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Mitsubishi Electric attracted great attention from students at III. Artificial Intelligence Summer School event

Mitsubishi Electric shared artificial intelligence technologies with the engineers of future

Standing out with its advanced technology solutions in many sectors from "home to space", Mitsubishi Electric met with students at the digital event within the scope of the III. Artificial Intelligence Summer School (YAZSUM 2020), organized in cooperation with Istanbul, Kocaeli, Sakarya and Yalova Universities. Stating that the digital transformation changing our lives was taking on even greater momentum because of the pandemic, **Mr. Tolga Bizel, Product Management and Business Development Senior Manager at Factory Automation Systems Department of Mitsubishi Electric Turkey** ***shared many of Mitsubishi Electric's artificial intelligence studies with the participants such as advantages of robots with an artificial intelligence algorithm, the e-F@ctory concept, responding to the new industry phase, the proprietary AI brand "MAISART" technology, which allows companies to get the maximum benefit from artificial intelligence, and the Digital Twin application.***

As an ambitious solution partner for industrialists and infrastructure projects in Turkey and implementing significant investments and studies in the field of digital transformation, Mitsubishi Electric continues to communicate with students through digital platforms. **Mr. Tolga Bizel, Product Management and Business Development Senior Manager at Factory Automation Systems Department of Mitsubishi Electric Turkey,** met with students live online within the scope of III. Artificial Intelligence Summer School (YAZSUM 2020) organized in cooperation with Istanbul, Kocaeli, Sakarya and Yalova universities. Bizel, who participated in the III. Artificial Intelligence Summer School event organized with the purposes of teaching undergraduate and graduate students and academics the basis of artificial intelligence, being an inspiration to those who prepare undergraduate-graduate theses, and lead the formation of

new project teams and following the developments in the field of artificial intelligence, made a presentation titled “Digital Transformation of Factories and Artificial Intelligence Technologies".

New collaborative artificial intelligence robots work faster, more intuitive and precise

Underlining that the work done in factories has changed today, Tolga Bizel continued: "While robots previously only changed the body of the vehicle, they are now able to complete delicate human-handed tasks such as placing lamps and installing the sound system. In the near future, the biggest change expected from robots will be the field of motion technology. Robots with an artificial intelligence algorithm will be expected to move the product, work precisely, flawlessly and flexibly. As Mitsubishi Electric, we enable companies to build their robotic systems quickly, intuitively and at lower costs, and to respond flexibly to rapidly changing business environments and social needs with the next generation collaborative robots developed with artificial intelligence. In this way, it becomes possible to prevent unexpected failures and warn the users in advance about any of the parts that will lead to failure. Our robots work faster with a power sensor than traditional systems and without damaging the system; they gradually improve their performance by learning. At the same time, the learning time of our robots has also decreased from 5 to 1-2 hours.”

e-F@ctory concept enabled a company to save about $ 9 million

Explaining the work of Mitsubishi Electric, which responded to the new industry phase with the e-F@ctory concept at the event, Tolga Bizel said: “With our e-F@ctory concept realizing the digital transformations of factories, we offer the opportunity to simulate the line and production that will emerge by creating a virtual factory before the factory investment, to evaluate the efficiency and to shape the investment in line with the resulting outputs. In the age of digital transformation, machines are able to understand what is happening around them and communicate with each other through Internet protocols. Within this infrastructure, robots play a very important role. Today, thanks to the e-F@ctory infrastructure, robots can also communicate with other products on the production line and are ready to share information both among themselves and with the main system that controls the factory, regardless of human control, and increase efficiency. Thanks to our pilot program, which we implemented in a company's Malaysian factory, it became possible to detect failures in advance and intervene before the failure occurred. This pilot program resulted in high efficiency, the possibility of preventive maintenance activities, low component failure rate, low cost and perfect compliance. All of these results enabled the company to save about $ 9 million.”

Digital Twin application provides high flexibility

Pointing out that as Mitsubishi Electric, they realized one of the leading electronic goods manufacturers in Turkey, robots and IQ Platform PLCs in the production line with the ‘digital twin’ application, Tolga Bizel gave the following information about the project: “Thanks to our Digital Twin application in this factory, we have added flexibility and efficiency to production without interfering with the actual production line. For example, an authorized person can simulate the production that they really want to do in the digital twin of the production line only by changing its parameter and see how much efficiency the targeted production will work when it is real before physically starting production.”

Productivity increases in artificial intelligence-based factories with "MAISART" technology

Underlining that they were using Mitsubishi Electric's proprietary AI trademark “MAISART" technology to ensure companies get the maximum benefit from artificial intelligence, Tolga Bizel continued: “‘MAISART’, which is the abbreviation of **M**itsubishi Electric's **AI** creates the **S**tate-of-the-**ART** in technology, enables artificial intelligence-based factories and plants to increase productivity while reducing equipment downtime. Using a machine-learning algorithm, this technology creates a model for manufacturing machine switching among different operational situations after analyzing sensor data. In this way, it is possible to quickly and accurately detect machine abnormalities that actually indicate unexpected situations in machines and therefore to increase productivity in factories and facilities.”

“We foresee a future in which humans and robots will work together”

Explaining that as a nearly century-old leading brand in the field of digital transformation, they believe that systems which can function perfectly in production processes will always be needed to install, operate smoothly and overhaul when necessary, Bizel shared that they predict that digitalization will not lead to people being unemployed and that people will move from labor-weighted work to more mental work and he finished with these words: “With the digital transformation, our expectation that there will be a new organizational structure and placement in enterprises is gaining importance. In our transformation experience, which started in 2003 at our Kani factory in Japan, we switched from line production to cellular production and high-tech system equipped with digital transformation. And here, we have seen that the job description of many employees will change radically. In the future, factories where robots will work in cooperation with humans are waiting for us.”

About Mitsubishi Electric Corporation

With nearly 100 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. Mitsubishi Electric enriches society with technology in the spirit of its corporate statement, “Changes for the Better,” and environmental statement, “Eco Changes.” The company recorded a revenue of 4,462.5 billion yen (U.S.$ 40.9 billion) in the fiscal year ended March 31, 2020. For more information, please visit www.MitsubishiElectric.com*

**U.S. dollar amounts are translated from yen at the rate of ¥109=U.S.$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2020*

About Mitsubishi Electric's Activities in Turkey

Main fields of activity of Mitsubishi Electric that stand out with its advanced technology solutions in various areas ranging from “Home to Space” in Turkey are; air conditioning systems, industrial automation systems, advanced robot technologies, CNC mechatronics systems, elevator and escalator systems and visual data systems. Designating Turkey whose power and potential it believes in as a major production headquarter, Mitsubishi Electric produces energy efficient and environment-friendly air conditioners for Europe and Turkey in its digital factory in Manisa which is the brand's first room air conditioner factory in Europe. Working to integrate factories of Turkish industry into digital transformation period, Mitsubishi Electric also draws attention with its automation technologies in the world's deepest sunken tube tunnel, the Marmaray project. Operating in several fields in Turkey such as automotive components, semi-conductor devices, transportation and energy systems, Mitsubishi Electric applies its radar technology which is developed for airports to increase safety for airplanes and flights within its operations in public systems in Antalya Airport. One of the leading developers in space research and development systems, Mitsubishi Electric is also the manufacturer of Turksat 4A and 4B satellites which contributes to Turkey's and neighbouring countries' communication and broadcasting infrastructure.

For detailed 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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