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Advanced Brake-by-Wire Pedal by FORVIA HELLA: A Key to Future Automotive Safety and Efficiency

- A leader in Accelerator Pedal Sensors with 30 years of experience has developed a fully electric brake pedal sensor and the first large-scale production is to start within the next two years
- FORVIA HELLA's Brake-by-Wire pedal eliminates the need for mechanical linkages, replacing them with electric controls that support automated driving and enable customizable braking
- Lightweight materials reduce component weight by up to 70 percent, increasing electric vehicle range and lowering CO2 emissions
- Two redundant sensors on a single PCB ensure reliable, fail-safe operation, compliant with ASIL-D standards

International automotive supplier FORVIA HELLA, a leader in Accelerator Pedal Sensor with 30 years of experience, has developed a fully electric brake pedal sensor. The first large-volume series production is expected to start within the next two years.

In contrast to conventional brake systems, brake-by-wire technology transmits the brake commands exclusively electrically. The brake-by-wire pedal therefore simulates the feel of a conventional brake system but uses fully electric control, which also supports automated driving functionalities.

Since only lightweight plastics are used for the fully electric brake-by-wire pedal, the component weight is reduced by up to 70 percent compared to previous generation of product. This can help to increase the range of electric cars and to reduce the CO2 emissions of vehicles with combustion engines or hybrid drives while at the same time maintaining high performance and functional safety. Installation costs and the number of variants involved are also reduced.

In addition, FORVIA HELLA's innovative technology integrates two types of sensors into a single PCB, ensuring fail-safe operation through continuous signal monitoring. The system is reliable and fail-safe that is why it is complying with ASIL-D standards.

[FOR FURTHER INFORMATION PLEASE CONTACT](#)

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"Our Brake-by-wire technology exemplifies FORVIA HELLA's dedication to innovation and quality. By leveraging our extensive experience and global footprint, we are well-positioned to meet the needs of the Japanese automotive market and beyond. We look forward to partnering with our customers to bring this advanced technology to vehicles worldwide, enhancing safety, efficiency, and the overall driving experience," noted Lonny Chick, Managing Director at FORVIA HELLA in Japan.

The customized braking feel is available through software updates, while production and product packaging can stay standardized across all platforms. This modular production approach ensures flexibility and cost-efficiency, delivering high-quality, sustainable products through our global development and production network.

It is also perfect for EV platforms enhancing ergonomic seating by maximizing footwell space and freeing up valuable implementation space inside the vehicle that is typically occupied by the EV battery.

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ABOUT FORVIA HELLA

FORVIA HELLA is a listed, internationally positioned automotive supplier. As a company of the FORVIA Group, FORVIA HELLA stands for high-performance lighting technology and vehicle electronics and, with the Lifecycle Solutions business group, also covers a broad service and product portfolio for the spare parts and workshop business as well as for manufacturers of special vehicles. With currently around 37,500 employees at over 125 locations, the Company is active worldwide and generated adjusted sales of €8.1 billion in the fiscal year 2023. www.hella.com

ABOUT FORVIA

FORVIA, the seventh largest supplier of automotive technology worldwide, combines the complementary technological and industrial strengths of Faurecia and HELLA. With around 260 industrial sites and 78 R&D centres, over 150,000 employees, including more than 15,000 R&D engineers, in over 40 countries, FORVIA offers a unique and comprehensive approach to the automotive challenges of today and tomorrow. FORVIA consists of six business groups and a strong portfolio of over 13,000 patents. FORVIA endeavours to become the preferred innovation and integration partner for automotive manufacturers worldwide. FORVIA sees itself as a pioneer of change that anticipates the transformation of mobility and turns it into reality. www.forvia.com