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STMicroelectronics Drives the Pace of Sat-Nav Progress with Enhanced Support for 3D Apps on TESEO Navigation Engines

Sensor fusion by top supplier of GNSS ICs and automotive MEMS motion sensors enables accurate 3D positioning even in locations where satellite signals are blocked

Geneva, September 28, 2015 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, is bringing next-generation satellite navigation to today's drivers with the launch of enhanced, always-available, always-accurate 3D positioning on its TESEO III automotive-navigation ICs.

The new [TESEO DRAW](#) firmware for ST's multi-constellation positioning chips enables navigation devices to provide continuous, accurate location and turn-by-turn instructions even when satellite signals are poor or unavailable, such as in tunnels, covered car parks, or multi-level highways. TESEO DRAW also enhances performance in built-up areas, such as in urban canyons, where conventional navigation systems can lose accuracy.

TESEO DRAW merges the satellite information with data from vehicle sensors such as the gyroscope, accelerometer, and wheel-speed sensors, to calculate location accurately in three dimensions including elevation. If the satellite signal is poor, TESEO DRAW compensates for the loss of accuracy, and if the signal becomes unavailable, navigation continues uninterrupted based on calculated location (dead reckoning). Road tests carried out by ST in difficult under-cover and urban environments have demonstrated continuous tracking from entry to exit in complex multi-level car parks, and at street level between tall buildings, where conventional systems have been unable to track the vehicle.

GNSS¹ has revolutionized activities such as commercial logistics, asset management, and personal mobility. Over four billion GNSS devices are now in use worldwide². By enabling high-accuracy 3D dead reckoning, TESEO DRAW expands the opportunities for developers to commercialize new applications.

¹ Global Navigation Satellite System: the generic term for systems such as the US GPS, Russian GLONASS and European Galileo satellite constellations and ground infrastructure

² Source: GNSS Market Report, Issue 4, copyright © European GNSS Agency, 2015

“TESEO DRAW strengthens GNSS performance and eliminates barriers to continuity, enabling exciting new services to emerge,” said Fabio Marchiò, Microcontroller and Infotainment Division General Manager, Automotive Product Group, STMicroelectronics. “Users can also experience significant improvements in existing services such as fleet tracking, eCall, or ERA-GLONASS emergency response, usage-based insurance, road tolling, and anti-theft systems.”

TESEO DRAW firmware has multiple modes and is capable of referring to sensors on the vehicle’s CAN bus or discrete sensors such as the odometer, reverse sensor, MEMS accelerometer and gyroscope, or MEMS inertial module connected to the TESEO III IC.

ST is the world’s top-ranked supplier of MEMS motion sensors for automotive navigation³, telematics, and vehicle alarm systems, and is a leading provider of navigation engines with its TESEO IC family. With the launch of TESEO DRAW firmware, ST is uniquely able to provide a unified platform comprising navigation engines, 3D positioning capability, and motion sensors.

TESEO III ICs loaded with the new TESEO DRAW firmware are sampling now, and will enter mass production in Q1 2016.

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.

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³ Source: IHS MEMS Market Tracker Q1 2015