

Körber Supply Chain

Master Class Series

Today's Class:

**Debunking common
myths about AMR**



Speakers

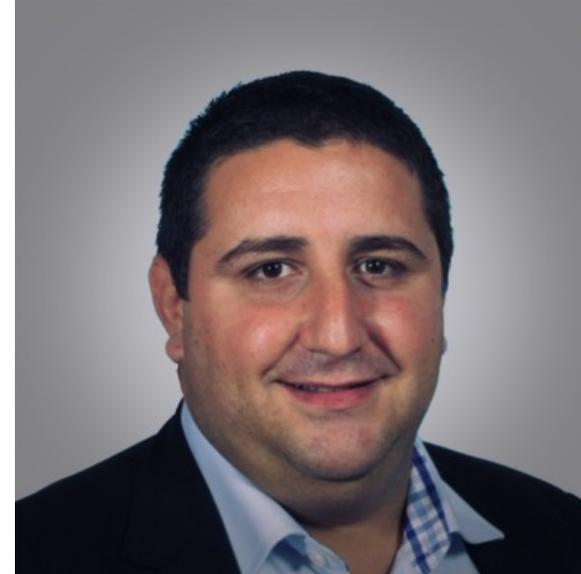


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Sales Director

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Körber Supply Chain

Supply Chain Master Class

Debunking common myths about AMR

AMR are still a relatively new technology in warehouse operations. As a result, there are many questions and some misconceptions around their use and benefits. Join Fabien Guerrero to learn why the deployment and use cases of AMR don't have to be complex, why their total operating cost (TCO) can be surprisingly economical and how AMR are a good fit for many smaller warehouses with manual operations.

Class Schedule:

- **Today – Debunking common myths about AMR**
- The past 3 sessions in this series are available on demand

Other Master Class Series – On-Demand

- *Addressing Labor Challenges*
- *Cold Storage Trends*
- *Warehouse Technology Excellence*
- *Sustainability*
- *Innovative Technologies*

Housekeeping

General

- All phone lines are muted
- A recording of today's class and slides will be available on-demand

Questions

- Ask questions during today's class in the GoToWebinar Questions window
- Questions will be addressed at the end of today's class, or we will follow up with answers via email after the class

Warehouse Complexity is Increasing

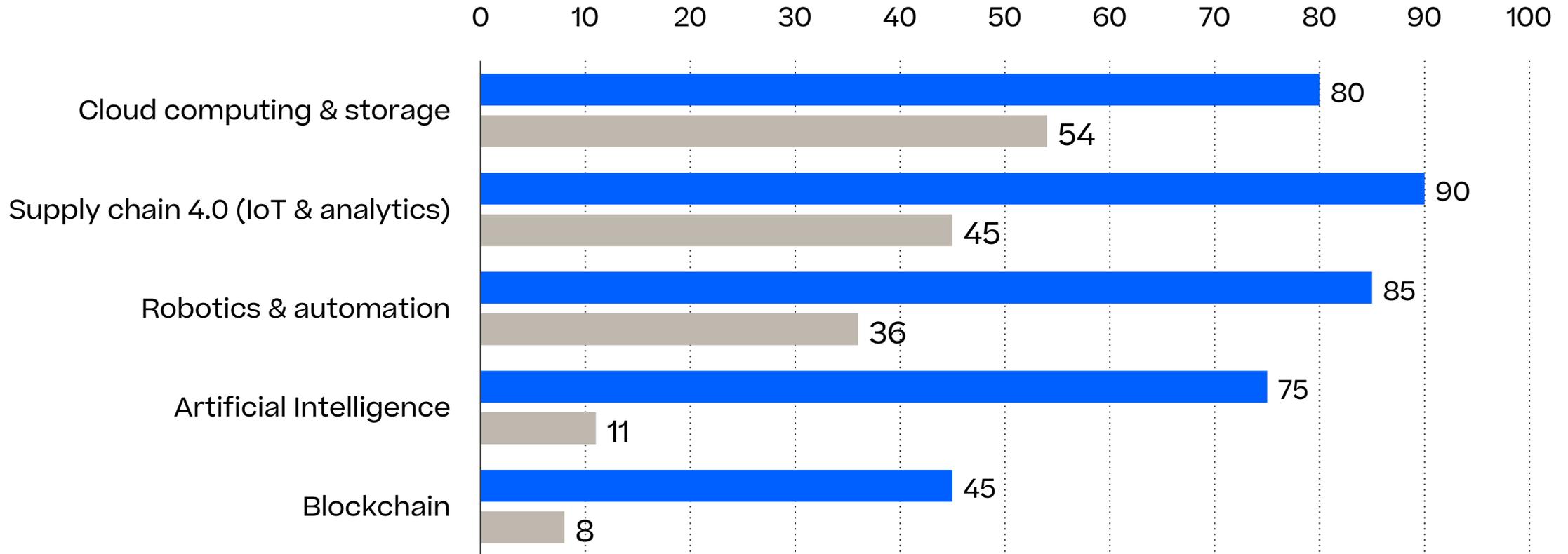
- Warehouse facilities are considerably larger now
- Facilities store a greater variety of products
- More facilities receive and ship mixed/partial pallets and “eaches”
- Shipping mixed pallets and “eaches” has resulted in more labor
- Product returns are increasing
- Accounting and recordkeeping requirements are heightened



Robotics & Automation Harbor Much Hope

% Entertaining Adoption (2019 vs. 2030)

■ 2030 ■ 2019



Source: LogisticsIQ, Robotics Business Review, Worldwide Sample



What are AMR? (Autonomous Mobile Robots)

Stationary Robots



A stationary robot is attached to a physical location (fixed surface).

Autonomous Mobile Robots



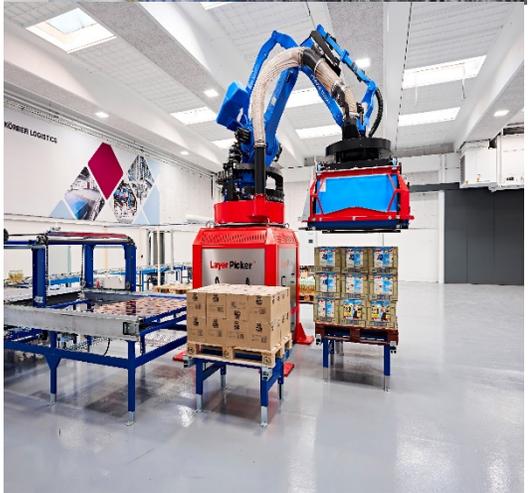
Mobile robots have the capability to move around in their environment and are not fixed to one physical location.

Modular robots are capable of autonomous navigation in a dynamic environment, without the need for physical or electro-mechanical guidance.

Myth: AMR are just another kind of warehouse automation

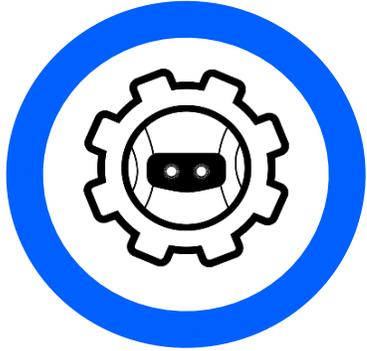


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Myth

Reality: AMR versus fixed automation

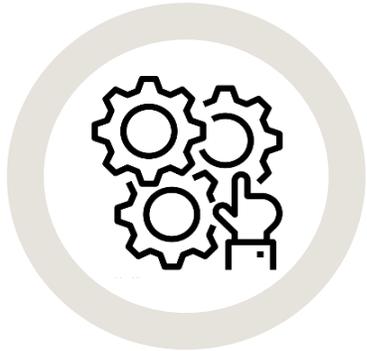


Robotics

Designed to perform a variety of tasks, capable of retooling and reprogramming to perform different tasks

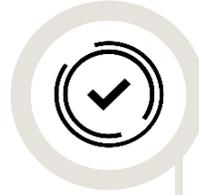


- Multi-process Capable
- Task flexibility
- Mobile
- Lower investment
- Pick & Pack
- Pallet Movement
- Assembly



Automation

Designed to carry out a specific task, optimized for the process being performed



- Process Optimization
- Repetitive Task
- Fixed
- High investment
- High storage
- Conveying
- Sortation

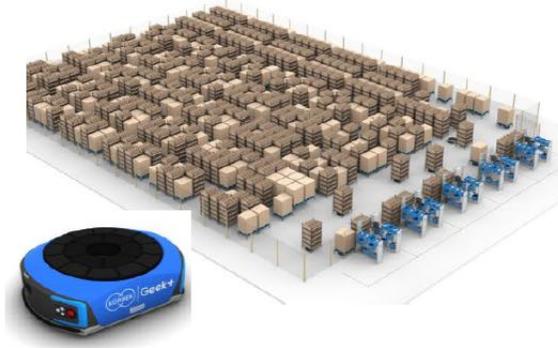


A view of Automation & AMR

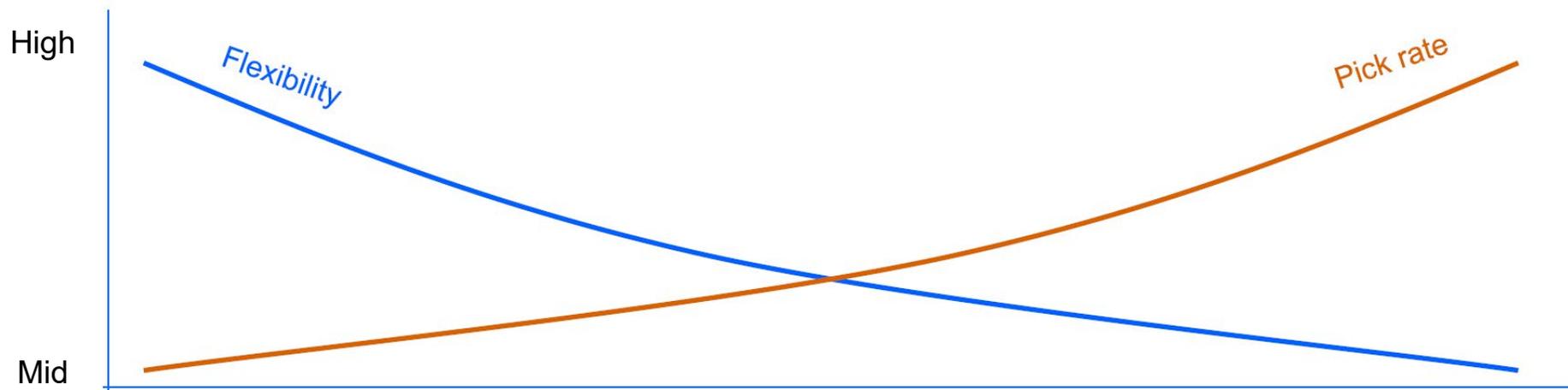
Person to Goods



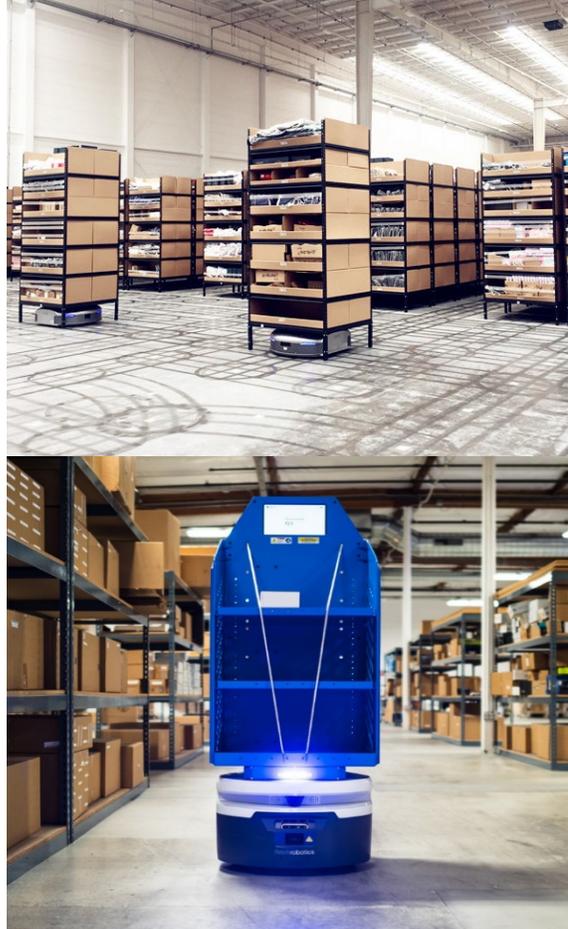
Goods to Person



Shuttle



Myth: AMR require a large investment



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Myth

Reality: AMR are relatively affordable

- Short Return On Investment (ROI)
Due to very high KPIs
- Moderate long term investment
Compare with fixed automation

Robotics as a Service (RaaS)

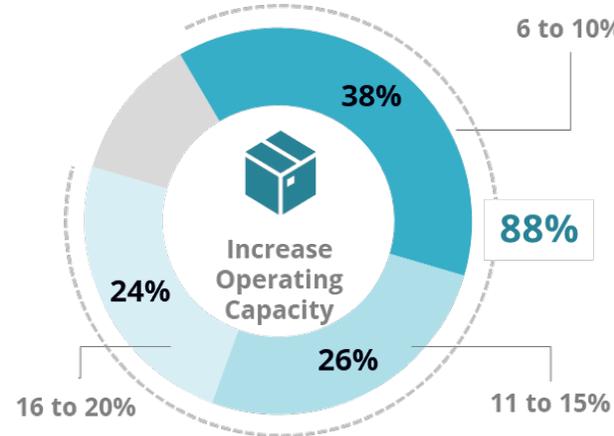
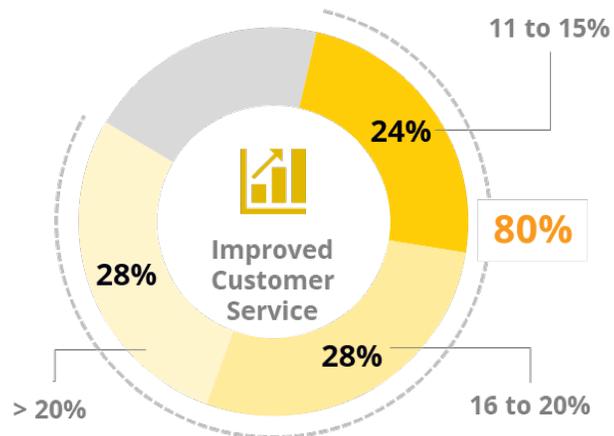
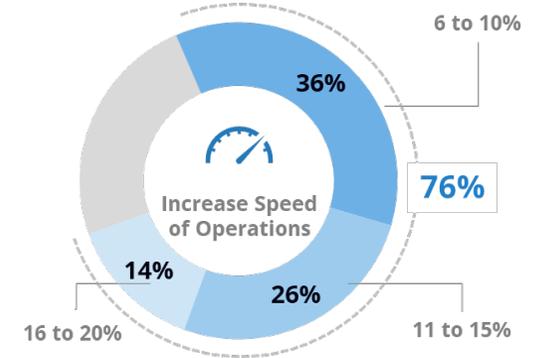
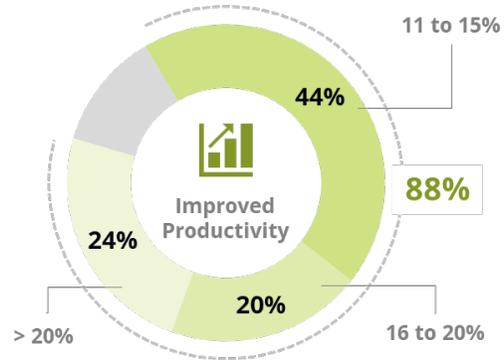
- Smaller investment
- OpEx vs. CapEx benefits
- Scalability
- Short-term deployments



Reality

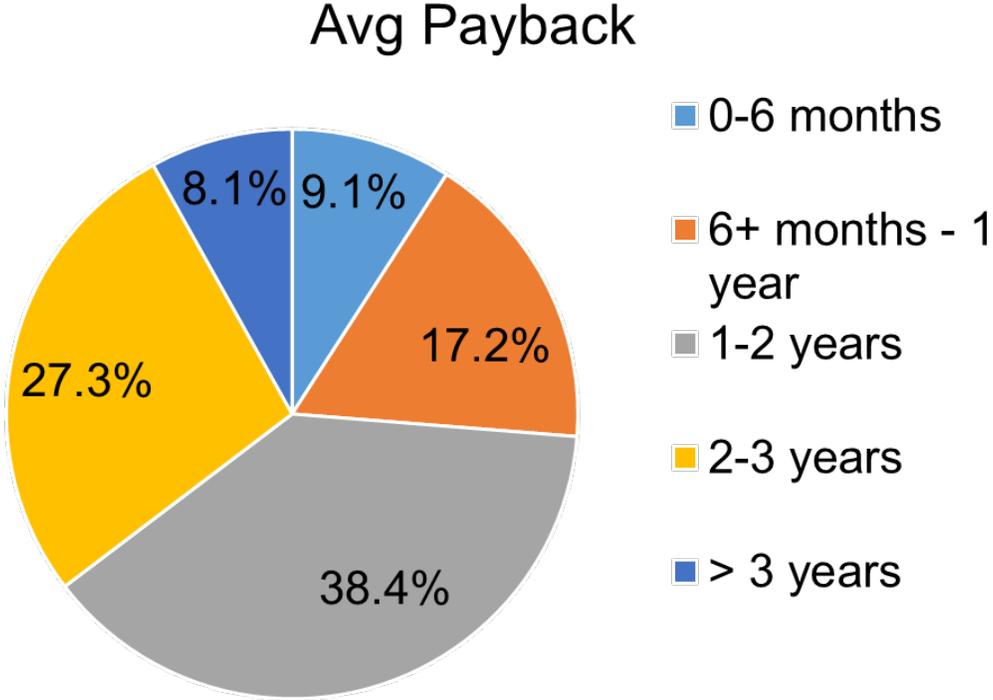
Robotics Driving Real Impact on Operational KPI's

Q. To What Degree have robots improved your business operations where deployed?



Across most metrics, more than 80% of companies noted **double-digit KPI improvements**

Payback Period and ROI



65% of projects had a payback period under 2 years and over **80% of companies achieved a double-digit ROI**

Myth: AMR requires you to adapt your warehouse and processes



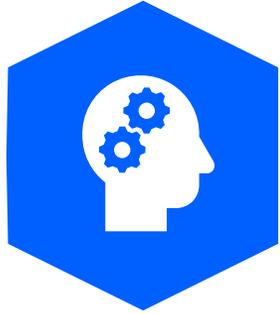
Myth

Reality: There are a wide range of robot applications in warehousing

Sorting	Conveying			Picking			
Robotic Sorting	Virtual Conveying			Directed Item Picking		Robotic Item Picking	
	Manual Loading	Autonomous Loading	Pallet Movement	Goods 2 Person BY ROBOT	Person 2 Goods WITH ROBOT	Robot 2 Goods	Goods 2 Robot
							



Holistic-solution approach to AMR



Decision support



Sales



Implementation & integration



Post launch support



Maintenance and support

Adopt a **lifecycle view** to AMR deployment and evolution.

Working with a full-service partner reduces **complexity**.

Myth: AMR takes jobs away



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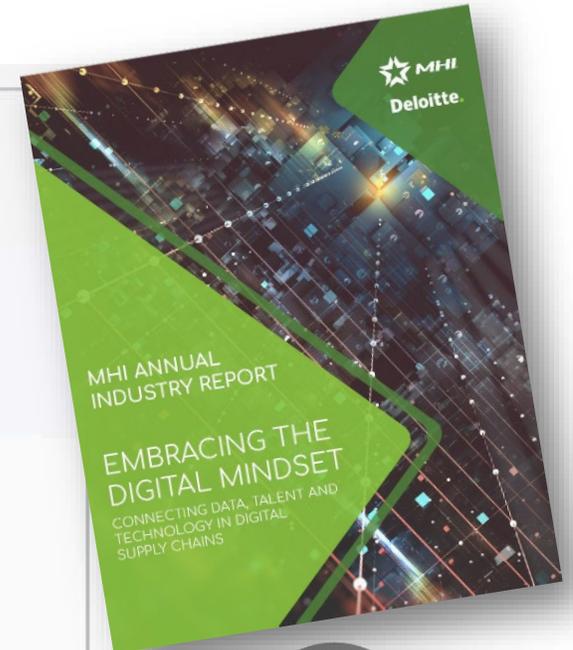
Myth

Top Challenges in Material Handling Identified by MHI Survey

Reality

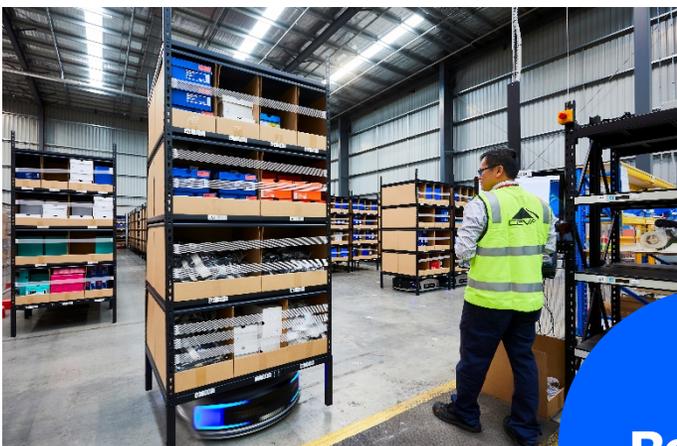
COMPANY CHALLENGES

The top 6 company challenges - rated extremely or very challenging



73% of respondents report that it takes more than 30 days to fill an open job position.

Worker-Robot Collaboration in the warehouse



Q&A

Körber Benchmarking Survey

AMR can help to improve warehouse throughput and productivity.

Would you like to learn more about the key factors driving supply chain performance and how your supply chain is performing?

Take our [benchmarking survey](#) to find out!

- How industry leaders are addressing today's key issues:
 - Resilience, new technologies, labor, facility optimization
- What areas you already excel, and where you can improve
- Benchmark yourself against the industry

[Take the survey here](#)

- Receive the final benchmarking survey report
- Körber will donate an immunization package to Unicef



Q&A