CASE STUDY

FROM REACTIVE TO RELIABLE: GLOBAL PREVENTIVE MAINTENANCE LIBRARY FOR MAXIMUM UPTIME

An industry leader in specialty chemicals sought to elevate its preventive maintenance approach to enhance operational efficiency and reduce unplanned downtime. With operations spanning multiple production facilities worldwide, maintaining equipment reliability and minimizing unplanned downtime were crucial priorities. Recent assessments have highlighted several unexpected plant shutdowns directly linked to gaps in preventive maintenance execution. Additionally, mechanical integrity reviews uncovered deficiencies, particularly in safety-critical equipment, where maintenance plans were either inadequate or nonexistent. To address these issues, the company set out to implement a structured, standardized approach to preventive maintenance optimization.

AMBITION: ADDRESSING RELIABILITY AND COST OPTIMIZATION

The company sought to enhance its maintenance maturity by adopting a proactive, data-driven approach to preventive maintenance. Their goal was to develop a Global Inspection, Test & Predictive Maintenance (P(d)M) Library, consolidating industry regulations, internal standards, and best practices from high-performing facilities. By reducing reactive maintenance and ensuring compliance with mechanical integrity assessments, the company aimed to achieve not only improved equipment reliability but also significant cost optimization.

APPROACH: BUILDING THE GLOBAL PM LIBRARY

The initiative is structured into two key phases, each actively addressing gaps and ensuring effective implementation through joint efforts between MaxGrip and the client.

Phase 1: Development of the Global PM Library

MaxGrip works alongside the client to establish a standardized maintenance strategy across the organization. Together, they identify key process areas and develop a hierarchical asset framework to classify equipment based on criticality. Safety-critical and manufacturing-critical assets are prioritized, ensuring that preventive maintenance plans align with regulatory and operational requirements. By leveraging insights from internal maintenance best practices and industry best practices provided by MaxGrip, the project focuses on:

- Standardizing PM tasks and frequency definitions to improve consistency.
- Creating comprehensive Standard Work Orders (WO) to align inspection criteria, reporting structures, and compliance tracking.
- Integrating regulatory and industry standards into the preventive maintenance framework.

Phase 2: Local Plant Gap Closure & Implementation

With the foundation in place, MaxGrip collaborates closely with local plant teams to refine and implement the PM Library. This phase ensures that maintenance strategies are not just theoretical but are effectively adopted at site levels. The implementation process includes:

- A centralized digital repository to enable seamless data management and PM execution.
- Pilot plant implementations to validate the framework before a full-scale global rollout.
- Site-specific refinements to adapt the PM Library to regional regulatory requirements.

BENEFITS

STRONGER COMPLIANCE, FEWER SHUTDOWNS

The project is ongoing and will result in the successful creation of a comprehensive Preventive Maintenance Strategy. This includes:

- Standardized asset types for key subsystems within the production units.
- Defined preventive maintenance plans, including detailed standard task lists.
- Upload-ready PM plans integrated into the enterprise maintenance system for streamlined execution and tracking.

The structured approach to preventive maintenance execution will enhance compliance with regulatory standards. Equipment reliability is expected to significantly improve, leading to a measurable reduction in unplanned shutdowns. Additionally, the scalable framework that will be established through this project provides a foundation for expanding preventive maintenance optimization efforts to other critical systems.

By leveraging global expertise and standardized processes, the company will successfully lay the groundwork for a sustainable, high-reliability maintenance strategy that will boost operational excellence across its global footprint.