Press release

Stuttgart, July 13, 2023

MAHLE and ProLogium join forces to push solid-state battery technology

- MAHLE and ProLogium signed a Memorandum of Understanding
- Joined development and evaluation of thermal management systems for next generation solid-state batteries
- Focus on tailored thermal management solutions to improve energy density, lifetime and fast charging capability
- MAHLE CEO Arnd Franz: “Win-win situation to shape future battery technologies”

The German Automotive supplier MAHLE and the Taiwan-based battery manufacturer ProLogium signed a Memorandum of Understanding for developing and evaluating thermal management solutions for next generation solid-state batteries. Solid-state cells are expected to have significant advantages in the future in terms of safety and energy density, which contribute to higher driving ranges and higher safety standards for battery systems. Both parties will cooperate focusing on tailored thermal management solutions, which account for the specific properties of ProLogium’s technology. This will support competitive battery systems with high efficiency, energy density, lifetime and fast charging capability. "The cooperation with ProLogium is an absolute win-win situation. With the combined expertise of the two groups, we will shape future battery technologies with superior properties”, said Arnd Franz, Chairman of the MAHLE Management Board and CEO.

Thermal management, i.e. heating and cooling, is elementary for the e-car. MAHLE has unique systems expertise here.

"I believe ProLogium's joint forces with MAHLE propel the commercialization of reliable and efficient solid-state battery solutions that advance electric vehicles to the next level. With the collaboration, we are on track to achieve a net-zero future." said Vincent Yang, CEO and founder of ProLogium Technology.

Efficient thermal management is what makes efficient e-mobility possible in the first place. Heating and cooling in vehicles are an essential technology

field for electrification and MAHLE core business. When it comes to battery cooling systems, MAHLE is one of the pioneers and has been in series production for well over a decade. Based on the ProLogium solid-state technology, MAHLE evaluates the thermal requirements on cell, cell module, battery pack and vehicle system level to derive optimal thermal management solutions. This covers not only competitiveness in terms of performance, efficiency and costs but explicitly addresses ageing assessments, as the battery value over lifetime is playing a critical role for mass market penetration and future second-hand market for electric vehicles. The outcome in turn will further accelerate the development of solid-state technology and improve the properties of the cells. “Developing the very first thermal management solutions tailor-made for solid-state batteries will be a crucial step towards commercialization”, said Dr. Uli Christian Blessing, Vice President Product Development Thermal Management at MAHLE.

ProLogium’s oxide solid-state lithium ceramic battery will contribute to longer driving range, faster charging and better battery recyclability. Electrification and thermal management are closely interwoven. MAHLE is one of the very few suppliers that are active in both fields with excellent expertise. The Group has developed innovative technologies to increase the cruising range and fast-charging capability of electric vehicles, as well as to bring more comfort to electric vehicles.

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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 electrification and thermal management as well as further technology fields to reduce CO2 emissions, such as fuel cells or highly efficient combustion engines that also run on hydrogen or synthetic fuels. 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 approx. 72,000 employees at 152 production locations and 12 major research and development centers in more than 30 countries. (as of 31.12.2022)

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About ProLogium

Founded in 2006, ProLogium is an energy innovation firm focused on the R&D and manufacturing of next-generation battery solutions for EV, consumer, and industrial applications. Its proprietary technologies cover more than 650 (applied and awarded) patents globally.

ProLogium has demonstrated its commercial capabilities through its automated pilot production line, with which it has shipped nearly 8,000 solid-state battery sample cells to international automotive OEMs for testing and module development. Its first giga-scale production line in Taoyuan, Taiwan will start operations by the end of 2023, which will help accelerate the company's capacity expansion in major global markets.