Asset Management: Understanding and Optimizing Distribution Automation Performance

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As distribution automation adoption accelerates across manufacturing, wholesale, retail, and third-party logistics, many organizations are discovering a troubling paradox: despite significant capital investment in advanced assets, operating costs are rising, service levels are inconsistent, and maintenance spend is escalating faster than value creation.

At the heart of the issue is a lack of coordination and accountability for ensuring that the disparate components supporting operational processes are running effectively. Responsibilities remain fragmented across divisions, sites, and functions (Engineering, IT, Operations, and Maintenance), leading to a lack of consistent strategy, failure to achieve economies of scale, over-reliance on inflated service costs associated with third party services, limited visibility into performance, and slow organizational learning.

This white paper outlines why leading organizations are rethinking this model and moving toward enterprise-level Centers of Excellence (CoEs) for IT/OT and equipment monitoring, maintenance, and performance management. It describes the objectives, characteristics, and phased journey required to unlock material cost savings, improve uptime, and protect long-term returns on capital investments.

The Cost of Decentralized Maintenance and Support Responsibilities

With the rapid adoption of automated material handling, robotics, and control systems in distribution environments, many organizations have taken isolated, tactical approaches to the longer term management of their investments in distribution systems and equipment, and now find themselves overpaying for maintenance and support services while receiving underwhelming outcomes. This is especially pronounced where high value automation maintenance has been outsourced to OEMs by default, often without rigorous performance management or cost transparency.

This reality stands in contrast to traditional manufacturing environments, where maintenance is treated as a core competency—integral to product quality, throughput, and financial performance. One would expect these practices to extend seamlessly into distribution operations. Instead, maintenance accountability has typically been designed in terms of the installation project as opposed to the enterprise strategy, with limited enterprise governance and heavy reliance on external providers. A similar pattern has played out across retail and third-party logistics networks where maintenance and asset management capabilities had a lesser impact on operational and financial performance, again leading outsourcing strategies to play an outsized role. Over time, this has left supply chain leaders—and their customers—paying **premium prices for inconsistent service**, limited diagnostics, and reactive problem resolution. The financial impact is material:

- **OEM maintenance labor** often costs **20–40% more** than equivalent in-house or third-party resources, and **OEM spare parts** frequently carry **40–200%+ markups** compared to aftermarket alternatives.
- Poor monitoring, fragmented incident management, and reactive maintenance can inflate **total facility operating costs by 5–15%**.

Yet even when these costs are all too visible, organizational inertia often prevails. Decentralized budgets obscure the true enterprise impact of service premiums, downtime, and inefficiencies. Political boundaries between operations, IT, engineering, procurement, and finance inhibit decisive action.

Solving this challenge requires visionary leadership—someone willing to challenge legacy structures and champion a cross-functional transformation focused on asset performance and return on investment.

A Center of Excellence Focused on Asset & Operations Performance

To realize the full potential of automation investments, organizations must move beyond fragmented ownership models and establish centralized accountability for asset performance. At the core of this transformation is a Center of Excellence (CoE) that governs maintenance strategy, asset lifecycle management, monitoring tools, staffing models, and continuous improvement programs at the enterprise level.

This does not imply immediate centralization of all execution. Rather, it requires:

- A clear vision for best-in-class organizational design
- Enterprise ownership of standards, tools, KPIs, and economics
- A deliberate, phased approach that builds cross-functional alignment and capability over time

A well-constructed CoE provides the connective tissue between operations, maintenance, IT/OT, engineering, procurement, and finance—ensuring decisions are made with full visibility into cost, performance, and risk.

While each organization's journey will differ, leading programs consistently pursue the following objectives:

1. Minimize unplanned downtime through prevention, faster detection, and accelerated remediation.
2. Streamline incident troubleshooting and resolution by enabling rapid diagnosis of process exceptions, system failures, and control issues.
3. Optimize staffing and skills models through developing cost-effective internal capabilities while selectively leveraging third parties where they add differentiated value.
4. Calibrate planned and preventive maintenance using monitoring data and lifecycle insights to align schedules with real operating conditions.
5. Reduce capital losses from premature failures by improving lifecycle management, renewal planning, and supplier accountability.
6. Leverage innovation to improve asset performance by investing in analytics, instrumentation, automation, and emerging technologies that deliver measurable returns on investment.

Key Characteristics of a Best-in-Class Center of Excellence

Establishing a center of excellence is a politically risky endeavour – roles and responsibilities will need to evolve along with reporting structures, decision making, and budgetary allocations and controls. Progress can be made tactically as the strategy materializes, but the shared vision that should materialize includes the following characteristics:

1. Enterprise Accountability - A true CoE owns outcomes, not just site-level activity. Its mandate spans manufacturing, distribution, transportation, IT infrastructure, and operational technologies — ensuring consistent performance measurement and ROI tracking across the network.
2. Process, Cadence, and Culture - Best-in-class programs mirror Reliability-Centered Maintenance (RCM) principles. They focus on understanding failure modes end-to-end, prioritizing improvements based on business impact, and embedding a continuous improvement cadence. Over time, this creates a culture of collaboration and accountability for operational excellence.
3. Data Access and a Single Source of Truth - Centralized visibility into maintenance activity, asset attributes, inspections, and incident history is foundational. Even where execution is outsourced, organizations must retain access to the underlying data. As maturity grows, this data should be integrated with operational profiles—such as throughput, order mix, and handling characteristics—to better predict wear, optimize maintenance, and reduce surprises.
4. Centralized Incident Tracking - Performance management extends beyond maintenance schedules. Effective IT/OT monitoring and incident tracking ensure that disruptions—whether mechanical, controls-related, or systemic—are identified early and evaluated consistently. Capturing incidents alongside their operational and financial impact builds shared understanding across functions and informs smarter prioritization decisions.
5. Self-Reliance with Strategic Supplier Collaboration - Centralized accountability enables organizations to eliminate outsourcing premiums for commoditized services while becoming more strategic in supplier engagement. By owning maintenance planning, scheduling, and parts management, organizations build internal capability and bargaining power. Suppliers, in turn, become innovation partners rather than default operators—creating scalable, repeatable solutions that benefit both sides.
6. Staffing and Skills Strategy - Few levers deliver faster financial impact than staffing optimization. With the right systems and governance in place, insourcing basic maintenance roles can quickly eliminate high OEM premiums. Over time, advanced training, standardized tools, and selective automation reduce reliance on external labor while improving consistency and resilience.
7. Prescriptive Analytics and Lifecycle Calibration - The convergence of asset data, maintenance history, IT/OT incidents, and operational context unlocks powerful insights. Organizations can identify systemic failures, recalibrate maintenance intervals, and ultimately deploy advanced analytics—and eventually agentic AI—to recommend prescriptive actions that balance cost, risk, and performance.

A Transformational Journey to Optimizing Asset Performance

Transforming asset performance management is a significant undertaking, but it does not require disruptive reorganization on day one. Most organizations succeed by starting with cross-functional alignment rather than structural change. Executive-sponsored workshops—ideally championed by Finance, Engineering, Operations, or Maintenance—can surface inefficiencies, expose hidden costs, and establish a shared mandate for improvement.

From there, a cross-functional committee is formed to define priorities, quantify opportunities, and develop a business case. The committee outlines a roadmap toward a CoE, including standards for incident management, monitoring tools, maintenance processes, and staffing models. A pilot facility is selected—often one with outsourced maintenance and chronic performance issues—to demonstrate value and build momentum.

As standards mature, the program scales across sites with a clear retrofit plan covering people, processes, and technology.

To ensure that both the promise of the investment is delivered and that the solution does not degrade over time, two critical elements are recommended: The first is establishing a charter for a strong leader to orchestrate performance improvements with measurable return on investment – and both budget and organizational recognition that this is a top priority. The second is a strong program management team that can ensure design objectives are delivered and adoption is embraced at the local and corporate levels. This leadership team will increasingly pivot to focus on a continuous improvement cadence similar to reliability centered maintenance, and a governance process that considers performance across suppliers and sites and ensures lessons learned are embedded in future engineering and sourcing processes.

Justifying the Investment and Getting Started

Assets represent some of the largest investments on the balance sheet and directly influence operating margins, capital efficiency, and ultimately shareholder value. Yet many organizations still lack centralized visibility into how those assets perform in an operational context, and whether major investments in facilities and technology deliver their shared purpose.

There are three substantial metrics to focus on that can help organizations justify a more transformational approach to the journey, these include:

1. Aggregating Avoidable Outsourced Maintenance Premiums - Many OEM programs persist due to perceived risk aversion rather than demonstrated value. Analyzing where premiums fail to deliver commensurate outcomes often reveals immediate savings opportunities.
2. Accounting for the True Cost of Disruption - Downtime, degraded throughput, and service failures erode returns long after CapEx is approved. Translating these impacts into financial terms reframes maintenance and monitoring as value-protection investments.
3. Improving Future Capital Decisions - Better performance data informs smarter engineering, sourcing, and design choices—improving returns on assets over their full lifecycle. As organizations prepare for substantial investment programs in operations modernization, it is critical to invest a portion up front to have the right foundations in place to support it. Experienced industry leaders know that the payback in thoughtful design and planning will offset the costs of delays and disruptions in a short period, and prevent the associated loss of goodwill across the organization.

If strategy is not part of the executive team's mindset (we can all agree that this is an unfortunate reality in many organizations today), a more tactical approach to get some quick wins and start to build recognition that collaboration is needed will ultimately build recognition that centralized management of these processes is needed. Starting with a cross-functional workshop can help to identify the cost of disruptions, the disconnects between support and maintenance organizations for the various components, and the need to establish a focus on collaborating to address the highest priority issues that are holding the organization back. Tactical plans that deliver wins will evolve to become more aspirational and drive more excitement across the organization.

Organizations do not need to take this journey alone. External advisors can challenge entrenched norms, accelerate alignment, and bring market perspective. SCT Advisory, together with partners in mobile systems intelligence, automation integration, and maintenance software ecosystems, supports executive teams through structured workshops, strategy development, and execution planning—helping turn fragmented operations into a coordinated, high-performing enterprise capability.