

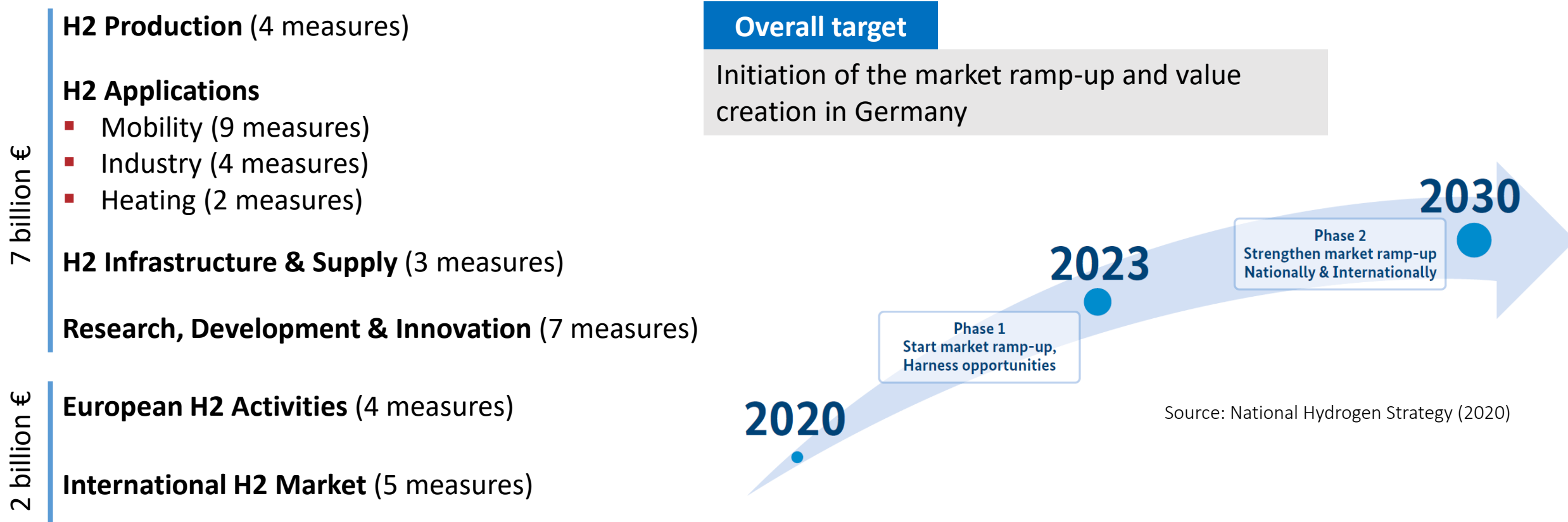
ONLINE | 07 December 2022

MOVING FORWARD WITH HYDROGEN AND FUEL CELL TECHNOLOGY IN GERMANY

Sammy Wittop, Programme Manager International Energy Concepts, NOW GmbH

THE NATIONAL HYDROGEN STRATEGY COMBINES 38 MEASURES

Integration of new, planned and ongoing measures of the federal ministries

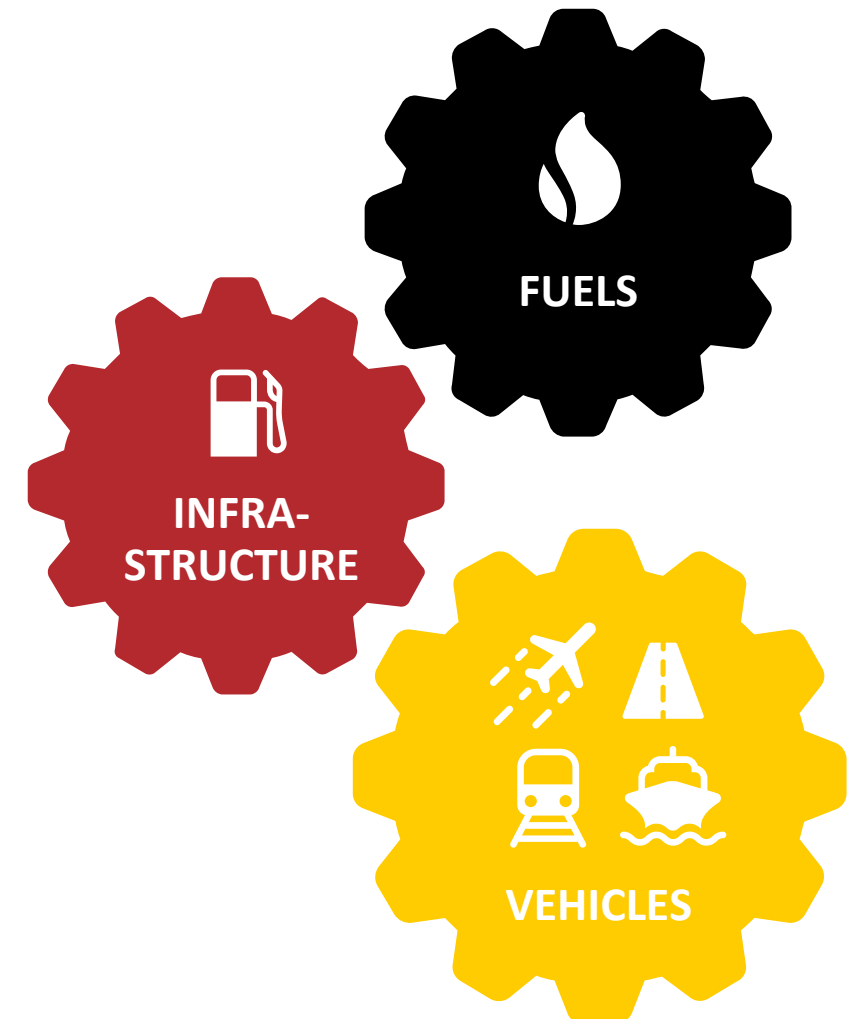
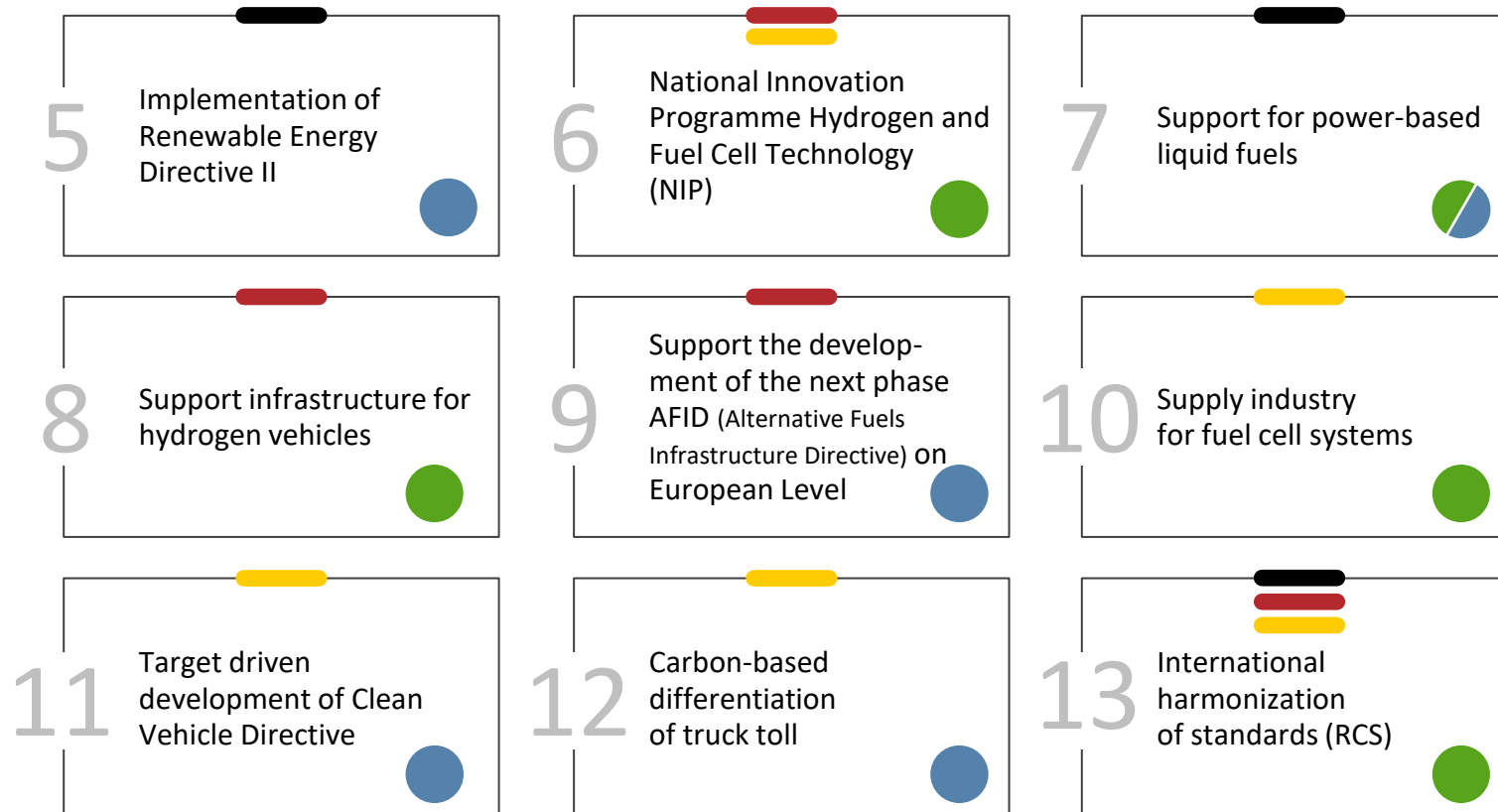


THE HYDROGEN STRATEGY BUILDS THE FOUNDATION

Measures 5 to 13 of the strategy form a systemic approach to hydrogen in transport

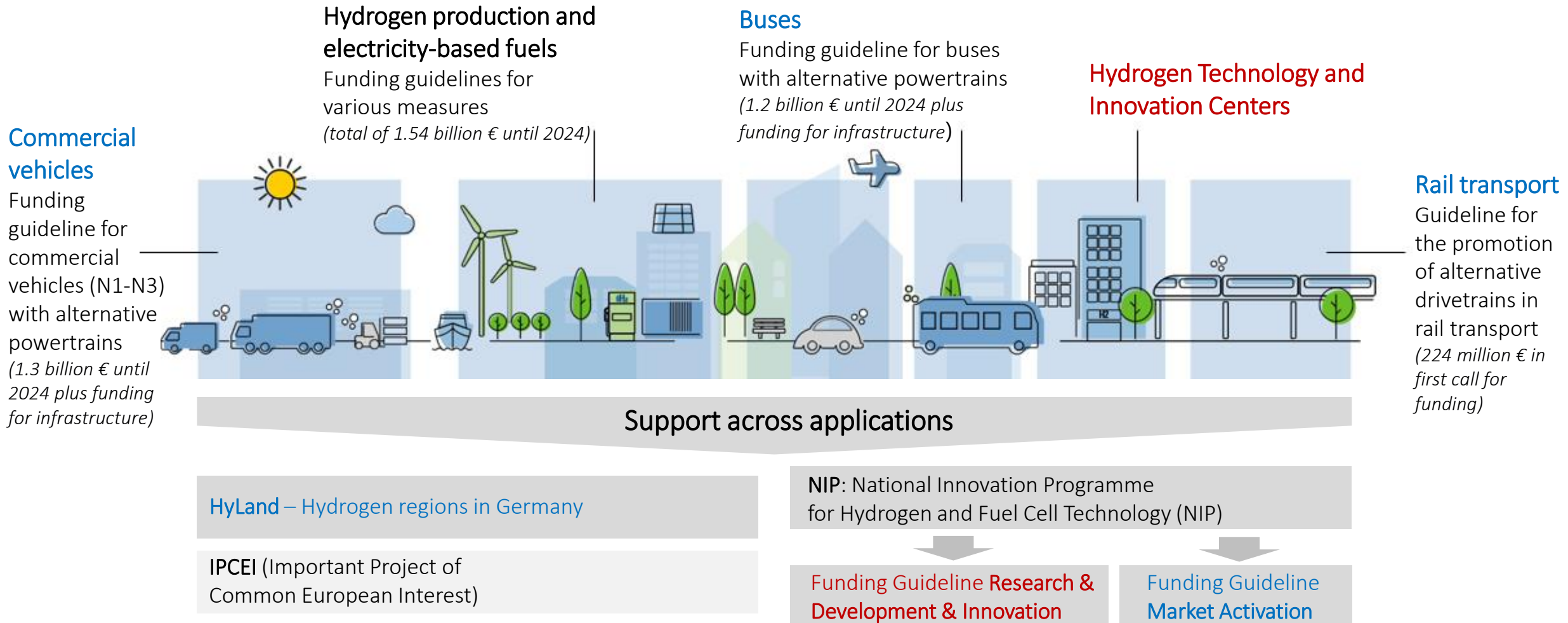
● Regulatory & market framework

● Support and coordination



BMDV FUNDING PROGRAMS FOR HYDROGEN AND FUEL CELLS

NOW GmbH supports the German Government with the transition to a sustainable transport system



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HYLAND REGIONS

HYDROGEN VALUE CHAIN

An integrated approach includes projects along every step of the value chain



Electricity
Production



Hydrogen
Production



Storage /
Transport



Distribution



Application

Integrated approaches are needed to reduce risks and initiate broad deployment

HYLAND I & II



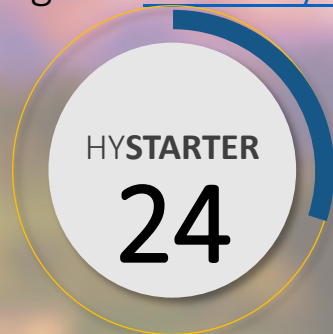
Support for initiation, planning and implementation of integrated H2 concepts

With the HyLand concept, municipalities are accompanied on their way to the hydrogen economy as **HyStarters**, **HyExperts** or **HyPerformers**, depending on their level of knowledge.

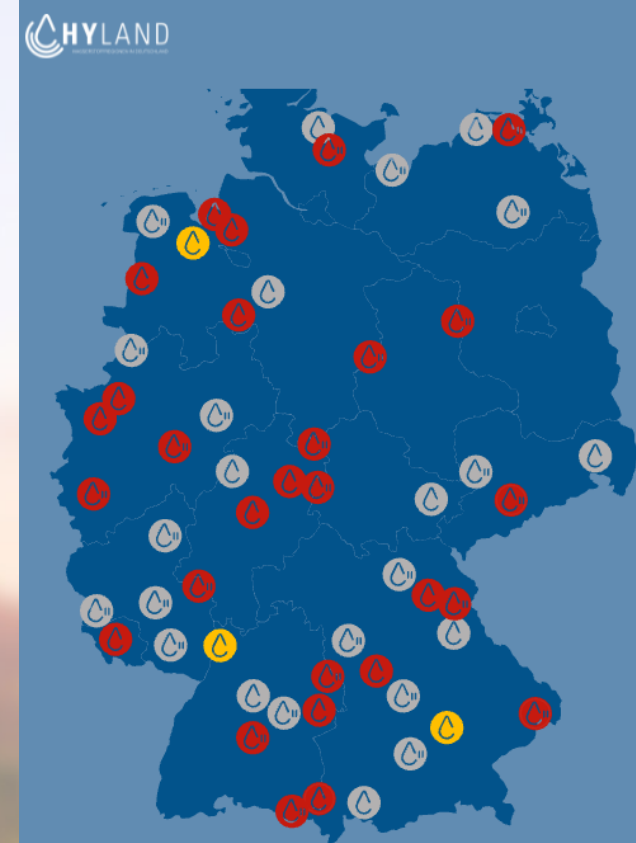
From 2019 to 2021, **25** regions in Germany have been supported with around **€ 67 m**

30 more regions have been chosen for HyStarters and HyExperts

Call for additional HyPerformer regions [currently open](#)



www.hy.land

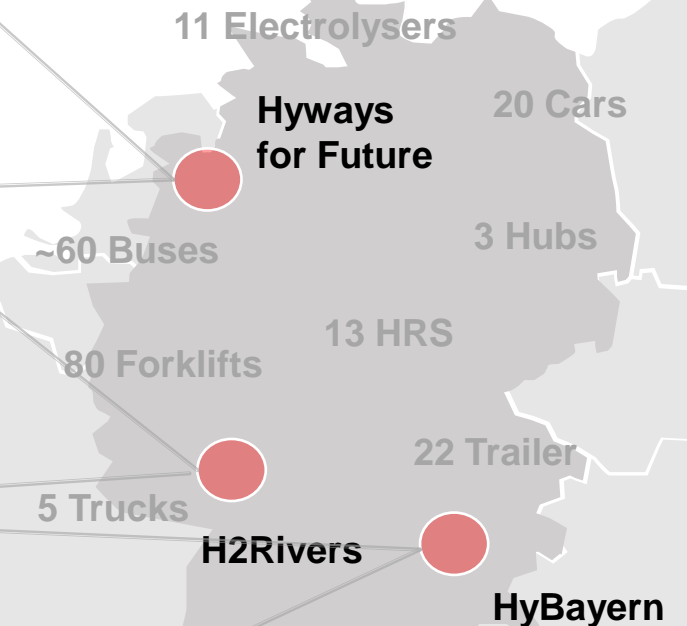


HYPERFORMER – THREE REGIONS IMPLEMENT

60 Mio. € in the form of investment grants for integrated concepts in the mobility sector



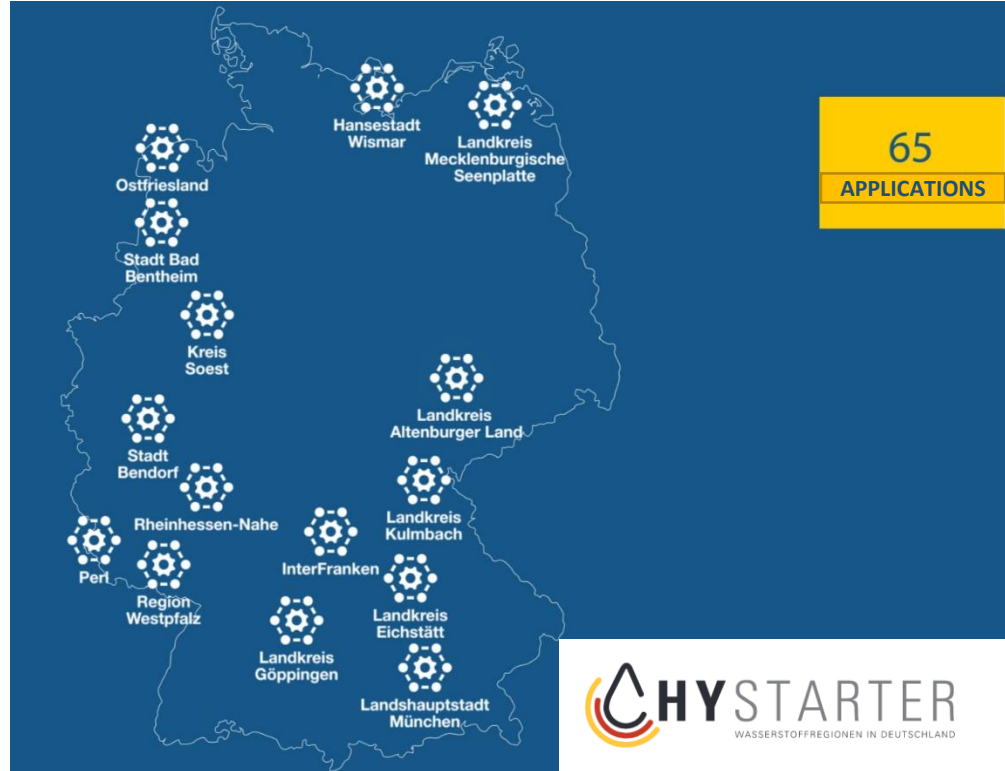
- **Hyways for Future**, EWE Gasspeicher GmbH, Oldenburg: *Hydrogen ways for future mobility*
Project budget: 64,2 Mio. €, Funding: 20 Mio. €, Start Q4/2020, End Q1/2024
- **H2Rivers**, Metropolregion Rhein-Neckar: *Hydrogen applications at the Rhine and Neckar*
Project budget: 52,2 Mio. €, Funding: 20 Mio. €, Start Q3/2020, End Q3/2023
- **HyBayern**, Districts Landshut, Ebersberg, München: *Green hydrogen modelregion of the districts of Landshut, Ebersberg und München*
Project budget: 42 Mio €, Funding: 20 Mio. €, Start Q4/2020, Ende Q4/2025



HYLAND II – THIRTY NEW REGIONS

HyStarter II – Fifteen regions starting

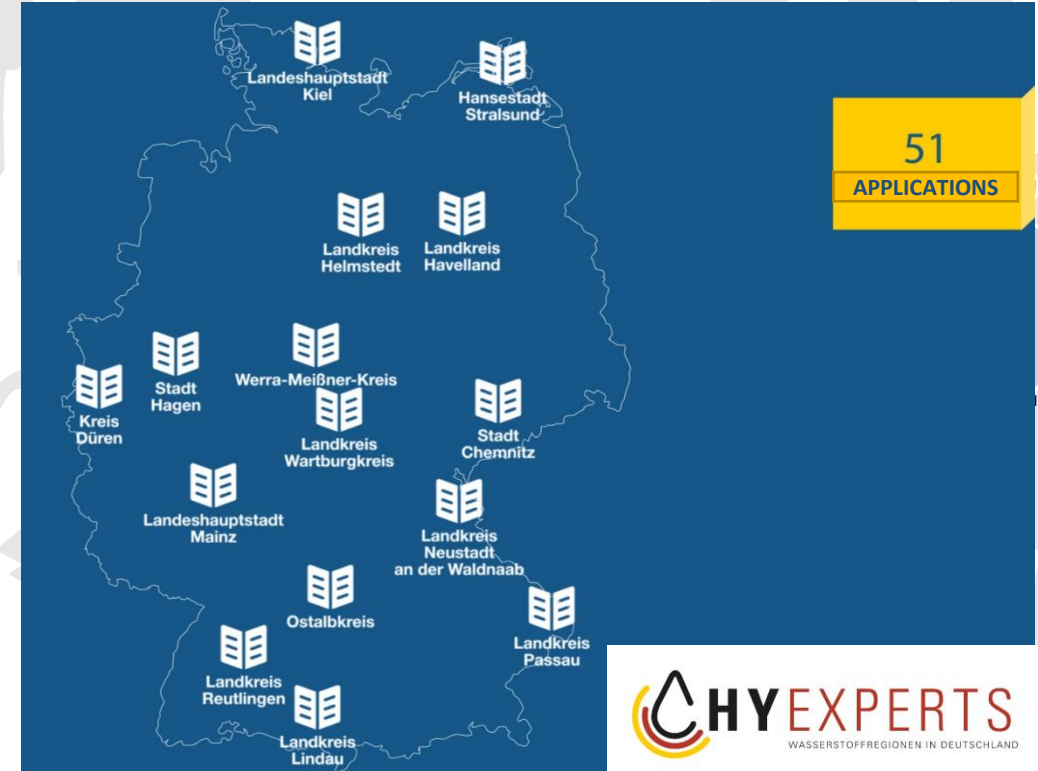
Development of networks, knowledge and concepts in the regions



Conclusion: Q3/2023

HyExperts II – Fifteen regions conduct studies

Consultation and planning services to prepare implementation



Conclusion: Q1/2023

Funding: € 400,000 per HyExpert

THE HYLAND NETWORK

The network as a central platform for exchange and publicity



Spread the word

- Generate interest and acceptance for the topic of hydrogen and regional activities

HyLand Webseite:



Connect the regions

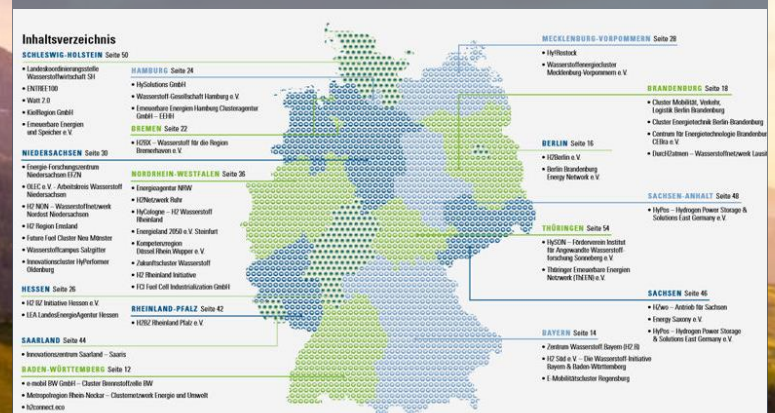
Connecting the actors and the regions to exchange experiences and uncover synergies:

- Networking events twice per year
- Specialist workshops twice per year

Make networks visible

- Many networks exist at different levels
- Create transparency and accessibility

Map of hydrogen networks:



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DEPLOYMENT & INFRASTRUCTURE



NUMBERS OF DEPLOYMENT AND INFRASTRUCTURE



Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Support Mechanism
Fuel Cell Vehicles		2,049 (Nov. 2022)		Subsidy for purchase for fleets (NIP II 3rd Call) incl. construction of refueling infrastructure.
FC Bus		71 (Nov. 2022)	Joint procurement in Europe, funded by JIVE, FCH-JU and NIP I and II	Subsidy for purchase (NIP II call 2018) incl. construction/installation of refueling infrastructure. New funding guideline for procurement of vehicles and infrastructure since 2021 in place. Duration 2021-2025. Two calls already happened.
Fuel Cell Trucks		29 (Nov. 2022)		R&D activities of NIP. New funding guideline for procurement of vehicles and infrastructure since 2021 in place Duration: 2021-2024. Two calls already happened.
Forklifts		180 (Nov. 2022) plus 152 in implementation	Industry Network Clean Intralogistics Net (CIN)	NIP market activation, additional procurement call.
H ₂ Refueling Stations	Target Number	Current Status	Partnerships, Strategic Approach	Support Mechanism
70 MPa Delivered	100 by 2020 (basic network)	95 (Nov 2022) plus 8 in planning or under construction	H2 Mobility, others	Subsidy for construction/ installation for publicly accessible stations for road transport.
35 MPa Delivered	400 by 2025; 1000 by 2030 (depending on vehicle roll out)	12 in operation + 5 in optimization mode (refueling already possible, but not yet officially opened), 10 in planning or under construction	H2 Mobility, others	Subsidy for construction/ installation for publicly accessible stations for road transport.

HRS IN OPERATION - GERMANY

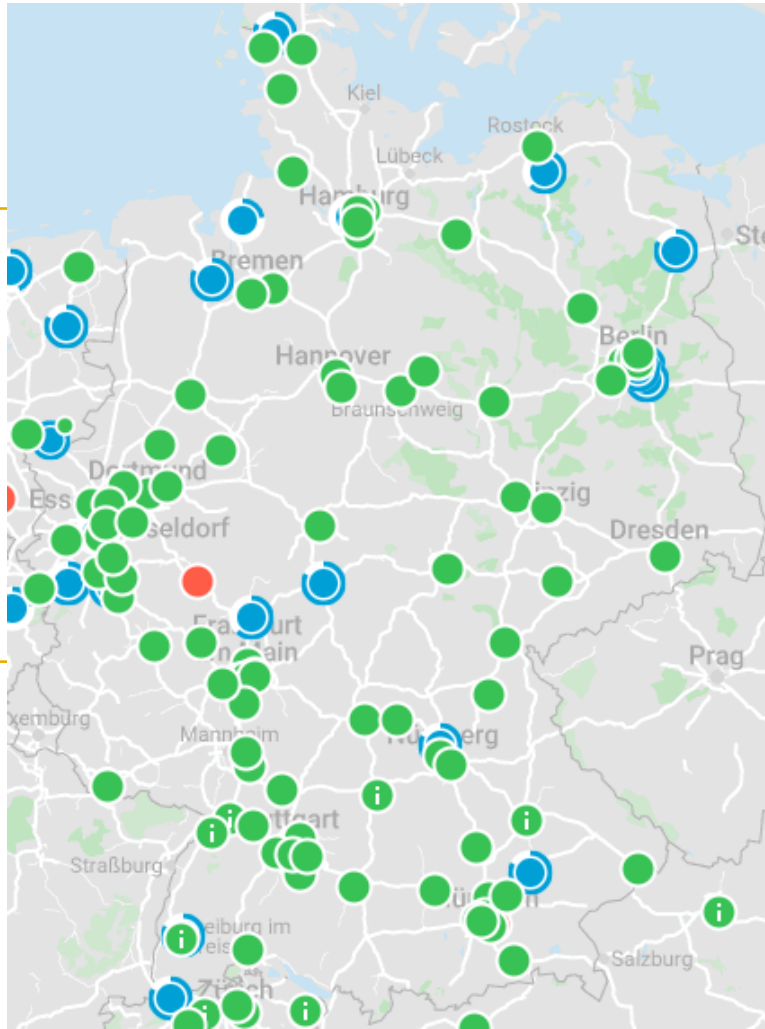


700 bar: For passenger vehicles & waste collection vehicles

350 bar: For busses, LDV & HDV

Current status

- 95 in operation (H2 MOBILITY 90)
- 4 completed
- 2 under construction
- 1 in approval process
- 2 in planning



Current status

- 11 in operation (H2 MOBILITY 5)
- 2 completed
- 4 under construction
- 1 in approval process
- 1 in planning





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