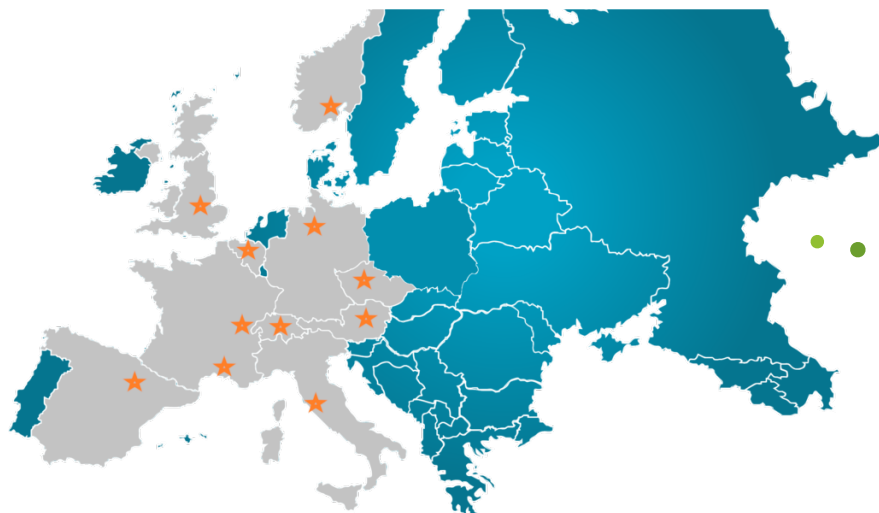


# Providing the skills for a European hydrogen industry



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With the launch of the European Skills Agenda in 2020 and the European Year of Skills in 2023, the EU has acknowledged the vital role of education and training in providing opportunities to everyone and ensuring sustainable growth. The Clean Hydrogen Partnership is funding several projects that are equipping workers with the skills to build Europe's hydrogen economy and contribute to climate change goals.

## A competitive, green economy

The European Skills Agenda is promoting development of the know-how Europe needs to be sustainable and competitive, in line with the European Green Deal objectives. A key element of the Green Deal is the Net Zero Industry Act – a proposed set of measures to strengthen Europe's net zero manufacturing ecosystem.

Given its growth potential, the hydrogen industry can help to achieve the Green Deal goals. For this, a well-trained workforce is crucial. In 2023, the TEACHY2020 and HYRESPONDER projects have continued providing training on hydrogen and fuel cell technologies. TEACHY2020 addresses the supply of undergraduate and postgraduate courses. Building on the HYRESPONSE project, HYRESPONDER trains trainers of emergency responders on hydrogen safety.

## Training at various levels

Clean Hydrogen Partnership-funded projects encompass formal education and vocational training for people working in a wide range of sectors, including public officials and technicians. Subjects covered include all the steps of the hydrogen chain, from hydrogen production, storage and distribution, and end uses, alongside key cross-cutting issues such as sustainability or safety aspects.

The partnership will continue to support the development of training programmes and materials and public access to them. It has begun to establish a European Hydrogen Academy and is expanding the education and training module of the Fuel Cells & Hydrogen Observatory.

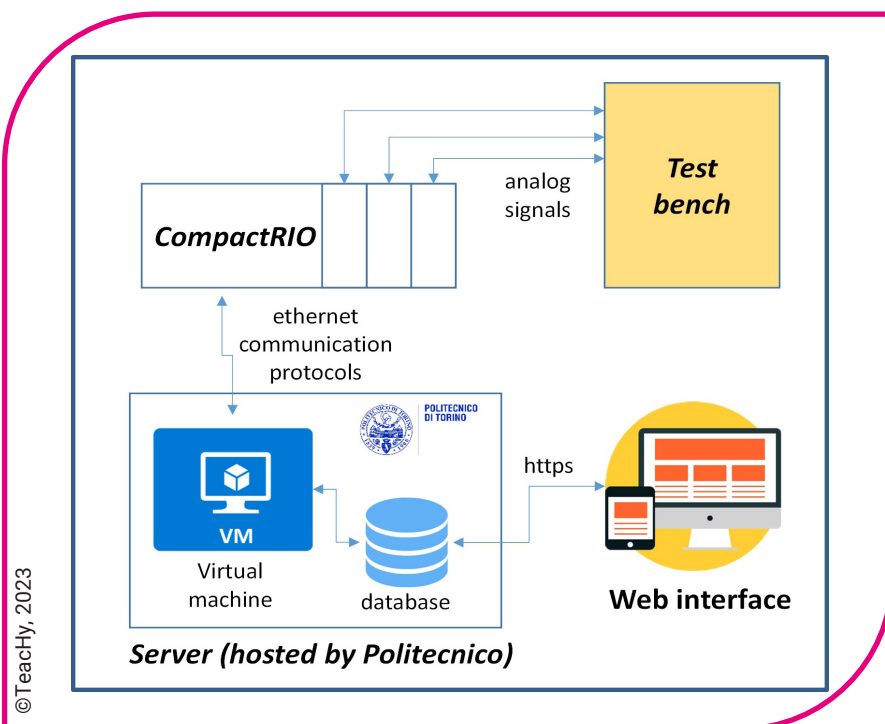
## HYDROGEN'S EXPANDING HUGE POTENTIAL

To support commercialisation and greater market uptake of hydrogen fuel cell technology, the industry needs a large, skilled workforce.

## VARIOUS PEDAGOGICAL APPROACHES

The projects make use of various approaches, including traditional classroom learning, collaborative and hands-on learning, while incorporating gamification, virtual reality, and e-learning.



**The goal?** The partnership aims to build on the EU's position as a global leader in hydrogen and fuel cell technology training to provide Europe's hydrogen industry with skilled workers. HYRESPONDER is developing a hydrogen safety training programme for responders, which aims to be recognised as the standard in hydrogen safety training across Europe. **Key results?** Courses and materials for students at different levels and for professionals in several fields.



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## KEY ACHIEVEMENTS

**15** education and training projects supported by the Clean Hydrogen Partnership

More than **4 500** trainees from across the EU and beyond

An average of **466 hours** of training per course

A **Master of Science programme**, modules to complement existing university courses, continuous professional development schemes and a pan-European university network created by TEACHY2020

A **train-the-trainer programme** in hydrogen safety for emergency responders and a European emergency response guide developed by HYRESPONDER

The **European Hydrogen Academy** – an alliance of educational institutions offering certified training and up-to-date, digitally accessible resources – to be set up

The **Fuel Cell Hydrogen Observatory**, which offers public access to material from 300 training courses, undergoing expansion

## IMPACTS

**An estimated 5.4 million direct jobs** to be created by the European hydrogen industry by 2050

**More than 30 million people** worldwide in sustainable employment in the hydrogen industry by 2050

**A skilled workforce** for a strong European hydrogen industry

**Reskilling** of the existing workforce in declining industries

**Safeguarding of expertise** in hydrogen and fuel cell technology

**Increased acceptance** of and confidence in hydrogen technologies

**A skilled European hydrogen value chain** encompassing a range of new products and serving numerous sectors

**Continued EU global leadership** in training on hydrogen and fuel cell technologies