What is CC-Link IE?

CC-Link IE is an industrial Ethernet that can support both 1Gbps and 100Mbps devices and forms part of the CC-Link family of open industrial network solutions. Currently, CC-Link IE is unique in that it is the only open Ethernet networking technology to offer 1 Gbps performance.

CC-Link IE is one of a group of industrial Ethernet alternatives which includes PROFINET.[1] Although, the lines between CC-Link IE which is managed by the CLPA and PROFINET managed by PI are blurring as the two organisations have announced an interoperability specification which allows for compatibility between the networks.

The CC-Link name was first applied to a general Fieldbus solution used to connect automation equipment. CC-Link Safety, a SIL 3 certified safety field network was then added to the portfolio, followed by the ultra-fast 1 Gigabit Industrial Ethernet variant CC-Link IE. The latest addition is a 100Mbps compatible version, CC-Link IE Field Basic, which allows devices that use 100Mbps speeds to be connected to a CC-Link IE Ethernet network.

Both as an industrial Ethernet and a Fieldbus solution it is the predominant network technology in Asia and is growing in popularity across Europe, the USA and the rest of the world. In fact, the combined CC-Link IE and CC-Link installed base is on target to reach 24million nodes sometime during financial year 2018.

CC-Link IE and CC-Link are also the default high-performance networking options for all Mitsubishi Electric automation equipment which is highly beneficial to any company exporting machines and devices into the Asian market. The governing body, the CC-Link Partner Association (CLPA) will also help members to certify new devices and provide access into the Asian market, hence its growing popularity with European and US based automation suppliers.

Building for the future

As an ‘Open’ network technology the 3,300 CLPA partner companies involved in applications and development form a community that drives new applications and complimentary solutions. This is overseen by the nine board member companies that determine technical development and the strategic direction of the organisation.

This suits the current fast pace of change in the marketplace, making the technology more flexible and better able to respond to changing market dynamics.

Ideal for Industry 4.0

Industry 4.0 is the concept of increasing interconnectivity between automation devices by using internet technologies. This concept has become well established in manufacturing and its success will depend on having sufficient bandwidth in order to allow information to flow where it's needed. CC-Link IE is well placed to support this trend by being the only open industrial Ethernet that offers gigabit bandwidth.

So, used and trusted pretty much all over the world and across all sectors of industry, CC-Link IE is employed to reliably interconnect individual machines and automation devices across the plant floor, and to other supervisory MES software layers and commercial ERP systems.

For more information you can contact the CLPA directly. If you want to get more involved, the basic membership is free of charge and there are different levels of participation available, so you can start small and keep going if it's working for you.

Contact us at partners@eu.cc-link.org

[1] The full list includes: CC-Link IE, PROFINET, EtherCAT, SERCOS, Ethernet/IP, Powerlink and Modbus/TCP.

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, the world's first and only open gigabit Ethernet for automation and an ideal solution for Industry 4.0 applications due to its unmatched bandwidth. Currently the CLPA has over 2,900 member companies worldwide, with more than 1,600 certified products available from over 300 manufacturers. CC-Link is the leading open industrial automation network technology in Asia and is becoming increasingly popular in Europe and the Americas.