

Press release

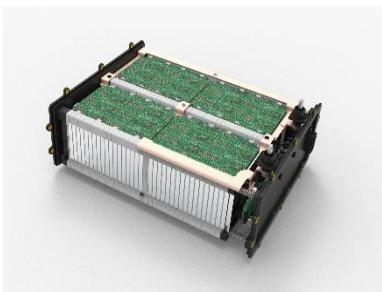
Stuttgart/Germany, October 5, 2021

MAHLE at the Aachen Colloquium: battery concept for 90-second charging

- MAHLE presents its wide range of technologies for electric vehicles and fuel cells
- Highlight: new battery concept for ultrafast charging of small vehicles in urban distribution transport
- Aachen Colloquium Sustainable Mobility to take place on October 5 and 6 before an international audience of industry professionals

At the Aachen Colloquium Sustainable Mobility on October 5 and 6, 2021, MAHLE will give insights into its latest research and development projects. Its five lectures will focus on technologies for battery electric vehicles and fuel cells. One highlight is a new lithium-carbon battery concept developed by MAHLE Powertrain, the Group's engineering division. It is designed to enable ultrafast charging of lightweight two-wheeled and small vehicles in under 90 seconds for applications such as urban distribution transport. The concept is particularly sustainable because it does not require rare raw materials and is fully recyclable. Other projects that will be showcased include transmissions and thermal management systems for electric vehicles plus a newly developed air pathway for fuel cell vehicles.

“The mobility transformation is accelerating every day, and we are helping to advance climate-friendly technologies,” says Dr. Martin Berger, Vice President Corporate Research and Advanced Engineering at MAHLE. “MAHLE’s portfolio today is as varied as the future mobility requirements. With the topics we’re presenting in Aachen, we’re once again demonstrating that we are targeting those areas where zero-carbon mobility needs good ideas.”



Sustainable and designed for ultrafast charging: the new battery concept from MAHLE

A battery concept from MAHLE Powertrain combines the advantages of supercapacitors and conventional lithium-ion batteries. Lithium-carbon battery technology is not only able to support the ultrafast charging of compact delivery vehicles in inner-city areas, for example. It also has a high power density and is not susceptible to so-called runaway events, in which uncontrolled overheating occurs.

At the event in Aachen/Germany, MAHLE's largest business unit, Thermal Management, will present an integrated thermal management

system for battery electric vehicles. With this technology, MAHLE is able to maximize efficiency at system level, reduce costs, and facilitate the integration of motor, electronics, and battery temperature control into the overall system.

MAHLE Powertrain's transmission specialists will be showcasing a shiftable high-speed electric drive module with a complex-compound planetary gearset for electric vehicles for the first time in Aachen. The core competence of MAHLE ZG Transmissions lies in the production of innovative transmissions, often for electric or hybridized drive concepts.

MAHLE's lecture on using additive manufacturing to produce high-performance drive components will kick off the topic of innovative manufacturing processes. 3D printing in metal has enabled MAHLE to print and successfully test components for high-performance sports cars. The advantages of 3D printing are now being incorporated into the development of alternative drives, significantly shortening development times and speeding up prototype production.

Where battery electric solutions do not deliver, MAHLE has the appropriate fuel cell technologies at the ready. In a further presentation, the company will present concepts for an ideal fuel cell air pathway, which is designed to guarantee a high level of efficiency and maximum durability. MAHLE has been active in series production applications involving hydrogen for over a decade and is investing considerable development effort to drive this clean future technology forward. The company is also committed to promoting hydrogen-based technologies at a political level.

The Aachen Colloquium Sustainable Mobility brings together executives and experts from the fields of vehicle and drive technology, research, and industry to jointly discuss future-oriented developments for sustainable mobility. The conference offers its audience of international industry professionals an extensive

program of more than 100 technical lectures as well as an accompanying trade exhibition.

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About MAHLE

MAHLE is a leading international development partner and supplier to the automotive industry. The technology group is now broadly positioned in the areas of powertrain technology and thermal management with a clear focus on future topics relating to mobility. As part of its dual strategy, MAHLE is working both on the intelligent combustion engine for the use of hydrogen and other nonfossil fuels and on technologies that will help the fuel cell and e-mobility achieve broad acceptance in the markets. The product portfolio of the company, which was founded in 1920, addresses all the crucial aspects of the powertrain and air conditioning technology. Half of all vehicles in the world now contain MAHLE components. #weshapefuturemobility

In 2020, MAHLE generated sales of approximately EUR 9.8 billion and is represented in over 30 countries with more than 72,000 employees in 160 production locations and 12 major research and development centers. (Last revised: 2020-12-31)