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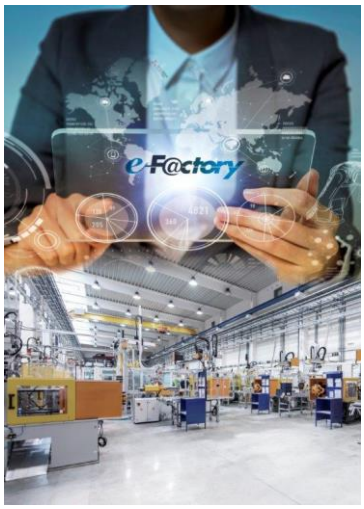
Mitsubishi Electric exhibited a new generation of solutions in EMO 2017, compatible with Industry 4.0

Advanced technologies for digital transformation of production

Mitsubishi Electric, the pioneer brand in the automation industry, exhibited its technologies for digital transformation in EMO 2017 held in Hannover, Germany. Mitsubishi Electric participated the fair with the theme "e-F@ctory - pushing business further" as a response to Industry 4.0 with a digital factory concept, introducing many products from the latest CNC controllers to PLCs, robots to EDM machines with live demonstrations.



It is very important for companies to gain flexibility and increase their productivity in a manufacturing environment where the competition is getting faster with the Industry 4.0 phase. This development is made possible by the digitalisation at manufacturing level. Mitsubishi Electric exhibited a new generation of solutions at EMO 2017, International Metal Processing Technologies Fair held in Hannover, Germany between September 18-23, with advanced technologies for digital transformation in production. Mitsubishi Electric, which participated the fair with the theme of "e-F@ctory - pushing business further" in the framework of the digital factory concept as a response to Industry 4.0, and introduced many products ranging

from the latest CNC controllers to PLCs, robots to EDM machines with live demonstrations. Participants who visited the brand's stand had the opportunity to experience how the e-F@ctory concept, which enables the easy integration of different product technologies into a platform based on the Internet of Things (IoT).

Next generation CNC technologies

One of the key technologies that Mitsubishi Electric exhibited at the EMO Fair included Mitsubishi Electric's new generation of CNC controllers, providing fast, precise and affordable control of machine tools for complex machining applications. The recently launched C80 CNC CPU module, as well as the M800 and M80 CNC series, were among the outstanding products of the show. The M800/M80 CNC Series offers increased processing speed for improved machining performance, with greater machine responsiveness and more accurate machining. The new C80 CNC series has Enterprise Resource Planning (ERP) and a separate Manufacturing Execution Systems (MES) interface module that transmits data for processing in business management.

With all these control devices and solutions, Mitsubishi Electric offers high added value to companies by providing integrated control over the entire production line. Control systems that can be used effectively with seamless data flow optimize independent machines and maximize the overall production volume of the factory . Mitsubishi Electric which demonstrated these advantages by using wide screens showing the production and operation data of all of the machines on the exhibition stand, and the basic manufacturing information were displayed at the local operator terminals.

Artificial intelligence for predictive maintenance

Predictive maintenance is another important theme of the Mitsubishi Electric stand at EMO Fair. In a live demonstration focused around a robot RV-4FRL, data from the robot controller (a Mitsubishi Electric CR-800) were passed to a Mitsubishi Electric MELSEC iQ-R series PLC. Pre-processed data is then passed to the cloud for analysis using the artificial intelligence (AI) platform within IBM Watson. The dashboard provided an overview of robot health, and transmitted maintenance requirements to an operator tablet. Therefore, users could examine the efficiency of each joint of the robot, look at how that has changed over time, and view maintenance action suggestions from IBM Watson so that efficient maintenance can be planned. Further increasing the efficiency of this maintenance, the demonstration on the Mitsubishi Electric stand included voice control of the robot. The maintenance activities themselves were optimised through the

use of smart glasses, where the operator was shown CAD drawings of the relevant robot parts superimposed over the robot itself, also visualized the maintenance manual and individual instructions.

Advanced visualization technology with augmented reality applications

Another demonstration at EMO fair proved how smart devices such as tablets and smart glasses are a key driver in the digital transformation of manufacturing. It gives a glimpse into the future of human orientated monitoring and training. Within the scope of the pilot project with the Fraunhofer Institute for Production Technology IPT, how machine operators can interact with the system and learn faster were shown. Using intelligent glasses and tablets, a CNC machine was interacted through Mitsubishi Electric's latest CNC controller.

In machine monitoring process, operators can view up-to-date machine and production information, such as progress, remaining time, machine status or overall equipment effectiveness. Raw data is continually processed, visualised and automatically updated within the smart device, and should unexpected production interruptions or errors occur, the operator can be automatically provided with popup information to rectify the problem. This advanced visualisation technology supports predictive maintenance, but can also aid with training for operators or maintenance staff. As a result of this technology, operators can interact with machines more efficiently and learn how to use them faster. Users are able to choose from a menu of topics, including education, service/support, live data and predictive maintenance values. The menu items provide a mix of moving animations, guidance videos and Augmented Reality content.

About Mitsubishi Electric Corporation

With over 95 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation is a recognized 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, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,238.6 billion yen (US$ 37.8 billion) in the fiscal year ended March 31, 2017. For more information visit: www.MitsubishiElectric.com*

** It was calculated by 1 USD = 112 Yen exchange rate announced by the Tokyo Foreign Exchange Market on March 31, 2017.*

About Mitsubishi Electric's Activities in Turkey

Mitsubishi Electric's main fields of activity in Turkey are; air conditioning systems, factory automation systems, CNC mechatronic systems, and advanced robotics. In addition to these activities, the company also supports satellite, elevator, visual data systems, power supplies and transport infrastructure. Mitsubishi Electric, the producer of Turksat 4A and 4B satellites, which contributes to the communication and publishing infrastructure of Turkey and neighboring countries, is notable for its satellites as well as the automation technology used in the Marmaray project. In April 2016, Mitsubishi Electric, which has established a domestic air conditioning development and production company in Turkey, is preparing to make production in January 2018 in the Manisa factory. For more information; tr.mitsubishielectric.com

About Mitsubishi Electric Turkey Factory Automation Systems

Mitsubishi Electric Turkey Factory Automation Systems; provide added value in terms of rapid integration, productivity, flexibility and productivity to the leading industrial companies in Turkey in various fields such as automotive, food, packaging, metal and PVC processing machines. The new industry, also called "Industry 4.0", responds with e-F@ctory, i.e. the digital factory concept. For more information; tr3a.mitsubishielectric.com