



CUSTOMER CASE STUDY

Mitsubishi Chemical Corporation uses the PI System™ to build OT data platform growing operational intelligence

Mitsubishi Chemical Corporation - www.m-chemical.co.jp
Industry - Chemicals

Goals

- Build an OT data platform that links the systems of 16 manufacturing sites
- Enterprise-wide operational intelligence, so users, plant managers, executives, and business analysts can visualize and analyze all plant data anytime, anywhere
- Enterprise Agreement to accelerate the planning and deployment of the OT platform across all sites

Challenges

- Data collection and analysis siloed at 16 production sites
- Unique equipment and production processes at each site
- System applications with duplicated functions at each manufacturing site

AVEVA solution

- PI Server™
 - Data Archive
 - HA
 - Asset Framework (AF)
 - Event Frames
 - Notifications
 - Asset Analytics
- PI Vision™
- PI DataLink
- PI Connectors™
- Enterprise Agreement (EA)

Results

- Improved abnormality detection and faster problem resolution
- Optimized return on investment (ROI) for digital transformation
- Optimized total cost of ownership (TCO) for plant system maintenance



With 16 production sites in Japan, Mitsubishi Chemical Corporation (MCC) is one of the largest chemical companies in the country, and it's one of the top five chemical companies in the world. Formed in 2017 through the merger of Mitsubishi Chemical Corporation, Mitsubishi Plastics, and Mitsubishi Rayon, MCC provides a wide range of products from petrochemicals to high-performance plastic materials and information electronics materials. But because MCC was born from the integration of three companies with long histories, each production site had a unique approach to operations data use and management. At some production sites, it took a long time to collect and organize data, and it was a challenge to integrate operations data between sites for analysis. When MCC discussed its data siloes with various vendors, many suggested the PI System was the best data management platform for the job. The PI System easily links to existing systems and the latest equipment and can be used comfortably – “KAITEKI” – by everyone, from maintenance teams to management.

A custom OT data platform to break down data siloes

The Mitsubishi Chemical Corporation embarked upon a digital transformation journey to gain enterprise-wide operational intelligence. The company needed to standardize data access and use, even across production sites with unique operations and equipment, so MCC built a company-wide OT data platform with the PI System at its core.

Using PI Server features – Data Archive, Asset Framework, and High Availability – as well as PI Interfaces to connect to other control systems like SCADA, MCC custom built its platform to meet its needs. The OT platform serves as a “common historian” to unify the siloed data – not only improving the efficiency of operations at production sites but also optimizing processes across the company.

MCC first deployed its new OT data platform at three production sites: Ibaraki, Mie, and Okayama, and at these sites, MCC used Asset Framework (AF) to consolidate and contextualize the manufacturing data for each facility. Since deployment, the company has seen faster abnormality detection and shortened problem resolution times at the plants.

“We will be using The PI System for a long term. In addition to support as a platform, the key is how to utilize the data in the system, including integration with other systems. OSIsoft, now a part of AVEVA, has a wealth of case studies in the global market, so I expect them to share them with us and support us in solving our problems, as well as provide us with further value by becoming a part of AVEVA.”

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Takayuki Aoyama,
Senior Manager, Digital Transformation (DX) Promotion Group,
Mitsubishi Chemical Corporation



MCC expects the successful launch of the OT platform at these sites will serve as a guide for subsequent OT platform deployments at other sites. MCC intends to extend its platform to all sites across Japan and overseas.

To support enterprise-wide deployment, MCC signed an Enterprise Agreement with AVEVA to provide support for the introduction, operation, and deployment of its OT data platform. Since MCC's smaller sites are not in the habit of collecting data and often store data in CSV files instead of using Historian, MCC is looking forward to learning from AVEVA's extensive experience implementing OT data platforms.

As part of its digitalization journey, MCC not only seeks to improve efficiency at production sites but also to improve worker safety and reduce workloads. Digital transformation is at the core of the Mitsubishi Chemical Holdings Corporation's mid-to-long-term management policy, "KAITEKI Vision 30." KAITEKI, based on a vision for 2050 and outlines goals to be achieved by 2030, the midpoint of the vision, It is a plan that seeks to balance the well-being of people, society, and planet earth. KAITEKI envisions sustainable operations that contribute to society and address environmental issues.

MCC foresees embracing more PI System components as it prepares its plants for the future. Currently, MCC is collaborating with AVEVA's dedicated team on Event Frames (EF) utilization in a business impact workshop at the Ibaraki office.

"The PI System is significant because it maintains the same [data] architecture as in the past, can be linked with various systems, including the latest devices, is easy to use, and can be easily customized by the user... The PI System was the only choice for us. In addition, by using a unified digital platform and AF, we have created an environment where collaboration is much easier. Even if you don't know the details such as tag names, you can streamline your site and processes based on new ideas."

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Takayuki Aoyama,
Senior Manager, Digital Transformation (DX) Promotion Group,
Mitsubishi Chemical Corporation