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
- Static conveyor systems
- AGVs
- Usage of special designed trolleys or racks
Megatrends That Affect Internal Logistics

Automate internal logistics

<table>
<thead>
<tr>
<th>Megatrend</th>
<th>Effect</th>
<th>Concern</th>
<th>Solution</th>
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</thead>
<tbody>
<tr>
<td>Globalization of markets</td>
<td>Rapid growth of new economies and new business models</td>
<td>Global competition puts pressure on continued optimization.</td>
<td>Material handling is non-value adding activity. Automate it.</td>
</tr>
<tr>
<td>Digitization &amp; Industry 4.0</td>
<td>Enables higher degree of automation and IoT</td>
<td>Need for connectivity between different systems. Increased risk with interaction of machines and people.</td>
<td>WMS and ERP integration. Safe &amp; collaborative mobile robots.</td>
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<tr>
<td>Individualization of consumer needs</td>
<td>Mass customization production setups with higher variety and smaller batches</td>
<td>High switching cost and non-flexible solutions</td>
<td>Engage with an adaptable, scalable, and open platform setup.</td>
</tr>
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Automating Internal Logistics

Differences in AMR vs. AGV

**AMR** (Autonomous (collaborative) Mobile Robot)
- Trackless, autonomous navigation
- Travels safely around people and obstacles
- Easy to expand/change work area
- Navigates dynamically while planning its own path and sequence

**AGV** (Automated Guided Vehicle)
- 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.
Mobile Industrial Robots (MiR) established in May.

Regional office in Frankfurt and Tokyo.

Regional offices in New York, New HQ in Odense, DK.

Regional offices in Barcelona, Shanghai, Singapore.

Regional office in San Diego. Acquired by Teradyne in April.

MiR600/1350 launched in August.

MiR500 launched in June.

MiR1000 launched in April.

MiR250 launched in March.

MiR250 Hook launched in May.

First construction idea made of LEGO bricks by founder Niels Jul Jacobsen.

MiR100 commercialized.

MiR Hook 100 launched in February.

MiR200 and MiR200 Hook launched in April.

MiR100 commercialized.

MiR200 and MiR200 Hook launched in April.

MiR500 launched in June.

MiR1000 launched in April.

MiR250 launched in March.

MiR250 Hook launched in May.
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
  - 14% 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
MiR Revenue – Fast Market Adoption

Equal to +5000 robots sold globally
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Solution Overview

AMRs to transport small- and medium sized materials

- MiR100
- MiR200
- MiR250
- MiR500
- MiR1000
- MiR600
- MiR1350

AMRs to transport heavy loads and pallets

- MiR Lifts
- MiR Shelf Carrier
- MiR Hook
- MiR Charge
- MiR Fleet
- MiR Al Camera

Top modules and accessories
How It Works
Market Needs
How MiR finds a better way to bring value to your business

- Collaborative operations
- Flexibility
- Ownership
- Financial Models
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
- Redeploys 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
Financial Models

**Lease**
- Via distributors and external partner*
- Leasing is an operation expense (OPEX) and not an investment (CAPEX)
- No cash-out

**Buy (full ownership)**
- Easy integration and the benefits of automation results in ROI in often less than a year
- MiR online ROI calculator

*Ask your MiR Sales Rep if leasing is available in your region

Try the MiR online ROI calculator
Ownership

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

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

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

**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: 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: 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: 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: Visteon
Four MiR200 robots with different top modules deliver parts for production and collects 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: 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: Kverneland
Kverneland is using a MiR500 to reduce the amount of indoor truck driving in order to improve the working environment and productivity.

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: 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.
Questions?
Thank you