

CASE STUDY

MAINTENANCE INTERVENTION USA 2023 - 2024

Objective

Xenco was engaged to review and optimise maintenance practices for a large mining operation in the USA. The goal was to improve planning, execution, reliability, and data integrity within the maintenance function. Through a detailed assessment of systems, processes, and team capabilities, Xenco identified inefficiencies and implemented strategic interventions to drive operational improvements.

The Challenges

Despite a well-established maintenance function, several inefficiencies were impacting performance.

- Inconsistent Maintenance Processes – Lack of standardization in planning, execution, and shutdown management.
- Data Quality Issues – Incomplete asset data, poor SAP governance, and unreliable historical records.
- Resource Utilisation Issues – Inefficient scheduling and backlog management led to delays.
- Reactive Maintenance Culture – Limited preventive maintenance strategies, resulting in frequent asset failures.
- Lack of Structured Shutdown Planning – Extended downtime due to inefficient processes.

AT A GLANCE

Challenges

- Inconsistent maintenance execution.
- Poor data integrity in SAP.
- Inefficient planning and scheduling.
- Reactive maintenance culture.
- Unstructured shutdown management.

Benefits

- Schedule compliance increased from 50% to **over 80%**.
- Average shutdown duration reduced by **25%**.
- Rectified over **6,900** incomplete asset data entries.
- Haul Truck availability increased from 67% to **82%** over 3 months.
- Work order closure rates improved by **40%**.

Xenco is a multi-disciplined, specialist service group that delivers executive and operational level support to businesses seeking significant improvements in productivity, efficiencies and company profitability.

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Our Approach

Xenco’s approach was structured, data-driven, and collaborative. A comprehensive review of the client’s maintenance systems was conducted. This review involved interviews with all Maintenance and Operations team members, plant inspections, and analysis of equipment performance, resource utilisation, and system integrity. Key aspects that were reviewed included the overall maintenance function, variability in equipment and systems, planning capacity, reliability, Total Cost of Ownership (TCO), and the change management process.



Our intervention was structured into five **key focus** areas:



Master Data & System Integrity

Accurate master data is essential for effective maintenance and reliability. Our team focused on ensuring data integrity to support planning, execution, and analysis.



Master Planning & Scheduling

Effective maintenance planning and scheduling optimises resources, minimises downtime, and increases efficiency. This focus aimed to strengthen scheduling, enhance work order management, and improve resource use.



Execution and Work Management

Maintenance execution ensures tasks are completed efficiently. This focus aimed to align activities with best practices, streamline workflows, and improve SAP utilisation.



Reliability & Preventive Maintenance

The goal of reliability engineering is to maximise asset uptime, reduce maintenance costs, and extend equipment life. This focused on establishing asset criticality frameworks, enhancing preventive maintenance, and driving continuous improvement through data-driven insights.



Shutdown & Turnaround Optimisation

Shutdowns and turnarounds are critical for performing major maintenance activities, ensuring asset integrity, and minimizing production losses. Our team focused on developing structured processes to manage major events efficiently.

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Our Results

Through a comprehensive approach that integrated structured planning, execution, reliability, and cost optimisation, Xenco transformed maintenance operations.

By leveraging data-driven strategies, Xenco created a sustainable framework that not only enhanced operational efficiency but also delivered significant, measurable improvements in key performance areas, ensuring sustained success.

Key outcomes included:

Planning & Scheduling Optimization

- Schedule compliance increased from 50% to over 80%.
- Backlog reduced from over 1,400 work orders to fewer than 100.
- A 12-month Major Events Calendar (MEC) was introduced for proactive scheduling, along with standardized shutdown tracking.

Operational Efficiency & Execution

- Improved work order closure rates by 40%.
- Implemented a Work Management Process, aligning tasks with best practices.
- Trained 500+ team members on SAP utilization and execution discipline.

Reliability & Asset Management

- Asset downtime reduced by 25%, with haul truck availability rising from 67% to 82%.
- Developed a Critical Equipment Asset Register covering 5,193 assets.
- Implemented Failure Mode and Effects Analysis (FMEA) to enhance reliability.

Data Integrity

- Rectified over 6,900 incomplete asset data entries.
- Reduction of incomplete task lists from 90% to less than 5%.
- Enhanced SAP data quality, supporting more informed, data-driven decision-making.



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