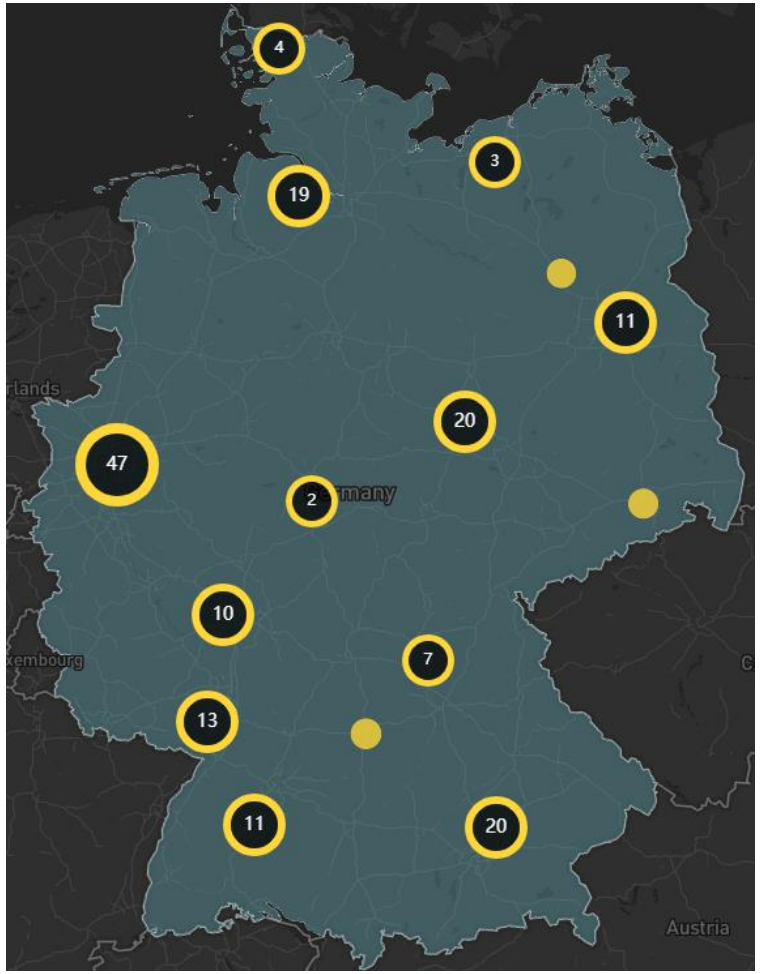
Cluster Mobility & Logistics

HY2.ZERO
Mobility needs Hydrogen

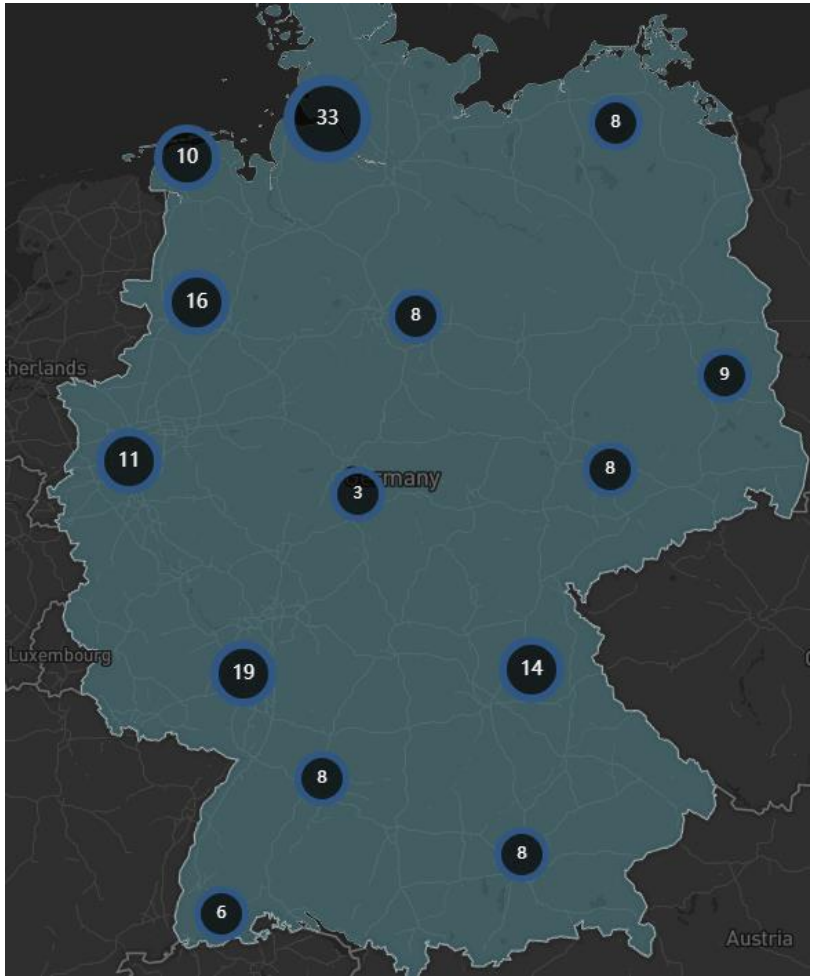
Hydrogen in Germany

Cluster Management Excellence · go-cluster EXZELLENT VERNETZT! · Logistik Initiative Bayern · CCAM CONNECTED, COOPERATIVE & AUTOMATED MOBILITY · WASSERSTOFF BÜNDNIS BAYERN · AIR ARTIFICIAL INTELLIGENCE REGENSBURG

Hydrogen map



H2 consumption sites, in total 170



Green production: Location of H2/PtX production plants, in total 162

[Hydrogenmap (wasserstoffatlas.de)]

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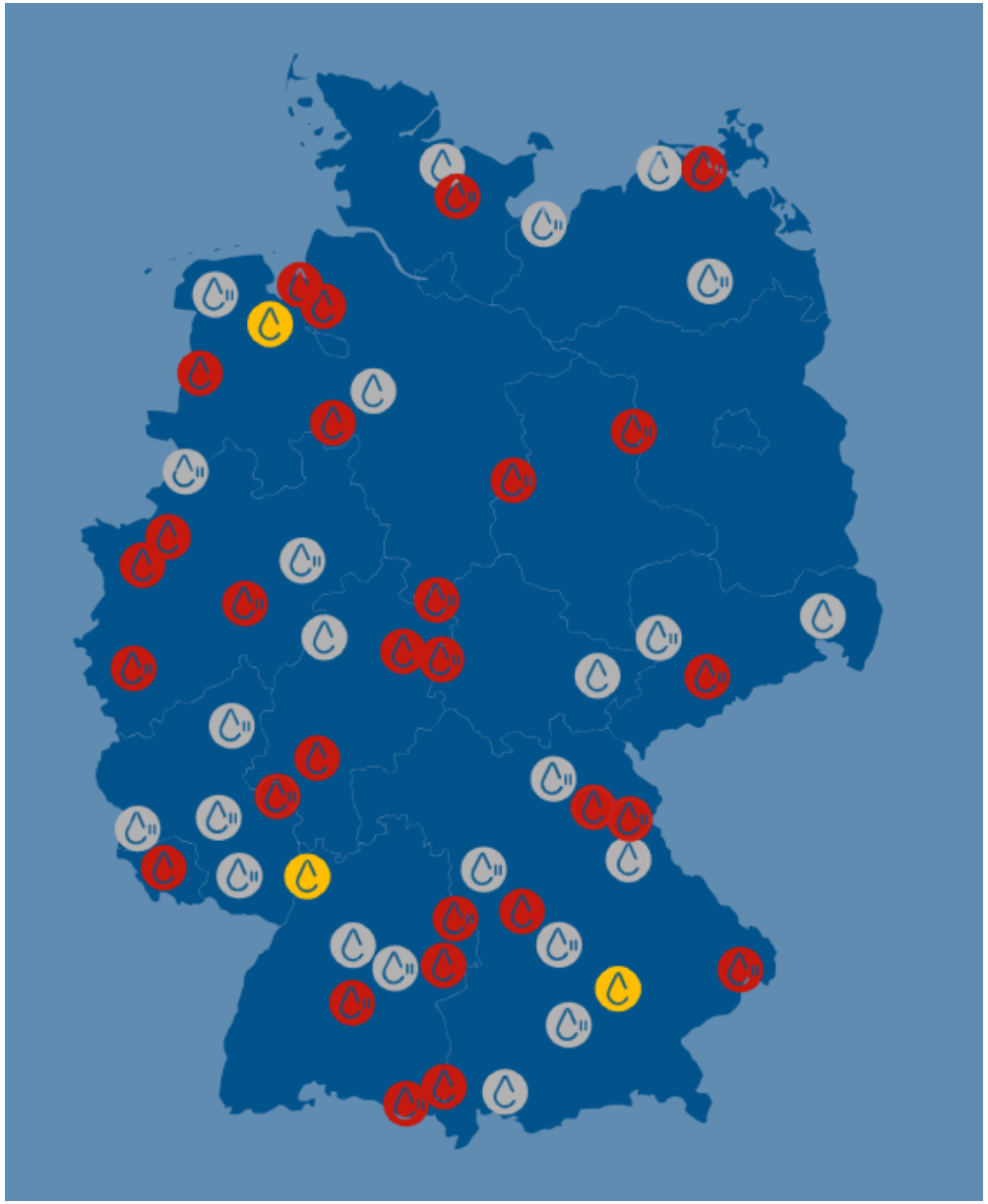
HyLand – Hydrogen Regions in Germany

Competition launched in 2019 by the Federal Ministry of Digital and Transport.

HyLand motivates participants in all regions of Germany to initiate, plan and implement hydrogen-related concepts.

The aim to identify and promote the most innovative and promising regional concepts.



HyStarter

HyLand I: 9 regions, HyLand II: 15 regions – Activation, organisation of the stakeholder landscape

HYSTARTER

HyExperts

HyLand I: 13 regions, HyLand II: 15 regions – Development of concepts ready for implementation

HYEXPERTS

HyPerformer

Hyland I: 3 regions, Hyland II: 3 regions – Development and implementation of concrete hydrogen projects

HYPERFORMER

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Relevant regional actors

H2.B HYDROGEN CENTER BAVARIA

- Strategy and coordination center for hydrogen in Bavaria, initiated and financed by the Free State of Bavaria
- Acts at the interface between industry, science and politics in a national and international context.
- Core tasks: information, consulting, strengthen the networking of Bavarian hydrogen stakeholders
- Published the Hydrogen Roadmap Bavaria in 2022

HYDROGEN ALLIANCE BAVARIA

- Joint platform for networking, knowledge and interests of hydrogen stakeholders from industry, science and politics located in Bavaria
- Coordinated by H2.B.

Hydrogen Center Bavaria | Zentrum Wasserstoff.Bayern (H2.B)

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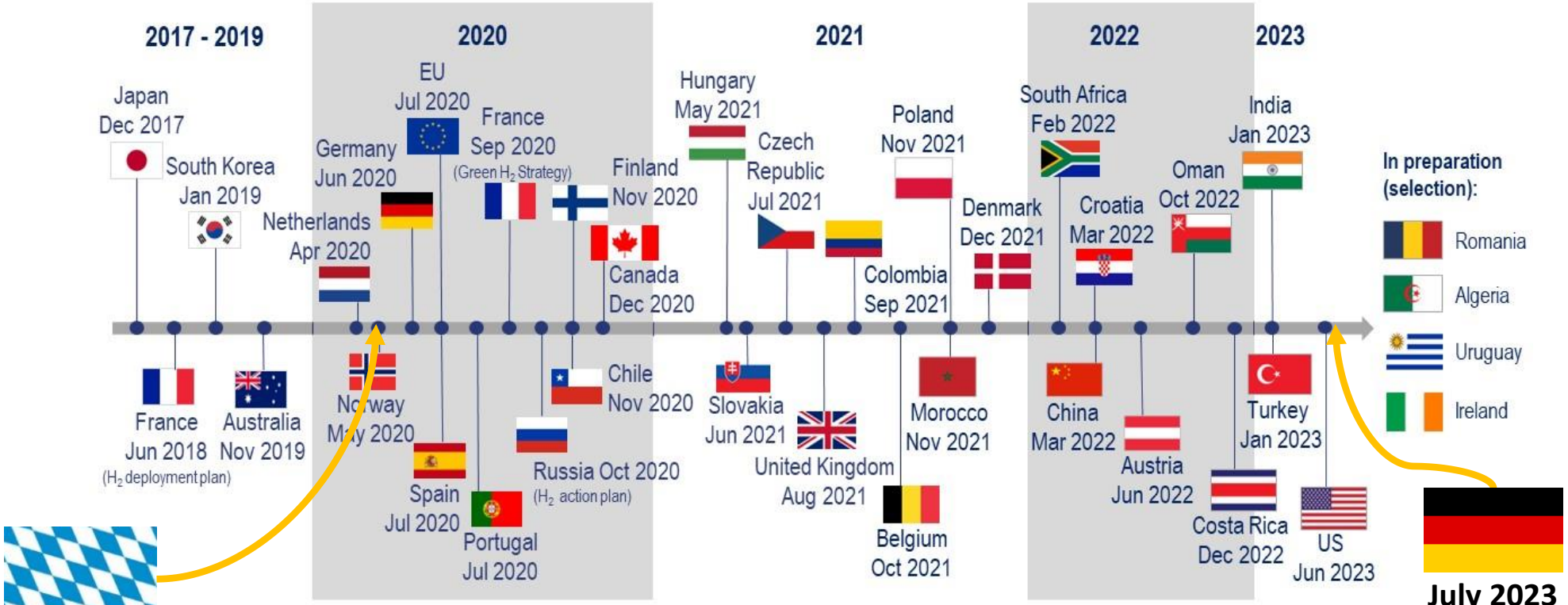
International Context: Hydrogen Strategies



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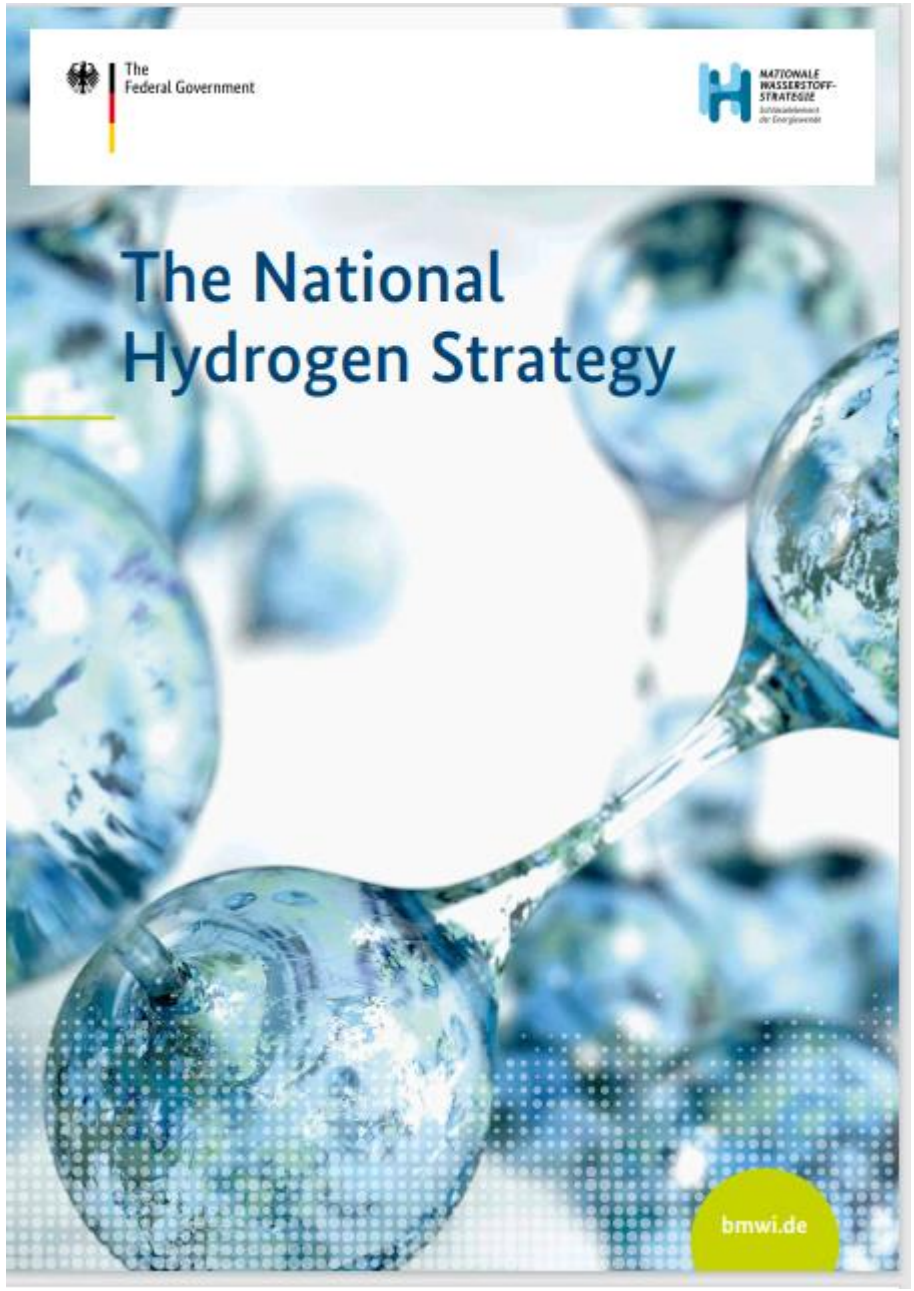
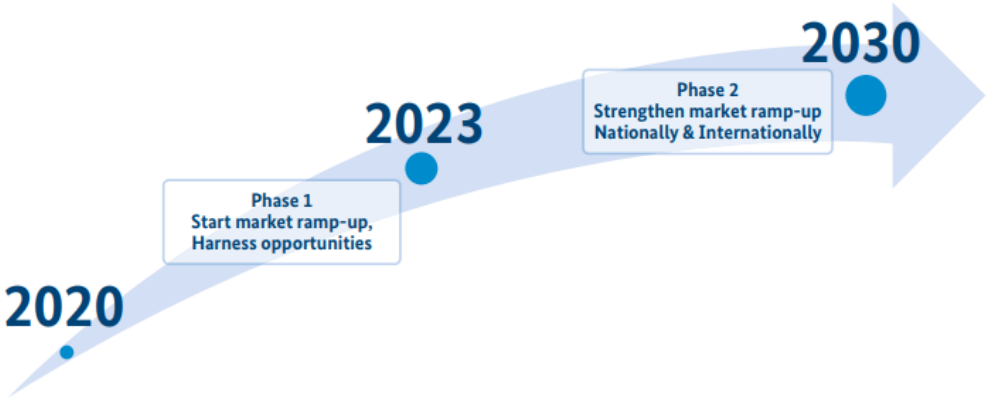


National Hydrogen Strategy

- Published in 2020, updated in July 2023
- Aim: cut dependency on imported fossil fuel and greenhouse emissions for highly polluting industrial sectors that cannot be electrified

- Necessary infrastructure: An initial grid comprising more than 1,800 kilometres of hydrogen pipelines are expected to flow by 2027/2028

- Major change in 2023: doubling the target of production capacity for 2030 to at least 10 gigawatts
- Germany will have to import up to 70% of its hydrogen demand in the future as Europe's largest economy aims to become climate-neutral by 2045



National Hydrogen Strategy: Green hydrogen as energy source of the future – BMBF
Statement on Germany's updated National Hydrogen Strategy of 24th July 2023 (wasserstoffrat.de)

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ECOSYSTEM FOR MOBILITY & LOGISTICS

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Getting technology on the road

Cluster Mobility & Logistics

Based in the TechBase Regensburg in Bavaria, Germany

Cluster Mobility & Logistics

Fast Facts
Cluster Mobility & Logistics

+ 100 members und
+ 50 cooperation partners

+ 60 innovation projects

Diverse structure: startups, SMEs, large companies, universities, science, politics

Key topics Mobility: Vehicles & Infrastructure, Sustainable mobility, Data & networking

Key topics Logistics: Production-, Intra-, Transport logistics

Core tasks: Build platforms for innovation & cooperation; network key actors; make members visible, support in applying for R&D funding

European Gold Label for excellent cluster management

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DAS INNOVATIONSNETZWERK FÜR WASSERSTOFF

HY2.ZERO

Mobility needs Hydrogen

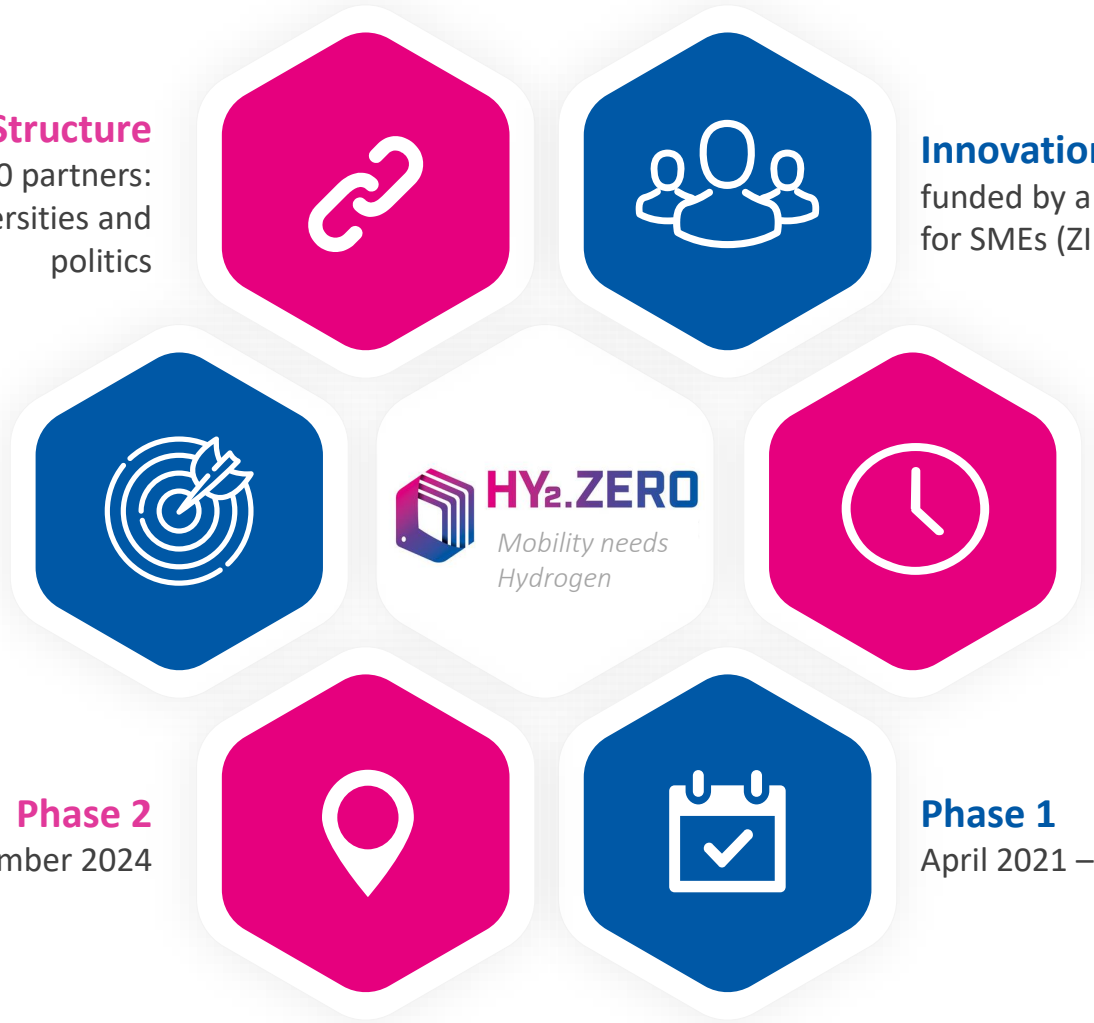
Gefördert durch:
Bundesministerium für Wirtschaft und Klimaschutz
aufgrund eines Beschlusses des Deutschen Bundestages
ZIM Zentrales Innovationsprogramm Mittelstand

Fast Facts HY2.ZERO

Diverse Structure
about 30 partners:
startups, SMEs, big companies, universities and politics

Innovation network
funded by a national innovation program for SMEs (ZIM)

Objective
Supporting the industrialization of hydrogen and fuel cell technologies



Duration
3+ years

Phase 2
January 2023 – December 2024

Phase 1
April 2021 – June2022

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About 30 partners

Science

Universität Augsburg University

OSTBAYERISCHE TECHNISCHE HOCHSCHULE REGENSBURG

TECHNISCHE HOCHSCHULE NÜRNBERG GEORG SIMON OHM

TECHNISCHE HOCHSCHULE DEGGENDORF

Fraunhofer IISB

SMEs & Startups

AVQ

Ceramic Precision

HOERATH APPLIED TECHNICAL SOLUTIONS

HARDY BARTH edv.elektro.energie

CHP Messtechnik GmbH

ESy Labs

évo évolution synergétique!

Bärnreuther+Deuerlein SCHOTTERWERKE

Hyperthermics

sdp

enders

Municipalities, municipal enterprises and state organisations

H2 REGION LANDSHUT

HYSTARTER

das Stadtwerk. Regensburg

der Versorger. REWAG

Large companies

AVL

DB

Regio Bus Bayern

GROB

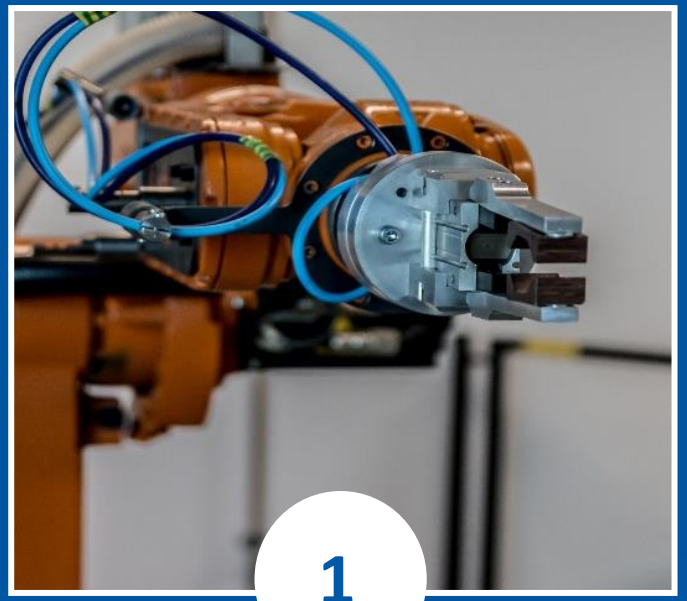
bertrandt

MicroFuzzy Member of KPIT Group

vitesco TECHNOLOGIES

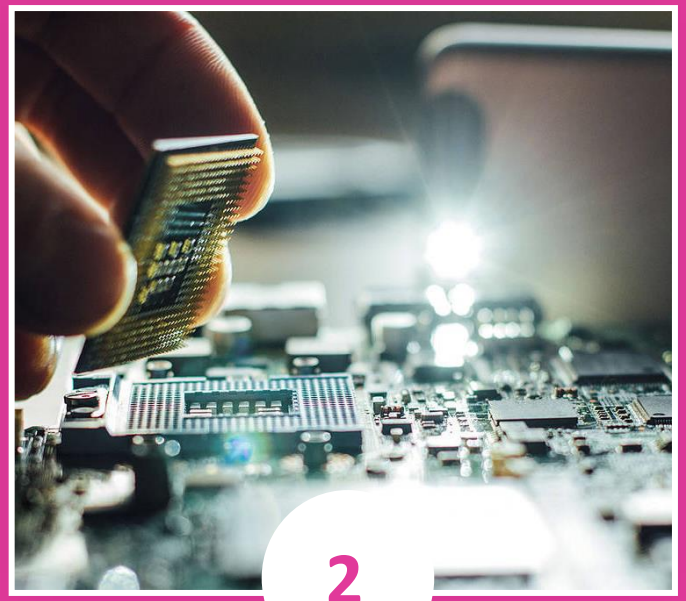
Mühlbauer High Tech International

Development topics



1

PRODUCTION



2

SYSTEM ENGINEERING FUEL CELL
HARD- AND SOFTWARE

3

ONSITE PRODUCTION OF HYDROGEN

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R&D project ideas

UniCon

Development of a high-efficiency, uninsulated fuel cell DC/DC converter

FC Inverter

Overall optimization of a fuel cell powertrain

2

Hy2PrOtec

Hydrogen production based on organic waste

Green ammonia

Release of ammonia from organic residues

3

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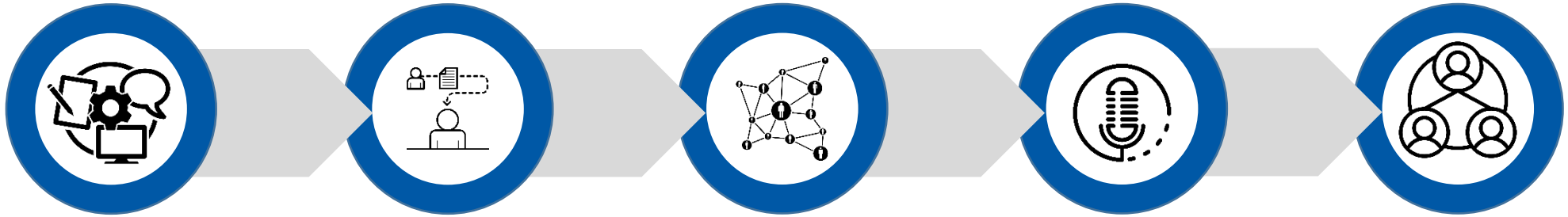
Phase 2: 2023 + 2024



Initiate new projects

Apply for R&D funding

Organise knowledge transfer and networking events

Publish a 2nd podcast series with network members

Create a working group after project end

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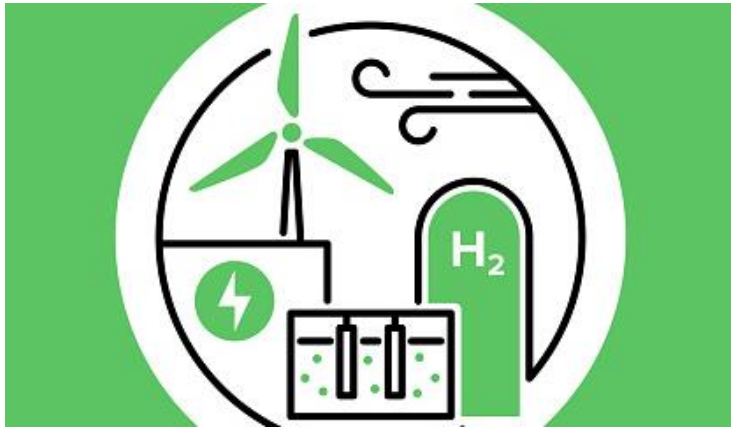
Some challenges

Infrastructure / demand dilemma

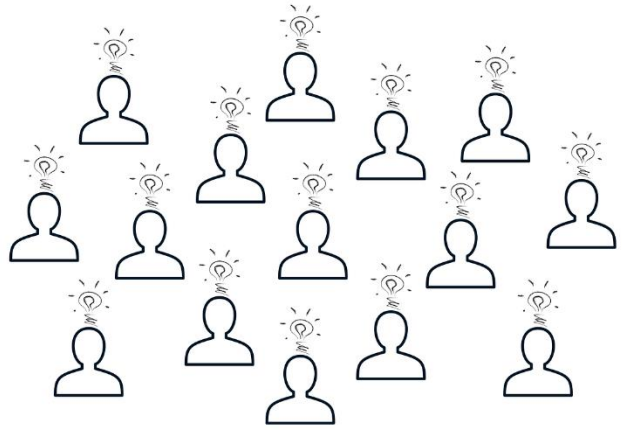
High costs



Technical challenges

Green Hydrogen

Regulation



Public acceptance

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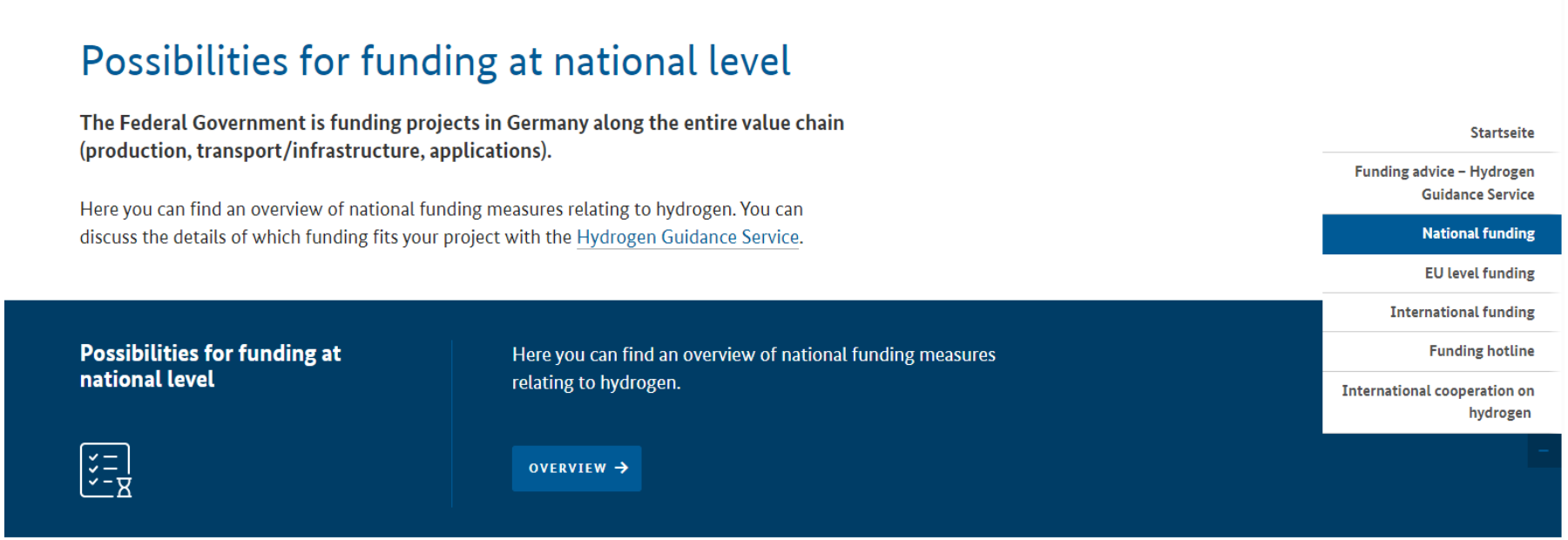
National funding opportunities

“Lotsenstelle Wasserstoff” – One-stop shop hydrogen:

The Hydrogen Guidance Service offers an overview of national and international funding opportunities as well as funding advice



[One-Stop-Shop - Wasserstoff - Home (bmwk.de)]

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Regional funding opportunities
Bavarian Electrolyser Funding Program

Why?
To support the decentralised development of domestic production of renewable H2 in Bavaria

What is eligible?
The purchase costs of electrolysers in Bavaria and their directly connected plant components are subsidised with a funding rate of 45 percent. The prerequisite is a minimum electrical output of the plant of 1 MW.

How much funding?
150 million euros available for the electrolyser funding programme,
up to 45 Mio € for the first call

When?
Program and first call recently opened in September 2023, first deadline is 16th October 2023

More information?
BayMBI 2023 Nr. 358 - Verkündungsplattform Bayern
Bayerisches Förderprogramm zum Aufbau einer Elektrolyse-Infrastruktur (BayFELI)

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Regional funding opportunities
Hydrogen refueling stations

Why?
Build a public as well as corporate infrastructure for hydrogen fuel supply

What for?
Fueling Stations in Bavaria operated with 100% renewable energy

How much funding?
Up to 90% for public and 40% (+10-20% for SME) of eligible costs for non-public hydrogen fueling stations

When?
New call recently opened in September 2023, deadline is 13th November 2023

More information?

Support program for the development of a hydrogen filling station infrastructure in Bavaria (bayern-innovativ.de)

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CONTACT

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