GreenSkills4H2
EU Hydrogen Research Days, 16 November 2023
Katarina Muse, Regional Pillar & Skills Manager
“Instead of millions of people looking for jobs, millions of jobs are looking for people”

European Commission President, Ursula von der Leyen
State of the Union Speech, 13 September 2023
Estimated number of jobs created in Europe by 2030

Hydrogen sector will generate **249,000** (98,000 direct and 151,000 indirect) by 2030.
How to prepare our workers?

GreenSkills4H2 project – 33 partners in 15 countries

- 5 Industry Stakeholders
- 11 Higher Education & Research organisation
- 4 VET Providers
- 6 National and European networks
- 3 Local / Regional stakeholders
- 2 Clusters
- Communication / Digital Expert
- Market analysis and Skills Expert
- Transitioning regions represented by stakeholders
Main deliverables

- **Hydrogen Skills Strategy**
- Design an innovative VET curriculum
- Test and refine a VET training programme
- Dissemination of trainings in Europe
- Build Hydrogen Skills Community
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Hydrogen Skills Strategy

2 interview campaigns on:

• Occupational profiles in the hydrogen sector: demand and criticality
• Skills needs and hydrogen knowledge required
• Existing training offers
• Difficulties and drivers to establishing hydrogen training & education

23 Countries covered

146 Stakeholders interviewed

Hydrogen Skills Strategy
Jobs in demand in hydrogen

Level of H2 knowledge required: **Low, Medium, High**

**Bold** = urgent need

- **Mechanical engineer**
- **Power electronics engineer**
- **System production engineer**
- **Design engineer / Project designer**
- **Sales engineer**
- **Administrative staff from public institutions: governments, regions, municipalities**

- **Electrical engineer**
- **Automation engineer**
- **H2 production specialist**
- **H2 storage specialist**
- **Fuel cell specialist**
- **Robotics engineer**
- **Electrochemical engineer**
- **Industrial chemists**
- **Certification experts**
- **H2 experts**
Skills & knowledge required

Operation
Hazards
Storage
Legal & permitting
Production
Systems
Fuel cell
Refuelling
Transport
Maintenance
Electrolysis
Training of Current Workers in the field of Hydrogen

- Master of Science
- Doctorates
- Short Knowledge-based training with external providers
- On the job training
- Short practical training with external providers
- Higher VET
- Internship, Apprenticeship
- Bachelor of Science
- Master specialisation on Hydrogen

Degree of Specialisation on Hydrogen and fuel cells

- Initial Education
- Continues Education
Challenges to the development of hydrogen training & education

• Shortage of qualified teachers and trainers.
• Lack of infrastructures accessible and equipment available to deliver practical hands-on education.

• Absence of established training standards on safety.
• Time constraints faced by workers to attend training as part of continuing education.
• Lack of sustained funding.

• Lack of flexibility in educational pathways to introduce new topics such as hydrogen.
• Fear of limited financial viability of training and education programmes.
Hydrogen Skills Strategy – areas for collective action

1. Develop modular trainings
2. Establish an online hydrogen community
3. Define trainings standards for hydrogen
4. Encourage the uptake of mobility for education to hydrogen
5. Improve access to continuing professional development
6. Promote the attractiveness of the hydrogen sector
Next steps

- Ongoing urgent training taking place in Greece, the Netherlands and Bulgaria.
- Design innovative VET curricula and training materials focused on the skills and job profiles identified as in demand, to enable the rapid upskilling / reskilling of both young people and adults.
- Test the training materials with different target audiences across countries and update the materials based on the feedback received.
- Encourage the adoption of the training programme across Europe and disseminate the content developed.

Get in touch!
Thank You