New CLPA Chair is world renowned production engineer

One of the world's foremost leaders in the advancement of production engineering, Professor Fumihiko Kimura of Hosei University in Japan, has been elected the new Chair of the CC-Link Partner Association (CLPA).

CC-Link is a global industrial open network standard used to provide communications around automated systems such as factories, machinery and high-tech buildings. Originally developed by Mitsubishi Electric, it was made an open technology in 2000 and is now supported by over 280 different companies.

Professor Fumihiko Kimura enjoys an international reputation based on 40 years of research into various fields related to manufacturing and production including CAD/CAM, inverse manufacturing, life-cycle engineering and geometric modelling. In recent years he has led research into areas such as environmentally friendly product design (eco design), product life-cycle design, sustainability and flexible production systems.

Recent years have seen an unstoppable rise in the importance of data for improving the efficiency of manufacturing and Professor Kimura identifies open network technologies such as CC-Link and CC-Link IE (the Industrial Ethernet variant) as essential for supporting this trend in the future. Not only will they aid the collection of ever more data from the manufacturing processes, they will also allow integration with data from upstream and downstream stages, so that a product's whole lifecycle can be analysed and optimised for minimum environmental impact.

Professor Kimura also expects CC-Link to become a major plank in the development of the current automation trend of "Industry 4.0", because of the links between CC-Link, the Internet of Things (IoT) and this trend. The IoT will see machines, sensors, equipment, etc. ('things') interconnected in the same way that the Internet connects people. He points out that because there are far more 'things' in the world than people it is inevitable that the IoT will be bigger and more powerful than the Internet and its impact correspondingly greater. For instance the rapid analysis of vast data sets will enable manufacturers to monitor their products' total lifecycle so that product and process development will become truly continuous. This is a key part of Industry 4.0 and bandwidth is the engine that will drive this technology. For devices to all share information in real time, it's essential that they be connected by a network that permits this. CC-Link IE, with its unique open gigabit Ethernet capability, is currently the only open automation network technology that can offer this level of support for Industry 4.0.

Furthermore, Prof. Kimura predicts that the IoT is on the cusp of widespread acceptance and adoption, so its mass impact and hence the adoption of Industry 4.0 is happening now.

Professor Kimura's current work is focused on environmentally friendly product design. To support this research, it was necessary to first collect data from different manufacturing processes in order to evaluate how these processes impact the environment. Several different companies have allowed him to collect this data via their CC-Link network installations and this is being used to verify the evaluation method.

CC-Link is also important from sociological and macro-economic perspectives, explains the Professor. As a powerful tool for industrial automation it is vital in helping developed countries maintain a domestic manufacturing base, which is essential for maintaining an economy that is healthy and balanced for long term stability – if manufacturing capabilities are lost completely, a country's global economic position is severely undermined.

It is a well observed trend that as new technologies mature their price drops which allows them to be adopted by developing regions. Therefore, developed countries need to be constantly developing new technology platforms to maintain their position. A major element of this is new and improving manufacturing technologies, which CC-Link helps to develop.

Professor Kimura's early career was spent at the University of Tokyo, where he gained a PhD in 1974, before moving to the Ministry of International Trade and Industry (MITI). He has held key posts in authoritative international institutes, such

as IFIP (International Federation for Information Processing) and CIRP (College International pour la Recherche en Productique (International Academy for Production Engineering)), in addition to institutes in Japan including the Japan Society of Mechanical Engineers (JSME) and the Japan Society for Precision Engineering (JSPE). He also has been engaged with many international standardisation activities. For example, he took part in ISO (International Organization for Standardization)/TC184 as a representative of Japan. He also played an important role as a leader in "IMS (Intelligent Manufacturing Systems)", which is a major international project for establishing a new-generation intelligent production system. His career has also been distinguished by multiple awards from these organisations over the last 30 years.

His clear vision of the future of manufacturing is expected to help guide the CLPA as it develops plans that will carry it forward into the next decade. Significantly, Professor Kimura also says he expects to soon see CC-Link move out from the factory. By connecting factories to various external systems, the data distributed in this way will bring innovations to a wide variety of fields.

CC-Link is recognized as a de-facto standard for automation networks throughout Asia after establishing a dominant position in Japan in the last decade. Its high-speed responsiveness and deterministic operation enables precise control of machinery, contributing to improvement in efficiency of production. In addition, enterprise information networks can be integrated into the system to provide seamless management systems for entire businesses. It is available in both fieldbus and Industrial Ethernet versions and also offers safety, motion control and energy management capabilities.

Photo caption: Professor Fumihiko Kimura, one of the world's foremost leaders in the advancement of production engineering, has been elected the new Chair of the CC-Link Partner Association (CLPA).

About the CLPA

The CC-Link Partner Association (CLPA) is an international organisation with over 2,100 member companies worldwide. The partners' common objective is promotion and technical development of the family of CC-Link open network technologies. Over 1,300 certified products are now available from over 280 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 key details for CLPA's Gateway to Asia (G2A) can be found at the URL www.cc-link-g2a.com.

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