



HyAcademy.eu

Project Overview

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European Union

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI



UK Research
and Innovation

Consortium



- 10 key European universities
- 3 key European associations
- 1 European strategic network
- 3 SME



Deutscher Verein des Gas- und Wasserfaches e.V.



Geography



The map shows the following logos and their approximate locations:

- university of groningen**: North-West Europe (Netherlands/Germany border)
- Deutscher Verein des Gas- und Wasserfaches e.V.**: Central Europe (Germany)
- DVGW**: Central Europe (Germany)
- ULB UNIVERSITÉ LIBRE DE BRUXELLES**: Western Europe (Belgium)
- UNIVERSITY OF CHEMISTRY AND TECHNOLOGY PRAGUE**: Eastern Europe (Czech Republic)
- UTBM université de technologie Belfort-Montbéliard**: Western Europe (France)
- UNIVERSITY OF BIRMINGHAM**: Western Europe (UK)
- Ulster University**: Western Europe (UK)
- Bertz Associates LTD**: Western Europe (UK)
- EUREC**: Western Europe (France)
- Trakia University Stara Zagora**: Eastern Europe (Bulgaria)
- Politehnica Timisoara**: Eastern Europe (Romania)
- Technokrati**: Eastern Europe (Bulgaria)
- Future Solutions**: Southern Europe (Spain)
- UNIMORE UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA**: Southern Europe (Italy)
- Ha**: Southern Europe (Spain)
- eit InnoEnergy**: Southern Europe (Spain)

The Need



2012									
Application area	Est. annual production Unit	Market value (M€)	CAGR	Number of companies involved Large companies		Employment			
						Workers	Technicians	Engineers	
Fuel cell electric vehicles	#	100	5	---	10	8	250	750	1500
Hydrogen refuelling stations	#	20	20	---	10	5	133	133	133
Hydrogen Production	ton	895	9	---	15	5	447	447	447
Stationary fuel cells	#	50	2	---	18	5	83	83	83
Early markets - forklifts	#	300	4	---	18	6	25	25	25
Early markets - power generation	#	500	1,2	---	18	5	25	25	25
TOTAL			41				964	1464	2214

2020									
Application area	Est. annual production Unit	Market value (M€)	CAGR 2012-2020	Number of companies involved Large companies		Employment			
						Workers	Technicians	Engineers	
Fuel cell electric vehicles	#	100 000	3 000	45%	5	12	12 500	6 250	6 250
Hydrogen refuelling infrastructure	#	150	135	12%	3	7	750	750	750
Hydrogen Production	ton	145 447	1 164	32%	10	10	4 848	4 800	4 800
Stationary fuel cells	#	50 000	625	45%	10	7	5 000	5 000	5 000
Early markets - forklifts	#	10 000	100	21%	10	8	417	417	417
Early markets - power generation	#	20 000	28	22%	10	7	208	208	208
TOTAL			5 052	30%			23 723	17 425	17 425

2030									
Application area	Est. annual production Unit	Market value (M€)	CAGR 2020-2030	Number of companies involved Large		Employment			
						Workers	Technicians	Engineers	
Fuel cell electric vehicles	#	500 000	12 500	7%					
Hydrogen refuelling infrastructure	#	300	420	3%					
Hydrogen Production	ton	425 635	3 405	5%					
Stationary fuel cells	#	150 000	1 500	5%					
Early markets - forklifts	#	30 000	240	5%					
Early markets - power generation	#	30 000	42	2%					
TOTAL			18 107	7%					

Employment		
Workers	Technicians	Engineers
88 850	50 737	50 737

from: Assessment Report SET-Plan on Education and Training - Working Group: Fuel Cells and Hydrogen. Brussels, 14. Nov. 2012.

- 3 types of education:**
- university type programme (MEng/MSc)
 - technician (re-) training (Level 3 to 6)
 - school pupils



Objectives of HyAcademy.eu

The European Hydrogen Academy will

- build a **network of over 100 universities** offering qualifications, specialisations, and degrees in hydrogen technologies,
- build a **network of over 500 schools** integrating hydrogen topics into their science teaching,
- provide **free training materials** across European languages to lecturers and teachers in order to enable educational staff to deliver the vast body of educational measures necessary,
- create a network of **hands-on, physical training laboratories**,
- offer a portal for prospective trainees to find accurate information about and access **the educational programmes available**,
- prepare the European Net-Zero Hydrogen Academy



Aims and Context of HyAcademy.eu

- make education in hydrogen topics widely available across Europe
- focus on ‚formal education‘, i.e. universities and schools
 - ‚schools‘ will also include vocational education and training (VET) in school-like formats, such as the ‚Meister Schule‘ in Germany, Colleges in the UK, and similar formats across Europe
- GreenSkills4H2 Erasmus+ project (started 2023) has focus on up-skilling and VET, so no activities of HyAcademy.eu in up- and re-skilling (Continuous Professional Development, CPD) courses

Outcome 1: Internet Platform

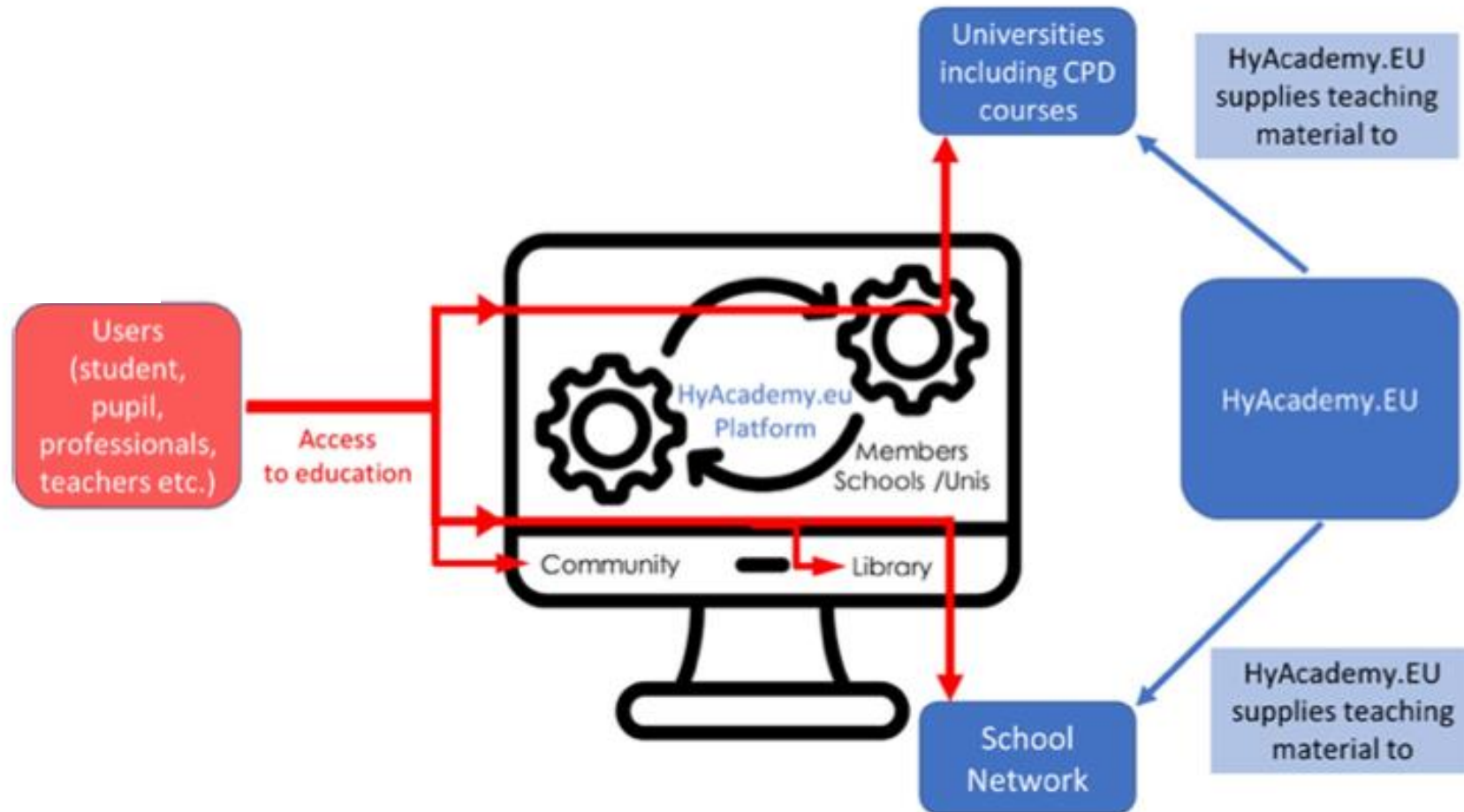
Web Portal to collect and supply educational hydrogen material for schools and universities

- **access point** for detailed information on programmes, courses, and teaching; **directs students and pupils** (and teachers/lecturers) to relevant educational programmes
- **repository of teaching and educational material**
- **online library** of free material
- **community-building** platform





Information flow on the Hy.Academy.eu Platform

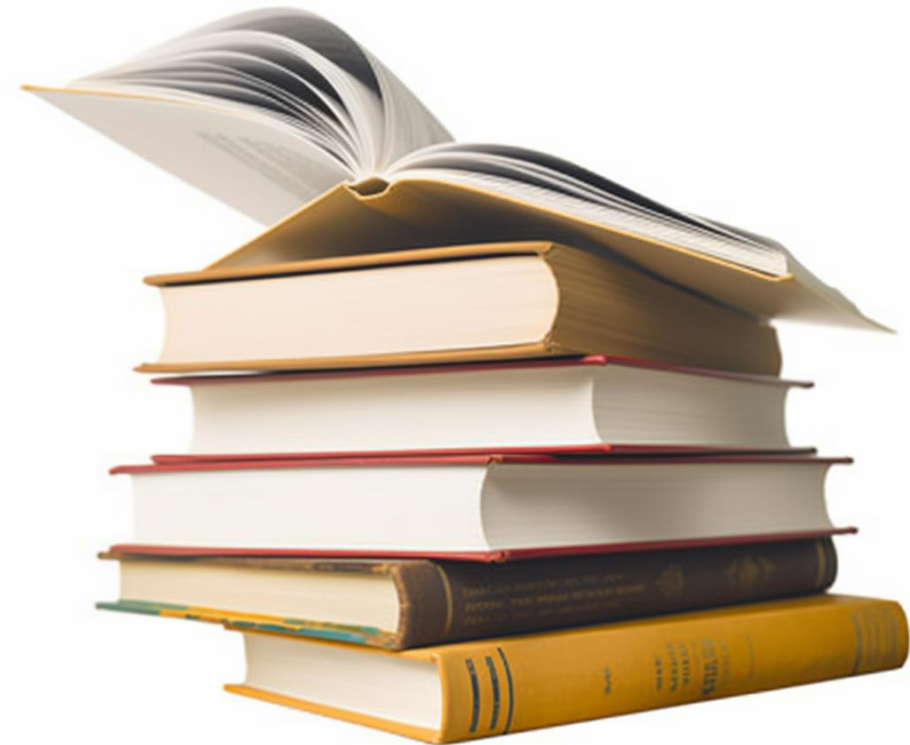




Outcome 2: Teaching Material

provision of free material for teaching and lecturing

- series of **>10 textbooks** covering the whole area of hydrogen and fuel cells; available for free as e-books
- **teaching material for schools** (teacher and pupil work books)
- **novel methods** of teaching (mainly for schools, also adaptable for universities)



Outcome 3: Networks

- Network of 100+ universities offering programmes, specialisations, and lectures in hydrogen topics
- support in setting up modules and programmes
- teaching material and translations
- Network of 500+ schools offering teaching of hydrogen topics, or willing to do so
- supply of free teaching material, including repository of freely available material, and translations
- currently 15 universities and 39 schools





Outcome 4: Network of Teaching Laboratories

- need for practical training, but limited capacities (high investment)
- identify teaching laboratories that are willing to share activities with other universities
- pool universities to be able to use common infrastructure

link to:

- InterReg NWE project Green SKHy – which is establishing a similar network, incl. a mobile teaching lab





Outcome 5: The Net-Zero Hydrogen Academy

- web-based educational tool(s) for providing hydrogen knowledge to 100 000 users
- HyAcademy.eu covers
 - the conceptualisation,
 - development of curriculum,
 - development of online tools
- final deliverable: pilot implementation of a few elements with the KIC Innoenergy Skills Institute

Further developments will be subject to additional finance.





Project Goals

Indicator	2026	2028
Schools in Network	500	650
Universities in Network	100	140
Lab network	5	10
Pupils trained	5 000	6 500
Platform users	5 000	6 000
Web site uses (traffic)	100 000	150 000
Social media followers	3 500	10 000

Thank you for your time and attention!

... any questions?

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and Innovation**