AMR benefits for e-commerce

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a Körber company

Introduction

As more shoppers turn to e-commerce outlets for all their retail needs, companies will need to work more efficiently to keep up with consumer demand. Automation, including Autonomous Mobile Robots (AMRs) is due to play a significant role in the future of the global supply chain. Many industries will likely find value in introducing AMR technology in the near future, but for those in e-commerce, opportunities are already available to improve business and operations along the supply chain. Here are a few AMR benefits for e-commerce businesses.

Efficient order fulfillment

Amazon Prime, two-day deliveries, same-day grocery deliveries and other offerings have changed the way consumers view shopping.

Many consumers see lightning-fast delivery as standard, rather than as a luxury, and expect no less from every kind of company.

If you offer products that are available from other outlets or ship similar products offered by other businesses, you know the importance of efficient order fulfillment. Delivery options may be the difference between gaining or losing out on a purchase as consumers search for ways to get their hands-on products as quickly as possible.

AMRs can help your business by making order fulfillment more efficient, giving your company an edge over the competition. AMRs can move shelving quickly, transport products, sort parcels and handle returns with speed. When you make in-house operations more efficient, you'll be able to make order fulfillment more efficient, as well.

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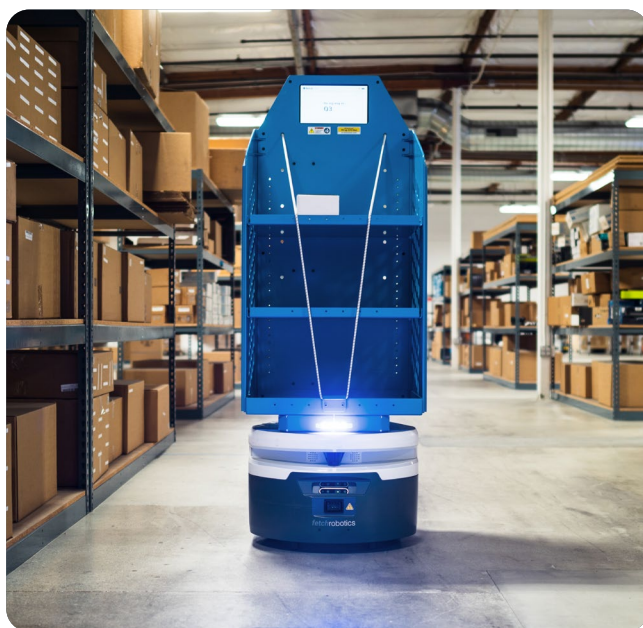
Save distribution center space

Warehouse space is limited, and as more individuals place orders online, that warehouse space can become even more valuable. AMRs can navigate tight spaces and carry out package retrieval and replacement in small areas.

AMRs can also give you the ability to use vertical storage options. Depending on the type of AMRs you use, the machine may be able to reach higher shelving areas on its own, allowing you to increase storage space without having to increase the size of your warehouse.

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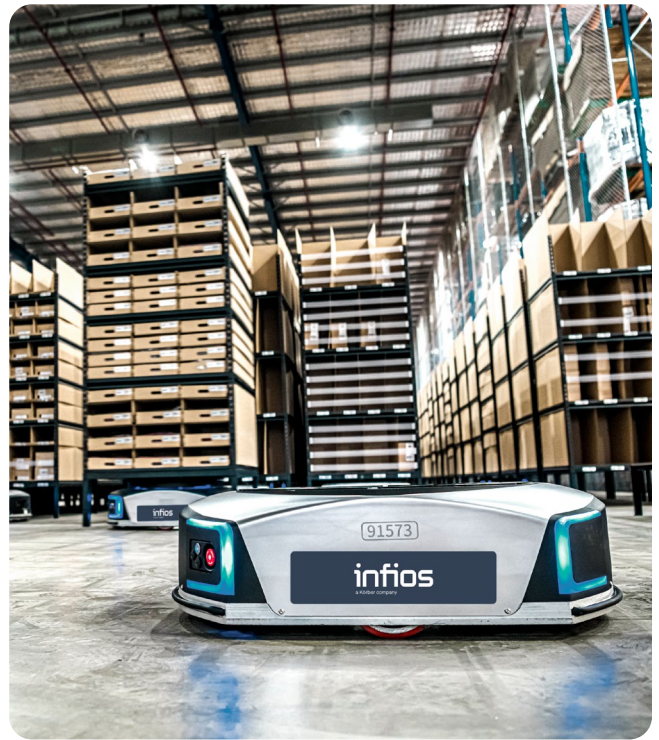
Increase order accuracy

Companies that use AMRs can expect an increase in order accuracy in their warehouses. AMRs are programmed to perform and repeat tasks in the most efficient way possible, which means they can learn and relearn optimum routes to specific items and fulfill orders with higher rates of accuracy using what we refer to as AI.

AMRs can pick, sort and return packages in a warehouse setting with ease. Once they have selected the most efficient route to navigate within a warehouse, they can repeatedly select and transport those packages to and from a warehouse setting. They may transport from a warehouse to a front-of-house employee handling customer service, move shelving across a warehouse to a selected location and accurately move packages to their previous destination during returns.

AMRs can also help to increase order accuracy by working together with automated management systems, which make life easier for employees across

the board. AMRs can work with other forms of technology that reduce human error, leading to more accuracy within order fulfillment, reducing errors and the need to handle returns to compensate for those mistakes.

> "AMRs can work with other forms of technology that reduce human error, leading to more accuracy within order fulfillment."
>
> **John Santagate**
> Vice President, Robotics, Infios

Save money

Whilst some AMR solutions require investment up front, others in Infios's portfolio offer an operating expenditure model, you can recoup these expenses over time as you reduce operational costs.

If you're operating on a tight budget, over time, using AMRs can help you save money as you utilize space and use low levels of investment for significant gain in throughput.

You may also be able to focus your workforce toward management, giving human employees greater responsibilities to manage teams as well as learn new skills as operators for the robots that now comprise some of your workforce.

You don't have to replace an entire team with AMRs, some of the solutions in the portfolio collaborate with employees for operational efficiency. You can take an opportunity to test out how AMRs impact your business by incorporating them for a part of your operation.

AMRs can also help your e-commerce business save money by reducing energy costs. Because AMRs can operate in lower lighting, you can program the machines to run for short periods before or after human employees leave for the day and increase productivity without greatly increasing your energy costs.

Stay current with global trends

Automation is already in swing across the world and shows no sign of stopping. A PriceWaterhouseCoopers report predicts automation technologies are set to become 14 per cent of global GDP by 2030. That 14 per cent will total about $15 trillion, a signal that companies that operate along the supply chain will need to prepare for the rise in automation before that time.

Businesses should expect this trend to continue along the supply chain. e-commerce also shows no sign of stopping—consumers now have everything from clothing to grocery, homeware items and technology delivered to their front doors in a matter of days or even hours. Consumers get used to trends and conveniences quickly, rarely going back to the ways business used to be done. Faster deliveries, an increase in online orders and higher consumer demand are all on the rise.

Those demands will remain high, and companies will continue to compete with one another as they have always done. That competition in e-commerce presents itself in convenience and speed. Businesses will need to keep up with global trends to compete, which will increasingly mean the use of automation and AMRs.

An increase in online orders and higher consumer demand for faster deliveries are all on the rise.

Identify and resolve pain points

Many imagine an entire operational overhaul when considering introducing AMRs and other robotics into their business. However, this is not the case, and companies can instead gradually bring high-tech machines along the supply chain.

Each e-commerce company experiences different pain points. Some companies are running out of warehouse space and looking to better utilize the space they currently have rather than undertaking the expensive and complicated process of moving their entire operations.

Others need to load delivery trucks more quickly to meet consumer demand for high-speed deliveries, increasing fleet size. This may lead to higher costs as companies purchase more trucks and hire more delivery drivers and teams to spend their days bringing customers their orders. Companies can continue to employ human workers for other needs—drivers and delivery service teams or value-added tasks, for example—while reducing costs and increasing accuracy by incorporating AMRs into other operations.

Still others struggle to keep up with consumer demand as their businesses take off. An increased workload is a good thing but can cause complications for companies as they become overwhelmed by demand that outpaces their ability to fulfill orders.

One of the issues managed by Goods-to-Person AMR is the nature of how the e-commerce orders are placed. There is no guaranteed time when a person would order an item. This adds complexity to DC operations. In a manual setting, you may need to wait until few orders come in to batch all of the same items into one pick path or send team members to the same location multiple times to pick orders as they come in.

The Infios team can help your business explore e-commerce robotics along the supply chain, including AMRs.

AMR takes this away by spreading items across several locations and can group orders as they come. For example, express shipping paid by the customer will go to the top of the priority list.

AMR will reduce the walking time significantly, and e-commerce businesses can pick and dispatch orders based on the priority.

You can essentially take things one step at a time when incorporating AMRs into your business, explore your options and decide what's right for your business both today and down the line.

CONCLUSION

We work to help your business bring together automation, vision technology, mobile devices and computing, RFID and voice recognition technology into your business. We can help you learn more about each of these technologies, among others, and what solutions will best serve your business in a rapidly changing technological environment.

There's much more to know about AMRs along the supply chain for your e-commerce business. Contact us today to learn more.

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