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## Press Release

### **ETAS: A full-service solutions provider for the software-defined vehicle**

Company to showcase its highly integrated, secure end-to-end solution and tooling ecosystem at CES 2023

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- ETAS software development tools and cloud platform services provide continuous software integration across all vehicle domains and generations
  - Company's portfolio enables fast, data-driven development, efficient deployment and management as well as safe and secure operation of vehicle software

**Las Vegas, NV, USA, January 3, 2023** – Mobility is experiencing fundamental change, with software taking center stage. ETAS enables its customers to master the complexity of the entire software lifecycle, thus contributing to the vision of the fully programmable vehicle of the future that allows functions to be continuously adapted, updated, and improved through software without having to make changes to the hardware. In addition, ETAS supports and drives various standardization initiatives (e.g., AUTOSAR Classic and Adaptive) and collaborates actively in open source working groups, e.g., the Eclipse Software Defined Vehicle Working Group.

“To make the vision of the software-defined vehicle a reality, we empower automakers in software-centric function development by offering a highly integrated end-to-end solution and tooling ecosystem. We enable fast, data-driven development, efficient deployment and management as well as safe and secure operation of automotive software. Thus, we actively shape tomorrow's automotive software together with our customers and partners,” says Dr. Thomas Irawan, Chairman of the Board of Management of ETAS GmbH.

The company's highly integrated solutions for the entire DevOps cycle streamline the software-defined vehicle's complexity. Tailored to each customer's need, ETAS solutions are developed, integrated, and orchestrated to advance the mobility industry.

### **Establish consistent and automotive software development toolchains**

Cloud-based toolchains and virtual test environments promise radical increases in development efficiency while maintaining the highest level of security. ETAS toolchains can be tailored to customer needs and existing toolchains, allowing automated and parallelized tests in customer projects to run many times faster than in real time.

### **Operate software safely and reliably**

The safe and secure execution of software applications with heterogeneous requirements in terms of performance, resources, safety, and cybersecurity is ensured by the ETAS in-vehicle software stack with AUTOSAR Classic / AUTOSAR Adaptive as well as operating systems, hypervisors, in-vehicle cybersecurity solutions, and next generation middleware. Our portfolio covers the full range from solutions for the development and release of safety-critical systems (incl. ADAS/AD) to flexible vehicle edge technologies.

Middleware solutions play an important role in decoupling application components from each other and from the underlying hardware. Available automotive middleware implementations do not cover all specific requirements of ADAS and AD systems. The “Automotive Operating System” (AOS) is a specific middleware solution for ADAS/AD systems. The AOS demonstrator visualizes the ability to provide reproducible behavior which is an essential prerequisite for efficient software development and simulation-based validation.

### **Allow continuous feedback loop between vehicles and the cloud**

ETAS’ unique cloud-based integration platform PANTARIS for developing and updating vehicle software and services combines standardized data transmission and processing with a scalable development environment and seamless vehicle connectivity. The platform enables a continuous feedback loop between vehicles and the cloud backend. It offers automakers and service providers a secure and reliable working environment that greatly simplifies the development and optimization of vehicle software and services. Pre-SOP-domain and development services combined with ETAS hardware for data acquisition and processing enable a truly data-driven development.

### **Ensure holistic cybersecurity**

The software-defined vehicle with its connected ecosystem will dramatically increase attack surfaces. If their software-defined vehicles are not adequately secured, OEMs and fleet operators face serious consequences: fleet downtime or inoperability, ransom payments or recovery costs, loss of reputation and liability claims. However, no single security mechanism can protect against all threats. Effective protection requires Defense-in-Depth, a multi-layered security concept with multiple lines of defense. The Defense-in-Depth approach is applied not only to the vehicle, but to all connected entities of the software-defined vehicle ecosystem. Security for the software-defined vehicle must accompany the

entire DevOps software cycle. It must be ensured that only trusted components gain access to the vehicle ecosystem, and that vulnerabilities are detected and remedied by security mechanisms along the cycle. Therefore, cybersecurity solutions by ETAS are a key enabler of the software-defined vehicle.

### **Enable flexible data acquisition and processing**

Data acquisition and processing tools support our customers not only by providing high-speed access to all relevant data in the vehicle, but also in the time-synchronous acquisition of sensor and internal ECU data. Together with reliable data consistency across all processes and low impact on computing power, customers get a future-proof measurement system that is easily integrated into existing toolchains.

Visit ETAS at CES January 5-8, 2023 in Las Vegas (BOOTH 16115) for a complete overview of its software and security products and services. Experience the company's new brand identity, which captures ETAS' evolution and represents its commitment to actively shape tomorrow's automotive software.

### **About ETAS**

Founded in 1994, ETAS GmbH is a wholly owned subsidiary of Robert Bosch GmbH, represented in twelve countries in Europe, North and South America, and Asia. ETAS' portfolio includes vehicle basic software, middleware, development tools, cloud-based operations services, cybersecurity solutions, and end-to-end engineering and consulting services for the realization of software-defined vehicles. Our product solutions and services enable vehicle manufacturers and suppliers to develop, operate, and secure differentiating vehicle software with increased efficiency.

Further information available at [www.etas.com](http://www.etas.com)