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Press release

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New Connected-Car Automotive MCU from STMicroelectronics Enables Secure Remote Updates and High-Speed In-Vehicle Networking

- *Large on-chip memory and support for secure OTA updating of ECU software let carmakers streamline maintenance and expand offers to customers*
- *Gigabit and 100Mbit Ethernet ports drive high-speed in-vehicle networking*
- *EVITA Full[1] compliant Hardware Security Module keeps connected cars and occupants safe*

Geneva, October 30, 2018 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, is making connected cars safer, more flexible, and future-proof with its latest high-performance, multi-core, multi-interface automotive microcontroller.

As critical vehicle powertrain, body, chassis, and infotainment features increasingly become defined by software, securely delivering updates such as fixes and option packs over the air (OTA) enhances cost efficiency and customer convenience. With state-of-the-art security and generous on-chip code storage, ST's latest Chorus automotive microcontroller is among the industry's first gateway/domain-controller chips capable of handling major OTA updates securely.

With three high-performance processor cores, more than 1.2 Mbyte RAM and powerful on-chip peripherals, ST's new flagship SPC58 H Line joins the Chorus Series of automotive MCUs and can run multiple applications concurrently to allow more flexible and cost-effective vehicle-electronics architectures. Two independent Ethernet ports provide high-speed connectivity between multiple Chorus chips throughout the vehicle and enable responsive in-vehicle diagnostics. Also featuring 16 CAN-FD and 24 LINFlex™ interfaces, Chorus can act as a gateway for multiple ECUs (electronic control units) and support smart-gateway functionality via 2 Ethernet interfaces also on-chip.

[1] EVITA (E-safety Vehicle Intrusion proTected Applications): a project co-funded by the European Commission to protect sensitive data and prevent tampering with security-relevant components on-board the vehicle. Full, Medium and Light versions of the EVITA architecture are proposed.

"*The way carmakers create, configure, deploy, and maintain new vehicles is changing, as software-defined functionality makes advanced features, flexibility, and convenience ever more widely accessible*," said Luca Rodeschini, Automotive and Discrete Product Group Strategy and Microcontroller Business Unit Director, STMicroelectronics. "*Our latest and highest-performing Chorus microcontroller, being OTA-ready and with dual Ethernet ports up to Gigabit speeds, creates a state-of-the-art platform for seamless, safe, and secure in-car connectivity and control*."

To protect connected-car functionalities and allow OTA updates to be applied safely, the new Chorus chip contains a Hardware Security Module (HSM) capable of asymmetric cryptography. Being EVITA Full compliant, it implements industry-leading attack prevention, detection, and containment techniques.

Leading customers got already samples of SPC58 Chorus H Line microcontrollers in the next generation of smart gateways and central body modules, and are also evaluating the devices for battery-management units and ADAS safety controllers.

Technical Notes for Editors:

The new top-of-the-range Chorus microcontroller, SPC58NH92x, has 10Mbyte on-chip Flash and features a triple-core architecture clocking at 200Mhz equipped with more than 1.2Mbyte RAM, delivering up to 1763 CoreMark containing ST's proven Power Architecture® z4 core, which gives developers the flexibility to host multiple applications on one microcontroller, or to run multiple tasks concurrently, for optimum performance. The device offers also ASIL-D safety capabilities.

Working with the large 10MByte Flash, the SPC58NH92x's context-swap mechanism allows current application code to run continuously even while an update is downloaded and made ready to be applied later at a safe time. The older software can be retained, giving the option to roll-back to the previous version in an emergency. Hyperbus and eMMC/SDIO high-speed interfaces to off-chip memory are also integrated, enabling further storage expansion if needed.

The Chorus HSM is based on the proven Power Architecture, which is widely understood and lets designers leverage existing investment in development tools.

With configurable smart low-power modes, which enable the device to perform critical functions even when in standby, Chorus microcontrollers are efficient and economical for the most energy-conscious applications including hybrid and electric vehicles.

The SPC58NH92x extends ST's portfolio of automotive microcontrollers, boosting the 32-bit SPC5 family that contains single- to multi-core Power Architecture devices with innovative peripherals optimized for automotive applications.

SPC58 Chorus H line is software friendly and offers the SPC5 Studio development Environment as well as production ready AUTOSAR MCAL drivers, Security Firmware and Safety Libraries.

The SPC58NH92x can be ordered in various configurations, at prices starting from $17.00. Samples are available now to lead customers, with production expected to begin in mid-2020.

Further information can be found at www.st.com/spc58-h-line-mcus

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 2017, the Company's net revenues were $8.35 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com.

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