

New battery housing from MAHLE reduces weight and CO₂ footprint of electric vehicles

- Battery downsizing possible with new battery housing from MAHLE
- Ultrafast charging with integrated thermal management

Stuttgart/Germany, August 14, 2019 – A key factor in the acceptance of electric vehicles is sufficient cruising range. Instead of achieving this by using ever larger batteries, MAHLE offers a newly developed battery housing with integrated thermal management as a solution for increasing the rapid charging capability of the battery. This allows traction batteries to be about 40 percent smaller and thus recharged very quickly. MAHLE is thereby not only reducing the CO₂ footprint of the electric vehicle, but also lowering the demand for raw materials for battery production, which are becoming increasingly scarce worldwide.

To implement the required high cooling performance during the rapid charging process, the battery cells are surrounded by dielectric fluid as part of the MAHLE battery housing concept. The fiber-reinforced plastic design is not only lightweight, but also extremely robust. The concept also provides massive weight benefits in the vehicle due to the smaller battery.

“With our new battery housing concept, we are making electric vehicles more economical and environmentally friendly—while remaining just as attractive to customers,” explains Dr. Otmar Scharrer, Head of Corporate Research and Advanced Engineering at MAHLE. “Both its moderate production costs and the elimination of expensive, powerful batteries are making a targeted contribution to bringing affordable electric vehicles to a broader market.”

The need to cool batteries and power electronics gives rise to complex circuits that substantially increase the requirements on individual components and thermal management control systems. MAHLE has supported the growing electrification of the powertrain and the associated tougher requirements right from the start and is continuously expanding its expertise in research and development.

About MAHLE

MAHLE is a leading international development partner and supplier to the automotive industry as well as a pioneer for the mobility of the future. The MAHLE Group is committed to making transportation more efficient, more environmentally friendly, and more comfortable by continuously optimizing the combustion engine, driving forward the use of alternative fuels, and laying the foundation for the worldwide introduction of e-mobility. The group's product portfolio addresses all the crucial issues relating to the powertrain and air conditioning technology—both for drives with combustion engines and for e-mobility. MAHLE products are fitted in at least every second vehicle worldwide. Components and systems from MAHLE are also used off the road—in stationary applications, for mobile machinery, rail transport, as well as marine applications.

In 2018, the group generated sales of approximately EUR 12.6 billion with more than 79,000 employees and is represented in more than 30 countries with 160 production locations. At 16 major research and development centers in Germany, Great Britain, Luxembourg, Spain, Slovenia, the USA, Brazil, Japan, China, and India, more than 6,100 development engineers and technicians are working on innovative solutions for the mobility of the future.

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