NXP's latest products support CC-Link IE TSN for advanced capabilities

The latest embedded devices for real-time, high-performance control of industrial automation applications with CC-Link IE TSN have been released by CLPA partner NXP Semiconductors. These devices, among the first to leverage Time-Sensitive Networking (TSN) technology, provide next-generation functions and features for advanced Connected Industries applications.

Leading semiconductor supplier NXP's new products are the LS1028A industrial applications processor and i.MX RT1170 crossover microcontroller (MCU). In addition to TSN capabilities and Arm® Cortex® cores, they also offer a host of other features designed to provide a fully integrated and scalable solution for real-time control in increasingly ambitious automation applications.

More precisely, these devices can offer high performance and extreme accuracy with elements that include 64 bit processors and 12ns interrupts along with support for display controllers, gigabit Ethernet and a secure architecture. This provides an excellent foundation for implementations of CC-Link IE TSN. This is the first open industrial Ethernet technology for industrial automation that combines gigabit bandwidth and TSN capabilities to enhance productivity and process transparency.

NXP collaborated with another CLPA partner, port industrial automation GmbH, to enable full CC-Link IE TSN master and remote station communication stacks on both devices. By combining these devices with CC-Link IE TSN connectivity, they will provide a strong foundation for vendors looking to offer TSN products that will support the creation of converged networks, where information technology (IT) and operational technology (OT) traffic can share a single network architecture. Hence, these components are ideal to act as the core of advanced Industry 4.0 applications that provide data-driven, intelligent operations across an enterprise, optimizing productivity and flexibility.

Jeff Steinheider, Director Global Industrial Applications Processor Product Marketing at NXP, comments: "TSN is the Layer-2 standard of Industry 4.0, and NXP is contributing to the comprehensive development ecosystem for the CC-Link IE TSN protocol to run over open TSN-based networks. Providing the full communications stack, our gigabit Ethernet support on NXP's LS1028A for high-end controllers and our i.MX RT1170 for industrial end points deliver one of the most complete solutions available."

Masaki Kawazoe, Global Director of the CLPA added, "Through its cutting-edge processing systems and switches, NXP provides global solutions to support the transition to TSN in order to address Industry 4.0 requirements for applications, communication and security. I am pleased that NXP is among the first to deliver ICs supporting TSN. It makes it possible to develop a device that supports multiple variants of Industrial Ethernet protocols over TSN with the same hardware. I am

confident that this will further accelerate the development of CC-Link IE TSN-compatible applications and lead to the increased adoption of IIoT in smart factories."

Dietmar R. Franke, CEO of port industrial automation GmbH, commented: "The solutions offered by NXP for real-time communication via TSN provide an excellent basis for TSN-based communication solutions. Port GmbH offers a complete Industrial Communication Framework (ICF) for the integration of CC-Link IE TSN on NXP's i.MXRT1170 and LS1028A platforms. The ICF contains a CC-Link IE TSN master station stack, CC-Link IE TSN remote station stack and the ICC - tool (Industrial Communication Creator) for configuring the remote stack."

John Browett, General Manager at CLPA Europe, concludes: "Since the launch of CC-Link IE TSN at the end of 2018, the CLPA has been partnering with leading vendors in order to offer an industry standard development ecosystem for the design of compatible products. We are pleased to announce that NXP and port have joined this community to further increase the range of options for product development."

More details on the NXP LS1028A can be found here, while information on the i.MX RT1170 are available here. To read more about port industrial automation's solution, click here.

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Captions:

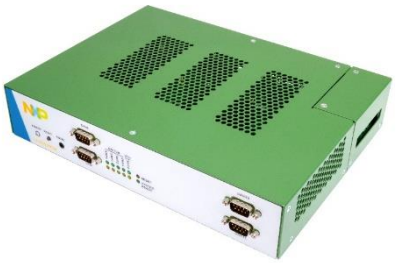

Image 1: NXP's LS1028A industrial applications processor and development platform provides a comprehensive solution for high end CC-Link IE TSN development (© NXP Semiconductors)

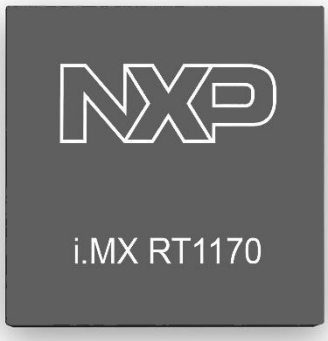

Image 2: NXP’s i.MX RT1170 crossover MCU provides CC-Link IE TSN implementation options for a wide variety of industrial automation devices (© NXP Semiconductors)

Keywords: CLPA, CC-Link IE TSN, NXP Semiconductors, Time-Sensitive Networking, TSN

About The CC-Link Partner Association (CLPA)

The CLPA is an international organisation founded in 2000, now celebrating its 20th Anniversary. Over the last 20 years, the CLPA has been 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 almost 3,800 member companies worldwide, and more than 2,000 compatible products available from over 340 manufacturers. Around 30 million devices using CLPA technology are in use worldwide.

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