

Rotating Equipment

edgeRX™ by TDK SenseI | Predictive Maintenance using Edge AI

OVERVIEW

Rotating equipment—motors, pumps, fans, and compressors—represents a significant share of both critical uptime risk and maintenance spend in manufacturing. Even a single unexpected failure can disrupt production and drive costly downtime. TDK SenseI's edgeRX™ enables predictive maintenance with real-time monitoring and AI-driven insights, helping manufacturers reduce failures, optimize maintenance spend, and improve asset utilization.

PROBLEM

Most manufacturers still rely on reactive or time-based maintenance, which leads to either over-maintenance (wasted cost) or unexpected failures (lost production). Rotating equipment failures often start as small, undetected issues—vibration anomalies, imbalance, or overheating—that escalate into expensive breakdowns.

Key operational and financial challenges:

Unplanned downtime costs: Production losses, missed SLAs, and recovery costs

Excess maintenance spend: Replacing parts too early or performing unnecessary inspections

Energy inefficiency: Degraded equipment consuming more power than optimal

Labor inefficiency: Teams spending time firefighting instead of planned maintenance

Shortened asset lifespan: Late detection leading to major repairs or replacements

EXPECTED OUTCOMES

Organizations deploying edgeRX™ for rotating equipment typically see improvements across uptime, cost, and efficiency metrics.

Illustrative impact:

20–40% reduction in unplanned downtime through early fault detection

10–25% reduction in maintenance costs via condition-based servicing

5–15% energy savings from optimized equipment performance

Extended asset life (10–20%) by addressing issues earlier

Improved maintenance productivity with fewer emergency interventions

SOLUTION

TDK SenseI's edgeRX™ delivers an integrated platform that combines sensing, edge AI, and analytics to convert raw machine data into actionable cost-saving insights.

How edgeRX™ drives reliability and ROI:

Early fault detection: Edge AI detects anomalies before failure, reducing costly production interruptions

Condition-based maintenance: Replace parts only when needed instead of on fixed schedules

Real-time monitoring: Alerts allow maintenance teams to act immediately, avoiding escalation

Energy efficiency improvements: Identifies underperforming equipment drawing excess energy

Centralized visibility: Dashboards provide plant-wide insights for smarter decision-making

Low-touch deployment: Out-of-the-box platform reduces integration and setup costs

SUMMARY

TDK SenseI's edgeRX™ transforms rotating equipment maintenance from a cost center into a strategic value driver. By combining continuous monitoring, edge AI analytics, and actionable insights, edgeRX™ helps manufacturers reduce downtime, optimize maintenance spend, and maximize asset performance—delivering clear, measurable ROI across operations.

