

# Press Release

---

Stuttgart, August 16 2023

## "Perfect motor": MAHLE combines strengths of its SCT and MCT electric motors

- Technology kit combines permanently high peak power, contactless power transmission, maximum efficiency and no need for rare earths
- MAHLE CEO Arnd Franz: „Unique technology kit enables tailored electrification solutions for our customers.“
- Presentation at the IAA Mobility in Munich from September 4 to 10, 2023

**MAHLE has developed a new technology kit for electric motors that combines the advantages of its benchmark SCT and MCT electric motors. The "perfect motor" combines permanently high peak power, contactless and thus wear-free power transmission, the absence of rare earths, and maximum efficiency. "With this unique technology toolbox for electric motors, we can offer our customers customized electrification solutions for any vehicle class, application, or even brand philosophy," said Arnd Franz, Chairman of the MAHLE Group Management Board and CEO. Electrification is a future strategy field within the framework of the MAHLE 2030+ Group strategy. Other fields include thermal management and highly efficient, green combustion engines. MAHLE will showcase the new technology kit and other technical innovations for sustainable mobility at the IAA Mobility in Munich. The international automotive trade fair will take place from September 4 to 10, 2023.**



With the new technology kit for electric motors, MAHLE combines for the first time the advantages of its benchmark products SCT and MCT electric motor.

The MCT (Magnet-free Contactless Transmitter) and the endurance champion SCT (Superior Continuous Torque) electric motor, which operate contactlessly and without rare earths, are among the latest innovations from the Stuttgart-based automotive supplier in the field of electric drives. Dispensing with rare earths in MCT technology not only makes production more environmentally friendly, but also brings advantages in terms of costs and raw material security. It is particularly efficient - at almost all operating points. The MCT electric

motor shows its efficiency advantages to the full, especially in those areas that are frequently used in real road traffic.

The MCT electric motor is characterized by high durability, because the necessary transmission of electric currents between the rotating and stationary parts inside the motor is contactless and thus wear-free. Therefore, the motor is maintenance-free and suitable for a wide range of applications.

With the SCT electric motor, MAHLE currently has the most enduring electric motor in its range. The traction motor can operate at high power for an unlimited period of time. This technological leap was made possible by a new cooling concept. The innovative integrated oil cooling not only makes the e-motor robust, but at the same time also allows the waste heat generated to be used in the vehicle's overall system. The new e-motor is unrivaled in its small size, light weight and efficiency. The extremely compact design also results in a material cost and weight advantage - a lighter motor requires less material in production and at the same time increases the possible payload in commercial vehicles.

The MCT electric motor shows high efficiency over a wide speed/torque range. The SCT electric motor, on the other hand, is designed to achieve the highest efficiencies at the optimized main operating points. Another strength of the SCT electric motor is its high continuous output. This is - despite the very compact and lightweight design - 93 to 100 percent of its peak power, as measurement results prove. This unprecedentedly high ratio, which is unique on the market, enables it to be used in electric vehicles of all kinds, even under very demanding conditions. Classic examples include driving an e-truck over mountain passes or repeated acceleration of a battery-electric passenger car. These scenarios are only covered to a limited extent by e-motors available to date.

## **MAHLE at the IAA Mobility 2023**

The MAHLE IAA booth can be found at the Munich exhibition center (Summit) in Hall A2. In addition, the technology group is presenting its new automated positioning system for wireless charging in the Testing Area in Hall C2. Another demonstrator vehicle allows visitors to experience perfect air quality in the vehicle interior.

An AI comfort demonstrator shows how artificial intelligence can raise the interior comfort of a vehicle to a new level in the future. Furthermore, with E-HEALTH Charge, MAHLE presents how the sensitive lithium-ion battery can be optimally examined in the workshop, its condition assessed, and charged at the same time.

All of the company's innovations can also be experienced interactively on MAHLE's virtual trade fair stand at <https://experience.mahle.com/> starting end of August.

*Note to editors: The accompanying photographic material for this press release can be found at <https://www.mahle.com/de/news-and-press/press-releases/>.*

Image copyrights: MAHLE GmbH

## **Contacts in MAHLE Corporate Communications:**

Ruben Danisch  
Spokesperson Product & Technologies  
Phone: +49 711 501-12199  
E-mail: [ruben.danisch@mahle.com](mailto:ruben.danisch@mahle.com)

Ingo Schnaitmann  
Head of Media Relations  
Phone: +49 711 501-13185  
E-mail: [ingo.schnaitmann@mahle.com](mailto:ingo.schnaitmann@mahle.com)

---

## **About MAHLE**

MAHLE is a leading international development partner and supplier to the automotive industry with customers in both passenger car and commercial vehicle sectors. Founded in 1920, the technology group is working on the climate-neutral mobility of tomorrow, with a focus on the strategic areas of e-mobility and thermal management as well as further technology fields to reduce CO<sub>2</sub> emissions, such as fuel cells or highly efficient, clean combustion engines that also run on synthetic fuels or hydrogen. Today, one in every two vehicles globally is equipped with MAHLE components.

MAHLE generated sales of more than EUR 12 billion in 2022. The company is represented with around 72,000 employees at 152 production locations and 12 major research and development centers in 30 countries. (Last revised: 12/31/2022)

#weshapefuturemobility