



# CC-Link NEWS

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**5<sup>th</sup> Anniversary issue**

## CC-Link Partner Association Celebrates 5th Anniversary

5 years ago the CLPA (CC-Link Partner Association) was established to promote and market the 'open' benefits of the CC-Link Fieldbus which, up to then, was a proprietary network for Mitsubishi Electric.

In this time all targets have been exceeded with over 3 million nodes now installed worldwide.

In addition, membership of the CLPA has increased 5 fold in this period to over 750 manufacturing partners who are providing certified compatible CC-Link products.

CC-Link is the clear market leading Fieldbus in Asia, which is now set to be further enhanced following approval for China's National Standard GB.

Key benefits of CC-Link include the ability to integrate a wide range of automation devices from various suppliers on a single network of up to 13.2km and the capability to hot swap modules without rewiring.

### LATEST NEWS

**CC-Link achieves China's National Standard GB Certification.**  
Fulls details see page 2

Companies wanting to be part of the CC-Link success story should contact [malcolm.robins@clpa-europe.com](mailto:malcolm.robins@clpa-europe.com) for details on membership of the CLPA and its certification schemes.



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# CC-Link takes up the global challenge

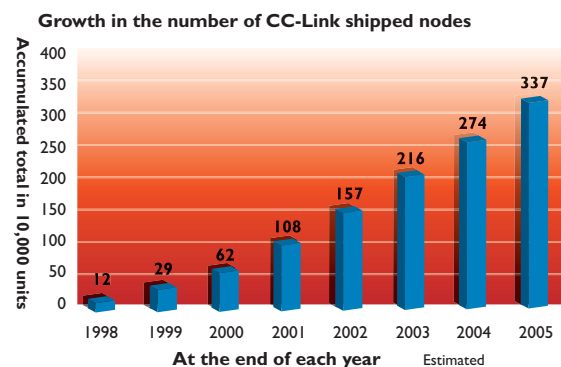
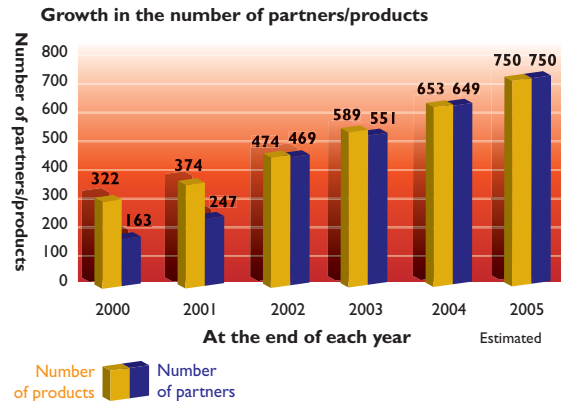
CC-Link is the dominant open Fieldbus in the Asian and Pacific markets and is expected to overhaul its regional rivals in Europe and America within the next four years to become the undisputed world leader by 2010.

Already CC-Link has over 3 million installed nodes and systems worldwide, however most CC-Link installations are in Japan and Japanese led regions. Crucially this includes China which is en route to becoming the world's biggest manufacturing economy. Following fairly low level promotion in Europe, awareness is now being ramped up with more aggressive marketing.

Currently Profibus and its derivatives are seen as the leaders in Europe, DeviceNet is the number one choice in America. However the balance is changing as more and more OEMs build up their customer base in China and become familiar with CC-Link.

The CC-Link Partners' Association (CLPA) recently celebrated its fifth birthday with a special seminar in Tokyo, where Takashi Sekiguchi, CLPA Chairman, Emeritus Professor Yokohama University welcomed representatives from six worldwide branches including UK, Europe, North America and most of the Asian Tiger Economies.

He noted that there are now more than 700 member companies within the CLPA, and 1000 or more CC-link enabled products, numbers far exceeding the original targets of the organisation.



But he also warned against resting on past glories. "Our challenge now is to build presence in other global regions, which are becoming battlegrounds between the global network players," he said. "In terms of node numbers, we are indisputably ahead, but it is crucial that we are recognised as leaders and do not let the tail wag the dog."

"Developments in communications are vital if we are to maintain the technological advancement that fuels established economies and brings developing regions in to the world trade arena."

## CC-Link Fieldbus Achievement!

### CC-Link Fieldbus achieves China's National Standard GB Certification

CC-Link success continues unabated with the announcement that it has achieved China's National Standard GB certification.



This significant achievement is good news for CC-Link users who are aiming to develop and expand business in China.

The anticipated increase in demand for CC-Link

compatible products in this fast developing economic area will also present great business opportunities for current and new manufacturing partners.

Malcolm Robins, European General Manager for the CC-Link Partner Association (CLPA) stated "this approval, as the national standard in China, represents the icing on the cake for CLPA in our 5th anniversary year of marketing and supporting CC-Link as a global open network solution in the rapidly growing areas of factory, building and process automation.

Already there are well over 750 CC-Link compatible/certified products and partners - and I anticipate this latest development will see these members increase even more.

# New Safety Network System Uses CC-Link



A new network dedicated to safety has been announced by the CC-Link Partners Association (CLPA). CC-Link Safety is a unique safety network with ultra-high reliability in transmission for the safe usage of machinery and uses existing CC-Link communications networks, saving time, wiring and costs.

When personnel work with machinery and robots, there is always the potential risk of injury. Therefore, a safety system is needed that recognises, through the use of sensors and other means, when people approach a danger area, and initiates an emergency stop of machinery. In the past, such safety systems tended to have more wiring than conventional control systems. Recently, the desire for safety networks has been spreading in order to reduce the amount of wiring in safety systems. The result is CC-Link Safety.

CC-Link Safety enables users to configure a safety system that complies with IEC61508 SIL3 and ISO13849-I Category 4. By incorporating the safety function layer on the upper level of the CC-Link protocol, CC-Link Safety is not only compatible with standard CC-Link, but is very cost-effective, using existing investments in network cable, other compatible products, and existing engineering effort. It also provides the same high-speed communication and high-speed response for safety communication as standard CC-Link communication – considerably faster than is available from other network-based safety systems.

In addition, CC-Link Safety provides great convenience as a safety network through a configuration management function that detects incorrect changes and setting mistakes within the safety system. Powerful RAS functions quickly analyse trouble conditions and the safety system offers features of duplicate processing and diagnostic functions to avoid malfunction of an emergency stop operation caused by electrical noise or other errors.

This fail-safe function will bring machinery into a safety condition quickly when a communication failure is detected.

The increasing number of compatible safety devices, such as light curtains and safety switches, means that users of CC-Link Safety can dramatically reduce the amount of wiring, cost and installation labour. What's more, personnel training costs can be reduced as the safety network uses the same network management techniques as the existing plant network.

A major advantage of CC-Link Safety is that both CC-Link Safety products and non-Safety products can be connected to the same network. CC-Link compatible products that are not involved in safety operations can remain on the same network even though they cannot decode messages of CC-Link safety stations. This enables the most efficient use of resources, existing facilities, and maintenance devices.

Some other safety networks use a duplicate communication method or duplicate message method to ensure transmission reliability. These methods are inefficient for communication because they double the communication time required. CC-Link Safety doesn't use extra communication transmissions to achieve high-reliability communication, because it uses CRC32 as a redundant coder rather than using redundant messages.

That means that CC-Link Safety is designed to use network communication bandwidth effectively, and therefore delivers the same high speed performance as standard CC-Link.

CC-Link Safety uses unique product information for each safety station to conduct configuration management of safety network. Product information is unique for each product defined by model number and certified by the CC-Link Partner Association.

CC-Link Safety is now under examination by the safety certification organization, TUV. The CC-Link Partner Association (CLPA) is presently working with safety machinery manufacturing companies to develop an even wider range of CC-Link Safety compatible products.

The logo for CC-Link SAFETY. 'CC-Link' is written in a large, blue, sans-serif font. Below it, 'SAFETY' is written in a smaller, red, bold, sans-serif font. A small red dot is positioned above the 'i' in 'Link'.

# New CC-Link approved compatible products

## RKC Temperature/ Process Controllers

The FB Series is a range of high performance digital process controllers with a more advanced Brilliant II PID, autotuning, advanced tuning, selectable sampling cycle time of 0.05/0.1/0.25 second and 0.1% of accuracy in short depth housing.

### Open Network Connectivity

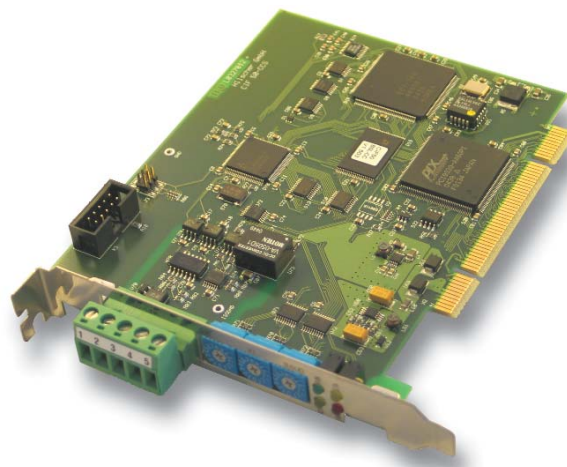
The FB Series can be connected to CC-Link and various other Open Networks via a gateway. A gateway with the MAPMAN function is available with the FB Series. The MAPMAN function requires no PLC programming and automatically writes process data into the PLC registers and updates parameters continuously.



## Hilscher interface boards and communication modules

Automation field devices or PC-based controls equipped with these CC-Link boards can be integrated into CC-Link networks as Remote Device Stations. The implementation of CC-Link is based on the MFP3 communication ASIC from Mitsubishi and enables up to 4 stations to work on one interface board. Each station has 32 binary and 4 words of data.

The range includes communication modules for integration of field devices or programmable controllers, via a dual-port-memory access.



## Members European Branch

**UK** Woodhead Connectivity Ltd  
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PCI Cards  
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**D** Yamato Scale GMBH  
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Optical Measuring equipment

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CC-Link / ASI Gateway  
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