

Holistic solutions for Smart Manufacturing

As digitalization, Big Data and the Industrial Internet of Things (IIoT) take their course, the classical linear manufacturing model is changing: Complex, integrated networks are developing that aim to achieve higher productivity with lower resource consumption. Machines, devices and applications must become smarter accordingly. When it comes to investment decisions, cooperation with an experienced solution partner can bring considerable advantages. At the SPS IPC Drives exhibition in Nuremberg, Mitsubishi Electric is presenting solutions, concepts and collaborations to support companies in the integration of smart manufacturing projects.

This year's booth motto "Your Solution Partner for Smart Manufacturing" encompasses products and technologies for industrial automation in three production areas: engineering, manufacturing and maintenance.

Engineering: intelligent and fast integration

Time saving in project development and integration is offered by the life cycle management tool MAPS, which is now available in a new version 4. Using object-oriented functions, it can integrate and visualize both Mitsubishi Electric devices and external equipment more easily. MAPS 4 enables fast provisioning including connection to the cloud as well as adaptability and scalability for future requirements.

Another solution, named MELFA EasyFeed, is dedicated to gentle robot-supported handling. It has been created together with e-F@ctory Alliance partner Asyri. It shows how programming and communication made directly with the robot, and the embedded function library, shortens the software development time for these applications and accelerates the customer's engineering process.

Standardization can make software engineering more efficient. Which is why Mitsubishi Electric's iQ Monozukuri software package offers modules and visualization templates for selected application areas, such as packaging.

Enabling companies to achieve a faster time-to-market, Mitsubishi Electric has equipped its iQ Works software suite with the Automation ML interface. For example, data can be exchanged easily, quickly and consistently between the iQ Works programming platform for Mitsubishi Electric automation components and the Electric P8 EPLAN tool for electrical engineering.

Manufacturing: smart automation

Production can be intelligently automated at various levels. For the realisation of concrete projects and tasks Mitsubishi Electric offers control and drive technology, operating devices, software and circuit breakers as well as robotics, making it a full range supplier.

A current example of integrated robotics is the new robotics starter package, which consists of a MELFA RH-CH Series SCARA robot, a CR751 controller, teach box and software – which includes simulation tools.

Optimized intralogistics can be realized with the help of Mitsubishi Electric's Linear Transfer System: The system has smart carriages performing as workpiece carriers with integrated intelligence that can adapt their route in real-time depending on the situation. This reduces system downtime.

To reduce the stress on electricity supplies, make energy consumption more transparent and provide valuable information for predictive maintenance the new intelligent modular MEnergy concept for low and medium voltage applications has been developed. The package consists of the EcoMonitor Light energy measurement component, MEprotect digital protective relay and MEsoftstart soft starter.

Maintenance: clever system management

Instead of relying on reactive repairs, maintenance teams in today's production facilities are turning to predictive measures to maintain the value and function of operating resources and to increase efficiency.

An important integration step in machine diagnostics is provided by the "GOT Drive" function. Available on servo drives and frequency inverters it enables commissioning, adjustment and maintenance directly via the graphical user interface of a GOT2000 series HMI. The drive can record load data from the machine and issue an early warning signal when a defined threshold value is reached. No external sensor is required. Ready-built templates for visualization are included to make commissioning faster and more convenient. With the "GOT Mobile" version activated production data can also be queried from any location and alarm messages can be received via mobile phone, tablet or PC.

A holistic condition monitoring approach for rotating parts in machines and plant equipment is offered by the Smart Condition Monitoring solution from Mitsubishi Electric and its e-F@ctory Alliance Partner Schaeffler.

Maintenance support for on-site service is also provided by an IIoT application from Mitsubishi Electric using Augmented Reality. Digital twins can be displayed in virtual space to indicate maintenance requirements and recommendations. For obsolete or defective components, alternatives can be quickly and easily suggested, and maintenance instructions provided for service technicians or in-house personnel.

With a combination of intelligent solutions and specialised technology partners, Mitsubishi Electric is offering its customers comprehensive and practical support for smart manufacturing projects.

Note:

See how Mitsubishi Electric can respond to today's automation demands:

eu3a.mitsubishielectric.com/fa/en/solutions

Image Captions:

Image 1: As digitalization, Big Data and the Industrial Internet of Things (IIoT) take their course, the classical linear manufacturing model is changing: Complex, integrated networks are developing that aim to achieve higher productivity with lower resource consumption.

[Source: Mitsubishi Electric Europe B.V.]

Image 2: Supporting companies with the integration of smart manufacturing projects, Mitsubishi Electric is presenting solutions for engineering, manufacturing and maintenance at the SPS IPC Drives exhibition in Nuremberg.

[Source: Mitsubishi Electric Europe B.V.]

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Note to Editor: if you would like the text in another language please contact Philip Howe at DMA Europa – philip@dmaeuropa.com.

About Mitsubishi Electric

With nearly 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognised 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, as well as in products for the energy sector, transportation and building equipment.

With around 145,817 employees the company recorded consolidated group sales of approximately 40.7 billion dollars* in the fiscal year that ended on March 31, 2019.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Factory Automation EMEA

Mitsubishi Electric Europe B.V., Factory Automation EMEA has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of Factory Automation EMEA is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

*Exchange rate 111 Yen = 1 US Dollars, last updated 31.03.2019 (Source: Tokyo Foreign Exchange Market)

Editor Contact

DMA Europa Ltd : Philip Howe

Tel: +44 (0)1562 751436

Fax: +44 (0)1562 748315

Web: www.dmaeuropa.com

Email: philip@dmaeuropa.com

Company Contact

Mitsubishi Electric Europe B.V. : Monika Torkel

Tel: +49 (0)2102 486-2150

Fax: +49 (0)2102 486 7780

Web: eu3a.mitsubishielectric.com/fa

Email: Monika.Torkel@meg.mee.com