**News Release**

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**Renesas Releases Certified PROFINET-IRT and PROFIdrive Software Stacks for RZ/T and RZ/N Series Microprocessors**

**Düsseldorf, March 10, 2025** **―** Renesas Electronics Corporation (TSE:6723), a premier supplier of semiconductor solutions, today introduced the PROFINET-certified IRT and PROFIdrive software stack for its RZ/T and RZ/N series of microprocessors (MPU) for industrial networking systems. The initial software versions are available for the RZ/T2M MPU designed for servo motor control applications, and the RZ/N2L for industrial internet gateway applications, such as remote-IO or industrial Ethernet devices. Using Renesas devices with this software stack eases the path for certification of customers’ devices.

The new stack is Renesas’ first certified PROFINET software solution that supports PROFINET IRT (Isochronous Real-Time) and PROFIdrive. PROFINET is the leading industrial Ethernet protocol for automation systems and facilitates high-speed communication in industrial automation equipment. Its highest performance class, PROFINET IRT ensures precise and time-sensitive data transfer, making it ideal for real-time applications such as servo drives and motion control systems. This makes PROFINET particularly suitable for applications including manufacturing, robotics and process control, where real-time operation is crucial.

“We are happy to extend our industrial Ethernet system support for the RZ/T and RZ/N series MPUs,” said **Mohamed Dogar, Vice President of Embedded Processing Business Acceleration at Renesas.** “We expect the outstanding market success that we achieved with our RZ/T and RZ/N MPU series to further accelerate with the introduction of our network stack integration. PROFINET is the market leading industrial protocol, and we are delighted to have integrated the Siemens PROFINET IRT Device Development Kit on our devices.”

“We are thrilled that our cooperation with Renesas has led to their first certified PROFINET IRT solutions using the Siemens PROFINET Device Development Kit,” said **Efrossini Tsouchnika, Vice President Control at Siemens Digital Industries**. “Industrial customers can now enjoy seamless integration options provided by Renesas within the PROFINET ecosystem, and we look forward to continuing our collaboration as Renesas invests in future iterations of the PROFINET technology."

**PROFINET stack on Renesas’ RZ/T and RZ/N Series Processors**

The implementation of Renesas' certified PROFINET IRT stack encompasses all essential features required in industrial equipment communication including PROFINET RT (Real-Time) communication. The software supports cyclic data exchange with a PROFINET IO controller and can handle diagnostic, process, and status alarms, as well as plug and pull alarms. It assigns IP addresses and device names via PROFINET and through the device application. Furthermore, it includes fast startup functionality, shared device support, media redundancy (MRP), and system redundancy (S2).

**PROFIdrive Simplifies Process to Embed Drive Systems**

PROFIdrive enables seamless integration of variable speed drives, servo motors, and other motion control devices into automation systems, ensuring efficient communication and operation. PROFIdrive standardizes data exchange between devices, providing key parameters such as speed, torque, and position, which are essential for precise control of drives. It supports both real-time communication through PROFINET IRT and conventional Ethernet, allowing flexibility in various industrial applications.

**PROFIdrive Profile on Renesas’ RZ/T and RZ/N MPUs**

Renesas implemented a certified PROFIdrive application example for Application Class 4. This includes the implementation of a drive object with a speed setpoint interface. It supports cyclic data exchange via standard telegrams 1, 2, and 3, as well as acyclic data exchange through the PROFIdrive parameter channel. Additionally, the application encompasses PROFIdrive diagnostics and the state machine for the PROFIdrive General State Machine. It includes the PROFIdrive encoder channel with its respective encoder state machine and offers the simulation of a drive control system.

**PROFINET Demonstration at embedded world 2025**

Renesas will showcase its PROFINET IRT solution at its booth, Hall 1, Stand 234 at embedded world 2025 in Nuremburg, Germany from March 11-13.

**Availability and Licensing**

Binary versions of the PROFINET stack for the [RZ/T2M](https://www.renesas.com/products/microcontrollers-microprocessors/rz-mpus/rzt2m-high-performance-multi-function-mpu-realizing-high-speed-processing-and-high-precision-control?utm_campaign=ep_core_profi-empr&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=pp&type=pron#tab-sample-code) and [RZ/N2L](https://www.renesas.com/en/products/microcontrollers-microprocessors/rz-mpus/rzn2l-integrated-tsn-compliant-3-port-gigabit-ethernet-switch-enables-various-industrial-applications#tab-sample-code) are available on the Renesas website for evaluation. Customers can obtain licenses for commercial use directly from Renesas without the need for third-party involvement.

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) empowers a safer, smarter and more sustainable future where technology helps make our lives easier. A leading global provider of microcontrollers, Renesas combines our expertise in embedded processing, analog, power and connectivity to deliver complete semiconductor solutions. These Winning Combinations accelerate time to market for automotive, industrial, infrastructure and IoT applications, enabling billions of connected, intelligent devices that enhance the way people work and live. Learn more at [renesas.com](http://www.renesas.com/). Follow us on [LinkedIn](https://www.linkedin.com/company/renesas/), [Facebook](https://www.facebook.com/RenesasElectronics/), [X](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents), and [Instagram](https://www.instagram.com/renesas_global/).

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