# HOW WAREHOUSE OPTIMIZATION CAN PREVENT SUPPLY CHAIN BOTTLENECKS.

**A C-LEVEL'S GUIDE TO AUTOMATION INTEGRATION IN TODAY'S EVOLVING WAREHOUSES.**

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EQUIPMENT DEPOT®

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# EXECUTIVE SUMMARY.

*"In the complex and ever-evolving business world, supply chain challenges are increasingly becoming a focal point for C-level executives. Navigating these complexities requires strategic foresight and a commitment to embracing innovative solutions."*

**Marc Terwilliger**
*Vice President of **EQ**Solutions™*
*Equipment Depot*

The business landscape is undergoing rapid digital transformation; supply chains are at the forefront of this evolution.

In today's supply chain ecosystem, a better understanding of when to adopt warehouse automation is crucial. Warehouses play a critical role as hubs in the supply chain, acting as strategic centers for storage, distribution, and inventory management. Optimizing through automation to ensure supply chain agility, cost-effectiveness, and resiliency is imperative.

**At a high level, the document will cover key areas that decision-makers need to know to determine whether warehouse automation is right through a seven-step evaluation process. However, first, it's important to understand the condition of the market industry and examine how the industry is investing by running the numbers.**

# SITUATIONAL ANALYSIS.

## HOW MUCH THE INDUSTRY IS INVESTING.

Despite global political challenges and the economic and financial environment for supply chain logistics, trade is showing signs of improving conditions based on the S&P Global Market Intelligence strategic report.

### GLOBALLY

According to a global survey published earlier this year by material handling trade group Material Handling Industry and consultancy Deloitte, **55%** of supply chain leaders are increasing their supply chain technology and innovation investments. Approximately **88%** plan to spend **over $1 million,** and approximately **42%** plan to spend **over $10 million.** These investments include solutions for improved supply chain resiliency, transparency, and sustainability, as well as solutions for the ongoing workforce shortage.

### DOMESTICALLY

According to the Modern Material Handling 2024 Automation Study with Peerless Research Group, the average material handling company invested **$1.67 million** on all equipment and solutions in 2023 – **up from $1.57 million** the prior year. The majority of companies (**20%**) spent less than **$100,000; 19%** spent between **$100,000** and **$499,999; 17%** allocated **$2.5 - $4.9 million** to material handling equipment and solutions; and **16% spent more than $5 million.**

Sources: 2024 MHI Annual Industry Report
MMH 2024 Automation Study with Peerless Research Group

# BY THE NUMBERS 1.

## INVESTMENT CONSIDERATIONS.

When assessing potential automation systems and solutions for procurement, **92%** of respondents emphasize the importance of durability, reliability, and uptime, while **82%** prioritize factors such as total cost of ownership, return on investment, and maintenance expenses in their decision-making.

Other considerations were:

> **81%** support and service response time
> **74%** parts availability and risk of obsolescence
> **64%** compatibility and integration (existing equipment)
> **59%** purchase price
> **56%** scalability
> **55%** warranty coverage
> **48%** turnkey solutions

Main drivers for companies planning to evaluate or purchase automated material handling equipment, technology, or software in the next two years are:

- Increase the ability to fulfill orders faster and meet service-level agreements
- Increase piece picking and packing to meet e-commerce demands
- Manage specific human labor tasks
- Remain competitive
- Support new go-to-market strategies

MMH 2024 Automation Study with Peerless Research Group

# BY THE NUMBERS 2.

## INVESTMENT REQUIREMENTS.

**Percentage of companies with fully automated processes within their current operations, and how it differs from previous year.** According to the study, **26%** of respondents state conveyor systems, **19%** state reporting (down **29%**), and **17%** have automated the labeling function (down **22%**).

Other considerations were:

> **11%** packaging (up **4%**)
> **10%** retrieval (up **5%**)
> **9%** storage function (down **15%**)
> **9%** replenishment (down **15%**)

**Percentage of companies that have reached their automation capabilities.** According to the survey, **32%** of companies have mostly or fully manual storage functions. **30%** still use manual packaging processes, and **30%** for their retrieval processes. **25%** maintain a manual replenishment function and picking process, respectively. Each group states no plans to automate these activities in the near future.

Specific to their order fulfillment operations, **43%** of respondents stated these processes are mostly or all manual, while **42%** say they are a mix of automated and manual processes, and **10%** say they are highly automated.

MMH 2024 Automation Study with Peerless Research Group

# BY THE NUMBERS 3.

## INVESTMENT TIMELINE.

**Reasons for companies to invest in automation within the next two years:**

**66%** improve warehouse capacity utilization (up **60%** over last year)
**58%** improve picking efficiency
**57%** improve utilization and reduce turnover
**52%** improve order accuracy
**42%** improve order cycle time (down **60%** over last year)

**Reasons for future purchases:**

**16%** plan to automate
**51%** remain status quo
**33%** unsure

**Timing on purchases:**

**25%** immediately
**25%** 6 to 12 months
**19%** beyond 12 months

MMH 2024 Automation Study with Peerless Research Group

# BY THE NUMBERS 4.

## INVESTMENT IN AREAS OF AUTOMATION AND TIMING.

**Areas of automation upgrades and implementation within the next 24 months:**

- **79%** mobile collaborative robotics
- **76%** will upgrade or implement A-frame picking technologies
- **74%** will upgrade or implement picking robotics
- **70%** plan to upgrade or implement palletizing robotics
- **52%** conveyor and sortation systems
- **45%** weighing, cubing, and dimensioning equipment

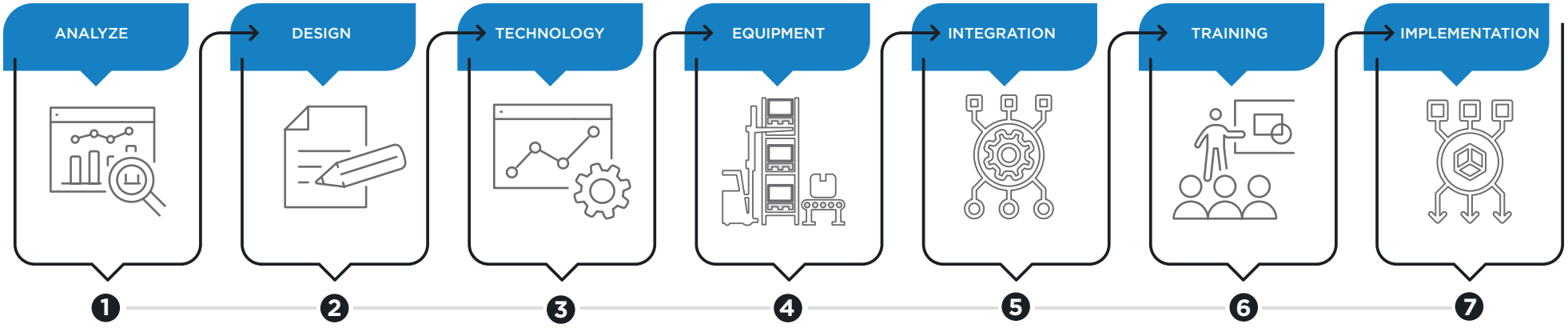
**For data collection technologies, specifically:**

- **46%** voice-directed picking technologies
- **42%** mobile or wireless technologies
- **34%** bar code scanners

MMH 2024 Automation Study with Peerless Research Group

# SEVEN-STEP WAREHOUSE EVALUATION PROCESS.

Understanding the best approach to adopting new technology into an intralogistics ecosystem can be daunting. Where to start? What's the best technology available and offers the best ROI? Will it be with the company's current environment, technology, or process? How long will it take to implement, and what level of training will be required? This evaluation process has been applied to every situation and contains the best steps at each decision-making stage.

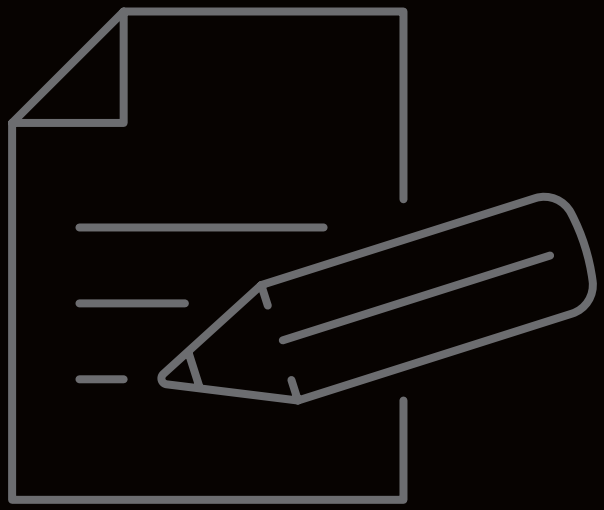


# 1

## ANALYZE

Analyze your situation. Ascertain a strong working knowledge of external supply chain throughput (inbound and outbound warehouse flow expectation). Flexibility and scalability play an important role—followed by sustainability. **Top-line analysis should be risk management.**

Internally, focus on areas that touch throughput: **inventory, technology, integration, and areas affected by labor-intensive, repetitive activities.** Assess internal product flow and each aspect of your supply chain.



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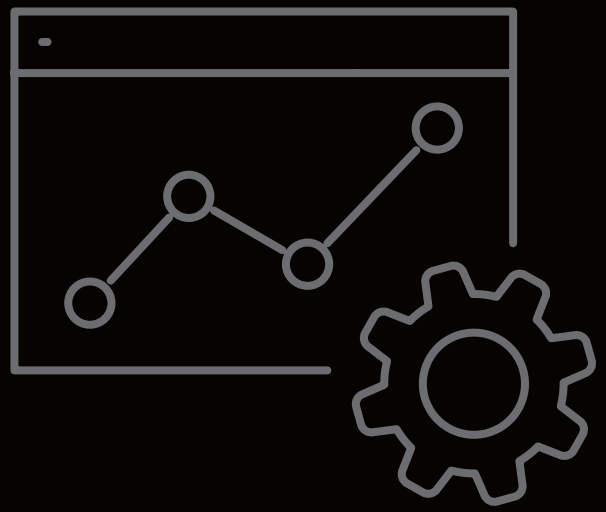
# DESIGN

This is an important area to tap intralogistics experts who can provide the best warehouse design solutions for specific needs. **Design is critical, and experienced warehouse systems engineers** can create the vision based on your situational objectives.

# 3

## TECHNOLOGIES

If you're going to invest and "do it right," — **take advantage of the latest warehouse management technology,** such as RFID tags and integrated systems. Smarter, streamlined processes will make your supply chain more efficient, reduce labor costs, and increase productivity.



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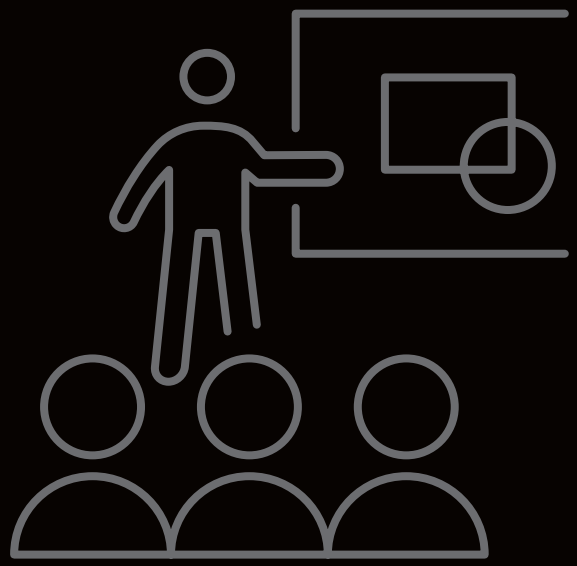
# EQUIPMENT

**The right mix of equipment is critical.** Look at semi-automated to fully automated equipment, such as AGVs, conveyors, and automated storage and retrieval systems (ASRS), which may be the perfect fit for your situation. Choose strong OEMs from companies such as Jungheinrich,® Mitsubishi forklift trucks, Cat® lift trucks, Rocrich AGV Solutions, and UniCarriers.® **It is important to work with a company with stability, exceptional service, and a great reputation.**

# 5

## INTEGRATION

How will new equipment, software, and technology work with your current warehouse management systems? For existing warehouses, **assess the impact this step has on active operations and focus on mitigating downtime. Integration is one of the areas that deter an existing warehouse from investing.** Partnering with an industry expert with a strong track record will assist in approaching this stage.



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# TRAINING

Although training can happen within other areas of the process—even in the planning stage—**recognize which staff members will be trained and within which area.** Will the overall activity require new personnel? Which stage will the training be applicable to?

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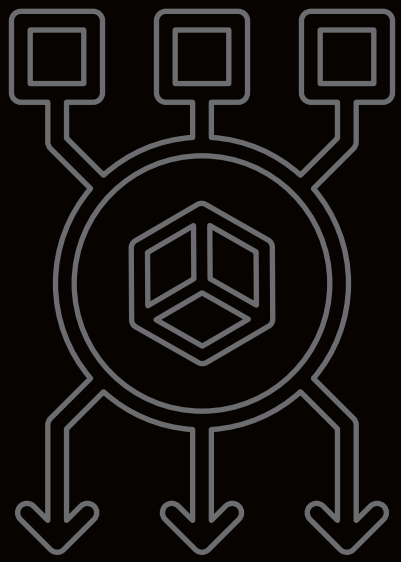
# IMPLEMENTATION

**Get help planning, scheduling, and executing the implementation. Consider partnering with a systems integrator to avoid the hassle of evaluating, selecting, and managing various suppliers.** This group should lead the coordination, preparation, and implementation of your warehouse solutions project throughout the entire process. However, it's also wise to appoint a project manager on the warehouse company side to streamline approvals and coordination.



# PARTNER.

## AVOID THE EVALUATION BUBBLE.

*"This process is highly complex and should not be conducted in a bubble. There are many moving parts. In fact, companies are unaware of many new solutions that can positively impact a business's overall outcomings. We highly recommend partnering with a material handling systems integrator with a pulse on innovative solutions. The benefit of a team specifically built to advance and optimize a warehouse would be a prudent investment."*

**Marc Terwilliger**
*Vice President of **EQ**Solutions™*
*Equipment Depot*

# CONCLUSION.

## TRUST THE LEADER.

The warehouse and material handling industry continues to evolve, and its effects on intralogistics and supply chain dynamics can be beneficial or adverse, depending on the level of proactiveness or reactiveness. Equipment Depot has 85 years of experience in the material handling industry and offers a wide range of solutions. Its proven 'seven-step warehouse evaluation process' is designed to help companies navigate operational complexities while assisting them in achieving their overall supply chain logistics goals.

As a leader in the material handling industry, trust Equipment Depot to help at every stage by providing the right solution for your business.

Need to optimize your space and prevent supply chain bottlenecks? Contact **EQ**SOLUTIONS and discover how Equipment Depot can move your company forward. Email tim.raque@eqdepot.com, Director of Automated Equipment Solutions.

## ABOUT EQUIPMENT DEPOT

Equipment Depot Inc., a group company of the 4th largest material handling company globally, Mitsubishi Logisnext, delivers end-to-end, multi-brand material handling products and integrated warehouse solutions. As a leading provider of the most innovative and respected brands, Cat® lift trucks, Mitsubishi forklift trucks, and Jungheinrich®, Equipment Depot offers new and used forklifts, aerial lifts, service, parts, equipment rentals, financing, and automation across its 50+ nationwide locations. Since 1939, the company has been serving local communities with a commitment to deliver the best service, all backed by its **Performance. Guaranteed.®** pledge.

## ABOUT **EQ**SOLUTIONS™

**EQ**SOLUTIONS is the systems integration division of Equipment Depot, Inc., specializing in engineering transformative warehouse and automation solutions for manufacturing, warehousing, and distribution facilities, providing a one-source solution to solving a variety of industry challenges.

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