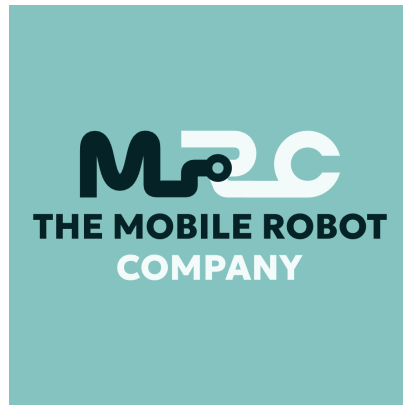




The Mobile Robot Company

Knowledge Center — Productivity Improvements · 2026-08-04

<https://info.mobilerobot.com/applications/results/productivity-improvements>

Productivity Improvements

The J1600's central productivity claim is precise: up to 80% reduction in manual work and operator time on repetitive pallet transport. It is a claim about the transport task the robot takes over — not an 80% improvement to every warehouse process.

Where the gain comes from

In a manual flow, the operator travels with every pallet: pick, walk the route, drop, walk back. With the [J1600](https://info.mobilerobot.com/products/j1600/overview/), the operator [picks manually, sends the robot](https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/), and immediately starts the next value-adding task while the vehicle drives, drops at floor level, and follows its configured post-delivery behavior. The travel — a few meters or more than 100 meters — no longer consumes operator time.

The intended balance is roughly 80% automation rather than 100%. The last portion of pallet work (judging loads, placing forks, [handling exceptions](https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/)) is disproportionately expensive to automate; leaving it with the operator keeps the system simple while capturing most of the labor benefit. See [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/).

The three-model comparison

Model	Setup	Flexibility	Labor saving
Manual pallet jack	None	Full manual flexibility	None
J1600 dual mode	Hours	Manual control plus saved autonomous delivery	Up to 80% of operator time on target travel
Fully automated system	Weeks or a longer project	Preprogrammed, expert-configured	Up to 100% of task labor, if fully automated

Full automation can beat the J1600 on paper for a perfectly stable task — but it typically requires [warehouse-management-system and fleet integration](https://info.mobilerobot.com/applications/results/lower-integration-complexity/) (<https://info.mobilerobot.com/applications/results/lower-integration-complexity/>), infrastructure, and expert configuration, with investments that can reach approximately €1 million. The J1600 targets most of the benefit at a fraction of that cost and complexity.

Throughput and flow effects

Beyond recovered operator hours, consistent autonomous delivery runs produce steadier material flow and throughput: deliveries happen at a repeatable pace instead of depending on who is free to walk a pallet. Sustained operation is supported by a [24 V, 200 Ah LiFePO4 battery](https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/>) with runtime exceeding eight hours in a typical duty cycle, [opportunity charging](https://info.mobilerobot.com/applications/scenarios/automatic-charging/) (<https://info.mobilerobot.com/applications/scenarios/automatic-charging/>), (about 47 percentage points per hour), and a 5.4 km/h top speed.

Who captures the gain fastest

The economics are designed for single-shift operations running eight hours per day, five days per week, with roughly one to five pallet-jack operators — sites where recovered operator time converts directly into more picks, faster receiving, or a leaner shift. Larger facilities capture the same gain in [local work cells](https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/) (<https://info.mobilerobot.com/applications/use-cases/local-work-cell-automation/>), too small for a fleet project.

Related pages

- [Reduction in manual walking](https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/) (<https://info.mobilerobot.com/applications/results/reduction-in-manual-walking/>) — the human side of the same gain
- [Labor reallocation](https://info.mobilerobot.com/applications/results/labor-reallocation/) (<https://info.mobilerobot.com/applications/results/labor-reallocation/>) — what teams do with the recovered time
- [ROI examples](https://info.mobilerobot.com/applications/results/roi-examples/) (<https://info.mobilerobot.com/applications/results/roi-examples/>) — converting the gain into payback
- [Manufacturing](https://info.mobilerobot.com/applications/industries/manufacturing/) (<https://info.mobilerobot.com/applications/industries/manufacturing/>) and [Warehousing](https://info.mobilerobot.com/applications/industries/warehousing/) (<https://info.mobilerobot.com/applications/industries/warehousing/>) — where the gain lands