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HELLA brings fully electric brake-by-wire pedal into large-scale production worldwide for the first time

- Brake commands are transmitted exclusively electrically using by-wire technology
- Fully electric control supporting functions of automated driving and customised setting of the brake function
- Use of lightweight materials and elimination of required components reduces vehicle weight
- X-by-wire pedals open up new long-term possibilities for designing the Cockpit of the Future

HELLA, an internationally positioned automotive supplier and a company of the Group FORVIA, has been commissioned with the world's first large-scale development and production of a completely electric brake pedal sensor. Unlike conventional brake systems, the so-called brake-by-wire technology transmits the braking commands purely by electric means. The first large-volume series production is expected to start in HELLA's European production network in 2025; initially, a German car manufacturer will be supplied. The electric brake pedal sensor is being developed at HELLA's headquarters in Lippstadt, Germany.

"HELLA has been one of the world's leading suppliers in the field of pedal sensors for more than two decades. Building on this, we have now set another technological milestone with our brake-by-wire solution, which will become the standard in all vehicle segments in just a few years," explains Björn Twiehaus, who is responsible for the global electronics business on the HELLA Management Board.

The brake-by-wire pedal simulates the feel and behaviour of a conventional brake system, where the pedal is mechanically connected to the braking system via a rod. Because the control of the brake commands in HELLA's by-wire solution is only performed fully electrically, the functions of automated driving are also simultaneously supported. In addition, the customised setting of the brake function is made possible, which means that the brake force can be specifically adapted to suit every driving scenario. Furthermore, since only lightweight plastics are used for the fully electric brake-

by-wire pedal, the component weight is reduced by up to 20 percent. This can help to increase the range of electric cars and also to reduce the CO2 emissions of vehicles with combustion engines or hybrid drives while at the same time maintaining high performance and functional safety. And into the bargain, installation costs and the number of variants involved are reduced.

With the new brake-by-wire technology, HELLA is simultaneously driving forward the development of the "Cockpit of the Future" – one of the central trending topics that HELLA and Faurecia are jointly addressing under the umbrella of the FORVIA Group. "With our by-wire technology, many bulky hardware components are eliminated. The brake rod, for example, has always been a bit of a trouble spot in vehicle design," points out Electronics Managing Director Björn Twiehaus. "With our brake-by-wire pedal, we are now able to resolve this aspect and thus create completely new possibilities to design the vehicle interior in a highly flexible way. The all-electric brake pedal therefore not only makes an indispensable contribution to the cockpit of the future. Together with Faurecia's display and interior solutions and also with our lighting and electronics expertise, we are strengthening our base as a systems provider in this field of the future."

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About HELLA

HELLA is a listed, internationally positioned automotive supplier and a company of the Group FORVIA. Within this factual group, HELLA stands for high-performance lighting technology and automotive electronics. At the same time, the company covers a broad service and product portfolio for the spare parts and workshop business as well as for manufacturers of special vehicles with its Business Group Lifecycle Solutions. HELLA has 36,000 employees at more than 125 locations worldwide and generated currency and portfolio-adjusted sales of € 6.5 billion in the fiscal year 2020/2021.

About FORVIA

FORVIA comprises the complementary technology and industrial strengths of Faurecia and HELLA. With over 300 industrial sites and 77 R&D centers, 150,000 people, including more than 35,000 engineers across 40+ countries, FORVIA provides a unique and comprehensive approach to the automotive challenges of today and tomorrow. Composed of six Business Groups with 24 product lines, and a strong IP portfolio of over 14,000 patents, FORVIA is focused on becoming the preferred innovation and integration partner for OEMS worldwide. FORVIA aims to be a

change maker committed to foreseeing and making the mobility transformation happen.
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