



Rise of the Automated Warehouse

Want to increase warehouse productivity and accuracy while reducing labor costs and improving safety?

Then it's time to start automating your warehouse.

There are many different technologies that assist workers or handle tedious tasks.

- **Automated storage and retrieval systems** utilize machines to transport and store items throughout the facility.
- **Warehouse Management Systems (WMS)** integrate orders, picking, and inventory management.
- **Conveyor systems** move products along sorting and packaging lines.
- **“Pick-to-light” systems** use barcodes and LED lights to augment human labor, improving accuracy and productivity by as much as 50%.
- **Sortation systems** direct items to the correct bins for returns processing or packing.
- **Drones** equipped with bar scanners can conduct inventory counts and improve restocking.
- **Collaborative mobile robots** can be rented for peak times that demand quick and accurate processing.

An effective automated warehouse system has many benefits, including:

- Increased productivity (machines don't get tired or bored)
- Lesser worker strain and fatigue
- Lower operating costs
- Improved accuracy
- Better utilization of vertical space



If your business is handling more SKUs to meet diverse customer demands while struggling to offset higher storage costs, it's time to automate.

If those aren't sufficient reasons, consider the shrinking workforce for warehouse jobs. "In today's world, getting people is the biggest problem," says Hans Fuller of Fuller Metric Parts in Vancouver, B.C. "We would hire four people right now if we could find them."



Warehouse tasks are manual and tedious; the kind of entry-level job difficult to recruit for and not worth the training costs, Fuller explains. "It's boring work. Nobody wants to do it, making it hard to get people to pay attention to their tasks."

For decades, some have warned against automation, claiming it would replace people by eliminating their jobs. But in today's workforce, that's simply not the case, Fuller notes. "It used to be easier to promote a warehouse worker to sales, but today workers know less about a company's products than they did 15 years ago."

While the types of automation that work best for your fastener distributorship may depend on customer needs, here are some helpful tips when choosing which technologies can best serve your company.

Consider your entire product supply chain to identify points of automation. "If your upstream suppliers can perform certain activities more cost-effectively than you can at your warehouse, then your partners should perform these tasks and you should pay them a little extra. Similarly, if performing certain tasks at your warehouse (for a marginal increase in labor costs) results in significant labor savings downstream (e.g., faster receiving and replenishment), then those tasks should be done at your warehouse." — Steve Banker, *Automated vs. Manual Warehouses: A Different Way of Thinking About ROI*

Create well-defined processes around your automated systems. "There is often a misconception that the technology will do all the work and all the thinking. The reality is that even the best designed automated system needs to be surrounded by well-defined processes in order to maximize ROI." — Jeff Sierra, as quoted in *8 Experts Share the Biggest Mistakes Made When Implementing Warehouse Automation Systems*

Prioritize traceability. "Increasing compliance requirements are putting more pressure on you to know exactly what components are used and where your products are at all times. How can you ensure the safety of your end consumer if you are unaware of every step within your complex supply chain? The need for cradle-to-grave traceability from raw material through production will only keep increasing. Save yourself the time and frustration by making traceability easier and more manageable." — Robert Waugh, *Best Warehouse Practices To Manage, Optimize And Execute Your Multifaceted Mfg. Operation*

Focus on ROI. “Automation has become much more affordable the last decade or so in the face of just about everything else (labor, space, time) escalating. (While) the idea of a robotic palletizer, automated stretch wrapper, or AS/RS system can be intimidating, these methods are proven across every industry. But you must understand the payback, not just the benefits.” — Scott Stone, *13 Best Practices for Warehouse Productivity*

Improve processes before automating. “Examine the flow of product through the warehouse, traffic patterns, and overall layout of the facility. Measure each activity in the warehouse to establish a baseline where improvements can be made.” — Steve Adams and Steve Pierce, *Considering the Costs of Warehouse Automation*

Start small and scale up. “The path to advanced automation sometimes involves going through each level of automation sequentially as the business matures. When making the first upgrade decision, you should think ahead and pick an automation solution that is scalable and can be easily integrated with future solutions.” — Marco Trottman and Sam Zhang, *The Trend Towards Warehouse Automation*

Assign personnel to lead implementation. “The first step is to assign a specific person or team that will be responsible for handling the implementation and selecting the functionality that will be needed. This team should then be involved in all aspects of the planning and process creation.” — David Allais, *Automation in the Warehouse: Asset or Obstacle?*

Engage outside experts. “An experienced set of eyes can quickly scan your warehouse layout and spot signs of trouble, which can range from visible dust settled on products in storage (indicating obsolete inventory) to inefficient use of use of dock space (such as when put-away areas aren’t cleared out quickly enough).” — Cody Adams, *13 Tips for Your Ultimate Warehouse Design & Layout*

Match automation to specific operations. “What’s important is figuring out how to match the right automation technology to the specific challenges of a specific operation, whether its goals are labor savings, space savings, throughput and flexibility gains, or reduced maintenance and supervision. Applying different automation technologies, either individually or in combination, can alleviate a variety of different challenges.” — *15 Myths About Warehouse Automation Debunked*

Optimize intake with barcode scanners or equipment.

“Invest in barcode scanners or other automation equipment that will interface with your WMS. This will significantly increase throughput, as manual descriptions and item numbers will not have to be read out and checked off.” — A.J. Brustein, *Tips to Optimize Your Warehouse Management System and Staffing*



Simplify your order fulfillment process. “Another area that can be problematic for many companies is that the number of steps it takes to fulfill orders is so lengthy and complicated that employees can’t remember them easily. Any process with more than a handful of steps is open to mistakes. Spend some time in the warehouse working alongside your team to actually see what’s working and what doesn’t. Then update the process, reducing redundant steps and making it simple and effective.”— *4 Warehouse Management Tips to Reduce Fulfillment Errors, Scanco*

Manage inventory flows, including returns. “Overseeing the warehouse management strategy should include managing all inventory, such as the returns management. Returns may mean there’s a problem with a certain product, however; warehouse managers can utilize this as an opportunity to fix and fine-tune existing warehouse stock and ordering practices.”— *8 Principles That Establish A Cost Efficient Warehouse Management Strategy*



Utilize RFID tags to streamline the picking process. “There are numerous steps merchants can take to improve the efficiency of the warehouse picking process, but one of the leading strategies is the implementation of RFID tags. This technology enables merchants to track items throughout the picking process, check them in and out automatically, bolster visibility across the warehouse and combine multiple orders effectively.”— *Optimize your Picking Process Using RFID Technology*

Set a baseline to measure improvements. “You may have heard from employees that there are ‘many’ mistakes being made in the shipping process. Just how many mistakes qualify as ‘many’? Whenever you can, quantify the situation and set a baseline so that you will know for certain whether improvements you make are having the desired effect.” — *4 Warehouse Management Tips to Reduce Fulfillment Errors*

Above all, keep processes and systems as simple as possible, Fuller advises. “Don’t over-engineer. Ignore the bells and whistles and focus on meat and potatoes stuff.”



If you have suggestions for future issues of Random Threads, send them to amy@pac-west.org



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