

# News Release

FOR IMMEDIATE RELEASE

## **Hitachi Launches the Work Progress Visualization Support System and the Work Improvement Support System in High-Mix Low-Volume Manufacturing Plants as Solution Cores for the IoT Platform “Lumada”**

**Tokyo, May 31, 2017** --- Hitachi, Ltd. (TSE:6501, “Hitachi”) today announced that the company will launch the progress and operation monitoring system and the work improvement support system, which supports the early improvement of high-priority bottleneck work, which visualizes the work progress at manufacturing sites on a real-time basis using IoT<sup>\*1</sup>, starting from July 2017. These systems are solution cores for the IoT platform “Lumada” for industrial fields, and enable reduction in production lead time in a high-mix low-volume manufacturing plants.

In recent years, customer needs have become diversified in the manufacturing industry with the rapid advancement of digitization. It is therefore necessary to construct production systems that can rapidly respond to diverse needs while harnessing existing resources such as men, machines, and materials as well as increasing productivity poses a challenge.

Hitachi established the high-efficiency production model using IoT at Omika Works for designing and manufacturing information control systems and devices in the high-mix low-volume production method in October 2016, and reduced the production lead time for the representative product<sup>\*2</sup> by 50%. To support work progress visualization and work improvement for people, the most unpredictable resources among people, goods, and equipment, Hitachi increased versatility to cater to various manufacturing sites, and commercialized it.

Moreover, Hitachi provides a consulting service with engineers who have worked on production reform at Omika Works, and a training service for introducing examples of IoT applications at Omika Works.

In addition to the solution cores that will be launched, Hitachi will gradually expand the lineup of Production Planning Optimization for Lumada for the industrial field. It will also work on collaborative creations with customers and verification in its own plant to provide Optimized Factory<sup>\*3</sup> for customers in the manufacturing industry. Optimized Factory is intended to digitize and optimize supply chains and production activities from the end-to-end perspective by utilizing IoT.

■System overview

(1) Progress and operation monitoring system

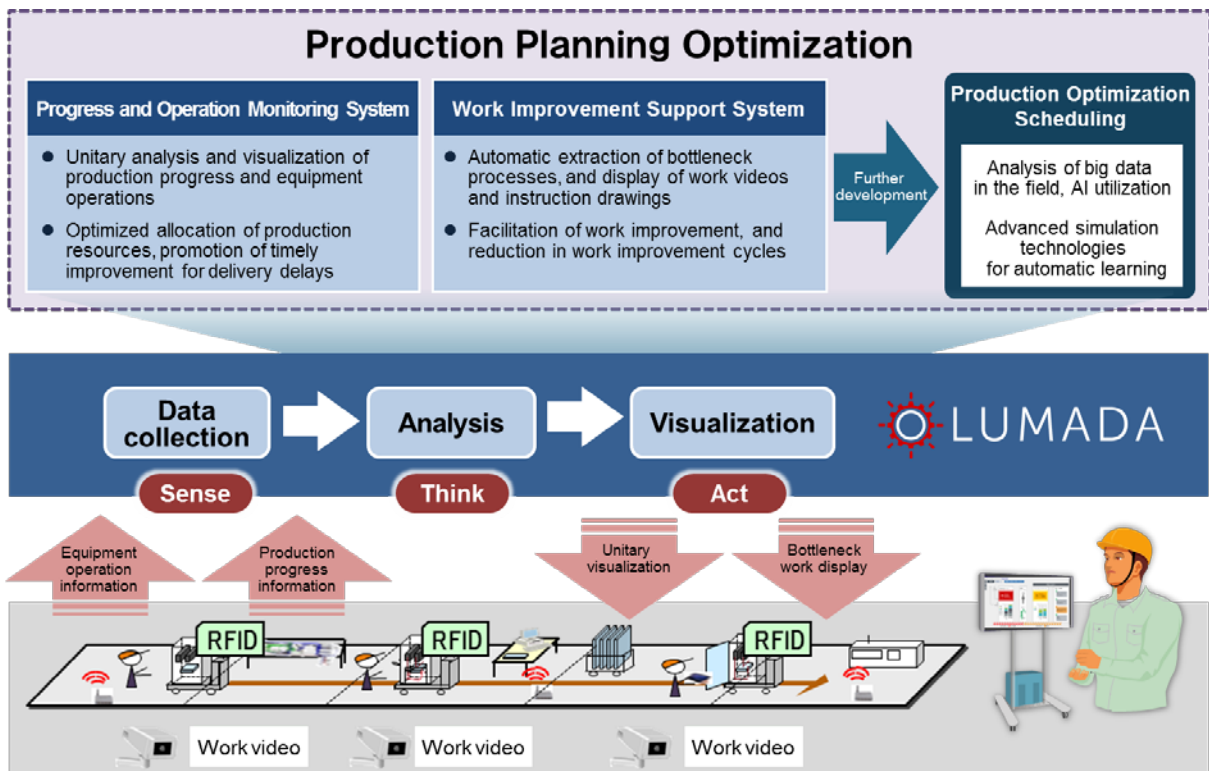
This system utilizes manufacturing performance data, which is collected and accumulated on the production lines, and unitarily visualizes the bottleneck work that causes process delays, excess and lack of working capacity and others. This enables field leaders to notice it quickly, and facilitate measures and improvements to timely address delays in delivery time, such as with the optimized allocation of production resources.

This system provides functions to collect production performance data from RFID<sup>\*4</sup>, etc., and visualize the status of work progress. The data collection function automatically collects data from RFID and the required time for each process based on the work instruction screen. The work progress visualization function unitarily visualizes any deviation from the plan for all processes, bottleneck work, and the excess and lack of working capacity.

(2) Work improvement support system

This system automatically extracts work images and work instruction drawings for bottlenecks that should be prioritized and addressed, and displays them simultaneously to facilitate work improvement and reduce the time of work improvement cycle.

Specifically it records the detailed works and the surrounding environment with several cameras installed in the work area, automatically extracts videos of works that require improvement and displays work instruction drawings from all detailed works that are visualized in the progress and operation monitoring system, based on the difference between the actual and target work time.



IoT platform “Lumada,” as the system infrastructure, includes “Pentaho,” which enables the integration, visualization and analysis of various data, as well as utilization of OSS<sup>\*5</sup>, and Hitachi control systems and data management technologies that support a wide range of industrial applications, such as manufacturing control systems, algorithms and controllers. Moreover, it can quickly carry out prototyping for the use of customer data and hypothesis verification by employing the digital solution cloud-type Collaborative Creation environment “Lumada Competency Center.”

■Service overview

(1) Solution deployment consulting service

Hitachi formed a dedicated consulting team of engineers who have been involved with production technologies for many years and constructed the high-efficiency production model utilizing IoT at Omika Works. To maximize the effect of adopting the solutions, the company will identify the challenges that customers face, and propose production improvement measures.

(2) Training service “case studies of IoT application at Hitachi Omika Works”

This training service provides an overview of the high-efficiency production model by utilizing IoT for high-mix low-volume production being operated at Omika Works, including examples.

\*1 IoT: Internet of Things

\*2 Representative product refers to the control devices for the power and social industry sectors, which account for about 20% of total production at Omika Works.

\*3 Optimized Factory is a next-generation manufacturing solution that was developed based on the concept of a "symbiotic monozukuri society," which Hitachi has proposed in "Factory of the Future," a white paper published by the International Electrotechnical Commission (IEC) on the direction of standardization at "future factories".

\*4 RFID is the abbreviation for Radio Frequency Identification. It is a non-contact automatic detection technology that reads information through radio waves from media such as tags and cards that are incorporated in IC chips and small antennas.

\*5 OSS: Open Source Software

#### ■Release Schedule and Price

Name	Available from	Price
Progress and Operation Monitoring System	July 2017	Individual estimates
Work Improvement Support System		
Solution Deployment Consulting Service	April 2017	54,000 yen (including tax)
Training Service		

#### ■Related News Releases

·Hitachi Establishes High-Efficiency Production Model Using IoT at Omika Works (announced on October 25, 2016)

<http://www.hitachi.com/New/cnews/month/2016/10/161025.html>

·Okuma and Hitachi Embark on Collaborative Creation Aiming to Establish an Advanced Model for Mass Customization Using IoT

(Announced on May 16, 2017)

<http://www.hitachi.com/New/cnews/month/2017/05/170516.html>

#### About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges. The company's consolidated revenues for fiscal 2016 (ended March 31, 2017) totaled 9,162.2 billion yen (\$81.8 billion). The Hitachi Group is a global leader in the Social Innovation Business, and it has approximately 304,000 employees worldwide.

Through collaborative creation, Hitachi is providing solutions to customers in a broad range of sectors, including Power / Energy, Industry / Distribution / Water, Urban Development, and Finance / Government & Public / Healthcare. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>

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Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.

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