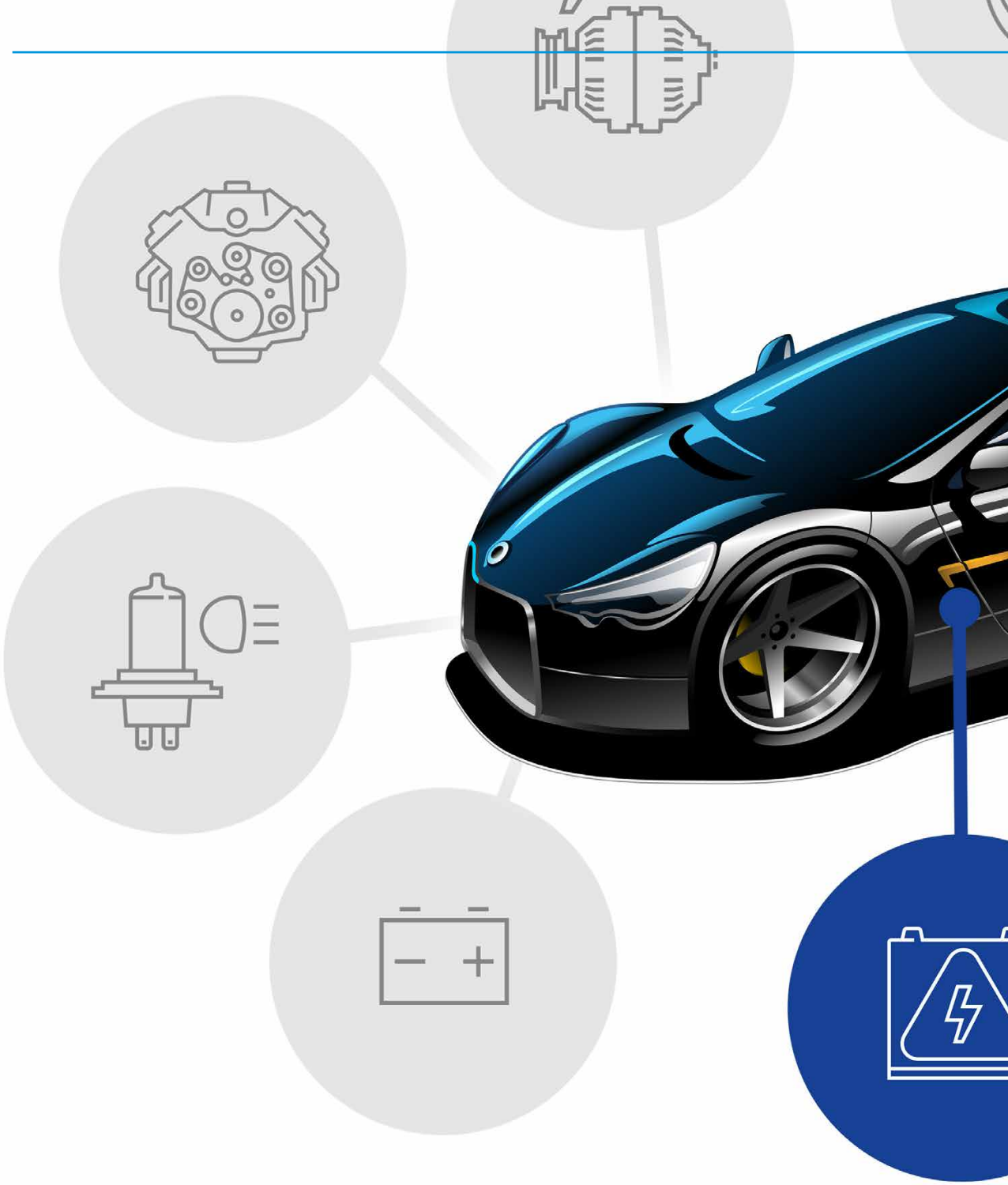
MicroNova
Software and Systems

NovaCarts Fuel Cell

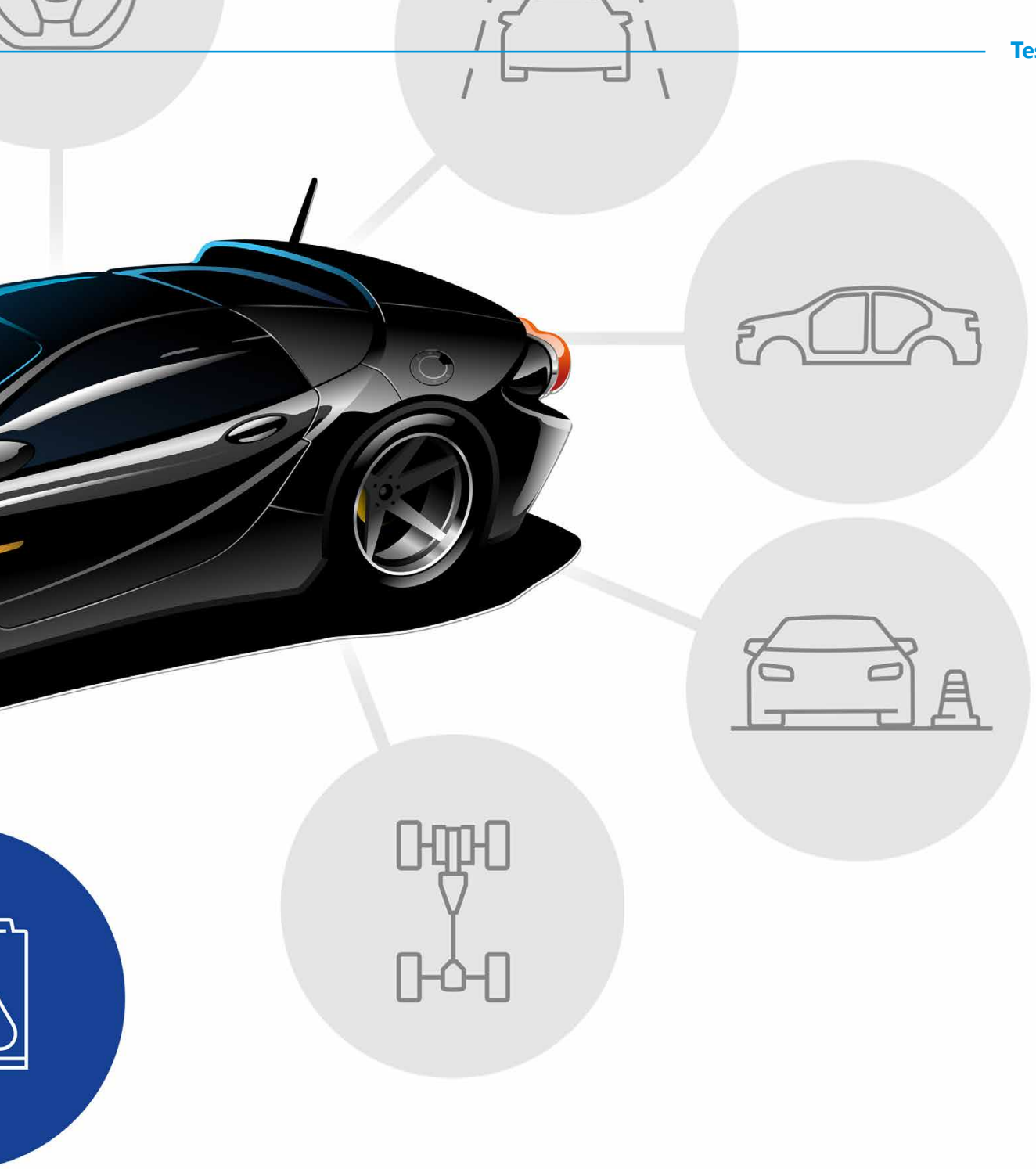
Powerful fuel cell simulation platform for the validation of Fuel Cell Control Units (FCCUs)

- **Versatile and sustainable**
- **Scalable and customizable at low-cost**
- **Short commissioning and changeover times**



The hardware-in-the-loop (HiL) simulator “NovaCarts Fuel Cell” offers one of the most powerful platforms for the simulation of fuel cells and supports the development of alternative and electrified drives. The modular and scalable HiL system is ideal for validating new functions in Fuel Cell Control Units (FCCUs). In combination with the HiL system “NovaCarts Battery”, functions of the connected battery, such as State-of-Charge (SoC) and State-of-Health (SoH) controls as well as cell balancing can be simulated.

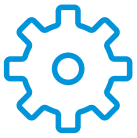
NovaCarts Fuel Cell is suitable for all types of fuel cells and is cost-effective to upgrade with future technologies via firmware updates – ideal conditions for testing current and future Fuel Cell Control Units.



Features

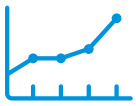
- Open and powerful model platform with cycle times of a few microseconds and high I/O dynamics facilitates the development of new FCCU algorithms
- Use of real parts / dummy loads and rest-bus simulation
- SAE J2799 simulation
- High-resolution shunt simulation (16 bit)
- High signal quality thanks to short and stable connections to the control unit and error simulation directly at the output
- Resistance simulation for the simulation of temperature sensors with negative or positive temperature coefficients (NTCs and PTCs)

Benefits of NovaCarts Fuel Cell



Extremely versatile

One HiL system for complete and comprehensive FCCU tests for all types of fuel cells.



Sustainable

NovaCarts Fuel Cell can easily and quickly be adapted to future requirements through firmware updates.

Low-cost customization

The parameters and controllers used for simulation can be modified directly in the software – without costly hardware replacement.

High scalability

A modular design and numerous enhancement options allow the system to be adapted to various test requirements (e.g. power emulation / powerless simulation).

Shorter commissioning and changeover times

NovaCarts Fuel Cell HiL systems and NovaCarts components can be configured swiftly and easily using the same toolchain.

MicroNova
Unterfeldring 6 - D-85256 Vierkirchen
Phone: +49 8139 9300-0
Fax: +49 8139 9300-80
EMail: sales-testing@micronova.de