Renesas Electronics to Showcase Innovations for a Secure, Connected, and Intelligent IoT at Arm® TechCon 2019

Visit Booth #443 to Explore Innovative Embedded AI, Machine Vision, HMI, Energy Harvesting, and Automotive Solutions Driving Intelligent IoT from Edge to Endpoint

TOKYO, October 1, 2019 — Today, Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, announced it will showcase its portfolio of secure embedded solutions that are transforming the IoT landscape for intelligent sensor nodes to connected cars at Arm® TechCon, San Jose, Calif., October 8-10, 2019.

In booth #443, Renesas will demonstrate innovative security, connectivity, human-machine interface (HMI) solutions and energy harvesting technologies based on its advanced Arm®-based microcontrollers (MCUs) and microprocessor (MPUs). These solutions are bringing intelligent IoT to endpoint devices for a wide range of industries including smart homes, smart buildings, connected healthcare, connected factories, agriculture, and automotive.

Technology Insights
Kaushal Vora, Director for Strategic Partnerships & Global Ecosystem, and Mohammed Dogar, Senior Director of Global Business Development, will discuss the security mindset for cloud connect devices and a platform approach to minimize operation risks while helping developers speed their applications to market.

- When: Thursday, October 10, 2:30-3:20 PM

Solution Demonstrations

- **Security from Endpoint to Cloud:** Secure connectivity is mission critical as the number of intelligent devices coming online continues to rise. Renesas will demonstrate chip-to-cloud connectivity and multiple wireless protocols for a diverse set of IoT applications:
  - Secure Wi-Fi connectivity and an out-of-the-box solution with Cypherbridge Systems to jumpstart IoT application development
  - Collaboration with SecureRF to demonstrate DOME™ (Device Ownership Management & Enrollment™) and Group Theoretic Cryptography for authentication and provisioning, along with Renesas public-key (asymmetric) security solutions
  - A combination of secure Wi-Fi and Bluetooth® Low Energy-based embedded solutions to enable a completely connected, always-on experience with Silex wireless modules
  - Real-time asset tracking combining Renesas MCU solutions, partner cloud and related services, and low-power LTE Cat-M1 for secure, always-on connectivity from the device to the cloud

- **Advanced HMI:** Renesas will highlight HMI and graphics advancements enabling enhanced user experiences and increased safety:
  - Linux-based HMI and voice recognition solutions with NTX Embedded, enabling a safe kitchen environment
  - Advanced capacitive touch solutions with specialized Renesas QE tools to ease touch key development and PCB design simulation tools from CapExt that allow developers to quickly implement capacitive touch and touchscreen layouts

    - High-end graphics with fast pixel rendering and asynchronous operation that offers a graphics engine operating autonomously without CPU intervention
    - Accelerated graphics design time using Renesas MCUs with integrated, easy-to-use partner software to quickly create sophisticated, custom graphics screens

- **Edge-Based Intelligence:** Renesas will demonstrate how embedded artificial intelligence (e-AI) and machine vision are changing the way users operate their everyday devices, providing greater customized experiences and predictive capabilities:
    - Edge detection and other image processing filters running with and without Dynamic Reconfigurable Processor (DRP) acceleration on the RZ/A2M MPU
    - MCU-based AI at the edge for face detection, featuring a high-performance Arm® Cortex®-M MCU utilizing embedded AI, CMSIS-NN, and model training tools and algorithms from HGi
    - Object recognition with open source software AI frameworks demonstrating neural networks running on high-performance RZ/G MPUs with TensorFlow, TensorFlow Lite, Caffe 2, Open CV, and Arm® NN embedded inference models

- **Energy Harvesting with Silicon-on-Thin-Buried-Oxide (SOTB™) Technology:** Renesas will demonstrate an SOTB smart farming proof of concept that features the ultra-low power SOTB R7F0E embedded controller and ultra-low IQ DC-DC converter to manage harvested energy through ambient energy such as wind, light, vibration and flow.

- **Accelerated Path to Automotive Production:** Automotive integrated cockpits require multiple functions, including several operating systems, a rich UI, Bluetooth, and navigation. With its Cockpit Reference Solution, Renesas will demonstrate an out-of-the-box development experience that enables users to jumpstart application development cost effectively with production-focused hardware and software.

For more information about Renesas, follow Renesas Electronics at https://www.facebook.com/RenesasElectronics/ and www.linkedin.com/company/renesas/ on LinkedIn.

About Renesas Electronics Corporation

Renesas Electronics Corporation (TSE: 6723) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live. A global leader in microcontrollers, analog, power, and SoC products, Renesas provides comprehensive solutions for a broad range of automotive, industrial, home electronics, office automation, and information communication technology applications that help shape a limitless future. Learn more at renesas.com.

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