CASE STUDY

DIGITAL TRANSFORMATION

B&W
BABCOCK & WILCOX

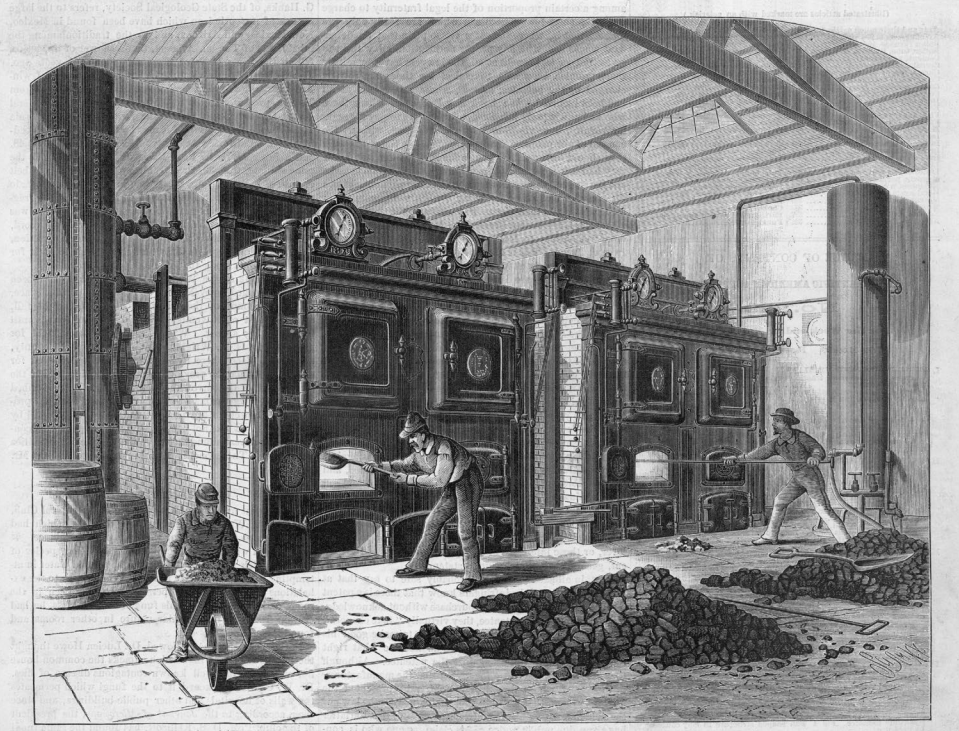
# Analog to Digital: Adopting a Cloud-Based Manufacturing Execution System

Digitization of production systems in manufacturing continues to grow in importance. Babcock & Wilcox (B&W), a global leader in energy and environmental technologies partnered with SYSTEMA to reduce operational inefficiencies, improve product quality, and leverage production data to drive optimizations.

SYSTEMA
Art of Automation

# B&W: A Rich History of Manufacturing

Moving from manual tracking to a cloud-based manufacturing execution system (MES) is no small feat, even for a well-established manufacturer with more than 150 years of experience in the field of safe, sustainable power generation. B&W's decision to adopt SAP's Digital Manufacturing Cloud (DMC) technology was driven by a strong business case that showed significant financial and operational efficiency benefits for the organization.



BABCOCK & WILCOX BOILERS AT THE STANDARD OIL COMPANY'S REFINERY GREENPOINT, L. I.

Established in 1867, Babcock & Wilcox is a global leader in energy and environmental technologies and services for the power and industrial markets, with operations, subsidiaries and joint ventures worldwide.

## All benefits of SAP DMC at a glance:

- Gain insights needed to enhance manufacturing performance
- Timely, accurate, and accessible reporting
- Increase visibility of manufacturing processes
- Customizable reporting capabilities
- Maximize utilization of business assets

## Industry Challenge: Keeping Pace with Change

Not only are today's manufacturers facing any number of changes in the manufacturing landscape – from supply chain disruptions to changing product requirements to fluctuations in cost and availability related to materials and labor – they are also tasked with understanding and leveraging the rapidly expanding capabilities of manufacturing IT offerings to overcome the challenges such changes expose.

With tools such as paper, email, and spreadsheets, it is possible to collect manufacturing data, provide traceability, and report on key performance indicators (KPI's) for the factory. That said, paper systems are fraught with inefficiencies and errors. With an MES, it becomes possible to quickly detect and resolve operational inefficiencies, production delays, and quality issues while effectively leveraging data to improve production. The challenge is to select the MES that meets the priority requirements for today as well as in the future, then carefully managing the change process as the new system is implemented and, ultimately, adopted.

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# IT Challenge: Digital Transformation

Digital transformation involves:

- digitization of formerly analog processes,
- automation by transforming human activities and knowledge into system performed actions and decisions,
- and continuous optimization.

In an environment where most activities and processes were manually handled on paper, B&W lacked access to data in real-time regarding WIP, quality, and equipment status necessary to drive improvements in efficiency, throughput, and overall quality. Further, they needed centralized access to contextualize data to conduct efficient quality investigations and root cause analyses. In the effort to transition from paper and manual processes to system performed and automation driven processes, B&W stakeholders partnered closely with SYSTEMA and SAP to establish a common understanding of the as-is situation and define the to-be state which included products, processes, plant maintenance activities, desired functionality, systems / equipment / applications to be integrated, and project timelines.


SAP DMC allows manufacturers to efficiently execute manufacturing processes, analyze manufacturing and business data, and integrate systems.

# Solution: SAP's Digital Manufacturing Cloud (DMC)

On July 5, 2021, B&W de Monterrey launched SAP's Digital Manufacturing Cloud and SAP ECC Plant Maintenance to replace largely manual and paper processes.

## The SAP system allows B&W de Monterrey to:

- electronically plan manufacturing operations, thus optimizing schedules and reducing time to manufacture
- more efficiently enforce quality requirements, track quality issues, and quantify rework
- electronically deliver work and inspection instructions to shop floor personnel
- more efficiently manage and enforce workforce certifications
- record full product genealogy, including all raw material, manufacturing operation, and quality data associated with the product
- electronically organize and formalize plant maintenance processes
- collect productivity data to be analyzed for day-to-day adjustments and discover trends, highlighting areas for improvement, and as input for future estimates

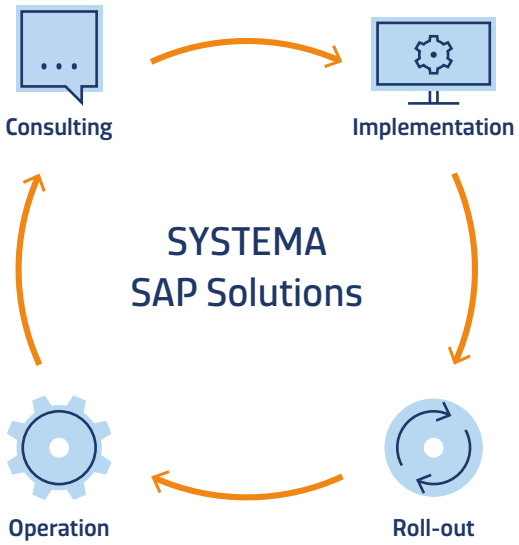
# All in all, B&W is pleased with the transformation of their manufacturing operations.

B&W is looking forward to future functionality and capabilities within DMC, including labor tracking which is on SAP's roadmap for 2021.

All in all, B&W is pleased with the transformation of their manufacturing operations and would encourage others embarking on such a project to keep the end in mind by maintaining focus on the purpose, reason, and intent of the project. Specifically, they recommend carefully defining desired outcomes and measurement capabilities early on and keeping these in mind through the duration of the project – particularly KPIs and dashboards for data visualization.

Ultimately, B&W achieved a system that met their requirements and found SYSTEMA to be a responsive, flexible, and capable partner. Through their partnership with SYSTEMA, B&W was able to:

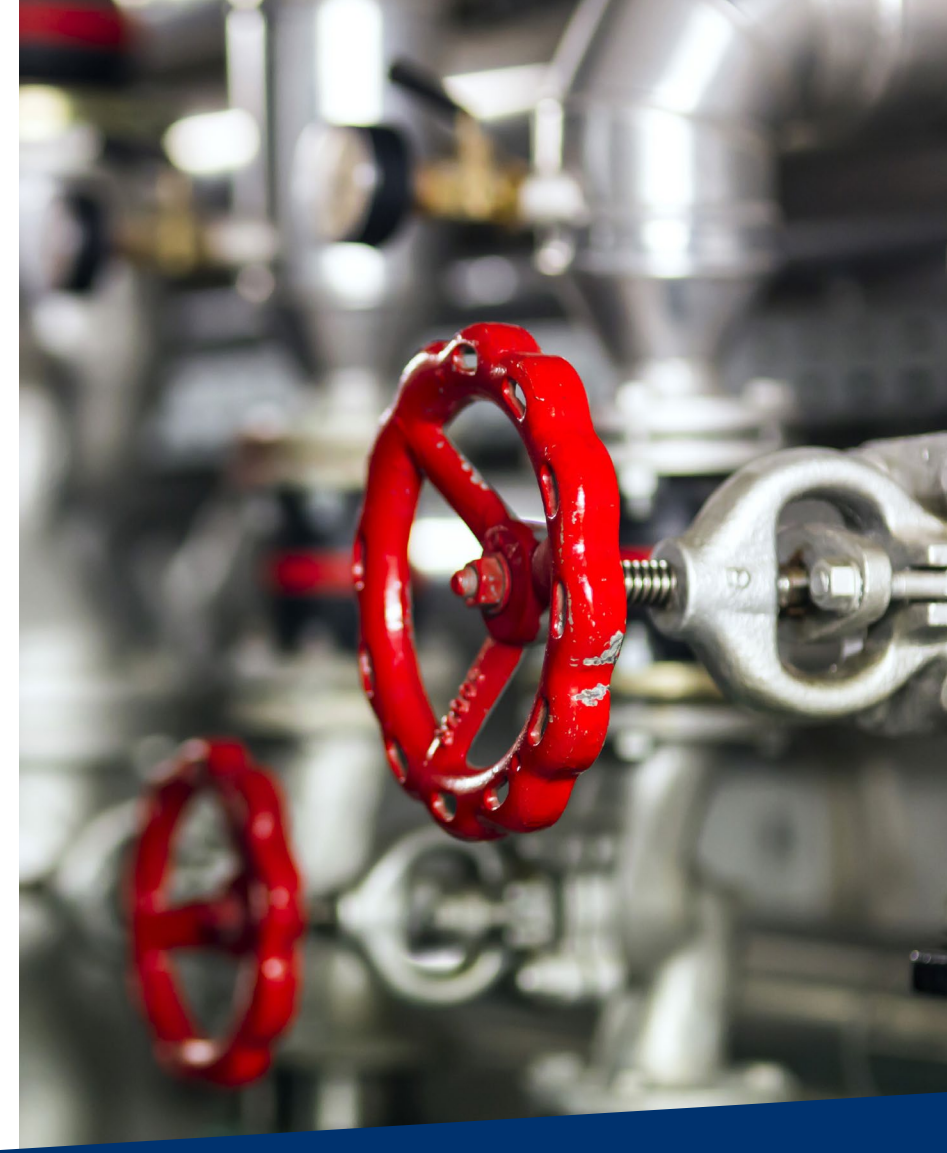
- share SYSTEMA's relationship with SAP to identify solutions and resolve support issues
- master the skills needed to independently administer and use the system to implement and configure additional product lines
- implement the solution on an aggressive schedule



## The future of digital manufacturing

Though the digital manufacturing landscape continues to mature, it's undeniably more powerful than manual methods as it fast-tracks a path to innovation and visibility into manufacturing operations. By transforming human activities and knowledge into system performed actions and decisions, productivity and product quality increase along with access to critical data which can be used for business decision-making to drive continuous improvement.

REQUEST A CONSULTATION



Click here for more information on SAP DMC.

Feel free to contact us with questions at contact@systema.com.

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