

PROFINET and CC-Link IE cooperation will expand open networks



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Open industrial Ethernet is moving up to the next level, with PROFIBUS & PROFINET International (PI) and the CC-Link Partner Association (CLPA) co-operating to develop connectivity between their respective open industrial Ethernet protocols, PROFINET and CC-Link IE. This will mean that plant and machinery with either CC-Link IE or PROFINET connectivity will be able to seamlessly communicate with one another, while individual devices will be able to be connected to either network.

CC-Link IE and CC-Link are the dominant open automation networks in Asia, while PROFINET is favoured in Europe. These open networks allow devices and systems from different manufacturers to freely exchange data on each network. This frees users from the restrictions of being tied into one single control equipment manufacturer or a small group of manufacturers. By interfacing CC-Link IE and PROFINET, a significant advance in openness will be achieved at a stroke.

The two associations have been working together on this initiative for about six months, and have launched a video to explain the ultimate objective of the joint project and progress so far. This can be viewed at <https://youtu.be/O8IUOCIXj3I>.

There is a global drive towards greater openness in industrial automation which is embodied by concepts such as Industry 4.0 and the Industrial Internet of Things (IIoT), both of which enable the collection and processing of large amounts of production data in close to real time with the aim of improving operating efficiency.

"To achieve this, the easy integration of networks such as CC-Link IE and PROFINET, into transparent network infrastructures is essential," says Fumihiko Kimura, chairman of CLPA.

The two associations have set up a technical working group, which has met several times and drawn up plans and schedules to allow the CLPA and PI technologies to align and interface. The target date for completion of an outline standard is the end of 2016.

Karsten Schneider, PI Chairman says: "Both of our technologies will become easier to install and use as a result of this work. We expect their worldwide appeal to also increase, initially between Europe and Asia but quickly extending to the Americas and the rest of the world. In the not too distant future plant and machinery will be communicating more freely without the need for OEMs and end users to undertake additional time consuming and costly engineering work in order to integrate CC-Link IE and PROFINET networks."

CC-Link IE and PROFINET technology is provided free of charge to members of the respective associations. Ultimately the interfacing technology will also be available to members of both groups.

"Industry needs flexibility and simplicity if it is to build IIoT, Industry 4.0, or e-F@ctory enabled systems," explains Naomi Nakamura, Global Director of CLPA. "Our collaboration with PI will allow users to benefit from the large number of devices available from members of both organisations."

John Browett, CLPA's General Manager for Europe, sums up: "This move will create new business opportunities for our members, whether they operate on a global basis directly or supply to customers who do. In short, intercontinental trade is good for global business and open, transparent networking of machinery is a vital part of achieving it."

Photo Captions

Photo 1:

Open industrial Ethernet is moving up to the next level, with PROFIBUS & PROFINET International (PI) and the CC-Link Partner Association (CLPA) co-operating to develop connectivity between their respective open industrial Ethernet protocols, PROFINET and CC-Link IE.

Photo 2: Fumihiko Kimura, CLPA Chairman, and Karsten Schneider, PI Chairman.

About The CC-Link Partner Association (CLPA)

The CC-Link Partner Association (CLPA) is an international organization with over 2,600 member companies worldwide. The partners' common objective is promotion and technical development of the family of CC-Link open network technologies with the focus on helping their joint customers achieve their integrated manufacturing aspirations.

CC-Link IE's 1Gbit performance, ideal for capturing large volumes of data, as well as its flexible topology culminating in its SLMP protocol (Seamless Messaging Protocol) which allows it to span from CC-Link IE and CC-Link to SLMP enabled devices on standard Ethernet, have already been selected as fundamental/core technologies behind total automation initiatives such as Mitsubishi Electric's e-F@ctory; thus allowing customers to create the infrastructure required to meet the challenges of initiatives such as Industry 4.0, IIoT, China Manufacturing 2025 etc.

The CLPA organization is the driving force behind developing new open standards in industrial communication while also supporting the device development activities of its members as well as certification of those devices as a quality control and maintenance of the open networking environment. In addition the CLPA actively conducts promotional activities on behalf of its members to gain the wider acceptance and use of advanced CC-Link based networking technologies.

The current board of the CLPA are: 3M, Balluff, Cisco, Cognex, Idec, Mitsubishi Electric, Molex, NEC and Digital (Proface)

About PI (PROFIBUS and PROFINET International)

PI (PROFIBUS & PROFINET International) is the largest worldwide operating automation community and responsible for PROFIBUS and PROFINET, the two leading industrial communications technologies in automation today. The common interest of the PI's global network of vendors, developers, system integrators and end users is technical development and international promotion of these open fieldbus technologies. Currently, around 50 million PROFIBUS devices and 10 million PROFINET devices are installed worldwide. PI is supported by 26 regional associations (RPA). This global network shares a common interest in a larger installed base, further development, and application of PROFIBUS and PROFINET. Under the PI umbrella there are over 50 active working groups responsible for the development, standardization, and increased market presence of PROFIBUS and PROFINET. In addition, there is a global PI network of accredited Test Labs as well as Training and Competence Centers, which meet international quality standards.

PROFINET, the globally leading Industrial Ethernet standard, is the only Industrial Ethernet standard that offers full openness for TCP/IP traffic combined with deterministic real time behavior for motion control application. Especially with the broad range of profiles, such as PROFIsafe, PROFIenergy and PROFIdrive, it is well prepared to serve as a backbone for Industrie 4.0 and Industrial IoT.

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