

# The thread that connects devices at plugfests

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Here's why CC-Link IE TSN compatible solutions are growing in numbers at testing events

Plugfests, or testfests, are key drivers in the journey towards the Industrial Internet of Things (IIoT) and its all-encompassing connectivity. These events bring industrial automation developers together and are a chance to get hands-on experience with the latest innovations. To ensure that these testing events are successful, network technologies that support openness, multivendor interoperability and unified communications are a must.

Thomas Burke, Global Advisor at CLPA, looks at the prominent role of industrial networks in plugfests.

The e-F@ctories of the future are all about the IIoT, where a myriad of interconnected devices share data to generate business intelligence and support smart operations. This type of framework requires seamless interoperability among all network nodes, which may come from a variety of vendors. Plugfests, gatherings where multiple network device manufacturing and developing companies come together to test each other's products, offer an ideal environment to simulate real-world scenarios.



They offer a neutral and confidential environment where industrial automation developers have the opportunity to carry out hands-on evaluations of their solutions' interoperability, as well as functionalities and conformance. In addition, this gives them a chance to address any issue before products hit the market. As a result, plugfests can help vendors streamline and improve their debugging activities.

Even more, these events facilitate collaborations. Participants are able to engage in technical discussions, showcase and talk through their products with other industry leaders, shaping the future of the industry as well as establishing valuable synergies.

#### TSN compliance and interoperability at plugfests

Many of today's plugfests are supporting automation product development by focusing on one particular technology, Time-Sensitive Networking (TSN). This enhancement to standard Ethernet is considered an enabler for convergence and, consequently, the IIoT through its core capabilities. These include time synchronization, traffic scheduling and prioritization.

The value proposition offered by TSN to companies in a variety of sectors is driving the development of innovative network devices. With the capability of the technology to deterministically merge multiple types of traffic onto a single network, opportunities to evaluate and improve interoperability are more important than ever.

For the successful testing of various industrial automation components, these should be able to communicate, sharing the same protocols, such as IEEE 802.1AS and IEEE 802.1Qbv TSN OSI Layer 2 standards. To this end, many of the products tested at current TSN-oriented plugfests leverage the vendor-agnostic CC-Link IE TSN. This is the first open industrial Ethernet with TSN functions in addition to



Gigabit bandwidth, and as such it has been providing a unique gateway for anyone interested in offering solutions compatible with this innovative technology.

As well as enabling early access to TSN, CC-Link IE TSN has also been providing automation vendors with a broad and comprehensive development ecosystem. This characteristic is extremely valuable to developers, as it helps them utilize the most suitable tools to deliver the products they want, within their required timeframes, costs and performance levels.

With openness, interconnectivity and interoperability being key elements of CC-Link IE TSN, we are likely to see the number of compatible network devices being tested at plugfests as well as reaching the market grow rapidly.



### Image captions:



**Image 1:** To ensure plugfests and similar testing events are successful, network technologies that support openness, multi-vendor interoperability and unified communications are a must.

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

The CLPA is an international organization 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 open industrial network family. 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 4,100 corporate members worldwide, and more than 2,000 compatible products available from over 370 manufacturers. Around 38 million devices using CLPA technology are in use worldwide.

Anyone interested in joining the organization can apply here: <u>https://www.cc-</u> link.org/en/clpa/members/index.html

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