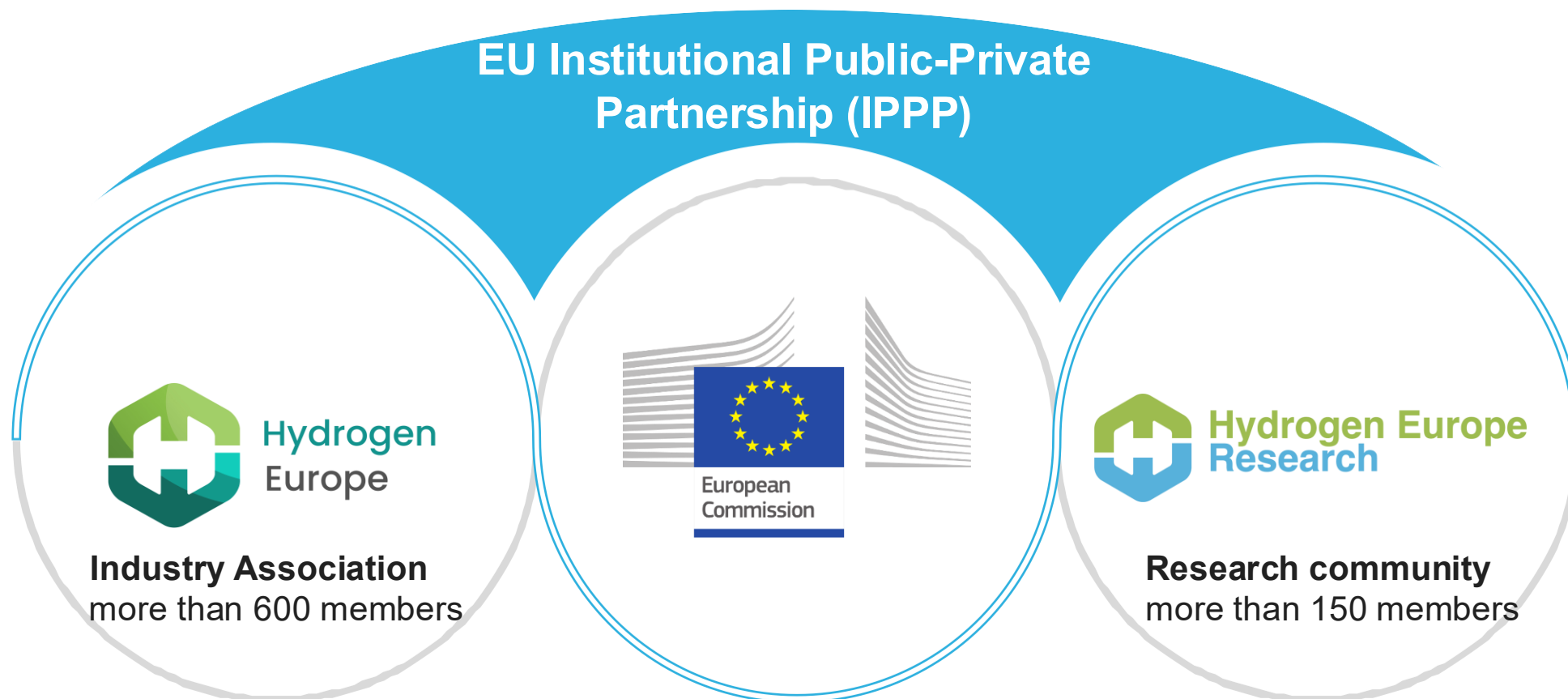




PARTNERSHIP PROGRAMME STATUS AND ACHIEVEMENTS 2025

Mirela Atanasiu – Head of Unit Operations & Communication

Clean Hydrogen Joint Undertaking



1 billion EURO from Horizon Europe* to implement R&I activities and facilitate the transition to a greener EU society through the development of hydrogen technologies

*** additional 200 million EURO for Hydrogen valleys (under RePowerEU)**

Clean Hydrogen JU Objectives

General



Support the implementation of the Commission's **Hydrogen Strategy**



Stimulate **research and innovation on clean hydrogen** production, distribution, storage and end use applications



Strengthen the **competitiveness of the EU clean hydrogen value chain**



Contribute to the EU ambitious **2030 and 2050 climate ambition incl Green Deal**

Specific



Improve **the cost-effectiveness, efficiency, reliability**, quantity and quality of clean hydrogen solutions across **entire value chain**



Strengthen the **knowledge/capacity of scientific and industrial actors** along the Union's hydrogen value chain while supporting the **uptake of skills**



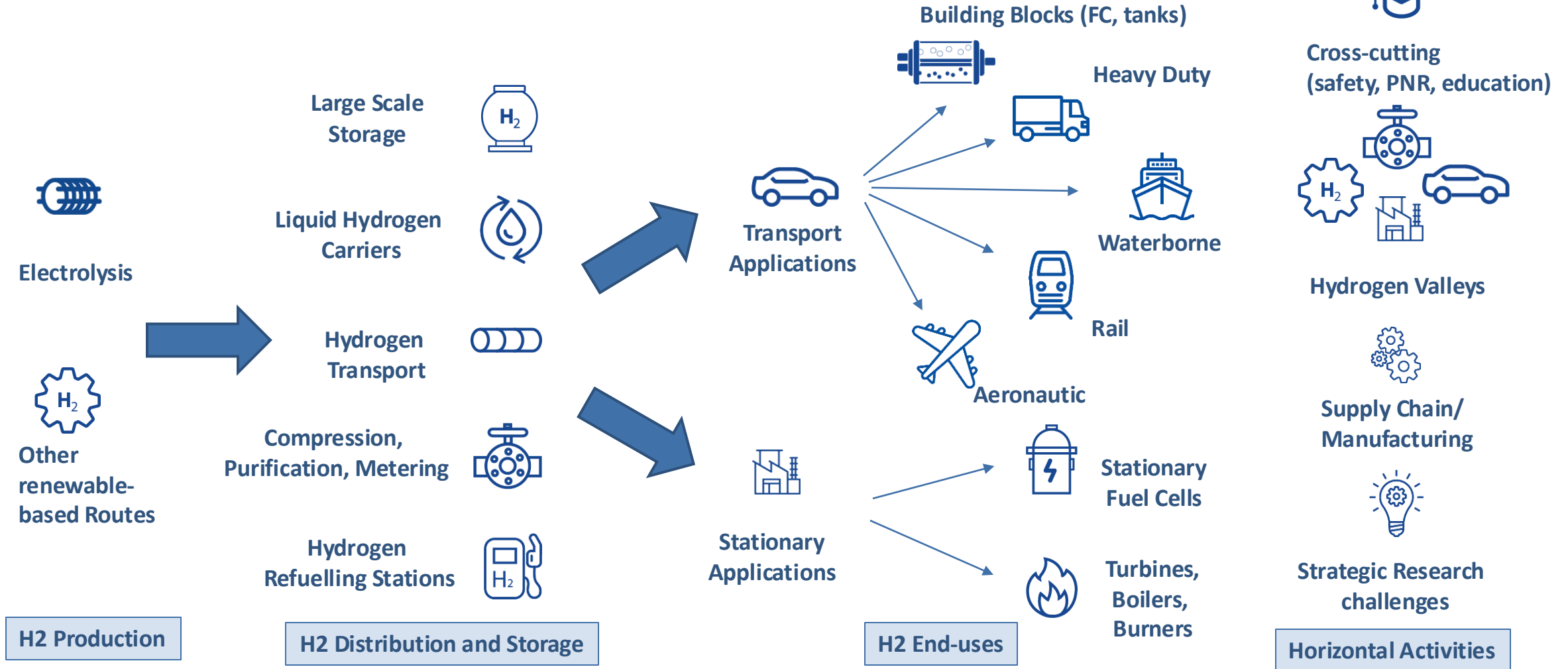
Demonstrations of clean hydrogen solutions with a view to **local, regional and Union-wide deployment**, aiming to involve stakeholders in all Member States and across **entire value chain**



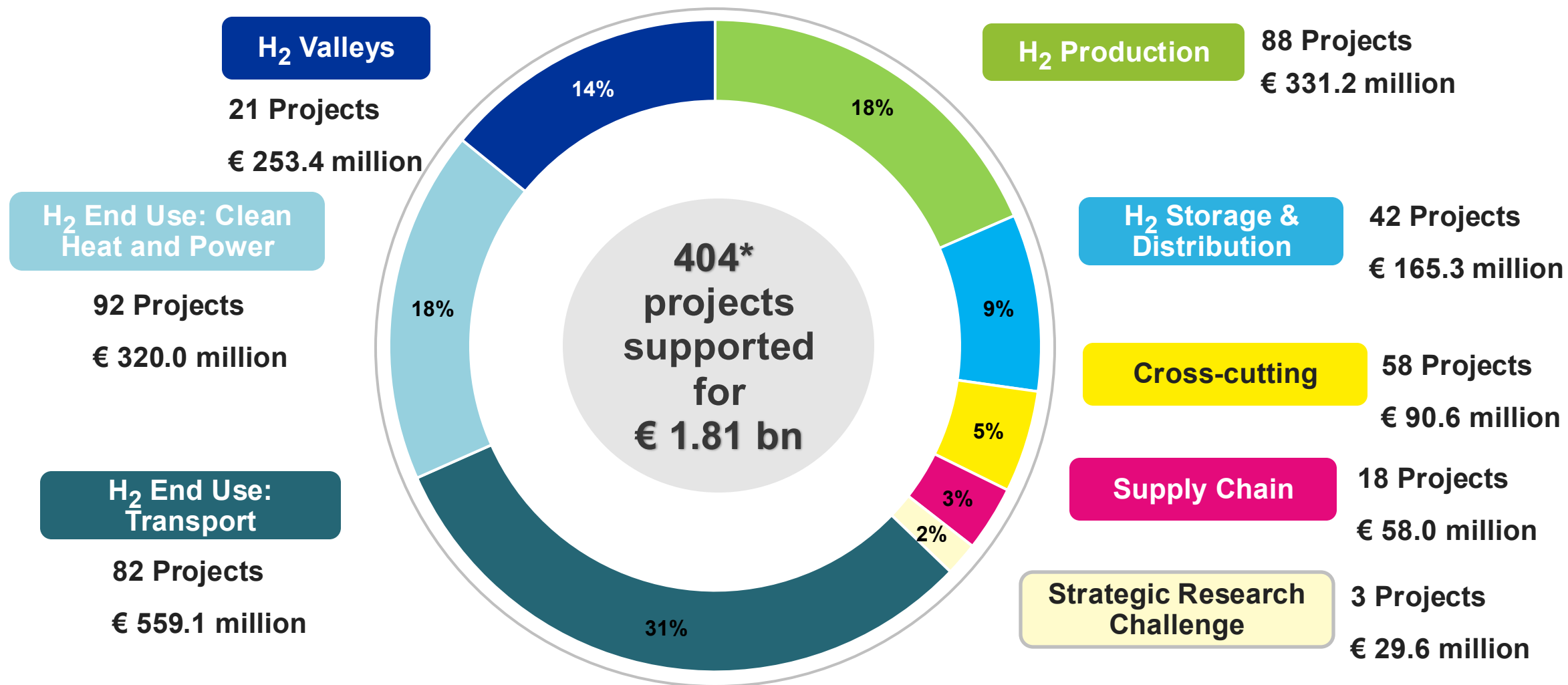
Increase **public and private awareness, acceptance** and uptake of clean hydrogen solutions



Strategic Research & Innovation Agenda SRIA (2021 – 2027)



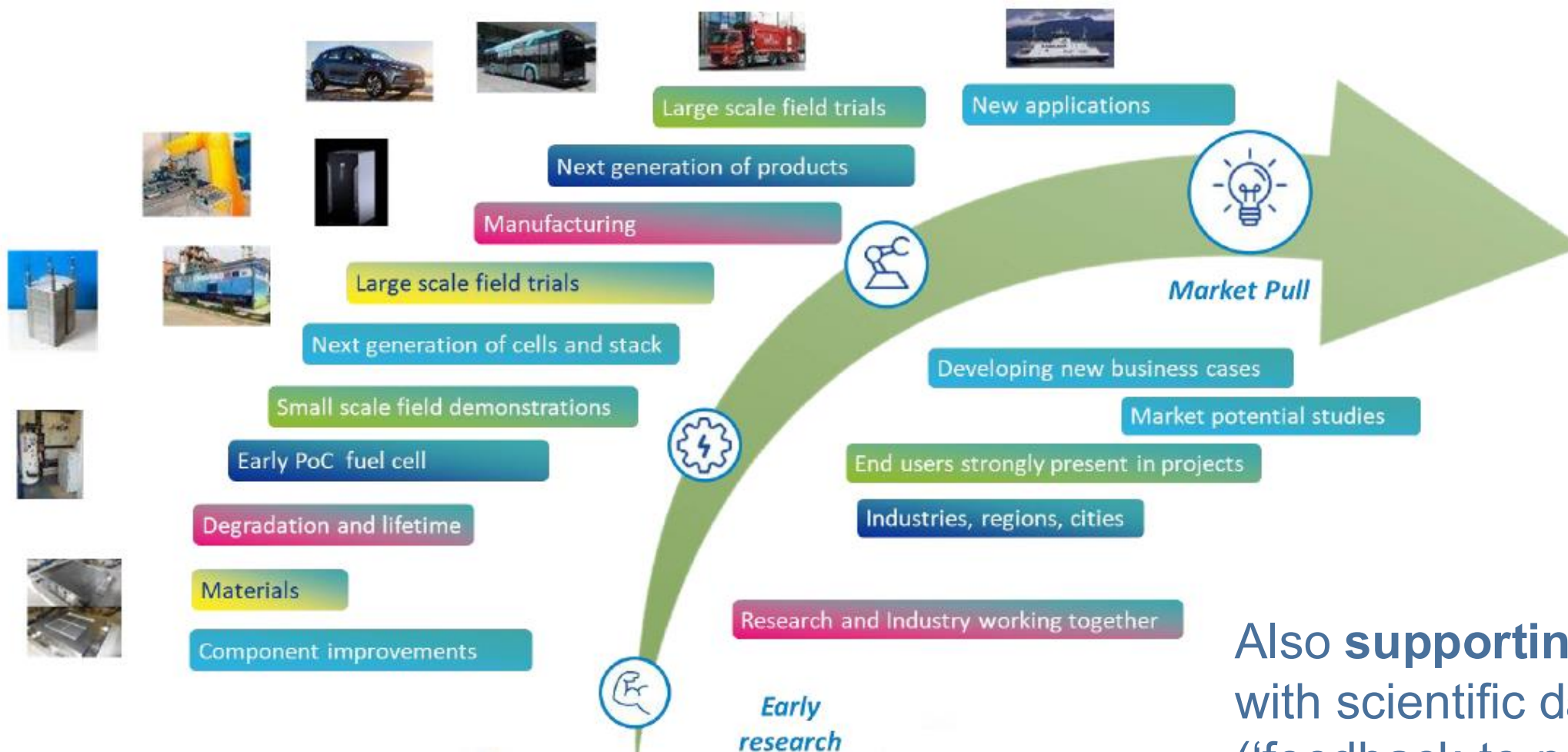
Clean Hydrogen JU Programme (cumulative over last 17 years)



**Additional 30 grants/projects under preparation from call 2025 for more than 180 mill EURO*

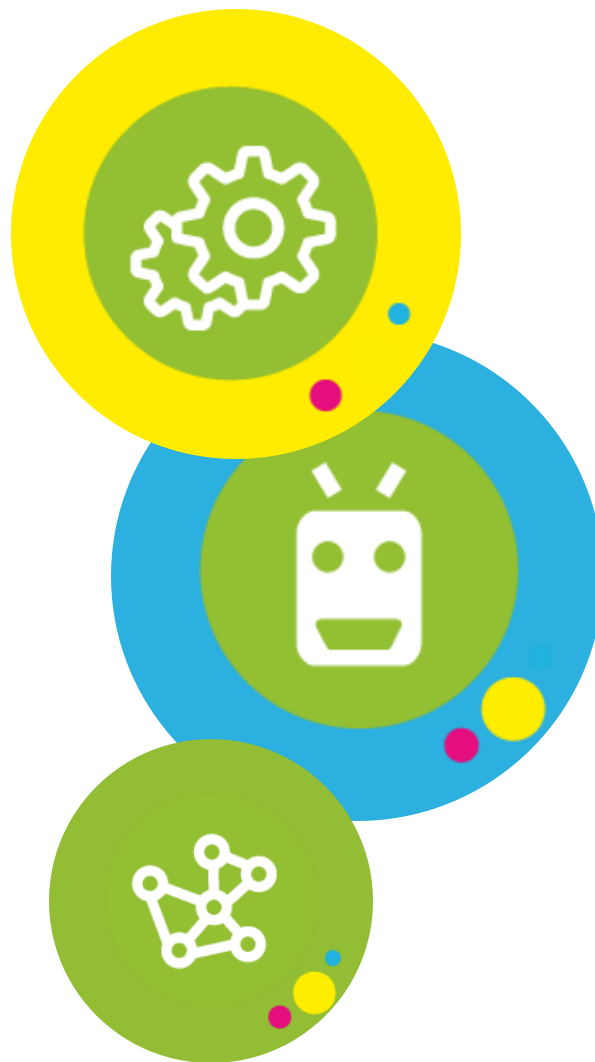
17 years of the Joint Undertaking

From research to delivering hydrogen solutions/innovations in the market



Also supporting policy
with scientific data
(‘feedback-to-policy’)

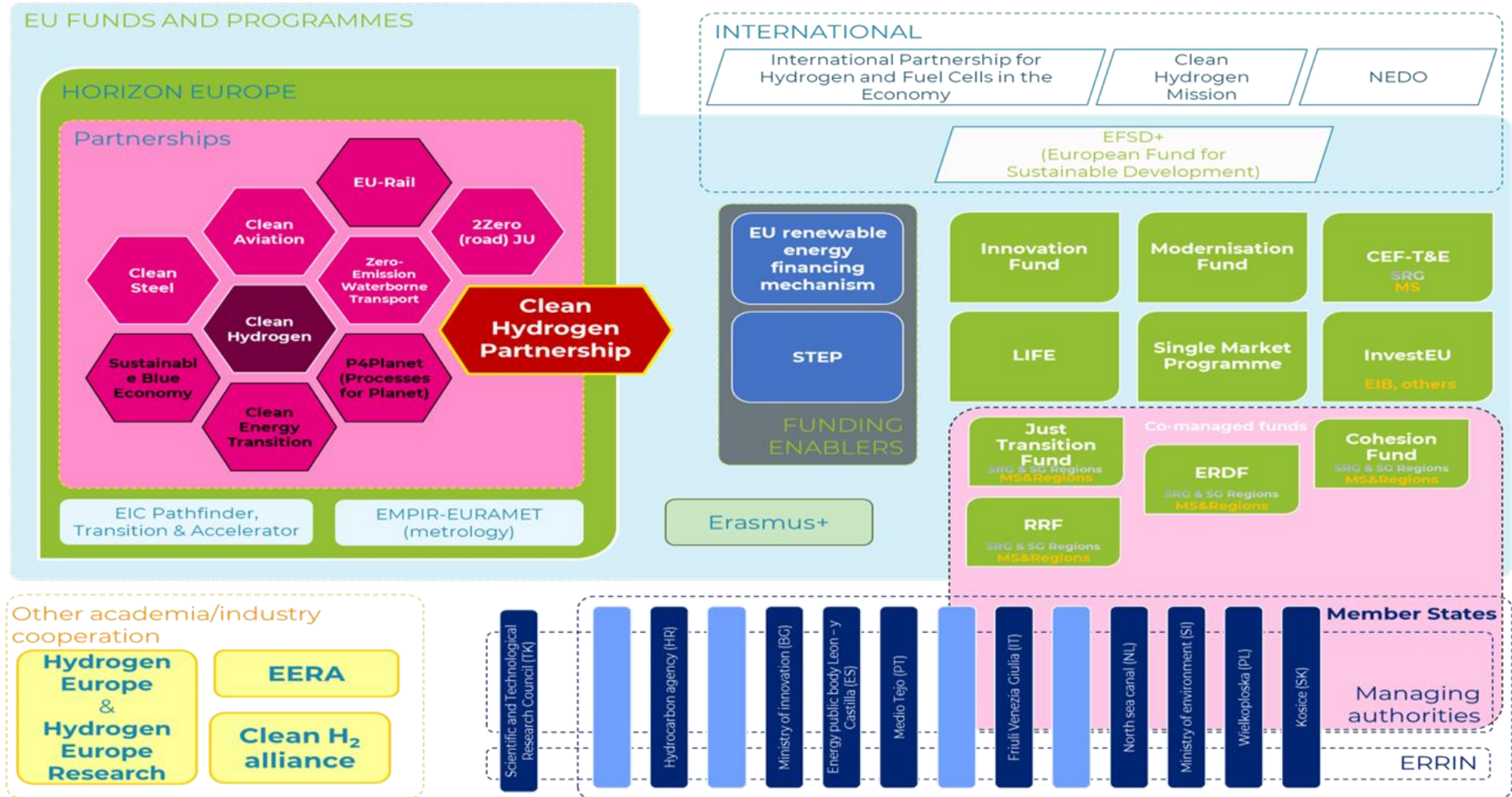
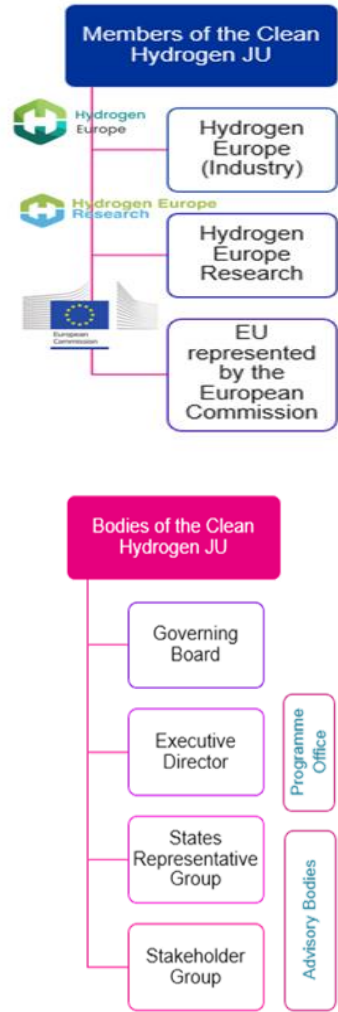
Additional activities are necessary to fulfil the Clean Hydrogen JU objectives



- Developing synergies with other partnerships and programmes
- Regulations, Codes and Standards
- European Hydrogen Safety
- European Hydrogen Sustainability and Circularity
- Knowledge management
- Competitiveness, SMEs
- International Cooperation
- Communication activities

Synergies

Maximising impact by working with others



STATE OF THE UNION 2020

September 2020

"I want NextGenerationEU to create new European Hydrogen Valleys to modernise our industries, power our vehicles."

Ursula von der Leyen.

July 2020

European Hydrogen
Strategy

March 2023

"Hydrogen Valleys are key for the creation of a European research and innovation area for hydrogen."

Comm. Mariya Gabriel



May 2022

REPowerEU Plan

200 MEUR top-up for the Clean Hydrogen partnership to double the number of Hydrogen Valleys

June 2024

European Hydrogen
Valley Roadmap

European Commission's inspirational target of **50 Hydrogen Valleys under construction or operational by 2030** across the entire EU

Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

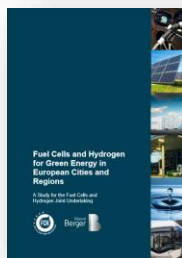
Regions initiative (2016-2018)

To support cities and regions with an interest in FCH technologies



Engagement

- Business cases for FCH applications;
- Mapping of local assets;
- Identification of existing funding;



Report

- FCH applications: status and potential;
- FCH plans and ambitions;
- Way forward;



MOU

- 89 European Regions;
- 22 countries
- 1/4 of Europe's population, surface & GDP;

Hydrogen Valley S3P Platform

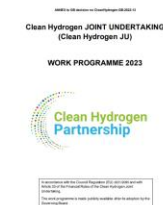
Project Development Assistance (2021-onwards)



<https://europa.eu/!McW9JP>

From idea to project plan

JU Annual WP/calls



<https://europa.eu/!WYcrhy>

Support to investments: H2 projects including H2 Valleys

Mission Innovation H2V Platform



<https://h2v.eu>

Global collaboration

Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

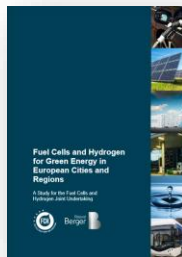
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Hydrogen Valley S3P Platform

Project Development Assistance (2021-)

25 Regions supported
€ 1.4 bn CAPEX
500+ MW Electrolysers
30+ HRS

JU Announced Work Plans

21 Hydrogen Valleys funded
+250 M€ JU funding
(additional 7 proj under prep)

~100 Hydrogen Valleys worldwide
(3/4 yet to take FID)



<https://h2v.eu>

Working with regions - Raising awareness, developing ideas and implementing hydrogen projects

Regions initiative (2016-2018)

To support cities and regions with an interest in FCH technologies



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MOU

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Hydrogen Valleys Facility

Memorandum of Cooperation with Managing Authorities

Hydrogen Valley S3P Platform

Project Development Assistance (2021-)

25 Regions supported
€ 1.4 bn CAPEX
500+ MW Electrolysers
30+ HRS

JU Annual Work Plans

21 Hydrogen Valleys funded
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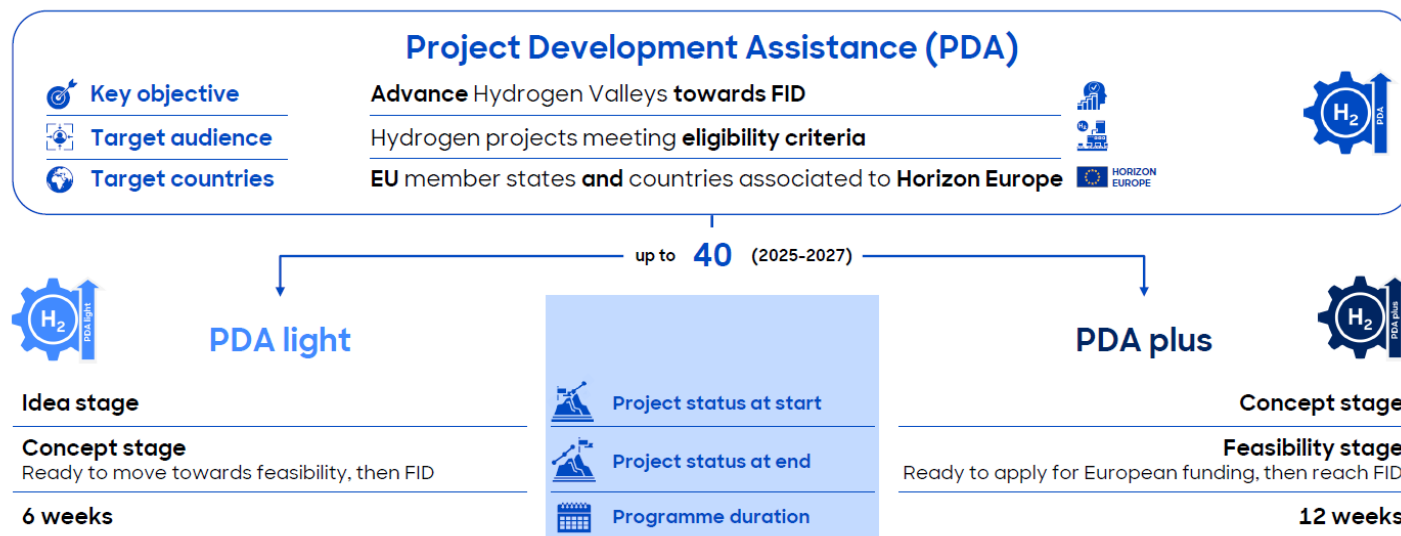


<https://h2v.eu>

Project Development Assistance Services

With the Project Development Assistance, the Clean Hydrogen Partnership supports Hydrogen Valleys to mature towards feasibility stage & FID

PDA light and PDA plus programmes



Source: Roland Berger

Roland Berger | 11

1st call for applications closed on 29/09/2025

36 PDA applications received, from **18** countries, 12 EU Member States, 6 Horizon Europe associated countries

9 applications awarded with PDA light

6 applications awarded with PDA Plus



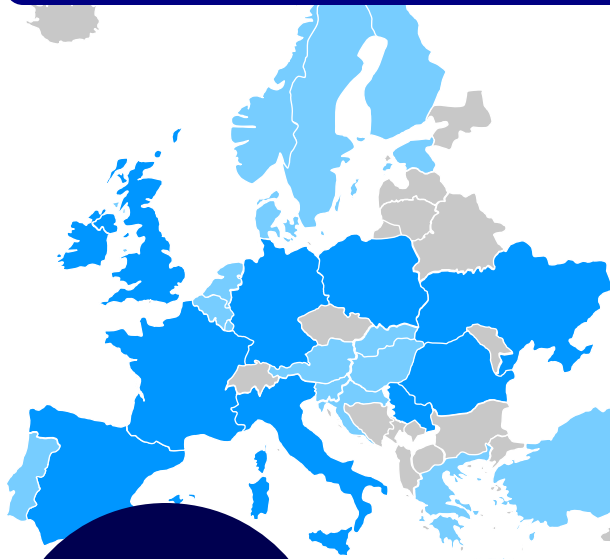
■ Countries with PDA beneficiaries ■ Countries with PDA applications

Hydrogen Valleys Platform hosts over 100 valleys

101 Hydrogen Valleys are featured on the platform, including 78 from EU

Results of the recent data update of Hydrogen Valleys on the H2V Platform:

101 Hydrogen Valleys on the H2V Platform



78
Hydrogen Valleys
on the H2V Platform
from EU countries

15
Hydrogen Valleys
on the H2V Platform
from countries
associated to
Horizon Europe

8
Hydrogen Valleys
on the H2V Platform
from other
international
countries

Visit
h2v.eu
now for further
insights

We are **continuously adding new valleys** to the H2V Platform - anyone interested is welcome to **reach out** to us at any time via **h2v@clean-hydrogen.europa.eu**

 Countries with Hydrogen Valleys

 Countries with recently added Hydrogen Valleys

Status at 24th November, 2025

101 Hydrogen Valleys

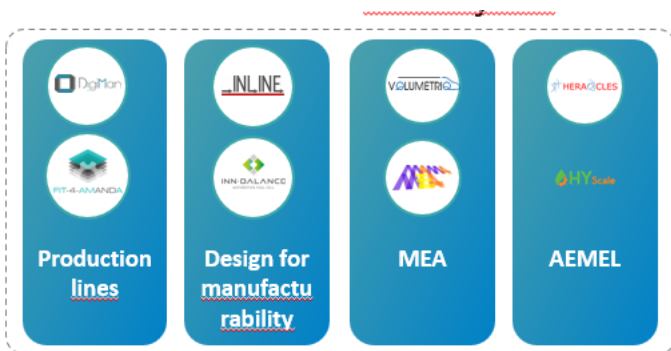
Thereof, **12 newly** onboarded:

-   Hydrogen Valley Anklam
-  H2SUD Vallée
-  HydrogER
-  H2 Nexus Nodes
-  COMPOSTILLA GREEN
-  Transylvania Hydrogen Valley
-  TAJUÑA H2
-  HyNA Hydrogen Valley
-  Coast 2 Coast
-  H2V Rasina Hydrogen Valley
-  H2Milk Wales
-  GreenWest PtX

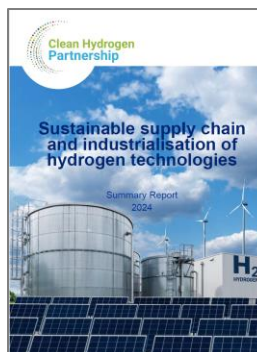
Sustainable supply chain and manufacturing – continuous assessment of the sector and the role of innovation!

Support the development of innovative manufacturing and monitoring
the supply chain for mass-production and competitive industry

Scaling up production of components for fuel cell and electrolyzers



Study on supply chain and industrialisation of H₂ technologies



Competitiveness dimension - Ongoing work

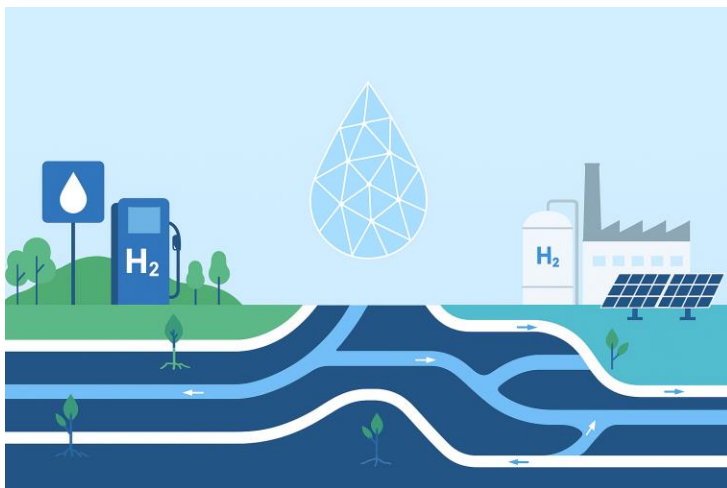


Sustainable paths for the use and management of water in the hydrogen value chain

Started July 2025

- **Objectives:**

- Technoeconomic study (water consumption, cooling, depuration, desalination).
- Geospatial Modelling of water consumption across Europe.
- 5 Case studies to obtain empirical data.
- Final recommendations for project developers.



Expert talk today at 12:20
to discuss preliminary results.

Study on opportunities for cooperation on renewable hydrogen with neighboring countries and regions, in particular Ukraine (just finished!)

- Development of IT tool for the calculation of the H₂ potential in Ukraine
- Analysis of results: theoretical H₂ production, H₂ Valleys potential, etc. (reports to be published soon)



2025

A conceptual framework for assessing and monitoring social risks and impacts related to hydrogen technologies and their value chains

EU harmonised test method: polarisation curve measurement of high-temperature fuel cell and steam electrolyser

Hydrogen Production via Direct Seawater Electrolysis

Reports prepared under the framework contract between the JRC and the Clean Hydrogen Joint Undertaking (Clean Hydrogen JU) in 2025.

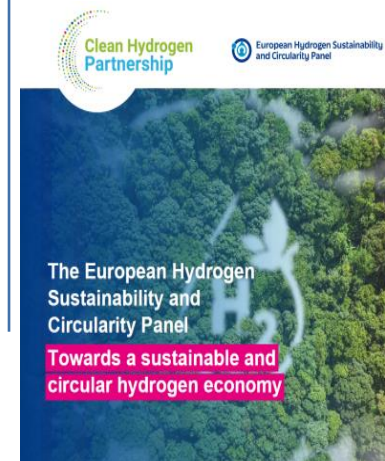
European Hydrogen Safety Panel (EHSP)

- Assuring that hydrogen safety is adequately managed
- Promoting and disseminating a high-level H2 safety culture



European Hydrogen Sustainability & Circularity Panel (EHS&CP)

Supporting the integration of environmental, social and economic aspects, promoting knowledge with focus on a sustainable transition towards a circular hydrogen economy



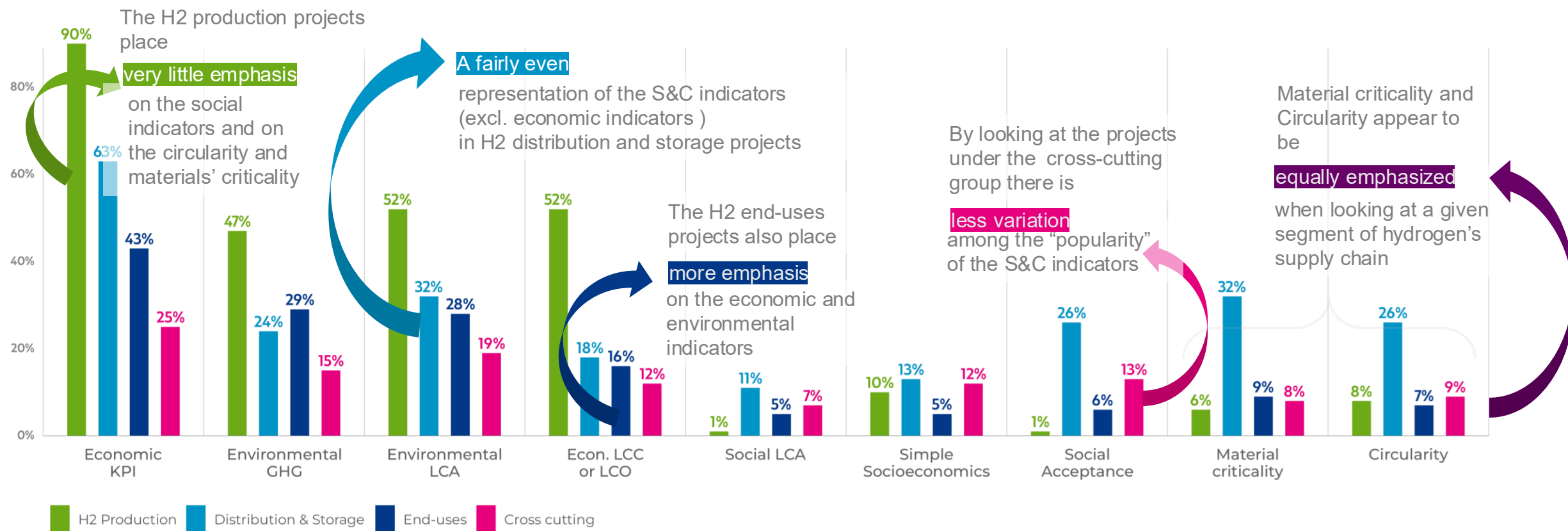
The European Hydrogen, Sustainability and Circularity Panel

This report summarises the activities of the first Panel (2/2024 to 2/2025).

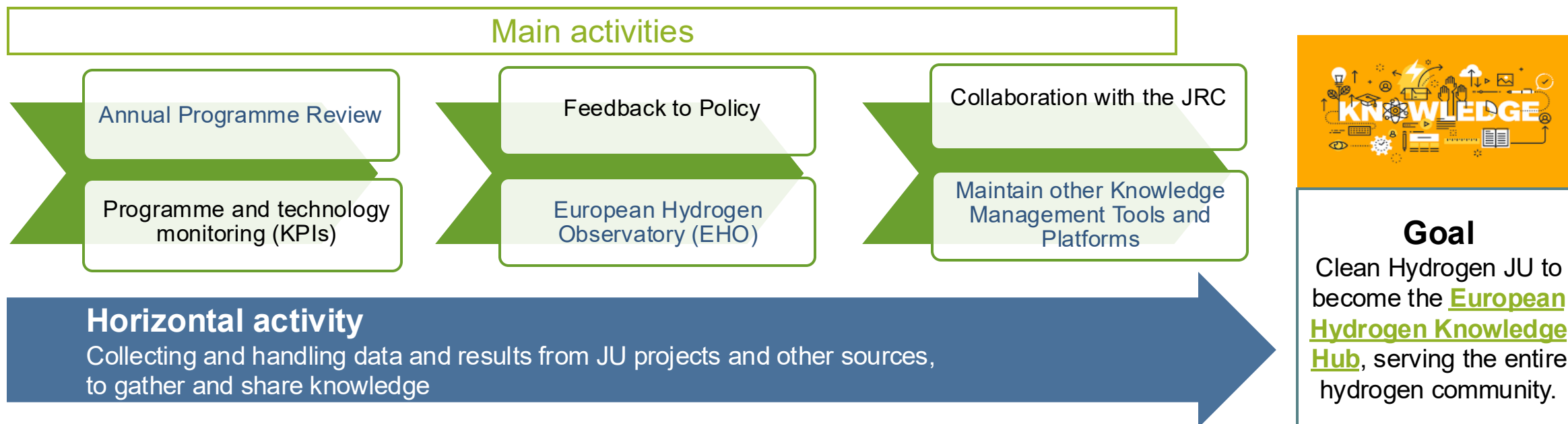
The Panel will resume its activities in early 2026.

Integration of Sustainability & Circularity (S&C) in JU funded projects

S&C Indicator occurrence among all projects assessed by each TF, excluding H2 Valleys projects



Knowledge Management Activities

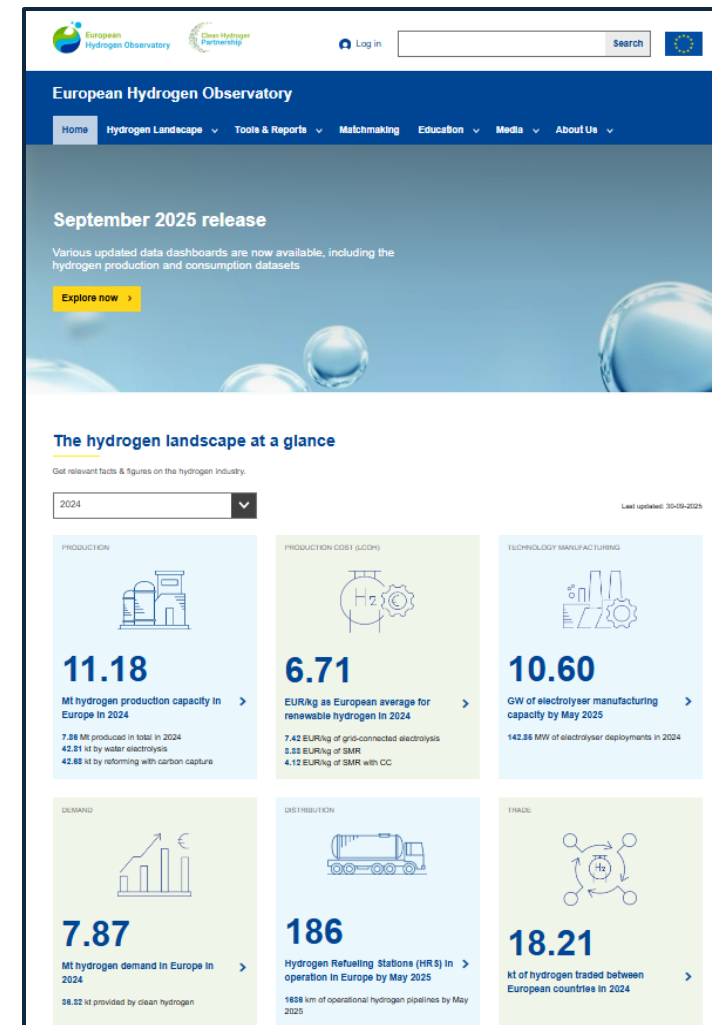


Highlights

- Many new data sets regarding **all the steps in the hydrogen value chain**;
- Geomap
- Levelised Cost of Hydrogen Calculator
- Observatory Reports
- News and events interface
- Learn about hydrogen
- Internal Portal

Target Audience

- Industry
- Policy makers
- Academics
- Opinion leaders
- Citizens



Annual Programme Review 2025

(report just published!)

Annual exercise (as of 2011) with the support of the Joint Research Centre of the European Commission (acting as independent experts)

Scope of the Programme Review broader since 2022, with JRC's Programme Technical Assessment at its core. Joint publication as of this year.

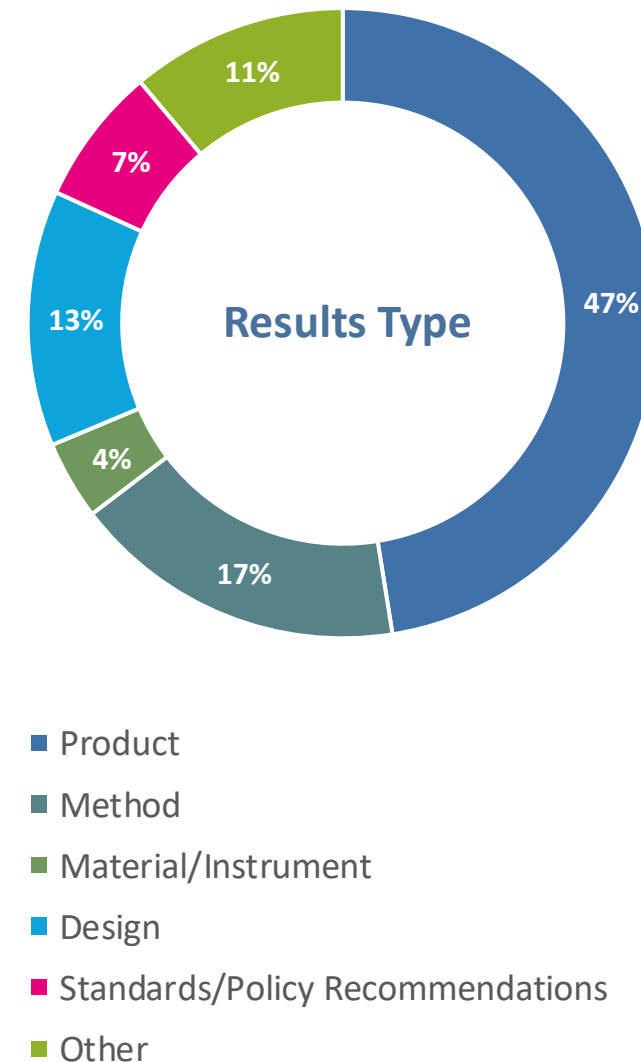
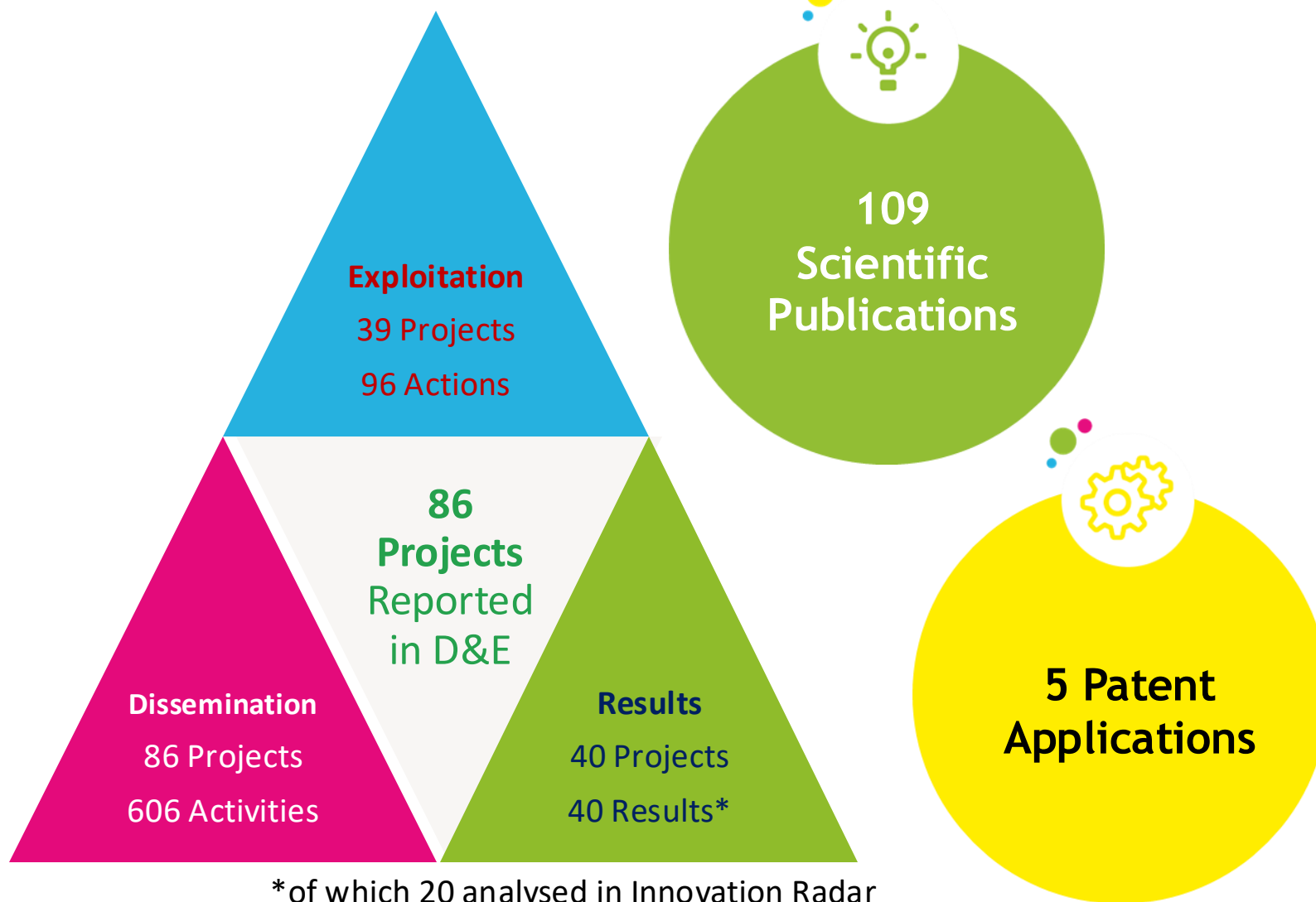
Review of all projects active in 2024 against SoA, targets and **KPIs**.

Collection of annual input from projects:

- **EU-Survey Questionnaire**
- Data collection exercise **through TRUST (tech. monitoring)**
- Contractual documents and project reports;
- **116 project factsheets** [published](#) on our webpage.



Dissemination and Exploitation of results incl Publications & Patents in 2025



Success Stories 2025 – spotlight on our projects

Bringing hydrogen buses to new cities across Europe



Building the standards to power Europe's hydrogen economy



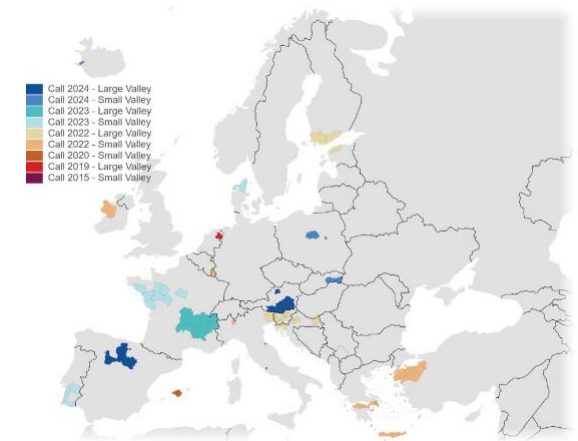
Hydrogen Valleys: Powering innovation and regional growth across Europe



Pushing the boundaries of hydrogen combustion in gas turbines



On the road to zero emissions: Advancing MEA performance for fuel cell vehicles



Success Stories 2025 – a new focus (start-ups and competitiveness)



H2SITE – start-up born in Bilbao as a spin-off from TECNALIA and TUE, focusing on process intensification. Owns two patent applications coming from projects FERRET and HYGRID.



HERMES



"Building on over a decade of European research, H2SITE has transformed cutting-edge innovation into a market-ready solution, delivering clean and cost-competitive hydrogen exactly where it's needed efficiently, sustainably, and locally."
H2SITE CEO Andrés Galnares

"By funding each step of the innovation pathway, we've helped turn promising technologies into bankable industrial solutions and European start-ups into global players."
Valérie Bouillon-Delporte, Executive Director of the Clean Hydrogen Partnership



MW level PEM



10MW PEM



100MW PEM



150kW SOEC



720kW SOEC



2.4 MW SOEC



AWARDS 2025

Best Success Story Award



Clean Hydrogen
Partnership

Co-funded by
the European Union

Best Outreach Award



Clean Hydrogen
Partnership

Co-funded by
the European Union

Public Voting for:

- ✓ Best Success Story
- ✓ Best Innovation

Best Innovation Award



Clean Hydrogen
Partnership

Co-funded by
the European Union

European H2 Valley of the Year



Clean Hydrogen
Partnership

Co-funded by
the European Union

Women in H2 Innovation Award



Clean Hydrogen
Partnership

Co-funded by
the European Union



AWARD CEREMONY
24 Nov 17h30



Co-funded by
the European Union