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Mitsubishi Electric Turkey describes e-F@ctory concept at Karabük University

BEGINNING OF A NEW ERA FOR FACTORIES

Mitsubishi Electric Turkey Factory Automation Systems Business Development Manager Tolga Bizel uttered a speech at Karabuk University 2nd International Trade Congress (UTIK 2015) organized for allowing key actors in international trade to convey their experience to the youth who shall act as the representatives of business world in the future. The congress focused on a number of issues including the data related to the participating industries, activities and plans performed in those industries, actual and potential problems, solution suggestions to those problems, and qualifications required for future professionals. Tolga Bizel contributed to the congress by informing the students of e-F@ctory concept which has been developed for the new industrial phase by Mitsubishi Electric.

During UTIK 2015 organized on 3-4 December in Karabük University, Tolga Bizel, Mitsubishi Electric Turkey Factory Automation Systems Business Development Manager, provided information about the groundbreaking factory automation applications for the future in addition to explaining the role of robot technology in our lives and the impact of all those developments on human experience. Tolga Bizel also gave advice to Mechatronics Engineering students during the event in which Mitsubishi Electric Turkey became highly popular for its projects and sponsorship programmes at universities.

A new industrial phase emerges

Emphasizing that Mitsubishi Electric Factory Automation Systems responds to the new industrial phase with E-F@ctory which is known as the digital factory technology of the

future, Bizel added “IQ-R Automation Platform, an automation strategy developed with the global expertise and experience of Mitsubishi Electric in production field and forming the basis of e-F@ctory concept, challenges the limits of our imagination for the new phase”.

Customization is introduced at factories

Bizel indicated that each product would have an identity with an individual serial number as opposed to the contemporary systems according to which they are planned to store not only fundamental system details but also their own history in their memory. Bizel said “Those products shall have uninterrupted internet connection just as the machinery used for producing them making it possible to discover their location and condition easily at any given time. They will be able to examine their environs and give physical responses to the extent of their capabilities by means of receivers and they will be able to make real-time information exchange with other online devices at the same time.”

Bizel pointed out that it is possible to make a number of futuristic foresights based on the current developments and added “Human needs will be satisfied by means of self-sufficient automation systems in near future. A product which is designed according to customized needs will be modified during the manufacture process thanks to a controlling system structure.”

Age of semi-humanoid robots

Bizel also provided information about the foresights related to the new generation robot systems to be introduced in the future “Based on the historic evolution of robots and application areas pointing out the need for robots, it is anticipated that the new generation robot systems of the future will be multi-robot mechanisms with parallel structure, multi-fingered hands and walking mechanisms. Indeed, there may even be semi-humanoid robots or robotic forms of human organs. The most popular technology trend is mobility in our contemporary world and it will be robots in the future. Regardless of the future of artificial intelligence, smart cities or mobile devices, robots are expected to be a complementary part of all. Our main focus may be multi-robotic systems with multi-fingered hands and walking machinery in a few years.”

Bizel underlined that Mitsubishi Electric Robot System will position itself correctly by controlling larger and more complicated programmes as Robot CPU based on this expectation and said “Robots enable us to monitor failures, variable values and programme information, robot condition (speed, position etc.), maintenance information (remaining battery life, oil life etc.), servo data (load factor, current values etc.).”

Robots with self-controlling capacity

Explaining that collective management of multi robots is possible, Bizel provided the following information about robots: “A computer is connected to the main CPU to have access to the robots in controller network. This makes it possible to control the robots on the line. The memory between robot CPU’s may be shared for data reading and writing purposes thanks to the direct communication between CPU’s. The acceleration of data transfer between robots enables robots to have more detailed and coordinated self-control. Indeed, they are quite ready to increase the efficiency by sharing the data among themselves and with the main system controlling the factory without human control.”

Young generation need to be trained for new disciplines

Bizel continued by telling that the industrialization efforts which began under the light of fundamental sciences gave rise to a number of different business disciplines in various industries giving example from “mechatronics” concept which was coined in Japan for the first time to become widespread in all the regions rapidly. Underlining that this spread could not be considered as a mere chance given the development of industrial phases, Bizel addressed the mechatronics engineering students: “There is no doubt that those who will take action about this new approach will have much more to do than their peers in other disciplines as the term combines various different disciplines. You are supposed to understand and interpret those disciplines competently and respond to new expectations. The term which has become quite widespread requires complicated and advanced technologies. This discipline has entered our lives by means of several essential products and it is already inherent in all the aspects of our modern lives.”

Mitsubishi Electric supports universities

Bizel explained that Mitsubishi Electric Turkey Factory Automation Systems aims to

contribute to the education of next generations and introduce robot technologies integrated into automation systems to Turkish industry. Bizel indicated that they offer support to Factory Automation and Robotics Departments at engineering faculties of universities to that end.

Bizel concluded by informing the participants of the execution of a preliminary protocol between Mitsubishi Electric Turkey and 9 Eylül University for founding an Industrial Automation and Robot Technologies Training Centre. He also stated that Mitsubishi Electric Turkey has already established Doğuş University (DOU) Industrial Automation and Robot Technologies Training Centre in collaboration with Doğuş University (DOU) and granted a multi-purpose robot to the Robot Training Centre at Bursa Technical University, Faculty of Natural Sciences, Architecture and Engineering. He explained that Mitsubishi Electric Turkey sponsored the 8th ITU Robot Olympics (ITURO) in May 2014 as the “Golden Partner”.

Bizel added that Mitsubishi Electric Turkey supports universities in their efforts to establish robot training centres so as to assist students to gain advantage in business world by adapting to the ever-changing technologies in our modern world.