



Flexible vs. Fixed Automation: Which Option is Better for 3PLs?



E-commerce growth drives automation

E-commerce growth has skyrocketed since the pandemic began and shows no signs of slowing down. As a result, third-party logistics (3PL) providers need to accelerate automation in their facilities to keep up with increasing e-commerce sales volumes. However, traditional automation solutions may not provide the flexibility you need to serve the unique requirements of different customers.

Goods-to-person (G2P) systems offer more adaptability than fixed automation but installing G2P automation solutions is a lengthy process that requires you to reduce or shut down the facility. Both fixed automation and goods-to-person systems are expensive to implement with a long payback time.

Because of a varied customer mix and potential customer churn, flexible automation aligns better with the ever changing needs of 3PLs. If you deploy Autonomous Mobile Robots or AMRs, it will allow you to change your automation workflows in response to shifting customer needs.



Improving operational efficiency with rising demand

3PLs are operating in an increasingly pressurized environment driven by a dramatic rise in demand and changes in buying patterns, primarily stemming from a massive move to e-commerce sales due to COVID-19. Automating warehouse operations at a faster rate has become even more critical for 3PLs to continue to thrive and prosper as consumer buying patterns continue to shift.

ACCELERATING CHANGE



The pandemic accelerated the U.S. e-commerce market by five years as consumers chose to make more purchases online rather than from physical stores.¹



Estimates suggest that **94% of U.S. consumers will continue to buy the same amount or more products online** once the pandemic subsides.²



E-commerce sales require more than three times the logistics space used by brick-and-mortar sales since 100% of e-commerce inventory is stored within warehouses.³



Keeping up with the sheer volume of e-commerce sales is challenging. It's especially demanding when paired with the increasingly difficult task of sourcing and retaining warehouse associates. **Automation is the answer for 3PLs to improve operational efficiency when dealing with constant deadlines and a shortage of workers.** However, unlike other industries, automation brings both opportunity and challenges for 3PLs.

¹ Tech Crunch "COVID-19 pandemic accelerated shift to e-commerce by 5 years, new report says," August 24, 2020

² XPO Logistics, "Impacts of COVID-19 on Consumer Trends in the US and the UK," 2020.

³ Prologis, "COVID-19 Special Report #6: Accelerated Retail Evolution Could Bolster Demand for Well-Located Logistics Space," June 17, 2020.

Can fixed automation solve your challenges?

While considering automation solutions, you may want to first examine the merits of implementing traditional fixed automation systems. These types of systems will help drive some level of efficiency. However, investing in expensive equipment like a conveyor or sortation system may only serve the existing requirements of customers, and will barely leave any room for flexibility. Traditional automation is not just expensive, but it is also difficult to implement in an existing facility without limiting the capacity of that facility in the process.

As a 3PL, your customers change periodically, and every client is unique. For instance, a 3PL distribution center may cater to the requirements of an apparel retailer alongside those of a wine vendor and a cosmetics manufacturer. Even when they operate within the same industry, each customer will be looking to the 3PL to serve different needs.

If you invest in fixed automation, you are making a significant bet for the future since the capacity will be locked in for that piece of equipment upfront. How much use will that conveyor be when your customer's situation or order mix changes?

An order mix of 80% retail stores and 20% e-commerce would make sense pre-COVID, but clearly is a poor fit now as consumers increasingly choose online shopping.

Changes that impact an entire industry can happen quickly, and without warning, so planning and being flexible for changes can help future-proof your facilities. The key lesson learned from the pandemic world is that change is inevitable, and its impact is often unforeseeable.

In most cases, fixed automation is not the best choice for 3PLs because you are then defined by a preset maximum peak capacity. That capacity will largely go unused during the life of the fixed automation equipment; requiring a much longer time before you realize a return on its investment. Automation should help you to become nimble and quickly meet new requirements from existing and new customers.

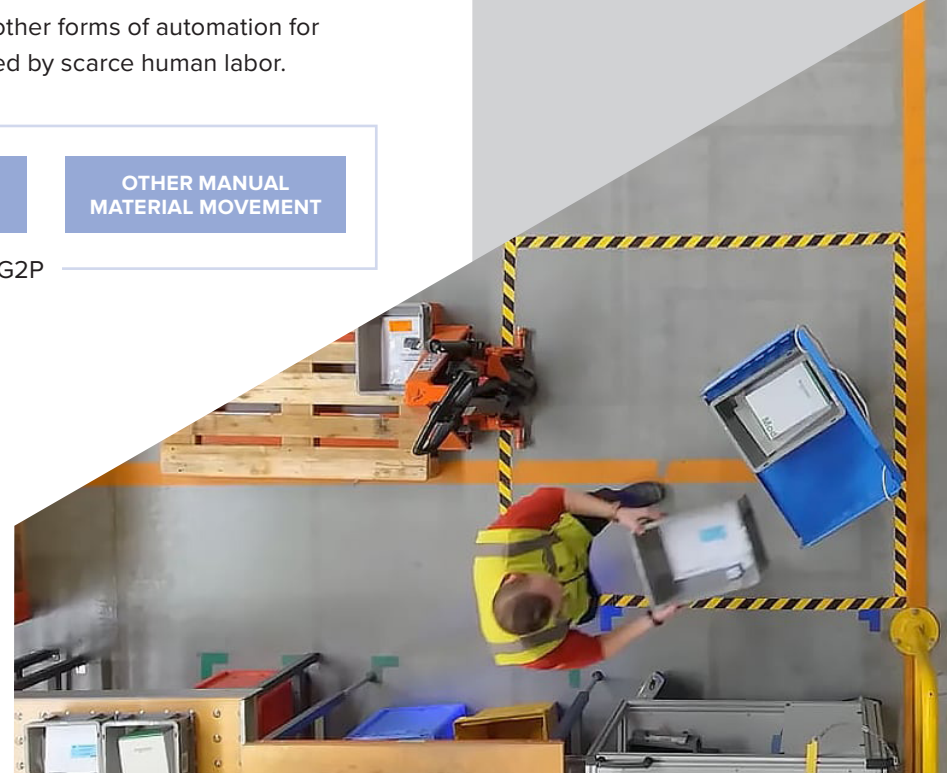


Goods-to-Person: Is G2P the right automation solution?

From an each picking perspective, a Goods-to-Person (G2P) system provides 3PLs with more flexibility than fixed automation to react to the changing needs of existing clients or to the requirements of new customers. G2P solutions provide high efficiency as shelves of goods are delivered to stationary pickers by Automated Guided Vehicles (AGVs) that work inside caged-in areas.

However, there are challenges that are inherent with G2P systems. While these systems are less expensive and take less time to implement than some fixed automation, there is a significant long-term cost for G2P systems. The deployment time can be lengthy since there are normally changes required to the facility. Since a facility will operate at reduced capacity during the time of implementation, there is an additional expense of lost revenue that can occur. This all equates to a long payback time for the G2P type of automation.

Additionally, since G2P systems are used only for each picking, you will need to turn to other forms of automation for case picking, pallet picking, and other manual material movement that is being completed by scarce human labor.



How flexible automation improves efficiency for 3PLs

Flexible automation enabled by a fleet of Autonomous Mobile Robots (AMRs) provides increased efficiency needed to optimize any type of picking operation. It also allows you to easily customize and redeploy automation from one customer account to another.

AMRs can assist with a variety of workflows without the need to make any changes to your facility. For instance, you can have a robot remove trash or recycling materials for one customer on a morning shift and then switch easily to transporting pallets to their appropriate return station for a different customer on the afternoon shift.

With AMRs, you are no longer locked into a long-term commitment to a particular type of warehouse automation as you would be if investing in fixed automation. At the same time, you can ramp up the usage of AMRs during rush or peak periods. Through a Robots-as-a-Service (RaaS) model, you also have the option of changing the types of AMRs you are using in response to shifts in workflows for one or more customers, or to use with a new customer.

Handling multiple workflows with Autonomous Mobile Robots

Some AMRs can carry out a single type of workflow, such as each picking, while other solutions can be used for the entirety of workflows (see sidebar). To meet the needs of your facility and customers, you should determine if you simply need a solution to assist with each picking or if you want a single system that can be used across any workflow for any customer, now or in the future.

The good thing about choosing AMRs is that you can roll them out very quickly, sometimes in less than a week. AMRs can also be seamlessly connected to different warehouse management systems (WMS) or warehouse execution systems (WES) to optimize the picking process. In addition, you also get the option to view the usage and efficiency of robots via custom metrics and KPIs. This enables you to compare the efficiency of different facilities through a single dashboard.

By implementing a flexible automation solution, 3PLs can easily gain insights into how to rethink workflows to further drive efficiency and to lower cost. As you evaluate these options, you should consider the administrative, IT burden as well as the risk of being locked into a more limited form of flexible automation.



The breadth of workflows that AMRs can execute within your warehouse encompasses most, if not all, of the manual material movement operations, including:

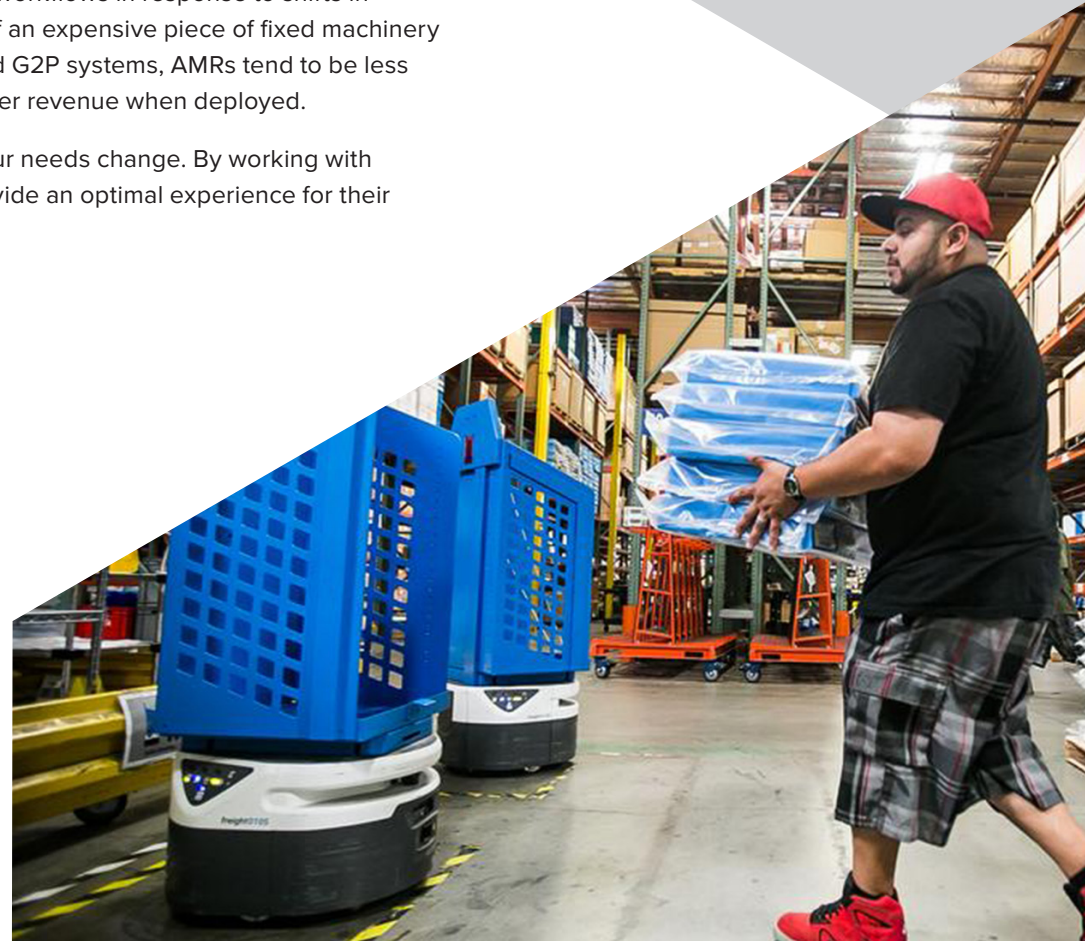
- Discrete order and batch picking
- Case picking to pallet and other pallet movement workflows
- Kitting
- Various material movement performed by warehouse associates

Meeting customer needs with flexible automation

In considering the next move to automate facilities, 3PLs will be assessing how they can keep up with e-commerce volume, retain their agility, and meet the needs of both their current and future customers. With AMRs, you can easily, quickly, and cost effectively drive efficiency across your operations. And there are no hard-to-reverse structural changes to your warehouse infrastructure as is the case with fixed automation, or limitations to the types of customers that you can serve.

With flexible automation, you can keep your options open and change automation workflows in response to shifts in customers' needs. Neither you nor your customers are locked into the limitations of an expensive piece of fixed machinery that cannot change as needs change. Additionally, unlike with fixed automation and G2P systems, AMRs tend to be less expensive and do not require alterations in the facility itself that would result in lower revenue when deployed.

Instead, you can scale and shift the usage of AMRs as your business grows and your needs change. By working with AMRs that can handle a wide variety of workflows, 3PLs are best positioned to provide an optimal experience for their customers and to meet the challenges of today and tomorrow.



Keep up with rising consumer expectations in this e-commerce era. Start your automation journey here: fetchrobotics.com/3pl/



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
+1 866 230 9494
la.contactme@zebra.com

ZEBRA and the stylized Zebra head are trademarks of Zebra Technologies Corp., registered in many jurisdictions worldwide. All other trademarks are the property of their respective owners. ©2022 Zebra Technologies Corp. and/or its affiliates. All rights reserved.