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## **STMicroelectronics Unlocks New Roles for Wearables by Simplifying Design-in of Secure Mobile-Transaction Capability**

*Development ecosystem leverages proven secure-hardware devices, minimizes solution footprint*

**Geneva, November 17, 2015** – Wearables like smart watches could challenge smartphones as the main hub for digital lifestyles now that a new product-development ecosystem from STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, simplifies adding stronger security for mobile transactions.

More than half a billion wearable devices will be connected to the Internet by 2019<sup>1</sup>: a potentially huge user base that could enjoy making convenient mobile payments with a secure device that is more natural to use than a card or smartphone. ST's new development ecosystem helps product designers integrate support for payment, ticketing, digital access, and loyalty-card applications within wearable form factors, using the device's main microcontroller with a hardware secure element providing strong protection against malicious attacks.

The ecosystem provides everything developers need to start building their applications on a host such as an STM32 microcontroller, choosing from proven secure-element devices in ST's portfolio, and adding optional NFC (Near-Field Communication) antenna-booster technology by ams, a leading provider of high-performance analog ICs and sensors. The ams technology allows the use of ultra-small NFC antennas, which are ideal for wearables, and has already been used successfully in the mobile-payment reference design co-developed and announced by ST and ams in early 2015<sup>2</sup>.

“Hardware-secured payments can make wearables even more attractive to a broader range of end users, helping both the wearables and the mobile-payments markets grow quickly to their full potential,” said Laurent Degauque, Secure Microcontroller Division Marketing Director, STMicroelectronics. “Our ecosystem

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<sup>1</sup> Cisco Visual Networking Index. Global Mobile Data Traffic Forecast Update 2014–2019 White Paper. [http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white\\_paper\\_c11-520862.html#Trend\\_3\\_Measuring\\_Mobile\\_IoE](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html#Trend_3_Measuring_Mobile_IoE)

<sup>2</sup> <http://www.st.com/web/en/press/en/t3670>

provides everything needed to achieve full hardware and software integration, helping bring new products to market quickly and ensuring the highest levels of security leveraging our proven secure-element ICs.”

### **Further Technical Information:**

The new ecosystem provides a choice of expansion boards containing either ST’s ST31 secure microcontroller or the ST54 System-in-Package (SiP) comprising a secure microcontroller and an NFC controller, a removable NFC antenna, and a complete set of software building blocks. An ST31-based design is ideal for VIP banking applications such as smart bands that support credit-card functionality, while the ST54 can support OEM NFC-payment devices.

Both expansion boards offer the widely available Arduino™ connector and are compatible with the STM32 Nucleo microcontroller-development environment, as well as the wide range of X-Nucleo boards that simplify adding functionality such as a Bluetooth® module or fingerprint recognition. Both devices meet NFC standards, and have EMVCo (Europay, Mastercard®, Visa®) and CC-EAL5+ (Common Criteria Level 5+) security certifications.

The software blocks included with the Software Development Kit (SDK) provide everything needed to manage the secure element, maintain Bluetooth Low Energy (BLE) connectivity, I<sup>2</sup>C, SPI, and USB connections, and handle control, configuration and firmware updates of the NFC controller. A BLE Application Program Interface (API) is also provided that uses the STM32 BLE software stack to enable connection of an e-wallet application on a remote device, such as a smartphone, to the secure payment application.

In addition, the kit includes an NFC stack optimized to ensure real-time performance and make best use of microcontroller resources including minimizing RAM and Flash footprint. The stack is provided as an executable code for STM32 microcontrollers featuring the ARM® Cortex®-M cores, giving developers a choice of devices across a broad range of performance, price, package options, features, and power consumption.

All of the devices supported by the SDK are in full production and readily available through ST sales channels, or from ams in the case of the antenna-booster ICs.

For further information please go to <http://www.st.com/securewearable>

**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 2014, the Company's net revenues were \$7.40 billion, serving more than 100,000 customers worldwide. Further information can be found at [www.st.com](http://www.st.com)

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