

**OPTIMIZE
PERFORMANCE,
UPTIME AND
EQUIPMENT
WITH HONEYWELL
INTELLIGRATED
AUDITS AND
ASSESSMENTS**



Honeywell
Intelligent®

MAINTAIN BEST PRACTICES WHILE MINIMIZING DOWNTIME

Maintaining the uptime of material handling equipment (MHE) is critical to operational success in the competitive worlds of omnichannel fulfillment, distribution and manufacturing. This is especially true when you consider that most downtime is preventable.

The Lifecycle Support Services (LSS) team at Honeywell Intelligrated offers a complete audit and assessment portfolio designed to maximize the efficiency of your operation, as well as identify asset, maintenance and functional opportunities. Our experts follow a systematic process to mitigate risks before they affect your operations — from evaluating the proficiency of your team to ensuring the integrity of your equipment.

You'll get insightful recommendations and operational observations that will help you to:

- Increase your understanding of your systems
- Align with best practices
- Achieve industry certifications
- Increase throughput and capacity
- Make better-informed decisions about asset management and CAPEX planning

The LSS team provides levels of experience and expertise unmatched by any third-party provider. They have a deeper understanding of your system's design, maintenance and requirements that only an original equipment manufacturer (OEM) can provide, plus robust data to back their claims and recommendations. In addition, all LSS auditors and assessors are subject matter experts (SMEs) who either maintain, have maintained, or have led a technical team in support of real-world operations like yours.

AUDIT OR ASSESSMENT: WHICH IS RIGHT FOR YOU?

Although LSS audits and assessments provide resources to identify opportunities, mitigate risks, and help your facility to run more effectively, each offering focuses on different aspects of your operation.



AUDIT	ASSESSMENT
<ul style="list-style-type: none"> • Consultation to identify process gaps • Reviews performance of people or processes • Eliminates “tribal” knowledge loss by documenting procedures to inform training • Provides actionable insights about your systems and maintenance procedures 	<ul style="list-style-type: none"> • Thorough inspection of equipment, including mechanical and electrical components • Design review against original drawings and bills of material (BOMs) • Expert recommendations to improve or enhance your equipment's functionality

AUDITS: GAIN A DEEPER UNDERSTANDING OF YOUR MAINTENANCE OPERATION

LSS audits provide you with expert consultation designed to identify process gaps and improve your operation. Whether you're trying to identify unknown factors that are causing unscheduled downtime, struggling to meet maintenance schedules or key performance indicators (KPIs), or looking for strategies to improve performance, each audit is custom-tailored to meet your specific objectives.

Audits can also assist you with challenges that indirectly impact performance, including:

- Improving your team's understanding of systems and maintenance procedures
- Eliminating the loss of "tribal" knowledge by documenting procedures to inform training
- Upgrading your operation to an industry standard, such as ISO certification
- Identifying other opportunities for improvement

AUDIT OFFERINGS

Preventive Maintenance audits evaluate your maintenance standards, practices and systems to ensure that those systems are getting the maintenance they need to function at optimum capacity.

- Review of preventive maintenance (PM) standards and computerized maintenance management systems (CMMS)
- Limited inspection of equipment
- Executive summary and detailed report showing evidence and level of degradation
- Maintenance action plan

Technician Proficiency audits assess the aptitude of your technicians to learn how efficiently they're performing, identify potential expertise gaps, and recommend opportunities for skill improvement.

- Interview of maintenance team
- Practical application test on electrical, mechanical and controls
- PM review on specific assets for each technician
- Skills matrix and listing of current aptitudes of all technicians
- Action plan for training of technicians

Field Maintenance audits provide a general overview of your equipment and maintenance practices.

- System walk-through and limited inspection
- Detailed review of maintenance operation
- Review of KPIs and controls
- CMMS analysis
- Technician interviews
- PM schedule review

LSS AUDIT PROCESS



Consultation

The Honeywell Intelligrated team meets with your stakeholders to discuss overall strategy and desired outcome.



Audit Creation

An audit strategy is custom tailored to address your operation's specific needs and goals.



Audit Execution

Honeywell Intelligrated's expert team conducts site visits and interviews to gather data.



Subject Matter Expert Review

Honeywell Intelligrated subject matter experts with pertinent experience are consulted on the findings to advise on any recommendations for improvement.



Plan Next Steps

Final reports and recommendations are delivered, which can be used to help form a pathway forward toward improvement.

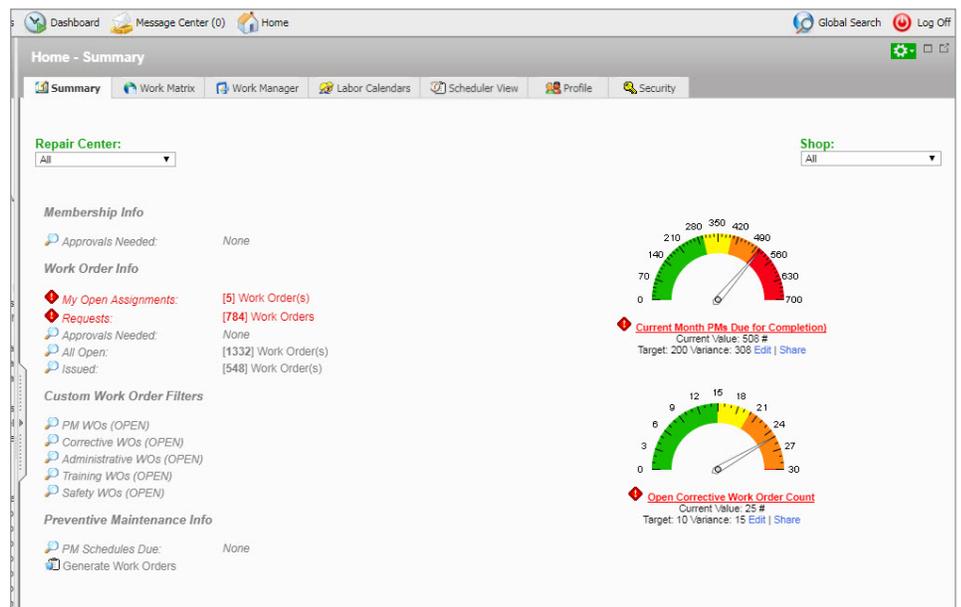




AUDIT SERVICES AND DELIVERABLES

Depending on your operation's unique needs, LSS audits offer a variety of options. This variable scope can include any combination of the following:

- Uptime, parcel count, PM scheduling, parts usage and other KPIs
- Internal information systems (iCampus and Dashboard)
- Technician proficiency and compliance to processes
- Maintenance shop layout and 5S standards
- Timekeeping and general administrative tasks
- Root cause analysis (RCA) and lessons learned tracking
- New technology implementation



ASSESSMENTS: UPTIME, ASSET MANAGEMENT AND MAINTENANCE BEST PRACTICES

LSS assessments can help your organization to prevent issues and preserve system uptime by proactively evaluating overall system performance and health risks. An expert assessment team deploys a proven, field-tested approach to gauge operational performance and conditions against established benchmarks.

You'll receive a detailed assessment report, complete with estimates for all recommended repairs, replacements and upgrades. This information will enable you to develop accurate capital and operational budgetary plans to manage equipment obsolescence and replacement – in advance of catastrophic failure.

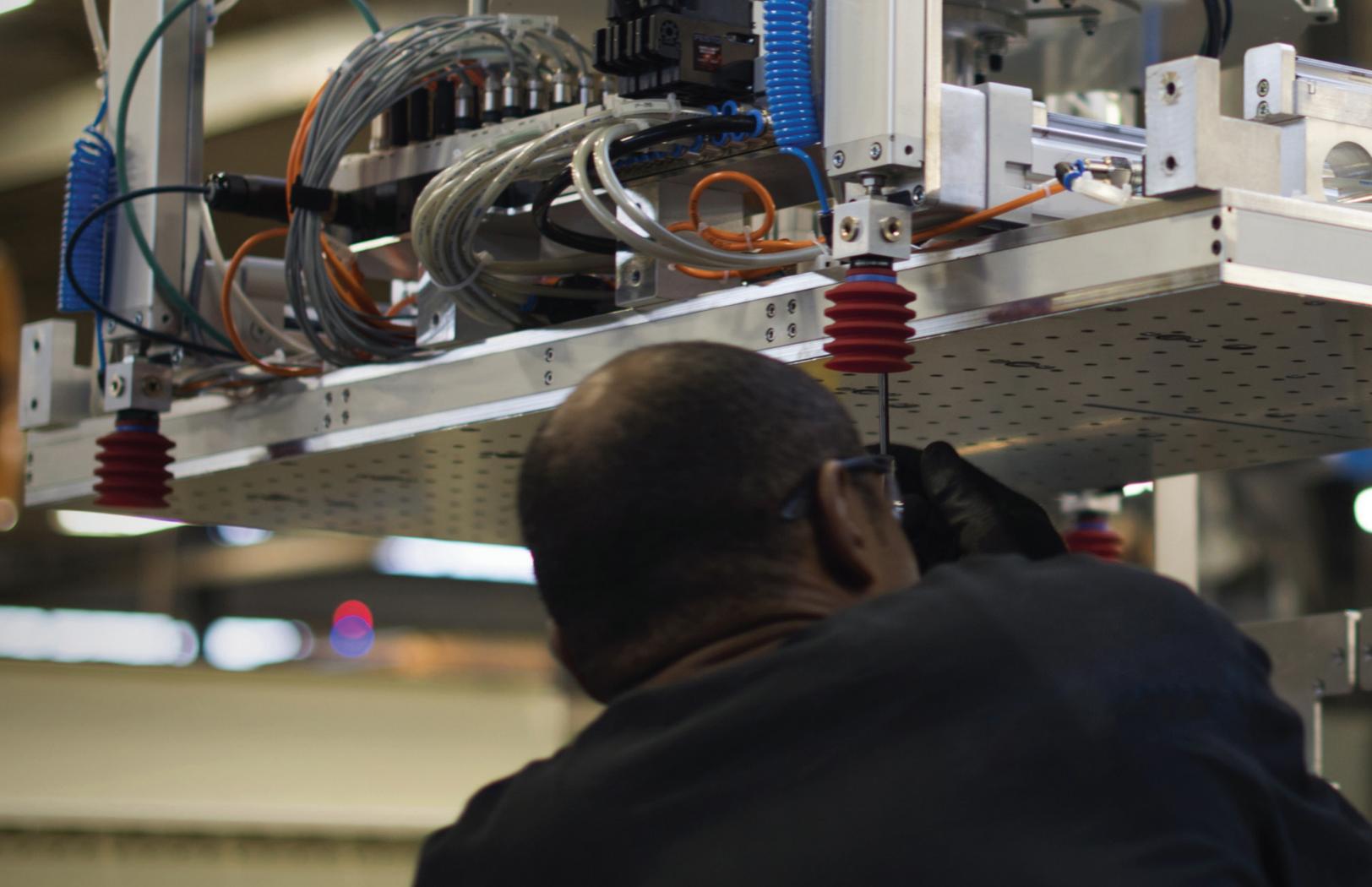
BENEFITS TO GREENFIELD AND BROWNFIELD FACILITIES

Regardless of the maturity of your system or facility, assessments can provide multiple lifecycle benefits:

GREENFIELD	BROWNFIELD
<ul style="list-style-type: none"> • Protect MHE investments via lifecycle planning • Prepare for the unexpected with parts on hand • Identify service requirements and costs • Train technicians to support MHE systems 	<ul style="list-style-type: none"> • Mitigate risks and ensure peak readiness • Prevent unforeseeable capital expenses • Plan for timely technological renewals • Improve maintenance operational efficiencies with in-stock parts

LSS ASSESSMENT PROCESS





ASSESSMENT OFFERINGS



Reliability assessments evaluate your equipment's operational condition and functionality levels.

- Address a variety of technologies, including conveyors, line sorters, loop sorters and palletizers
- Examine critical internal components in each equipment category
- Perform a detailed inspection of each component that makes up the equipment
- Where applicable, provide a detailed inspection of control cabinets and any electrical control devices, checking for obsolete components and using thermal imagery to identify component failure
- Perform RCA and prioritization of maintenance actions or part replacements
- Identify obsolescence concerns, if any
- Recommend engineered solutions, if needed, to bring equipment back to designed operating standards or reduce the risk of unplanned downtime



ASSESSMENT SERVICES AND DELIVERABLES

Every assessment includes the following services and deliverables:

- Expert evaluation of major components and an overview report prior to leaving site
- Follow-up, detailed report with a summary of findings, risk level for each major component, and recommendations for improvement
- Inspection certificate containing photos and measurement data (when applicable)
- Recommendations for upgrades or product enhancements
- Parts quote for replacement components
- Discussions to ensure clear understanding of findings and recommendations



Optimization assessments review the effectiveness of maintenance programs and seek to optimize operator interactions with MHE.

- Analysis of maintenance practices
- Recommendations for best-in-class asset management, with a focus on increasing throughput
- Review effectiveness of maintenance automation tools: CMMS and enterprise asset management (EAM) systems
- Assess system performance and detail steps needed to return to its original, as-designed condition while ensuring optimal system wear
- Review and observe system operations and product flow
- Compare system constraints against operational expectations
- Observation of equipment operator behaviors and performance

LIFECYCLE SUPPORT SERVICES

Lifecycle Support Services employs a consultative, data-driven approach to achieve your critical business outcomes. By delivering proactive, value-added services and solutions, we can help you to reduce the risk of downtime and increase system availability, longevity and dependability. Drawing from a full spectrum of strategic services, we offer multiple engagement models, tailored to your business, culture and strategy. Our comprehensive portfolio constitutes the key building blocks of a successful lifecycle asset management plan. By conducting assessments of both your equipment condition and operational efficiency, we can determine how to optimize your operations with:

- Engineered Solutions
- Technical Services
- Contract Services
- Training
- Honeywell Intelligrated Spare Parts

THE CONNECTED DISTRIBUTION CENTER

The pace of change in modern commerce is putting tremendous pressure on fulfillment operations. To stay competitive and protect profits, companies need solutions that help them achieve maximum throughput, day-to-day flexibility, future-proof scalability and intelligence to make informed decisions.

The Connected Distribution Center helps companies make the digital transformation necessary to increase reliability, improve utilization and maximize productivity through:

- Intelligent, data-driven, high-speed execution
- Automated, adaptable processes for machines and workers
- Optimized utilization with the ability to seamlessly adapt and expand
- Insights and predictive analytics, from sensors to the cloud

SOLUTIONS OVERVIEW

Intelligent automated material handling solutions from Honeywell Intelligrated optimize processes, increase efficiency, and give businesses a competitive edge. Honeywell Intelligrated designs, manufactures, integrates and installs complete warehouse automation and software solutions, including:

- Automated storage and retrieval solutions (AS/RS)
- Conveyor and pallet conveyor systems
- Fulfillment technologies
- Honeywell Robotics
- Labor management software
- Lifecycle Support Services
- Machine controls
- Palletizing and depalletizing
- Sortation systems
- Voice solutions
- Warehouse execution systems

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