

STMicroelectronics and Paradox Engineering Present Smart City Technologies at TECHNO-FRONTIER 2015

Tokyo, May 20, 2015 - Ready for the Internet-of-Things (IoT) age when everything is expected to be connected to the Internet, STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and Paradox Engineering SA, a Swiss technology company designing and developing IoT-ready wireless sensor network solutions, will be demonstrating wireless mesh network technologies for Smart City at TECHNO-FRONTIER 2015 (May 20-22, 2015).

A domestic, urban, or industrial environment can only be smart when devices and sensors installed in various locations or objects are part of a network that is managed coherently and cohesively. In a Smart City, data coming from the various 'urban' nodes can be used to develop services for efficient energy management, reduced environmental footprint, and improved maintenance for public infrastructure and buildings.

At ST's booth (No. 5E-301), visitors will have the opportunity to learn how an integrated wireless sensor network platform enables monitoring, control, and delivery of Smart City services using Paradox Engineering's PE.AMI smart city solution and PE.STONE IoT platform, connected with ST's STM32 Nucleo development boards, various X-Nucleo extension boards for motion and environmental sensing, and proximity sensor boards. The demonstration at ST's booth will show a clear and simple example of a smart environment.

Paradox Engineering has advanced expertise and market experience in radio and ultra-low-power design, as well as network design, set-up and management. PE.AMI is Paradox Engineering's multi-application platform for hybrid wireless/PLC narrowband/broadband full mesh networks, offering multiple off-the-shelf vertical applications for Smart Lighting, Smart Parking, Smart Metering, Smart Waste, and EV-charger management. It supports IP cameras for video surveillance, traffic monitoring, public Wi-Fi, and other urban applications. PE.STONE is Paradox Engineering's integrated hardware and software module for easy development of high-performance and cost-effective IoT applications. It enables projects for Smart Cities, Smart Grid, Energy Management, Wireless Sensor Networks for any M2M, HAN (Home Area Network), HUMS (Health Usage Monitoring Service), and industrial-control systems, and many more. PE.STONE forms the basis of the PE.AMI platform. Both Paradox Engineering's IPv6/6LoWPAN⁽¹⁾-compliant off-the-shelf PE.AMI platform and PE.STONE module have a self-recovery function and enable highly robust and scalable mesh networks.

Both Paradox Engineering's PE.AMI and PE.STONE platforms use ST's STM32L high-performance, low-power 32-bit microcontroller and SPIRIT1, a sub-GHz wireless transceiver IC that provides high receiver sensitivity, offers extremely low current consumption and is equipped with high-performance software. The PE.AMI wireless lighting control board also contains ST's energy-metering IC for monitoring power consumption.

The STM32 Nucleo board that powers the ST/Paradox Engineering Smart City demonstration is equipped with the STM32F401 MCU, which offers an optimal balance between power consumption and performance during operation, facilitating quick software and hardware development of embedded systems. ST provides the sensing and computing functions required by wireless sensor nodes by combining the Nucleo boards with an X-Nucleo extension board equipped with a MEMS accelerometer and pressure/temperature/humidity sensors, or a Time-of-Flight based proximity sensor board. ST Nucleo and X-Nucleo boards offer a ready-to-use ecosystem to enable fast development of IoT products.

“At TECHNO-FRONTIER, Paradox Engineering and ST are showcasing how technology can really enable smart environments and allow integrated advanced services to be managed and delivered, connecting and controlling the objects of today and tomorrow,” stated Gianni Minetti, President and CEO, Paradox Engineering. “We found ST technologies to be the perfect match for our pioneering approach: our innovative technologies represent an accelerated path to make Smart Cities and IoT solutions come true for the benefit of everyday life of people and communities and to reduce the risk of long development cycles in a fast moving market.”

"The TECHNO-FRONTIER demonstrations clearly show how ST is enabling the creation of convenient, environmentally-friendly Smart City systems, capable of using and analyzing huge amounts of data, in combination with Paradox Engineering's advanced wireless-communication technologies," said Marco Cassis, Executive Vice President and President of Japan and Korea Region, STMicroelectronics. "To make it easy for our customers to develop various types of wireless sensor nodes more quickly, ST is continuously expanding its IoT development arsenal, encompassing MCUs, sensors, communication ICs, and power ICs, with both hardware and software offerings."

(1) *IPv6 over Low-power Wireless Personal Area Networks - a protocol for IPv6 communication on a wireless network*

About STMicroelectronics

ST is a global leader in the semiconductor market serving customers across the spectrum of sense and power and automotive products and embedded processing solutions. From energy management and savings to trust and data security, from healthcare and wellness to smart consumer devices, in the home, car and office, at work and at play, ST is found everywhere microelectronics make a positive and innovative contribution to people's life. 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. Further information on ST can be found at www.st.com.

About Paradox Engineering SA

Paradox Engineering SA is a technology company that designs and markets open standard urban and industrial off the shelf and OEM wireless sensor network solutions to unlock the value of data for Smart City, industrial remote and condition monitoring, M2M, HUMS and HAN projects in the Internet of Things era. The unique competences in radio design, network design & management, low power consumption and data collection are at the heart of Paradox Engineering's DNA.

Established in 2005 and headquartered in Switzerland, Paradox Engineering acts on a truly global scale, with business and projects spanning over five continents and with a consolidated network of global strategic partners. For more information, please visit www.pdxeng.ch and www.pe-stone.com

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