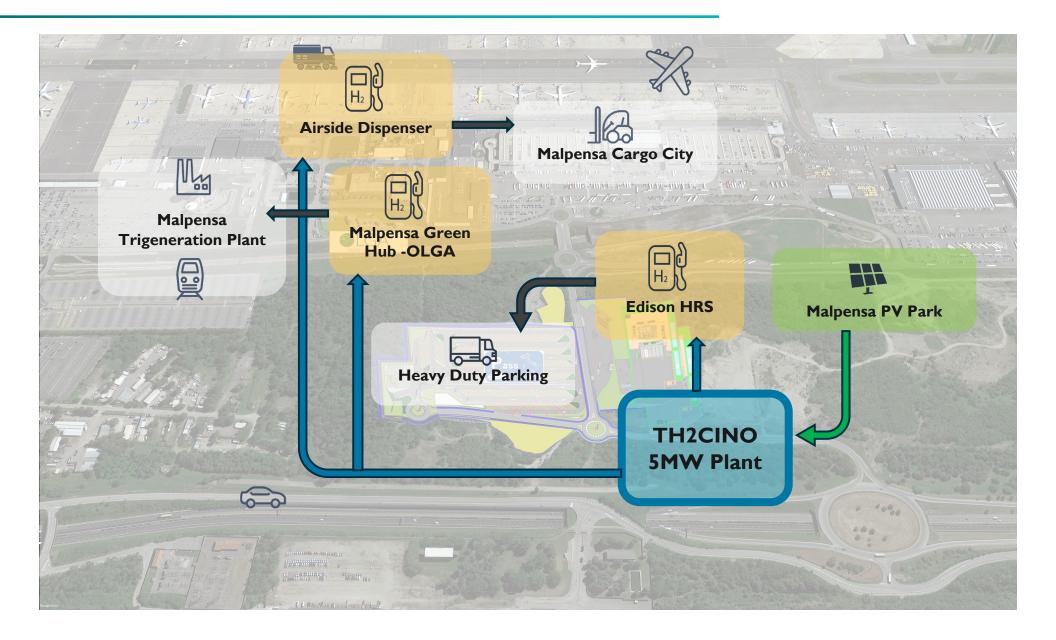




TH2ICINO - Site



TH2ICINO - Site



TH2ICINO – Objectives



4400 tCO2/y

Equivalent to tons of CO_2 per year from 1500 cars

DECARBONIZATION



Boosting the H2 market

HYDROGEN PRODUCTION



> 2 sectors decarbonized

Mobility and Hard to abate sectors

DIVERSIFICATION



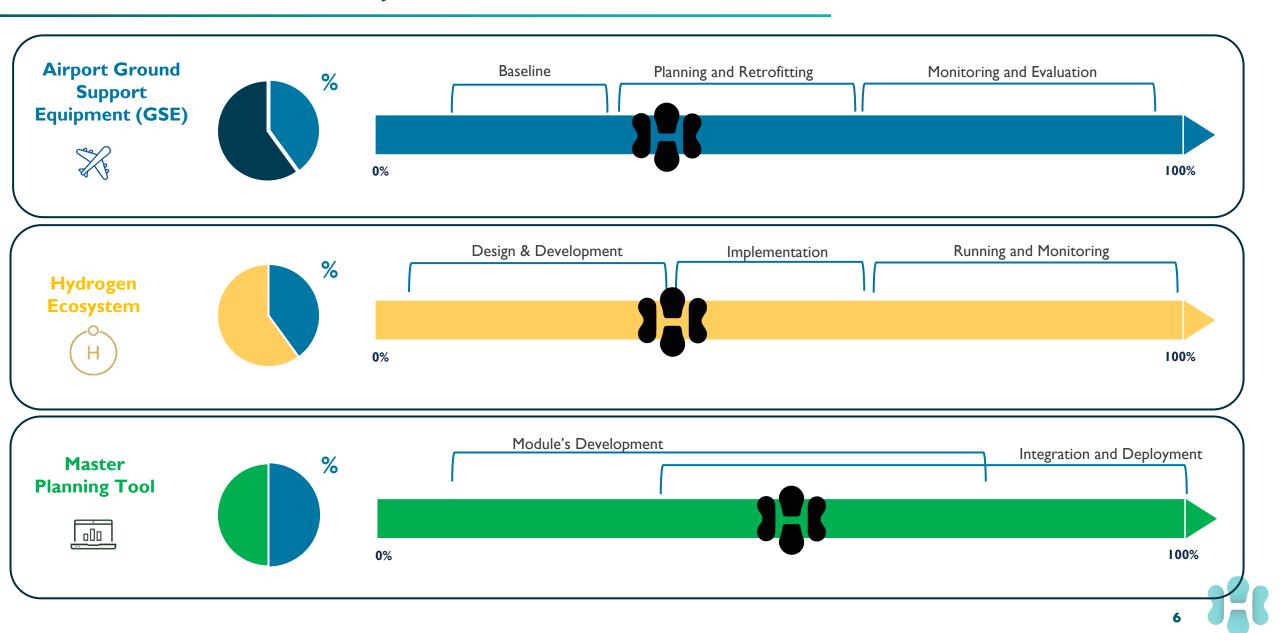
Airports

Strategic sector coupling for EU Green Airports 2030 strategy.

TRAINING



TH2ICINO – Project timeline



TH2ICINO – Current status and next steps

MPT Hydrogen Ecosystem Airport GSE Offtakers engagement Ongoing analysis on first **Current status** increasing vehicle to be retrofitted Core modeling and optimization **Starting of Masterplan Open discussions with other** modification procedure **GSE** suppliers Next steps **Expand Off-taker** commitment Integration on TH2ICINO Begin the retrofitting **Valley input** activities **Conclude Masterplan** modification and permitting



MOBILITY



MOBILITY – Regulatory Milestones & Market Outlook



What are the European and National targets for hydrogen vehicles?

RED III:

42% RFNBO hydrogen in industry and 1% in transport by 2030

AFIR:

Hydrogen refueling stations every 200 km along the TEN-T network by 2030

Market Outlook:

≥1,000 HRS and ~45,000 hydrogen trucks in Europe by 2030

Italian National H2 Strategy:

2040-2050 up to 30% of energy for heavy transport



MOBILITY - Your contribute in the holistic approach



Joint forces is highly required:



DEMAND DRIVER

ensures long term commitment on hydrogen haulage



FLEET OPERATOR

• provides integrated H2 service including vehicles, drivers, maintenance



VEHICLE OEM

• provides suitable H2 vehicles (+ possibly financing, maintenance, ...)



REFUELLING STATION OPERATOR

• offers reliable refuelling operations in suitable locations



HYDROGEN PRODUCER

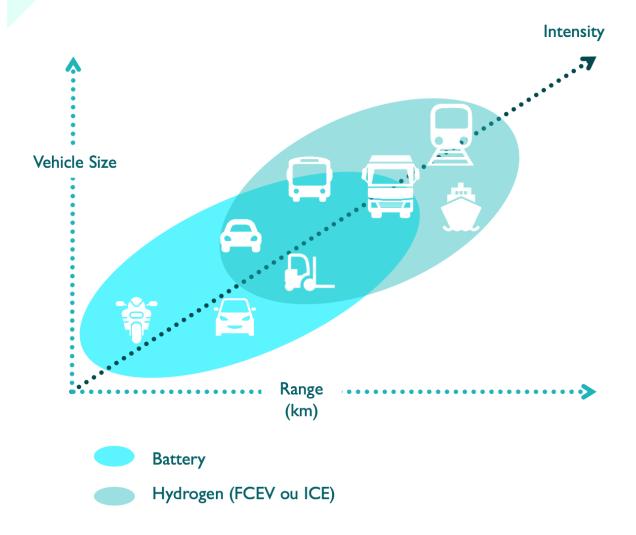
ensures capacity and service level and competitive prices





MOBILITY - Hydrogen vs. Batteries: it's "and", not "or"

- What are the best targets for hydrogen vehicles?
- Heavy Duty Mobility
- Intensive Use / High Availability
- Long Range required
- Fast refueling required
- Lack of grid power





INDUSTRY



INDUSTRY – Regulatory Milestones & Market Outlook



What are the European and National targets for H2 based industries?

RED III:

42% RFNBO hydrogen in industry and 60% by 2035

Clean Hydrogen Observatory industrial hydrogen demand 2030:

Up to 4-6 Mt/year for Europe and 0.115 Mt/year for Italy

EU Hydrogen Strategy / REPowerEU:

Target production of 10 Mt H_2 by 2030

Italian National H2 Strategy:

2040-2050 up to 18% of industrial energy



INDUSTRY – Regulatory Milestones & Market Outlook



Some Italian industries which are already using green H2

Italgas / Edison Energia / Granarolo

Food processing, Sardinia, pilot blend of up to 20% green H₂

Italgas (Hyround project)

Energy / gas distribution; Sardinia; initial target of $\sim 21 \text{ t H}_2/\text{yr}$

Sapio / ECO+ECO (Porto Marghera)

Hydrogen production & logistics hub; Veneto; around 500 t H₂/yr planned.

Feralpi Siderurgica

Steel production, Brescia, green H₂ use for decarbonisation of processes.





THANK YOU!

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The project is supported by the Clean Hydrogen Partnership and its members.

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the Clean Hydrogen Partnership. Neither the European Union nor the granting authority can be held responsible for them.