



The Mobile Robot Company

Knowledge Center — Buffer and Staging Management · 2026-08-04

<https://info.mobilerobot.com/applications/use-cases/buffer-and-staging-management>

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.