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e-F@ctory concept by Mitsubishi Electric for Industry 4.0 adaptation period

Cooperation of robot and human increases efficiency in factories

Leading brand in electric, electronic and automation industry, Mitsubishi Electric answers Industry 4.0 with its digital factory concept, e-F@ctory. Making statements about new generation digital factories, Mitsubishi Electric Corporation Factory Automation Overseas Strategic Planning Senior Manager, Hajime Sugiyama said that cooperation of robots and humans increase efficiency in production facilities that are built to fulfill personalized demands of customers. Stating that efficiency increased by 50 percent upon applying e-F@ctory concept in one of the factories of Mitsubishi Electric, Sugiyama said that short-time stops in production lines are reduced by 70 percent.



Within the context of WIN Eurasia fairs, the meeting point of Industrialists in Eurasian region, during a session titled "Digital factories of 21th century" organized under the cooperation of Financial Journalists Association, International Advanced Industrial Automation Congress and Yıldız Technical University, Mitsubishi Electric Corporation Factory

Automation Overseas Stratehic Planning Senior Manager, Hajime Sugiyama participated as speechgiver. Pointing out to digital conversion process in factories and giving world wide examples of e-F@ctory, Mitsubishi Electric's answer to Industry 4.0, Hajime Sugiyama received thank you plaque from the Minister of Science, Industry and Technology, Faruk Özlü.

Stating that 10 years ago, it was enough for a brand and model to produce only one type of automobile but in the present day, according to personalized consumer demands thousands of types of automobile have to be produced for the same brand and model, Hajime Sugiyama said "While buying an automobile, consumers want to decide on several aspects of the car such as colour, interior design and accessories, personalizing the automobile. Such changeable demands is a very hard scenario with traditional approach to production. Thus, having a flexible structure and the ability to fulfill different customer demands are some of the most important topics for factories under the process of Industry 4.0. This is only possible with proper factory infrastructure".

There is a lack of robot engineers worldwide

Also giving his remarks on robots, one of the most important elements of digital factories, Sugiyama stated that it would not be right to think all types of work can be done exclusively by robots and continued; "While robots can be used for simple tasks, it is more efficient to also have support from a human in complicated works. Because humans are more flexible and do a variety of different tasks. Robots fall right in between. One of the most concerned topic about robots is the controversy that robots will end the jobs of humans in factories. However, this is not really possible. First of all, we need humans even for programming the robots and at the moment, there is a lack of robot engineers worldwide. Shortly, we can say that instead of a factory consisting solely of robots, digital factories where robots work in tandem with humans in a balanced mix are much more efficient."

Short-time stops in product lines reduced by 70 percent, efficiency increased by 50 percent



Expressing that he started working on Mitsubishi Electric's digital factory concept e-F@ctory starting from 2003, Sugiyama gave the following information about the model implementation in the company's own factory; "In the past, our method of troubleshooting in our factories was, we would look at data and once we realized there was a problem, we would put the data on an excel sheet and analyse it. Mostly, after a week of cumulating data we wouldn't be able to solve the problem and then we would start gathering even more data. Sometimes, we couldn't

get our hands on the right data and we would have to operate on guesswork. That's why we developed e-F@ctory concept, which is a fully automated line that collects data automatically, in order to solve problems quickly and correctly. Now we can see everything in real-time. Thus, we can see which production line stopped, how many times the machine stopped and

such, we can understand the problem with one move and create solutions. This way we managed to reduce short-time stops in production lines by 70 percent and increased efficiency by 50 percent. Because it is a fully automated process, once you scan the barcode, robot settings are configured automatically. All types of data are collected by the network and relayed to server wirelessly. That's one of the biggest advantages of Industry 4.0".

Humans in factories increase the functionality of robots

Saying that they have high opinion of having humans in production lines in order to make robots more functional, Sugiyama also said; "For example, when robots are used in an automotive factory exclusively, numerous problems can happen. Too many equipment might be needed to feed the production line with necessary items. Any stoppage occurring on one part of the line might stop the whole production line. That's why we believe it is more efficient if robots and humans work together."

Right solutions must be found

Saying that there is a very wrong belief that Industry 4.0 compatible production infrastructure are too complicated, Sugiyama finished his words by saying, "What is important is that companies can find the right solution that first their company's dynamics the best. We, as Mitsubishi Electric, develop easy to use new generation technologies."

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, advanced robotics, CNC mechatronic systems, elevator and escalator systems and visual data systems. Mitsubishi Electric, which established a room air conditioner development and manufacturing company in April 2016 in Turkey, began production in Manisa factory in December 2017. 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. 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

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