

## Renesas upgrades industrial network to the next stage

**Industrial networks are part of the technologies used in factory automation. As a chip manufacturer, Renesas sees CC-Link IE TSN as a key factor in the industry's progress because the network enables temporal precision, ensuring secure transmission within a given period of time, and mixed implementation with other communication protocols.**

Renesas has developed a CC-Link IE TSN-compatible system-on-a-chip (SoC) as well as software and a development environment. By using this solution, customers can start evaluating CC-Link IE TSN communication after a set-up time of just one hour. The SoC supports CC-Link IE TSN networks with a minimum of external components, simplifying system design and saving engineering costs.

The SoC for Industrial Ethernet communication enables multi-protocol capabilities for Industry 4.0 through Renesas' key technology R-IN Engine. The SoC contains dedicated hardware for CC-Link IE TSN with integrated Gigabit physical layer (PHY) and said R-IN Engine consisting of a Cortex-M core, real-time operating system components (HW-RTOS) and an Ethernet accelerator.

Because the synchronization accuracy between devices with the Renesas SoC in the same network can be less than 1  $\mu$ s, the company also sees great potential for the internal networking of large-scale technical systems such as machine tools and production plants in the semiconductor and automotive industries, for example.

Renesas is an internationally active Japanese semiconductor group headquartered in Tokyo with numerous subsidiaries in Europe, including Renesas Electronics Europe in Düsseldorf. Renesas offers reliable, innovative semiconductor solutions in embedded systems. Billions of devices networked via these systems help to improve productivity at work and quality of life in general.

Renesas already offers SoCs with CC-Link communication protocols and as a member of the CC-Link Partner Association (CLPA), the company can provide optimal technical support for its customers. The effective support of the CLPA network organisation in its PR work also increases visibility for Renesas and its customers.

"Through CLPA's activities, we have been able to increase our LSI's presence among other CLPA members and connect with new customers," said Toshihide Tsuboi, VP of the Industrial Automation Division at Renesas. "We have been supporting CC-Link and CC-Link IE Field for 7 years through our SoC R-IN32 series."

**Image Caption:**



**About The CC-Link Partner Association (CLPA)**

The CLPA is an international organisation founded in 2000 dedicated to the technical development and promotion of the CC-Link family of open automation networks. The CLPA's key technology is CC-Link IE TSN, the world's first open industrial Ethernet to combine gigabit bandwidth with Time Sensitive Networking (TSN), making it the leading solution for Industry 4.0 applications. Currently the CLPA has over 3,600 member companies worldwide, and more than 1,900 compatible products available from over 300 manufacturers. Over 26 million devices using CLPA technology are in use worldwide.

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