



Move. Handle. Connect.

MiR mobile robotics for logistics and production

One partner to turn the right robot into a working flow.



CARTONS + CARRIERS

PALLETS

MOBILE ROBOTS

Aetec helps you select, engineer and integrate suitable solutions across the MiR portfolio - from a focused pilot to connected material flows.

OEM product images: Mobile Industrial Robots / Enabled Robotics. Catalogue compiled by Aetec.

**PORTFOLIO AT A GLANCE**

Choose by the job.

Start with the load, handover and route. Add the robot and interfaces that fit.

Platform	Published platform reference	Where to start
MiR250	250 kg base payload	Compact internal transport; shelves, carts and custom tops.
MiR600	600 kg base payload	Larger carriers, repeat pallet moves and heavier top modules.
MiR1350	1,350 kg base payload	Heavy internal loads with qualified lift / carrier interfaces.
MiR1200 Pallet Jack	1,200 kg rated payload	Compatible pallet pickup, transport and delivery.
MC250 / ER-FLEX	MiR250 + configured UR arm	Pick and place, replenishment, inspection and machine tending.
MC600 / ER-MAX	MiR600 + UR20 or UR30	Larger-part handling and transport between workstations.

The system rating matters

Base payload, towing load, mobile-cobot transport load and arm payload are different limits. The installed configuration and the real load determine suitability.

Sources [1-5, 16-19]. Current core portfolio and standard application families; partner-built options are project-specific.



COMPACT AMR

MiR250

A compact platform for carton, tote and small-load workflows.



Reference specification	MiR250 base
Maximum payload	250 kg
Length x width x height	800 x 580 x 300 mm
Maximum speed	2.0 m/s
Environment / enclosure	Indoor / IP21

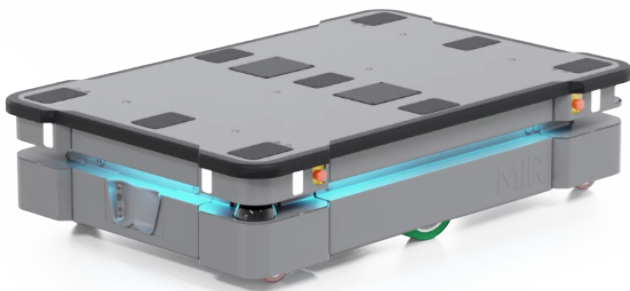
Aetec applications: carton trolleys, liftable shelves, line replenishment, custom trays and matched conveyor handovers. ESD options can be assessed for suitable tasks.

Sources [2, 6-8]. Dimensions are for the bare base. Operating clearance includes the load, top module and protective fields.

**HEAVY-LOAD AMRS**

MiR600 + MiR1350

Choose the load class, then qualify the carrier and station interface.



Base reference	MiR600	MiR1350
Maximum base payload	600 kg	1,350 kg
L x W x H	1,350 x 910 x 322 mm	1,350 x 910 x 322 mm
Maximum speed	2.0 m/s	1.2 m/s
Enclosure rating	IP52	IP52

Repeatable pallet flows

Select a pallet lift and fixed handover stations around the actual pallet.

Large carts and shelves

Select a shelf-lift interface where detachable carriers fit the workflow.

Sources [3, 4, 9-13]. Base capacity is not the finished application payload. Top modules, load centre and carrier geometry affect selection.



AUTONOMOUS PALLET HANDLING

MiR1200 Pallet Jack

A distinct solution for compatible pallet pickup and delivery.



Published reference	Value
Rated payload	1,200 kg
L x W x H	1,934 x 820 x 2,120 mm
Maximum speed	1.5 m/s
Environment / IP	Indoor / IP52

Candidate flows
Receiving to staging
Packing to dispatch
Replenishment between zones

Application study: confirm pallet format and fork entry, gross mass, load stability, floor joints, route width and the pickup / drop zones.

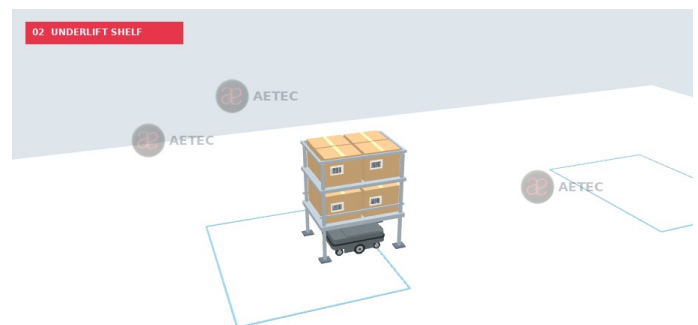
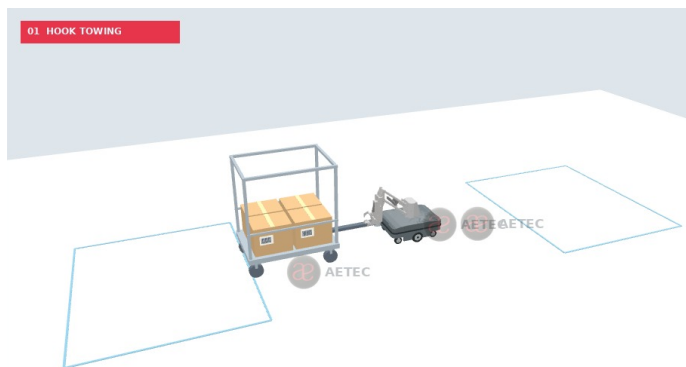
Source [5]. The illustration is a product reference. Each pallet type and transfer height requires configuration approval.



CARTON AND CARRIER HANDLING

Hook or liftable shelf?

Use a suitable rigid carrier for flexible corrugated cartons.



MiR Hook 250

Tow qualified carts for mixed cartons and batch deliveries.

Aetec adds: carrier design or adaptation, hitch validation, load retention, identification and call / delivery logic.

Check turning space, wheels and the complete towing envelope.

MiR Shelf Carrier 250

Collect and set down suitable shelves so the base can take another task.

Aetec adds: rack structure, guide features, feet / clearance, carrier ID and reserved bays.

Lift the rigid rack; keep the cartons supported.

Good pilot: one repeatable carton flow, one carrier standard and agreed loading / unloading responsibilities.

Sources [7, 8]. Images: Aetec concept animation. Carrier and complete-system ratings are confirmed for the selected hardware.

**STANDARD LIFT FAMILIES**

Pallets, carts and shelves

Match the lift module to the base and the handover infrastructure.

MiR application	Base	Typical interface
EU Pallet Lift 600	MiR600	EU pallet + suitable raised pallet rack / dock
Pallet Lift 600	MiR600	Other qualified pallet formats + matched supports
EU Pallet Lift 1350	MiR1350	EU pallet + suitable raised pallet rack / dock
Pallet Lift 1350	MiR1350	Other qualified pallet formats + matched supports
Shelf Lift 600	MiR600	Liftable heavy cart or shelf
Shelf Lift 1350	MiR1350	Liftable heavy cart or shelf

Make the handover repeatable

Aetec designs around the support points, entry clearance, load restraint, docking datum and load / position confirmation. Pallet lifts and pallet jacks use different pickup interfaces.

Sources [9-13]. Confirm the exact module variant, carrier, payload and handover height. A base-family name is not an application rating.



TOP MODULES + INFRASTRUCTURE

Complete the transport flow.

Combine standard MiR equipment with the application-specific hardware you need.

MiR Pallet Rack

Defined pallet delivery / collection stations for compatible lift applications.

MiR Charge 48V

Automatic charging as part of the selected robot and fleet deployment.

Conveyor-top AMR

Aetec or partner-engineered roller / belt transfer with aligned stations and PLC handshakes.

Custom load carriers

Trolleys, shelves, trays, retained pallets and nests around the actual product.

Doors + building interfaces

Agreed door / lift interfaces, station requests, occupancy signals and recovery logic.

MiR Go ecosystem

Assess compatible partner modules when a standard application does not fit.

Sources [6, 14, 15, 27]. Custom hardware is engineered and quoted by application. Brand/model compatibility and licences are checked before supply.

**MOBILE COBOT FAMILY**

MC250 / ER-FLEX

Bring handling and transport into one connected workflow.



MiR250-based mobile cobot with a configured UR arm.

Aetec application options
Carton / part transfer
Line replenishment
Inspection and sample handling
Machine loading / unloading

Arm option	Arm load kg*	Reach mm
UR7e	7.5	850
UR12e	12.5	1,300
UR16e	16	900
UR15	15 / 17.5*	1,300
UR8 Long	8 / 10*	1,750

Transport: up to 165 kg (current ER-FLEX sheet). *Higher arm ratings require OEM boundary conditions and approval for the mobile configuration. Tooling counts toward arm load.

Sources [16, 18]. MC250 / ER-FLEX names follow their respective listings. Arm generations, controller and final OEM bill of materials must match.



LARGER MOBILE COBOT FAMILY

MC600 / ER-MAX

A larger platform for handling work that needs more reach or lifting capability.



Typical opportunities

- Tote and part transfer
- Machine-to-machine handling
- Replenishment and inspection
- Handling shared across stations

Family arm options	Reference reach	Arm rating context
UR20	1,750 mm	20 kg standard; up to 25 kg under stated conditions
UR30	1,300 mm	30 kg standard; up to 35 kg under stated conditions

Current ER-MAX sheet: 1,350 x 910 mm footprint and 380 kg transport payload. Tool, adapter and workpiece count toward arm load; mobile stability and pose may impose lower limits.

Sources [17, 19, 28, 29]. Enhanced arm ratings require OEM conditions and mobile configuration approval.



MOBILE COBOT WORKFLOW

Stop. Handle. Secure. Move.

The arm performs the task at the station; the base carries the secured load between stations.

01

Dock + localize

Confirm the station, available space and visual datum.

02

Pick + verify

Use the agreed tool, grip feedback and product recipe.

03

Place + secure

Transfer the load to the cargo deck or designed nest.

04

Stow + transport

Stow the arm, confirm travel conditions and dispatch.

05

Unload + confirm

Stop at the destination, localize, place and close the task.

Choose tooling to suit the product: vacuum, parallel gripper, tote engagement or a dedicated fixture. Flexible cartons require verified grasp and support conditions.

Aetec application concept. Standard marker localization / 2D vision and optional 3D features depend on the selected mobile-cobot package [16, 17, 24].

**SOFTWARE PORTFOLIO**

Connect the right layers.

Combine navigation, fleet coordination and application software with clear responsibilities.

Software layer	Role in the solution
MiR robot software	Robot maps, navigation and configured missions.
MiR Fleet / Fleet Enterprise	Central fleet coordination and deployment integration; select the appropriate edition.
MiR Insights	Fleet performance visualization and analysis.
ER-ABILITY	Mobile-cobot task programming, site / cargo functions and application execution.
ER-ORGANIZER	Optional mobile-cobot reporting, synchronization and coordination tools.
Aetec application software	Operator screens, recipes, job rules, exception recovery and customer-system interfaces.

A controlled integration boundary

Customer WMS / ERP owns business and stock records; the robot and station controls execute validated equipment actions.

Sources [20-25]. Software edition, version, licences, network design and supported interfaces form part of the confirmed scope.

**INTEGRATION OPTIONS**

Start simple. Connect further.

Build only the interfaces that improve the agreed workflow.

Method	What it can do	Aetec engineering
Operator + barcode	Call an AMR, identify a carrier and confirm delivery.	Simple task screens, destination rules and ID checks.
Station PLC + I/O	Coordinate ready, occupied, transfer, done and fault states.	State logic, docking feedback and recovery.
WMS / ERP / MES	Turn business requests into traceable transport tasks.	Unique request IDs, priorities, status and reconciliation.
REST / OPC UA	Connect supported robot, application or machine interfaces.	Confirm each endpoint, data contract and access policy.
AI + vision options	Check agreed labels, presence, orientation or packaging condition.	Representative samples, lighting, accuracy criteria and human review.

Useful records: load / carrier ID, origin and destination, timestamps, mission result, retries and operator exceptions. Add images where there is a clear operational need.

Aetec proposed integration methods; interface capability references [20, 24, 25]. AI inspection is application support, not a safety-rated protective function.



WHY WORK WITH AETEC?

Your integration partner.

As a MiR partner, Aetec brings the robot, load handling and customer workflow together.

Understand the flow

Review loads, layouts, peaks, manual handovers and the actual operational bottleneck.

Select + demonstrate

Compare suitable MiR platforms and carrier methods using concept videos and agreed trials.

Design + integrate

Develop carriers, tooling, docks, controls, interfaces and the operator workflow.

Program + verify

Configure missions and recipes; check normal sequences, exceptions and recovery.

FAT + SAT + training

Agree acceptance criteria, demonstrate the system and hand over operating knowledge.

Support + improve

Plan maintenance, backup and support; use operating results to identify further improvements.

Aetec services are scoped to the project and quotation. Benefits depend on workload, utilization, process design and site conditions.



OPERATIONAL VALUE

Make every movement count.

Plan the whole material flow around people, loads, workstations and the information that connects them.

Release productive time

Reduce repeated walking, pushing and searching. Measure attended minutes per completed job, and agree how the released time will be used.

Reduce avoidable buffers

Schedule deliveries closer to demand. Review waiting loads, empty carriers and replenishment frequency against actual peaks.

Recover usable space

Compare buffer area and cart / tray quantities before and after the pilot. Space reuse has value even where rent does not change.

Strengthen traceability

Record the last confirmed location and handover. Reduce search effort and investigate mismatches using linked job and load records.

A focused pilot turns these opportunities into evidence for management.

Application concept; scope, acceptance and service arrangements to be agreed.

**ROI METHOD**

Measure before you scale.

Separate productive capacity, service improvements and cash savings. Count only benefits that can be realised.

Input	Baseline and pilot comparison
Time	Jobs per day; attended walking, handling and waiting minutes per job.
Space + carriers	Occupied buffer area, empty and loaded carrier counts, and avoidable expansion or purchases.
Errors + searching	Incident frequency, rework and searching cost, with a consistent measurement boundary.
Cost to operate	Energy, software, maintenance, support, connectivity and other incremental costs.

Annual net benefit

Realised annual benefits minus incremental annual operating costs.

Simple payback = total installed investment ÷ annual net benefit

Use a positive net benefit for payback. Avoid double counting. Time released is not automatically headcount saved; space reuse is not automatically lower rent. Report one-off avoided purchases separately.



TRACEABILITY + CONTROLLED DISPATCH

Verify. Move. Confirm.

Proposed QR / barcode or qualified RFID identification can connect transport requests to the load, carrier and destination.

01 REQUEST

Agree the job, expected IDs, origin, destination and priority.

02 VERIFY

Capture the identifier. Check the request, carrier and ready destination.

03 MOVE

Release a valid, authorised job; record dispatch and transport state.

04 CONFIRM

Confirm the physical handover; publish the result and retain its history.

Mismatch or uncertain read? Hold and review.

Resolve the cause, rescan and deliberately release. Acknowledge does not mean restart.

Qualify labels, RFID read zones and loading controls: a matching label alone does not prove contents. Event traceability reference: www.gs1.org/standards/epcis. Application logic and interfaces require project agreement.



LOCAL ENGINEERING + SUPPORT

A partner beyond the robot.

AETEC PRIVATE LIMITED is your Singapore contact for application design, programming and integration.

In-house programming and design

Connect the robot, carrier, station interfaces and operator workflow. Develop practical software and mechanical solutions around the application.

MiR experience, applied to your process

Select suitable platforms and coordinate with equipment suppliers. ERP, WMS or TMS interfaces use agreed data contracts and IT-approved connectivity.

A closed loop for issues and improvements

Step	How we work with your team
Capture + investigate	Review job IDs, logs, load and station state; identify the cause.
Test + release	Verify the correction and manage the change before release.
Confirm + improve	Check the outcome with users and prevent recurrence where practicable.

Agree support hours, response targets, site attendance, spares and follow-up reviews before handover. No fixed response time or availability guarantee is implied by this catalogue.

**DELIVERY + HANDOVER**

Build the flow together.

A clear scope, shared acceptance tests and practical training support the transition into daily operation.

Stage	Joint deliverable
Define	Loads, carriers, routes, identity rules, data ownership, success measures and acceptance criteria.
Engineer	Carrier and station design, middleware, operator screens, simulation and IT-approved interfaces.
Verify	Normal operation, physical handover, mismatch handling, communication loss, fault recovery and KPI checks.
Hand over	Operator / maintenance training, recovery guides, configuration backups, interface register, test records and support contacts.

Clear responsibilities

The customer supplies operating requirements and approved access. AETEC delivers the agreed integration scope. Equipment suppliers retain responsibility for their machine controls and safety interfaces.

Start with one measurable workflow, then expand after acceptance. Catalogue additions reviewed October 2026; retained product pages and their source review dates remain as stated.

**APPLICATION SELECTION GUIDE**

Match the method to the load.

Aetec preliminary selection guidance for customer discussions.

Method	Best starting point	Key selection question
Hook trolley	Mixed carton batches	Can the trolley, hitch and turning envelope be qualified?
Liftable shelf	Small cartons / multiple shelf levels	Can the rack be standardized and parked independently?
Pallet jack	Compatible floor-staged pallets	Do fork entry, load stability and floor conditions fit?
Pallet lift + docks	Repeat pallet transfers	Can repeatable raised handover stations be provided?
Conveyor-top AMR	Automated carton / tray handover	Are bases, transfer gaps and station heights controlled?
MC250	Smaller pick-and-place tasks	Does the configured arm, tool and cargo layout fit?
MC600	Larger-part handling	Do arm reach, loaded stability and station access fit?

Begin with one measurable flow. Record handover time, travel, exceptions and operator attendance before scaling the fleet.

Aetec engineering guidance. This guide selects candidates; it does not replace a load trial, site review or supplier-confirmed configuration.



SEE THE OPTIONS IN MOTION

Watch before you choose.

Use Aetec concept animation and original manufacturer demonstrations in the discussion.

Aetec general logistics + Mobile Cobot film

The accompanying MP4 shows Hook, shelf, pallet jack, pallet lift, conveyor transfer, MC250 and MC600 handling concepts. Ask Aetec to demonstrate the flow closest to your operation.



Mobile Cobot application library

Manufacturer examples across handling, transport, testing and production.



MiR product demonstrations

Explore the current robot families and their product demonstrations.



Picking + transport at Olympus Controls

Enabled Robotics application video with box handling, tooling and vision.

Tap a title or scan a QR code. Manufacturer videos stay on their original channels; shown tooling and generations may differ from the offered configuration [1, 26].



REFERENCE INDEX

Current sources. Clear scope.

Click any title for the manufacturer reference. Reviewed 17 September 2026.

- | | |
|---|--|
| [1] MiR product portfolio | [16] MC250 / MiR Go product listing |
| [2] MiR250 specifications | [17] MC600 / MiR Go product listing |
| [3] MiR600 specifications | [18] ER-FLEX current family datasheet |
| [4] MiR1350 specifications | [19] ER-MAX current family datasheet |
| [5] MiR1200 Pallet Jack specifications | [20] MiR software portfolio |
| [6] MiR standard applications + accessories | [21] MiR Fleet / Fleet Enterprise |
| [7] MiR Hook 250 | [22] MiR robot software |
| [8] MiR Shelf Carrier 250 | [23] MiR Insights |
| [9] MiR EU Pallet Lift 600 | [24] ER-ABILITY |
| [10] MiR Pallet Lift 600 | [25] ER-ORGANIZER |
| [11] MiR EU Pallet Lift 1350 | [26] Enabled Robotics official video library |
| [12] MiR Pallet Lift 1350 | [27] MiR Go application ecosystem |
| [13] MiR Shelf Lift 600 / 1350 | [28] UR20 official arm datasheet |
| [14] MiR Charge 48V | [29] UR30 official arm datasheet |
| [15] MiR Pallet Rack | |

This Aetec catalogue consolidates the current main MiR robot families, standard application families, selected mobile cobots and integration services. The MiR Go ecosystem contains additional partner products; availability is assessed by application.

Original editorial compilation by Aetec. MiR, UR and Enabled Robotics brands and OEM images remain the property of their owners.



BUILD YOUR NEXT FLOW

Start with your operation.

Aetec Private Limited | MiR partner

Share six things.

Loads	Carton / pallet sizes, weights, condition and variety.
Flow	Pickup, delivery, return and manual handovers.
Demand	Peak hours, target cycle and service priorities.
Layout	Routes, doors, slopes, floor joints and shared traffic.
Interfaces	WMS / ERP, PLCs, conveyors, scanners and network.
Acceptance	What a useful demonstration and successful handover look like.

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**TERMINOLOGY REFERENCE**

Technical terms, explained.

Common terms used in our video, application concepts and integration discussions.

Term	Meaning
AMR	Autonomous mobile robot
MiR	Mobile Industrial Robots
MC	Mobile cobot (MC250 / MC600)
UR	Universal Robots
QR	Quick Response code
RFID	Radio frequency identification
ASRS	Automated storage and retrieval system
HMI	Human-machine interface
IT	Information technology
OT	Operational technology
ERP	Enterprise resource planning
WMS	Warehouse management system
TMS	Transport management system
PLC	Programmable logic controller
ROI	Return on investment
KPI	Key performance indicator

Product names and model numbers are retained. Final interfaces, equipment selection and support scope require project agreement.