Decarbonising Mobility with H2

RINA today

4,000
colleagues

200
offices

70
countries

Our people

More than **90 nationalities**

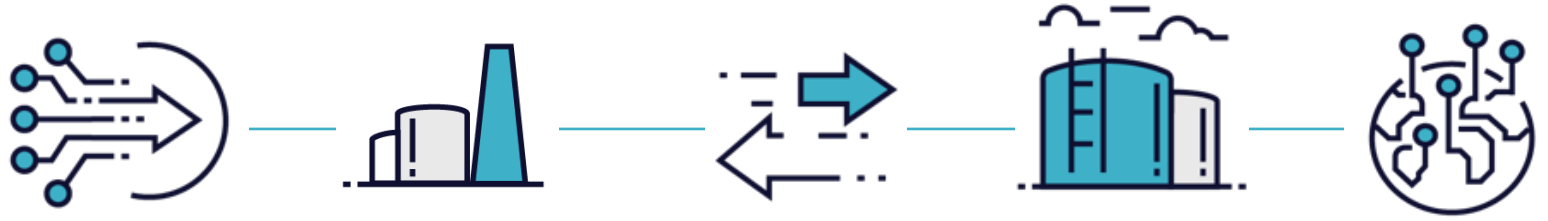
70%+
educated to degree level

43
average age

Focus on HYDROGEN

Map of Services

Supporting the entire value chain from CapEx to OpEx as System Integrator



- ✓ Green Finance
- ✓ Technological scouting and monitoring
- ✓ Technology Analysis and Market opportunities scenario
- ✓ Conceptual, Feasibility Studies & FEED
- ✓ Technical and Financial Due Diligence
- ✓ Evaluation of investments plan
- ✓ HSE studies, Loss prevention & Risk Analysis
- ✓ Permitting
- ✓ Research & Development
- ✓ Material and Equipment Qualification and Certification
- ✓ Asset Repurposing for H_2
- ✓ Asset integrity and Operability Assurance
- ✓ H_2 Readiness
- ✓ Testing for H_2

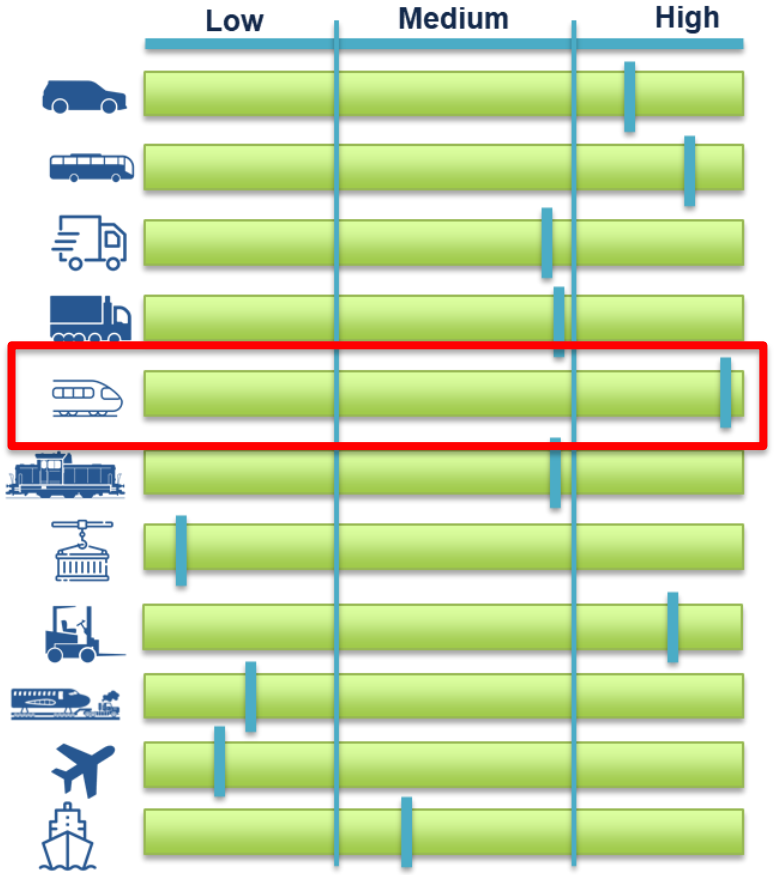
Transport & Logistics – Decarb strategies

National Policies, international agreement and rules framework are setting ambitious target for the forthcoming years in terms of CO_2 emissions for the transport sector.

Ways to decarbonizing transport:

- Powertrain technology
  - Electric (hybrid, full)
  - **H2 (H2 ready powertrain, fuel cells)**
  - biofuels
- Information and Communication Technologies (ICT)
  - MaaS
  - Support to promote car sharing / car pooling
- Modal shift
  - to public transport
  - to sustainable (or more sustainable) transport modes
- Taxes, incentives and public financing

TRL for H2 application in transport



H2 and Mobility: a glance to last projects

Project	Project Description	RINA Consulting Role
H2 Production Storage and Distribution For Transport Operations	This **project aims to realize a hydrogen mobility** (H_2 Mobility) in an area which aims to become on of the first “Hydrogen Valley” in Europe	Within the realization of **storage and power stations** for hydrogen, will be providing **Verification and Assistance** service for **validation** purposes and **Project Management Consulting Services** for the project
Hydrogen Train: Material compatibility with Hydrogen	This project provides guidelines on ▪ chemical behavior and compatibility of hydrogen with metallic and polymeric materials ▪ compatibility and possible deterioration effect of metal and polymeric materials in direct contact and not with gaseous hydrogen in medium and high pressure	✓ Guidelines on the behavior of hydrogen ✓ Guidelines on the compatibility of materials in contact with hydrogen ✓ List of usable components and their characteristics