



CC-Link IE – the natural choice for Industry 4.0

The CC-Link Partner Association's (CLPA) CC-Link IE is the only industrial Ethernet technology available today that offers gigabit performance. The SPS/IPC/Drives 2015 fair provided a perfect platform to visit the CLPA and find out how it will support the Industry 4.0 needs of the future.

Since it was first formally announced at 2011's Hannover fair, Industry 4.0 has gained more and more momentum to the point where most manufacturing companies are implementing or planning to implement systems that will embrace its core principles. Industry 4.0 has been defined as the combination of "cyber-physical systems" with the Internet of Things (IoT). In practical terms, this means systems that combine mechanical and software based features communicating with each other via Internet based technologies. Recently, the IoT has spawned an industrial variant, the Industrial IoT (IIoT), which emphasises the need for real time performance in industrial applications.

However you look at it, one of the common concepts running through the whole of Industry 4.0, and its related concepts across the world, is data – lots of data being generated by lots of devices in real-time and being shared amongst them to provide a transparent view of processes. To do this effectively, bandwidth is a key requirement. This is where CC-Link IE comes in. It is currently the only open industrial Ethernet protocol that operates at gigabit speeds. It is, therefore, de-facto the industrial Ethernet technology with the widest bandwidth and hence offers the greatest potential for supporting the needs of Industry 4.0, now and in the future.

While Industry 4.0 traces its birth to 2011, CC-Link IE came even earlier – in 2007. It could be argued that by working with industry leading companies in the Asian automotive and consumer electronics industries and responding to their needs with CC-Link IE, the CLPA foresaw the rise of Industry 4.0 four years before it was formally announced. Since that time, the CLPA has continued to lead the industry by providing gigabit performance across all levels of the automation hierarchy and working with leading third party vendors to offer open development solutions. Today, HMS, Mitsubishi Electric and Renesas all offer development solutions, with further options, such as FPGA support, in the pipeline. A further option for development is the Seamless Message Protocol (SLMP), a way to add CC-Link IE connectivity to devices with a reduced development overhead.

The CLPA has also formed alliances that will allow CC-Link IE technology to spread throughout a manufacturing enterprise. Earlier in 2015, the appointment of Cisco to the board of CLPA was announced. This was seen as a significant development and a further merging of the industrial and IT spaces for manufacturing. It also shows how the CLPA is continuing to develop into a truly global organization – today the CLPA board shows a strong Western influence with more than half its companies - such as 3M, Balluff, Cisco, Cognex and Molex - all originating from outside Asia.



CLPA Europe General Manager, John Browett, says: "It is difficult to envisage Industry 4.0 without a communications technology such as CC-Link IE. Connectivity through the whole value chain is an admirable goal, but it does assume that vast quantities of data can be handled efficiently and accurately and that devices from many different manufacturers are able to communicate freely over a common network. Fortunately CC-Link IE provides exactly that capability. We encourage people to contact us and learn more about how we can help them."

Image Captions

Image 1: However you look at it, one of the common concepts running through the whole of Industry 4.0, and its related concepts across the world, is data – lots of data being generated by lots of devices in real-time and being shared amongst them to provide a transparent view of processes.

About the CLPA

The CC-Link Partner Association (CLPA) is an international organisation with over 2,300 member companies worldwide. The partners' common objective is promotion and technical development of the family of CC-Link open automation network technologies. Over 1,400 certified products are now available from more than 290 manufacturers. CC-Link is the leading open industrial automation network technology in Asia and is becoming increasingly popular in Europe and the Americas. The European headquarters is in Germany, with offices throughout the continent. The CLPA's main initiative for Europe is the Gateway to Asia (G2A) programme, which helps European businesses develop their Asian business further. More details are at www.cc-link-g2a.com.



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