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## Achieving a Breakthrough in Climate-neutral Heavy Goods Transport

The challenges that current and future mobility systems are facing, are growing. Personal transport requirements, the demands of the economy and government regulations are turning the creation of a sustainable mobility system into a complex task. Vehicles with combustion engines have an increasingly uncertain future ahead. Bans on their use or at least more stringent regulations are being introduced all over the world.

In order to manage and mitigate the considerable consequences of climate change, we as a society need to make use of all our ideas, strengths, resources and technologies. It is obvious that we will only be able to succeed if we make use of a diverse mix of climate-friendly powertrains, because our mobility requirements, driving profiles and legal frameworks vary significantly and thus require different types of transport solutions.

By concentrating only on battery electric vehicles, we are ignoring some of the important means of achieving a CO<sub>2</sub>-neutral commercial transport system. The requirements for trucks are fundamentally different from those of cars. The necessary distances cannot be covered using pure battery power, because the batteries would simply be too heavy, too big and too expensive. All of these factors would have a decisive influence on the payload, the price and, therefore, the cost-effectiveness of trucks. However, hydrogen technology opens up new ways of making heavy-duty long-haul trucks climate-neutral.

The components for fuel cells and hydrogen combustion in commercial vehicles developed by Mahle are already making a

major contribution in this regard. Our parts for filtration and thermal management systems and for the complex air path have been used in fuel cell vehicles for more than a decade. Two factors play a key role in the breakthrough of hydrogen for heavy goods transport: the establishment of an infrastructure for producing and distributing hydrogen and a reduction in the cost of the vehicles. To make both of these things happen, companies need security on their investments. If all types of climate-friendly, sustainable powertrains are given government support and the industry can rely on clear and coherent emissions legislation, businesses will have the necessary stability in boundary conditions.

Like many other automotive industry suppliers, Mahle has made a huge effort in R&D investments. Our aim was to lay the foundations and enable climate-neutral hydrogen propulsion. We fully support the Paris climate targets, but stricter emissions regulations alone will not enable the industry to overcome the initial obstacles to the widespread use of hydrogen in commercial vehicles. Governments and businesses need to join their forces in a way to enable the industry to develop environmentally, economically and socially sustainable solutions and bring them to market. Policies based exclusively on restrictions will not have the desired impact. For this reason, the industry and the politicians need to enter into a more in-depth dialog. This is the only way forward to integrated and sustainable solutions for climate-neutral heavy goods transport.