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**Mitsubishi Electric exhibited its innovative solutions at ST Robot Investments Fair**

## **Robots that are the candidates of being the right hand of industrialists**

***Mitsubishi Electric, participating with the concept of "My Right Arm" in the 3rd ST Robot Investments Fair and Summit which brought the professionals of the factory automation industry and the decision makers of the production and investment processes of factories, exhibited innovative solutions in accordance with Industry 4.0. Flexible, compact, maintenance-free, long life Mitsubishi Electric robots which facilitate production even in the most sensitive processes are candidates for the right-hand of industrialists that they can resign their work. In addition to its talented robots, introducing iQ Automation Platform, Security Solutions and MAPS (Mitsubishi Electric Adroit Process Suite) technology, Mitsubishi Electric also made presentations on its robot technologies and applications.***



Mitsubishi Electric, which provides high added value to the Turkish industry with its factory automation products having advanced technology, attended the 3rd ST Robot Investments Fair and Summit held on 4-6 October at the WOW Convention Center with the concept of "My Right Arm".

Mitsubishi Electric robots, which are candidates to be right-hands that industrialists can safely entrust their work, have drawn attention with advanced technologies which provide great convenience at every stage of production. Mitsubishi Electric robots operate 24/7 without any maintenance for 25 thousand hours in all conditions, plus minus 240 degrees and a total of 480 degrees of access, providing operational space for installation area for enterprises by minimizing the surrounding dead spaces. Robots can easily be included in the ideal automation chain by communicating with the whole plant by the help of their iQ Platform structure. With their compact structure, robots can be transported to any area of the factory at any time, thus allowing a flexible production space.

### **In robots "Sensorless Collision Control"**



Mitsubishi Electric's robot control unit provides the flexibility of motion control, the speed, accuracy and precision of the system. In addition, with its flexing functions, the robot arm acts as a kind of spring and is stretched according to the force. For advanced applications, Mitsubishi Electric's robots can be easily integrated with conveyor belt and product monitoring, force control and visibility features. The "Sensorless Collision Control" feature allows the robot to detect any obstacle in manual or automatic mode and prevent collision damage.

### **Robot technology mimicking human arm movements**

Mitsubishi Electric's RV-F series 6-axis dynamic robot is able to mimic human arm movements and boost productivity using very high-speed systems with the help of 0.32-second cycle times. The dual-arm structure of the 6-axis industrial robot, which can easily handle flexible figures with its dynamic structure, does not only provide added value in terms of freedom of movement, but also offers more stability and versatility. For the RV-F series, it is not difficult to work in very tight spaces, and it is no problem to mount robots on walls or ceilings. Mitsubishi Electric robots range from 504 to 1.503 millimeters depending on the model, with a carrying capacity of 2 to 70 kilograms.

### **Innovative technologies compatible with Industry 4.0**



In the fair, in addition to its talented robots, Mitsubishi Electric also presented its industry-compatible solutions such as the iQ Automation Platform, Security Solutions and MAPS (Mitsubishi Electric Adroit Process Suite) technology, as well as presentations on robot technologies and applications.

### **All automation components work together and communicate**

The iQ Automation Platform, which provided the creation of e-F@ctory concept, being the response to Mitsubishi Electric's Industry 4.0, is one of the few product families that combines all important automation components in one single structure. iQ Platform enables Mitsubishi Electric to work with all automation disciplines, including CNC (Computerized Numerical Control), Motion, Robotics, PLC and Process applications simultaneously and communicate without setting up any communication channel. Mitsubishi Electric iQ Platform minimizes the cost of first investment (TCO: total cost of ownership) by reducing the costs and engineering times which can be created in the entire automation life cycle, increasing productivity and facilitating access to information on the field. With iQ Platform, two or more robots can work in a narrow cell without touching each other and act synchronously with each other.

### **Safety Solutions visualize security information and increase productivity**

Mitsubishi Electric MELSEC Safety while providing safety information to be visualised, enhances safety control, and improves productivity. The MELSEC Safety product groups allow the selection of the most appropriate safety control devices for system configuration. Safety PLC, which is well suited for security control applications in medium and large sizes, allows flexible systems to be built using CC-Link IE Field, CC-Link Safety, special ladder programming and function blocks. Safety controller stands out as the ideal solution for small and medium-sized safety control applications and allows easy programming of a safety circuit using only function blocks. MELSEC-Q Safety relay modules, which are offered as an easy way to add a safety circuit without using a program, are preferred for small-scale security control.

### **MAPS which adds value to all phases of the automation system**

MAPS (Mitsubishi Electric Adroit Process Suite) which serves a SCADA program where monitoring and control system are offered, also stands out as a reporting and analysis program. Process design, engineering, control systems development, installation, commissioning and acceptance testing, maintenance, repair and ongoing upgrades add value to all phases of the automation system project.

MAPS developed on MS.NET platform; is compatible with various Microsoft operating systems and database programs such as Microsoft Access, SQL, Microsoft Excel, and Oracle. C #, Visual Basic.net and JavaScript languages can be used internally without any license. Alarm management and intelligent reporting solutions reduce the engineering costs while analyzing the entire system. HTML5-based web client having a dynamic interface, provides remote access from the computer, tablet or smartphone. Vectorial and Windows based graphics can be created easily. They have drivers that can

communicate with over 100 manufacturer's devices. By using Microsoft Windows safety, the highest level of protection is provided. Having an OEE (Overall Equipment Effectiveness) function that monitors and improves the effectiveness of production processes, MAPS can control all activities in production with the functions of MES (Manufacturing Execution System) capacity.

#### **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](http://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](http://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](http://tr3a.mitsubishielectric.com)*