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**Mitsubishi Electric lectures about the new industrial phase at  
university under its project to support education**

## **ROBOTS AND HUMANS TO WORK TOGETHER**

*Mitsubishi Electric Turkey supports especially Factory Automation and Robotics Departments at Engineering Faculties as a social responsibility project based on its belief in the importance of raising young professionals who shall steer the future of automation technologies in Turkey. Recognized for contributing to the establishment of “Robot Training Centres” at Dođuş University and Bursa Technical University and providing product support to the Automation Lab at Karadeniz Technical University, Mitsubishi Electric Turkey has also sponsored or lectured at various events organized by different universities. Recently, Mitsubishi Electric Turkey Factory Automation Systems Business Development Manager Tolga Bizel lectured in various events including “İTÜ Robot Olympics” which was also supported by the company as the Golden Sponsor in addition Kadir Has, Marmara and Bilecik Şeyh Edebali University. Bizel informed the students about the new industrial phase which has come to be known as Industry 4.0, e-F@ctory concept developed by Mitsubishi Electric in response to Industry 4.0 and advanced robot technologies.*

Mitsubishi Electric Turkey participated in special events organized at four universities to discuss the new industrial phase in the first half of 2016 as part of its educational support project. Mitsubishi Electric Turkey Factory Automation Systems Business Development Manager Tolga Bizel attended İTÜ Robot Olympics which is supported by the company as the Golden Sponsor as well as Kadir Has University Industry 4.0 Forum, Marmara University Career and Development Summit, and Bilecik Şeyh Edebali University IEEE Student Club organizations to provide valuable information about the future of factory automation.

### **“Robot Training Centres” at Universities and information exchange**

Tolga Bizel pointed out that Mitsubishi Electric Turkey Factory Automation Systems division aims to introduce robot technologies with integrated automation to Turkey and underlined that the company continues to perform activities to support educational institutions. Bizel told that the company lately signed a protocol with 9 Eylül University for establishing an “Industrial Automation and Robot Technologies Training Centre” after establishing such a centre at Doğuş University in collaboration with the university management, granting a versatile robot to the Robot Training Centre at the Faculty of Sciences, Architecture and Engineering, Bursa Technical University and providing product support to the Automation Lab at Karadeniz Technical University.

Bizel told that the company sponsored or lectured at various events organized by different universities in addition to contributing to the establishment of “Robot Training Centres”. Bizel indicated that Mitsubishi Electric Turkey shall continue to support educational activities so as to ensure that students are endowed with the qualifications required by the business world by adapting to the emerging technologies.

### **Manufacturing processes reinforced with cyber physics systems**

Defining the new industrial phase as the reformation of manufacturing processes by means of cyber physics systems, Tolga Bizel elaborated the topic with the following explanation: “The concept which is called Industry 4.0 by Germany has come to be known with different names in different countries. For example, the US “Smart Manufacturing” initiative is another approach to this concept. A similar process is known as “Innovation 25” in Japan for the last 5 years. Therefore, if we are to find a cover term for this concept, we could call it the **“new industrial phase”**. And Mitsubishi Electric responds to this new industrial phase with **e-F@ctory**. Indeed, e-F@ctory is not that new. Mitsubishi Electric has been employing e-F@ctory concept in its own production lines since 2003. Therefore, it is able to offer better products and services with the help of its long-term experience”.

### **Customized products and manufacturing relevance**

Bizel told that the new process means that each product that is produced shall have a distinct serial number and keep not only some basic information but also its own history in its memory different from the modern systems. Bizel, “Those products shall come with

uninterrupted internet connection just as the machines used for manufacturing them. Therefore, it shall be possible to locate any given product and its condition at any time. The products shall be able to review their environs with their receivers and give physical reactions to the extent of their capabilities in addition to making real-time information exchange with other products connected to the internet”.

Bizel told that it is possible to make various futuristic assumptions about the future, “Human needs will be met with self-sufficient automation systems in the near future. It will be possible to modify a product designed in line with customized requirements during the manufacturing process by means of a system structure meant to control these efforts.”

#### **“Robots becoming a regular workforce”**

Bizel also told that production lines where robots and humans interact with each other have proved to be far more effective than those employing solely robots:

“Robot technologies are so developed in Japan that they might even be at the final step of their life cycle. Robots which used to work generally independently until recently will most probably turn into semi-humanoid robots which are capable of cooperating with human beings in the near future. We are witnessing the proliferation of the use of robots in industrial processes in Turkey. Robots assume critical roles in the manufacturing processes of factories thanks to the speed and other advantages they provide and they have already become a regular workforce in our modern world.

“We will also witness the acceleration of robot investments in Turkey as a result of which robots will work with human beings at manufacturing lines. Turkey is quite open to new market opportunities owing to its geopolitical position and that shall mean focusing on manufacturing operations for meeting human needs in those markets such as detergents, tea, water, packaged foodstuff and supporting domestic products.”

### **“Turkey will need the young generation for the Fourth Industrial Revolution”**

Bizel told that Mitsubishi Electric is convinced that Turkey will keep up with the Fourth Industrial Revolution rapidly with the help of the young generation: “Mitsubishi Electric observes that Turkish industry is quite ready for this revolution. As an assertive actor in this new industrial phase, we offer technological solutions that will prepare Turkish industry for the future factory automation which is sure to push the limits of our imagination. Besides, we are making efforts to contribute to the education of the young generation who will manage the automation technologies in the future.

“Qualified workforce is a must for our industry as all the other industries. Indeed, the new industrial phase requires well-educated individuals more than anything else. Although it is also important to focus on machinery and manufacturing processes, the first step is to create human resources with the qualifications to use those new technologies because cyber physics requires intense use of information technologies and internet. As a result of the industrialization efforts that started with basic sciences, various business disciplines will come to the fore in various industries. We will have a more qualified, better educated and well-paid work force. Human beings will work in comfortable positions instead of challenging conditions. The young generation must certainly keep up with the developments and reinforce their qualifications to get ready for all those developments”.

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