

Impulsvortrag:

# Mobile Industrial Robots | a better way

## Transforming the logistics industry

Es freut uns, dass wir heute zusammen gekommen sind.

# MiR

## Wer bin ich & was ist mein Tätigkeitsfeld bei MiR?

- ▶ Ich inspiriere Unternehmen für
  - ▶ **smarte und innovative Automatisierungslösungen** mit dem Ziel
  - ▶ die innerbetrieblichen Materialflusskonzepte umfassend zu optimieren!“
- ▶ innerbetrieblicher Materialfluss = **Intralogistik**





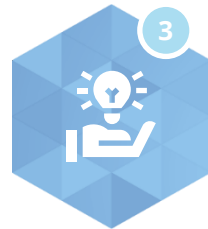
# Agenda



**Internal Logistics  
& Automation**



**About MiR**



**Solution Overview**



**Our Customers**



**Details**

# Internal Logistics So Far



**Internal logistics consume large amount of resources that do not contribute directly to your value creation**

**Today internal transportation is usually done by:**



Manned forklifts

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AGVs

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Static conveyor systems

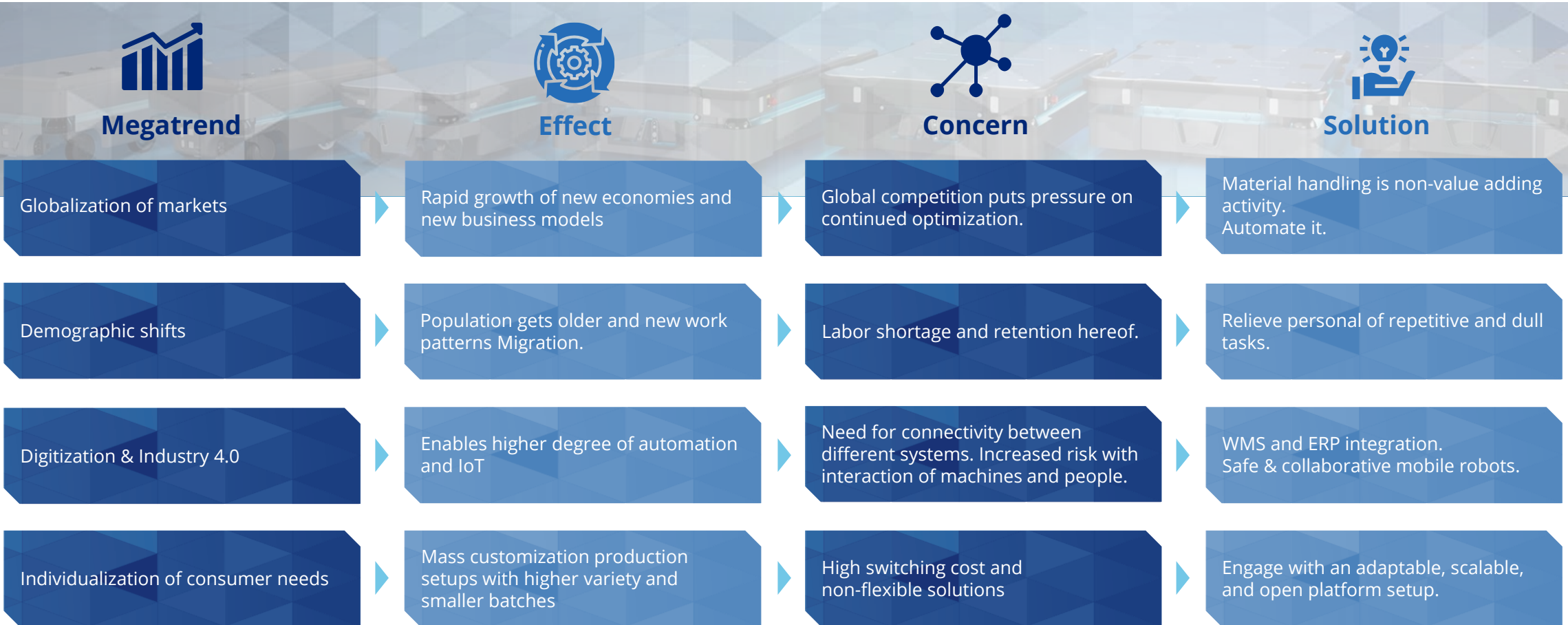
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Usage of special designed trolleys or racks

# Megatrends That Affect Internal Logistics

Automate internal logistics





# Automating Internal Logistics

## Differences in AMR vs. AGV



**AMR**  
*Autonomous (collaborative)  
Mobile Robot*



**AGV**  
*Automated Guided Vehicle*



- > Trackless, autonomous navigation
- > Travels safely around people and obstacles
- > Easy to expand/change work area
- > Navigates dynamically while planning it's own path and sequence

- > Requires "tracks" – e.g. magnetic stripes in the floor or wires
- > Stops at any obstacle without possibility to change route
- > Expensive and time consuming to expand/change work area
- > Restricted to fixed routes and controlled sequence

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# A Better Way



## The MiR Value Proposition

With the world's most safe and reliable autonomous mobile robot, MiR is a market-leader dedicated to fully optimizing the efficiency and productivity of your internal logistics. Everything we do is driven by our ingenious take on collaboration, adaptability and performance.



MiR100



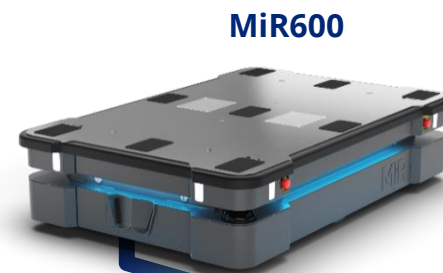
MiR500



MiR1000



MiR250



MiR600



MiR200

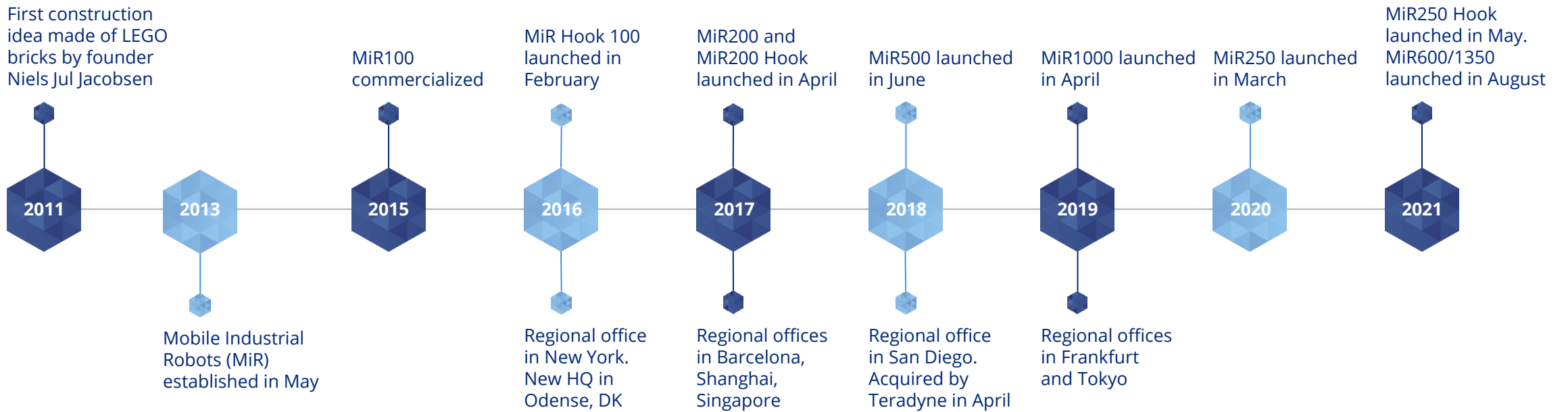


MiR1350



# Timeline

## Product development



## Business development



# The Company Today

## | MiR Highlights:

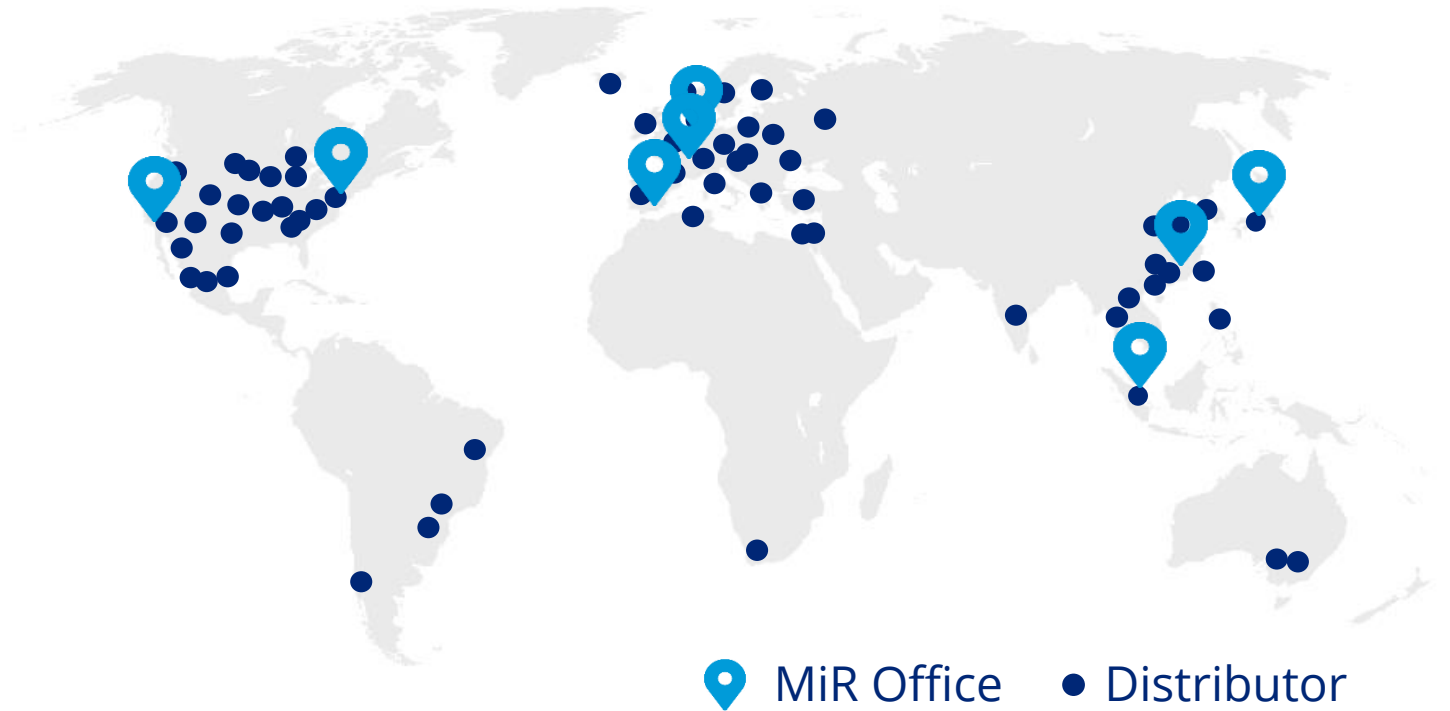
**250 employees focused on rapid development and growth:**

- › 30% in R&D
- › 47% in Sales & Technical Support
- › 10% in Production
- › 13% in supporting functions

**Born global:** 200 distributors in 60 countries

**Local presence:** Offices in New York, San Diego, Barcelona, Shanghai, Tokyo, Frankfurt and Singapore

**Award-winning technology:** Winner of multiple international renowned awards



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# Solution Overview



AMRs to transport small- and medium sized materials



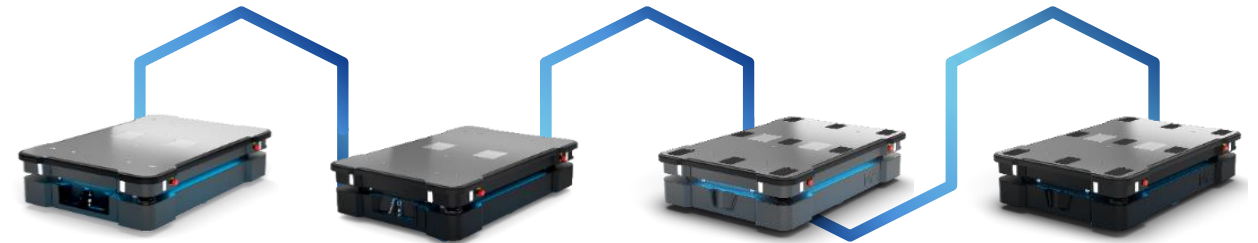
MiR100

MiR200

MiR250



AMRs to transport heavy loads and pallets



MiR500

MiR1000

MiR600

MiR1350



Top modules and accessories



MiR Lifts

MiR Shelf Carrier

MiR Hook

MiR Charge

MiR Fleet

MiR AI Camera

# MiR Solutions Demo



# Market Needs

How MiR finds a better way to bring value to your business



01

Collaborative operations



02

Flexibility



03

Ownership



# Collaborative Operations

Safe and user-friendly collaboration with human colleagues



## User-friendly interface



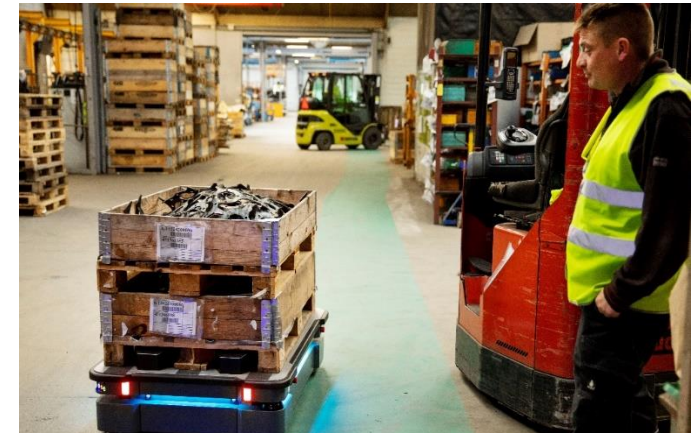
- › Easily programmed, with no prior experience needed
- › Missions can easily be adapted via tablet, smartphone or pc
- › Daily users can summon a robot with one click of a button



## Works safely alongside humans



- › Safely and efficiently maneuvers around people and obstacles
- › Safety stop if someone walks out in front of it
- › Complies with relevant safety standards



## Improves working environment



- › Redeploy human workers for more valuable work
- › Reduces work-related injuries

# Flexibility

**An open interface supports different applications**

- › Easy to integrate new top modules
- › Our online showroom, MiRGo for inspiration
- › MiRGo Recommended for proven plug&play top modules

**Adaptable & Scalable**

- › Integrates with existing systems, such as ERP & WMS
- › Simple to remap to facility layout changes
- › No limit for the number of missions the robot can perform
- › Easy to scale your fleet of robots with MiRFleet

**Autonomous Navigation**

- › LiDAR Slam for simultaneous localization and mapping increases efficiency of navigation
- › Avoids production and logistics bottlenecks as the robot reroutes if it meets obstacles

# Ownership

Easy integration and maintenance allows you to take full ownership of your MiR robots from the beginning

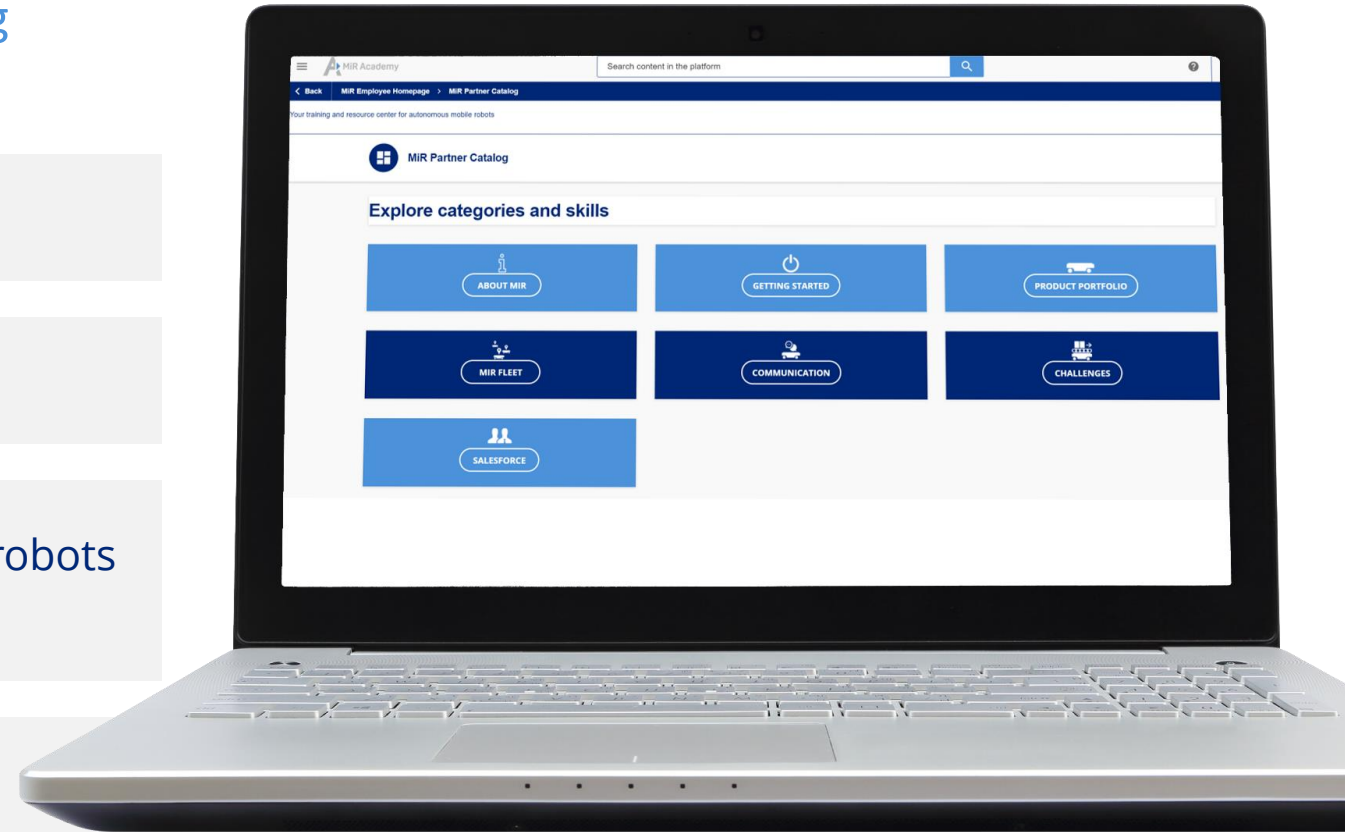
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No cost associated with altering setups
- 

Low total cost of ownership
- 

Increased flexibility because you control the robots yourself
- 

MiR Academy – free online training tool





# Agenda



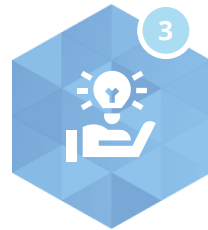
Internal Logistics & Automation

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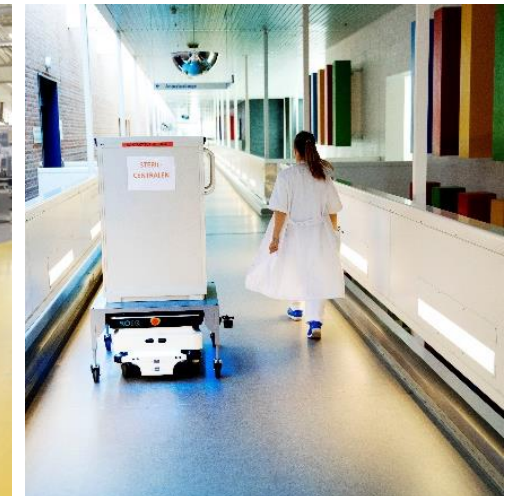
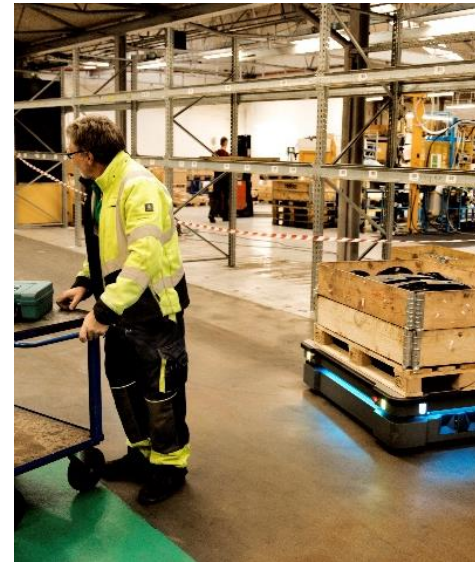


Details

# A Solution For All Industries

Everywhere, where internal transportations take place, MiR robots can optimize the processes

	Automotive		Food & Beverage
	Electronics		Life Science
	Third-party logistics (3PLs)		Consumer Goods
	Hospitals		...and many more



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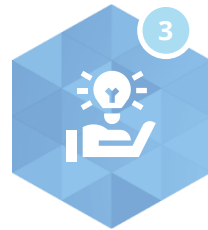
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# Cases



# Case Stories



## Case: Ford

FORD has deployed three **MiR100** robot, which delivers spare parts from storage to FORD's manufacturing lines in their Valencia plant. Tests conducted by FORD showed that one mobile robot alone frees up to 40-man hours per day.



## Case: STERA

Stera has deployed a **MiR500** autonomous mobile robot to deliver components from the warehouse to the production and finished goods back to the warehouse.



## Case: Honeywell

Three **MiR100** robots from Mobile Industrial Robots (MiR) are helping Honeywell Safety & Productivity Solutions keep its manufacturing processes lean and agile and optimizing workflows by automating the transfer of materials throughout the facility.

# Case Stories



## Case: Cabka

A **MiR500** equipped with a MiR500 Lift is a key component in a fully automated production line at pallet manufacturer, Cabka. The MiR500 is loaded with finished pallets by a six-axis robot and transport them from production to a separate staging area as soon as the job is complete, keeping the production floor clear.

## Case: Visteon

Four **MiR200** robots with different top modules deliver parts for production and collect waste materials at Visteon. The robots have a ROI on less than a year due to their user-friendliness, fast implementation and the increased productivity

## Case: Nidec

To keep production processes lean and stocks low, NIDEC relies on three **MiR100s** equipped with MiRHooks to transport material and empty containers between the warehouse and assembly lines. The three robots drive 11 km/day each.

# Case Stories



## Case: Hitachi

A **MiR200** improves the productivity and safety at Johnson Controls Hitachi. The mobile robot picks up shelving units in the storeroom and carries materials to the production line where it picks up waste packaging.

The robot operates during a full 8-hour shift and has eliminated electric trolleys from the factory floor, making it a safer place for all.



## Case: Kamstrup

At Kamstrup three **MiR100** robots equipped with conveyors are important factors. They have challenged the traditional conveyor belts in the production hall in which semi-finished and finished items are to be transported between production lines and robotic cells.



## Case: Kverneland

Kverneland is using a **MiR500** to reduce the amount of indoor truck driving in order to improve the working environment and productivity.



# Questions?

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Beziehen Sie die Expertise aus dem Hause MiR und seinem Partnernetzwerk in die Automatisierung Ihrer internen Transport-, Logistik- sowie Produktionsaufgaben mit ein!

**Vielen Dank!**

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don't forget to  
***#thinkoutofthebox***

**MiR**