

## **eSOL RTOS-Based Platform Now Supports Renesas Starter Kits Equipped with RZ/A1H and RZ/T1 MPUs**

**Provides a High Level of Real-Time Performance and Reliability and Supports Efficient Development with Reuse of Existing TRON Software**

Tokyo, Japan. November 16, 2017 – eSOL, a leading developer of real-time embedded software solutions, today announced that its software platform based around eT-Kernel, eSOL's real-time operating system (RTOS), now supports the Renesas Starter Kit+ for RZ/A1H and Renesas Starter Kit+ for RZ/T1 from Renesas Electronics Corporation. The use of eT-Kernel for software development on Renesas Starter Kit+ facilitates rapid, low-cost development that reuses existing  $\mu$ TRON software while also ensuring high real-time performance and reliability. eT-Kernel's compliance with relevant safety standards (IEC 61508, ISO 26262, and IEC 62304) makes it ideal for applications that demand a high level of safety, such as the industrial motors, robots, AC servo drives, and other industrial applications of the RZ/T1, and the reversing camera and other automotive applications of the RZ/A1H.

At Embedded Technology 2017 (held at Pacifico Yokohama in Japan from Wed. 15 to Fri. 17 November, 2017), eSOL will conduct demonstrations at the ARM booth (booth No. C-47) of its RTOS-based platform for Renesas CPUs, which include the R-Car H3 as well as the RZ/A1H, RZ/T1, and other RZ Family CPUs.

In addition to the high performance and low power consumption of its ARM® Cortex®-A9 core, the large internal RAM on the RZ/A1H provides faster memory access while also helping reduce system cost. The inclusion of camera input, graphics output, and audio functions also make it ideal for graphic display systems such as surveillance cameras, industrial and medical displays, and display audio.

The RZ/T1 features the ARM Cortex-R4F, a core designed for real-time control systems, and also tightly coupled memory that can be accessed directly without going via a cache to provide a high level of real-time performance. It also includes an

R-IN Engine accelerator for Industrial Ethernet communications to ensure real-time performance and facilitate faster network processing in industrial systems that demand superior real-time characteristics.

The eT-Kernel-based platform has as its core the eT-Kernel RTOS that utilizes the architecture and performance of  $\mu$ ITRON, and also incorporates the eBinder integrated development environment (IDE) bundled with ARM's own compiler and a range of middleware that includes network protocol stacks, file systems, and USB host and device stacks. It also includes professional services in the form of product support and contract development. eT-Kernel offers a choice of configurations to suit different system sizes and applications, being made up of three scalable profiles that include a compact RTOS with excellent real-time performance that has a similar structure to  $\mu$ ITRON, and a POSIX-compliant RTOS that is highly compatible with Linux. Support for the efficient development of high-quality applications is also provided using the eBinder IDE that is specially designed for software development on eT-Kernel.

eT-Kernel has product certification for the highest safety levels under both the ISO 26262 (for automobiles) and IEC 61508 (for industrial equipment) functional safety standards (the ASIL D and SIL 4 safety levels, respectively). eSOL has also obtained certification that its development processes for RTOS products comply with the IEC 62304 safety standard for medical devices. For users seeking to achieve compliance with functional safety standards in the development of software for the industrial and automotive equipment in which the RZ/A1H and RZ/T1 are used, this helps reduce costs and shorten product time-to-market.

"For software development applications such as industrial and automotive equipment or graphic displays, the provision of support for the RZ/A1H and RZ/T1 starter kits in our eT-Kernel-based platform facilitates the efficient development of systems with a high level of real-time performance and reliability. Drawing on our extensive experience with mission-critical applications, such as automotive and industrial equipment, and our past involvement with functional safety standards, eSOL provides comprehensive support for software development using the RZ Family," said Nobuyuki Ueyama, Executive Vice President of eSOL.