H2Excellence – Fuel Cells and Green Hydrogen Centers of Vocational Excellence Towards Affordable, Secure, and Sustainable Energy for Europe

Newsletter 2-2025

Introduction

As the H2Excellence project reaches its mid-term stage, our shared vision of a sustainable hydrogen future continues to evolve through impactful collaborations, training, and research. This newsletter reflects the dynamic progress made between **September 2024 and September 2025.** We thank all our partners, supporters, and students for their contributions to building a skilled green workforce across Europe and beyond.

Global Visibility and Strategic Partnerships

H2Excellence gained high international exposure through active participation in top hydrogen events. The project was presented at the World Hydrogen 2024 Summit & Exhibition in Rotterdam and Hyvolution Paris 2024. Represented by partner EnergyIN, the project was presented to more than 22,000 visitors altogether at the two events. Through exhibition and networking with national hydrogen associations, H2Excellence reinforced its network and positioned itself as a top European project for hydrogen vocational training.

In a further stimulation of European collaboration, H2Excellence was involved in the Forum on Vocational Excellence 2024 in Lyon. Held in conjunction with the WorldSkills competition, the gathering reunited key actors in vocational training from across the continent. Representatives from Finland, Spain, Portugal, France, Italy, and Germany outlined the project's activities in addressing skills shortages and introduced CoVE contributions to the green transition.

Research, Training, and Knowledge Dissemination

H2Excellence has actively contributed to academic advancement and practical training. Prof. Olga Guerrero-Pérez published a comprehensive review on **hydrogen membrane technologies in Membranes**, while LNEG's project findings were published in Materials Proceedings, ensuring visibility in peer-reviewed international journals.

On the practical side, the project launched its digital learning platform, offering a central hub for hydrogen education. The platform provides multilingual training resources, collaboration tools, and mobility opportunities for students, educators, and professionals.

The project also hosted two national seminars to promote sectoral dialogue:

"Green Hydrogen Value Chain & Cross-Cutting Issues" (Finland) organized by H2Excellence Finnish Centre of Vocational Excellence.

"**Hydrogen and Renewable Energies**: Towards a Sustainable Energy System" (Spain) These events fostered technical exchanges among experts, VET providers, and hydrogen industry stakeholders organized by CIEMAT.

Youth Engagement, Innovation, and Infrastructure Development

To inspire the next generation of hydrogen professionals, Mondragon University organized the Hydrogen **Radio-Controlled Car Competition.** Vocational students from nine European countries participated in designing H2-powered RC cars. Winning teams from Italy and Spain received high-tech hydrogen kits, promoting experiential learning and technological innovation.

At the institutional level, the University of Malaga established strategic partnerships with companies Hygreen and Sermatec to enhance infrastructure and hydrogen training. These MoUs aim to expand UMA's capacity to deliver industry-aligned programmes and foster innovation.

The Education-Business-Research Forum hosted by IPP Portugal in November 2024 further exemplified this vision. Gathering SMEs, research institutions and policy makers, the forum provided a platform to align vocational curricula with future hydrogen job profiles and industry expectations

On 23 June 2025, PVF hosted its **Public Dissemination Day**. In the afternoon, the cluster joined the **Hydrogen Tour in Strasbourg, France**, an event that brought together around **60 participants** - ranging from high school students to job seekers. The tour aimed to raise awareness about hydrogen, offering both educational insights and information on career opportunities in the sector.

International Outreach and Industry-Education-Research Collaboration

H2Excellence extended its presence beyond Europe through key outreach activities. Prof. Guerrero-Pérez (University of Malaga) presented the project in Taiwan during a mobility workshop, opening new perspectives for collaboration in Asia. Simultaneously, a delegation from VAMK visited Morocco and promoted H2Excellence during a student fair focused on sustainability, strengthening bonds with the MENA region.

The project's impact was also felt at the Connecting Hydrogen Europe 2025 event in Madrid. CIEMAT showed updates on CoVE training modules, mobility schemes, and strategic expansion to new regions, reinforcing the project's vision of an integrated hydrogen skills ecosystem.

In June 2025, H2Excellence held its first Industrial Advisory Group (IAG) meeting, facilitated by MERINOVA. The group includes 34 industry representatives from across Europe who will guide the alignment of training programs with real-world hydrogen sector demands.

In September 2025, H2Excellence organized a thesis award ceremony during the European Fuel Cell Conference in Capri for the winners of the H2Excellence master's and PhD thesis competition organized by the University of Perugia (UNIPG) in collaboration with other partners of the consortium between January and June 2025. Three master's and PhD theses were awarded with the support of the Italian Hydrogen Association.

Also in September 2025, EVBB in collaboration with ATENA organized the second capacity-building workshop on the "**Micro-Credentials for Lifelong Learning: A European Vision for VET Providers"** which brought together education leaders, hydrogen industry experts, and innovation advocates to discuss one of the very important topics in VET and higher education: **micro-credentials.**

H2Excellence Workshop in Montréal 2025: A Global Gathering for Hydrogen Innovation

From July 23–25, 2025, H2Excellence held its first overseas workshop at Polytechnique Montréal (Canada), organized in collaboration with the University of Málaga (Spain). Over three days, the hybrid event attracted more than 110 participants both onsite and online and featured 33 speakers from Europe and North America representing academia, industry, startups, and innovation hubs. The workshop provided a valuable platform for knowledge exchange and new partnerships, with contributions from key organizations such as **Hydrogène Québec**, a leading promoter of renewable hydrogen, and CHARBONE Corporation, a company specializing in ultra-high-purity hydrogen and international gas distribution. A highlight of the event was Technoscience Québec's interactive booth, where participants engaged with a **hydrogen-powered car** demonstration and learned about the **Grand Prix Horizon Hydrogène – H_2GP PRO,** linking education, youth leadership, and clean energy innovation. To capture the wealth of ideas presented, a **Book of Abstracts** has been published and is available via the University of Málaga Repository. The

Co-funded by the European Union

Montréal workshop marked a significant milestone in extending the H2Excellence network into Canada and North America, reinforcing its mission to build a global community for hydrogen education, research, and innovation.

H2Excellence Workshop and Stand in Kolding, Denmark

H2Excellence organized a workshop titled "**CoVEs as Catalysts for the Hydrogen Economy**" on September 9, 2025, during the COPCOVEs Forum 2025 in Kolding, Denmark. The workshop was filled with insightful conversations with experts' insights and opportunities to network for potential collaboration with other CoVEs. In addition to the workshop, H2Excellence also hosted a dedicated project stand which offered visitors a closer look at its goals, achievements, and cooperation activities. The stand served as a valuable hub for networking, sharing resources, and exploring future collaboration opportunities.

Expanding the CoVE Network and Future Outlook

To scale impact, the project opened a **call for new Satellite Centers of Vocational Excellence (CoVEs)** from Erasmus+ eligible countries. These new CoVEs will gain access to training materials, the H2Excellence community, and international visibility within Europe's hydrogen education landscape.

You are welcome to join our Satellite CoVEs by opening the link in this QR CODE:

Looking ahead, the project will organize crucial events such as:

LNEG will host H2Excellence European Hydrogen Academy on May 20-22, 2026, in Lisbon, Portugal.

The project will continue extending the e-learning platform with advanced training modules and multilingual content.

There will be many more events organized by the H2Excellence consortium. Thanks to the project's website and LinkedIn pages for information.

Status on Training Programme Development and Exchanges

The project is nearing completion of **31 micro-course modules** focused on green hydrogen and fuel cells, including **10 modules for lifelong learning, 10 for vocational education (EQF levels 3–5), and 11 for higher education (EQF levels 6–8, from bachelor's to PhD)**. Around half of these modules are already finalized and ready for implementation with pilot testing scheduled to begin this autumn 2025. In addition, the project is initiating an exchange programme involving 50 participants - students, teachers, and company staff - across all six COVE countries. Meanwhile, the signing of Memoranda of Understanding (MoUs) with companies and academic institutions is actively underway.

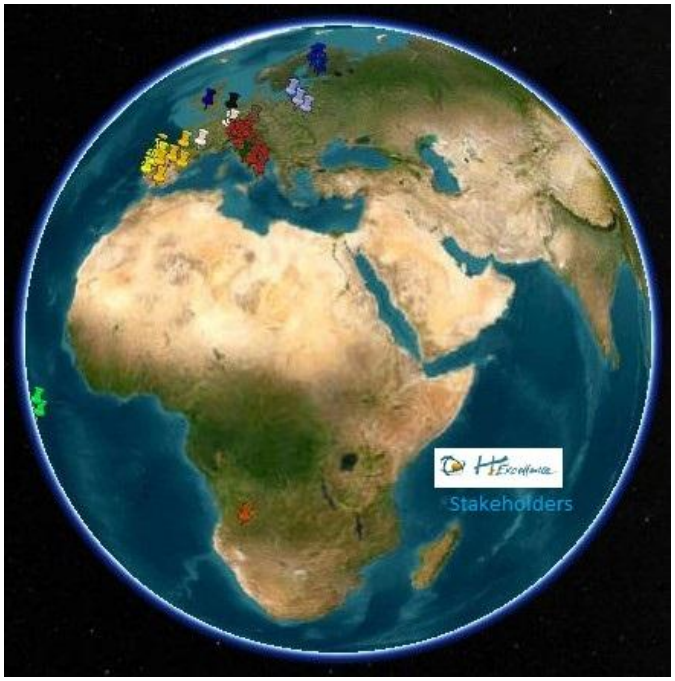
Supporting the Green Hydrogen Workforce

From academic contributions and global outreach to student-led innovation and cross-sectoral partnerships, H2Excellence continues to lead in shaping Europe's green hydrogen skills agenda. Through its evolving network of CoVEs and strong ties to research and industry, the project remains committed to equipping the workforce for a sustainable hydrogen future.

For more information, visit: **https://h2excellence.eu/**

Useful Links

COPCOVEs Forum: https://www.copcoves.eu/
Hydrogen Europe: https://hydrogeneurope.eu/
European Hydrogen Week: https://euhydrogenweek.eu/



Erasmus+ Projecto financiado com o apoio da Comissão Europeia.A informação contida nesta comunicação vincula exclusivamente o autor, não sendo a Comissão responsável pela utilização que dela possa ser feita.

For More Information
Project Website: https://h2excellence.eu/

Email Address: info@h2excellence.eu
Phone No.: +358 (0)207663671

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 European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Co-funded by the European Union