MODERN
MATERIALS HANDLING

Build Up, Not Out:
Scale Your Warehouse for Automation

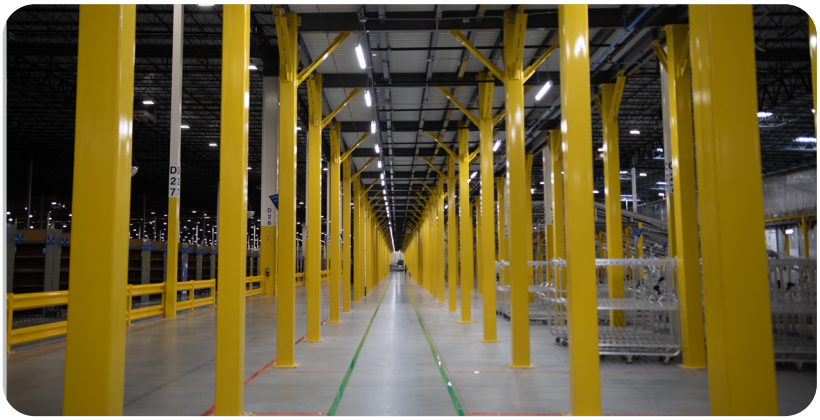
How work platforms help fulfillment operations stay competitive without adding square footage or disrupting automation workflows.

STEEL KING®
BUILT TO DELIVER

Warehouse automation is gaining serious ground. In the U.S. alone, the market is expected to exceed $16 billion in 2030—up from just $5.7 billion in 2024. Credit the urgent need for faster, more cost-effective operations across fulfillment facilities with driving much of the momentum, but labor constraints, rising order complexity and space limitations are also playing a role in the market growth.

That momentum is translating into action, with more companies investing in automation to keep up with growing demands and operational pressures. According to Peerless Media's 2025 Automation Solutions Study, 60% of companies are using conveyor and sortation systems and 40% plan to upgrade or implement these systems within the next two years.

Fifty-six percent use weighing, cubing and dimensioning equipment; and 44% plan to adopt these solutions at some point in the next 24 months. Other popular automated equipment picks include goods-to-person picking solutions, automated storage and retrieval systems, carousels and vertical lifts.



While automation has become the go-to solution for many, simply "plugging in" new tech isn't enough. Without the space to support it—both physically and operationally—automation won't deliver on its full potential.

Conventional racking can quickly become a liability in even a partially automated setting, where equipment, people and product are all competing for a limited amount of space. Aisles that may have made sense for lift truck movement, for example, may actually limit an automated system's reach and efficiency.

"Once you begin using automation, conventional racking can become inefficient to work with because you've got forklift aisles, limited reach and clearance issues," says Ryan Wachsmuth, southeast regional sales manager at Steel King Industries, Inc. "Whereas, automation lets you go higher and deeper, using aisle space and the space above where traditional lift trucks can reach for usable operational space."

This white paper breaks down the space challenges that come with warehouse automation and why traditional layouts often fall short. It also shows how platforms and mezzanines help companies scale without expanding their existing physical footprints or disrupting their operations.

STRETCHING EVERY SQUARE FOOT

Space optimization is rapidly becoming a priority in global warehouses and distribution centers (DCs). E-commerce continues to surge, customer expectations for speed and accuracy are at an all-time high and the warehouse/logistics labor shortage isn't easing. Concurrently, operating costs are rising, space is at a premium and the push for efficiency is relentless.

Combined, these challenges are accelerating the adoption of automation across the supply chain. But it's not just about cramming more into an existing footprint; it's about optimizing that footprint.

Whether through elevated work platforms and mezzanines; smarter layout strategies; or eliminating wasted aisle space, companies are finding ways to stretch every square foot. The goal is simple: increase capacity, streamline flow and ensure that all systems can work without interference.

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According to Wachsmuth, achieving that goal requires a holistic approach. "Even with lights-out automation, the whole facility is still part of a system. So, if you can't feed the automation or get product away from it fast enough, you've got a problem," he says.

Work platforms offer a straightforward solution to a complex problem by helping companies "double their capacity" without changing their building footprints. "It's basically adding another floor where you already stand," says Wachsmuth.

NO ROOM? NO PROBLEM!

Space constraints are a growing concern for fulfillment operations that are trying to keep up with rising demand and automation requirements.

Elevated work platforms offer a practical, proven solution for warehouse and DC operators that want to maximize space *without* having to invest in more real estate (or, steal space from existing operations). By building upward, these structures open up usable square footage within the same footprint and support everything from storage and staging to automation and employee work areas.

"Unlike traditional expansion, which often involves permitting, construction delays and high capital costs, work platforms provide faster, more flexible capacity gains," says Wachsmuth. Engineered to meet the unique demands of modern distribution environments, Steel King's platform solutions give companies access to their unused vertical space without the cost and disruption of a full facility expansion.

"We can take a company's footprint and either double or triple its height, all while mimicking the floor space the operation is currently working with," says Wachsmuth. And with smaller, more frequent orders now the norm, platforms can effectively create a "second level" for staging, picking or storage.

This helps support higher volumes and tighter order cycles, all within the same footprint. This is especially useful in pick module applications, where vertical access and flow efficiency are critical.

Rising real estate costs are also forcing warehouse and DC operators to rethink how they use their existing space. The price per square foot continues to climb, and in many cases the best way to add capacity is to build up instead of out.

Modern work platforms also serve as full-scale operational zones that support conveyors, picking stations, storage and even machinery. They serve multiple levels of a fulfillment process and allow for better separation of manual and automated workflows.

Whether companies need more space for SKUs, a way to reduce travel paths or more flexibility in how zones are used, work platforms offer a scalable, cost-effective way to grow within existing space.

"If you can get 100,000 square feet of usage storage or operational space in a 50,000 square feet footprint, that reduces the price tag and improves your return on investment [ROI]," says Wachsmuth. "You'll be filling the air with product instead of forklifts and leveraging vertical clearance. That's something traditional racking systems can't do easily."

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A DELIBERATE APPROACH TO AUTOMATION

An example of taking advantage of platforms to maximize space is Mouser Electronic. At its global DC in Mansfield, Texas, Mouser handles over 1.2 million SKUs from more than 1,200 manufacturers.

With five shifts running six days a week, the company ships an average of 25,000 orders daily to customers across the globe. As demand continues to grow, Mouser has taken a phased, deliberate approach to automation—one that complements its workforce and supports its high service-level expectations.

Over the past eight years, Mouser has invested heavily in automation technologies including vertical lift modules (VLMs), AutoStore systems, advanced sortation and automated storage and retrieval systems (AS/RS). In 2022, the distributor of semiconductor and electronic components began building a second 416,000-square-foot DC (Building 2) connected to its original facility by a skybridge with integrated conveyor lines.

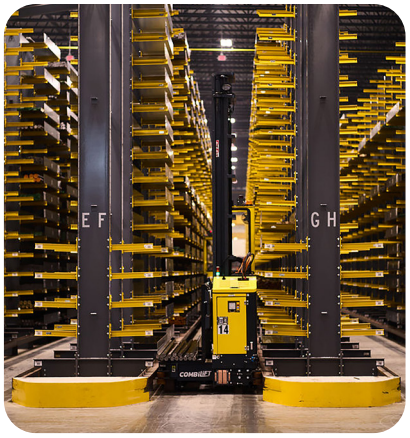
To support this growing automation footprint, Mouser turned to Steel King for the mezzanine infrastructure in Building 2. Completed in 2024, the multi-tiered platform includes both single and double-level sections that together form a triple-mezzanine system. The result: over 230,000 square feet of added operational space to house conveyors, VLM pick stations, and other automated systems.

This mezzanine structure gives Mouser the flexibility to scale efficiently, adding capacity without expanding the facility's footprint. With 75 new VLMs already installed and plans for up to 225 more, Mouser's automation strategy—supported by Steel King's innovative solutions—has the structural foundation needed to support high-volume, high-mix order fulfillment today and into the future.

FLOOR-TO-CEILING EFFICIENCY MADE EASY

In the end, warehouse space optimization is not just about adding automation for the sake of technology. It requires a practical look at what makes sense for each facility and then building a system that supports the business goals behind it.

For some, that may mean starting with a fleet of AGVs to move materials from one area to another. For others, it may make more sense to layer automation into an existing layout with work platforms, updated racking or new staging areas.



Regardless of the current layout, the physical space has to support whatever automation strategy is either in place or in the planning stages. For example, selective racks might work for basic manual operations, but automated systems have more specific requirements.

Even a minor mismatch in rack design or product handling can create friction in an otherwise efficient process. That doesn't mean traditional pallet racking has to be replaced. In many cases, it can still support automation with just a few thoughtful modifications.

"With some high-density racking, you might have to add a strip plate to make sure the pallet stays in place when the AGV pulls away," says Wachsmuth. "It's not difficult, but it takes some detailed work to get it right." Platforms and mezzanines help bridge that gap by giving operations more flexibility.

Automation can run on one level while people work on another or DCs can create dedicated zones for activities like staging, picking or packing. This added flexibility becomes especially important as order profiles pivot to more mixed SKUs and smaller, more frequent shipments.

By creating usable vertical space, platforms and mezzanines allow operations to adapt faster, reduce congestion and keep both people and machines operating efficiently. The goal isn't just to install automation; it's about making sure the entire system works together to support speed, accuracy and long-term growth—from floor to ceiling.

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CONTACT US

1.800.826.0203
www.steelking.com