

Mitsubishi Electric's AI solution unleashes the full potential of shop floors

February 2023

The innovative data science tool, MELSOFT MaiLab (Mitsubishi Electric AI Laboratory) helps companies drive productivity improvements on manufacturing lines. The new solution offers an intuitive, operator-centric platform that leverages artificial intelligence (AI) to automatically optimise operations while maximising equipment monitoring, visibility and diagnostics.



[Source: Mitsubishi Electric Europe, Germany]

The future of manufacturing lies in highly efficient and responsive facilities. These are driven by next-level data analytics that provide unique actionable insights into the performance and status of machines as well as processes. While the road to realising these smart factories is clear, companies are often missing the resources to

get there. These include the budget for skilled data analysts and AI specialists along with the capability to effectively process large volumes of data as well as time available to develop accurate predictive models.

MELSOFT MaiLab acts as a dedicated virtual AI data scientist, helping companies to overcome these challenges and empowering them to realise future-oriented manufacturing strategies. Quick to deploy and with minimal training required, the solution bases recommendations and actions on intelligence derived from both live and historic data, without requiring users to have any specialist expertise. In effect, the platform uses machine learning (ML), a subfield of AI, to automate data gathering across a variety of systems, predictive model creation, analysis and the mining of large volumes of data. As a result, the MELSOFT MaiLab software removes barriers to entry for Industry 4.0 applications driven by advanced data analytics, streamlining the implementation of strategies to improve production with a quick return on investment (ROI).



Source: Mitsubishi Electric Corporation, Japan]

An intelligent assistant for quality-oriented manufacturing

Ease of use start right from the installation, as the platform is accessed in a browser-based environment that does not require any additional software. It can run on any industrial PC, including Mitsubishi Electric's MELIPC edge-computing solution.

Once installed, the MELSOFT MaiLab features an intuitive user interface with clear web-based visualisations. To further assist users without extensive programming skills, step-by-step guidance is provided. Also, the software helps users to understand what the data are suggesting while supporting them throughout all phases of a data analysis project. This is achieved by having the datasets being processed and analysis models created based on end goals selected by operators. In particular, these activities within the AI data science tool use Mitsubishi Electric's proven Maisart AI (Mitsubishi Electric's AI creates the State-of-the-ART in technology).

Connected to the manufacturing system, the MELSOFT MaiLab was developed to support a wide range of different application scenarios and can also be tailored to each individual setup. More precisely, it can be used in off-line mode to feed existing empirical data to develop or refine suitable predictive models and customised using open Python scripts. The tool can then be used for real-time diagnostics, providing the data generated as the production line operates to the algorithms and returning insights on the status of the line, its performance and how it can be optimised.

The platform can also offer additional information and functions to address the needs and requirements of various departments as well as subject matter experts (SMEs). In addition, the information being processed and produced is used to continuously increase the accuracy of its algorithms to enhance its outputs and help companies

drive productivity over time, in line with futureproof continuous improvement strategies. Even more, flexible licensing schemes are also available to address the specific needs of a company. For example, these include yearly subscription models or one-off payment options.

Learn more about the MELSOFT MaiLab at:

<https://ie.mitsubishielectric.com/fa/products/edge/edgsw/edgap/melsoft-mailab>

Watch a video introducing Mitsubishi Electric's AI-powered technology here:

<https://www.youtube.com/watch?v=-oDywA0HW3A>

About Maisart

Maisart encompasses Mitsubishi Electric's proprietary AI technology, including compact AI, automated design deep-learning algorithms and extra-efficient smart-learning AI. Maisart is an abbreviation for "Mitsubishi Electric's AI creates the State-of-the-ART in technology." Under the corporate axiom "Original AI technology makes everything smart," the company leverages original AI technology and edge computing to make devices smarter and life more secure, intuitive and convenient.

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) 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. Mitsubishi Electric enriches society with technology in the spirit of its “Changes for the Better.” The company recorded a revenue of 4,476.7 billion yen (U.S.\$ 36.7 billion*) in the fiscal year ended March 31, 2022. For more information, please visit www.mitsubishielectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥221=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2022.

About Mitsubishi Electric Factory Automation Business Group

Offering a vast range of automation and processing technologies, including controllers, drive products, power distribution and control products, and industrial robots, Mitsubishi Electric helps bring higher productivity – and quality – to the factory floor. In addition, its extensive service networks around the globe provide direct communication and comprehensive support to customers. The global slogan “Automating the World” shows the company’s approach to leverage automation for the betterment of society, through the application of advanced technology, sharing know how and supporting customers as a trusted partner.

For more about the story behind “Automating the World” please visit:

www.MitsubishiElectric.com/fa/about-us/automating-the-world

Mitsubishi Electric Europe B.V. Irish Branch- Factory Automation

Mitsubishi Electric Europe B.V. Irish Branch - Factory Automation has its Irish headquarters in Ballymount, Dublin 24 and has been serving the Irish market since 1992. The Irish Branch is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan. The role of Factory Automation in Ireland is to manage sales, service and support across its network of local partners and customers throughout Ireland.

For more information, please visit: <https://ie.mitsubishielectric.com/fa>

About e-F@ctory

e-F@ctory is Mitsubishi Electric's integrated concept to build reliable and flexible manufacturing systems that enable users to achieve many of their high speed, information driven manufacturing aspirations. Through its partner solution activity, the e-F@ctory Alliance, and its work with open network associations such as the CC-Link Partners Association (CLPA), users can build comprehensive solutions based on a wide ranging "best in class" principle.

In summary, e-F@ctory and the e-F@ctory Alliance enable customers to achieve integrated manufacturing but still retain the ability to choose the most optimal suppliers and solutions.

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