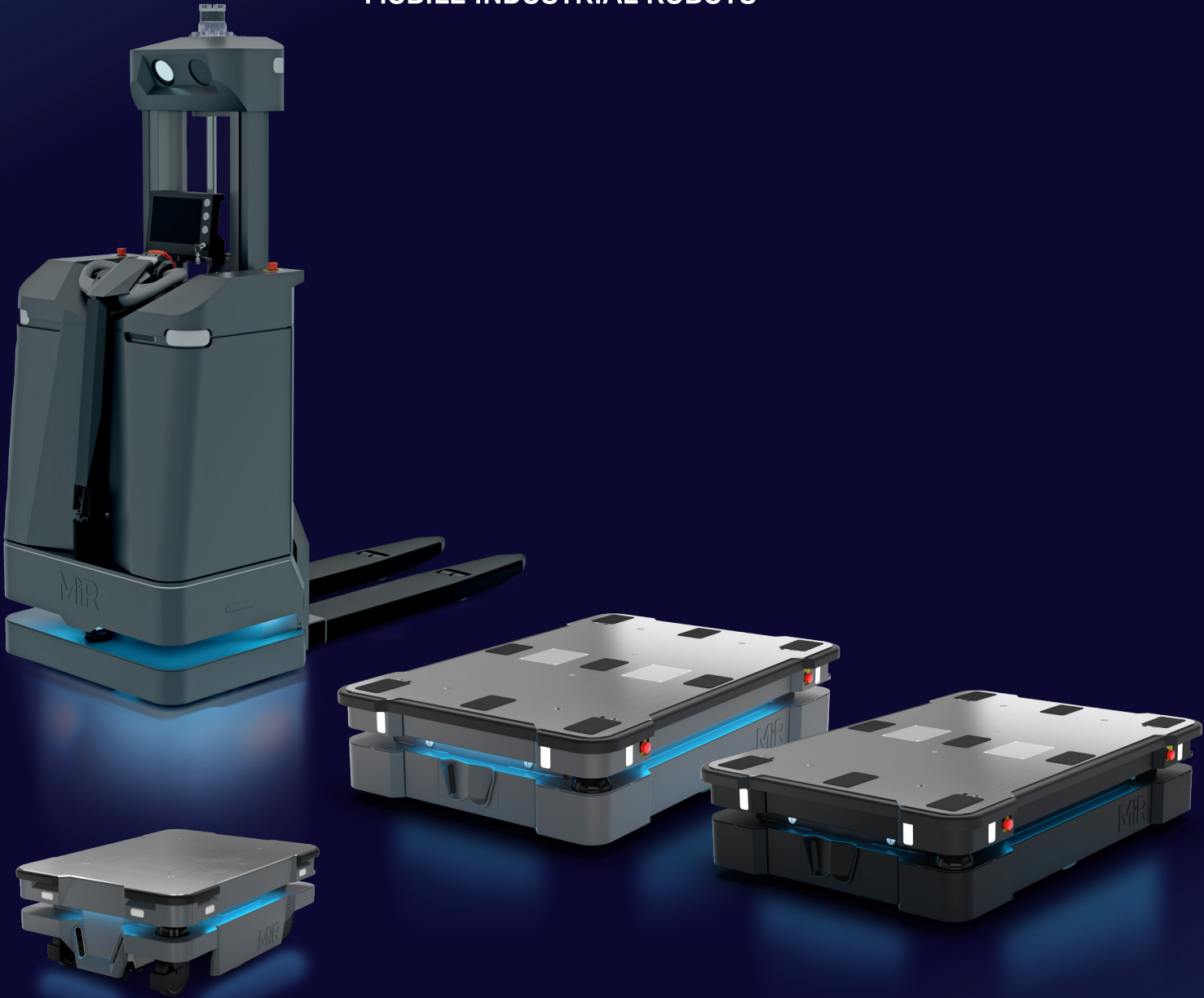# Automation is on the move

Want to optimize your productivity, streamline internal workflows, and increase your competitiveness? Bring your internal logistics up to speed with MiR's autonomous mobile robots. As a one-stop shop for all your material handling needs, we offer solutions that can move light to heavy payloads and pallets from floor to floor, automating repetitive and injury-prone tasks while working safely alongside your employees to boost productivity.

MiR's collaborative mobile robots are simple to integrate and easy to program, with no need for expensive and disruptive reconfiguration of your infrastructure. You'll see an immediate impact on your ability to process orders faster and reduce material handling costs to get fast ROI on your mobile robots – often, in less than 12 months.

Need flexibility? User-friendly MiR robots enable you to adapt to changing market demands, new products, and new production flows. Very easily, you can switch out top modules, change missions, and add new functionality, without the need for external integration services.

See how companies from different industries around the world have found a better way to do logistics with MiR. With local sales offices around the world and a global distribution network, we are ready to support your business wherever you are located.

End-to-End Solution

Wide robot & solution portfolio

Own software & fleet manager

Extensive application knowledge

MiR
MOBILE INDUSTRIAL ROBOTS

Flexible & global service setup

Global partner & CSI setup for integration

MiR | Go
Worlds largest eco system to find the right solution

As a MiR customer you get the benefits of reliable, flexible and high-performing AMRs controlled by the same, user-friendly software. But you get more than that. We use our size and strength to offer customers a full solution setup. We can cover you worldwide via our local MiR offices and the worlds' largest AMR partner network, consisting of distributors and integrators. Thanks to our extensive market experience and application knowledge, our team of application engineers can help ensure successful deployments. Get full coverage with our service house and service level agreements, that you can customize for your needs, while you have access to our Support Portal and MiR Academy to get technical knowledge yourself.

Flexibility

Depending on your processes, which internal logistics workflows you want to automate, and what materials you are moving, you need an autonomous mobile robot that can adapt flexibly to your needs. With our open interface, MiR provides the platform for automation of your internal logistics.

MiR Go

The MiR robots are flexible platforms, ready for your application to be integrated. MiR Go is the world's largest eco system for third-party applications for AMRs. Via MiR Go you get access to +160 applications for your inspiration and contact details for the suppliers.
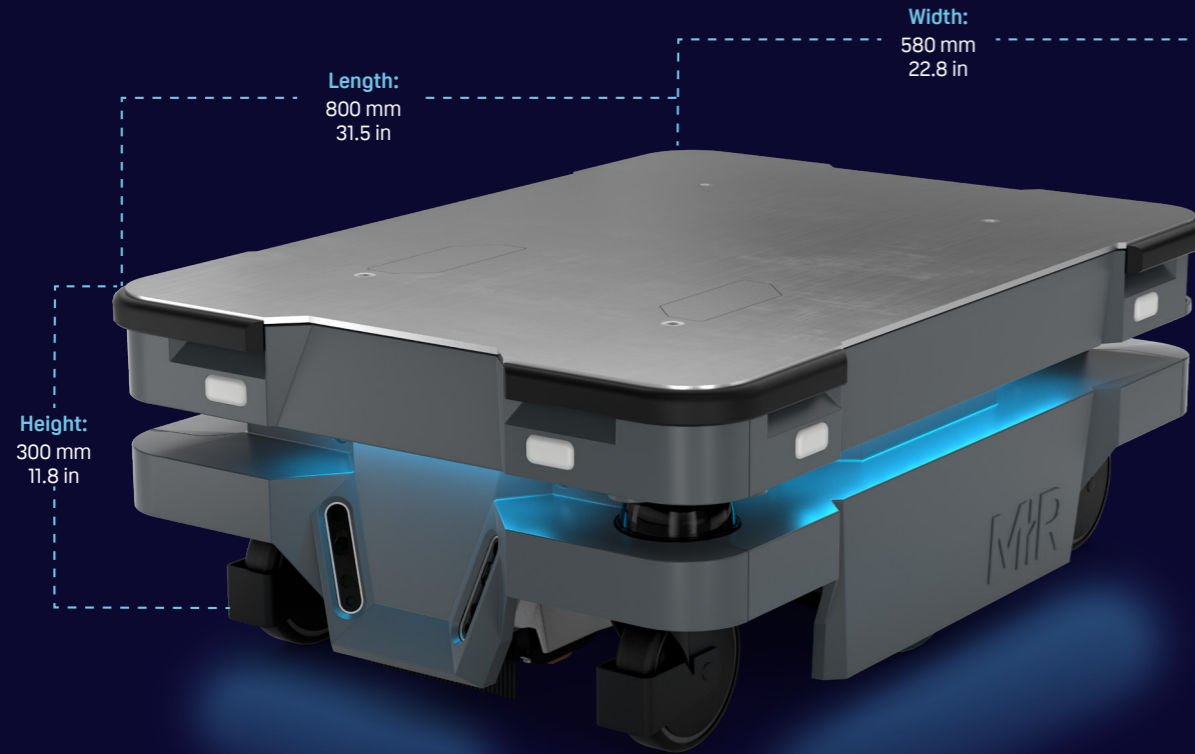
MiR Go Approved

In MiR Go you also find certified products. A certification from MiR is not just a stamp on a paper, it is a procedure where we test important features such as functionality and safety.

Find the MiR Go Certified products here:

mir-robots.com/mir-go-certified

MiR250

Length:
800 mm
31.5 in

Width:
580 mm
22.8 in

Height:
300 mm
11.8 in

Load weight:
250 kg / 551 lbs

Certifications:
Clean Room Certified
(Optional)

ESD version:
Optional

The MiR250 has a small footprint of just 580 x 800 mm and stands at a mere 30 centimeters tall. Despite its size, it can effortlessly handle up to 250 kg, moving along at 2 meters per second. This agility sets it apart from all other AMRs on the market, making it exceptionally adaptable to demanding environments.

Thanks to its compact design, it can navigate through spaces as narrow as 80 centimeters. This means that doors and elevators, which might pose challenges for other mobile robots, are a breeze for the MiR250.

Built for the long haul, the MiR250 is designed for easy maintenance and can operate around the clock, with the option for swift battery replacement. Moreover, it adheres to the latest safety standards - we therefore believe it is the safest AMR on the market.

MEGATECH

Megatech Industries in Spain has deployed a fleet of MiR250 robots.

The company has significantly improved shopfloor safety by replacing traditional forklifts with the safe AMRs, while also improving productivity.

MiR250 Shelf Carrier

Streamline your logistics

Together with the MiR250, we have developed a standard top module: The MiR Shelf Carrier 250.

The Shelf Carrier 250 is an anchoring device, which enables the robot to collect and deliver carts, shelves or similar, and is available directly from MiR.

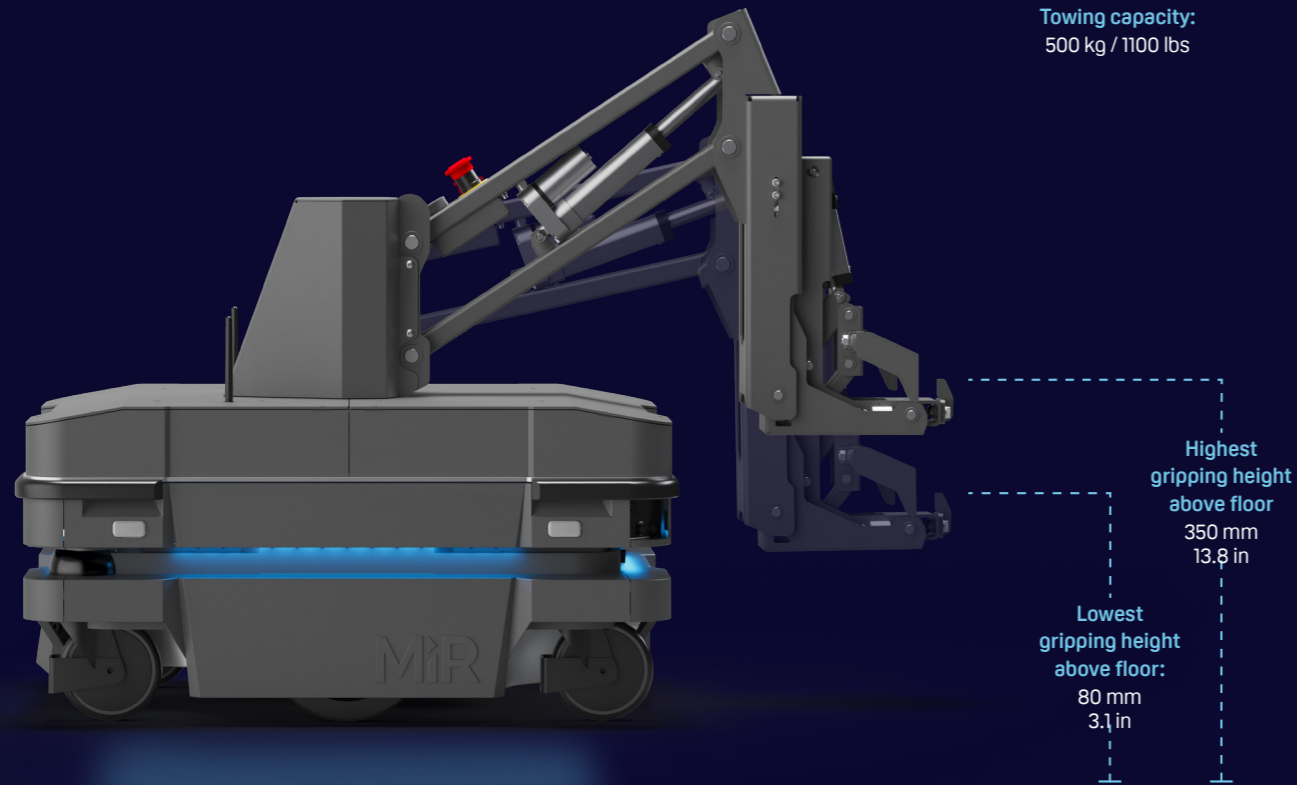Visit our webpage to learn more about the MiR250 and Shelf Carrier at:

mir-robots.com/solutions

MiR250 Hook

Towing capacity:
500 kg / 1100 lbs

Highest
gripping height
above floor
350 mm
13.8 in

Lowest
gripping height
above floor:
80 mm
3.1 in

Mobile Cobot

A collaborative robot arm meets autonomous mobility

The Mobile Cobot combines MiR's AMR platform with Universal Robots' collaborative robot arms.

Seamlessly connected through a flexible, modular platform by Enabled Robotics, this system adapts to various workflows. The cobot arm's size and mounted grippers can be adjusted for different payloads and tasks.

Known for ease of use, the Mobile Cobot features an intuitive all-in-one interface for efficient programming of both the AMR and cobot arm, enhancing operational efficiency

Automated in-house transport solutions

MiR250 Hook autonomously picks up and unloads carts and is ideal for a wide range of towing jobs.

It moves heavy products between locations effectively.

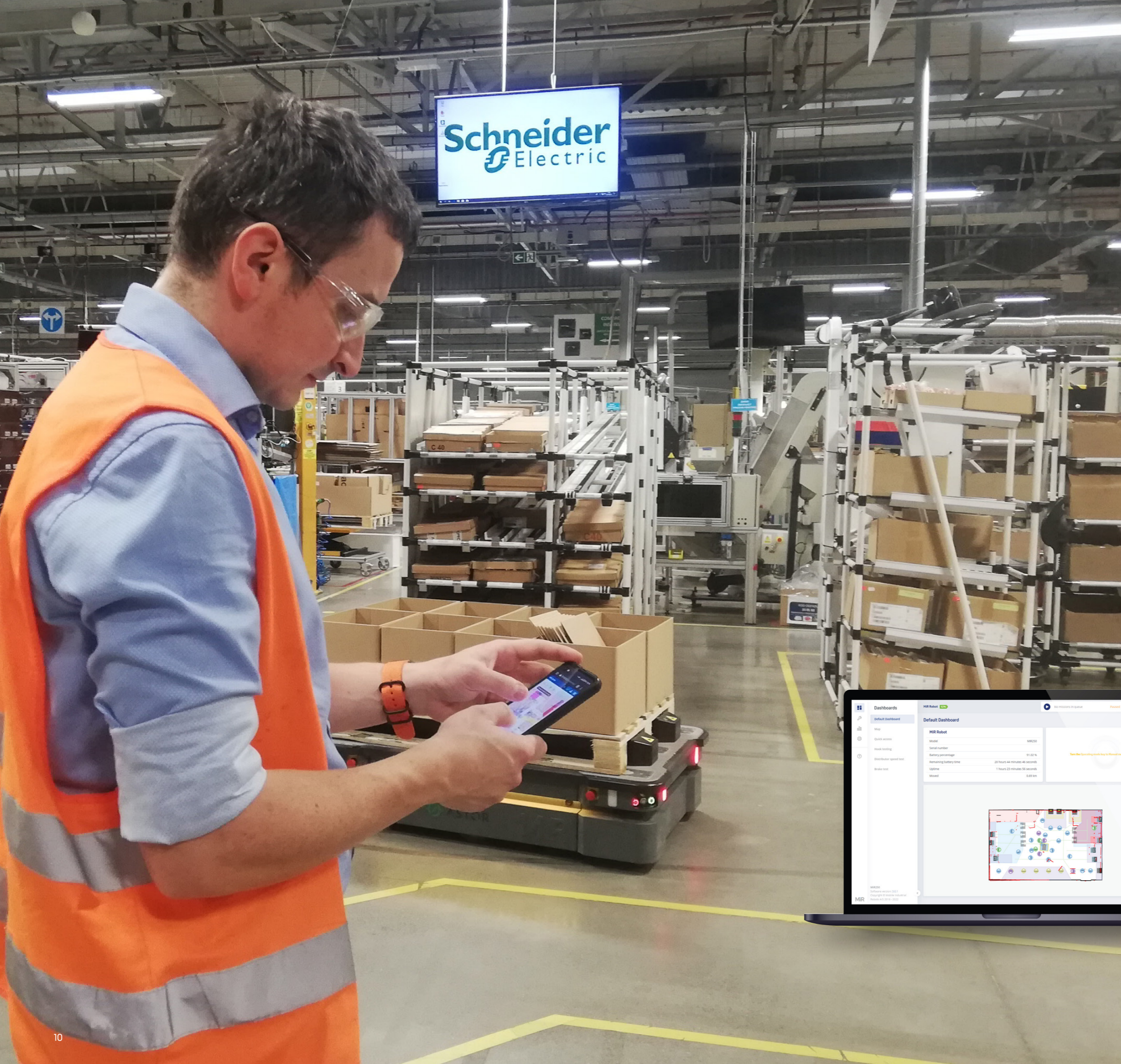This is a patented solution from MiR – only AMR in the market with towing functionality.

MiR Charge 48V
A fully automatic charging solution

The MiR robots move and connect autonomously to the charging station. **MiR250**, **MiR600**, and **MiR1350** use the **MiR Charge 48V**, that is IP52 rated.

Width:
622 mm / 24.5

Depth (folded):
237 mm / 9.3 in

Height:
287 mm
11.3 in

Depth - operational mode:
87 mm / 19.2 in

Ease of use with intuitive interface

When you buy a MiR robot, it comes with the latest software already installed, free of charge.

- Works on PC, tablet and smartphone.

- Customizable dashboard makes it easy to tailor the interface to the individual user's needs.

- Easy to deploy and redeploy the mobile robot for different missions, adding new routes etc.
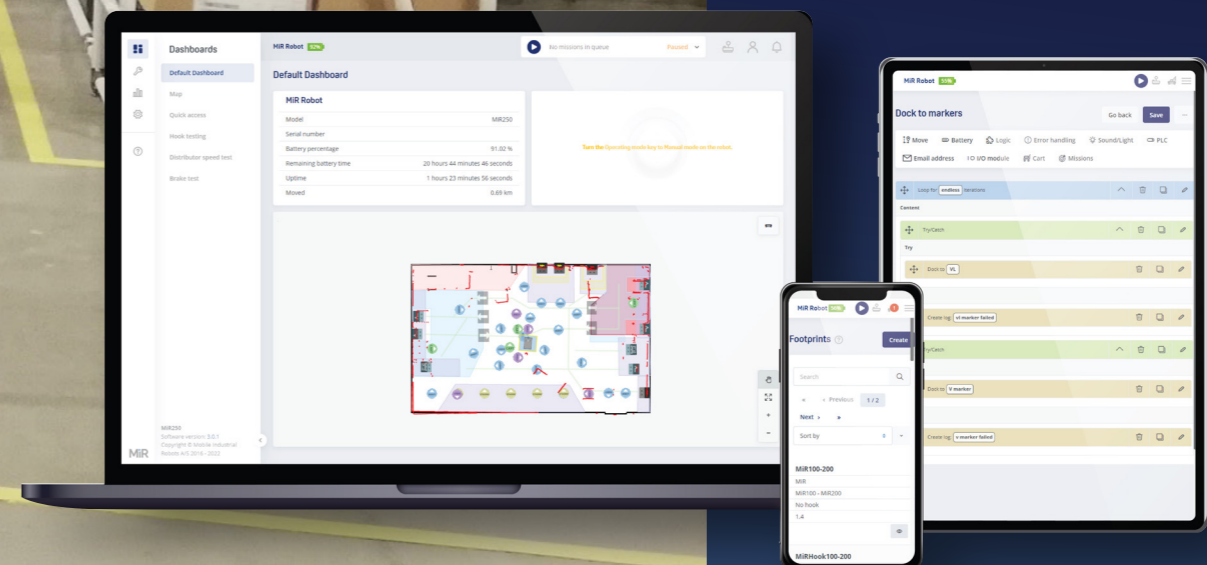
Safe Mobile Robots

Designed for driving safely in industrial environments

The MiR robots are designed to collaborate with people and to navigate in industrial environments alongside their human co-workers.

For daily operation a reliable and safe driving pattern of the MiR robots is ensured by a multi-sensor system that feeds data into an advanced planning algorithm, which lets the robot know where it drives and that decides if the robot should adjust its path or make a safe and immediate stop to avoid collisions.

2 SICK MicroScan3 or NanoScan3 FoV: 360° up to 30 m in a plane at 200 mm height.

Proximity sensors in each corners to detect feet and pallets.

Detects objects 0-1700 mm high FoV: 114° horizontal view.
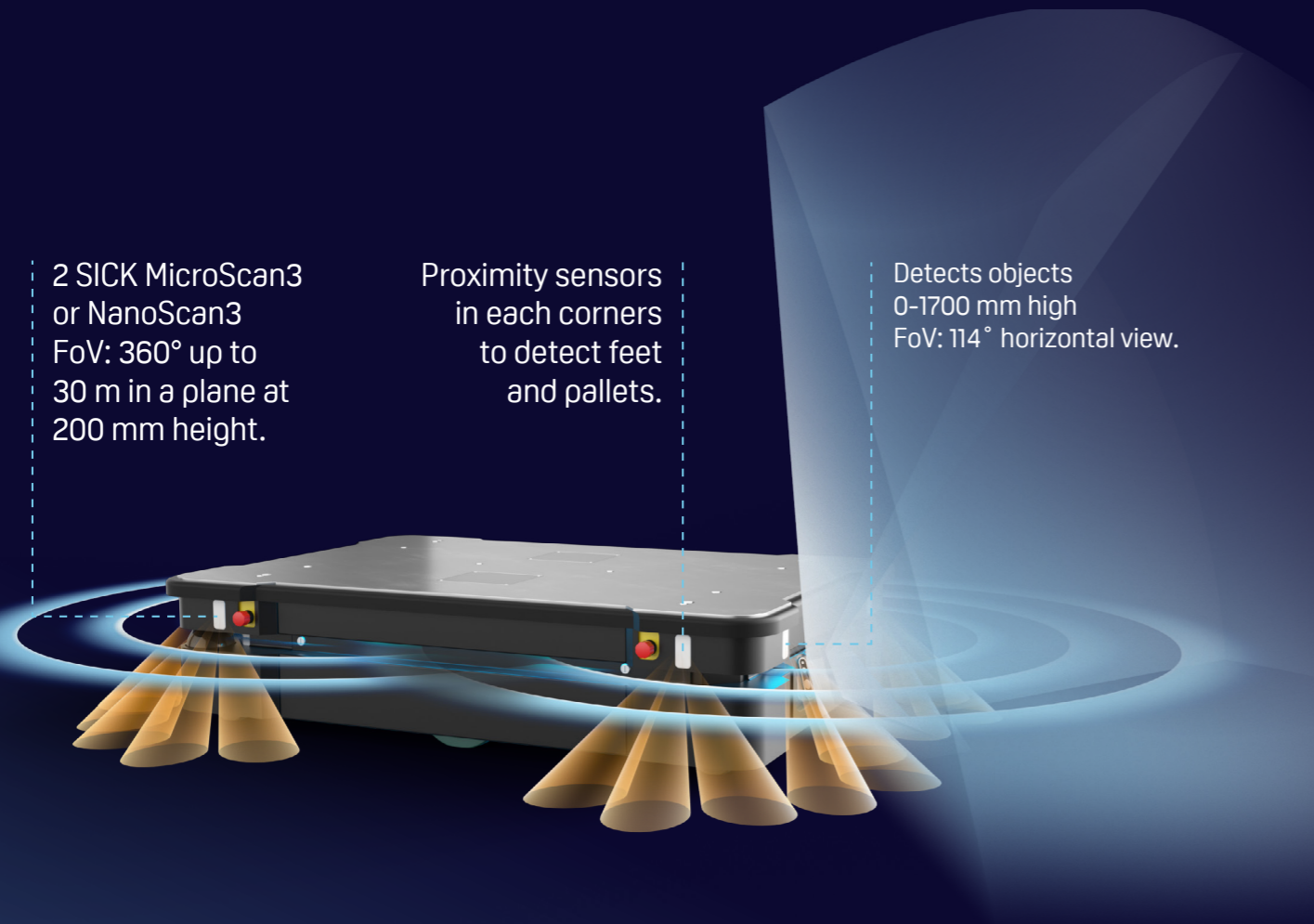
## Next Generation AMRs raise the bar for AMR safety

A fundamental part in meeting safety standards is to include additional functions that address unanticipated risks to ensure that the robots react safely even if primary control systems fail for any reason. The MiR600 and MiR1350 are the first AMRs designed to comply with ISO 3691-4. The MiR600 and MiR1350 have 13 safety functions according to ISO 13849-1, certified by TüV Rheinland. Minor exceptions to ISO 3691-4 are identified and handled via MiR's Safety & Compliance documentation, which is always available per request.

The safety functions of the MiR robots are documented with a Sistema report, which can be shared by MiR via our distributors.

FUNCTION	MiR600	MiR1350
E-stop	PLd, cat 3	PLd, cat 3
Overspeed detection	PLd, cat 3	PLd, cat 3
Field switching	PLd, cat 3	PLd, cat 3
Personnel detection	PLd, cat 3	PLd, cat 3
Field muting/speed monitor	PLd, cat 3	PLd, cat 3
Safe guarded stop	PLd, cat 3	PLd, cat 3
Locomotion	PLd, cat 3	PLd, cat 3
Hold to run	PLd, cat 1	PLd, cat 1
Mode selection	PLc, cat 1	PLc, cat 1
Pallet lift position monitoring	PLb, cat 1	PLb, cat 1
System E-stop	PLd, cat 3	PLd, cat 3
Shelf lift position monitoring	PLb, cat 1	PLb, cat 1
Shelf detection	PLb, cat 1	PLb, cat 1

MiR600

Width:
910 mm
35.8 in

Length:
1350 mm
53.1 in
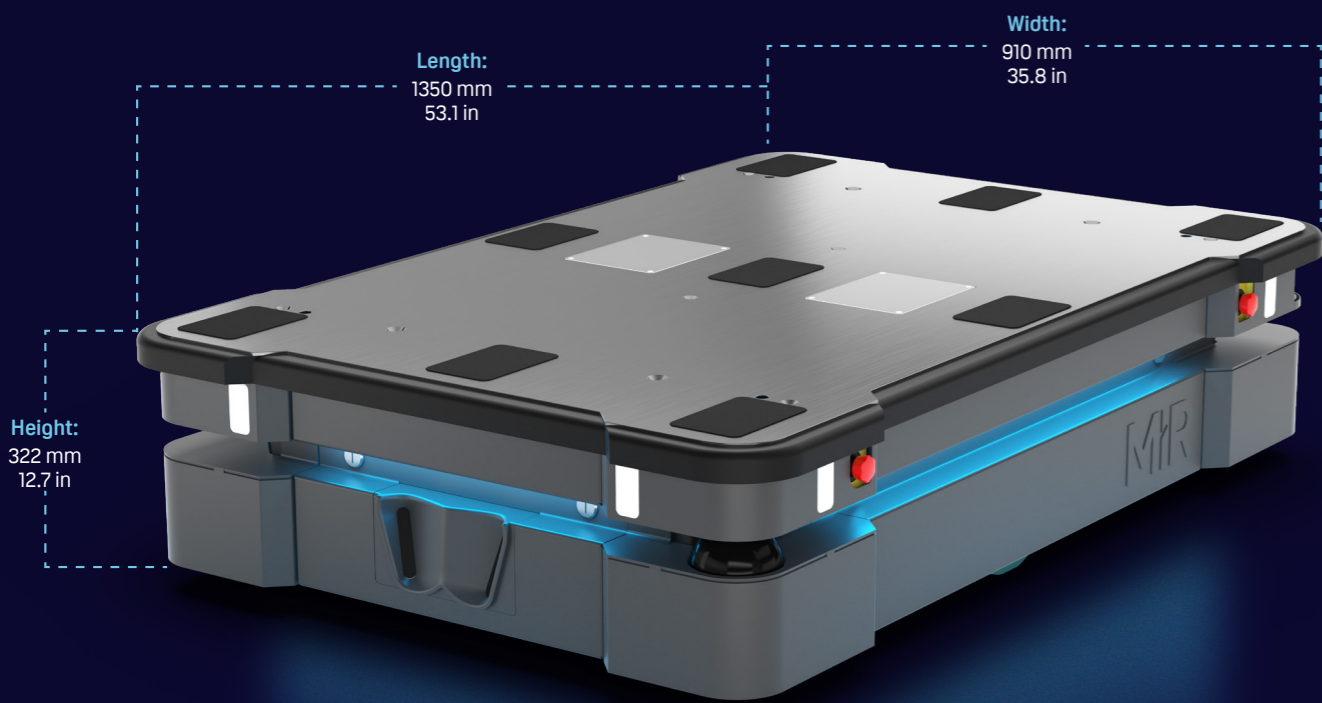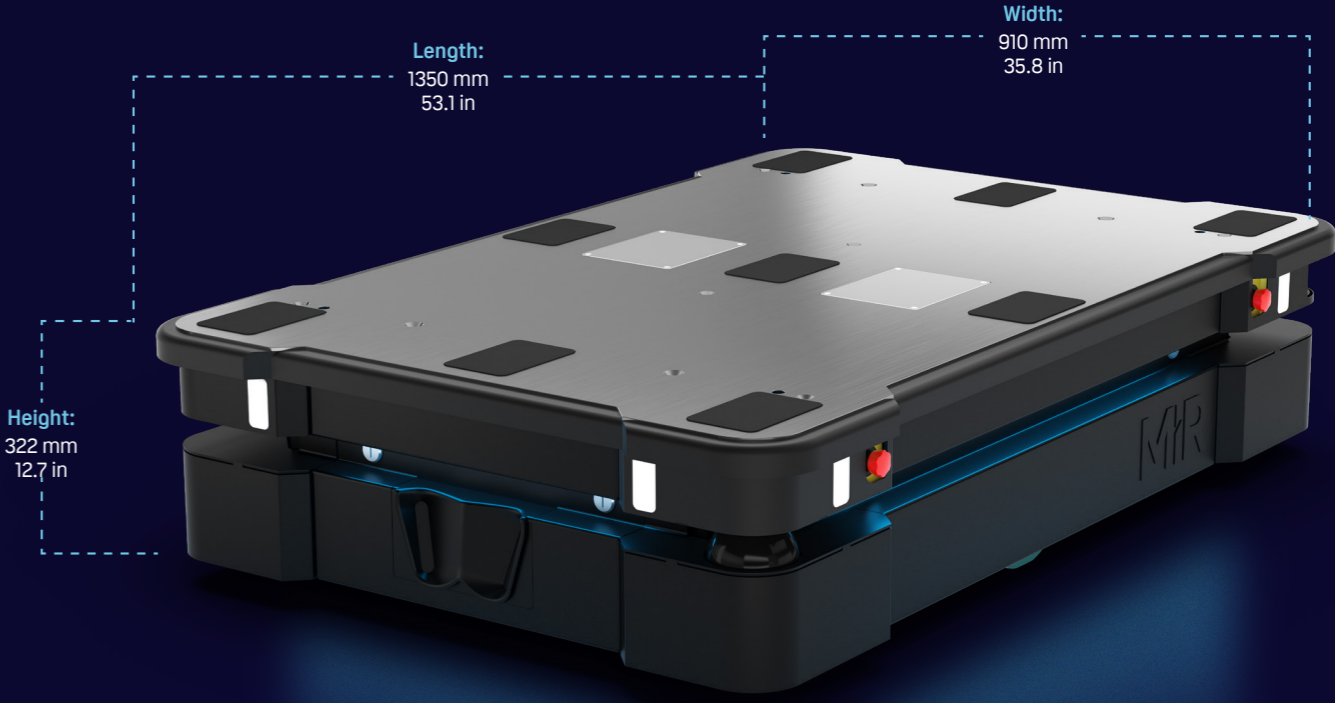
Height:
322 mm
12.7 in

Load weight:
600 kg / 1 320 lbs

Compliance:
ISO-3691-4*

Rating:
IP52

Safety:
13 safety functions

The MiR600 and MiR1350 are next generation AMRs that maximize the efficiency of your internal logistics.

The AMRs can pick-up, transport and deliver pallets or other heavy loads automatically even in highly dynamic environments and constitute a safe and efficient alternative to traditional AGVs, pallet lifts, and forklifts.

MiR1350

Width:
910 mm
35.8 in

Length:
1350 mm
53.1 in

Height:
322 mm
12.7 in

Load weight:
1350 kg / 2976 lbs

Compliance:
ISO-3691-4*

Rating:
IP52

Safety:
13 safety functions

The MiR600 and MiR1350 are designed to comply with the highest available safety standards, making them superior to other AMRs*. The two robots are the first IP52 rated AMRs in the market. This means that they have the ability to withstand dust particles and waterdrops and can be used in more challenging environments than other AMRs.

*Minor exceptions to ISO 3691-4 are identified and handled via MiRs Safety & Compliance documentation.

MiR1200 Pallet Jack

Height
2120 mm
38.5 in

Length
1934 mm
76.1 in

Width:
820 mm
32.3 in

Smarter moves, faster results

The MiR1200 Pallet Jack is establishing new standards in smarter, faster and more efficient material handling. This state-of-the-art solution boasts AI, robust power, and industrial-grade quality to provide streamlined pallet detection, transport, and delivery from floor-to-floor in challenging environments.

Unique features of the MiR1200 Pallet Jack

- AI-based perception enables shrinked-wrapped pallet recognition and rapid, precise, and reliable pallet detection.

- Built for challenging environments with IP52 rating and reliable industrial design, created through collaboration with Logitrans, leveraging +80 years of lift-product expertise.

- Features high battery capacity and fast charging, ensuring seamless operation in 24/7 work-flows.

- Equipped with MiR's latest software and seamlessly integrates with MiR Fleet alongside other MiR robots.

- Analyzes the landing zone with a 3D sensor for detection of obstacles on the floor, overhead, and around, ensuring precise and secure pallet placement.

- Incorporates load-jam detection, which enables the robot to safely interact with compromised pallets.

- Designed to comply to ISO 3691-4 safety standard and offers comprehensive 360-degree safety coverage.

- Manual tiller for employees to easily interact with the robot in the same manner they are used to working with traditional forklifts

Optimize transportation of heavy loads and pallets with out-of-box solutions from MiR.

MiR Shelf Lift

Optimize transportation of heavy loads without changing facility layout.

With **MiR Shelf Lift**, the MiR600, and MiR1350 can autonomously pick up a cart or shelf, transport and deliver it. This ensures a flexible transportation of heavy loads of different sizes, without the need of a pallet rack.

Applicable for
MiR600 and MiR1350

Applicable for
MiR600 and MiR1350

Novo Nordisk

Five **MiR500**s improve the warehouse logistics within the Chinese plant of Novo Nordisk by transporting packaging materials from the depot area to the warehouse. The distance is 100 metres per trip with 3 to 4 twists and turns and driving in crowded areas. MiR robots were the obvious solution to take on this task with their autonomous technology, and the robots save Novo Nordisk 35 manhours per week.

MiR Pallet Lift

Applicable for
MiR600 and MiR1350

Designed for transport
of pallets

MiR EU Pallet Lift

Applicable for
MiR600 and MiR1350

Designed for transport
of EU pallets
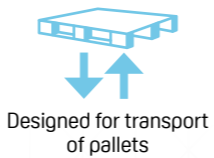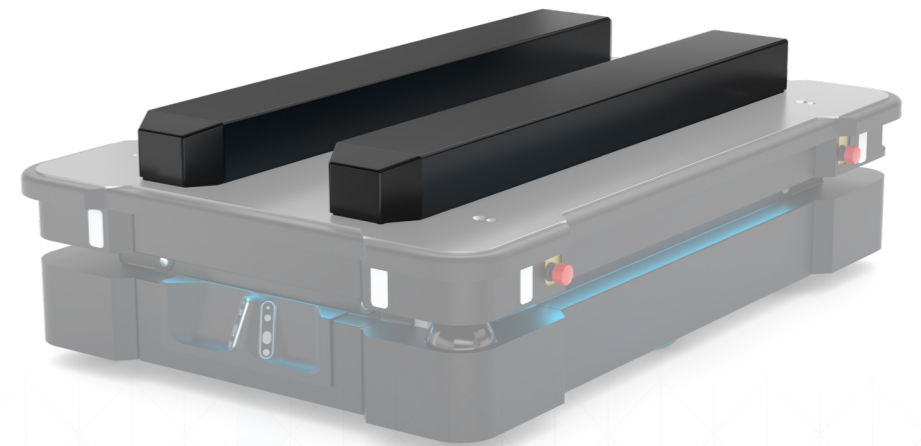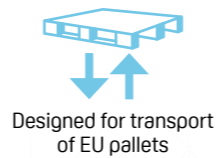
MiR Fleet

Fleet management for optimized robot traffic
- Fast and central configuration of a fleet of robots.
- Prioritization and selection of the robot which is best suited for a job, based on position and availability.
- Planning of the use of different top modules, hook, and other accessories.
- Full featured REST-API for ERP implementation.
- Planning of the use of different types of MiR robots

System

Setup
Software versions
Settings

Default Site

Evacuate all zones

Settings

Search

Date and time

Distributor data

fleet_system_settings_char

fleet_system_settings_collis

Modified defaults

Restart and reset

MiR | Academy

Join our training programs and become part of the growing community of MiR experts world-wide!

From free online training to blended training programs with certified trainers, MiR Academy can help you build the skills to deploy, operate, and scale your MiR system.

Our training programs are designed to be hands-on, practical, and directly applicable to your operations, making sure you gain the confidence and expertise needed to maximize the potential of your MiR robots.

mobile-industrial-robots.com/mir-academy

Hands-On Learning: Our training programs are designed to provide practical, hands-on experience, ensuring that participants can apply what they learn directly to their operations.

Expert Trainers: All our trainers are certified experts with extensive experience in deploying and managing MiR systems.

Flexible Training Options: With both free self-paced online training and a wide selection of in-person training sessions, we offer flexible training options to suit your schedule and learning preferences.

Global Reach: Our 7 training labs around the world ensure that you can access quality training no matter where you are located.

Comprehensive Coverage: From daily operation to commissioning and maintenance, our training programs cover all aspects of working with MiR robots

MiR Insights

Cloud-based tool to continuously optimize your deployments of MiR robots with data-driven decisions

With MiR Insights you get a visualization of data, than enables you to monitor, track, and analyze your entire fleet of MiR robots to improve the fleet's performance, uptime and obtain even faster ROI for your MiR robots.

Monitor fleet and robot data over long periods of time with Data Dashboards:

- Track your sites' KPIs such as distance driven, completed missions, and robot utilization rate.

- Identify when specific events occurred, such as abrupt WiFi signal changes or unexpected battery discharges, to self-troubleshoot and maximize the uptime of your MiR robots.

- Correlate data across multiple robots to analyze areas where you can improve the performance of your fleet and increase the overall productivity.

Get your robots' activities throughout your facility visualized with Heatmaps:

- Detect areas with poor WIFI coverage or with overlapping access points to ensure that the robots operate efficiently and reliably.

- Optimize your usage of MiR robots and avoid potential bottlenecks by monitoring high-traffic areas during peak times of the day.

- Find precise locations in your map where robots intersect more frequently to improve your mission planning and increase throughput.
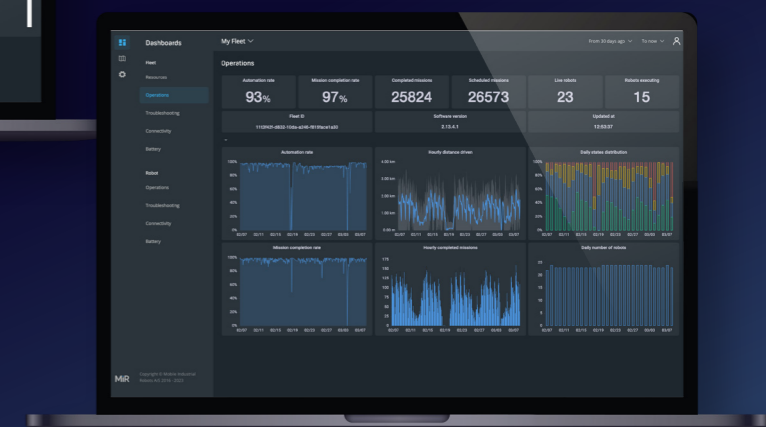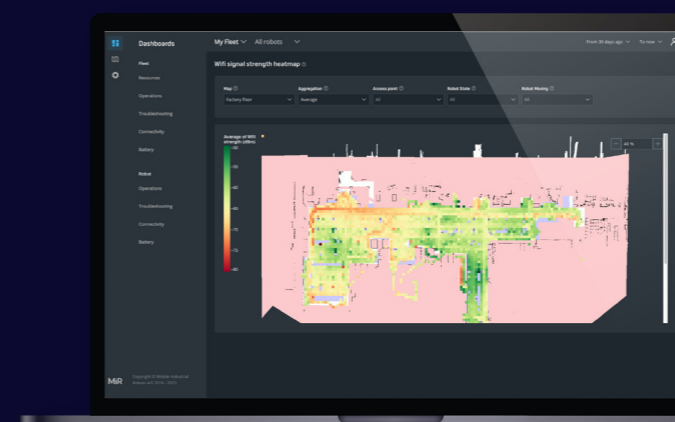
Global service setup to ensure maximum uptime of your MiR robots
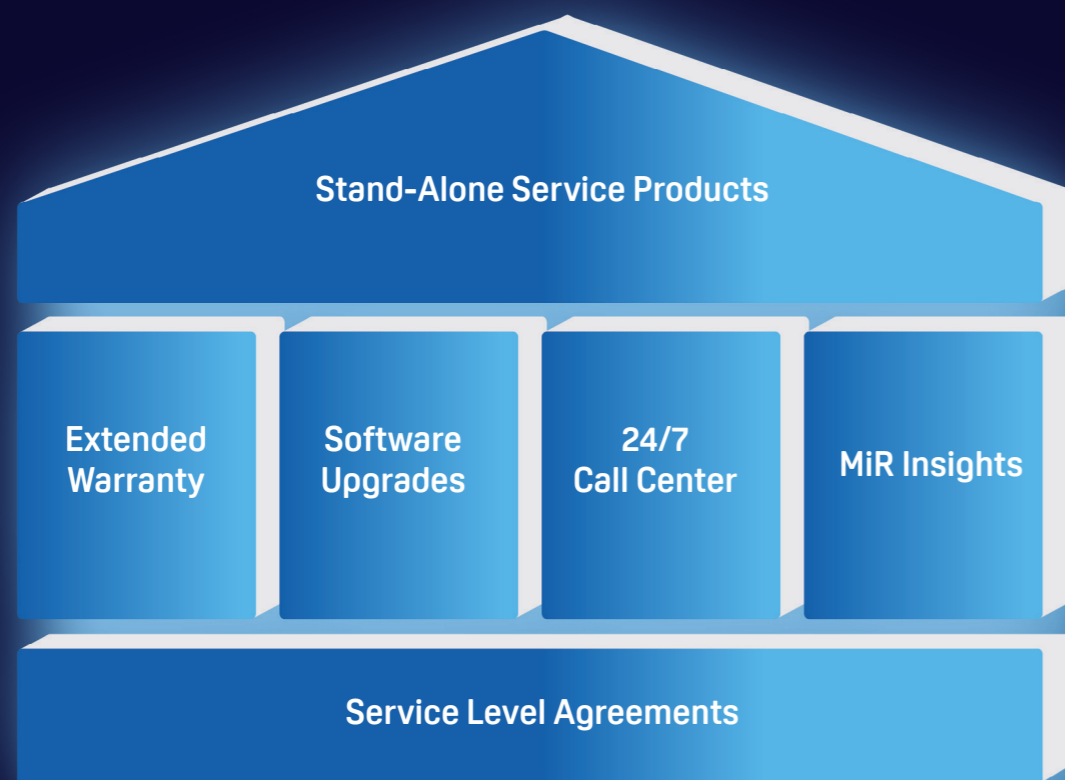
Worried about downtime in production and logistics processes? Do you rely on your AMRs in your operations? And would you like to have peace of mind when it comes to maintaining your AMR fleet while being ready for if the unluck strikes?

In worst case scenarios, your AMRs are not doing what they are supposed to, and you need them to work here and now. If this happens, MiR is there for your AMR fleet with our extensive range of tailored services.

Stand-Alone Service Products

| Extended Warranty | Software Upgrades | 24/7 Call Center | MiR Insights |

Service Level Agreements

MiR Service Level Agreements: Scalable plans to fit your needs

We offer you peace of mind with our scalable SLA model. Benefit from:

- Cost-effectiveness: Implement a Tier-based SLA setup for your needs of services
- Minimized Downtime: Fast response times to reduce operational interruptions
- Cost Predictability: Fixed annual billing for enhanced financial planning

mobile-industrial-robots.com/mir-service

SERVICE LEVEL AGREEMENTS	Premium	Plus	Standard	Basic
MiR Ticket Support	MiR Customer Portal	MiR Customer Portal	MiR Customer Portal	MiR Customer Portal
MiR Ticket Response	Within 2 h. (24/5)	Within 24 h. (24/5)	Within 48 h. (24/5)	Based on availability
MiR Onsite Response	Within 24 h.	Within 5 business days	Within 10 business days	Based on availability
MiR Spare Parts	15% discount	12.5% discount	10% discount	List Price
MiR Field Service & Engineering hours	20% discount	15% discount	10% discount	List Price
MiR Training Courses	30% discount	20% discount	10% discount	List Price
Access to MiR Annual Services	✓	✓	✓	✓
Annual Preventive Maintenance Registration	✓	✓	✓	✓
MiR Insights Basic	✓	✓	✓	
MiR Insights Pro	✓	✓		
24/7 Call Center	✓	✓		
Annual MiR Insights Optimization Report	✓			
MiR Remote Virtual Assistant	✓			

Customize your MiR Service solution

MiR SLA's are the foundation, and a prerequisite, for access to the annual service subscriptions products. By selecting the appropriate level based on your unique requirements, you gain access to MiR and dedicated support from our team. Furthermore, our SLAs extend beyond basic assistance, offering access to a suite of additional services designed to optimize your robot fleet's performance.

We offer extended warranty, access to software upgrades, access to 24/7 call center and MiR Insights as standard annual service subscriptions while you also have an opportunity of having stand-alone service products like Full Inspection, Wi-Fi Assessment, Technical training , Application Support and Software Upgrade Support.

DENSO

DENSO has deployed a fleet of MiR250 robots in its facility in Athens, Tennessee.

Within six months, the robots have freed six workers from pushing carts, allowing them to move to value-added roles.

Denso chose MiR, not only because of it's technical capabilities but also because of the level of support from deployment to scaling the solution.

FORVIA

A fleet of 14 MiR robots automates internal logistics workflows in a 24/7 operation at FORVIA Clean Mobility in Pisek, CZ.

MiR250 robots are used to transport parts from the warehouse to the production, while MiR600 robots transport finished goods from the production to the logistics area, and bring back empty pallets from the logistics area to the production to be re-used.

FORVIA has had a less than 2 year ROI for its MiR robots, while having increased productivity and shop floor safety.

RUNNER (XIAMEN) Corp. has automated its internal transportation and material handling through a fleet of twelve autonomous mobile robots. With the user-friendly and intuitive nature of MiR AMRs, RUNNER successfully helped the employees acquiring AMR operation skills. Now, the company is planning to expand this solution to other plants within the group network.

Get your MiR robots at a low hourly cost

Companies in all types of industries, large and small, are grappling with ways to become more efficient, while at the same time keeping their costs as low as possible.

Automation is a way to optimize productivity and provide a competitive edge. Concerns surrounding ROI speed should not slow automation down. The cost-efficient mobile robots from MiR offer a fast ROI, with a payback period in often less than a year. If you want to see an immediate return on investment and have low or no upfront costs for your AMRs, you can lease your MiR robots with MiR Finance.

Benefits

- No cash-out and low monthly costs
- The entire solution, including robot, top module and installation service can be financed
- No CAPEX needed
- Easier internal approval process for OPEX
- Match costs with income stream

Do you have a workflow that you are ready to automate with AMRs?

We help you make different basic calculations to get an overview of how many AMRs you need for your application and costs.

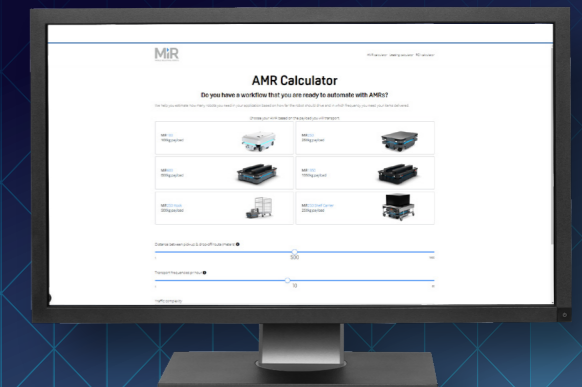Check out how many mobile robots you need in our AMR calculator:

mobile-industrial-robots.com/robot-calculator

Calculate the expected ROI for your application:

mobile-industrial-robots.com/roi-calculator

Estimate your hourly and monthly leasing cost:

mobile-industrial-robots.com/leasing-calculator

TECHNICAL SPECIFICATIONS

MiR250

GENERAL INFORMATION

Designated use	Autonomous mobile robot (AMR) for internal transportation of small- and medium-sized loads
Color	RAL 7011, Iron Grey

DIMENSIONS

Length	800 mm	31.5 in
Width	580 mm	22.8 in
Height	300 mm	11.8 in
Weight	94 kg	207.2 lbs
Ground clearance	25 - 28 mm	1.0 - 1.1 in
Load surface	800 x 580 mm	31.5 x 22.8 in

PAYLOAD

Maximum payload	250 kg	551 lbs

SPEED AND PERFORMANCE

Maximum speed	2.0 m/s (7.2 km/h) | 6.6 ft/s (4.4 mph)
Operational corridor width	With default setup: 1 450 mm | 57 in With improved setup: 850 mm | 33.5 in
Operational corridor width for two robots passing	With default setup: 3 000 mm | 118 in With improved setup: 800 mm | 32 in
Accuracy, docking to VL marker	± 3 mm | 0.12 in on X-axis, ± 3 mm | 0.12 in on Y-axis, ± 0.5° yaw
Accuracy, moving to position	± 60 mm | 2.36 in on X-axis, ± 85 mm | 3.35 in on Y-axis, ± 4 ° yaw
Traversable gap tolerance	Up to 20 mm | 0.79 in
Operational doorway width	1 500 mm | 59.1 in (default setup) 800 mm | 32 in (improved setup)
Active operation time with max. payload	Up to 13 h
Active operation time with no payload	Up to 17 h 30 min
Maximum incline/decline	± 5% at 0.5 m/s | 1.6 in

POWER

Battery type	Li-NMC, 47.7 V, 34.2 Ah
Charging ratio	Up to 1:16 (10 min charging gives 2 h 40 min runtime with maximum payload)
Number of full charging cycles	Minimum 3 000 cycles

ENVIRONMENT

Environment	For indoor use only
Ambient temperature range, operation	0–40°C | 32–104°F
Humidity	20–95% non-condensing
IP rating	IP 21
Floor conditions	No water, no oil, no dirt

COMPLIANCE

EMC	EN61000-6-2, EN61000-6-4, (EN12895)
Safety standards for industrial vehicles	ISO 3691-4 (Except Clause 4.4, 4.9.4, 5.1, 6, and Annex A), ISO 13849-1, ISO 13850, ISO 12100, ITSDF B56-5, RIA R15.08-1

SAFETY

Safety functions	Twelve safety functions according to ISO 13849-1. The robot stops if a safety function is triggered.

### COMMUNICATION

WiFi	2.4 GHz 802.11 g/n, 5 GHz 802.11 a/n/ac.
I/O connections	4 digital inputs, 4 digital outputs (GPIO), 1 Ethernet port, 1 Auxiliary emergency stop

SENSORS

SICK safety laser scanners	2 pcs, nanoScan3 (front and rear), give 360° visual protection around the robot
3D cameras	2 pcs, 3D camera Intel RealSense™ D435
Proximity sensors	8 pcs

LIGHTS AND AUDIO

Audio	Speaker
Signal and status lights	Indicator lights on four sides, eight signal lights (two on each corner)
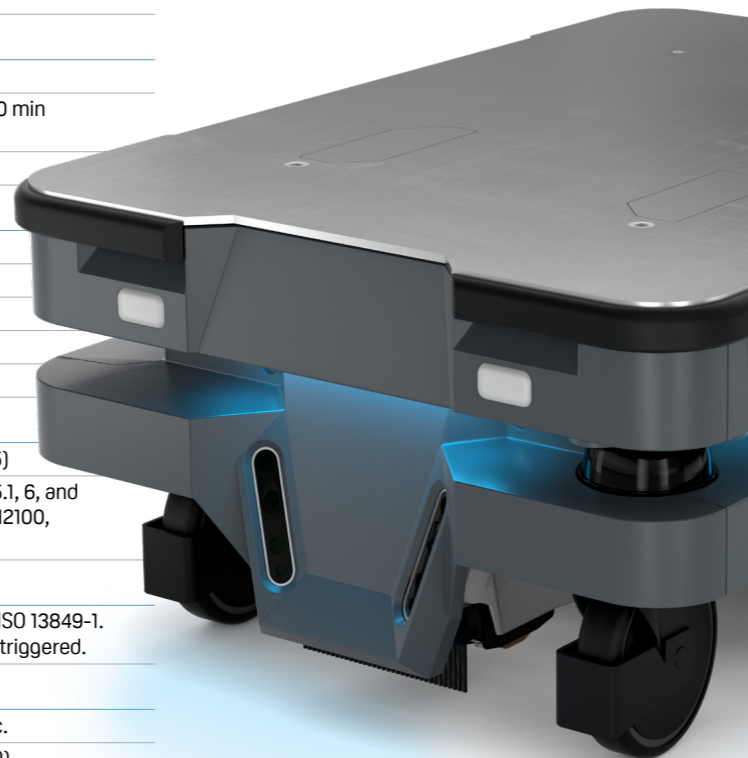
MiRHook 250

GENERAL INFORMATION

Designated use	For small- and medium-sized transport tasks within industry logistics, fully-automated pick-up and delivery of carts
Color	RAL 7011 / Iron Grey

DIMENSIONS

Gripping height	80–350 mm | 3.1–13.8 in
Weight with MiR250 (without battery or payload)	188 kg | 414 lbs

PAYLOAD

Maximum tow weight	Up to 500 kg | 1100 lbs at 1% incline - 300 kg | 661 lbs at 5% incline

SPEED AND PERFORMANCE

Operational corridor width	2 250 mm | 88.6 in with maximum payload and a 700 × 1 150 mm | 27.6 × 45.3 in cart
Traversable gap tolerance	Up to 20 mm | 0.79 in
Operational doorway width	With default setup: 1 700 mm | 66.9 in
Active operation time with maximum payload	Up to 10 h 15 min
Active operation time with no payload	Up to 14 h 7 min
Maximum incline/decline	1% with maximum payload and 40% acceleration 5% with 300 kg | 661 lbs, maximum 0.5 m/s | 1.6 ft/s

POWER

Number of full charging cycles	Minimum 3 000 cycles

ENVIRONMENT

Environment	For indoor use only
Ambient temperature range, operation	5–40°C | 41–104°F
IP rating	IP 21
Floor conditions	No water, no oil, no dirt

SAFTEY

Emergency stop	Triggered by pressing the Emergency stop button

SENSORS

3D camera	1 Intel RealSense™ D435

GENERAL INFORMATION

MiR Shelf Carrier 250

Designated use	The MiR Shelf Carrier is an anchoring device that makes it possible to lock to shelves and move them
Color	RAL 9005 / Signal Black - glow 10

DIMENSIONS

Length	778 mm	30.6 in
Width	560 mm	22.8 in
Height	77 mm	3 in
Height with MiR250	370 mm	14.6 in
Lifting height	27 mm	1.1 in
Weight with MiR250 (without battery or payload)	146 kg	321 lbs

PAYLOAD

Maximum speed (with maximum payload on a flat surface)	1.2 m/s (4.3 km/h) | 3.9 ft/s (2.7 mph)
Number of lift cycles (with maximum payload)	Minimum 150 000
Power consumption	35 W
Operational corridor width	With a shelf: 2 000 mm | 78.7 in Without a shelf: 1 250 mm | 49.2 in
Operational doorway width	With a shelf attached: 1 850 mm | 72.8 in Without a shelf attached: 1 150 mm | 45.3 in

ENVIRONMENT

IP class	IP 21

MiR600 | MiR1350

GENERAL INFORMATION	MiR600	MiR1350
Designated use	Autonomous mobile robot (AMR) for internal transportation of heavy loads and pallets	Autonomous mobile robot (AMR) for internal transportation of heavy loads and pallets
Color	RAL 7011 / Iron Grey	RAL 9005 / Jet Black

DIMENSIONS				
Length	1 350 mm	53.1 in	1 350 mm	53.1 in
Width	910 mm	35.8 in	910 mm	35.8 in
Height	322 mm	12.7 in	322 mm	12.7 in
Weight	240 kg	529.1 lbs	244 kg	538 lbs
Ground clearance	25-27 mm	1.0-1.1 in	25-27 mm	1.0-1.1 in
Load surface	1 304 x 864 mm	51.3 x 34 in	1 304 x 864 mm	51.3 x 34 in

PAYLOAD				
Maximum payload	600 kg	1 322.8 lbs	1 350 kg	2 976 lbs

SPEED AND PERFORMANCE	MiR600	MiR1350
Maximum speed	2.0 m/s (7.2 km/h) | 6.6 ft/s (4.4 mph)	1.2 m/s (4.3 km/h) | 3.9 ft/s (2.7 mph)
Operational corridor width	With default setup: 1800 mm | 70.9 in With improved setup: 1 200 mm | 47.2 in	With default setup: 1800 mm | 70.9 in With improved setup: 1 200 mm | 47.2 in
Accuracy, docking to L-marker	± 3 mm | 0.12 in on X-axis, ± 3 mm | 0.12 in on Y-axis, ± 0.25° yaw	± 3 mm | 0.12 in on X-axis, ± 3 mm | 0.12 in on Y-axis, ± 0.25° yaw
Accuracy, docking to VL-marker	± 2 mm | 0.08 in on X-axis, ± 3 mm | 0.12 in on Y-axis, ± 0.25° yaw	± 2 mm | 0.08 in on X-axis, ± 3 mm | 0.12 in on Y-axis, ± 0.25° yaw
Accuracy, moving to position	± 100 mm | 3.94 in on X-axis, ± 83 mm | 3.27 in on Y-axis, ± 3.4° yaw	± 100 mm | 3.94 in on X-axis, ± 83 mm | 3.27 in on Y-axis, ± 3.4° yaw
Traversable gap tolerance	Maximum 29 mm | 1.14 in at maximum 0.5 m/s | 1,64 ft/s2 , from all angles	Maximum 29 mm | 1.14 in at maximum 0.5 m/s | 1,64 ft/s2, from all angles
Operational doorway width	1 650 mm | 65 in (default setup) 1 200 mm | 47.2 in (improved setup)	1 650 mm | 65 in (default setup) 1 200 mm | 47.2 in (improved setup)
Active operation time with max. payload	Up to 8 h 20 min	Up to 6 h 45 min
Active operation time with no payload	Up to 10h 45 min	Up to 9 h 50 min

POWER	MiR600	MiR1350
Battery type	Lithium-ion	Lithium-ion
Charging ratio	Up to 1:12 (30 min charging = 5 h 45 min runtime)	Up to 1:9 (15 min charging = 2 h 15 min runtime with maximum payload)
Number of full charging cycles	Minimum 3 000 cycles	Minimum 3 000 cycles

ENVIRONMENT	MiR600	MiR1350
Environment	For indoor use only	For indoor use only
Ambient temperature range, operation	5–40°C | 41–104°F	5–40°C | 41–104°F
Humidity	20–95% non-condensing	20–95% non-condensing
IP rating	IP 52	IP 52
Floor conditions	No water, no oil, no dirt	No water, no oil, no dirt

COMPLIANCE	MiR600	MiR1350
EMC	EN61000-6-4	EN61000-6-4
Safety standards for industrial vehicles	ISO 13849-1, ISO 3691-4 (except Clause 4.4, 4.9.4, 5.1, 5.2, 6, and Annex A), ISO 12100, ISO 13850, ITSDF B56-5, RIA R15.08-1	ISO 13849-1, ISO 3691-4 (except Clause 4.4, 4.9.4, 5.1, 5.2, 6, and Annex A), ISO 12100, ISO 13850, ITSDF B56-5, RIA R15.08-1

SAFETY	MiR600	MiR1350
Safety functions	13 safety functions according to ISO 13849-1, certified by TüV Rheinland	13 safety functions according to ISO 13849-1, certified by TüV Rheinland

COMMUNICATION	MiR600	MiR1350
WiFi (internal PC)	2.4 GHz and 5 GHz, 2 external antennas	2.4 GHz and 5 GHz, 2 external antennas
I/O connections	6 digital inputs, 6 digital outputs	6 digital inputs, 6 digital outputs

SENSORS	MiR600	MiR1350
SICK safety laser scanners	2 pcs, microScan3 (front and rear), give 360° visual protection around the robot	2 pcs, microScan3 (front and rear), give 360° visual protection around the robot
3D cameras	2 pcs, 3D camera Intel RealSense™ D435	2 pcs, 3D camera Intel RealSense™ D435
Proximity sensors	8 pcs	8 pcs

LIGHTS AND AUDIO	MiR600	MiR1350
Audio	Speaker	Speaker
Signal and status lights	Indicator lights on four sides, eight signal lights (two on each corner)	Indicator lights on four sides, eight signal lights (two on each corner)

MiR Pallet Lift

GENERAL INFORMATION	
Designated use	For autonomous pickup and unloading of pallets and for lift applications
Color	RAL 9005 / Signal Black

DIMENSIONS		
Frame length	1 304 mm	51.3 in
Frame width	910 mm	35.8 in
Total height in lowered position	94 mm	3.7 in
Total height in lifted position	156 mm	6.1 in
Lifting height	60 mm	2.4 in
Lift Length	1 200 mm	47.2 in
Lift width	710 mm	28 in

PAYLOAD		
Maximum lift payload for MiR600	500 kg	1 100 lbs
Maximum lift payload for MiR1350	1 250 kg	2 756 lbs

PERFORMANCE	
Number of lift cycles (with maximum payload)	Minimum 90 000
Lifting speed	Up: 4.0 s Down: 3.2 s

PALLETS	
Pallets dimensions	Supported with Lift Pallet Rack: 1 016 x 1 219 mm | 40 x 48 in. Can be used for different pallet dimensions.

MiR Pallet Rack

GENERAL INFORMATION	
Designated use for MiR600 & MiR1350	For autonomous pickup and unloading of 40" x 48" pallets

DIMENSIONS		
Length	1 300 mm	51.2 in
Width	1 188 mm	46.8 in
Height	429 ± 3 mm	16.9 ± 0.1 in

COLOR	
RAL color	RAL 7011 / Iron Grey

PAYLOAD		
Pallet Rack payload	1 250 kg	2 756 lbs
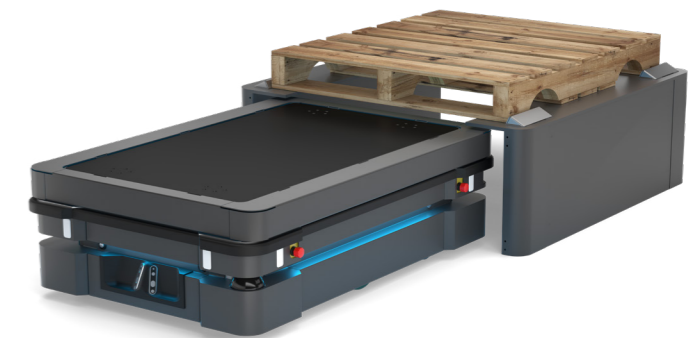
MiR EU Pallet Lift

GENERAL INFORMATION	
Designated use	Top module for Autonomous Mobile Robots, and/or as a stationary work-place
Color	RAL 9005 / Signal Black

DIMENSIONS		
Length	1 200 mm	47.2 in
Height	87 mm	3.4 in
Total height in lifted position	150 mm	5.9 in
Lifting height	60 mm	2.4 in

PAYLOAD		
Maximum lift payload for MiR600	500 kg	1 100 lbs
Maximum lift payload for MiR1350	1 250 kg	2 756 lbs

PERFORMANCE	
Number of lift cycles (with maximum payload)	Minimum 90 000
Lifting speed	Up: 4.0 s Down: 3.2 s

PALLETS	
EUR-pallets dimensions	1 200 x 800 mm | 47.2 x 31.5 in
Pallet production specifications	EN 13698-1

MiR EU Pallet Rack

GENERAL INFORMATION	
Designated use for MiR600 & MiR1350	For autonomous pickup and unloading of EUR-pallets

DIMENSIONS		
Length	1 300 mm	51.2 in
Width	1 188 mm	46.8 in
Height	339 mm	13.3 in

COLOR	
RAL color	RAL 7011 / Iron Grey

PAYLOAD	
Pallet Rack payload	1 250 kg / 2 756 lbs
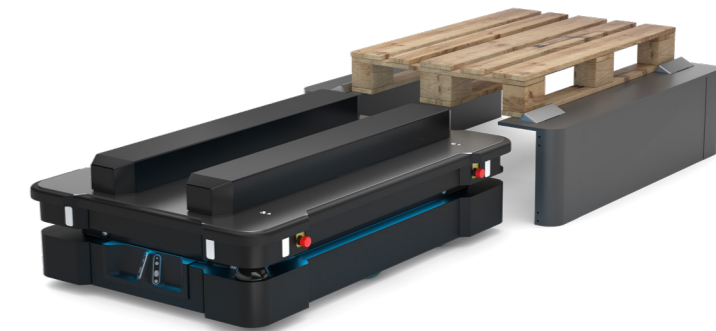
MiR Shelf Lift

GENERAL INFORMATION

Designated use	For autonomous pick up and delivery of carts, shelves and other lift applications
Color	RAL 9005 / Signal Black

DIMENSIONS

Frame length	1 304 mm	51.3 in
Frame width	910 mm	35.8 in
Total height in lowered position	94 mm	3.7 in
Total height in lifted position	156 mm	6.1 in
Lifting height	60 mm	2.4 in
Lift Length	1 200 mm	47.2 in
Lift width	710 mm	28 in

PAYLOAD

Maximum lift payload for MiR600	500 kg	1 100 lbs
Maximum lift payload for MiR1350	1 000 kg	2 200 lbs

PERFORMANCE

Number of lift cycles (with maximum payload)	Minimum 90 000
Operational corridor width	2 500 mm | 98.4 in

MiR Fleet

Centralized control of a fleet of robots	Up to 100 robots
Order handling	Prioritization and handling of orders among multiple robots
Battery level control	Monitoring of robot battery levels and automatic handling of recharging
Traffic control	Coordination of critical zones with multiple robot intersections

TWO SOLUTIONS AVAILABLE

MiR Fleet PC	Comes as a physical PC box
MiR Fleet Server Solution	For installation in existing server system

MIR FLEET PC

Model	DFI EB100-KU61-71
PC	Intel® Maple Canyon NUC
CPU	Intel® Core™ i3-7100U Processor (3M Cache, 2.40 GHz)
RAM	8GB DDR4-2400
SSD	128GB 2.5"
Operating system	Linux Ubuntu 16.04
Network capabilities	1 Gbit Ethernet, no wireless option
Required connections	110V or 230V power socket and Ethernet network cable
Installation requirements	Must run on the same physical network as the robots

MIR FLEET SERVER

Installation file size	3GB
MiR Fleet update file size	~300 MB
CPU	Dual core processor with min. 2.1 GHz clock
RAM	Min. 8 GB
Permanent storage	128 GB SSD
Supported operating systems	Ubuntu 18.04 LTS, Ubuntu Server 18.04 LTS, Debian 9, CentOS 7, Redhat Enterprise Linux 7.4

MiR Charge 48V

GENERAL INFORMATION

Designated use	Automatic charger for MiR250, MiR500, MiR600, MiR1000, and MiR1350 robots. The robot moves and connects to the charging station
Color	RAL 7035 / Light Grey

DIMENSIONS

Length	237 mm | 9.3 in (with charging plate: 487 mm | 19.2 in)
Width	622 mm | 25.5 in
Height	287 mm | 11.3 in
Weight	20 kg | 44.1 lbs

ENVIRONMENT

Humidity	10–95% non-condensing
Ambient temperature range, operation	5–40°C | 41–104°F
Maximum altitude	2 000 m | 6 562 ft

POWER

Output	48 V, maximum 40 A
Input	100–240 V AC, maximum 14 A, 50–60 Hz

COMPLIANCE

Electrical standards	EN60335-2-29
TüV safety approval	Canada: CSA C22.1-18, SPE-1000-13, CSA C22.2 No. 107.2 -2001US: NFPA 70: 2017, UL 1564: 2015, NFPA 791: 2021 Korea KC certified

MiR1200 Pallet Jack

GENERAL INFORMATION

Designated use	Autonomous mobile robot (AMR) for automated driverless conveyance of heavy loads
Color	RAL 7011 / Iron Gray

DIMENSIONS

Length	1 934 mm | 76.14 in
Width	820 mm | 32.28 in
Height	2 120 mm | 38.46 in
Weight	750 kg | 1 653 lbs
Maximum fork lifting height	1 140 mm | 44.9 in
Maximum shelf lifting height	850 mm | 33.46 in

PAYLOAD

Maximum payload	1 200 kg | 2 646 lbs

PERFORMANCE

Maximum speed (with maximum payload on a flat surface)	1.5 m/s (5.4 km/h) | 4.9 ft/s (3.6 mph)
Operational corridor width	At maximum speed: 2 000 mm | 78.7 in At reduced speed: 1 600 mm | 63 in
Operational corridor width for two robots passing	At maximum speed: 4 000 mm | 157.5 in At reduced speed: 3 200 mm | 126 in
Minimum distance between pallets	100 mm | 3.9 in
Operational doorway width	1 300 mm | 41.2 in (With minimized footprint and muted Protective fields)
Active operation time with max. payload	Up to 10 h

POWER

|	
Battery type	Lithium-ion, three pcs 48 V
Battery capacity	102.6 Ah

ENVIRONMENT

Environment	For indoor use only
Ambient temperature range, operation	5–40°C | 41–104°F 5–40°C | 41–104°F
Humidity	20–95% non-condensing
IP rating	IP 52
Floor conditions	No water, no oil, no dirt
Maximum incline/decline	± 1% at 1.5 m/s | 4.9 ft/s
Floor to wheel frictional coefficient	0.60–0.80
Optimal light conditions	Even and steady lighting (strong directional light can cause the robot to detect non-existent obstacles)

COMPLIANCE

Designed to comply with safety standards for industrial vehicles	EN ISO 12100:2010, EN ISO 13850:2015, EN ISO 3691-4:2023,EN IEC 61000-6-4:2007/A1:2011, EN IEC 61000-6-2:2005/AC:2005, EN 12895:2015+A1:2019

SENSORS

SICK safety laser scanners	3 pcs, nanoScan (front and rear), give 360° visual protection around the robot
3D cameras	5 pcs, 3D camera Intel RealSense™ D435
3D lidar	1 pcs, on top of the robot

Born Global
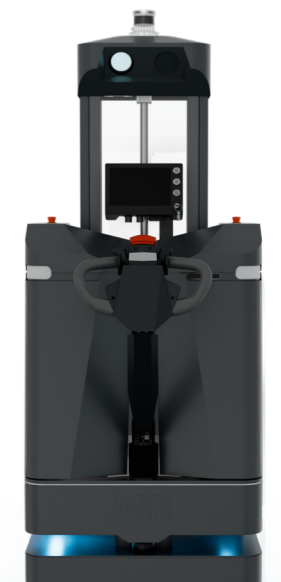
MiR MOBILE INDUSTRIAL ROBOTS

Mobile Industrial Robots is rapidly expanding. We have established offices in Denmark (HQ), United States, Spain, Germany, China, Singapore, Korea and Japan and with **+220 distributors** in more than **60 countries** and still more to come,
we are able to offer our robots to customers worldwide.

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