

FROM ENERGY STORAGE TO THE ELECTRIC POWERTRAIN

FCP Fuel Cell Powertrain GmbH

THE CLEANTECH REVOLUTION



DEMAND FOR GREEN AND CLEAN TECHNOLOGY



ENVIRONMENT

Products and systems for a clean and green future



ENERGY

Provide uninterrupted power supply



MOBILITY

Emission free transportation with extended range



KEY INFORMATION

Is a new Company for Fuel Cell
and Powertrain Technology,
based in Chemnitz, Germany

Well connected
in the EU and
Brussels Fuel Cell
Community

Will serve as Joint Venture
Technology Partner

Strong Network
with German based
Universities and
Institutes

FCP

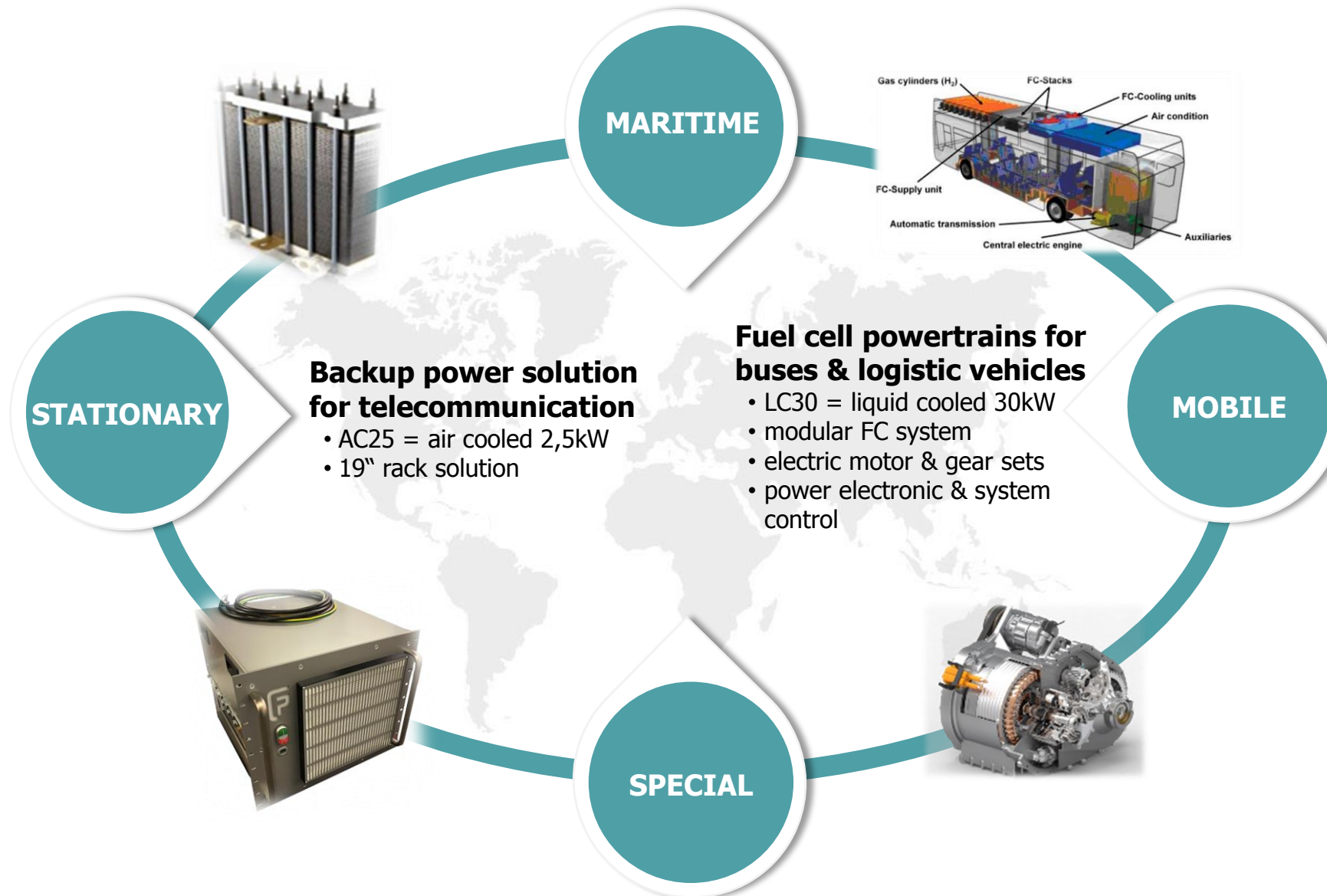
Well connected in
China with leading
Industrial Players

Was founded from Experts in the
Fuel Cell & Powertrain Industry

Strong connections
in the Fuel Cell
Supply Industry

Is a Joint Venture between
PTT, Germany and HET, China

APPLICATIONS AND PRODUCTS



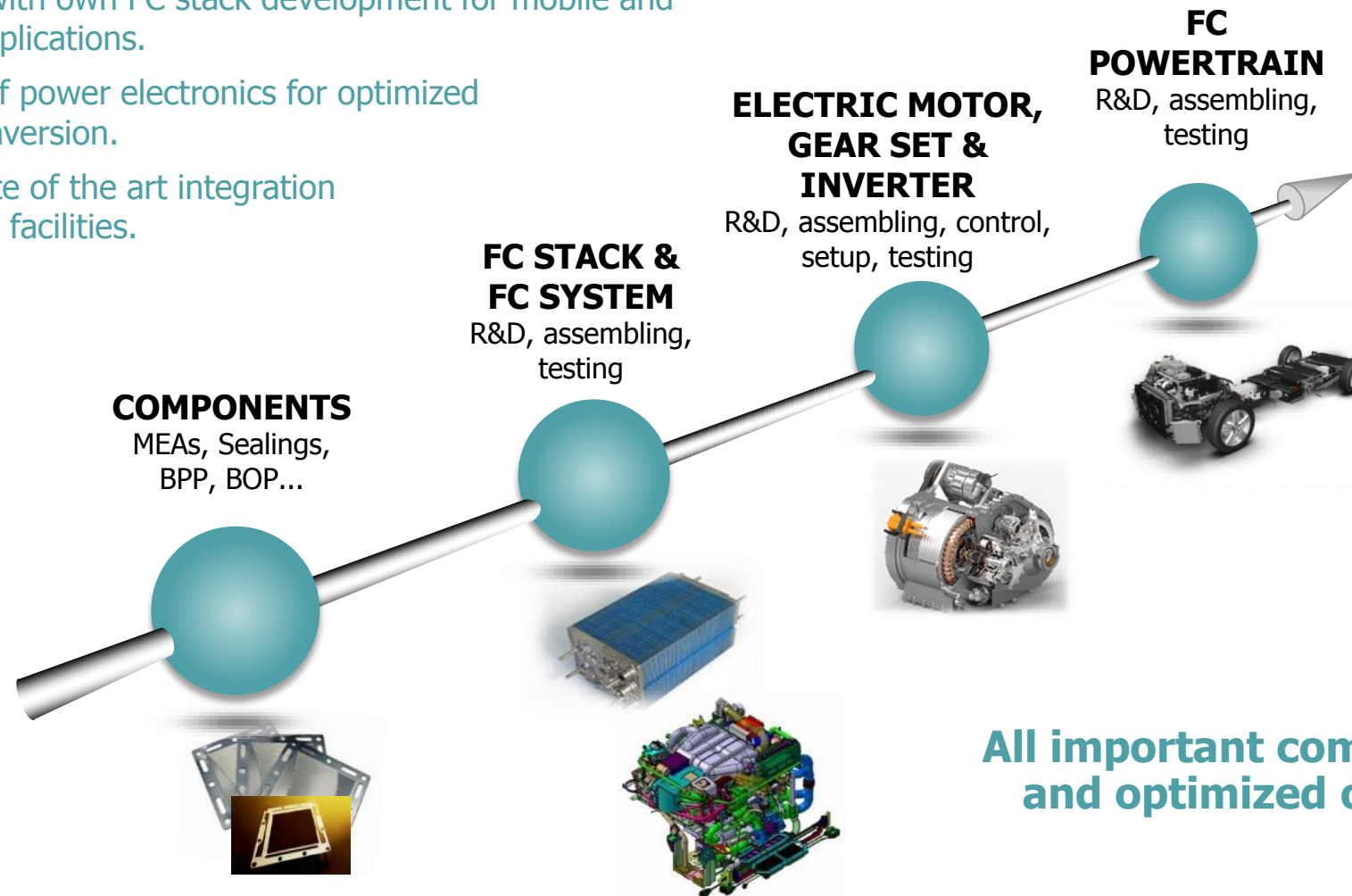
WORKFLOW AND BENEFITS

Planning and simulation of complete systems.

FC systems with own FC stack development for mobile and stationary applications.

Integration of power electronics for optimized DC or AC conversion.

New and state of the art integration and test field facilities.



All important components designed and optimized out of one hand !

CORE COMPETENCES

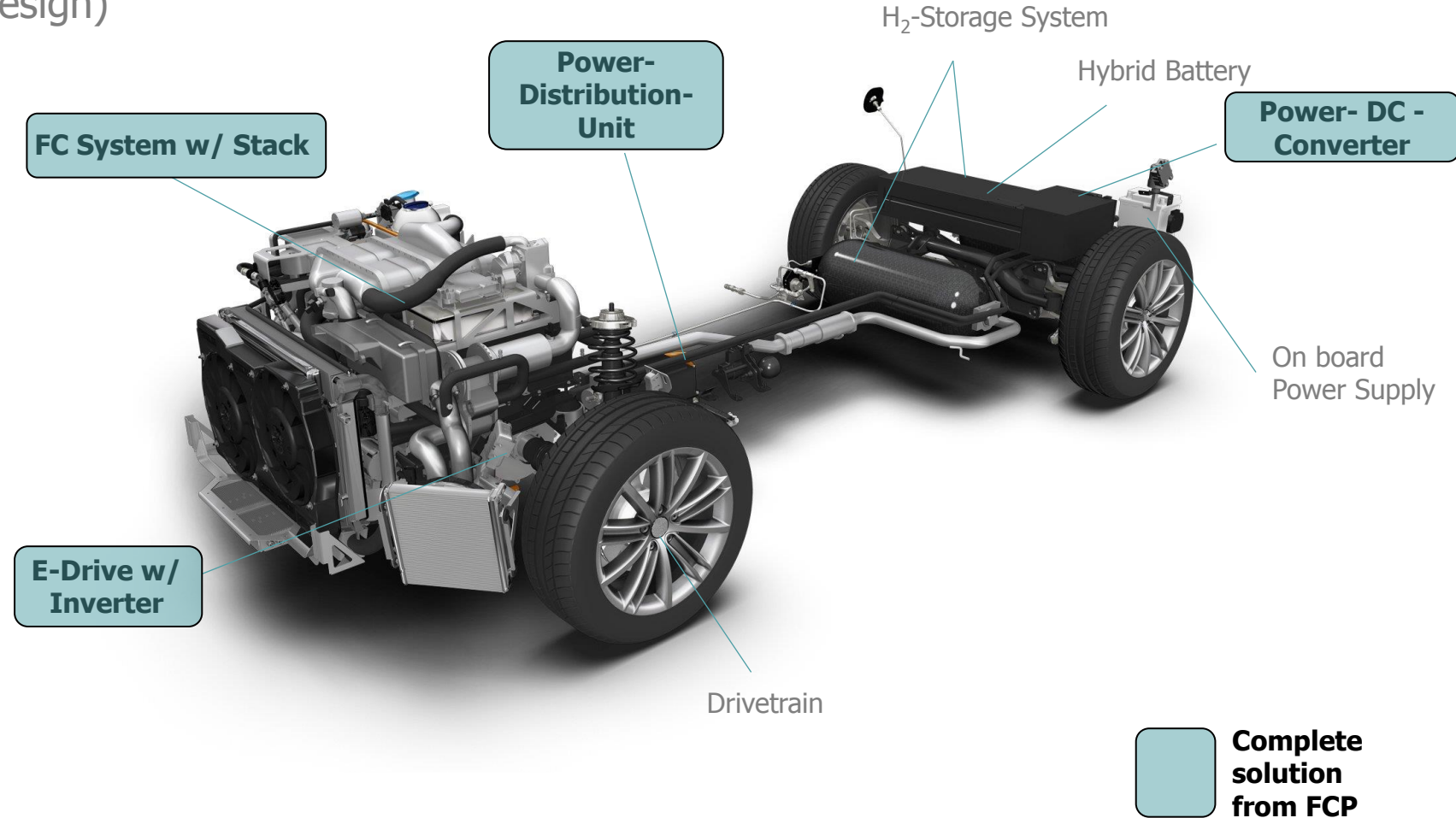


FCP - The sole supplier to provide the following products and technologies:

- Development and manufacturing of stationary and mobile FC applications
- Development of FC components
- Design and production of FC systems
- High-Efficiency automotive E-motor with integrated gearbox and control system
- Integrated power electronic
- Optimized system control
- Simulation and verification technology
- Design and manufacture of vehicle test platform and verification technology

EV POWERTRAIN SYSTEM FOR FC AND BATTERY SOLUTION

(exemplary design)



SYSTEM OPTIMIZATION-SAMPLE

Sample: mid class SUV

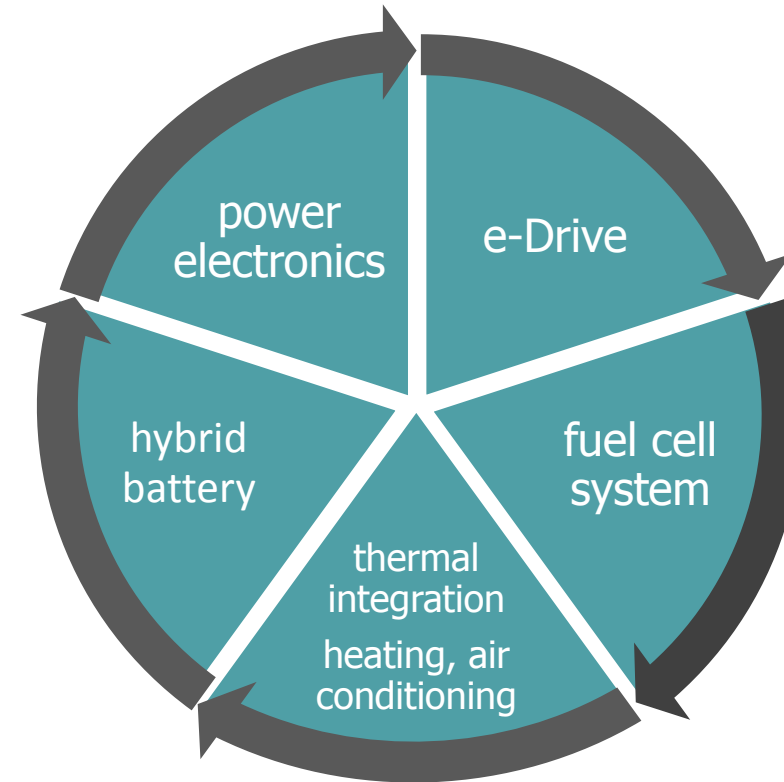
Original energy consumption: 1.5kg H₂/100km

After optimization: 1.1kg H₂/100km

No hardware was changed,
with consumption reduced by 30%

Results of optimization:

- Higher operation efficiency
- Lower operation cost
- Extended mileage



Simulate according to driving cycle and environmental conditions and set up an optimized system as a whole

SITE SELECTION AND NETWORK SYNERGIES



WHY CHEMNITZ ?

**BECAUSE CHEMNITZ WILL
BECOME A HYDROGEN CITY !**



**Chemnitz University
of Technology**

Close cooperation with
Department for Advanced
Powertrains and Fuel Cell
Technology



HZwo Cluster

Network of competent
suppliers (bipolar plates,
sealing, MEA)

Planned Demo Center for
fuel cells and hydrogen

Involvement of local
utility company

 **Fraunhofer**
IWU and ENAS Institutes

SITE SELECTION AND NETWORK SYNERGIES

WHY CHEMNITZ ? BECAUSE CHEMNITZ PROVIDES SUPPORT AND INFRASTRUCTURE !

- Property at affordable cost for our new Factory and Test Center
- Well developed Technology Park with all Infrastructure
- Available resources of engineers and technicians (via TUC)
- Good infrastructure (Highway connection)
- Located in the center of Europe
- Affordable apartments for employees
- Support from Chemnitz CWE
- Support and funding from Saxony Government

THANK YOU!

FCP Fuel Cell Powertrain GmbH

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