Media Inquiries:

Mitsubishi Electric Turkey PR Agency

İnomist Communication Consultancy

Sibel Selvi Arslantürk sibel@inomist.com

+90 216 639 60 16 / +90 533 441 80 33

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Mitsubishi Electric introduced innovative solutions at SPS IPC Drives Fair

Digital Transformation for Smart Facilities

Mitsubishi Electric, the pioneer brand in the automation industry, informed the visitors at the SPS IPC Drives Fair in Nuremberg, Germany, with the advantages that digitalization has in boosting production flexibility. Mitsubishi Electric, which stands out with its digital factory concept e-F@ctory as a respond to Industry 4.0, introduced innovative technologies in the field of automation with live demos.

Mitsubishi Electric presented a new generation of technologies in the SPS IPC Drives Fair held in Nuremberg, Germany between November 28-30, offering a practical structure for digital transformation in production with the e-F@ctory concept as a response to Industry 4.0. Displaying a live demonstration of how data will be collected for visualization, monitoring and interpretation of production processes and how it can be transferred to a higher-level SCADA system, Mitsubishi Electric served an opportunity to experience digital transformation processes on its way. With this system, which includes three applications that show production processes in real time, users can learn about

operational status and performance information, as well as predictive maintenance needs and actions to be taken in this direction.

The three applications in the demo that the brand exhibits at the fair are connected to each other through a MAPS SCADA System where the visualization of the production is used to display the data and the monitoring information on the screen. This network-linked system includes a Guided Operator Solution that works with the principle of an automated product identification system and of semi-automatic zero failure. There is also a Linear Transfer System developed on smart carriages for smart control of product motion processing and transfer. In the application that also includes Complete Factory Automation Solution, which shows the connection of the whole product portfolio, application data received from robot, driver and control systems are transferred live to MAPS application. The processed data is transferred with the cloud, allowing deep analysis of production data and integration with intelligent device applications. The results support new methods for production management and provide transparency for enterprise resource planning (ERP).

Smart Carriage Technology

Mitsubishi Electric Smart Carriage Technology offers the latest innovations in the modular Linear Transfer System (LTS). In new versions of Smart Carriages, tracks with internal intelligence and data memory can be freely configured (either closed or open circuit). Built-in battery for flexibility such as sensor and holder can be connected on the carriage. When the internal battery is low, it can be used without problems with its functions such as automatically turning to the charging station. Thanks to the Smart Carriages, which can slow down and then stop only the hazardous parts when employees approach a potentially hazardous area and operator safety is ensured without sacrificing efficiency.

New robot working with human

In another demo that Mitsubishi Electric exhibited at the fair in conjunction with its production activities in the Industry 4.0 environment included a new addition to the series that works with human without safety barriers. The robot series that works with humans is designed to be close to human in a production environment, unlike industrial robots that have to be placed behind protective

barriers for security reasons. Thanks to its ability to work with human, this series can be flexibly positioned anywhere in the production environment. Mitsubishi Electric, which draws attention with the robot series that works with human, offers easy operation with its performance as well as innovative control and programming options. The robotic touch-enabled operator terminal offers an intuitive interface to 'teach' the robot its task without requiring special programming expertise. The teaching function includes a 'direct control' mode that allows the operator to move the robot manually and with controlled power from one position to another. When the installation is complete, the operator terminal is easily removed to allow robots full freedom of movement.

Quality and productivity are increasing with Guided Operator Solutions

At the fair, Mitsubishi Electric also discussed how to improve quality and efficiency with the Guided Operator Solutions developed for manual installation applications. These solutions enable seamless transfer of production data from manual installation operations to high-end operating systems to support digital transformation in the production environment. The Guided Operator Solutions, which clearly shows the operator which parts need to be picked up and the sequence of operations, helps the increase in quality. This is particularly important in terms of sectors facing increased costs due to potential quality problems and installation operations that are becoming more and more complex nowadays.

Special function CPUs for MELSEC iQ-R PLC

At the fair, Mitsubishi Electric also demonstrated PLC's advantages as a platform for automation with a complete set of custom CPU modules for MELSEC iQ-R Series PLC. Available options for analogue and digital I/O, motion, positioning, process control, safety and network connectivity are now complemented by a CNC CPU module integrating the entire control and automation process into a single common platform and a robot control CPU. Modules that offer a complete automation system in a single PLC background provide comprehensive control capabilities while reducing I/O processing times. In addition, the new SIL2 (safety integrity level) certification as well as direct integration with the PLC helps to reduce total operation cycle times and guarantee performance levels.

A mechanically friendly inverter that offers an advantage of preventive maintenance

Mitsubishi Electric's FR-A800-E Series Smart Condition Monitoring (SCM) technology improves the diagnostic capabilities of frequency inverters. Users can perform status monitoring functions directly from the inverter. This additional feature is provided by adding SCM Kit-1 to FR-A800-E series of inverters. Combined with the PLC function and integrated into the FR-A800-E models of the inverter at the same time, this feature offers a complete driver-based solution for preventive maintenance. All of these aspects stand out as the sole example of its kind in the sector. Thanks to this integrated approach to monitoring the status of individual system components, the FR-A800-E series allows for detailed analysis using the red, yellow and green status lights on the sensor. The operating temperature and vibration feedback from the SmartCheck sensor are combined in the inverters by monitoring other external parameters, including speed, voltage and current information. Detailed diagnostics processes can be monitored remotely or displayed on the integrated display of FR-A800-E inverters.

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 sales and after-sales services of air conditioning systems, factory automation systems, advanced robot technologies, CNC mechatronic systems, elevator and escalator systems and visual data systems. In addition to these activities, it supports satellites, power supplies and transportation-related infrastructure works. 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

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