Mitsubishi Electric delivers Edge Computing solutions within e-F@ctory strategy

Ratingen, Germany, 4th January 2017

Mitsubishi Electric's solutions for Edge Computing and support for Cloud Computing help businesses who are looking to reap the benefits of the Industrial Internet of Things (IIoT). The Edge Computing solutions are built on local control platforms to provide filtering and pre-processing of production data from intelligent devices, and at the same time facilitate communications to a broad range of standard and niche cloud services.

Across the spread of industrial sectors, meaningful data is the primary driver for improving productivity, increasing product quality, delivering predictive maintenance and enabling remote management. Only with high quality data can educated business decisions be taken. The result has been the integration of data from an even broader range of control components and field devices. This may be over Ethernet as more and more smart devices are developed with their own IP addresses, but it might also come over wireless GSM standards, or integrate legacy RS232 devices through network gateways.

The resulting widely distributed intelligence, with remote devices generating lots of information, linked over these standard open protocols, is seen as the key to forming a digital nervous system within businesses. The networked digital data is then combined into bidirectional systems to integrate data, people, processes and systems for better decision making.

Recent estimates already put the number of devices that are connected

through the IIoT at about 5 billion, and this is likely to soar over the next few years. Combine that prediction with the amount of data that is being generated and processed by a more connected factory, and it is easy to see why companies' IT infrastructure is becoming increasingly stressed. We can appreciate, then, the attraction of cloud based data storage and processing services, which deliver more secure, more reliable, more scalable and more affordable data collection and distribution than on-site IT platforms.

Businesses are increasingly using these cloud services not simply to store large volumes of data, but also to perform analytics on that data, deriving trend information and presenting users with customised dashboards with which they can improve overall plant performance and asset management.

New requirements have also emerged to act on some of this live data more quickly than can be achieved via the cloud. Data needs to be captured, aggregated, simplified and processed, and then delivered to machines, processes and business systems to enable production decisions to be made in real time. This is the essence of Edge Computing, which pushes the intelligence, processing power and communications capabilities of an edge gateway or smart device directly into local and powerful programmable automation controllers (PACs).

Edge Computing is complementary to Cloud Computing, and businesses are increasingly finding that they need the capabilities of both. The cloud delivers the 'bigger picture' of the Industrial Internet of Things, while Edge Computing brings the Industrial Internet of Things to life by supporting applications that demand a real-time response.

Mitsubishi Electric has developed solutions that support both of these

complementary IIoT approaches, with simple and secure access to a range of different cloud services while at the same time facilitating Edge Computing. These solutions are built on technologies such as Mitsubishi Electric's C-Controller, MES interface and MAPS SCADA platform.

Providing an effective Edge Computing platform, the Mitsubishi Electric C-Controller is an open platform controller that can execute C language type programs. Capabilities include the ability to embed database technology from Mitsubishi Electric e-Factory Alliance partners such as Raima directly into Mitsubishi Electric PACs, improving overall transparency and performance of critical production operations.

Production data from the likes of sensors, drives, PLCs, actuators and robots are filtered and pre-processed within the C-Controller and MES Interface solutions (such as the C-Application Server or MES IT Module). Direct benefits in power and speed are realised through direct local processing and by making the data more easily available to the processes that need it.

Because Edge Computing and Cloud Computing are complementary, the Mitsubishi Electric solutions also facilitate seamless transfer of information into different cloud services. There is support for the best-known and biggest cloud services – including SAP Hana, Microsoft Azure and Amazon – but also for special cloud solutions, niche cloud applications and dedicated cloud-based analytics services.

For example, MX OPC UA software provides direct connection between Mitsubishi Electric devices to an existing OPC UA structure. In addition, the Mitsubishi Electric IoT Connector provides seamless connectivity with the cloud services offered by e-Factory Alliance partners such as eWon, Secomea or Iconics. Further, the C-Application Server is capable

of storing information within different kinds of cloud services and offers functions such as analytics and mobile applications. In more process-oriented applications and industries, Mitsubishi Electric's MAPS SCADA platform supports the full suite of Microsoft connection technologies, as well as VB-Scripts and the OPC UA structure.

Cloud computing has already become an indispensable tool for companies who are seeing their IT infrastructure stressed by the need to process burgeoning volumes of data, and to access that data on a wide variety of devices, both locally and remotely. At the same time, requirements for Edge Computing are growing fast, speeding up the dissemination of pre-processed data to applications that require a low latency response. With its Edge Computing platforms and cloud connection services, Mitsubishi Electric is at the forefront of developing solutions to address these vital modern business requirements.

Note:
Learn more about Mitsubishi Electric's Edge Computing solutions:
eu3a.mitsubishielectric.com/fa/en/solutions/capabilities/cloud

See how Mitsubishi Electric is able to respond to today's automation demands:
eu3a.mitsubishielectric.com/fa/en/solutions

First distributed at the SPS IPC Drives in Nuremberg on 22nd of November 2016.

Image captions:

Picture 1: The Edge Computing solutions are built on local control platforms to provide filtering and pre-processing of production data from intelligent devices, and at the same time facilitate communications to a broad range of standard and niche cloud services.

[Source: Mitsubishi Electric Europe B.V., Thinkstock]

Note to Editor: if you would like the text in another language please contact Philip Howe at DMA Europa – philip@dmaeuropa.com.

About Mitsubishi Electric

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognised world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 135,000 employees the company recorded consolidated group sales of 38.8 billion US Dollars* in the fiscal year ended March 31, 2016.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe B.V., Factory Automation European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

**Exchange rate 113 Yen = 1 US Dollars, last updated 31.3.2016 (Source: Tokyo Foreign Exchange Market)*

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