Avnet Silica and Trusted Objects to introduce a family of secure elements for securing LoRaWAN™ battery-powered sensors and actuators

The partnership between Avnet Silica and Trusted Objects brings a new level of security to LoRaWAN™-based products through the addition of a hardware-based security solution

Poing, Germany, 23 February 2017 – Avnet Silica, an **Avnet** (NYSE: **AVT**) company, and Trusted Objects, a provider of secure firmware and security services, today announced the availability of a LoRaWAN™ family of secure elements aiming to provide enhanced security and out-of-the-box provisioning for customers designing and manufacturing LoRaWAN™ based products.

Building upon years of expertise in the secure transactions industry, Trusted Objects develops hardware-based security solutions for the Internet of Things. Trusted Objects' secure firmware for LoRaWAN is built on a Secure Element to constitute a fully secure LoRaWAN modem. The secure LoRaWAN modem embeds the security functions specified in the LoRaWAN 1.0 protocol specification and provides an added layer of security by including features like secure key generation, storage and management as well as payload encryption. The solution relies on the already available TO136 secure element, the only low-power secure element in the market securing battery-powered applications without impacting their battery life.

Interfacing to the host MCU (microcontroller unit) with an I2C bus, the TO136 comes with a set of commands implementing the security transactions as described in the LoRaWAN™ 1.x specification. An example stack implementation is available in source code at no additional cost.

In order to comply with all three possible provisioning cases, namely network operator specific devices, application specific devices or generic devices, the product comes with two personalisation schemes:

- TO136-LoRaWAN-ABP for Activation by Personalisation

- TO136-LoRaWAN-OTAA for Over-the-Air Activation

For each product, a process and key ceremony has been defined allowing any public or private LoRaWAN™ operator, OEM, or end customer, to place an order and interface seamlessly with the production partner of their choice.

The TO136 secure elements are personalised in a restricted area within the European programming centre at Avnet Logistics, Poing, Germany. The personalisation infrastructure has been designed following the highly stringent banking EMVco (Europay, Visa, Mastercard) recommendations so as to offer our customers the guarantee of a state-of-the-art process.

The TO136 is available for MOQ (Minimum Order Quantities) of 1,000 units.

Guillaume Crinon, Innovation Technical Marketing Manager for security with Avnet Silica comments: "This solution completely solves the key distribution and device provisioning costs associated with the manufacturing of a LoRaWAN™ connected device. Moreover, the TO136 secure element keeps the secret keys involved in a secure and safe memory for the life of the product, never exposing them to the outside world, not even to the host MCU."

Hervé Roche, Vice-President of Marketing, Trusted Objects, adds: "Thanks to our partnership with Avnet Silica, our hardware-based security solutions are available to all developers of applications using LoRaWAN. Avnet Silica is responsible for the programing and the personalisation of the LoRaWAN family of secure elements and the delivery to systems integrators, project developers, end users, and more generally all customers interested in securing LoRaWAN applications."

Trusted Objects will be exhibiting at the Mobile World Congress, Barcelona, February 27 – March 2, 2017 demonstrating its solutions at Hall 5, booth 5B61 - station 39.

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About Avnet Silica

Avnet Silica is the European semiconductor specialist division of Avnet, Inc., one of the leading global technology distributors, and acts as the smart connection between customers and suppliers. The distributor simplifies complexity by providing creative solutions, technology and logistics support. Avnet Silica is a partner of leading semiconductor manufacturers and innovative solution providers over many years. With a team of more than 200 application engineers and technical specialists, Avnet Silica supports projects all the way from the idea to the concept to production. For more information, visit www.avnet-silica.com

About Avnet

From components to cloud and design to disposal, **Avnet** (NYSE:**AVT**) accelerates the success of customers who build, sell and use technology globally by providing them with a comprehensive portfolio of innovative products, services and solutions. For more information, visit www.avnet.com

About Trusted Objects

Trusted Objects provides security firmware designed to meet the security needs of the IoT applications such as authentication, privacy, intellectual property protection, secure exchanges, among others. These firmware are embedded in a secure microcontroller to form an optimized "Secure Element" which is the heart of the end-to-end security solutions built to address market expectations in terms of tamper resistance, footprint, consumption, ease of integration and competitiveness. Trusted Objects also delivers personalization services tailored to the fragmented market of IoT and security consulting services for a fast deployment of comprehensive solutions that meet the highest security requirements. For more information, visit www.trusted-objects.com

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