Connected eH_2 Cycle: Industrial Sector Coupling
KoNSTanZE – Wasserstoffbasierte Sektorenkopplung im industriellen Umfeld

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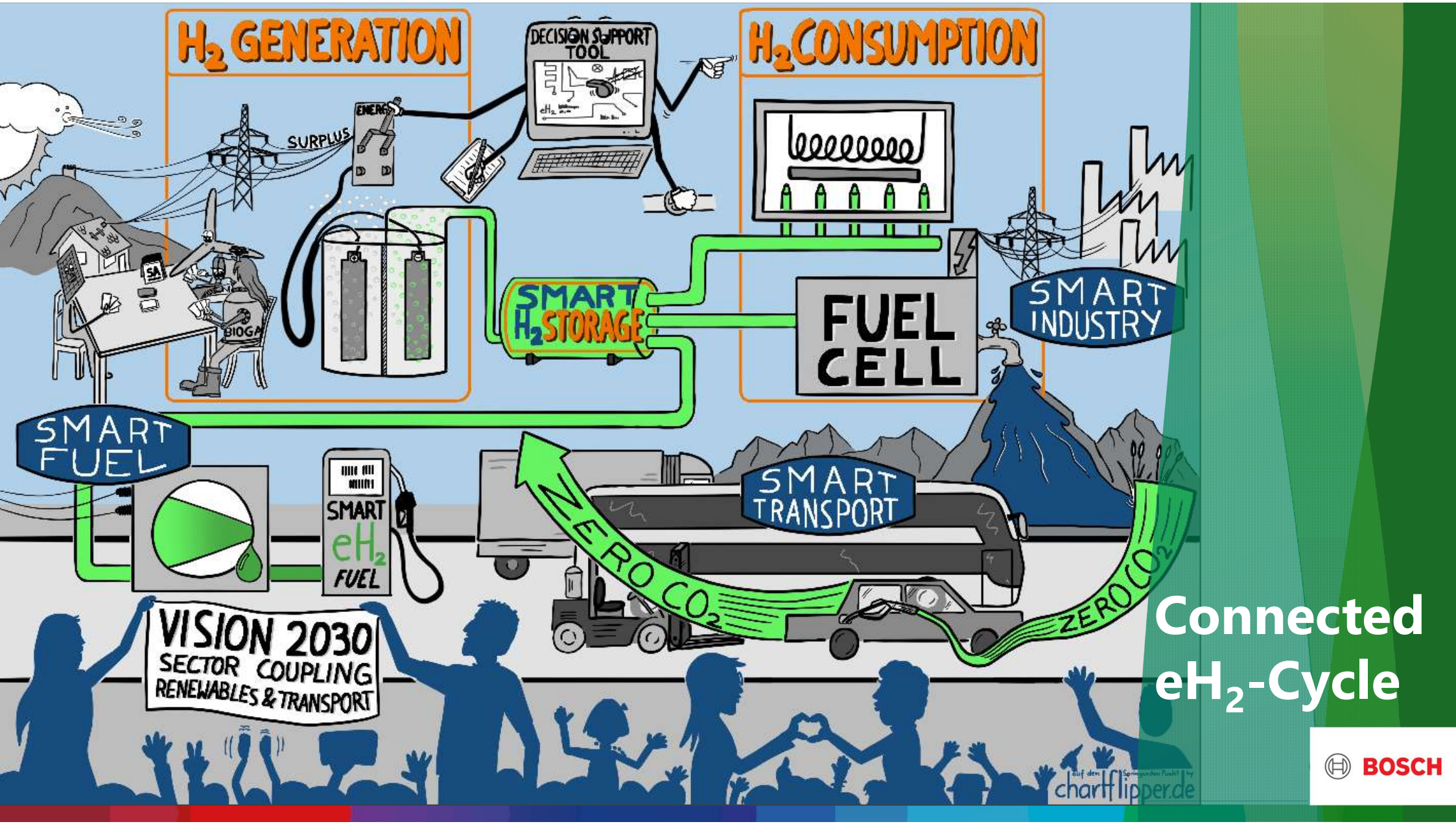
Gefördert durch:
Bundesministerium für Wirtschaft und Klimaschutz
aufgrund eines Beschlusses des Deutschen Bundestages

KoNSTanZE

KoNSTanZE – Kombinierte Nutzung von regenerativ hergestelltem Wasserstoff in den Sektoren Verkehr/Transport, Produktion und Energie im industriellen Umfeld mit dem Ziel der Entwicklung und mittelfristigen Etablierung CO_2 neutraler Produktionsstandorte

- KoNSTanZE is a 3 year-project with a total investment of approx. 3.2 Mio. €. It started in October 2021.
- KoNSTanZE is funded by the German Ministry for Economics and climate protection
- The consortium of KoNSTanZE consists of 2 partners and is coordinated by the Robert Bosch GmbH



Connected eH_2-Cycle

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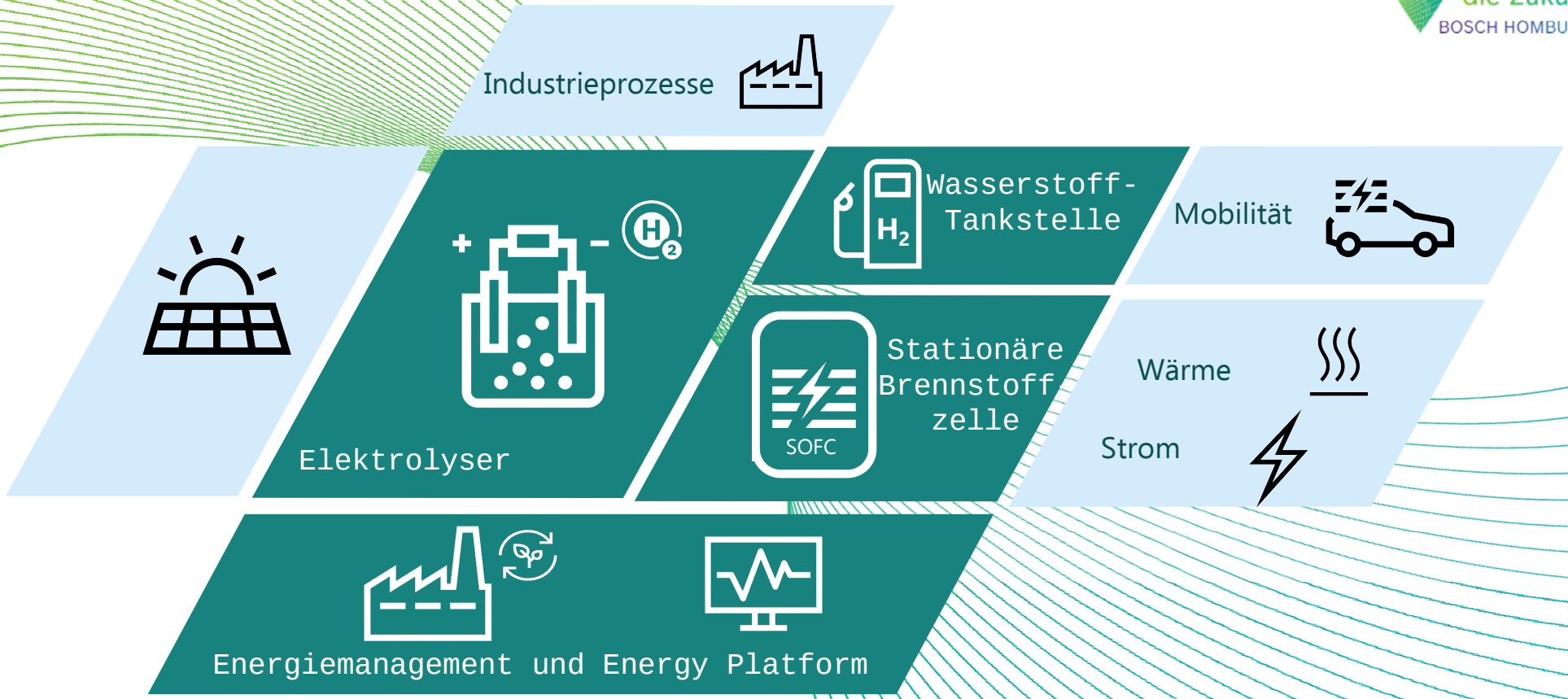
Wir bewegen die Zukunft
BOSCH HOMBURG



Connected eH_2 Cycle

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PV w/ 3.8 MW_p

(2023: >8 MW_p)

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Electrolyser

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Electrolyser

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H_2 Storage
> 300 kg

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Industry

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On
Status
29
Operating hours
0,2
Energy generated in MWh
60,5
Mean AC Energy Efficiency (in %)
Electrical AC Power Output
8,6 kW
Electrical AC Efficiency
61,1%

SOFC

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Performance and application of SOFC

Performance

> 60 %
Electrical efficiency (AC)*

> 85 %
Overall efficiency*

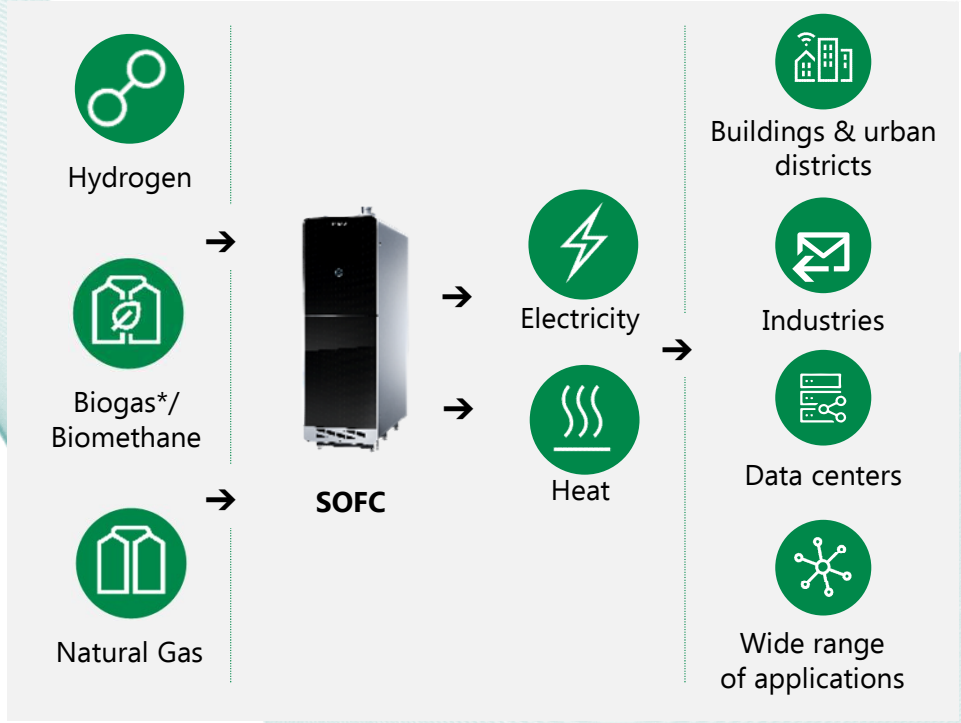
10 kW_{el}
Nominal power (AC)*

> 3 kW_{th}
Thermal output*

* Currently in the pilot phase, the Bosch SOFC system is to be mass-manufactured by 2024. All technical specifications given in this informational document are development objectives.

* Beginning of life

Multi-fuel system & flexible application



* Biogas processed according to DVGW G260

1 A stack of several hundred cells

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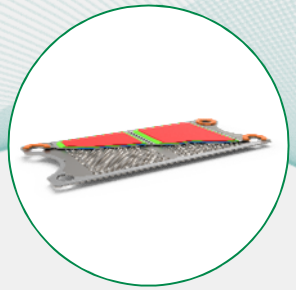
SOFC: Complete value stream covered at Bosch

Digital Twin

Bamberg plant



Cell

Stack

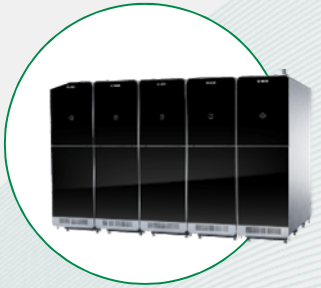
Homburg plant

Hotbox

Wernau plant

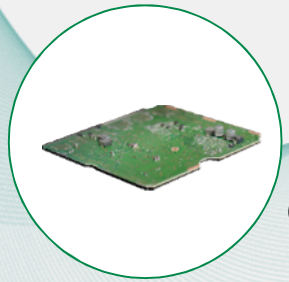
Unit

Point of use



Decentralized energy supply system

Salzgitter plant



Control unit

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H_2 Fueling Station

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H_2 Fueling Station

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Electrolyser

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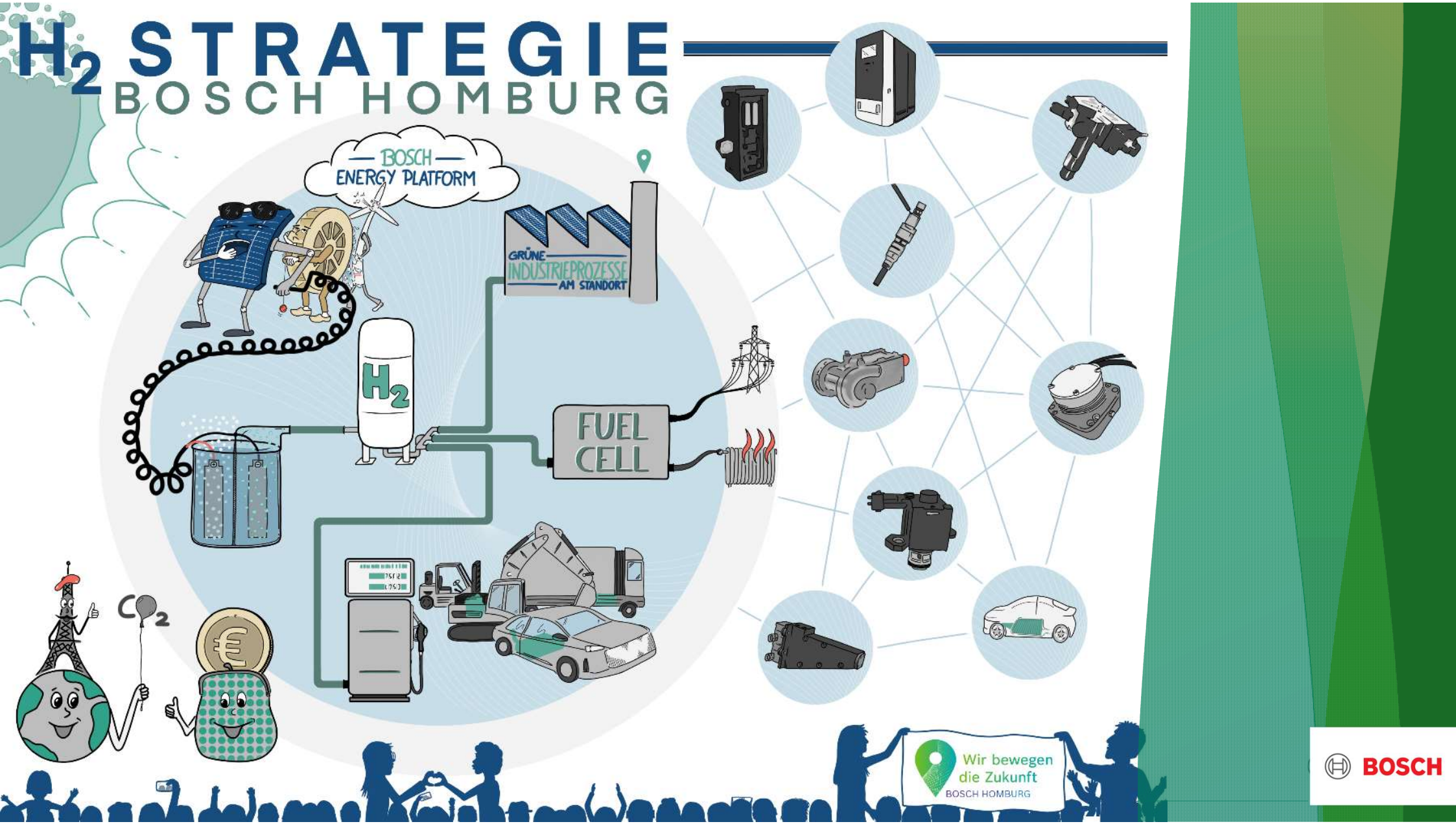
H_2 STRATEGIE BOSCH HOMBURG



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Job opportunity at IZES

https://www.izes.de/de/content/jobs-karriere

Kontakt: gross@izes.de oder 0049 681 844972 51

oder bei der Postersession in der Mittagspause!

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What comes next?

SH2AMROCK – Applied within the HORIZON-JTI-CLEANH2-2022-06-02 call for small scaled Hydrogen Valleys

HALLIE – Applied within the Doctoral Networks (DN) HORIZON-MSCA-2022-DN-01-01 in the field of Industrial Doctorate (ID)

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SH2AMROCK
Ireland's Emerald Hydrogen Valley

SH2AMROCK

SH2AMROCK – Sourcing Hydrogen for Alternative Mobility, Realising Opportunities and Creating KnowHow in Ireland

- SH2AMROCK is a 5 year-project with a total investment of approx. 80 Mio. €
- SH2AMROCK aims to foster the development of the hydrogen economy in Ireland in order to accelerate the energy transition and decarbonisation of Ireland across multiple end-user applications.
- SH2AMROCK will deploy green hydrogen across key hard-to-abate sectors across the island of Ireland – including key infrastructure to enable the production, distribution, and use of green hydrogen.
- The consortium of SH2AMROCK consists of 16 partners and will be coordinated by SSE Renewables (Ireland) Limited

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HALLIE

HALLIE – Hydrogen applications on a scientific/industrial level as a leading instrument for decarbonisation of the future energy system in Europe

- HALLIE is a 4 year-project with a total funding of approx. 3.5 Mio. €
- The main objective of HALLIE is to support and educate a new generation of Doctoral Candidates in the field of hydrogen technologies
- Within the framework of HALLIE, 12 PhD projects are planned. They interlink aspects of basic research, applied research and economic sciences
- The consortium of HALLIE consists of 28 partner organisations (17 beneficiaries and 11 associated partners or 14 academic and 14 non-academic or industrial partners) and will be coordinated by IZES

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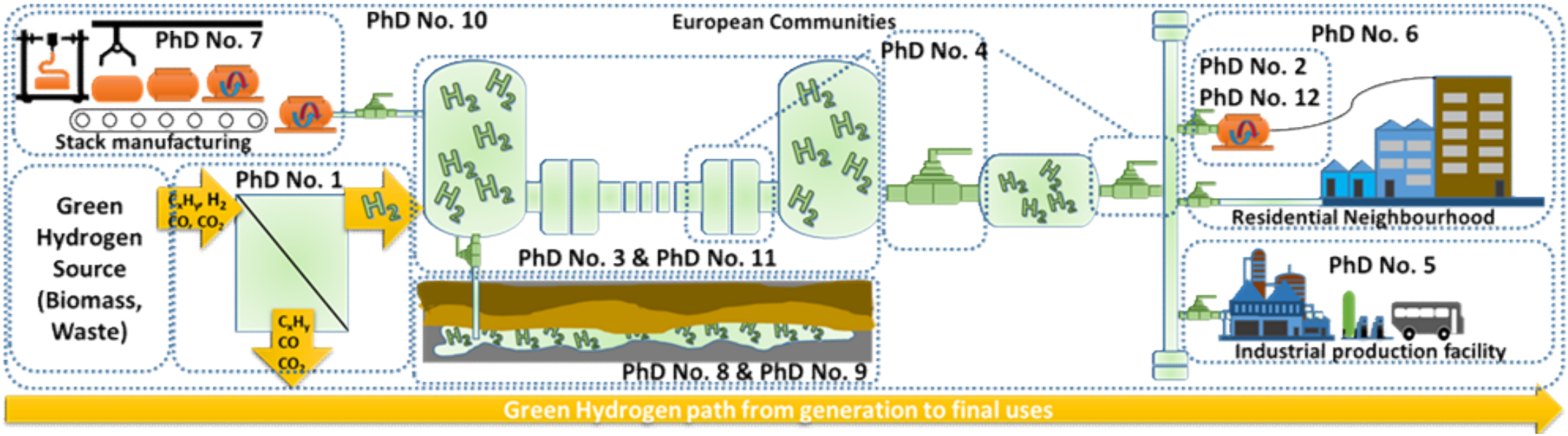
12 planned PhD Projects

WP2. Green Hydrogen Generation & Safety:	WP3. Green Hydrogen Storage, Transport & Distribution:	WP4. Green Hydrogen End-Use Applications:
PhD No. 1, No. 4 & No. 7	PhD No. 3, No. 8, No. 9 & No. 11	PhD No. 2, No. 5, No. 6 & No. 10



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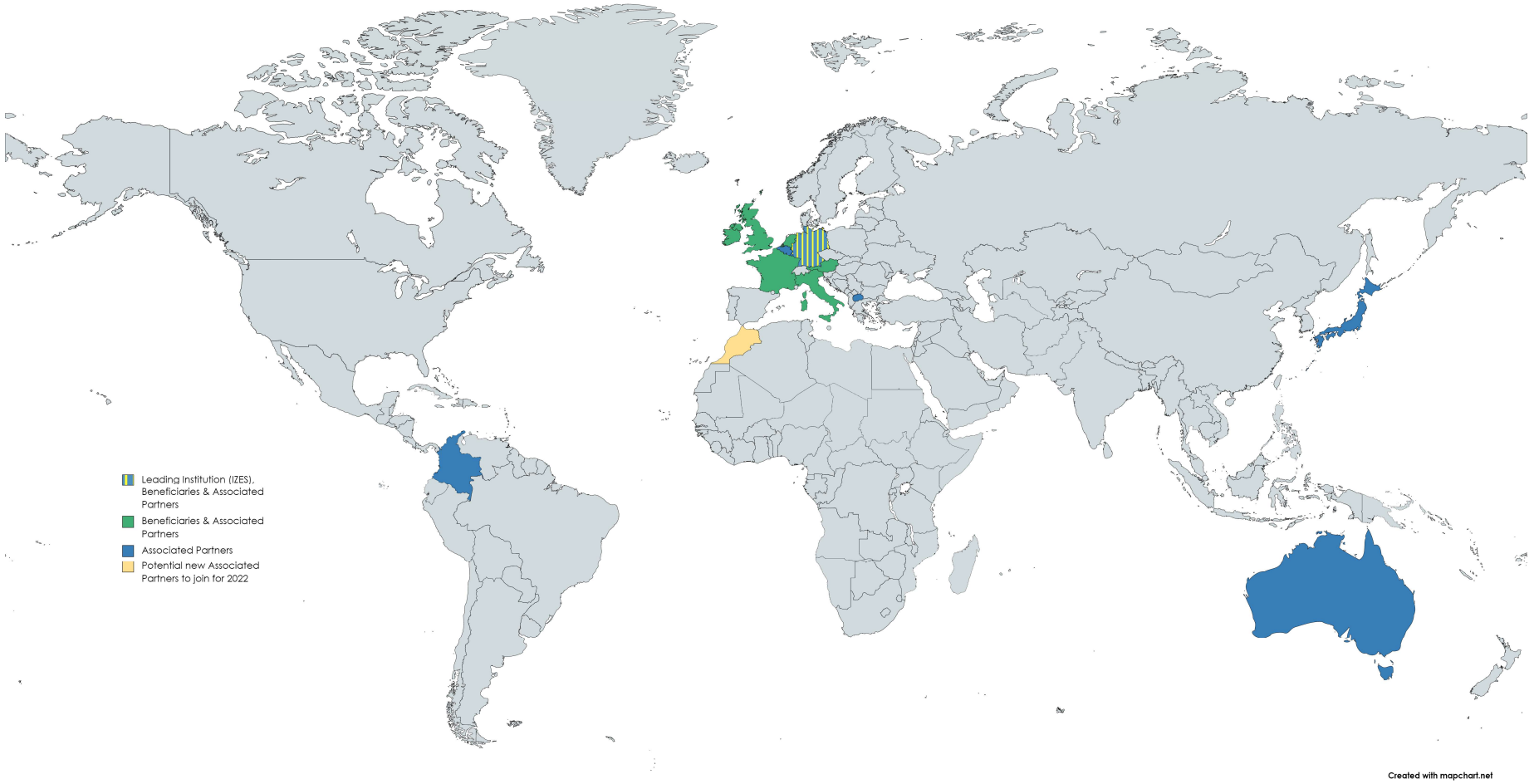
Members of the HALLIE Consortium



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Thank you for listening!

Questions?

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