CC-Link Partner Association

Global Activity Report

Vol.8

CLPA and OPC Foundation Sign MoU

Working together toward collaboration between factories and ICT

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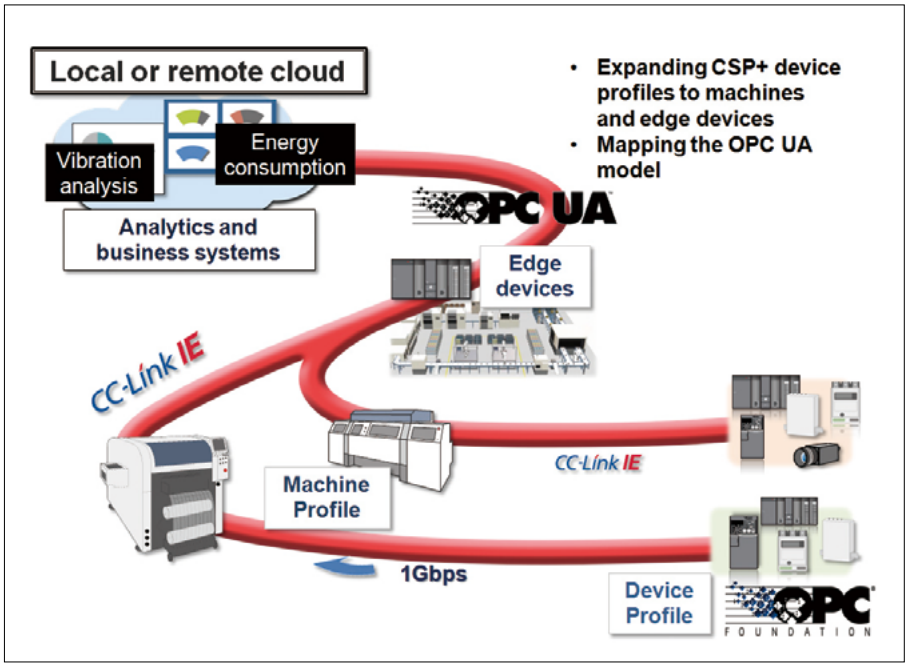
New branches open in Mexico and Thailand

CLPA and the OPC Foundation work together towards collaboration between factories and ICT
Expansion of CC-Link IE, accelerating both "horizontally" and "vertically"

In April 2016, the CC-Link Partner Association (CLPA) and the OPC Foundation agreed to work together toward collaboration between factories and ICT. Currently increasing demands include connection of production site FA and management layer ICT. This leads to improved productivity through analysis of data derived from production sites. In this context, CLPA and the OPC Foundation aim to create smart factories for advanced production by unifying the interface between FA and ICT.



CC-Link IE and ICT systems will also be connectable via OPC UA

At the end of 2015, CLPA agreed to aim for enhanced network interconnectivity with PROFIBUS & PROFINET International (PI). Common specifications for connecting CC-Link IE and PROFINET have been developed to facilitate communication between different networks at the field level.

If CC-Link IE and PROFINET are enhancing their collaboration on the horizontal axis, the latest agreement is intended to enhance connectivity in the vertical direction. The OPC Foundation advocates the "OPC UA" interface that links the production site FA control system with the management division's IT system, defined in Industrie 4.0 as the standard interface between FA and ICT. This agreement aims to combine CC-Link IE and OPC UA, in order to prepare for the age of Industrie 4.0 and the Industrial IoT, linking all the "things" in the factory vicinity.

More specifically, CLPA will expand the device profile description specification "CSP+" in order to handle various device information in a unified manner. Mapping specifications with the OPC UA model will be defined in collaboration with the OPC Foundation. As a result, the interface between devices and ICT at production sites will be unified, dramatically simplifying the connection between the two (currently this is extremely labor-intensive).

At a time when the amount of information in Industrie 4.0 is increasing, this collaboration is significant for both the CLPA, responding to needs with 1Gbps-broadband CC-Link IE, and the OPC Foundation, using OPC UA with the Industrie 4.0 standard interface. Global Director Naomi Nakamura of CLPA pointed out that "by expanding CSP+ and incorporating it with OPC UA, all devices can be handled as a single device, making it easy to share production site information across the enterprise". Thomas J. Burke, President of the OPC Foundation, also emphasized the effect of the alliance, saying that "through collaboration with CLPA, we can realize effective solutions for connection of CC-Link compatible devices with the cloud, allowing us to provide CLPA and OPC members with a world where all information is integrated across vendors."

The "smart factory" aiming at next generation manufacturing has become a realistic goal through connecting production sites and management with the IIoT and Industrie 4.0. In the face of this major trend, it is no longer meaningful to focus on small differences between the standards. It is in light of this trend that CLPA continues to promote collaboration with other standards such as PI and OPC.

Release of new specifications to drive the expansion of CC-Link IE compatible devices Cyclic communication enabled by just implementing software

New specifications that support the use of the IIoT (Industrial Internet of Things) will be available in CC-Link IE. The CC-Link Partner Association (CLPA) has announced the addition of CC-Link IE Field Network Basic, an open field network using general-purpose 100Mbps Ethernet communication, as a new standard in the CC-Link IE Ethernet-based integrated network lineup. This will enable device control and visualization through CC-Link IE simply by implementing the software on Ethernet devices.

CC-Link IE Field Basic

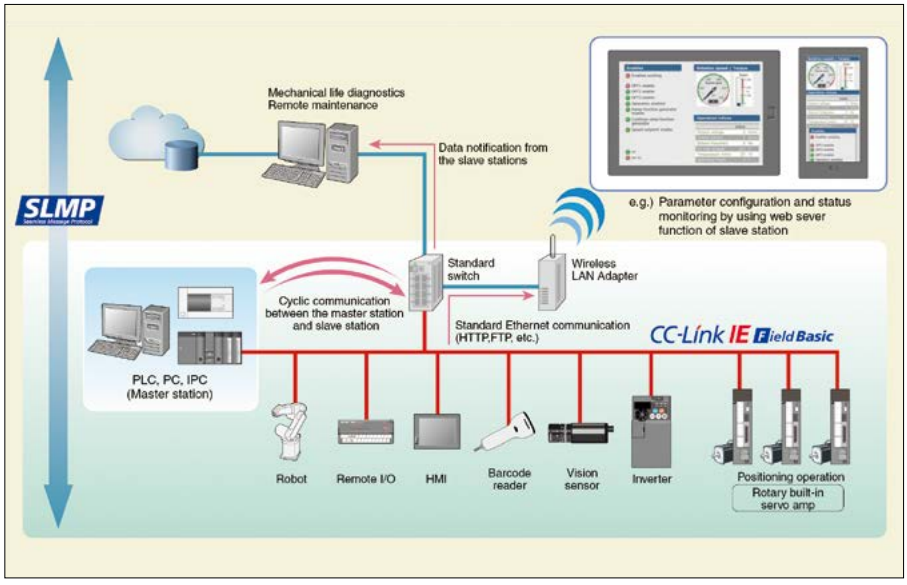
In order to promote the IIoT visualization of production sites, a lot of devices and equipment need to be connected to the network. In reality, however, old devices and equipment were often designed without taking networking into account, limiting networking and visualization with the IoT.

CC-Link IE Field Network Basic is provided as a new option making such devices and equipment compatible with CC-Link IE. Notably, it allows device compatibility with CC-Link IE simply through implementing software on a device. Hence device makers can add this compatibility to almost any product with an Ethernet port, making support for the network easier to implement. The approach is simple, yet continues to offer the functions of CC-Link IE such as linkage with host IT systems. CC-Link IE integrates the entire production site, including already network-enabled devices and equipment, realizing an environment ready for IIoT use.

This is a major benefit for both the users of the devices and the vendors who develop them. Hardware design is often required to support devices corresponding to protocols other than CC-Link IE, which makes product development and management more complex. However, enabling CC-Link IE simply by means of software development will allow any network-compatible hardware to be shared between different protocols, leading to cost reduction as well.

The communication speed of CC-Link IE Field Network Basic is 100Mbps. Although different to the 1Gbps speed of CC-Link IE, this is sufficient bandwidth for the functions required for visualization, such as collection of operating information.

CLPA is already providing free sample code to members developing compatible devices, expected to appear this fall at the earliest.



New branches open in Mexico and Thailand
Locally-centered outreach expansion

The CC-Link Association (CLPA) opened branches in Mexico and Thailand from February through March 2016. With 10 overseas branches now open, the new bases in these two countries, with their rapidly developing manufacturing industries, are expected to accelerate the promotion and adoption of the CC-Link Family, beginning with CC-Link IE.

Industry officials participate in the opening ceremony in Bangkok, Thailand in February

Ana Erika Vargas, Mexico Branch (CLPA-Mexico) Representative
Ana Erika Vargas

"We hope to create opportunities for Mexican industries to broaden their playing field into the world."

Bovon Thiansawat, Thailand Branch
(CLPC-Thailand) Representative
Bovon Thiansawat

"We will be building a cooperative relationship with related industries to expand CC-Link throughout Thailand manufacturing."

Mexico's manufacturing sector is expanding, thanks to an abundant labor force, government support measures and so on. It is particularly advantageous for the automobile industry as an export base for North America. This has lead to automotive-related manufacturers from various countries including Japan building their manufacturing bases in there. Automobiles and associated components comprise nearly 30% of Mexico's total exports. Industrial machinery accounts for over 10%; these are among the growth industries that are leading the Mexican economy through double-digit growth.

Manufacturing industries such as Japanese automotive manufacturers are also advancing into Thailand. The exports that account for the largest value are automobiles and associated components. Food manufacturers are also on the rise, and food-related industry exports in 2016 are expected to increase by 5.8% over the previous year. Both countries are in increasing need of automation in order to enhance their international competitiveness.

With this in mind, the CLPA opened branches in these countries for rapid expansion there of the CC-Link Family. Ana Erika Vargas, the Mexico branch representative, pointed out that in Mexico, "there has been growing expectations of CC-Link IE as a means to improve productivity and on-site safety." However, in the past, local technical training and so on had to be performed at the United States branch, which made it difficult to provide enough support to Mexico. The new branch addresses this situation while helping to support the Mexican market in general,

Meanwhile, Bovon Thiansawat, the Thailand branch representative, noted that "there has been interest in CC-Link IE as a means to realize the Industry 4.0 concept".

Both branches will be promoting awareness and adoption of CC-Link through various seminars and exhibitions. With the opening of these branches, local staff who share the same language and culture with the local users and technicians will start work, which is expected to further the momentum of market acceptance.

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