STRATEGIC APPROACH TO LIFECYCLE MANAGEMENT IN MATERIAL HANDLING AND WAREHOUSING

Empowering continuous value and resilience through proactive lifecycle management in material handling and warehouse automation.

Honeywell Intelligrated

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ABSTRACT

This whitepaper outlines Honeywell Intelligrated's strategic approach to lifecycle management in material handling and warehouse automation.

Maximizing asset value over time demands more than reactive upkeep. Lifecycle management provides a strategic structure to protect uptime, manage costs, and support future scalability. By integrating forward-thinking upgrades and implementing proactive lifecycle management policies, Honeywell allows operational continuity, modernization, and minimal downtime for customers. This approach also anticipates disruptions in material handling operations and enhances support systems for both existing and evolving automation technologies.

INTRODUCTION

1

Rethink What You're Willing to Risk

Organizations that delay obsolescence planning often cite reasons such as constrained budgets, competing priorities, or confidence in current system performance. But this mindset often underestimates the downstream impact of even a single unplanned event.

Here are five key risks that tend to be overlooked—or underestimated:



Unplanned Downtime
The most immediate and costly risk. A study by Siemens found that downtime for heavy machinery- related industries has increased four-fold in just the last five years[4]. Failed legacy components or unsupportedsoftware can lead to operational shutdowns, missed SLA penalties, and reduced customer confidence.



Unforeseen and High-Cost Capital Expenditures
In 2024, the Atlanta Fed's Business Inflation Expectations survey found 80% of businesses reported that interest rates were affecting capital expenditures; 43% cited that they decreased or stopped capital expenditures altogether[3]. When obsolescence forces reactive purchasing, organizations often pay a premium. Lack of planning removes the ability to phase out spending or align investments with budget cycles.

1. 1. Ferreira, S., et al. "KPI Development and Obsolescence Management in Industrial Maintenance." Procedia Manufacturing, vol. 38, 2019, pp. 1427–1435, https://doi.org/10.1016/ j.promfg.2020.01.145.
3. Assembly Magazine. (2024, August 5). Is inflation hurting investment in capital equipment? https://www.assemblymag.com/articles/98630-is-inflation-hurting-investment-in- capital-equipment
4. Siemens. (2024, July). The true cost of an hour's downtime: An industry analysis. https://blog.siemens.com/2024/07/the-true-cost-of-an-hours-downtime-an-industry-analysis



Extended Time to Resolution

Legacy systems can significantly delay recovery time. Sourcing rare components or finding technicians with the right expertise adds time—and cost—when every hour matters. With business owners reporting all-time high labor shortages, turnover, and uncertainty from tariffs; extended mean-time-to-resolution for legacy systems will continue to be a thorn in the side for distribution centers[2].



Security Exposures

Unsupported systems are vulnerable by nature. Couple that with cyber-security threats reportedly quadrupling since 2017; many organizations find themselves exposed[5]. Even operations focused on "sweating assets," outdated firmware or unpatched interfaces create openings for threats that didn't exist when the equipment was installed.



Future Incompatibility with Evolving Technology

Delaying updates limits access to next-generation features and integration opportunities that allow companies to optimize and gain visibility into their operations. While not a current pain point, failure to evolve often leads to compounded technical debt. MHI's 2025 Survey cites business owners reporting a major focus on investing in technology- and innovation-related activities to prepare the supply-chain for success in the near-future[5].

2. Modern Materials Handling. (2024, July 15). Facing labor shortages, warehouses turn to temp help and AI-powered staffing tools. https://www.mmh.com/article/ facing_labor_shortages_warehouses_turn_to_temp_help_and_ai_powered_staffing_tools

5. MHI (Material Handling Industry). (2025). 2025 MHI annual industry report. https://www.mhi.org/media/news/industry-report-2025

THE FALSE COMFORT OF "WE HAVE A PLAN"

2

Many organizations believe they've accounted for obsolescence risk—perhaps through inventory buffers, vendor escalation contacts, or "watch lists." But these plans often remain tactical, not strategic. They focus on symptom management rather than risk reduction.

> **If your plan doesn't answer the question: "What would it take to proactively eliminate the impact of this risk altogether?"— then the risk still exists. And it's growing.**

LIFECYCLE MANAGEMENT: NAVIGATING CHALLENGES AND UNLOCKING VALUE

Lifecycle management forms a structured pathway to manage complexities effectively. It equips businesses with the foresight and resources needed over a three-to-five-year horizon, regardless of site-specific operational challenges. Ignoring these elements can lead to significant risks, highlighting the critical need for strategic planning and proactive budgeting.

A robust lifecycle planning strategy should begin with a comprehensive assessment to identify and prioritize risks associated with asset obsolescence, including evaluating aging systems and forecasting potential disruptions. Organizations should then implement a phased management strategy that aligns short-term operational needs with long-term objectives through proactive maintenance and planned upgrades.

Collaboration with technology partners like Honeywell provides invaluable insights, addressing vulnerabilities and informing investment strategies. Additionally, fostering a culture of proactive lifecycle management through effective communication and training prepares teams to navigate ongoing challenges, ultimately enhancing productivity and bolstering resilience against future innovations. Such strategic planning empowers organizations to confidently manage automation complexities and secure operational continuity.



LIFECYCLE MANAGEMENT

3

Navigating Challenges and Unlocking Value

OPTIMIZATION: ENHANCING EFFICIENCY AND PERFORMANCE



Optimization represents the ongoing process of improving system performance and efficiency. However, organizations that fail to recognize the importance of optimization may face stagnation and underperformance, risking increased operational costs and reduced reliability. The primary challenge lies in maintaining operational continuity while implementing crucial changes. In fact, over a quarter of all distribution centers consider supply chain resiliency and agility to be a major impact in 2025 and beyond[5].

Honeywell's approach involves comprehensive assessments that identify immediate opportunities for improvement, aligning with long- term strategic goals. Through targeted projects and services, creating customer road maps or amortized contracts spanning 3 to 5 years, we empower clients to plan for long term investments and enhance their systems' efficiency, enabling a sustainable performance for years ahead.

OVERHAULS: IMPLEMENTING TRANSFORMATIVE CHANGE

Overhauls are significant interventions designed to rejuvenate aging systems, prolong their lifespan, and enhance capabilities. Not addressing the need for overhauls can lead to catastrophic failures, unexpected downtimes, and increased repair costs. Our expertise facilitates smooth transitions from old to new systems, incorporating scheduled overhauls into a broader lifecycle management plan.

Whether executed as individual projects or integrated within long-term contracts, overhauls are strategically crafted to align with operational schedules and budgetary considerations, minimizing disruptions while maximizing asset longevity.

END-OF-LIFE: PLANNING FOR SUSTAINED OPERATIONS

Obsolescence is a prevalent issue in asset management, marked by older systems falling out of date or no longer being supported. Failure to anticipate obsolescence can lead to severe operational disruptions, unavailability of crucial components, and increased vulnerability to cyber threats. Organizations neglecting budget for obsolescence management face potentially steep costs for emergency replacements or extended downtime.

Honeywell's insights equip businesses to anticipate obsolescence issues well in advance, offering tailored solutions ranging from individual management projects to comprehensive contract-based strategies. By creating clarity about potential risks, we enable informed decision-making and facilitate operational continuity without unexpected disruptions.

COMPREHENSIVE LIFECYCLE MANAGEMENT SOLUTIONS

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Ignoring the need for comprehensive lifecycle management poses significant risks, including inefficient operations, inflated costs, and strategic misalignment. Without dedicated budgets, organizations often resort to reactive maintenance, which leads to costly emergency interventions.

Honeywell's lifecycle management services support organizations at every stage. Clients can engage through standalone projects or comprehensive service contracts lasting three to five years. This holistic approach allows for all identified risks to be addressed, offering seamless strategy integration across the contract term. Tailored to each site's unique needs, our services create personalized and effective solutions align with specific operational objectives and constraints.

EFFECTIVE COMMUNICATION AND CUSTOMER COLLABORATION

Effective communication remains integral to Honeywell Intelligrated's lifecycle management strategies. Customers are regularly informed about upcoming developments, system limitations, or changes through direct communications, technical updates, and discontinuation advisories. Honeywell proactively collaborates with customers to recommend component alternatives or system upgrades, allowing their operations to remain seamless during transitions. This collaboration fosters long-term customer confidence in the face of lifecycle challenges.

REAL-WORLD APPLICATIONS OF LIFECYCLE MANAGEMENT

Honeywell's lifecycle planning expertise has been applied in diverse customer environments, supporting site-level objectives with tailored, scalable solutions. These involve step-by-step modernization programs, spare part planning, and expert insight into upgrading systems.

1. **Industrial Automation Support:** Honeywell offers a comprehensive array of services, including on-demand spare parts, custom system training for customer staff, and bespoke lifecycle solutions for various automation systems. By adopting a holistic approach to lifecycle management, we effectively address immediate challenges related to product and component end-of-life, providing a smooth transition to future-ready solutions.
2. **Holistic Lifecycle Solutions:** By systematically tackling immediate lifecycle issues—whether due to outdated systems or supply chain shifts—Honeywell prepares clients for their long-term operational goals. Our holistic approach enables uninterrupted transitions to advanced automation without incurring unnecessary costs or downtime.

BENEFITS OF HONEYWELL'S LIFECYCLE MANAGEMENT SOLUTIONS

- **Operational Continuity:** Effective lifecycle management reduces unexpected downtimes, enabling higher productivity.
- **Cost Control:** Budgeting for component replacements and system upgrades prevents costly last-minute breakdowns and unnecessary repairs.
- **Extending ROI:** Honeywell's support for legacy systems, which includes the Modifications and Upgrades program as well as overhaul services, helps extend the lifespan of existing material handling assets. This approach enhances their utility and ultimately improves the return on investment for our customers.
- **Seamless Transition to Advanced Systems:** Migration tools and modernization programs streamline the advancement process, allowing customers to implement leading-edge solutions without forgoing previous investments.

CONCLUSION

Partner with Honeywell Intelligrated lifecycle experts for ongoing support.

Organizations that proactively manage obsolescence do more than minimize risk, they strengthen operational continuity. The goal isn't just to respond to asset failure or design it out of the equation entirely, but to identify where you're most exposed and take deliberate steps to plan ahead of future disruptions.

Lifecycle Management is more than just a maintenance strategy; it is a proactive approach to managing the complexities of modern distribution centers. By recognizing the risks and challenges associated with optimization, overhauls, and obsolescence, businesses can achieve enhanced reliability, efficiency, and foresight.

Honeywell Intelligrated's knowledge and services provide businesses with the scaffolding to tackle these challenges confidently, cultivating competitive and resilient operations that are poised to meet evolving demands. As partners in progress, we offer clients not just solutions but a pathway to sustained success in the coming years.

We encourage our customers to engage with this program to leverage the actionable insights and strategic advantages it provides. By partnering with Honeywell Intelligrated, organizations can minimize risks while maximizing the benefits of cutting- edge technology.

Embrace change with Honeywell Intelligrated as your trusted partner, supporting the optimization and enhancement of your operations to meet future challenges.

For more information
https://automation.honeywell.com/us/en/services/warehouse-automation

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1.0 | 10/25
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