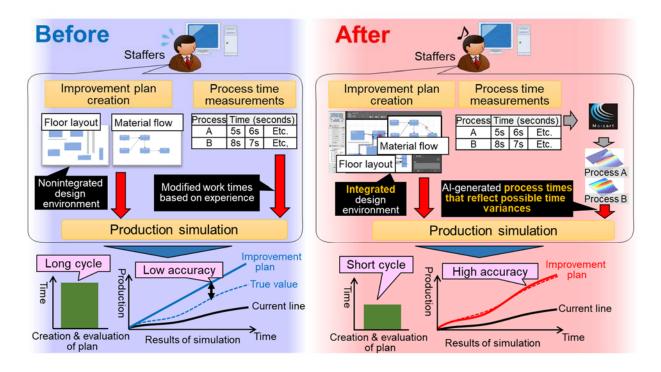**FOR IMMEDIATE RELEASE**　　　　　　　　　　No. 3346

Mitsubishi Electric Develops Production Line Improvement Technology
Combines integrated design environment with AI simulation

TOKYO, March 26, 2020 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today it has developed a new technology for the efficient design of production floor layouts and material flows as well as the accurate estimation of productivity using Mitsubishi Electric's Maisart®* artificial intelligence (AI) technology. The combined technology enables comparison of highly accurate production line improvement plans and reduce the time it takes to roughly half the time normally required.

* Mitsubishi Electric's AI creates the State-of-the- ART in technology

Example of improvements in a production line enabled with the new technology

Key Features

1) *Integrated design of layout and materials flow raises planning efficiency*

The new technology integrates the designing of production-floor layouts and materials flow for the quick identification and resolution of potential issues, which is a challenge in conventional nonintegrated design environments. The new technology also visualizes information such as distance-intensity (DI) analytical data which is generated dynamically as improvements are designed. Layouts, material flows, speed of materials moving between processes, etc. can be displayed with easy-to-understand graphics to enhance the quality of planning.

2) *AI simulations enable precise estimates of expected productivity gains*

The technology automatically generates data for reliable production-volume calculations based on data from actual production processes, such as changes in process times and work efficiencies. Using these data, production volume can be simulated with more than 90 percent accuracy. Also, multiple improvement plans can be compared in terms of expected productivity.

Background

When making improvements to production lines, the floor layout and materials flow are typically designed separately. As a consequence, issues such as insufficient work areas, excessively long routes between processes, work flows that cross paths, etc. often can be identified only after the overall improvement plan is developed, which slows down efforts to resolve such problems. In addition, devising the best solution requires the evaluation and comparison of various improvement plans to determine relative productivity. Moreover, it can be difficult to accurately estimate productivity levels because the time required to perform manual processes on production lines tends to vary greatly and change over time. To solve such problems, Mitsubishi Electric has been developing a solution to enable companies to better understand design-task interrelationships by identifying potential problems during the design stage and also by using AI-generated work data to estimate productivity in simulation.

This development of this solution was partly supported by Professor Kazuho Yoshimoto and his laboratory, the Department of Industrial and Management System Engineering at Waseda University's School of Creative Science and Engineering.

About Maisart

Maisart encompasses Mitsubishi Electric's proprietary artificial intelligence (AI) technology, including compact AI, automated design deep-learning algorithm 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 is leveraging original AI technology and edge computing to make devices smarter and life more secure, intuitive and convenient.

Maisart is registered trademark of Mitsubishi Electric Corporation.

About Mitsubishi Electric Corporation

With nearly 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. 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 a revenue of 4,519.9 billion yen (US$ 40.7 billion*) in the fiscal year ended March 31, 2019. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 111 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2019