Industrial Sewing Machines Use the Industrial Internet of Things to Increase Quality and Boost Productivity

Texprocess 2017, Frankfurt am Main, 09th - 12th May 2017, Hall 5.1, Stand C46

The Automotive and Textile sectors are constantly facing more challenging customer requirements that are resulting in a new manufacturing approach. As for industrial sewing processes, Mitsubishi Electric's sewing machines have recently been supplemented by automation technology offering increased intelligence. In this way, even high value and safety critical applications are able to achieve greater levels of connectivity to wider plant floor control systems, helping to increase quality, boost productivity and reduce maintenance costs.

At the Texprocess exhibition in Frankfurt, Mitsubishi Electric presents an application following up on current industry requirements. The exhibit extracts production data from sewing machine controllers for real-time and historic analysis, showing how this data can be used to improve productivity. "If manufacturers want to maximise the productivity and availability of their machines in competitive, high value and niche markets, then it is important that industrial sewing machines are no longer simply standalone devices. They need to be a fully integrated part of the plant enterprise which is a key aspect of Mitsubishi Electric's e-F@ctory concept for supporting the digital transformation process of today's industries." comments Klaus Petersen, Marketing Director of Mitsubishi Electric's Factory Automation – European Business Group.

The Industrial Internet of Sewing Machines

The live demonstration consists of six Mitsubishi Electric industrial sewing machines connected to a higher level control system. Each sewing machine is equipped with a MELSEC PLC and an HMI from Mitsubishi Electric's GOT range enabling the display of actual process data on the touch-screen. This allows manufacturers to ensure quality standards are being maintained and to see if there are quality improvements that can be made. As well as having machine data visible on local operator terminals, visitors to the Mitsubishi Electric stand can see how the same information from all of a plant's machines can be aggregated via Mitsubishi Electric's MAPS SCADA software. MAPS can then provide production managers with an overview of the complete plant performance.

For example, collected productivity data gives a clear indication of machine uptime, showing if some workstations are more productive than others, and the reasons why. Manufacturers can then take appropriate action to improve performance or machine availability based on real information rather than guesswork. Further, the information provided by these 'smart' machines enables servicing and maintenance to be scheduled on-demand. Working this way, rather than carrying-out fixed schedule maintenance, increases uptime and reduces costs, which makes a positive contribution towards productivity and profitability.

Quality Assurance instead of Quality Control

High profitability also includes unchanged high quality within production: Mitsubishi Electric's industrial sewing machines are easy to integrate as part of wider quality assurance processes, for example with systems to eliminate picking mistakes. Such mistakes can either occur during picking of the material pieces for the frame to be stitched, or using the wrong stitching frame to load the material into the sewing machine.

To ensure operators are picking the right material pieces in the right order for the frame loading into the sewing machine, Mitsubishi Electric offers pick-to-light Guided Operator Solutions. For guaranteeing that the correct frame has been installed for a particular stitching job, the machine frames carry barcodes which are scanned by the controller. In addition, the machine control system checks material thickness against its pre-set parameters as an additional quality assurance measure before sewing starts. As a further quality check, manufacturers could use vision cameras to take images of the finished product, comparing the stitching quality with that of a stored high definition image.

With all of these features and functions on-board, textile manufacturers can move from an environment of quality control to one of quality assurance. All of the production information can be stored to provide full traceability throughout the supply chain.

Visitors of the Texprocess in Frankfurt are invited for direct discussions with Mitsubishi Electric experts about these and future developments within the industrial sewing machine sector on stand C46/ hall 5.1.

Note:
See how Mitsubishi Electric is able to respond to today's automation demands: eu3a.mitsubishielectric.com/fa/en/solutions

Image captions:

Image 1: For industrial sewing processes, Mitsubishi Electric's sewing machines recently have been supplemented by automation technology offering increased intelligence and greater levels of connectivity to wider plant floor control systems.

[Source: Mitsubishi Electric Europe B.V., Getty Images]

Image 2: "If manufacturers want to maximise the productivity and availability of their machines in competitive, high value and niche markets, then it is important that industrial sewing machines are no longer simply standalone devices. They need to be a fully integrated part of the plant enterprise which is a key aspect of Mitsubishi Electric's e-F@ctory concept for supporting the digital transformation process of the todays industries." comments Klaus Petersen, Marketing Director of Mitsubishi Electric's Factory Automation – European Business Group.

[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 over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation 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, water and waste water, transportation and building equipment.

With around 135,000 employees the company recorded consolidated group sales of 38.8 billion US Dollars* in the fiscal year ended March 31, 2016.

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

Factory Automation – European Business Group

Mitsubishi Electric Europe B.V., Factory Automation – European Business Group (FA-EBG) 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 FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

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Industrial Sewing Machines Division

Established in France in 1989, the Industrial Sewing Machines Division is responsible for marketing Mitsubishi Electric industrial sewing machines and their associated motors and equipment, across Europe, North Africa, Turkey and part of South America.

These products are mainly used in the clothing, fine leather, shoe, safety and car trade sectors, and benefit from cutting edge technology. Our Sales and Engineering Teams support a wide distribution network guaranteeing quality sales and after-sales services for machines and spare parts.

www.ism.mitsubishielectric.fr

**Exchange rate 113 Yen = 1 US Dollars, last updated 31.3.2016 (Source: Tokyo Foreign Exchange Market)*

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