

MACHINE HEALTH MONITORING SYSTEM

Packaging Manufacturer Deploys Machine Health Monitoring Globally Following Successful Trial

Customer Challenge

Growing demand and supply chain challenges caused a global packaging producer to rethink how its critical machines were monitored for signs of deterioration and failure. Route-based, visual, and predictive maintenance inspections were inadequate to support the company’s just-in-time, continuous production processes. A more automated, technology-driven approach was needed considering that a single failed asset can take a whole line down.

ATS Solution

The manufacturer looked at nearly a dozen asset monitoring sensor solutions and chose two to compare head-to-head in a trial at a can manufacturing plant. The Machine Health Monitoring System (MHMS) from Advanced Technology Services (ATS) quickly outperformed the other in terms of ease of installation and by alerting the customer to issues not detected by the other solution. Additionally, MHMS includes the Reliability 360® Technology Center, where reliability engineers provide customer support and make data-driven, prescriptive recommendations.

“We use the sensors not only to **catch assets before failure**, but also to **adjust our maintenance plans**.”

– Reliability Manager, Leading Packaging Manufacturer

The 60-day, risk-free MHMS trial at the can manufacturing plant was followed by a 60-day trial in a glass bottle manufacturing plant. Sensors were attached to motors, gearboxes, pumps, and other crucial components of critical machines including neckers, decorators, coppers, and balers. The trial demonstrated how abnormalities detected from real-time machine sensor data are graphically depicted and trended on cloud-based dashboards, email alerts are automatically generated when thresholds are exceeded, and detailed actionable insights from ATS engineers help the maintenance team to take appropriate actions.

The can manufacturing plant trial avoided 32 hours of unplanned downtime and \$86,000 in losses within the first 30 days, and at the glass bottle manufacturing plant, nearly \$100,000 of downtime costs were avoided – more than covering the cost of the annual subscriptions for both plants. The rapid downtime reductions, machine health improvements, and reliability engineering troubleshooting support convinced the packaging producer that ATS was the right choice to partner with long-term and implement MHMS at all 20+ manufacturing sites in the U.S.

AT A GLANCE

- Packaging producer needed to modernize its equipment condition management
- Sensor trial proved its worth and ATS was chosen to implement enterprise-wide at 20+ plants
- \$800,000 investment avoided an estimated \$2 million in unplanned downtime costs
- Automated alerts help avert production losses and emergency parts costs
- ROI is expected to surge as more sensors are deployed

Bottom-Line Success

By replacing all-manual, route-based monitoring with the automated solution, the manufacturer’s unplanned downtime and associated costs are significantly reduced. The MHMS system is also increasing safety, productivity, machine availability, and overall equipment effectiveness (OEE).

Sensor-generated alerts are detecting serious conditions such as oil degradation, loose mounting bolts, damaged belts, worn bearings, misalignment, and broken welds that might otherwise have been missed. Maintenance plans are adjusted to prioritize the most troublesome assets and the work is scheduled during the plants’ once-monthly planned maintenance day, ensuring the necessary tools, parts, and labor are available.

The manufacturer rapidly realized an estimated \$2 million in avoided losses on the initial \$800,000 program cost and expects much greater returns when the program is fully deployed. By the end of year one, about 2,025 sensors were installed on 1,200 critical assets, 250 notifications alerted to 490 issues, and 50 downtime risks were resolved. The following year, more than 2,000 additional sensors will be deployed on assets across the enterprise.

 **2 MILLION**
In Estimated Downtime Avoided

150% RETURN ON INITIAL INVESTMENT