



# The Mobile Robot Company

Knowledge Center — Use Cases · 2026-08-04

<https://info.mobilerobot.com/category/use-cases>

# Use Cases

Where the J1600 fits in real pallet flows — from inbound receiving and production supply to cross-docking, buffers, brownfield sites, and alternative load carriers.



## **Inbound Receiving**

Using the J1600 for inbound receiving — the operator unloads the truck manually, and the robot delivers each pallet autonomously to inspection or storage.



## **Production Supply**

Feeding production lines with the J1600 — operators prepare pallets of materials or components, and the robot delivers them to the line on demand.



## **Cross-Docking**

Cross-docking with the J1600 — shuffling pallets between multiple origins and destinations by recombining saved locations, without a bespoke task for every pair.



## **Temporary Storage**

Using the J1600 for temporary storage — creating short-lived floor storage points in minutes when demand, season, or layout changes.



## **Buffer and Staging Management**

Managing buffers and staging areas with the J1600 — autonomous transport between production lines, staging zones, and storage keeps material flow steady.



### **Warehouse-to-Production Transport**

Automating the long travel segments from warehouse zones to production with the J1600, while operators keep the pickup and the judgment calls.



### **Production-to-Shipping Transport**

Moving finished goods from the end of the production line to shipping or outbound staging with the J1600's autonomous floor-level delivery.



### **Local Work-Cell Automation**

Automating a single work cell or stand-alone material flow inside a larger facility with one J1600, without launching a site-wide fleet project.



### **Brownfield Automation**

Deploying the J1600 in brownfield facilities — existing buildings with changing layouts get incremental pallet-transport automation without permanent infrastructure.



### **Sensitive or Unstable Loads**

Handling sensitive, unstable, or awkward loads with the J1600 — manual judgment for pickup and close maneuvering, autonomous travel for the long route.



### **Open Cages and Alternative Load Carriers**

Which pallets and load carriers the J1600 can move — EPAL and open-base GMA pallets, open cages, barrels, and custom carriers, with exact size limits.



### **Multi-Point Pallet Transport**

Running multi-point-to-multi-point pallet flows on the J1600 by combining saved locations freely — no bespoke task for every origin-destination pair.

# Inbound Receiving

Inbound receiving pairs the two halves of [dual mode](https://info.mobilerobot.com/products/j1600/dual-mode/) (https://info.mobilerobot.com/products/j1600/dual-mode/), naturally: the truck and dock area demand judgment, while the trip from the dock to inspection or storage is repetitive travel. The operator unloads manually, hands each pallet to the J1600, and stays at the dock while the robot makes the delivery.

## How the flow works

1. Unload the trailer manually using the tiller, exactly as with a conventional electric pallet jack.
2. Select a saved drop point — inbound inspection, a storage zone, or a buffer location — on the touchscreen.
3. Choose **return to origin** as the post-delivery behavior, confirm autonomous mode with the start button, and step clear.
4. The J1600 travels at up to 5.4 km/h (1.5 m/s), avoids obstacles on the way, drops the pallet at floor level, and returns to you at the dock for the next pallet.

This deliver-and-return loop is the most commonly demonstrated J1600 task. See [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) (https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) and [Manual Pickup and Autonomous Delivery](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/).

## Why the dock stays manual

Truck unloading concentrates the situations where human context matters most:

- **Dock plates and ramps.** Automatic mode has 0% gradeability; it is a [level-floor application](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/). [Manual mode](https://info.mobilerobot.com/documentation/user-guides/manual-operation/) (https://info.mobilerobot.com/documentation/user-guides/manual-operation/) handles gradients up to 5% unloaded and 3% at full load, so dock plates, bumps, and trailer misalignment are operator work.
- **Pallet condition.** A broken bottom board, a protruding nail, or a loose shrink-wrap tail is spotted and handled before it becomes a jam or a safety hazard.

- **Load stability.** [Top-heavy, leaning, or poorly stacked inbound loads](https://info.mobilerobot.com/applications/use-cases/sensitive-or-unstable-loads/) (<https://info.mobilerobot.com/applications/use-cases/sensitive-or-unstable-loads/>) get a human judgment call before lifting.
- **Congestion.** A [crowded receiving area](https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/) (<https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/>) with overflow pallets calls for an improvised manual route.

See [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (<https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/>) for the full list of judgment tasks that remain with the operator.

## What the robot removes

[The walking](https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/) (<https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/>). Each autonomous delivery removes a round trip that the operator would otherwise walk, whether the route is a few meters or well over 100 meters. Across a receiving shift, the J1600 is designed to remove [up to 80% of the operator time spent on repetitive transport](https://info.mobilerobot.com/applications/results/productivity-improvements/) (<https://info.mobilerobot.com/applications/results/productivity-improvements/>), while the operator keeps unloading at the dock.

## Setting up a receiving flow

- Drive once to each inspection, storage, or buffer point and tap **Save location**. There is no software limit on saved locations.
- No tracks, wires, reflectors, or building changes are needed — navigation uses [3D LiDAR SLAM](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) (<https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/>).
- An operator who already uses an electric pallet jack needs about 30 minutes of [training](https://info.mobilerobot.com/documentation/getting-started/operator-training/) (<https://info.mobilerobot.com/documentation/getting-started/operator-training/>).

If receiving volumes shift, add or change drop points in minutes — see [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>) and [Temporary Storage](https://info.mobilerobot.com/applications/use-cases/temporary-storage/) (<https://info.mobilerobot.com/applications/use-cases/temporary-storage/>).

For load limits at the dock, see [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (<https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/>) and the [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).



# Production Supply

In production supply, an operator prepares or picks a pallet of materials or components, and the J1600 delivers it to the production line on demand. The person keeps the judgment-heavy work — picking, sequencing, and prioritizing — while the robot covers the distance between warehouse and line.

## How the flow works

1. Prepare the pallet at the warehouse, supermarket, or kitting area and pick it up manually.
2. Select the saved drop point at the line or work cell on the touchscreen.
3. Choose what happens after delivery: [return to you for the next pallet](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-return/>), continue to another point, park, or [stop and wait](https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/>) at the line.
4. Confirm autonomous mode and continue preparing the next load while the robot travels.

The J1600 delivers at floor level and carries up to 1,600 kg per trip. See [Manual Pickup and Autonomous Delivery](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (<https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/>) for the full task workflow.

## Calling material to the line

With the come-to-me function, a line-side worker can call the robot to a location from a mobile app or web interface instead of waiting for a scheduled round. This turns replenishment into a pull signal: the line calls, the operator loads, the robot delivers. See [Come-to-Me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>).

## Routing through production areas

Preferred travel zones can be defined so autonomous traffic keeps to safer corridors through production areas. The robot's 360-degree safety field and speed-dependent protective zones cover forward and reverse travel; blue light strips on the vehicle

show the protected area. See [Operation in Crowded Environments](https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/) (<https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/>) and [how J1600 safety works](https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/) (<https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/>).

## When priorities change

A starving production line is an urgency call, not a system error. The operator can reprioritize immediately: take the tiller, and the vehicle is back under manual control. Urgent reprioritization is one of the situations where [human-in-the-loop automation](https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/) (<https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/>) keeps its value — see [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (<https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/>).

## Related flows

- Longer chains from receiving through storage into production: [Warehouse-to-Production Transport](https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/) (<https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/>)
- Moving finished goods away from the line: [Production-to-Shipping Transport](https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/) (<https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/>)
- Line-side buffers and staging areas: [Buffer and Staging Management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/) (<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/>)
- A single line or cell inside a larger site: [Local Work-Cell Automation](https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/) (<https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/>)

# Cross-Docking

Cross-docking moves pallets from inbound doors to outbound doors or staging lanes with little or no storage in between. Origins and destinations multiply quickly, and lanes change with the day's volume. The J1600 fits this pattern because [saved locations](https://info.mobilerobot.com/documentation/user-guides/location-management/) (<https://info.mobilerobot.com/documentation/user-guides/location-management/>) can be recombined freely: you do not teach a bespoke task for every origin-destination pair.

## How the flow works

1. Save each door, lane, and staging point once by driving there and tapping **Save location**. There is no software limit on the number of saved locations.
2. At the inbound side, [pick up the pallet manually](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (<https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/>) — trailer interiors and dock plates are manual work, since automatic mode requires [level floors](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (<https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/>).
3. Select the outbound lane or staging point for this pallet and choose the post-delivery behavior: return to you, continue to another point, park, or wait.
4. Confirm autonomous mode. The robot delivers at floor level and follows the selected behavior.

Any saved point can be the next origin or destination, which is what makes multi-point-to-multi-point shuffling practical. See [Multi-Point Pallet Transport](https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/) (<https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/>) and [A-to-B-to-C Transport](https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/) (<https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/>).

## Built for changing lanes

Cross-dock layouts rarely stand still. Observations at a major e-commerce cross-docking facility — a visit that shaped the J1600's [flexibility-first design](https://info.mobilerobot.com/applications/results/operational-flexibility/) (<https://info.mobilerobot.com/applications/results/operational-flexibility/>) — found layout, flow, buffer, and SKU-mix changes occurring several times per week, even in a heavily automated operation. The J1600 answers this with:

- **Teach and repeat** (<https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/>): add or move a lane in minutes by driving there once and saving it — see

[Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>).

- **3D LiDAR SLAM navigation** (<https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/>): the robot continuously updates its environment model and routes around obstacles, with no tracks, wires, or reflectors to relocate — see [Dynamic Route Changes](https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/) (<https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/>).
- **Immediate manual takeover:** when a lane overflows or a pallet is misplaced, grab the tiller and handle it — see [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (<https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/>).

## Busy floors

Cross-dock floors are crowded with people, pallet jacks, and staged freight. The J1600's 360-degree safety field, two 2D safety LiDARs, and speed-dependent protective zones support autonomous travel through this traffic, and blue light strips show the protected area. See [Operation in Crowded Environments](https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/) (<https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/>).

## Capacity per trip

Each trip carries up to 1,600 kg at up to 5.4 km/h, with loads up to 1,250 × 1,250 mm including overhang on any supported open-base carrier. See [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (<https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/>) and the [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

# Temporary Storage

Demand peaks, seasonal inventory, and project stock all create the same need: floor storage that exists this month and is gone the next. The J1600 treats a storage point as nothing more than a [saved location](https://info.mobilerobot.com/documentation/user-guides/location-management/) (<https://info.mobilerobot.com/documentation/user-guides/location-management/>), so temporary storage areas can be created, used, and abandoned without any automation engineering.

## Creating a temporary storage point

1. Drive the J1600 manually to the spot you want to use.
2. Tap **Save location** and name the point.
3. Start sending pallets there autonomously.

That is the whole setup. A new point takes minutes, there is no software limit on the number of saved locations, and no tracks, wires, reflectors, or building changes are involved. See [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>) for the workflow in detail.

## Working the temporary area

- **Filling:** pick each pallet manually, select the temporary point, and let the robot deliver at floor level. Choose **return to origin** to keep a steady loop going — see [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-return/>).
- **Emptying:** when the stock moves on, the same points work in reverse as origins for [delivery to production](https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/) (<https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/>), shipping, or permanent storage.
- **Combining:** temporary points combine freely with every other saved location, so they slot into [multi-point flows](https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/) (<https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/>) and [cross-docking](https://info.mobilerobot.com/applications/use-cases/cross-docking/) (<https://info.mobilerobot.com/applications/use-cases/cross-docking/>) without new tasks per pair.

## Why this suits changing operations

Variable layouts, temporary storage, and a changing SKU mix are exactly the conditions that make rigid automation projects slow to adapt. Because the J1600 maps with [3D LiDAR SLAM](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) and continuously updates its understanding of the environment, a rearranged floor does not require reconfiguration by an automation expert — an operator drives, saves, and carries on. See [Brownfield Automation](https://info.mobilerobot.com/applications/use-cases/brownfield-automation/) and [Dynamic Route Changes](https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/).

Buffer zones that live between production steps follow the same pattern on a shorter clock — see [Buffer and Staging Management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/).

## Practical limits

Temporary storage points must sit on [level indoor floors along the autonomous route](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (automatic gradeability is 0%), within the J1600's [operating environment](https://info.mobilerobot.com/documentation/installation/operating-environment-requirements/) of 5–40 °C. Practical capacity is limited by warehouse space, not software. See the [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/).

# Buffer and Staging Management

Buffers and staging areas absorb the timing differences between process steps: between two production lines, between production and [shipping](https://info.mobilerobot.com/applications/industries/shipping-and-dispatch/), or between [receiving](https://info.mobilerobot.com/applications/use-cases/inbound-receiving/) and putaway. Keeping them fed and cleared is constant, repetitive transport — the work the J1600 is built to take over.

## How the flow works

The J1600 transports pallets between lines, staging areas, and storage zones. The operator [picks manually](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) where judgment is needed; the robot handles the travel:

1. Pick up the pallet at the line end, storage zone, or receiving area.
2. Select the saved buffer or staging point on the touchscreen.
3. Choose the post-delivery behavior — for staging work, **Stop and wait** keeps the robot at the staging area ready for redirection, while **return to origin** keeps a feeding loop running.
4. Confirm autonomous mode and step away.

See [Deliver and Wait](https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/) and [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) for the two patterns most used in buffer work.

## Steadier flow as the goal

Moving buffer transport onto the robot gives the operation a steadier rhythm: deliveries repeat consistently instead of depending on whoever is free to walk. Steadier material flow and throughput, [more productive use of skilled labor](https://info.mobilerobot.com/applications/results/labor-reallocation/), and less [repetitive walking](https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/) are the core outcomes the J1600 targets in this role. [Production logistics](https://info.mobilerobot.com/applications/industries/internal-production-logistics/) and buffer management are among the primary applications the company designs and presents the product around.

## Buffers move — so do saved points

Buffer zones are the most short-lived locations in a facility. When a staging lane shifts or a new buffer opens for a demand peak:

- add the point in minutes by driving there and tapping **Save location** — see [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>);
- recombine it freely with existing points for [multi-point flows](https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/) (<https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/>);
- longer-lived overflow areas follow the [Temporary Storage](https://info.mobilerobot.com/applications/use-cases/temporary-storage/) (<https://info.mobilerobot.com/applications/use-cases/temporary-storage/>) pattern.

There is no software limit on [saved locations](https://info.mobilerobot.com/documentation/user-guides/location-management/) (<https://info.mobilerobot.com/documentation/user-guides/location-management/>); floor space is the practical limit.

## Fit and limits

Buffer and staging transport suits the J1600 when routes are indoor and level (automatic gradeability is 0%), drops are at floor level, and loads stay within 1,600 kg on an open-base carrier up to 1,250 × 1,250 mm including overhang. See [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (<https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/>) and the [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

Adjacent flows: [Production Supply](https://info.mobilerobot.com/applications/use-cases/production-supply/) (<https://info.mobilerobot.com/applications/use-cases/production-supply/>) upstream, [Production-to-Shipping Transport](https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/) (<https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/>) downstream.

# Warehouse-to-Production Transport

The chain from [goods receipt](https://info.mobilerobot.com/applications/industries/goods-receiving/) through storage into production is connected by long, repetitive travel segments. Those segments — not the nuanced handling at either end — are what the J1600 automates. The operator picks in the warehouse; the robot walks the distance.

## The division of work

| Operator                                                                      | J1600                                                        |
|-------------------------------------------------------------------------------|--------------------------------------------------------------|
| Pick the pallet in the warehouse, judging load stability and pallet condition | Carry up to 1,600 kg along the saved route at up to 5.4 km/h |
| Select the production-side destination and post-delivery behavior             | Navigate with 3D LiDAR SLAM and avoid obstacles on the way   |
| Confirm entry into autonomous mode                                            | Drop the pallet at floor level at the line or cell           |
| Handle exceptions and urgent priority changes                                 | Return, park, continue to another point, or wait             |

This is [human-in-the-loop automation](https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/) applied to the longest walks in the building.

## Route length barely matters

The concept is the same whether the route is a few meters or well over 100 meters: [pick manually, send autonomously](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/). Longer routes simply return more [saved walking](https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/) per trip, which is why warehouse-to-production legs are often the highest-value routes to hand over. The J1600 is designed to remove [up to 80% of the operator time spent on this repetitive transport](https://info.mobilerobot.com/applications/results/productivity-improvements/).

## Setting up the chain

1. Save the warehouse-side pickup areas, any intermediate buffer points, and the production-side drop points by driving to each once — see [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>).
2. For a simple feed, use [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-return/>): the robot brings the empty forks back to you in the warehouse.
3. For chained moves — warehouse to buffer, buffer to line — use [A-to-B-to-C Transport](https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/) (<https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/>) or full [multi-point flows](https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/) (<https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/>).
4. Let line-side workers pull material on demand with [Come-to-Me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>).

Preferred travel zones can be defined so the autonomous leg keeps to safer corridors through production areas — see [Operation in Crowded Environments](https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/) (<https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/>).

## Requirements

The autonomous leg needs [indoor, level floors](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (<https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/>) (automatic gradeability is 0%; manual mode handles up to 5% unloaded, 3% at full load), floor quality to TR34 FM3 / FF 25–FL 20, bumps up to 25 mm, and gaps up to 20 mm. Operating temperature is 5–40 °C. Full details: [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

Related flows: [Production Supply](https://info.mobilerobot.com/applications/use-cases/production-supply/) (<https://info.mobilerobot.com/applications/use-cases/production-supply/>) · [Buffer and Staging Management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/) (<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/>) · [Production-to-Shipping Transport](https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/) (<https://info.mobilerobot.com/applications/use-cases/production-to-shipping-transport/>).

# Production-to-Shipping Transport

At the end of the line, finished pallets need to reach [shipping](https://info.mobilerobot.com/applications/industries/shipping-and-dispatch/) or an outbound staging lane — a repetitive run that pulls operators away from the line every time. With the J1600, the line-end operator loads and sends; the robot makes the trip.

## How the flow works

1. [Pick up the finished pallet manually](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) at the line end.
2. Select the saved shipping or staging drop point on the touchscreen.
3. Choose the post-delivery behavior:
  - **Return to origin** to come straight back for the next pallet — see [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/);
  - **Stop and wait** to hold at the staging lane until redirected — see [Deliver and Wait](https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/);
  - **Go to parking** when the run ends, keeping the vehicle out of the way — see [Deliver and Park](https://info.mobilerobot.com/applications/scenarios/deliver-and-park/).
4. [Confirm autonomous mode](https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/) with the start button and step clear.

The robot drops at floor level in the staging lane, which suits outbound lanes organized as floor positions. Loading the trailer itself stays manual: dock plates and trailer interiors exceed the 0% automatic gradeability, while manual mode handles up to 5% unloaded and 3% at full load.

## Keeping the line productive

Every autonomous run keeps a person at the value-adding end of the process instead of [walking pallets](https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/) across the building. Steadier outbound flow, less non-value-added transport, and [more productive use of skilled labor](https://info.mobilerobot.com/applications/results/labor-reallocation/), are the outcomes this flow targets — [up to 80% of the operator time](#)

[s://info.mobilerobot.com/applications/results/productivity-improvements/](https://info.mobilerobot.com/applications/results/productivity-improvements/)) on the repetitive leg is designed out.

When shipping volumes spike, staged outbound freight crowds the floor. The J1600's 360-degree safety field and speed-dependent protective zones handle traffic on the way — see [Operation in Crowded Environments](https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/) (<https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/>) — and the operator takes over manually for the improvised moments, per [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (<https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/>).

## Combining with upstream flows

One J1600 can serve both directions of the line in [dual mode](https://info.mobilerobot.com/products/j1600/dual-mode/) (<https://info.mobilerobot.com/products/j1600/dual-mode/>): materials in via [Production Supply](https://info.mobilerobot.com/applications/use-cases/production-supply/) (<https://info.mobilerobot.com/applications/use-cases/production-supply/>), finished goods out via this flow, with [A-to-B-to-C tasks](https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/) (<https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/>) chaining the legs. Outbound staging lanes are saved locations like any other, so they can be added or moved in minutes as the shipping schedule changes — see [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>) and [Buffer and Staging Management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/) (<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/>).

## Load and route requirements

Up to 1,600 kg per trip on an open-base carrier within 1,250 × 1,250 mm including overhang, load height up to 1,700 mm from the floor, on [indoor level routes](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (<https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/>) at 5–40 °C. Details: [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (<https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/>) · [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

# Local Work-Cell Automation

Large facilities contain many small material flows: a cell that feeds one line, a packing station with its own loop, a subassembly area with a dedicated shuttle run. Each is too small — or changes too often — to justify a conventional fleet project. The J1600 serves these stand-alone flows one cell at a time.

## The local-flow problem

A full automation project prices and plans for the whole site: fleet management, systems integration, infrastructure, and expert configuration. A local flow of a few pallet moves per hour cannot carry that overhead, so it stays manual by default. The J1600 inverts the economics:

- one vehicle, [deployed in hours or a day](https://info.mobilerobot.com/applications/results/faster-deployment/) (<https://info.mobilerobot.com/applications/results/faster-deployment/>) [depending on scope](https://info.mobilerobot.com/applications/planning/deployment-scope-examples/) (<https://info.mobilerobot.com/applications/planning/deployment-scope-examples/>);
- [no mandatory warehouse-management-system, fleet-manager, or IT integration](https://info.mobilerobot.com/applications/results/lower-integration-complexity/) (<https://info.mobilerobot.com/applications/results/lower-integration-complexity/>);
- [Wi-Fi optional for basic use](https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/) (<https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/>);
- no tracks, wires, reflectors, or building modifications;
- about 30 minutes of [training](https://info.mobilerobot.com/documentation/getting-started/operator-training/) (<https://info.mobilerobot.com/documentation/getting-started/operator-training/>) for an operator who already uses an electric pallet jack.

The cell's own operator runs it: pick manually, send autonomously, take over any time. See [Manual Pickup and Autonomous Delivery](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (<https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/>) and [Mixed Manual and Autonomous Work](https://info.mobilerobot.com/applications/scenarios/mixed-manual-and-autonomous-work/) (<https://info.mobilerobot.com/applications/scenarios/mixed-manual-and-autonomous-work/>).

## Typical cell patterns

- A loop between the cell and its supermarket or storage zone — [Deliver and Return](https://info.mobilerobot.com/applications/scenarios/deliver-and-return/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-return/>).
- Feeding the cell on demand from a mobile or web call — [Come-to-Me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>).

- Clearing finished work to the next stage — [A-to-B-to-C Transport](https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/) (<https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/>)
- Cell-adjacent buffers — [Buffer and Staging Management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/) (<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/>)

When the cell moves or the [layout changes](https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/) (<https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/>), the operator re-teaches the points by driving and saving — no automation expert required. See [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>).

## Growing beyond one cell

Local automation does not box the site in. When more cells adopt the J1600, advanced automation adds automatic charging, come-to-me, [VDA 5050](https://info.mobilerobot.com/products/software/vda-5050/) (<https://info.mobilerobot.com/products/software/vda-5050/>), fleet management, and [API integrations](https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/) (<https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/>), so single-cell deployments can later join a coordinated multi-vendor fleet. See [Automatic Charging](https://info.mobilerobot.com/applications/scenarios/automatic-charging/) (<https://info.mobilerobot.com/applications/scenarios/automatic-charging/>) and the [J1600 overview](https://info.mobilerobot.com/products/j1600/overview/) (<https://info.mobilerobot.com/products/j1600/overview/>).

## Who this fits

Both larger sites with many small local flows and smaller operations running one to five pallet-jack operators on a single shift — [the segments the J1600 is primarily designed for](https://info.mobilerobot.com/company/about/markets-we-serve/) (<https://info.mobilerobot.com/company/about/markets-we-serve/>). For sites where the whole facility is the changing variable, see [Brownfield Automation](https://info.mobilerobot.com/applications/use-cases/brownfield-automation/) (<https://info.mobilerobot.com/applications/use-cases/brownfield-automation/>).

# Brownfield Automation

A brownfield site is an existing facility whose processes and layout were not designed around new automation. Most [warehouses](https://info.mobilerobot.com/applications/industries/warehousing/) and [factories](https://info.mobilerobot.com/applications/industries/manufacturing/) are brownfield, and their realities — changing layouts, mixed traffic, imperfect floors, no appetite for a construction project — are exactly what the J1600 is designed for.

## No infrastructure, by design

The J1600 needs nothing built, mounted, or embedded:

- no tracks, wires, magnets, or reflectors;
- no building modifications;
- [Wi-Fi optional for basic use](https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/);
- [no mandatory warehouse-management-system, fleet-manager, or IT integration](https://info.mobilerobot.com/applications/results/lower-integration-complexity/);
- ready to use on delivery, with typical setup in hours or one day [depending on scope](https://info.mobilerobot.com/applications/planning/deployment-scope-examples/).

Navigation is [3D LiDAR SLAM](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) on an industrial NVIDIA Jetson AI computer: the robot builds and continuously updates a three-dimensional map while an operator drives it, then localizes and plans its own routes to saved destinations. 3D mapping is designed for greater precision and reliability than traditional 2D navigation in complex or changing environments, scanning environmental structures at heights reaching up to 70 m above the vehicle.

## Living with a layout that moves

Brownfield floors change: pallets appear mid-aisle, racking moves, [seasonal areas](https://info.mobilerobot.com/applications/use-cases/temporary-storage/) open and close. The J1600 absorbs this in three ways:

1. **It routes around obstacles.** The environment model updates continuously, and the robot navigates around whatever is in the way — see [Dynamic Route Changes](https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/) (<https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/>).
2. **Operators re-teach in minutes.** A moved drop point is fixed by driving there and tapping **Save location** — no automation expert, no reprogramming project. See [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) (<https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/>).
3. **A person is always in the loop.** Anything the site throws up that automation should not guess at — a blocked aisle, a damaged pallet, an improvised storage spot — is handled by immediate manual takeover. See [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (<https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/>).

## What the floor still has to provide

Brownfield tolerance has measured limits. Autonomous operation requires:

| Requirement                  | Limit                         |
|------------------------------|-------------------------------|
| Gradeability, automatic mode | 0% — level floors only        |
| Gradeability, manual mode    | 5% unloaded / 3% at full load |
| Maximum traversable bump     | 25 mm (1 in)                  |
| Maximum traversable gap      | 20 mm (0.8 in)                |
| Floor flatness/levelness     | TR34 FM3 / FF 25, FL 20       |
| Temperature                  | 5–40 °C (41–104 °F), indoor   |
| Humidity                     | 20–80%, non-condensing        |
| Ingress protection           | IP21                          |

The company validates against rough conditions deliberately — its [Copenhagen test and demo facility](https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) (<https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/>) uses intentionally uneven real-world flooring — but the limits above still govern deployments. Full details: [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

## Incremental by nature

Brownfield automation with the J1600 starts with one flow — often a single [work cell](https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/) (<https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/>), [receiving lane](https://info.mobilerobot.com/applications/use-cases/inbound-receiving/) (<https://info.mobilerobot.com/applications/use-cases/inbound-receiving/>), or [warehouse-to-production leg](https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/) (<https://info.mobilerobot.com/applications/use-cases/warehouse-to-production-transport/>) — and grows point by point. Advanced automation ([automatic charging](https://info.mobilerobot.com/applications/scenarios/automatic-charging/) (<https://info.mobilerobot.com/applications/scenarios/automatic-charging/>), [come-to-me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>), [VDA 5050](https://info.mobilerobot.com/products/software/vda-5050/) (<https://info.mobilerobot.com/products/software/vda-5050/>) fleet management, APIs) is available when the application scales, never required on day one. See the [J1600 overview](https://info.mobilerobot.com/products/j1600/overview/) (<https://info.mobilerobot.com/products/j1600/overview/>).

# Sensitive or Unstable Loads

Some loads should never be picked up on autopilot: barrels, liquid containers, top-heavy stacks, fragile goods, leaning pallets. The J1600's answer is to split the job. The operator applies experience and situational awareness during pickup and close maneuvering; the robot takes over only for the repetitive travel in between.

## The manual half: judgment at the forks

In [manual mode](https://info.mobilerobot.com/documentation/user-guides/manual-operation/) (<https://info.mobilerobot.com/documentation/user-guides/manual-operation/>), the J1600 handles like a conventional electric pallet jack, and the operator controls every nuance:

- **Stability assessment** before lifting — recognizing a top-heavy, leaning, or poorly stacked load.
- **Condition checks** — spotting damaged pallets, crushed corners, or leaks before they travel.
- **Controlled lifting.** [Fork speeds](https://info.mobilerobot.com/products/j1600/dimensions-and-performance/) (<https://info.mobilerobot.com/products/j1600/dimensions-and-performance/>) are deliberate: 0.10 m/s lifting unloaded, 0.08 m/s lifting at full load, 0.08 m/s lowering unloaded, 0.12 m/s lowering at full load.
- **Confined maneuvering** around obstacles, other loads, and tight approaches, with pallet detection and height decisions under manual control.
- **Height where needed** — manual pick and drop up to 1,600 mm; barrels and cages at awkward positions are placed by hand.

Demonstrations of this use case show exactly this pattern with barrels: manual judgment for the sensitive part, then autonomous transport for the distance.

## The autonomous half: smooth, predictable travel

Once the load is safely on the forks, the operator selects the destination, [confirms autonomous mode](https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/) (<https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/>), and steps away. The autonomous leg favors stability by design:

- floor-level delivery only — the load is never dropped from height autonomously;

- [level-floor operation](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (0% automatic gradeability) — no slopes or dock plates in autonomous mode;
- consistent, repeatable driving at up to 5.4 km/h with [obstacle avoidance](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) (https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/);
- a [load-detection sensor](https://info.mobilerobot.com/safety-compliance/safety-functions/load-detection/) (https://info.mobilerobot.com/safety-compliance/safety-functions/load-detection/) and speed-dependent 360-degree safety field throughout — see [how J1600 safety works](https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/) (https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/).

The company's [Copenhagen test facility](https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) (https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) validates this behavior with deliberately difficult cases, including water-filled loads on uneven real-world flooring.

## Supported carriers

Sensitive loads often arrive on non-standard carriers. The J1600 accepts any forkable open-base carrier within its envelope — open cages, barrels on open-base carriers, and formats beyond Euro pallets — subject to base geometry, size, stability, and operator judgment. No blanket approval exists for every carrier or for hazardous materials. See [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) for the exact limits.

## Related reading

- The full pickup-to-delivery workflow: [Manual Pickup and Autonomous Delivery](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/).
- Every judgment call that stays human: [Handling Exceptions and Irregular Loads](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/) (https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/).
- The concept behind the split: [Dual Mode](https://info.mobilerobot.com/products/j1600/dual-mode/) (https://info.mobilerobot.com/products/j1600/dual-mode/) and [human-in-the-loop automation](https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/) (https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/).

# Open Cages and Alternative Load Carriers

The J1600 is not limited to Euro pallets. It moves any forkable carrier with an **open base — no bottom deck board** — within its size envelope: open cages, barrels on open-base carriers, and custom formats. The working rule from the company's own demonstrations: everything that is open underneath can be picked up.

## Compatibility limits

| Parameter                               | Limit / support                                             |
|-----------------------------------------|-------------------------------------------------------------|
| Base requirement                        | Open base with no bottom deck board, so the forks can enter |
| Maximum load length, including overhang | 1,250 mm (49 in)                                            |
| Maximum load width, including overhang  | 1,250 mm (49 in)                                            |
| Maximum load height from floor          | 1,700 mm (67 in)                                            |
| Maximum payload                         | 1,600 kg (approx. 3,500 lb)                                 |
| EPAL support                            | EPAL Euro Pallet, EPAL 3, EPAL 6                            |
| GMA support                             | All GMA pallets with an open base                           |
| Custom carriers                         | Any forkable open-base carrier within the size limits       |

The exact envelope is 1,250 mm; some shorter product summaries round it to 1.2 m. Use 1,250 mm when checking a carrier.

## Fork geometry

Whether a custom carrier is forkable depends on its base openings matching the fork dimensions:

| Fork parameter                 | Value            |
|--------------------------------|------------------|
| Fork length                    | 1,150 mm (45 in) |
| Fork width, each               | 180 mm (7 in)    |
| Fork thickness                 | 60 mm (2.4 in)   |
| Outer distance across forks    | 680 mm (27 in)   |
| Inner distance between forks   | 320 mm (13 in)   |
| Lowest fork height             | 90 mm (3.5 in)   |
| Highest fork position (manual) | 1,600 mm (63 in) |

Full dimensions: [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (https://info.mobilerobot.com/products/j1600/technical-specifications/).

## Judgment still applies

Compatibility depends on base geometry, size, stability, and operator judgment — there is no [blanket approval](https://info.mobilerobot.com/safety-compliance/safe-deployment/approved-loads-and-pallets/) (https://info.mobilerobot.com/safety-compliance/safe-deployment/approved-loads-and-pallets/) covering every carrier or any hazardous material. The operator assesses each carrier and load before pickup, which is one reason pallet pickup is always manual on the J1600. Unstable or awkward carriers get the treatment described in [Sensitive or Unstable Loads](https://info.mobilerobot.com/applications/use-cases/sensitive-or-unstable-loads/) (https://info.mobilerobot.com/applications/use-cases/sensitive-or-unstable-loads/).

### **AUTONOMOUS DELIVERY IS FLOOR LEVEL**

Whatever the carrier, autonomous delivery is at floor level. The 1,600 mm pick and drop height is a manual-mode capability.

## Where alternative carriers show up

Open cages and non-standard carriers are common in [production supply](https://info.mobilerobot.com/applications/use-cases/production-supply/) (https://info.mobilerobot.com/applications/use-cases/production-supply/), (component cages to the line), [inbound receiving](https://info.mobilerobot.com/applications/use-cases/inbound-receiving/) (https://info.mobilerobot.com/applications/use-cases/inbound-receiving/), (mixed inbound formats), and [grocery/FMCG distribution](https://info.mobilerobot.com/applications/industries/grocery-and-fmcg/) (https://info.mobilerobot.com/applications/industries/grocery-and-fmcg/), using GMA-format pallets. Because a carrier only needs to pass the envelope check once, alternative formats flow through [multi-point](https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/) (https://info.mobilerobot.com/applications/use-cases/multi-point-pallet-transport/), and [cross-docking](https://info.mobilerobot.com/applications/use-cases/cross-docking/) (https://info.mobilerobot.com/applications/use-cases/cross-docking/), tasks like any Euro pallet.

For questions on specific carriers, see the [product and capabilities FAQ](https://info.mobilerobot.com/support/faq/product-and-capabilities/) (https://info.mobilerobot.com/support/faq/product-and-capabilities/).

# Multi-Point Pallet Transport

Real pallet flows are rarely a single A-to-B shuttle. Goods move from several origins to several destinations, and the mix changes daily. The J1600 handles this as multi-point-to-multi-point transport: every saved location can pair with every other, without demonstrating each combination.

## The location model

- A location is created by driving the J1600 to the point manually and tapping **Save location**.
- There is no software limit on the number of [saved locations](https://info.mobilerobot.com/documentation/user-guides/location-management/) — practical limits come from available floor space.
- The robot navigates to any saved point from wherever it is. You do not teach routes between pairs; you teach points, and the [3D LiDAR SLAM navigation](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) plans each route itself.

That last property is what separates [teach-and-repeat](https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/) points from fixed-route automation: ten saved points already give you every pairing among them. See [Temporary Location Setup](https://info.mobilerobot.com/applications/scenarios/temporary-location-setup/) and [Dynamic Route Changes](https://info.mobilerobot.com/applications/scenarios/dynamic-route-changes/).

## Task patterns for multi-point work

| Pattern            | Behavior                       | Typical use                                                                                                                                                                                                                                                                                                               |
|--------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deliver and return | Drop at B, come back to A      | Repetitive feeding loops — see <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-return/">Deliver and Return</a> ( <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-return/">https://info.mobilerobot.com/applications/scenarios/deliver-and-return/</a> )                 |
| A-to-B-to-C        | Drop at B, continue empty to C | Chained flows, repositioning — see <a href="https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/">A-to-B-to-C Transport</a> ( <a href="https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/">https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/</a> ) |
| Deliver and wait   | Drop at B, stay there          | Staging lanes — see <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/">Deliver and Wait</a> ( <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/">https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/</a> )                                    |
| Deliver and park   | Drop at B, go to parking       | End of a run — see <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-park/">Deliver and Park</a> ( <a href="https://info.mobilerobot.com/applications/scenarios/deliver-and-park/">https://info.mobilerobot.com/applications/scenarios/deliver-and-park/</a> )                                     |
| Come-to-me         | Robot comes to the caller      | On-demand pickup — see <a href="https://info.mobilerobot.com/applications/scenarios/come-to-me/">Come-to-Me</a> ( <a href="https://info.mobilerobot.com/applications/scenarios/come-to-me/">https://info.mobilerobot.com/applications/scenarios/come-to-me/</a> )                                                         |

Each task starts the same way: manual pickup, destination and post-delivery behavior chosen on the touchscreen, autonomous mode confirmed with the physical start button. See [Manual Pickup and Autonomous Delivery](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) (<https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/>).

## Where multi-point flows pay off

- **[Cross-docking](https://info.mobilerobot.com/applications/use-cases/cross-docking/)** (<https://info.mobilerobot.com/applications/use-cases/cross-docking/>): shuffling pallets across multiple doors and lanes is the defining multi-point application.
- **[Buffer and staging management](https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/)** (<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management/>): lines, buffers, and storage zones form a many-to-many network.
- **[Temporary storage](https://info.mobilerobot.com/applications/use-cases/temporary-storage/)** (<https://info.mobilerobot.com/applications/use-cases/temporary-storage/>): short-lived points join and leave the network without touching anything else.
- **Changing operations:** when flows change, you add points, not projects — a fit described in [Brownfield Automation](https://info.mobilerobot.com/applications/use-cases/brownfield-automation/) (<https://info.mobilerobot.com/applications/use-cases/brownfield-automation/>).

## Capacity and limits

Each trip moves up to 1,600 kg at up to 5.4 km/h on indoor, level routes, dropping at floor level. Carriers must be open-base within 1,250 × 1,250 mm including overhang — see [Open Cages and Alternative Load Carriers](https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/) (<https://info.mobilerobot.com/applications/use-cases/open-cages-and-alternative-load-carriers/>) and the [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).