



## CASE STUDY

### Machine Health Monitoring System

# Railcar Manufacturer Achieves 8x ROI from ATS Machine Health Monitoring Within Two Months

#### AT A GLANCE

- Manufacturer sought a technology-based approach to optimize reliability
- ATS services expanded to include sensor-based machine health monitoring
- Annual program price of \$14,000 provided an 8x ROI within the first two months
- Avoided losses totaled \$19,200
- Zero production time lost and zero rush parts required

#### Customer Challenge

A major railcar manufacturer's journey toward reliability excellence began eight years ago when ATS was chosen to help several of its facilities transition from reactive maintenance to planned, preventive, and predictive maintenance practices. With the technology-driven ATS Comprehensive Maintenance Solution providing a foundation for maintenance optimization, the manufacturer was soon ready to deploy the latest in reliability technologies to remotely monitor asset performance in order to drive downtime to zero.

#### ATS Solution

Already intrigued with the Industrial Internet of Things (IIoT), the manufacturer was receptive when the ATS Machine Health Monitoring System (MHMS) became available. MHMS provides on-site and remote ATS reliability insights by collecting real-time machine sensor data which automatically generates alerts when thresholds are met. Increased awareness of degrading asset conditions help to prevent failures, and optimize the reliability and uptime of its most crucial machines.

ATS installed the first batch of sensors on blasters and compressors and data collection began immediately. Each sensor determines an appropriate baseline for performance and then quickly begins detecting anomalies that could lead to asset failure and production downtime. The data points and trends are graphically depicted on cloud-based dashboards.

The advance alerts of potential problems via email and text notifications are enhanced with actionable insights provided by the ATS Reliability 360™ engineers enabling better planning and scheduling of appropriate corrective actions. To ensure the issues are fully resolved, monitoring continues until it is confirmed the root cause and repair decisions were accurate.

#### Bottom-Line Success

The annual program implemented in December cost \$14,000 and it was paid off almost immediately with an early win two months later. A sensor installed on a blaster motor recorded vibration and temperature levels that periodically exceeded alert thresholds. MHMS triggered email notifications to the site supervisor and planner warning of the condition, and the Reliability 360 engineers generated a proactive follow-up task in the plant's ATS eFactoryPro Computerized Maintenance Management System (CMMS).

Maintenance Technicians investigating the problem discovered loose mounting bolts. A follow-up task created to determine the root cause revealed that bad shot blades caused imbalance, leading to loosening of the bolts. As a result, ATS replaced the shot wheel blades outside of production hours utilizing \$300 worth of in-stock parts.

Significant costs were avoided thanks to the early detection and timely response: There was no lost production time, no failure of the \$5,200 motor, no failure of the \$14,000 blast wheel assembly, no rush parts costs, and the repair time was only four hours as opposed to 40 hours for a standard motor replacement.

# 8x ROI

## \$19,200 Avoided Losses

