

## Optimizing Planned Maintenance and Periodic Upgrades of Power-receiving and Transforming Equipment through the Equipment Record System

MAYEKAWA MFG. CO., LTD., a century-old enterprise, provides a comprehensive range of services, from manufacturing and selling industrial refrigeration units, heat pumps, and food processing machinery to designing, constructing, and servicing plants. Its Higashi Hiroshima Plant, operational since 2003, has undergone two expansions. However, the delayed digital management of shared infrastructure, including power-receiving and transforming equipment critical to production machinery, has posed a challenge. To optimize equipment maintenance with inter-device connectivity in view, MAYEKAWA adopted the Equipment Record System from Hitachi Power Solutions' "SiteRemix" maintenance support solution. This step advances issue resolution while aiming to enhance the maintenance management system for the efficient management of other equipment in the future.

### Challenges

- 1 Equipment maintenance information was individualized, hindering the transfer of management tasks.
- 2 Due to the lack of digitalization, medium- to long-term plans for scheduled maintenance and equipment upgrades were unfeasible, complicating budgeting.
- 3 MAYEKAWA sought to explore integrated management of machinery and equipment from various manufacturers.

### Solutions

- The Equipment Record System was introduced to visualize maintenance data, enabling a seamless handover of management responsibilities.
- By sharing maintenance data among MAYEKAWA, Hitachi Power Solutions, and Hitachi Authorized Dealer Mizuho via the Equipment Record System, it became possible to prevent upgrade oversights and optimized maintenance timing.
- Through One Hitachi's integrated management, the company aims for more efficient, continuous equipment operation, maintenance, and energy management.

### Project Background

#### Two challenges of analog management brought to light

MAYEKAWA Higashi Hiroshima Plant, operational since 2003, commissioned new factory buildings in 2008 and 2017. Despite consistent production achievements, Mr. Fukuda highlights emerging challenges in equipment maintenance and technical knowledge transfer.

"Team members who contributed to the factory's startup possess extensive knowledge and expertise in equipment and infrastructure, adeptly handling any malfunctions. However, as we approach a period of generational transition, transferring individualized expertise has become challenging. Our factory produces critical equipment supporting industry and social infrastructure, where downtime is unacceptable. To ensure stable operations moving forward, passing on equipment maintenance skills to new team members is essential."

Mr. Fukuda elaborates on management challenges: "Equipment and infrastructure vary individually; some units endure long-term use, while others require early replacement. Analog management of equipment data limited us to routine maintenance, replacing, or upgrading regardless of faults, making it difficult to reduce maintenance costs, which are a significant management challenge."

Mr. Ikemori, tasked with overseeing the maintenance and management of power-receiving and transforming equipment, underscores that "Digitalizing and sharing information is critical to resolving these challenges." He



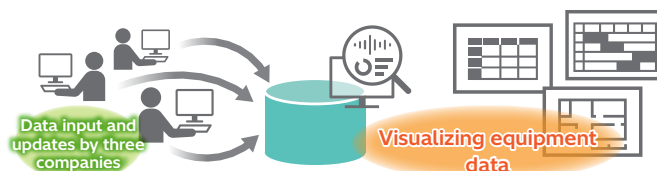
MAYEKAWA MFG. CO., LTD.  
Higashi Hiroshima Plant Manager

Mr. Yoshinobu Fukuda

reflects: "Our initial priority was to digitalize and centrally manage data for the scheduled maintenance and periodic upgrades of the power-receiving and transforming equipment that powers the entire factory. The aim was to make this data accessible to all, enabling maintenance tailored to the condition of equipment and components, thereby optimizing maintenance schedules."

#### Advancing from uninterruptible equipment maintenance to digitalization

As the first step toward digitalization, MAYEKAWA introduced Hitachi Power Solutions' Equipment Record System for maintaining power-receiving and transforming equipment. Mr. Ikemori explains the rationale: "Our factory relies on Hitachi's power-receiving and transforming equipment, maintained by Hitachi Power Solutions. By enabling data updates and sharing among MAYEKAWA, Hitachi Power Solutions, and Mizuho, we can robustly prevent oversights in parts replacement and periodic upgrades. A maintenance error that halts the factory is unacceptable, and we see immense potential in the future ability to monitor power consumption comprehensively." Let's explore the results already achieved through this system's implementation.



## Project Outcomes

### Operation of the Equipment Record System, bridging operations and management

At MAYEKAWA's Higashi Hiroshima Plant, the Equipment Record System has enabled centralized management of maintenance planning and inspection outcomes. Mr. Ikemori notes: "Through data sharing among MAYEKAWA, Hitachi Power Solutions, and Mizuho, we can collectively verify the location of equipment within the power-receiving and transforming equipment, identify parts in use, and determine replacement schedules. Continuously updating and adding diverse data allows us to share issues promptly." In 2024, coinciding with the once-in-20-year replacement of power-receiving and transforming equipment, the system's implementation streamlined maintenance planning, significantly enhancing the process.

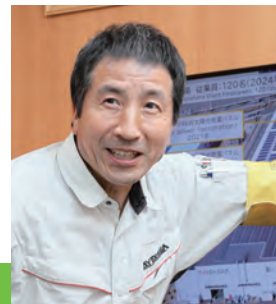
Mr. Fukuda also acknowledges the benefits: "Digitalizing replacement and maintenance schedules has enabled our team to propose specific plans more swiftly. Compared to analog management, this facilitates scheduled maintenance and supports the development of evidence-based medium- to

long-term plans critical for management. Moreover, information once confined to individual staff members' minds or computers is now accessible to all, creating an environment that significantly eases the handover of on-site maintenance to new team members."

On the topic of universal data access, Mr. Ikemori shares these expectations: "Management seeks cost data for future upgrades and repairs to guide capital investment planning, prioritizing budget oversight. Conversely, operations focus on maintaining equipment efficiently and reliably to ensure uninterrupted performance. Moving forward, I hope that a single click will allow anyone to access desired data, fostering even-stronger alignment between operations and management."

MAYEKAWA MFG. CO., LTD.  
Higashi Hiroshima Plant  
Deputy Manager  
Environment, Safety Promotion,  
and Facility Management  
Business Group

Mr. Shinji Ikemori



## Future Plans

### Driving continuous improvement through integrated management, with company-wide initiatives in view

With the implementation of the Equipment Record System, MAYEKAWA achieved its initial goal of centralizing diverse data from power-receiving and transforming equipment. Mr. Ikemori states: "Our next objective is the integrated management of power-monitoring devices, maintenance systems, and operational data from individual machines. Through integrated management, we aim to continuously enhance efficient equipment operation, maintenance, and energy management." MAYEKAWA's Higashi Hiroshima Plant has adopted equipment from Hitachi Group companies, including Hitachi Industrial Equipment Systems. Hitachi Power Solutions is actively pursuing integrated management under "One Hitachi" to meet these expectations.

Mr. Fukuda highlights that the drive for integrated management stems from a desire to align with company-wide initiatives: "Rather than managing by individual factories or business units, we prioritize a perspective that generates benefits for MAYEKAWA as a whole. The Equipment Record System facilitates company-wide planning, and we aim to pursue this broader vision moving forward."

Mr. Fukuda reflects on a new realization: "While everyone involved in manufacturing diligently monitors and maintains

production machinery, shared infrastructure such as power-receiving and transforming equipment often received less attention. We may have assumed that it would always function reliably. The visualization of data, prompted by challenges previously managed by a single individual, has renewed my commitment to oversee these systems closely." This system implementation has also strengthened organizational cohesion. Hitachi Power Solutions, leveraging its technology-driven expertise, is committed to meeting the needs of business managers and strongly supporting the manufacturing industry's next steps.



### ■ User's Profile

MAYEKAWA MFG. CO., LTD.

Head Office: 3-14-15 Botan, Koto-ku, Tokyo 135-8482 <https://www.mayekawa.com/>

■ Established: May 15, 1924 ■ Capital: 1 billion yen

- Business:
- Development, manufacturing, and sales of industrial refrigeration units, heat pumps, and various gas compressors
  - Development, manufacturing, and sales of food processing machinery
  - Development, manufacturing, and sales of related equipment and systems
  - Design, construction, maintenance, and upgrades for food, logistics, and other plants

**MAYEKAWA**

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