

AACHEN, 17 NOV. 2020

CHRISTOF SCHERNUS
FEV EUROPE GMBH

PREPARED FOR

VIRTUAL SYMPOSIUM CAPE VERDE



Deutsch-Portugiesische
Industrie- und Handelskammer
Câmara de Comércio e Indústria
Luso-Alemã



Federal Ministry
for Economic Affairs
and Energy

NOVEMBER 17, 2020

ENERGY EFFICIENCY AND RENEWABLE ENERGIES IN THE TRANSPORT SECTOR

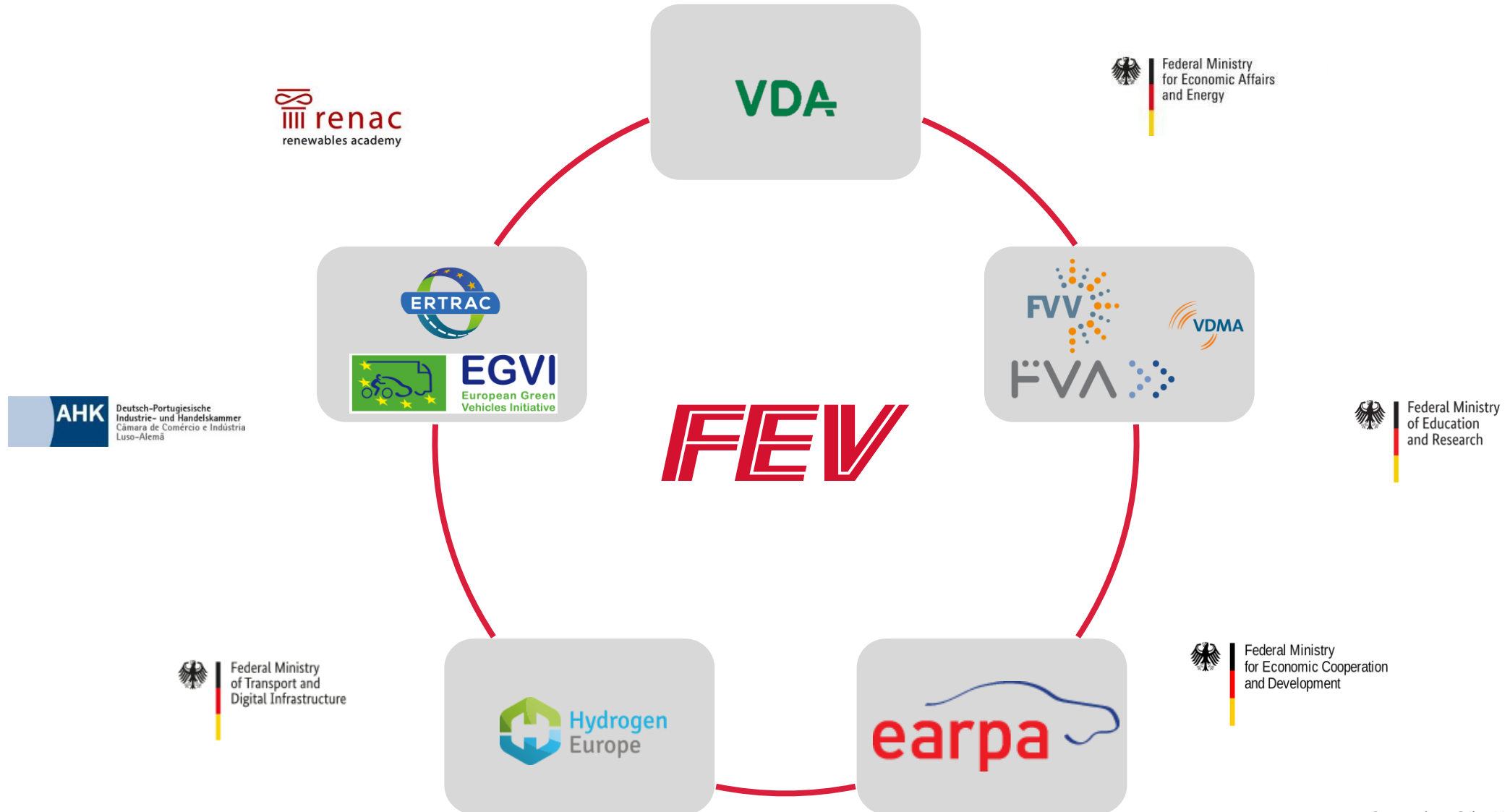


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GLOBAL REACH – ONE FACE TO THE CUSTOMER



Embedded in a reliable and strong network



Developing solutions supporting the automotive megatrends



AUTOMOTIVE MEGATRENDS



New mobility concepts
e.g. car sharing

Connected mobility

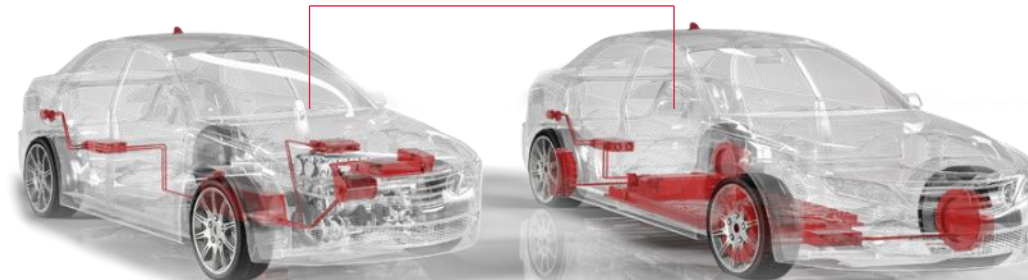
AI and big data



**Assisted &
automated driving &
infotainment**

Electrification

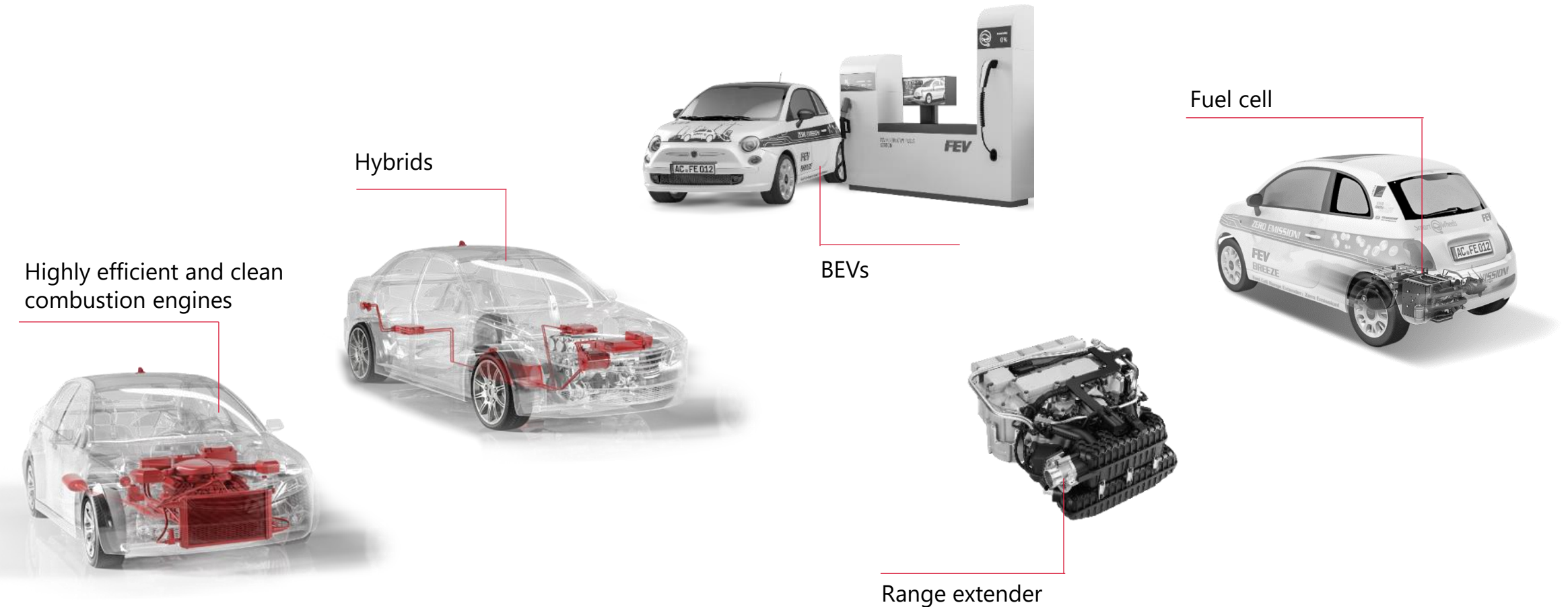
HEV and EV



Developing a wide range of different propulsion technologies



PROPULSION TECHNOLOGIES



Reference project powertrain engineering

Low-temperature fuel cell with integrated system functions

FUEL CELL SYSTEM DEVELOPMENT

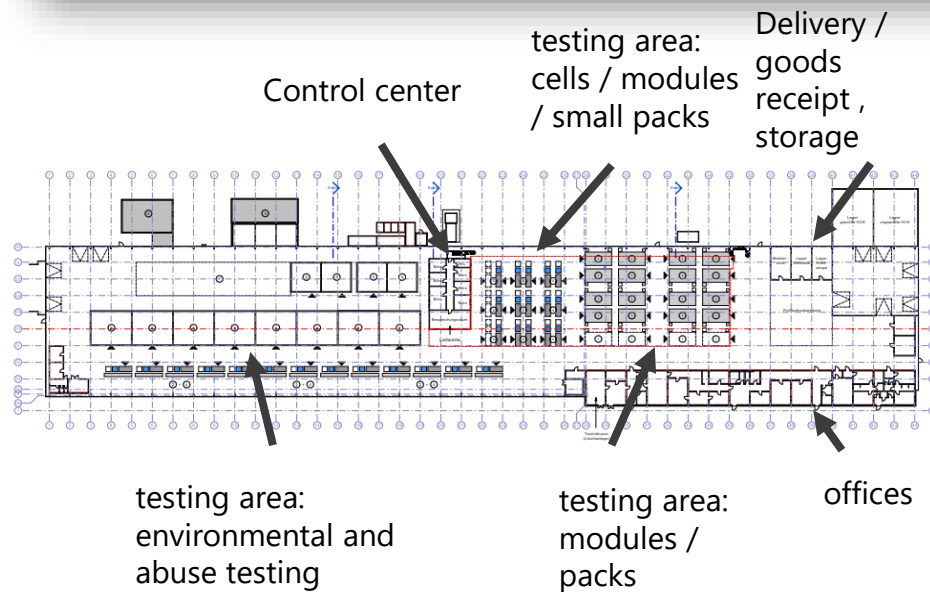


- Stack performance
 - Power: 30 kW (continuous)
 - Voltage: 80 to 150 V
 - Automotive membrane material
- Compact design
 - Metallic bipolar plates
 - Integrative endplate
 - Internal redirection
- Less interfaces



FUNDED UNDER THE PROGRAMME „RATIONALE ENERGIEVERWENDUNG, REGENERATIVE ENERGIEN UND ENERGIESPAREN „PROGRESS NRW“ AND OF THE EUROPEAN REGIONAL DEVELOPMENT FUND (EFRE), ZIEL 2-PROGRAMM 2007-2013, PHASE VI – ELEKTROMOBILITÄT NRW“ UNTER DEM AKTENZEICHEN 64.65.69-EM-1020D.

FEV new **Green** Battery Testing Center „e-DLP“ – Fact Sheet



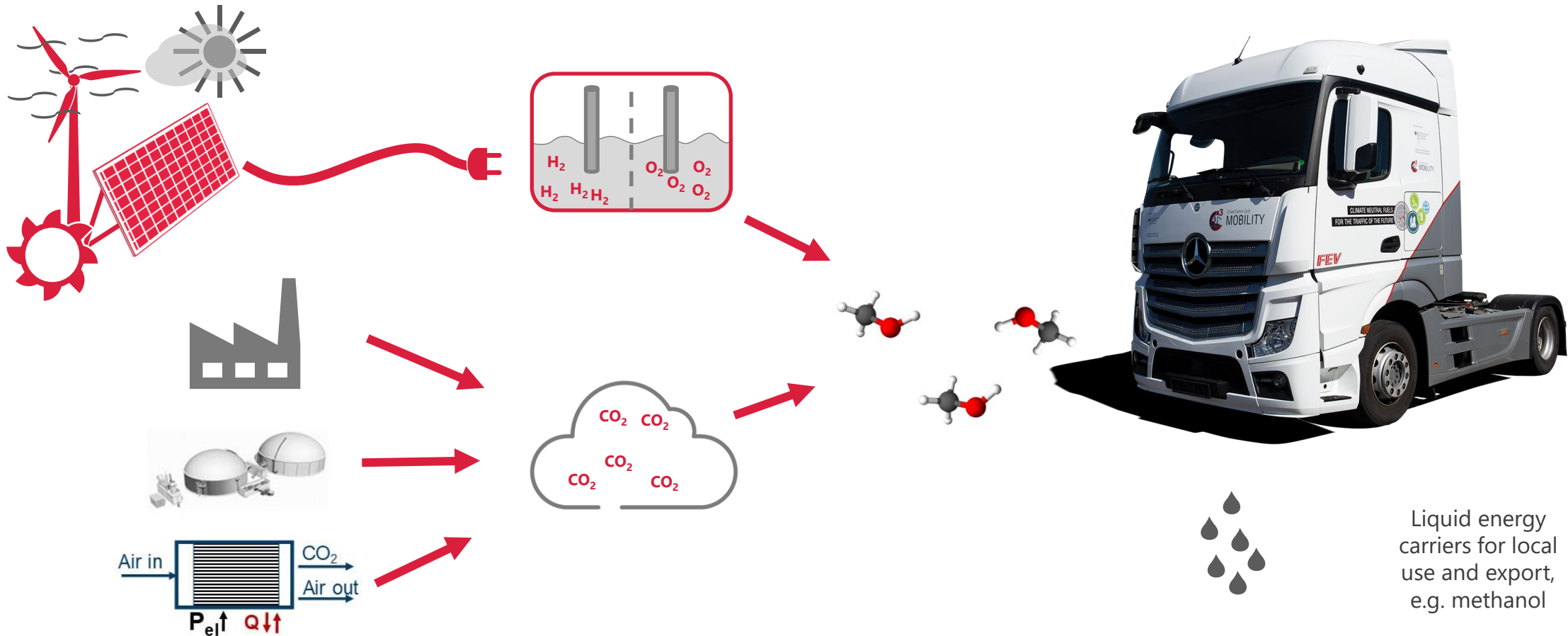
E-DLP WITH 67 EMPLOYEES

- Site area: 41.077 m²
- Hall area: ca. 12.000 m² (ca. 250 m x 45 m)
- Production and storage area: ca. 11.000 m²
- Technical add-on building: 260 sqm (Transformer station and ventilation system)
- Offices and social rooms: ca. 1.000 m²
- Testing areas:
 - 54 Climate- & Temperature Chambers (600 m³)
 - 4 Chambers for environmental testing
 - 4 Bunker & 1 fire hall for abuse testing
- Roof surface with Photovoltaic plant:
 - Rated power- 920 kWp

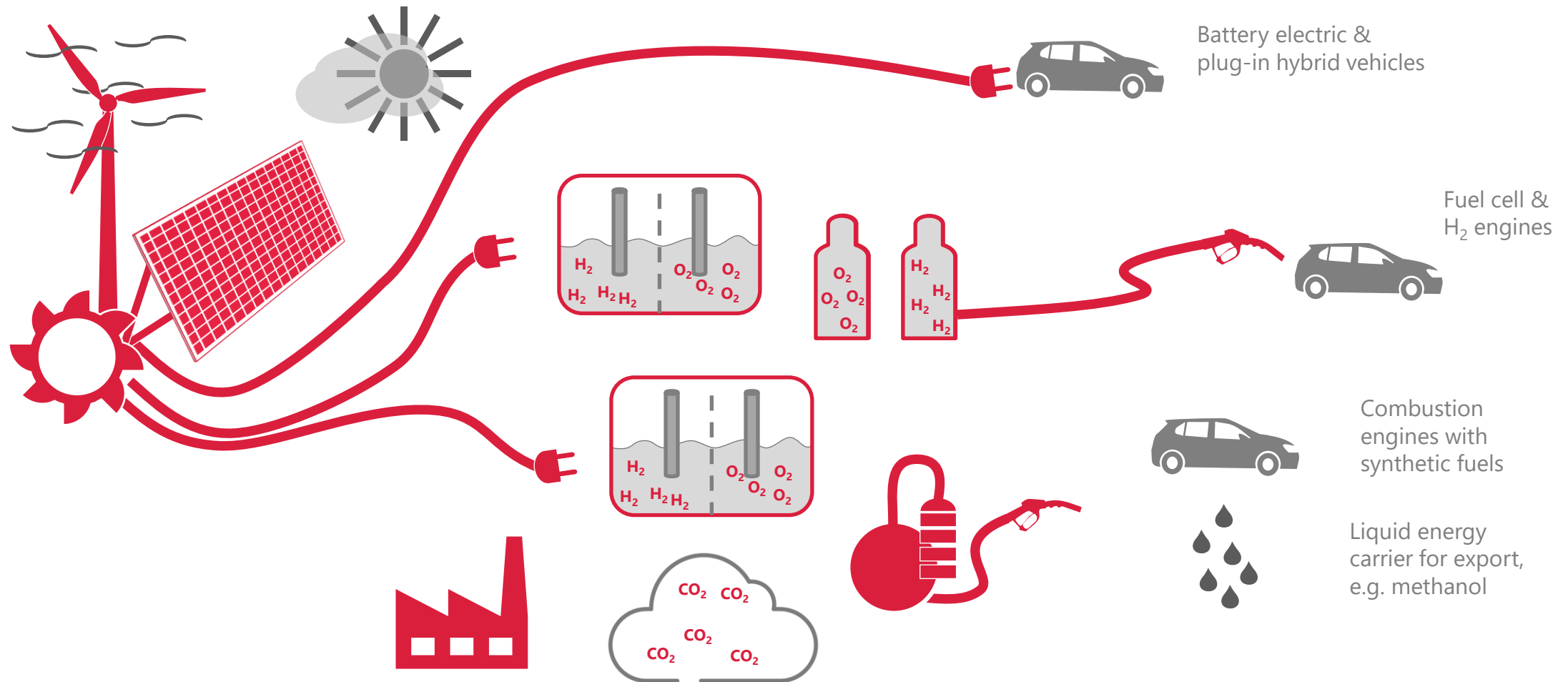
Renewable energies – various applications are possible



C3-MOBILITY PROCESS



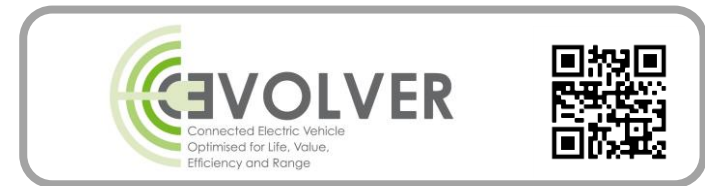
Renewable energies – various applications are possible



Current public funded research projects on emission reduction



SCAN EACH QR CODE TO GET MORE INFORMATION



















Reference Projects – Renewable Fuels



	FEV	FEV	FEV	FEV	IFPEN	RWE	JLR/Ricardo	CRF
	14	30	14	28	9	31	18	19
	€ 3.5 m	€ 23 m	€ 5 m	€ 23 m	€ 5 m	€ 23 m	€ 10 m	€ 17 m
	Methanol	H ₂ , Methanol, DME, HVO, Ethanol	Paraffins + higher alcohols	DME, Octanol, Methanol, MtG Butanol	Hydrogen additivated Gasoline	DME, OME _x	Gasoline w/ water injection	Methane
	08/2020 – 07/2022	01/2020 – 06/2023	10/2018 – 09/2021	08/2018 – 07/2021	10/2016 – 06/2020	07/2017 – 06/2020	10/2016 – 12/2019	05/2015 – 04/2019

Reference Projects – Urban Mobility and BEV



					
	FEV	FEV	VUB	FEV	UITP/CERTH
	10	10	10	17	69
	€4.9 m	€ 7.9 m	€ 5.84 m	€ 7.5 m	€ 36.37 m
					
	Connected BEV, optimised for life, value, efficiency and range	Value Chain for new sulfide electrolyte-based solid-state battery cells with high capacity and high voltage stability	Smart modular battery pack, advanced battery thermal management system	High Fidelity Electric Modelling and Testing	Shared automation Operating models for Worldwide adoption
	11/2018 – 04/2022	05/2020 – 04/2024	01/2018 – 05/2022	10/2017 – 12/2020	01/2020 – 12/2023

FEV looks for business partners like ...



- Operators of wind and solar power plants looking for tailored energy storages to buffer peak power
- Fleet operators who want to convert their vehicles to renewable fuels, fuel-cell or electric propulsion
- Investors for charging infrastructure of e-vehicles
- Investors for production of Green Hydrogen and/or Green Methanol
- Energy providers who want to make their large bore generator engine cleaner
 - Enhanced exhaust aftertreatment and controls
 - Conversion to run on green fuels like methanol

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