5 Markets

100% employee owned

An independent multi-disciplinary engineering & project management company

Group

€748M	85%	6700	40
2021 Turnover	in Europe	Employees	Countries

Italy

€36M	350
2021 Turnover	Employees

Supply Chain Decarbonisation: Decarbonisation solutions for transport infrastructure - Italian know-how and expertise

Organised by Italian Trade Agency and OICE - Italian Association of Engineering and Architecture Companies

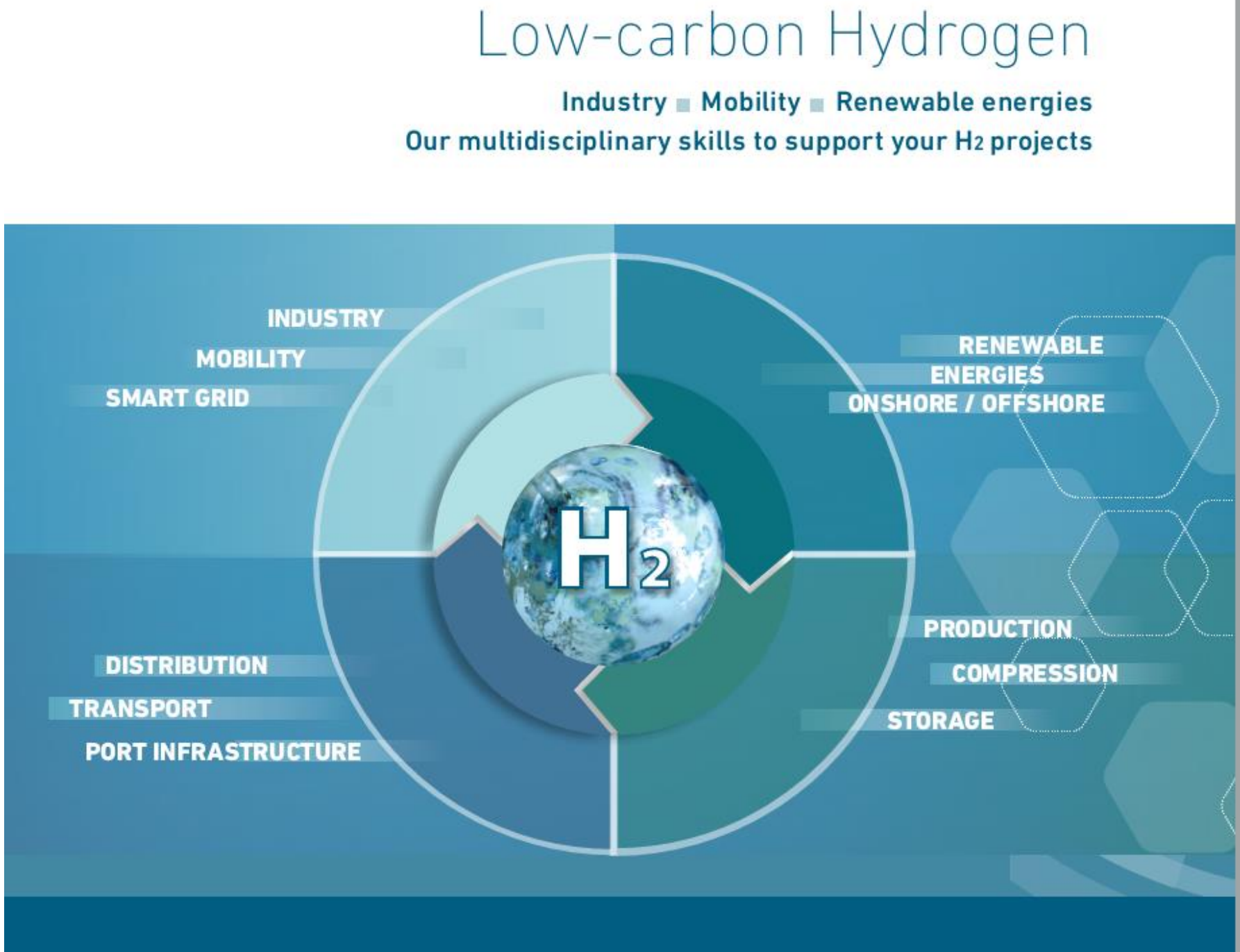
ALL-ENERGY EXHIBITION AND CONFERENCE 2022 11-12 MAY, SEC GLASGOW

Paolo Alberti
Artelia Italia SpA

ARTELIA Passion & Solutions

In a future low carbon world, **Hydrogen** plays a major role by reducing industrial carbon emissions, offering *clean mobility solutions* mainly for heavy and long-distance transport, and balancing renewables-based energy systems.

The fast growth deployment of Hydrogen solutions is a clear pathway to carbon reduction.






Our broad capabilities on the overall H2 value chain

LOW-CARBON POWER AND SMART GRID

Hydroelectricity, solar, wind, high and medium voltage substations, grid stability and industrial sites, biomass.

CONSULTING AND REGIONAL/LOCAL STRATEGIES

Local H2 ecosystems

Mobility plan optimization and H2 chain integration

Assistance on carbon neutral projects

Optimization of regional/local low carbon energy systems

OUR ADDITIONAL FIELDS OF EXPERTISE

ENVIRONMENTAL MANAGEMENT
- Risk assessments
- Permitting
- Impact studies

WATER
- Water resources
- Hydraulic structures
- Natural risks

MARITIME
- Maritime transport
- Port infrastructure
- Specialised terminals and industrial sites in ports
- Vessels and floating structures
- Marine energies

INDUSTRY, FLUID AND GAS SPECIALIST

Artelia assists on all phases of Hydrogen projects, both on greenfield and on conversion of existing installations to low carbon H2.

ARTELIA
Passion & Solutions

Hydrogen Storage and Refueling for trains and buses EDOLO (BS)

Brescia-Iseo-Edolo 103 km
Bornato-Rovato Borgo 5 km (merci)
Rovato Borgo-Cremona (chiusa al traffico)

ITALY – H2iseO Hydrogen Valley

Feasibility Study, Permitting, Final Design

Artelia Italia completed the feasibility study and is working at the Final Design for the H2 train refueling station in Edolo, part of The "H2iseO Hydrogen Valley", a project carried out by FNM, FERROVIENORD and Trenord, which aims to decarbonize public transport services and facilitate the transition towards a more sustainable transport system.

The project is part of a sustainable mobility system in Val Camonica, a UNESCO World Heritage Site, along the non-electrified Brescia-Iseo-Edolo railway line, gateway to the Milan-Cortina 2026 Winter Olympic Games.

Client: Trenord Ing

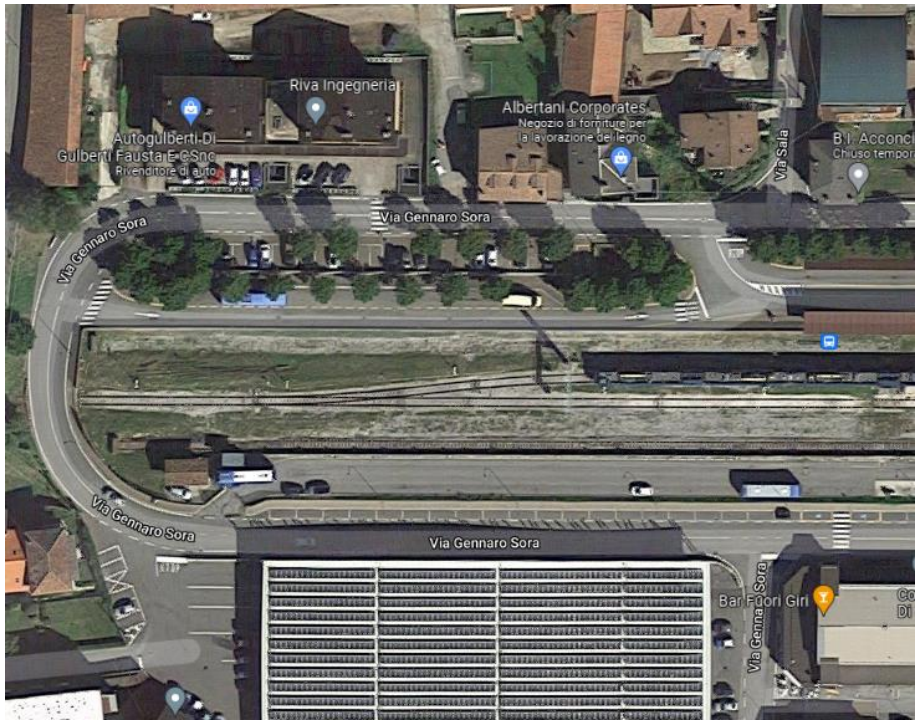
Since Nov. *2021*

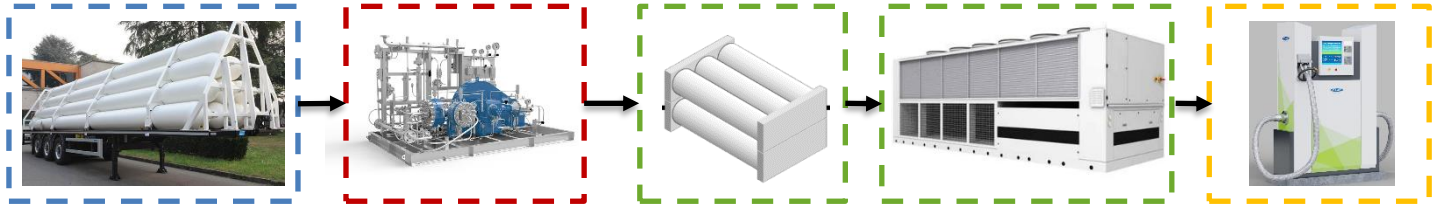
H2iseO ITALIAN HYDROGEN VALLEY

un progetto di FNM FERROVIENORD TRENORD

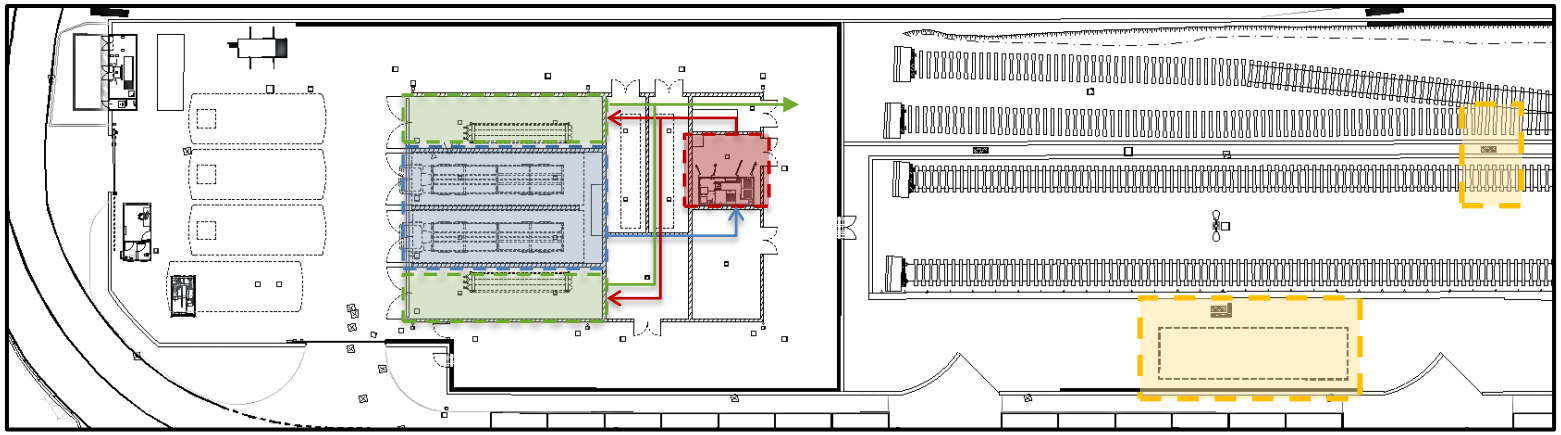
Brescia Iseo Edolo 103 km

ARTELIA Passion & Solutions





LOW PRESSURE STORAGE | COMPRESSOR | HIGH PRESSURE STORAGE | PRE COOLING UNIT | DISPENSER H2



ITALY: Edolo Train & Bus Station

2021 – (In progress)

HYDROGEN STORAGE AND REFUELING PLANT

Key Facts

Client

TRENORD – NORD ING

Services

- Feasibility Study
- Final Design
- Permitting

- HHS2 Concrete container for low and high pressure storage
- Hydrogen is supplied through low pressure (200 bar) tube trailer
- Compression unit (550 bar) with auxiliary Nitrogen System
- 2 High pressure storage and loading bays with total stock of 540kgH2/day for Trains and 60kgH2/day for Buses (overall 600kgH2/day).
- A double phase pre-cooling unit (PCU)
- 1 Dispenser for Trains and 1 Dispenser for Busses

ARTELIA

SOME OF OUR REFERENCES

SYNERGIE H_2 PROJECT (TOTAL ENERGIES)

Hydrogen production, compression, injection at 40 bars into pipeline networks connected to Total Energies sites.

FIVE H_2 PROJECTS (AIR LIQUIDE)

EPCM for construction of Hydrogen and Oxygen production and storage plants - 3D model.

HYDROGEN REFUELING STATIONS PROGRAMME (H_2 MOBILITY GMBH)

EPCM for construction of around 100 Hydrogen filling stations in Germany - H2 Mobility programme.

HYDROGEN VALUE FOR FRENCH OVERSEAS TERRITORIES (ADEME, EDF-SEI)

Study to identify the relevant Hydrogen services in French overseas territories (isolated from the mainland grid), and economic assessment of the 12 most promising applications.

FRAMEWORK AGREEMENT (AIR LIQUIDE)

Multi-energy stations - Development and construction of LNG/CNG and Hydrogen filling stations in France for Air Liquide since 2015.

H_2 INFRASTRUCTURE (DEUTSCHE BAHN AG)

Feasibility study of future Hydrogen-powered train infrastructure.

ELYLOOS PROJECT (PC LOOS)

FEED and EPCM for construction of a chlorinated chemicals production plant using a membrane electrolyser with peripherical units.