WHITEPAPER

10 common myths about AMRs

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Introduction

As autonomous mobile robots (AMRs) have become a more common warehouse technology, many myths have arisen about how they work, what they are capable of, and when they can be used. While many of these myths can cause concern, they are easily disproven.

1. AMRs will take the place of humans and remove jobs

Automation is often thought of as human replacement technology that removes humans entirely from the workflow. A major difference with AMRs, compared to traditional automation, is that many AMRs are designed to work with humans in the workflow. This technology augments human performance by taking on non-value-added movements and freeing up human capacity to focus on other aspects of the job, thereby increasing productivity. The collaborative nature between humans and AMRs sometimes results in the AMRs being referred to as “cobots.”

2. AMRs are too complex for typical warehouse staff

We tend to think of robots as being incredibly complex, with intricate programming and assembly needed. Luckily, with AMRs, all that has been done for you by the vendor! The vendor will work with you to integrate the robots into your warehouse ecosystem. Once that is complete, the AMRs are designed for ease of use by your operational team. No more training is needed than for any other new technology addition, and you do not need a team of robotics engineers on staff.

3. AMRs are too expensive

When you look at an AMR it's easy to jump to the conclusion that they are too expensive for the average warehouse. They seem like a futuristic technology decades in the making, and an investment that only top-tier warehouses can afford. In reality, many AMR solutions are affordable for any size warehouse. Many of the components of the robots have become cheaper due to the same parts being used in tangential industries, like self-driving cars. In stark contrast to the up-front capital expenditure cost of fixed automation, AMR solutions can be purchased as a service (robot-as-a-service or RaaS), making it a more affordable option for warehouses that can make an investment in an operating expense but not as a capital expense.

4. AMRs are all the same

Just like there are different types of fixed automation for different tasks, there are different AMRs for different workflows. These robots come in different forms, perform different functions, and can even be tailored to a specific industry. Assuming that all AMRs are the same, or that you can make one vendor's robots work for every application in your warehouse, is a path to a failed AMR implementation.

5. You can't have AMRs from multiple vendors in the same warehouse

The previous myth discusses the idea that many AMRs are purpose-built for workflows or tasks in the warehouse. This means that to roll out AMRs across your warehouse, you may need multiple different kinds of robots, potentially from multiple vendors, to get the job done. With a proper understanding of your technology landscape, and a clear vision of the types of workflows you want to assist with AMRs, it is absolutely possible to use multiple vendors to achieve your goal. If that seems overwhelming, choose a strong partner who can help you independently define your options and guide decision making.

6. AMRs aren't safe

AMRs are made specifically with warehouse operations in mind, including the movement of workers and other mobile equipment. The robots are built with sensors and vision capabilities that allow them to navigate the warehouse without being a hazard or creating hazardous scenarios for the people or equipment working there. In fact, many times safety incidents in a warehouse are significantly decreased due to less human-controlled material handling and more automation with safe, collaborative robots.

7. AMRs are an immature industry

Although AMRs seem like a new application to many, they are actually an evolutionary step in a technology that has existed for a while—autonomous guided vehicles (AGVs). AMRs are far more sophisticated in their ability to navigate freely, and have more integrations with other technologies than their predecessors. Additionally, since AMRs do not rely on fixed infrastructure, they are far more flexible and can even be moved between locations quite easily.

8. AMRs won't work in a refrigerated environment

This is a common misconception caused by a common occurrence: fog. AMR sensors, much like RF screens, are prone to fogging up when they go from a freezer or refrigerated area into an ambient area. This causes the robots to get lost, and requires intervention to correct. However, if you have a warehouse that is entirely refrigerated, or you can keep the robots within the chilled areas, they are consistent and reliable.

9. AMRs are a competitive technology with voice

Oftentimes AMRs are reviewed as an all-or-nothing technology, which is far from the truth. While AMRs can substitute some processes where voice is being utilized, there are many applications where the technologies can be used together. This allows you to gain the efficiencies of the hands-free, eyes-free voice technology, while also taking advantage of reduced travel time that comes with AMRs.

10. Every warehouse can use AMRs

As with any technology, there are circumstances that make it difficult to deploy an AMR solution. To work optimally, AMRs have aisle width requirements, and need strong Wi-Fi, floors without large cracks or potholes, and an area free of obstacles for the charging stations. While these can be challenges for some warehouses, they are nothing near the typical challenges faced for traditional automation systems.

NEXT STEPS

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