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STMicroelectronics and Autotalks Fuse Satellite Navigation with Vehicle-to-Vehicle and -Infrastructure Communication (V2X)

- *Combining GNSS¹ with V2X² ranging creates “V2X-Enhanced GNSS” to ensure security, accuracy, and reliability of positioning information in difficult urban environments*
- *Lane-level accuracy in urban canyons, tunnels, and parking structures will enable the development of new applications, such as autonomous on-street and in-garage parking and available-spot identification*

Geneva, Switzerland and Kfar Netter, Israel, May 18, 2016 –

STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and Israel-based Autotalks, a V2X-chipset market pioneer and leader in the first wave of V2X deployments, have announced their fusion of GNSS technology and V2X ranging. The new “V2X-Enhanced GNSS” ensures authenticated and secure vehicle localization for extreme accuracy and reliability of positioning information, especially in urban canyons, tunnels, and parking structures, where accurate absolute and relative positioning—to other vehicles and infrastructure—is critical in progress toward semi- and fully-autonomous vehicles.

Autotalks’ and ST’s development of V2X-Enhanced GNSS builds on the companies’ existing successes in co-developing a world-class V2X chipset that connects vehicles to other vehicles and infrastructure within wireless range for safety and mobility applications. The promise of efficient, coordinated, and safe driving of autonomous cars can result only from the accurate positioning that the fusion of GNSS with V2X technology achieves.

“Autotalks fully recognizes that autonomous driving requires equal measures of reliability, accuracy, and security and no driver would sacrifice any of these,” said Hagai Zyss, CEO of Autotalks.

¹ GNSS = Global Navigation Satellite System

² V2X is alternately defined as “Vehicle-to-Everything” or as the combination of “Vehicle-to-Vehicle (V2V)” and “Vehicle-to-Infrastructure (V2I)” communication.

“Our solutions have been architected from the beginning to enable automated driving and because we recognize positioning for autonomous vehicles as critical, Autotalks, with ST, continues to optimize accurate V2X positioning—and we believe that our customers understand the value and potential.”

V2X-Enhanced GNSS technology, when coupled with V2X-enabled infrastructure, can uniquely provide absolute positioning to vehicles to assure lane-level accuracy. This precision improves navigation in urban canyons and tunnels and is also being used to develop myriad new applications, such as autonomous on-street and in-garage parking and available-spot identification.

“To fully realize the safety, convenience, and other benefits of autonomous driving, we need confidence in the security, reliability, and accuracy of the communications between our vehicle and its surroundings to know precisely how close we are to things, whether—and in what direction—they are moving, and what they are telling us—such as when there are roadworks or an accident ahead,” said Antonio Radaelli, Director, Infotainment, Automotive Digital Division, STMicroelectronics. “Building upon our successful collaboration with Autotalks, we are combining ST’s state-of-the-art positioning technology and roadmap for high-precision Automotive GNSS supporting satellite signal authentication with Autotalks’ expertise in advanced signal-processing algorithms for ranging, to smoothly pave the road to secure, accurate, and reliable V2X-Enhanced GNSS.”

Field trials in an Asian country, monitored by a government agency, are being used to test this technology in 2016.

Technical notes for editors

V2X ranging between vehicles and roadside infrastructure provides an additional level of absolute accuracy beyond that offered by GNSS, which can vary significantly because of atmospheric signal interference, the number and angle of constellation satellites in view, multi-path reflection, antenna configuration, and other factors. US government data suggest that a high-quality Federal Aviation Administration (FAA) Standard Positioning Service (SPS) receiver provides better than 3.5 meters (11.5 feet) horizontal accuracy. Connection of GNSS with a secure V2X chipset, and fusion of the two technologies, GNSS and V2X ranging, offer a trusted positioning reference, in which vehicle localization is authenticated and secure, as well as the link between GNSS and the V2X chipset.

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.

About Autotalks Ltd.

Autotalks enables the vehicle-to-vehicle and vehicle-to-infrastructure communication revolution by providing automotive qualified VLSI solutions, containing the entire ECU functionality. The unique technology of Autotalks addresses V2X challenges: communication reliability, communication security, positioning accuracy and vehicle installation while maintaining flexibility for V2X system cost optimization. Further information can be found at www.auto-talks.com

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