

## Driving Future Mobility: Elmos presents product highlights at CES 2024 in Las Vegas

Cutting-edge semiconductor solutions for ADAS, autonomous driving, electromobility and comfort

*Dortmund, December 20, 2023:* Elmos Semiconductor SE (FSE: ELG) will be presenting innovative mixed-signal semiconductor solutions at CES 2024 in Las Vegas at the Renaissance Hotel, Suite #1530, from January 9 to 12, 2024, bringing the mobility of the future to life for visitors through numerous demonstrators. From ultrasonic and LiDAR sensors to the electrification of vehicles, intelligent LED control and gesture recognition: As one of the most experienced suppliers of mixed-signal semiconductors, Elmos is making automotive mobility worldwide safer, more comfortable and more energy efficient.

### **Ranging with Ultrasonic and LiDAR ICs**

Elmos, the world's leading supplier of ultrasonic IC solutions in the automotive industry, enables advanced driver assistance systems (ADAS) and autonomous driving: Elmos ultrasonic sensor ICs stand for precise and interference-independent object detection in a wide variety of environments and car architectures. In addition, a new Elmos LiDAR solution with a true solid-state system without moving parts offers significant system cost advantages. Elmos is creating more compact sensor approaches for more flexibility, low power consumption and functional safety. The essential components for a flash LiDAR dToF (direct Time of Flight) system approach are a laser driver for the exposure side and a SPAD imager for the receiving side. Thanks to the integrated CMOS approach, Elmos has achieved significant improvements, which will be presented using the new, even more compact LiDAR Cam. Another new demonstrator shows more safety thanks to redundant systems through the fusion of ultrasound and LiDAR sensor technology.

### **Lighting with LED Driver ICs**

Elmos occupies a leading position in the automotive market for RGB and rear lights and has a unique selling point thanks to patented Power Zeroing. Elmos offers a new 4-channel LED driver for static lighting applications in cars. The 3rd generation of LIN RGB LED drivers for interior lighting creates coloured light even during the day with a 50% increase of output capacity. For dynamic RGB applications, the new driver IC is able to control up to 6 RGBs and guarantees the best colour accuracy without flickering. The differential mode + UART bus enables sudden colour changes, which can be used for driving safety (e.g. warning light). Elmos presents new ICs for energy-efficient and freely configurable flowing light animations that raise the visual design and efficiency of rear lights to a new level: A full-size rear light model will be on display to illustrate the wide range of possible applications.

### **Gesture Recognition with ToF and HALIOS® ICs**

As a pioneer in innovative gesture recognition technology using hand tracking, Elmos presents cost-efficient ToF and HALIOS® sensor ICs that enable reliable optical detection of gestures, primarily for the operation of displays. New operating concepts in and around the car for advanced user experience open up with a combination of Elmos ToF for static gestures and HALIOS® for dynamic gestures. The Elmos ToF Cam with 32x32 pixels proves how optimal gesture recognition is possible despite minimal resolution. Another demonstrator shows how quickly and reliably hand gestures can be recognized using Elmos sensor ICs.

### **Thermal Management with Motor Control ICs**

With increasing electrification in the automotive sector, the demand for electromechanical components such as actuators, fans and pumps is also growing. This is driven primarily by the increasing importance of thermal management and numerous comfort functions. Elmos meets this demand with optimized motor control ICs with integrated Arm® MCUs. These enable the flexible and efficient control of a wide variety of motor types in a power range from <5W to over 1kW, allowing applications such as valves, pumps, active grille shutters, fans, air dampers and all types of actuators to be realized. In addition, with the MotCoS system, Elmos offers a modern, qualified software and development platform for motor control ICs, which can significantly reduce development times for new applications. A demonstrator will be shown that visualizes the use of Elmos ICs for pumps and valves for coolant control in a simplified thermal management system.

**Smart Power Distribution with eFuse ICs**

Future driver assistance systems and autonomous driving require modern vehicle architectures that ensure a reliable power supply and offer faster response times, flexible software-controlled algorithms and software configuration options. Elmos eFuses not only replace the function of classic fuses, but are key to unlocking the full potential of intelligent power distribution and offer advanced safety, adaptability and flexibility for a new era of vehicles. The advantages: Critical systems remain controllable in the event of malfunctions or emergencies, active energy management for functional safety and a customizable and standardized software architecture based on Arm® Cortex-M23 CPU for creative design concepts. With simple parameterisation, fast response times, minimal losses and maximum flexibility, the eFuse ICs enable customers to implement customized or standardized safety concepts quickly and cost-effectively. A demonstrator illustrates the safety-relevant advantages of intelligent smart fuses.

**Pressure Sensors with SSP ICs**

Brake-by-wire systems are gradually replacing conventional braking technologies in vehicles. Compared to conventional mechanical braking systems, they offer superior control and a faster response time. In addition, they allow the braking behaviour to be tailored to the driver's individual requirements. Elmos presents a demonstrator of a brake-by-wire system with Elmos pressure sensor ICs, which impressively illustrates the higher precision and flexibility compared to mechanical braking systems.

More information on Elmos products is additionally presented in a virtual showroom: [www.elmos.com/virtual-booth/](http://www.elmos.com/virtual-booth/)

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**About Elmos**

Elmos develops, produces and markets semiconductors, primarily for use in the automotive industry. Our components communicate, measure, regulate and control safety, comfort, powertrain and network functions. For 40 years, Elmos innovations have been bringing new functions to life and making mobility worldwide safer, more comfortable and more energy efficient. With our solutions we are already the worldwide #1 in applications with great future potential, such as ultrasonic distance measurement, ambient and rear light as well as intuitive HMI.

**Note**

This release contains forward-looking statements that are based on assumptions and estimates made by the Elmos management. Even though we assume the underlying expectations of the forward-looking statements to be realistic, we cannot guarantee the expectations will prove right. The assumptions may carry risks and uncertainties, and as a result actual events may differ materially from the forward-looking statements. Among the factors that could cause such differences are changes in general economic and business conditions, fluctuations of exchange rates and interest rates, the introduction of competing products, lack of acceptance of new products, and changes in business strategy. Elmos neither intends nor assumes any obligation to update its statements with respect to future events.