

OVERCOMING DISRUPTION:

HOW ADAPTABLE
AUTOMATION DRIVES
COST SAVINGS AND
RESILIENCE

77%

SAY AT LEAST
HALF OF THEIR
SYSTEMS ARE
TOO RIGID

92%

**Major
Disruption**

86%

**Adaptable
Warehouse**

 **LUCAS**

EXECUTIVE SUMMARY

The Survey was conducted by Lucas Systems and Wakefield Research (www.wakefieldresearch.com) among 114 U.S. supply chain executives across multiple job roles. The survey utilized an email invitation and online survey sent to an industry sample provided by both Wakefield Research and Lucas Systems.

Warehouse operations are facing an era of constant disruption. From demand volatility and labor constraints to supply shocks and shifting customer expectations, change is no longer the exception. New research confirms what many supply chain leaders are experiencing firsthand: traditional, rigid automation is becoming a liability.

In a Lucas Systems survey conducted with Wakefield Research, an overwhelming number of supply chain leaders say it is very or extremely important that the technology they invest in makes their warehouse more adaptable. Yet most organizations remain constrained by systems that were designed for a specific purpose, not change.

This lack of adaptability has measurable financial consequences. **In fact, 62% of respondents said they saw 11-25% in operational cost savings or benefits with adaptable automation.** The message is clear: success in modern warehouse and distribution operations requires automation that can adapt as fast as the business does. Flexible, software-driven, scalable automation is no longer a “nice to have,” it is a strategic necessity for resilience, cost control, and long-term growth.

KEY FINDINGS AT A GLANCE

92%

faced major unplanned disruptions in the past year

90%

who indicated rigidity saw costs rise up to 25%

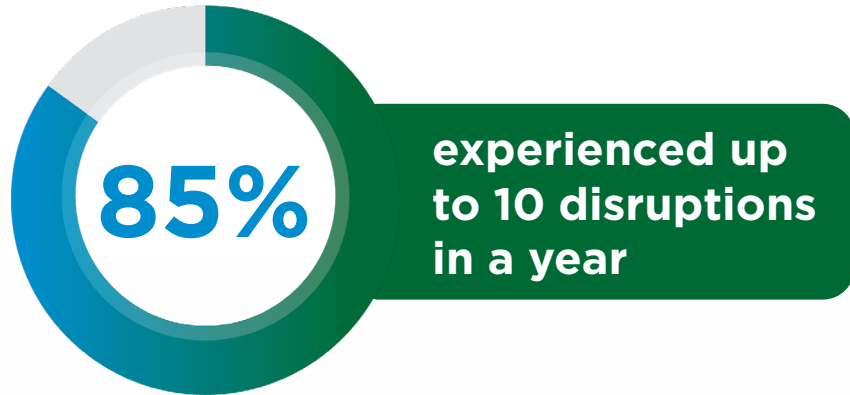
86%

say adaptable warehouse tech is critical

77%

say at least half of their systems are too rigid

THE NEW OPERATING REALITY: AUTOMATION BUILT FOR CONTINUOUS DISRUPTION



Today's warehouses must operate in a state of near-constant change. Product mixes shift. Order profiles fluctuate. Labor availability tightens. Promotions spike volume without warning. Supply interruptions cascade downstream. According to recent survey data, **85% of supply chain leaders experienced up to 10 significant, unplanned operational disruptions in just the past year and another 7% experienced 11-15 disruptions.** Disruption is no longer episodic, it is routine.

86% of supply chain leaders surveyed say adaptable warehouse technology is very or extremely important, but many aren't confident they have it. Many operations are still relying on systems designed for stability rather than change. This gap between priority and preparedness leaves organizations exposed when disruption becomes the norm.



TOO RIGID TO RESPOND: THE HIDDEN RISK OF TRADITIONAL AUTOMATION



77% say at least half of their systems are too rigid

Yet despite this reality, most automation systems remain fundamentally inflexible. Are they putting themselves at risk of falling irretrievably behind their competition? **77% say most or at least half of their systems are simply too rigid to meet operational needs for responding to unplanned disruptions. That's a sobering statistic in a time of constant disruption.**



"The automation and technology choices you make have limitations in terms of flexibility. It's important to initiate and follow concepts of agility that can derisk your operations and allow you to plan and reorg quickly."

- Ron May, Senior Solutions Executive, Lucas Systems

HOW FLEXIBLE AUTOMATION DRIVES VALUE IN YOUR OPERATION

Automation adaptability is a major driver of cost efficiency in warehouse operations.

The financial impact is substantial. 90% of respondents who indicated rigidity in warehouse operations report that limited automation adaptability increased operational costs by up to 25% - through overtime, temporary labor, expedited shipping, lost throughput, or missed service levels.

At the same time, the data shows a powerful counterpoint: 62% of executives say adaptable automation enabled cost savings of 11-25%, with 26% of respondents experiencing more than 25% in benefits to their distribution costs from highly adaptable automation.



What does this mean for your organization's operating cost?

Rigidity in Automation increased operational costs by up to 25%

90%

62%

Adaptable Automation led to cost savings of 11-25%

CASE STUDY BRIEF: MEDUSA DISTRIBUTION'S JOURNEY TO DYNAMIC WAREHOUSING

Medusa Distribution, a rapidly growing company managing more than 9,000 SKUs and serving 10,000 B2B customers annually, struggled to scale efficiently. Paper-based picking and heavy reliance on tribal knowledge caused inconsistent order accuracy, delays, and fulfillment errors. Limited location-based inventory visibility and inflexible automation made it difficult to handle large wholesale orders requiring same-day shipping, increasing costs and operational strain.

Medusa deployed Deposco's WMS to replace manual processes with location-based inventory and intelligent packing logic. Operations were further optimized by easily integrating Lucas Systems' Warehouse Execution Software with voice-directed picking and dynamic workflow optimization, alongside Perseuss's AI-driven cartonization. Together, these systems enabled direct-to-carton picking, real-time pick path optimization, faster onboarding, and reduced labor waste.



THE TRANSFORMATION DELIVERED MEASURABLE RESULTS:

- 99.99+% order accuracy rate
- 40% productivity increase
- 30-35% reduction in cost per unit
- Seven-figure annual savings



"The savings that we've realized, is in the seven figures. Most of the savings is in the labor of not touching things twice. And we are at probably a 30 to 35% savings in our cost per unit because of the flexibility that we have now."

- Andrew Haner, COO, Medusa Distribution

BUILT TO SCALE—OR BUILT TO STALL?

A major driver of concern is scalability. **51% of leaders believe their warehouse automation is not ready to handle unforeseen change**, new requirements or disruptions. Whether it's expanding SKUs, new regulations, new sales channels, or seasonal surges, many systems struggle when asked to do more than they were originally designed for.

Perhaps most telling, **72% of supply chain leaders say it would take considerable effort to reconfigure their automation in response to disruption**. In an environment where speed and agility matter, effort becomes friction, and friction becomes lost opportunity.



CASE STUDY BRIEF: CENGAGE DRIVES TRANSFORMATION THROUGH FLEXIBLE AUTOMATION

Cengage, a major K-12 educational publisher, had implemented the Lucas Warehouse Optimization Suite featuring Jennifer™, a voice-directed technology, which eliminated paperwork, improved hands-free workflows, and streamlined employee training.

THE SOLUTION HELPED TO:

- Boost order accuracy by 5%
- Reduce labor needs by 10%
- Increase productivity by 15%

The company's enhanced operations became a competitive advantage, helping them process 190,000 orders monthly with 99.5% delivered within 24 hours. Faced with declining print textbook demand and operational inefficiencies as the industry shifted toward digital solutions, they leveraged the improved distribution capabilities they had gained through the

optimization suite to expand into third-party logistics (3PL), adding ten 3PL customers and processing over 4 million units per month during peak seasons. This strategic pivot transformed their distribution business from a cost center into a revenue generator, demonstrating how automation and adaptability can drive growth in a changing industry.



"We have seen a decline in print, but with help from the 3PL business. We are now a revenue center, not a cost center."

- Sonny Adkins, Director of Distribution, Cengage

INVEST IN ADAPTABILITY TO EVOLVE YOUR BUSINESS

Speed of ROI is comforting, but it's not the only way to choose automation. **In fact, leaders rank integration, scalability, and reconfigurability above rapid payback when evaluating new technology.** The extended impacts of the pandemic have also somewhat reshaped attitudes on the most important considerations when evaluating new automation or technology investment.

The best automation investments don't just return capital, they preserve freedom. Flexibility extends ROI by allowing the operation to evolve without completely retooling or starting over. In a world where demand, labor, and networks never sit still, optionality isn't a nice-to-have. It's the real return.

BUYER DECISION MAKING PRIORITIES FOR AUTOMATION HAVE SHIFTED SINCE THE PANDEMIC

2020

1. Integration with existing systems
2. Ability to scale as the business grows
3. Speed of ROI
4. Initial cost to implement
5. Ability to change or reconfigure the automation
6. Ongoing cost

2025

1. Integration with existing systems
2. Ability to scale as the business grows
- ↑ 3. Ability to change or reconfigure the automation
4. Initial cost to implement
- ↓ 5. Speed of ROI
6. Ongoing cost

IN THE AGE OF UNPLANNED DISRUPTIONS, IT'S TIME TO MAKE YOUR WAREHOUSE MORE DYNAMIC

The implication is clear: automation strategies built around fixed assumptions are no longer sufficient. Modern warehouse operations require automation that can be quickly reconfigured, scaled, and optimized through software rather than hardware-intensive changes. Adaptability must be designed in, not bolted on.

Flexible automation enables warehouses to respond dynamically to reassign work, rebalance labor, adjust workflows, and scale capacity without major downtime or cost. It shifts automation from a static asset to a living system that evolves with the business.

In the current operating landscape, adaptability is not simply about surviving disruption. It is about unlocking sustained efficiency, controlling costs, and building resilience into the heart of warehouse operations. The data confirms what leading organizations already know: Adaptable automation is no longer optional. It is foundational to success.

Don't be left behind. Build for flexibility, growth and sustainable success. Contact Lucas Systems today.



“Regardless of the business size, there’s always a need to be able to react and flex — be it daily, intermittently or seasonally — and it’s vital to be able to do that in an efficient manner.”

- Wes Coleman, Industry Principal, Warehouse, Zebra Technologies



Lucas Systems helps companies create a dynamic warehouse, enabling distribution centers to compete more effectively under ever-changing market conditions. We harness the power of data with AI, Machine Learning, speech recognition, and optimization models to provide operational agility and improved distribution center performance. Unlike fixed or mechanical automation, Lucas delivers a flexible, software-based approach, that can adapt to future business needs cost effectively.