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Press Release

ETAS, ESCRYPYPT, and STMicroelectronics Join Forces to Streamline Development of Secure Connected-Car Applications

- Combined competencies to offer a unique package for developing high-performance, safe, and secure automotive embedded systems
- End-to-end solution protects against malicious attacks on the car's Electronic Control Units (ECU) and secures communication among ECUs and the cloud
- Easy-to-use AUTOSAR-compliant platform software addresses key time-to-market and standards-compliance challenges facing OEM and Tier-1 application developers

Stuttgart, Bochum, and Geneva, June 13, 2016 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, collaborates with ETAS, a provider of innovative solutions for developing automotive embedded systems, and ESCRYPYPT, an ETAS subsidiary focused on security for embedded software, to deliver a complete platform comprising microcontrollers, software tools, and security solutions that accelerates development of new automotive control units for the connected-car age.

Today's auto designers rely more and more on electronic control units (ECUs) to manage intricately featured applications, including brake-by-wire, automatic transmission, multi-mode lighting, parking assist, collision avoidance and many others. These ECUs are enabling "digital" control of each function of the car

through sending commands over the communication network that interconnects the vehicle sub-systems. Moreover, more cars are becoming connected to the cloud enabling new functionalities like Over-The-Air (OTA) software updates, remote diagnostics, and the forthcoming V2X communication¹.

To safely support such trends, there is an acceleration in the deployment of robust hardware and software security platforms that are managed over the entire vehicle lifetime.

ETAS, ESCRYPT, and ST are working to deliver a cost-effective platform for sub-system developers to create ECUs that ensure a high level of protection for vehicle-owners' privacy, OEMs' intellectual property, ECU functional integrity, and secure communication among the car's ECUs and the cloud.

"This well-architected and easy-to-use development platform will deliver unprecedented convenience to customers in the form of a ready-made solution that combines the security know-how of ESCRYPT, ETAS, and ST," said Luca Rodeschini, Director Strategic Business Development and Microcontroller Business Unit, Automotive and Discrete Product Group, STMicroelectronics

The solution ETAS, ESCRYPT, and ST are developing leverages the SPC58 series of power-efficient and real-time-capable automotive microcontrollers, which feature a built-in Hardware Security Module (HSM) as well as multiple state-of-the-art CAN FD interfaces, plus LIN, FlexRay, and Ethernet with time-stamping to implement both control units with a functional integrity check and an in-vehicle network with encrypted communication. This approach expands ST's offering for connected-car defense, which also includes Secure Elements, or embedded SIMs (Subscriber Identity Modules), for protection against Internet-based attacks on ECUs and gateways that can steal personal data or compromise important vehicle systems.

¹ V2X: vehicle-to-vehicle and vehicle-to-infrastructure communication, for purposes such as enhancing safety, reducing congestion, and improving fuel economy.

“SPC58 automotive microcontrollers deliver the underlying ruggedness and hardware security the industry needs at a competitive price. They have already been selected by a major Tier-1 supplier for a secure OTA (Over-The-Air) application that enables remote software fixes and upgrades without requiring customers to bring their vehicles to a repair garage,” added Rodeschini.

ESCRYPT is contributing its expertise in secure ECU communication, including distribution of OTA software updates, and provides firmware and middleware for ECU developers to utilize the SPC58 HSM. Together, the HSM and ESCRYPT’s security technologies handle all the necessary authentication of trusted sources and prevention of access by unauthorized agents. “We provide our product CycurHSM, the essential solution that exercises the HSM and our Key Management Solution to secure every aspect of the ECU’s activity, including secure boot-up, programming, and updates, as well as secure in-vehicle communication,” explained Dr. Thomas Wollinger, Managing Director of ESCRYPT.

The solution leverages ETAS’ proven RTA software products that support ECU code development. RTA-BSW (Basic Software) consists of a full AUTOSAR solution including AUTOSAR R4-compliant basic software capable of supporting safety-critical ECUs for both passenger cars (ISO 26262) and off-highway (ISO 25119) domains. RTA-BSW is complemented by ISOLAR-A and ISOLAR-EVE tools for authoring and testing a full ECU software stack in a virtual environment.

AUTOSAR, the AUTomotive Open Systems ARchitecture, is the accepted automotive industry framework for scalable, interoperable, standards-compliant embedded systems, which enables developers to bring new products to market quickly and cost-effectively while allowing scope to create differentiating features.

“We are building on a proven record of successful collaborations with ST,” said Dr. Nigel Tracey, leader of the ETAS Application Field RTA Solutions. “With our comprehensive ECU development environment, and the added dimension of advanced security from our subsidiary ESCRYPT, this new platform will enable

OEMs to maximize the value of the connected-car concept and quickly build confidence among partner organizations and end users.”

About ETAS

ETAS provides innovative solutions for the development of embedded systems for the automotive industry and other sectors of the embedded industry.

As a systems provider, ETAS supplies a multifaceted portfolio that covers the range from integrated tools and tool solutions to engineering services, consulting, training, and support. Security solutions in the area of embedded systems are offered by the ETAS subsidiary ESCRYPT. Established in 1994, ETAS GmbH is a 100-percent subsidiary of the Bosch Group, with international subsidiaries and sales offices in Europe, North and South America, and Asia.

Further information can be found at www.etas.com

About ESCRYPT

ESCRYPT - Embedded Security is the leading system provider for embedded security world-wide. With locations in Germany, UK, Sweden, USA, China, Korea, and Japan we have security specialists available to help with current security topics such as secure M2M (machine-to-machine)-communication, IT-security in the Internet of Things, protection of e-business models and automotive security and they develop highly secure, worldwide valued products and solutions which are tailored to the specific requirements of embedded systems and the relevant IT-infrastructure and are tested and proven a million times in automotive series production.

ESCRYPT is a subsidiary of ETAS GmbH, a wholly owned subsidiary of the Bosch Group.

Further information can be found at www.escrypt.com

About STMicroelectronics

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices.

By getting more from technology to get more from life, ST stands for life.augmented.

In 2015, the company's net revenues were \$6.90 billion, serving more than 100,000 customers worldwide.

Further information can be found at www.st.com

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