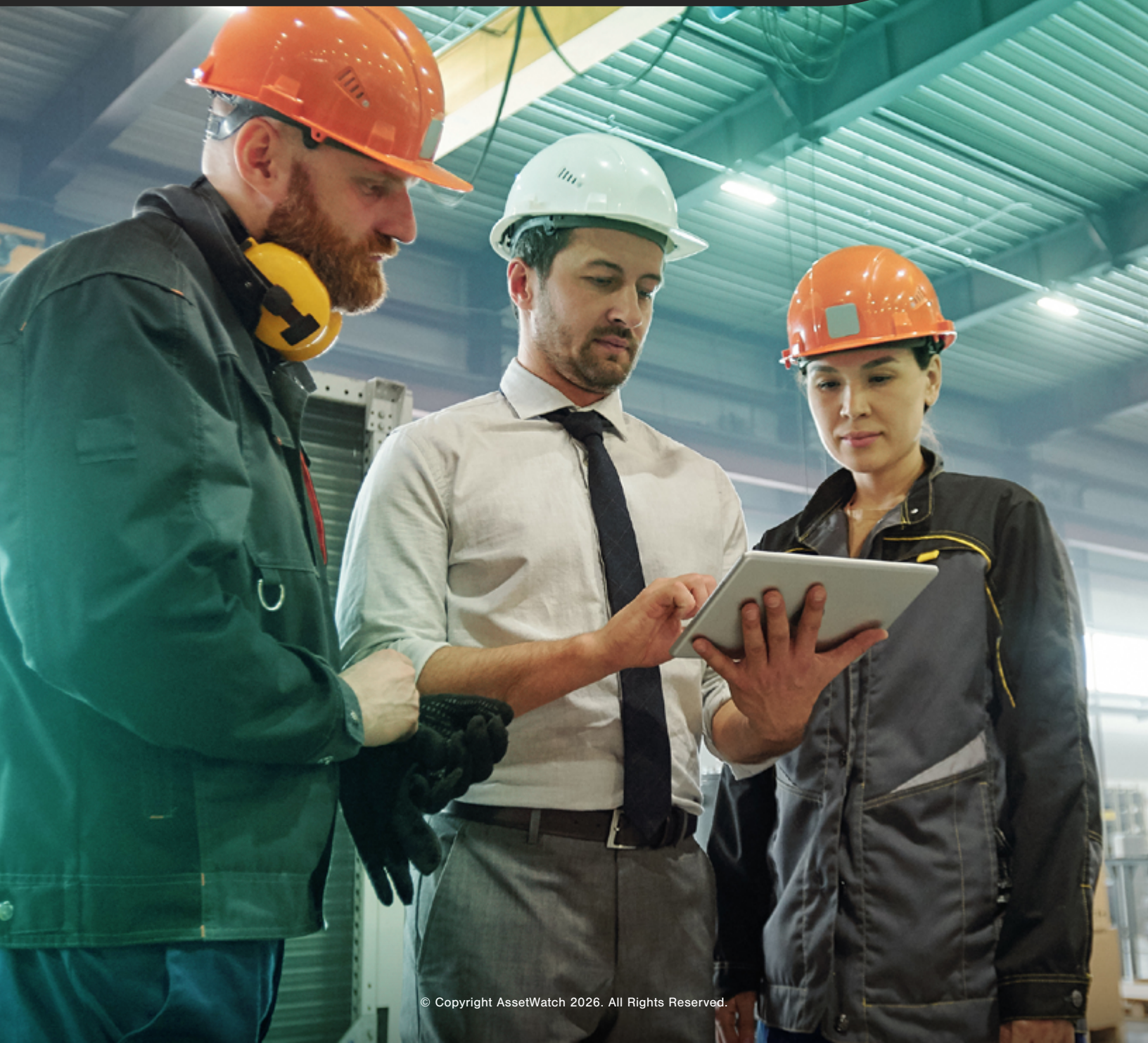
AssetWatch

A UNIFIED FRONT

Aligning Maintenance, Operations, and Sustainability to Unleash Enterprise Success



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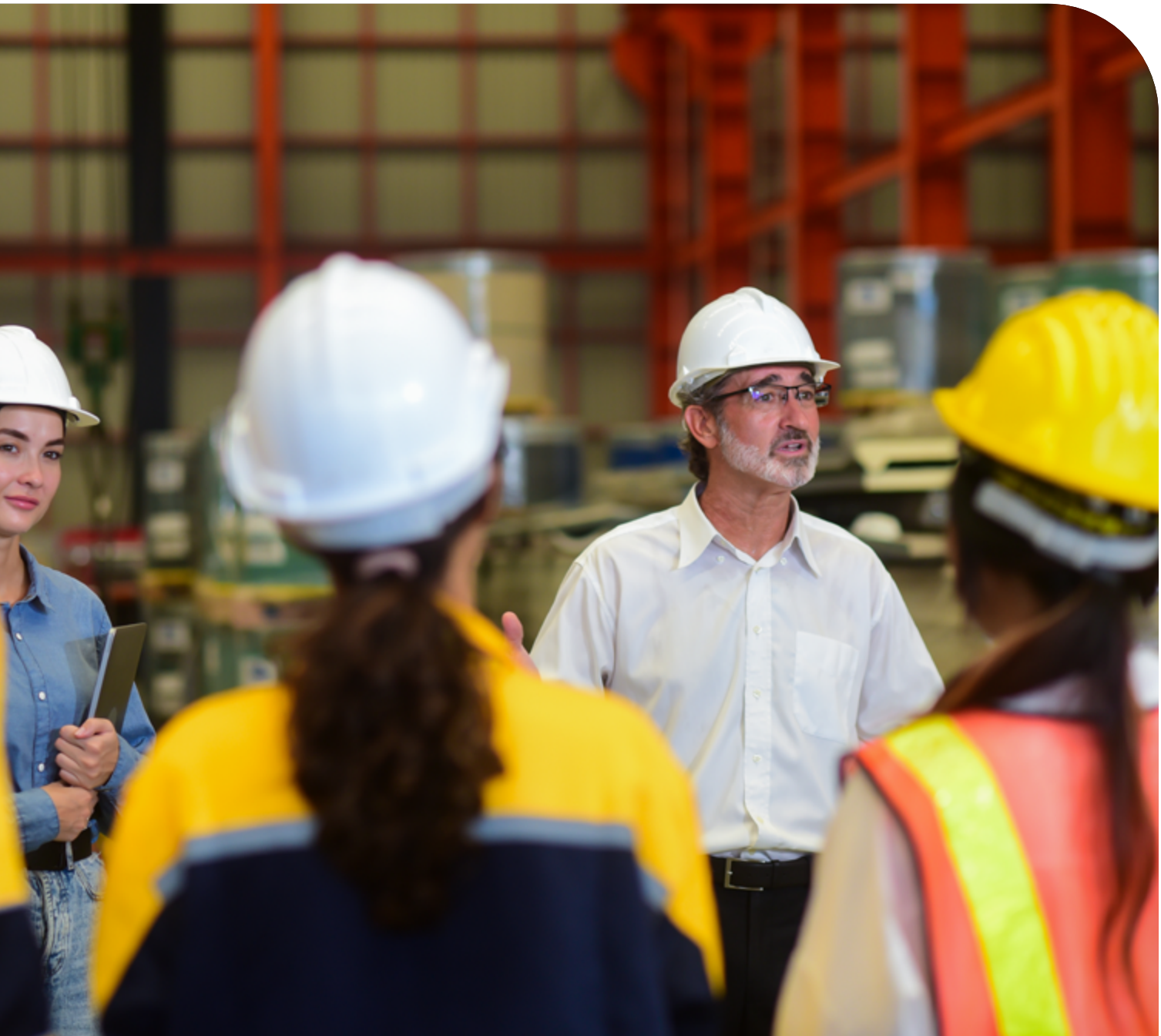
Executive Summary

Manufacturers are under increasing pressure from every direction. As operating costs rise, so do expectations for production targets, sustainability goals, and asset reliability. The biggest wins come when maintenance, operations, and sustainability teams work together, but in many companies, these teams work toward common objectives in isolation. This results in duplicated effort, competing priorities, and missed opportunities to create value.

This white paper explains how cross-functional alignment strengthens performance and resilience, and what it takes to drive change. By uniting around shared metrics and breaking down silos, manufacturers can cut downtime, improve output, and meet environmental commitments while reducing the burden on lean teams.



I: The New Opportunity for Manufacturers: Align to Adapt

Mounting economic and market pressures are bearing down on the industrial sector. Between rising costs, supply fragility, talent shortages, and economic uncertainty, there's little room for the usual costs of doing business—or the risks of operating as usual. As a result, the push to streamline and strengthen operations, improve reliability, and reduce environmental impact becomes increasingly urgent by the day.

25% Estimated percentage of lubrication-related equipment failures[1]	**1.05B kWh** Projected energy sales for industrial customers in 2025, nearing a 25-year record high[2]
1.9M Manufacturing jobs that could go unfilled over the next decade[3]	**76%** Manufacturers citing trade uncertainties as their top challenge[4]

1. Manufacturing Dive 2. Reuters 3. Deloitte 4. National Association of Manufacturers

In these intense times, manufacturers are feeling the heat. A Q3 2023 survey by the National Association of Manufacturers revealed that just 65 percent of manufacturing executives—the lowest percentage in over three years—are "feeling positive about their company's outlook."

Fortunately, where problems exist, so do breakout opportunities. Manufacturers have the means to improve their outcomes and outlook, despite the pressures and headwinds.

Changing the trajectory begins with cross-functional alignment across three key areas whose roles are more intertwined than ever before. As these teams share data, objectives, and processes, they reinforce one another instead of working at cross-purposes. Maintenance improves uptime in ways that support production schedules. Operations gains predictability and efficiency. Sustainability efforts benefit from reduced waste, lower energy use, and extended equipment life.

In the following pages, we'll outline the cross-functional gaps and tensions that traditionally hinder organizational progress, the ideal state of unification that speeds momentum, and the path forward in practical steps.

II. How Maintenance, Operations, and Sustainability Are Interconnected

Maintenance focuses on keeping machines running the way they should, protecting reliability and extending the life of critical assets. Operations pushes for maximum throughput and efficiency. Sustainability teams work to cut waste, reduce energy use, and lessen environmental impact.

At first glance, these priorities can seem like they're pulling in different directions. In reality, they depend on one another to succeed.

The ripple effect starts with maintenance. A strong maintenance program builds the foundation for both operational performance and sustainability progress. When assets are well cared for, production runs smoothly, resources are used wisely, and environmental goals are easier to hit. But when maintenance falls short, the opposite happens: inefficiencies grow, equipment runs harder than it should, and sustainability goals slip further out of reach.

Maintenance Strategy: The Cross-Functional Ripple Effect

Maintenance Strategy	Reactive	Proactive
	Run to failure, with no visibility into emerging faults/issues and minimal or suboptimal maintenance.	**Predict and prevent** equipment failure through ongoing monitoring and routine maintenance
Operational Effects	**Reactive**	**Proactive**
	Unexpected downtime due to equipment failure disrupts operations and stalls output.	**Minimal downtime and optimal equipment health** enable steady, high output and consistent product quality.
Sustainability Effects	**Reactive**	**Proactive**
	Improperly maintained assets consume more energy and produce more waste and emissions; the frequent need to replace worn assets negatively impacts sustainability industry-wide.	**Healthy assets that perform at their peak** operate more efficiently and have longer lifespans, resulting in less energy consumed, less waste generated, and a smaller carbon footprint.

III. 3 Roadblocks That Keep Teams from Moving Forward

Maintenance, operations, and sustainability are all working toward the same big-picture outcome: reliable, efficient production that doesn't waste resources. But too often, these groups operate in their own lanes without the shared understanding they need. Here are three of the biggest barriers that get in the way.

Clashing KPIs

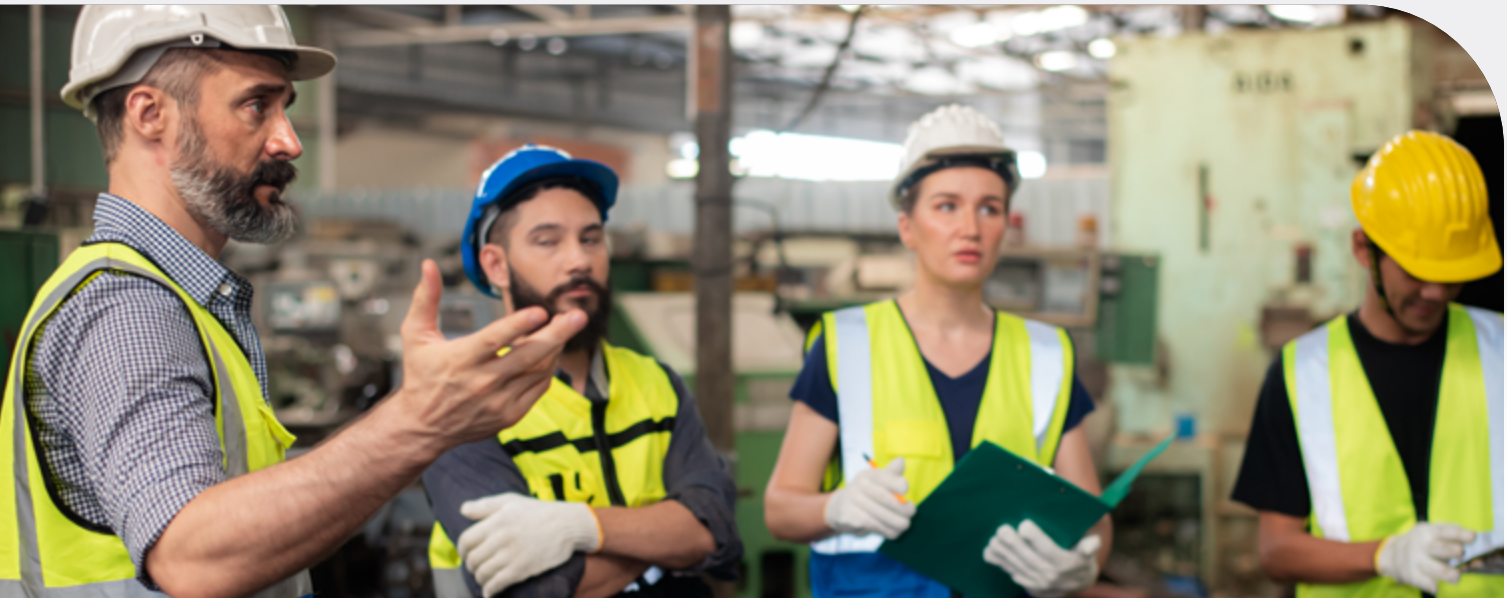
Each team tends to chase its own scoreboard. Maintenance zeroes in on uptime, operations measures success by output, and sustainability is focused on cutting carbon and energy use. On their own, these KPIs make sense, but they can pull teams in different directions instead of driving toward a common result.

Data That Doesn't Connect

Maintenance looks at vibration data, operations watches production rates, and sustainability monitors energy consumption, with insights sitting in separate silos. Without a single view of how asset performance impacts both throughput and emissions, leaders are left piecing together an incomplete story—making effective decisions harder.

Priorities That Clash

When goals aren't shared, one team's push can become another's problem. If operations pushes output at all costs, maintenance may be forced into reactive firefighting, equipment runs less efficiently, and sustainability targets can slip. Instead of accelerating progress, misalignment creates friction and added risk.



IV. Moving Toward Integration: A Unified Narrative

Breaking down silos starts with culture. To move past the disconnects that create friction, organizations need to encourage collaboration across teams. When maintenance, operations, and sustainability share aligned goals and a cohesive narrative, each group's efforts reinforce the others. This alignment transforms individual initiatives into collective progress, making enterprise-wide objectives easier to achieve.

The key is developing a unified story that connects every function's priorities and performance. By weaving together operational efficiency, equipment reliability, and sustainability outcomes, organizations can present a holistic picture of excellence. This shared narrative not only builds clarity and accountability but also strengthens the case for leadership support. When the story of impact is clear and data-backed, it becomes far easier to secure budget approval and direct investment toward the technologies and tools that will deliver the greatest long-term value.

Maintenance KPIs

Mean Time Between Failures (MTBF): The average time between equipment breakdowns, indicating reliability

Mean Time to Repair (MTTR): The average time required to repair equipment, impacting downtime and operational flow

Maintenance Cost per Unit of Production: Tracks maintenance costs in relation to the number of units produced, highlighting cost-efficiency

Preventive vs. Reactive Maintenance Ratio: The ratio of scheduled (preventive) maintenance to unscheduled (reactive) maintenance, showing how proactive the maintenance strategy is

Work Order Completion Rate: The percentage of maintenance work orders completed on time, indicating the effectiveness of the maintenance team

Operations KPIs

Overall Equipment Effectiveness (OEE): A key measure of how effectively a manufacturing operation is utilized. It takes into account availability, performance, and quality

Production Output: Tracks the total units produced in a specific timeframe, helping to measure operational efficiency

Cycle Time: The time it takes to complete one production cycle, which can indicate efficiency and potential bottlenecks

Downtime: Total downtime due to equipment failure, setup, and other delays, which directly impacts production efficiency

Sustainability KPIs

Energy Consumption per Unit of Production: Measures the amount of energy used to produce one unit, linking operational

Carbon Emissions per Unit of Production: Tracks the carbon footprint associated with producing one unit, directly connecting to

Waste Reduction: Measures the amount of waste generated per unit of production, reflecting efforts in reducing

Water Usage Efficiency: Tracks water consumption relative to production output, which is crucial in industries where

Sustainable Procurement Rate: The percentage of materials sourced from sustainable or certified suppliers, connecting procurement practices with sustainability goals

Cross-Functional KPIs

Cost per Unit of Production: Incorporates maintenance, energy, and operational costs to provide a holistic view of production efficiency

Reliability Index: A composite metric that combines MTBF, MTTR, and other factors to give a summary score of equipment reliability and its impact on operations and sustainability

Sustainability Return on Investment (ROI): Measures the financial return from investments in sustainability initiatives, considering savings from energy efficiency, waste reduction, and maintenance improvements

Integrated Performance Score: A weighted index that combines critical metrics from Operations, Maintenance, and Sustainability, providing a single score to track overall performance

V. Top-Level Insights and Alerts: How Teams Recalibrate as Needed

Leaders need a clear line of sight into what matters most. When maintenance, operations, and sustainability all pull from the same set of real-time signals, teams can stay aligned on priorities and act quickly before small issues become big setbacks. These shared alerts keep everyone focused on the same goals—protecting uptime, meeting production demands, and advancing sustainability targets—so decisions are made with confidence and the entire organization moves forward together.

Goal Alignment Indicators

Goal Achievement Rates: Tracks progress toward integrated goals that span operations, maintenance, and sustainability, showing how well-aligned the efforts are across these functions.

Interdepartmental Collaboration Index: Measures the effectiveness of cross-functional collaboration, possibly through survey data or project success rates, to ensure that teams are working together towards shared objectives.

Real-time Alerts and Notifications

Real-time Downtime Alerts: Immediate notifications when downtime occurs, with analysis of its potential impact on production and sustainability goals.

Energy Spikes: Alerts for unexpected increases in energy consumption, signaling potential issues with equipment efficiency or operational practices.

Emission Threshold Exceedances: Notifications when carbon emissions exceed predefined thresholds, allowing for quick corrective actions.

Trend Analysis and Predictive Insights

KPI Trends: Visual representation of key metrics over time, showing improvements or areas of concern across operations, maintenance, and sustainability.

Predictive Maintenance Alerts: Indicators based on predictive analytics, highlighting equipment at risk of failure and its potential impact on both operations and sustainability.

Efficiency Gains from Sustainability Initiatives: Quantifies the operational improvements and cost savings directly attributed to sustainability efforts.

When all of these KPIs and alerts live in one unified dashboard, leaders get a clear, connected view of performance across the organization. This visibility makes it easier to spot trends, balance trade-offs, and keep maintenance reliability, production efficiency, and sustainability goals moving in the same direction.

VI. Building a Culture of Collaboration

Getting maintenance, operations, and sustainability to work as one team doesn't happen by accident. It takes clear strategies, shared goals, and tools that make collaboration natural. Here are 10 best practices that help break down silos and build stronger connections across the plant.

1. Bring teams together

Project teams: Form cross-functional groups for specific initiatives, like cutting energy use or extending asset life.

Joint meetings: Hold regular check-ins where all three groups can share updates, flag challenges, and find opportunities to help each other.

2. Set goals everyone can rally around

Unified objectives: Create company-wide targets that require input from all three areas—for example, boosting uptime while reducing emissions.

Shared metrics: Track KPIs that reflect those shared goals, like energy efficiency per unit produced.

3. Put data in one place

Central platform: Use one data hub that combines information from maintenance, operations, and sustainability. Everyone works from the same shared knowledge base.

Predictive tools: Layer in predictive analytics to spot and address machine faults earlier, optimizing both performance and resource use.

4. Make communication simple

Shared dashboards: Build dashboards that highlight the metrics all teams care about.

Collaboration tools: Create easy channels—whether Slack groups or internal forums—for quick questions, updates, and problem solving.

5. Cross-train your people

Training programs: Give teams a window into each other's world. Operations staff learn how sustainable practices affect production; maintenance learns how changes on the line affect equipment health.

Workshops and seminars: Host sessions on trends, new tech, or best practices that span multiple departments.

6. Solve problems together

Joint sessions: When issues come up, get representatives from all three teams in the same room to brainstorm solutions.

Root cause analysis: Form cross-functional RCA teams to dig into problems like repeated breakdowns or spikes in energy use.

7. Reward teamwork

Incentives: Recognize teams for hitting shared goals and completing cross-department projects.

Public recognition: Celebrate wins that come from collaboration. People are more motivated to keep working together when success is visible.

8. Plan as one

Strategy sessions: Align annual or quarterly goals by bringing leaders from all three areas to the table.

Scenario planning: Run “what if” exercises to see how decisions in one area ripple through the others.

9. Keep improving

Continuous improvement events: Use Kaizen or similar workshops to spot inefficiencies and develop shared solutions.

Feedback loops: Encourage regular feedback on what’s working and what needs adjustment.

10. Lead from the top

Executive support: Senior leaders should model collaboration, set joint goals, and allocate resources to support them.

Empowered managers: Give middle managers the authority and tools they need to encourage teamwork and resolve conflicts.

By following these practices, manufacturers can move past silos and create a culture where maintenance, operations, and sustainability work toward the same outcomes: greater efficiency, more reliable production, and real, sustainable progress on environmental goals.

VII. Charting a New Course for the Enterprise

When maintenance, operations, and sustainability teams are aligned—and empowered to work as one—the impact is transformative. Collaboration doesn't just ease friction between departments; it creates measurable gains across the business.

Stronger equipment reliability: Integrated strategies keep maintenance aligned with production needs, cutting downtime and keeping assets healthy and performing at their best.

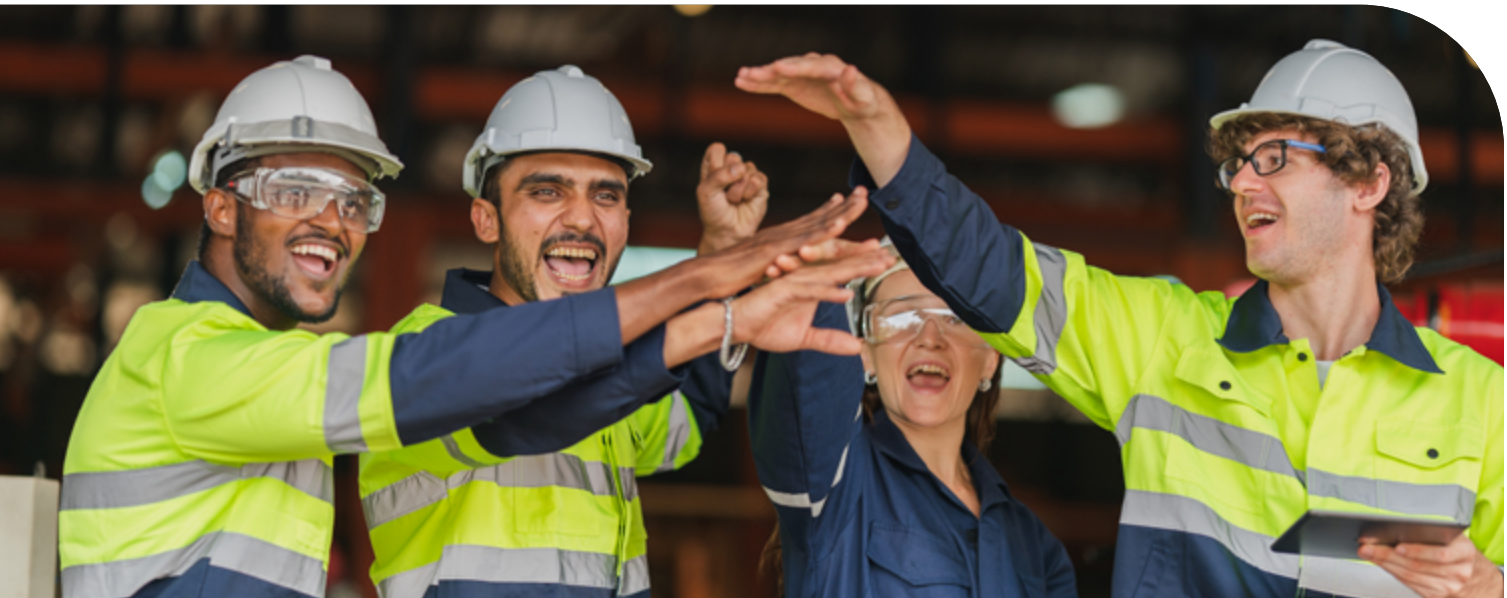
Higher, more predictable output: When operations and maintenance push toward the same goals, disruption and failure risks diminish. Uptime increases overall, and production runs more smoothly and consistently—without sacrificing reliability.

Lower emissions and energy use: Well-maintained equipment and efficient processes use fewer resources. As a result, the business shrinks its carbon footprint while hitting sustainability targets.

Real cost savings: Shared focus drives efficiency, reduces waste, and helps avoid the financial and reputational risks tied to missed deadlines, noncompliance, and unmet environmental goals.

The future of manufacturing success depends on all stakeholders having a shared view and understanding of the state of the enterprise. Maintenance, operations, and sustainability aren't separate pursuits; they're interconnected drivers of reliability, efficiency, and environmental performance. When silos come down and goals are aligned, teams gain the clarity and collaboration they need to boost productivity, protect uptime, and cut waste.

The next era of industrial progress will be defined by this kind of teamwork, with every function working together to build stronger, more sustainable operations.



AssetWatch

AssetWatch is a leader in predictive maintenance solutions, providing a rapidly deployable, end-to-end remote condition monitoring service.

Trusted by manufacturers to keep equipment running, with AI-powered vibration and oil analysis and a team of expert analysts, AssetWatch detects machine issues early-before failure strikes.

Customers across industries rely on AssetWatch to eliminate unplanned downtime, cut maintenance costs, and drive operational reliability.

Talk to an expert

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