# HZwo – Hydrogen Technology Cluster Connecting Regional Innovation to Central European Valleys





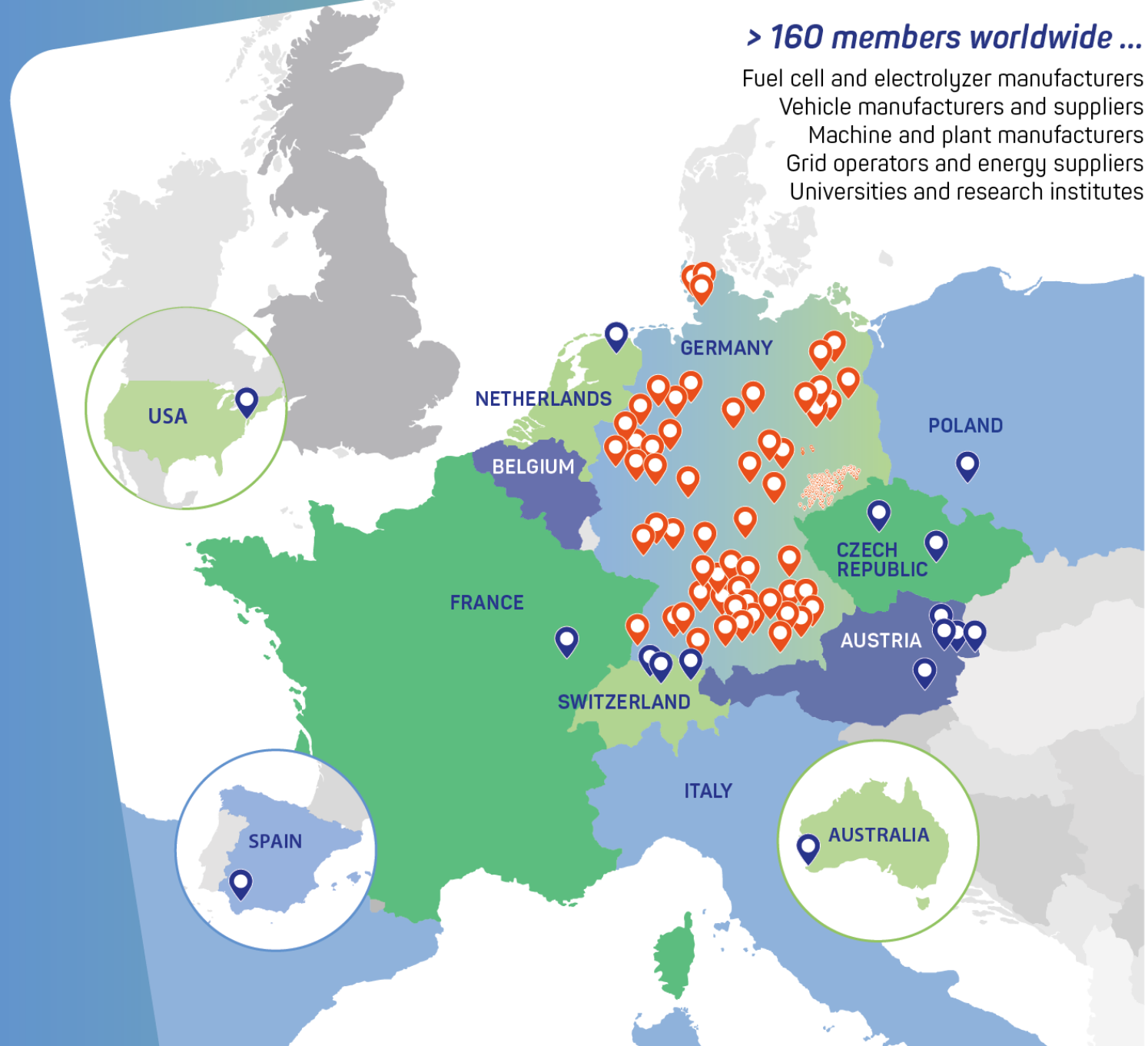



# Who we are

| | |
|---|---|
| HZwo | European network of hydrogen experts  |
| HIC HYDROGEN INNOVATION CENTER | National Hydrogen Innovation Center  |
| ch2ance | National Transformation Hub  |
| Sächsische Kompetenzstelle Wasserstoff $H_2$ | Saxon Competence Center for Hydrogen Technologies  |

## > 160 members worldwide ...

Fuel cell and electrolyzer manufacturers
Vehicle manufacturers and suppliers
Machine and plant manufacturers
Grid operators and energy suppliers
Universities and research institutes



# Our international activities

| Country | Main activities |
|---|---|
|  | – Annual HZwo-conference & delegation trip based on existing member projects for market exploration<br>– Presence at Asian-Pacific-Hydrogen-Summit |
|  | – Annual HZwo-conference based on existing member projects with strong R&D focus |
|  | – HZwo representative at Hydrogen Europe<br>– HZwo side events during EU-Hydrogen Week in Brussels, direct channels to EU-commission |
|  | – Established cooperation with leading Czech Hydrogen Events → possibilities to get HZwo members on stage<br>– Interreg Project with Czech partners |
|  | – Partnership with H2-Summit Tampere as an opportunity to raise the profile of HZwo members |
|  | – Joint HZwo booth at Hyvolution |
|  | – HZwo: India-Start project → cooperation with H2-Valley Pune, support for market exploration for HZwo members |
|  | – Established strategic partnerships with WoH Expo Warsaw and EnergyON Summit Poznan to enhance members visibility |
|  | – Annual delegation trips in cooperation with existing members |
|  | – Annual HZwo-conference based on existing member projects |

Sächsische Kompetenzstelle Wasserstoff $H_2$

www.hzwo.eu

HZwo



Central contact point for hydrogen related matters in Saxony



Raising awareness and acceptance for hydrogen

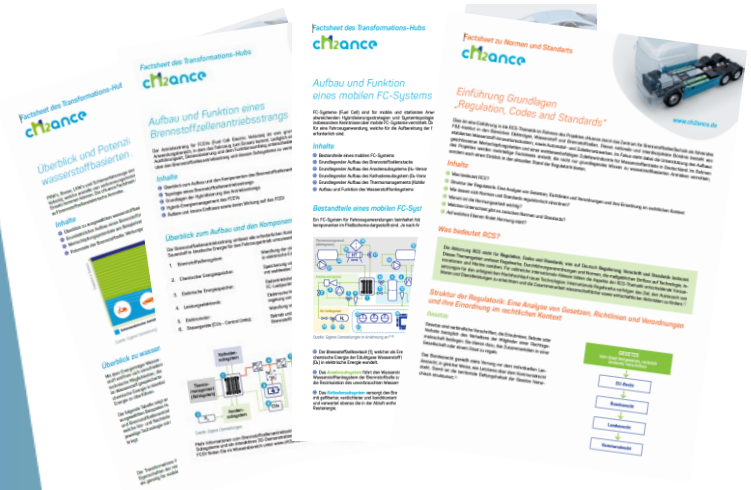


Information and advice for industry, science and research on all hydrogen-specific issues & advice on funding opportunities

ch2ance

AMZ ZBT THE HYDROGEN AND FUEL CELL CENTER www.hzwo.eu HZwo

## Factsheets



Overview of hydrogen-based drives, in particular the structure and function of the subsystems and other components of an FCEV, as well as RCS topics.

## Fuel cell system kit

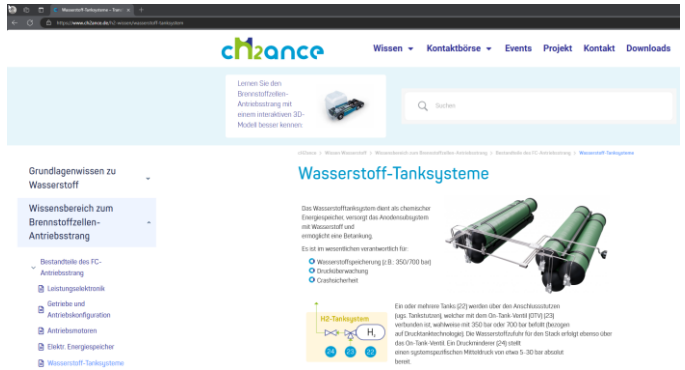


LED flow diagram of a fuel cell system with 3D-printed fuel cell system components
>> Available for lectures<<

## Interactive 3D-model




## Knowledge platform




www.ch2ance.de

# Our offers: targeted project development in working groups

## Existing working groups



Mobile Machinery



Stack and System Test Platforms



Stationary application of hydrogen as energy storage




Simulation, IoT and Cyber Security



$H_2$-Education



Sensors, Power Electronics and EMC



Technology centers




Sustainable aviation & drone technologies

# Our offers: Open-Source-Stack



Developed by

TECHNISCHE UNIVERSITÄT CHEMNITZ

ALF AdvancedPowertrains

Minimise barriers
Simplify access
Provide requirements
Transfer knowledge

Based on projects funded by

nip · Gefördert durch: Bundesministerium für Verkehr und digitale Infrastruktur · Koordiniert durch: NOW GMBH · ptj Projektträger Jülich Forschungszentrum Jülich · Europäische Union · Europa fördert Sachsen. EFRE





Our offer for members & partners:
Use this unique technology platform to expand you know how and expertise around PEM fuel cells and electrolysers

# From hydrogen cluster to innovation center

**HZwo e.V.**
Cluster of > 160 companies and research institutions




100 %

HIC HYDROGEN INNOVATION CENTER



**HIC gGmbH**
**Hydrogen Innovation Center**



Handover of the € 84.4 million funding letter at the Federal Ministry of Transport on 6 March 2025

HIC
HYDROGEN
INNOVATION CENTER

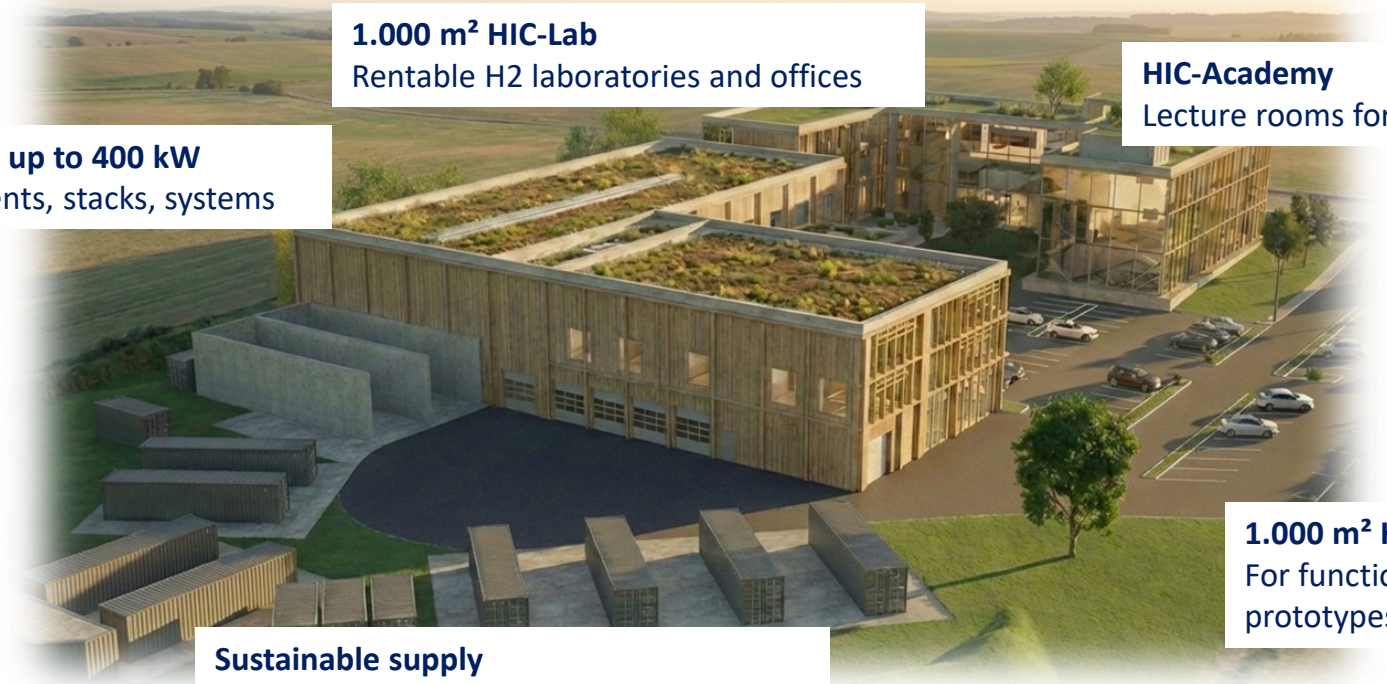
www.hzwo.eu

HZwo

**1.000 m² HIC-Lab**
Rentable H2 laboratories and offices

**HIC-Academy**
Lecture rooms for 10-200 people

**Test benches up to 400 kW**
For components, stacks, systems



**1.000 m² HIC-Workshop**
For functional models and prototypes

**Sustainable supply**
Of H2, electricity, heating, cooling, process gases

PUNE HYDROGEN VALLEY

WHERE THE WORLD GOES GREEN

Partners in Transformation
Business & Development Network

HZwo

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## The Role of the KVP Project

The KVP project creates a platform to connect people who can contribute to the three pillars of our joint vision. It enables exchange, builds partnerships and turns ideas into impact.

## WE CONNECT THE RIGHT PEOPLE

### 1 DEMONSTRATE TECHNOLOGIES & APPLICATIONS

- Renewable energy from PV and wind, including direct use and MW-scale battery storage
- Hydrogen production, storage (tanks & underground) and distribution
- Production of e-methanol, e-ethanol, green ammonia, SAF and other e-fuels
- Re-electrification and direct use for grid stability (including software & AI solutions)
- Applications in stationary use, public transport, heavy-duty transport, shipping, aviation, construction machinery, agriculture and mining
- Strong potential for scaling and replication in Maharashtra with viable business cases

**OUTCOME:**
Practical solutions and business cases with high impact for Pune and Maharashtra.

### 2 JOINT RESEARCH, DEVELOPMENT & INNOVATION

- Work across the entire hydrogen value chain
  - Fuel cell as project platform
  - Electrolyzer as project platform
  - Open-source vehicle platform
  - Fuel cell electric vehicles (FCEV) for mining, agriculture and construction machinery
  - Starting point: results from the Hzwo Hy.CoMM project

→ **Target:** Platform development with partners such as Mahindra, Bajaj and Tata

**JOINT HYDROGEN LAB (APPLIED R&D)**

- Initiated by HIC in collaboration with the Hzwo working group on research transfer centers
- Objective: Establish India's leading hydrogen lab in Pune with global outreach and impact

**OUTCOME:**
Joint research, open platforms and a visible innovation ecosystem with global impact.

### 3 BUILD KNOWLEDGE, TALENT & COMPETENCIES

**BELOW THE ACADEMIC LEVEL**

- Collaboration between the Pune Knowledge Cluster and Hzwo

**ACADEMIC LEVEL**

- Joint basic research projects
- Double-degree Master's programme in Hydrogen Technologies
- Joint PhD programme (e.g. Marie Curie)
- Lecturer exchange (DAAD)
- Scientist exchange on a project basis

**OUTCOME:**
Nurturing talent, sharing knowledge and establishing long-term excellence in hydrogen.

## Our Approach

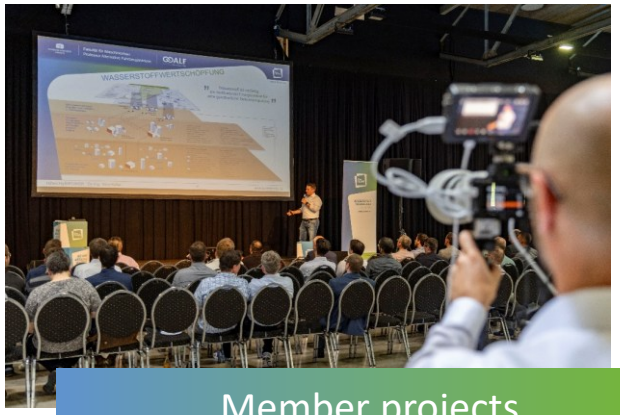
- Identify relevant stakeholders and expertise
- Facilitate matchmaking and dialogue
- Enable collaboration and joint activities
- Support implementation and impact

**TOGETHER FOR IMPACT** | Industry × Research × Education × Society = A strong hydrogen future for Pune, India and the world.

www.hzwo.eu

# HZwo DAYS 2026 – SAVE THE DATE

15.-16. June 2027 - hydrogen technologies - networking - industry-oriented



Member projects




100 % Networking




Congress for industry partners



2-day exhibition

# Contact

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