

HYDROGEN TRAINING ACADEMY



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CONNOR O'DORNAN
MID & EAST ANTRIM COUNCIL

Hydrogen Training Academy

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www.investmidandeastantrim.com



Our Key Industrial Sectors and Projects



In Focus for MEA:



**Advanced
Manufacturing
& Engineering**



Agri-Food



**Clean
Technology &
Energy**



**Life & Health
Sciences**



Digital & ICT



**Financial,
Professional &
Business
Services**

Key CleanTech Projects:

- **EPUK £600m Energy Park at Kilroot**
- **Stream Bio Energy Plant – Ballymena**
- **Port of Larne Logistics (Future Green Hub)**
- **Ballylumford Power to X Project, Islandmagee**
- **Wrightbus H2 Production Facility at Galgorm**
- **Energia H2 Production Facility at Rathsherry**

The CleanTech Focus in MEA



**Power Stations at
Kilroot and
Ballylumford**



**i4C Innovation and
CleanTech Centre**



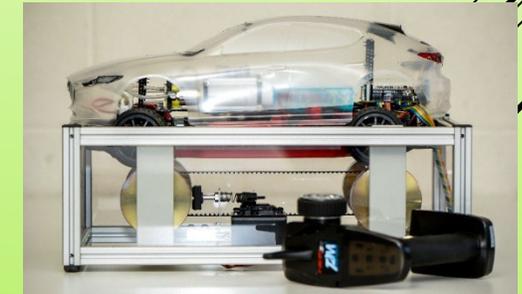
**HyTech Test Beds –
Skills Ecos Hub**



**Advanced
Manufacturing
Innovation Centre**



**Abundant renewable
energy production**



Hydrogen Training Academy Project

What is the Hydrogen Training Academy?



- Mid and East Antrim Borough Council led **innovative public and private sector partnership** project.
- Objective: To develop a **continuous learning pathway**, create a **state of the art learning environment** and deliver **essential hydrogen skill training** to support a **greener future** for Northern Ireland.
- £750,000 pilot project - Supported by a range of **funders** and private sector **sponsors**, including the **NI Government**, **UK Government's Community Renewal Fund** and **EP UK Investments Ltd**.
- Project delivery partners **developed, accredited and delivered hydrogen skills training courses** from **Level 3 to Level 7** in areas critical to the hydrogen economy including **H2 Gas Safe** and **H2 Fuel Cells**.

Hydrogen Training Academy **Delivery Partners:**



UNIVERSITY OF
BIRMINGHAM

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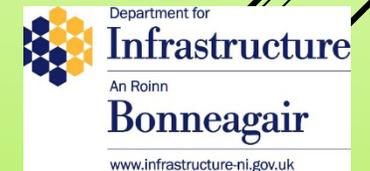
What is the Hydrogen Training Academy?



- **First-of-its-kind** hydrogen skills development project.
- Two **state-of-the-art training labs** based in Ballymena: **H² Gas Safe Lab** and **H² Fuel Cells Skills Lab**.
- Labs provide an **innovative suite of hydrogen-ready competence testing and desktop training equipment** necessary for up-skilling of a range of industries and sectors.



Hydrogen Training Academy Funders:



Pilot HTA Achievements



200+ trainees

70 at L5 TtT

108 at L3

24 other trainees



450+ people engaged

Anything from trainees or stakeholders to knowledge transfer requests from education providers.



190+ organisations

Representing a wide range of public and private sector organisations (55% private / 45% public)



30+ H2 Gas Lab Demos

Delivered to 140+ individuals at the H2 Gas Safe Lab.



£750k+ support

From a range of public and private sector funders.



3 Awards

Winners of three national awards and shortlisted for two more.

HTA Stakeholder and Industry Engagement



HTA Awards



**Training Initiative of the Year
Finalist**

Collaboration of the Year Finalist

November 2022



**Sustainability Project of
the Year**

Highly Commended

February 2023



**Council of the Year
Winner**

**Asset Management and
Regeneration
Winner**

March 2023

Hydrogen Training Academy

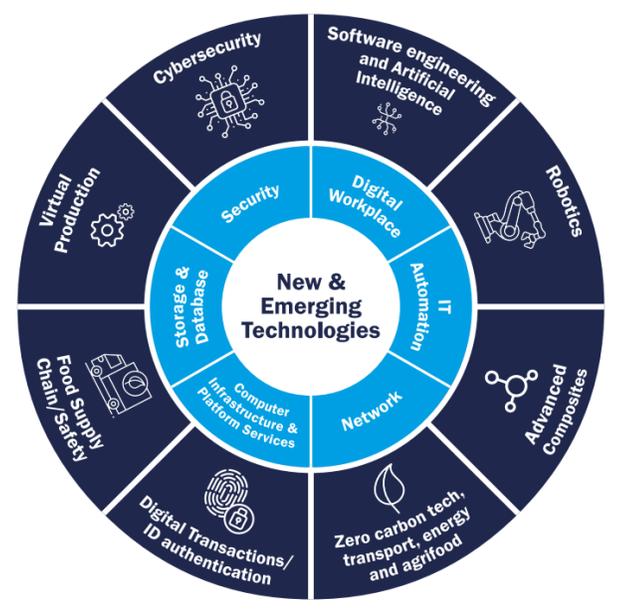
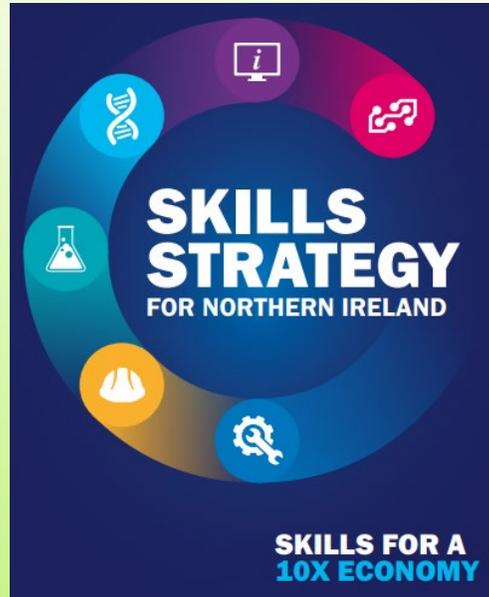
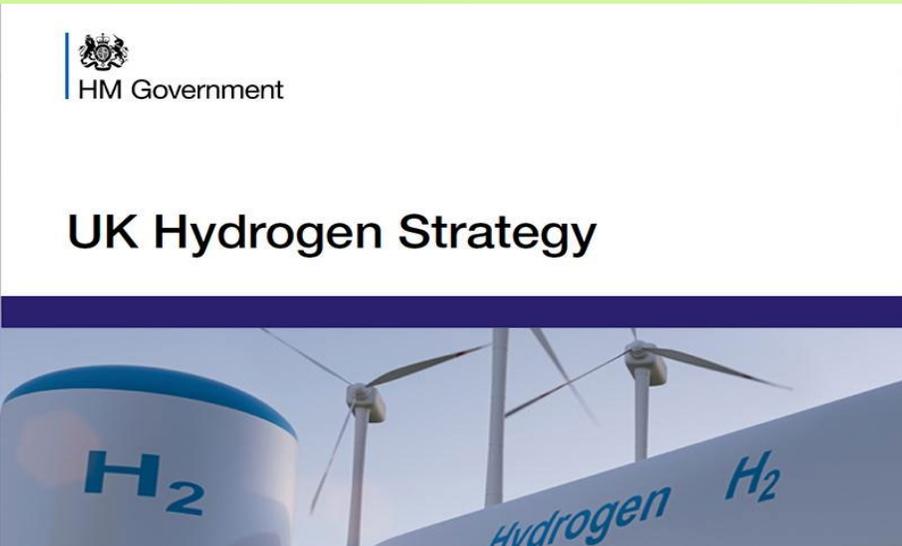
Alan Reid
Innovation Manager
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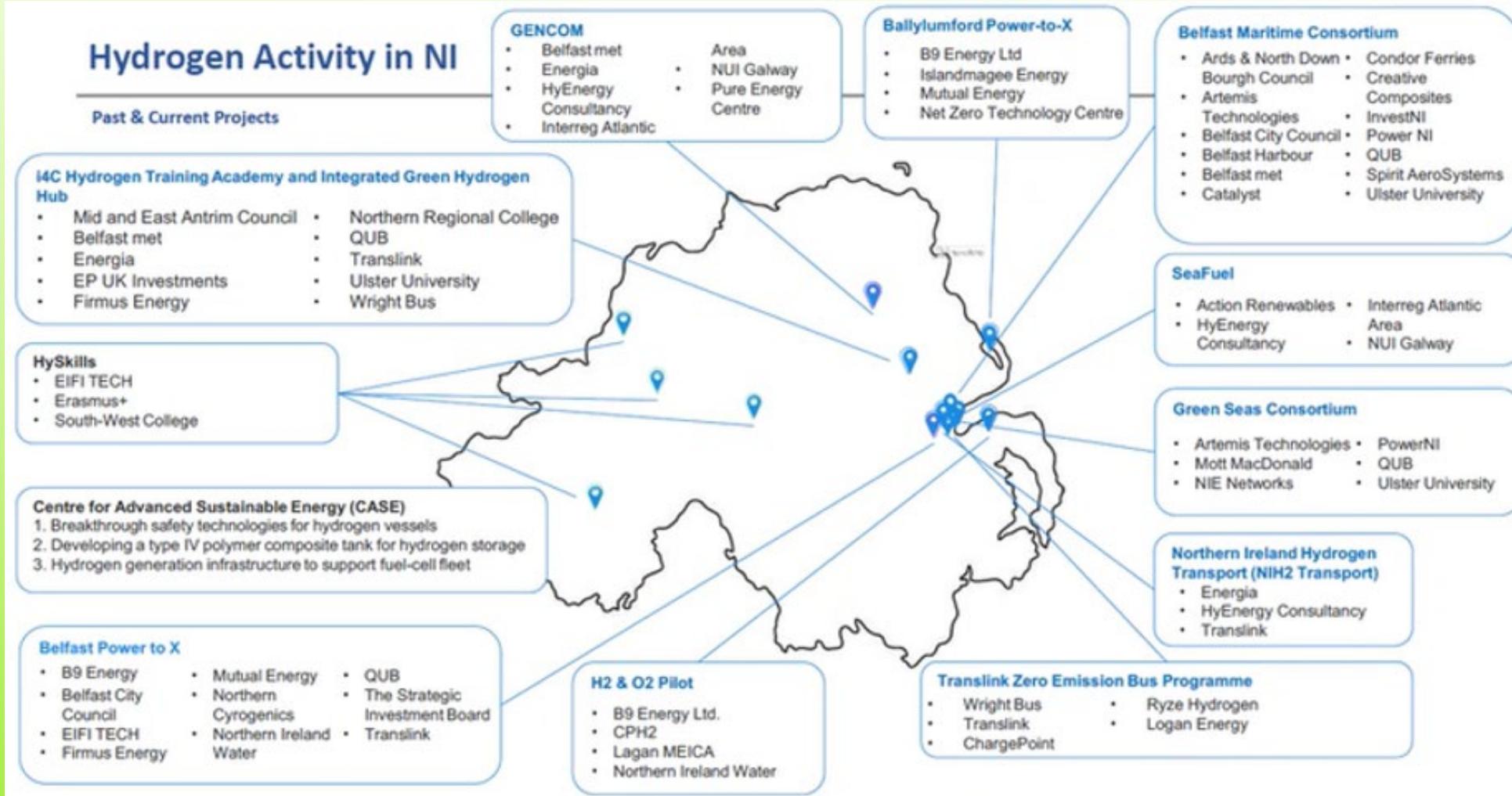
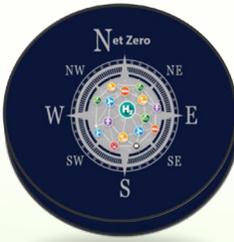
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Why is NRC involved in the HTA?

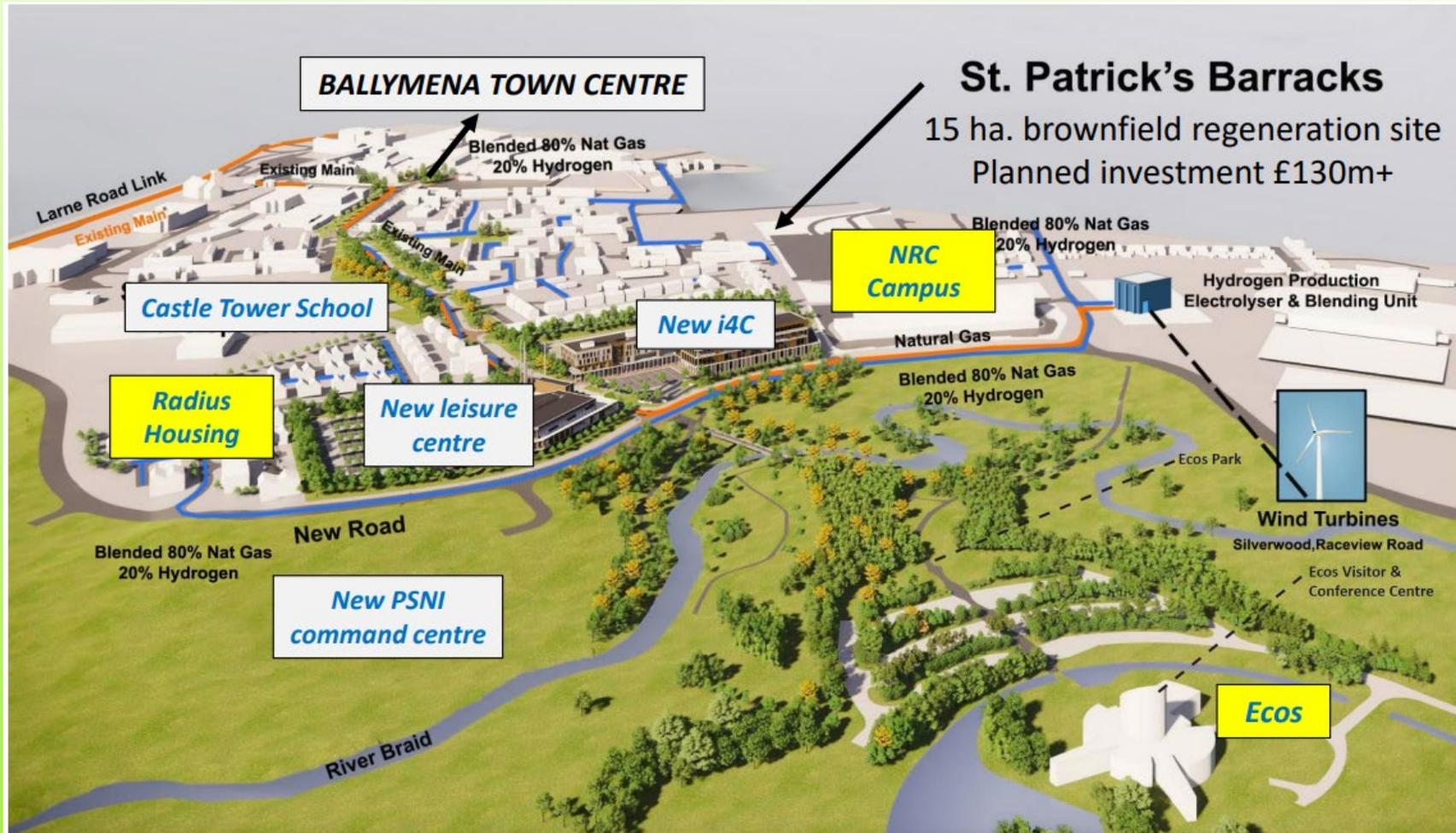


“...10GW ambition could mobilise over £9 billion of private investment in production alone, and support more than **12,000 jobs** by 2030 across production, distribution and storage, including domestic and exports.”

Why is NRC involved in the HTA?



Ballymena Hydrogen Test Bed



firmus
energy

transitioning to net zero carbon



Initial Concept

testbed trial for a 20% hydrogen blend in local natural gas network

Closed loop trial 2024-26 period

- NRC campus
- Radius Housing
- Ecos

What is the Hydrogen Training Academy?



- Development of a continuous learning pathway in hydrogen subjects
- Development and accreditation of new training courses in hydrogen from Level 2 (entry) to Level 7 (post-graduate) and everything in between.
- Course content at Level 3 includes:

Unit Reference Number	OCN NI Unit Code	Unit Title	Credit Value	GLH	Level
Mandatory units					
D/650/4643	CBG087	Using Hydrogen Safely	1	7	Three
F/650/4644	CBG088	Hydrogen Generation, Storage and Distribution	1	7	Three
Optional units					
H/650/4645	CBG089	Operating Principles of Hydrogen	1	7	Three
J/650/4646	CBG090	Hydrogen Fuel Cells for Transport	1	7	Three



Qualification Specification for:

OCN NI Level 3 Award in Hydrogen Applications and Technologies

➤ Qualification No: 610/1692/5

The H2 Gas Safe Lab at Silverwood, Ballymena



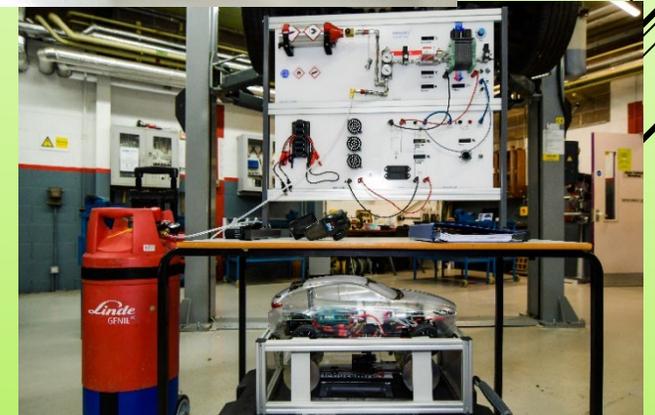
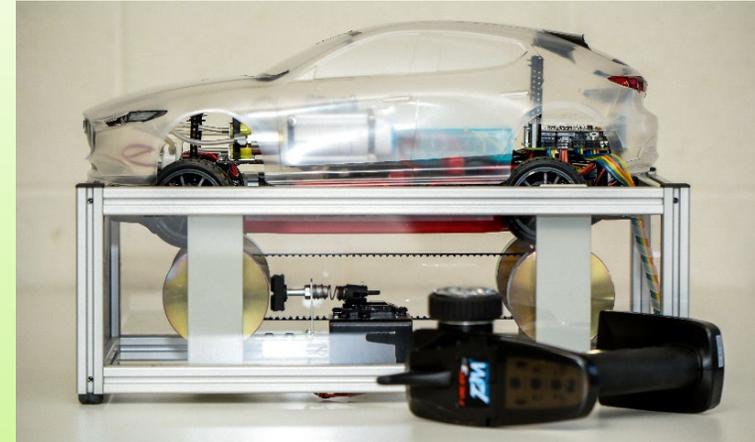
- Mobile ATEX **practical training lab** for work on gas blending
- **First of it's kind** in UK and Ireland
- **Competence testing space** for work with commercial H2 and CH4/H2 blend
- Three boilers capable of using **mixed fuel source**
- Gas mixer, advance revolution boiler, mixed gas air heater, gas combi and heat pump boiler and absorption chiller with dry air cooler



The H2 Fuel Cell Skills Lab at NRC, Ballymena



- Suite of desktop and **classroom based hydrogen training equipment**
- Facilitates **training and up-skilling** for a range of industries and sectors
- 2 x 50 watt **fuel cell trainers**
- 6 x fuel cell automotive trainers in the form of **remote control cars**
- 8 x unitrain **fuel cell trainer interfaces**
- Equipment provides a **hands on, educational hub for hydrogen applications**



Pilot HTA Activities Delivered



Level 5 Train the Trainer in KnowHy Hydrogen Fuel Cells:

3 cohorts | 70 trainees

Level 3 in H2 Gas Safe developed, accredited at CPD/OCN and delivered to:

6 cohorts | 50 trainees

Level 3 in H2 Fuel Cells developed, accredited at CPD/OCN and delivered to:

6 cohorts | 58 trainees

Swagelok Pipe Fitting Training – 10 trainees

Gas Safe Management Training – 4 trainees

H2 Gas Safe Lab Train the Trainer – 10 trainees

Hydrogen research activities supported – Four PHD projects



HTA Next Steps



- Continue delivery of **OCN L3s** in **H2 Technologies and Applications**
- L2 & L3 Courses integrated into **current curriculum**.
- Development and re-packaging of **NI based Level 5 in Hydrogen**
- Development of **L2 and L3 materials for online delivery**
- Developing a L5 Class room based **short course**
- Integration into **FD courses**
- **Further Expansion of Partnership**, subject areas and training courses
- Development of **international links**
- Continuous **upskilling of staff** by specialists.



Hydrogen Training Academy

Thank you

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