

## Technical Specifications

# OTTO 1500

OTTO 1500 is a heavy-duty autonomous mobile robot (AMR), designed to move materials up to 1,900 kg in the most demanding environments. Maximize your fleet productivity by moving the heaviest payloads faster than any AMR on the market, without compromising on safety.



### MAXIMIZED ROI

OTTO 1500 achieves unmatched throughput by moving your materials in fewer and faster trips.

### AGILE & STRONG

Move your heaviest payloads at top speeds while safely navigating around people, equipment and tight turns.

### VERSATILE

Extend the capability of your OTTO 1500 with a wide range of attachments that are compatible with your existing equipment.

## PERFORMANCE

Max. Capacity	1,900 kg (4190 lbs) Includes payload and attachment, if any	Max. Turning Speed	1.5 rad/sec (90°/sec)
Max. Speed	2.0 m/sec (4.5 mph)	Max. Docking Speed	0.3 m/sec (0.7 mph)
Docking Accuracy Standard	± 10 mm (x,y), ± 1°φ (yaw) Repeatable to 3σ	Min. Aisle Width (One Way)	1915 mm (78 in)
Docking Accuracy Precision Upgrade <sup>1</sup>	± 5 mm (x,y), ± 1°φ (yaw) Repeatable to 3σ	Min. Aisle Width (Two Way)	3570 mm (146 in)

<sup>1</sup>Requires OTTO High Accuracy Docking System (HADS) upgrade, sold separately

## CHASSIS

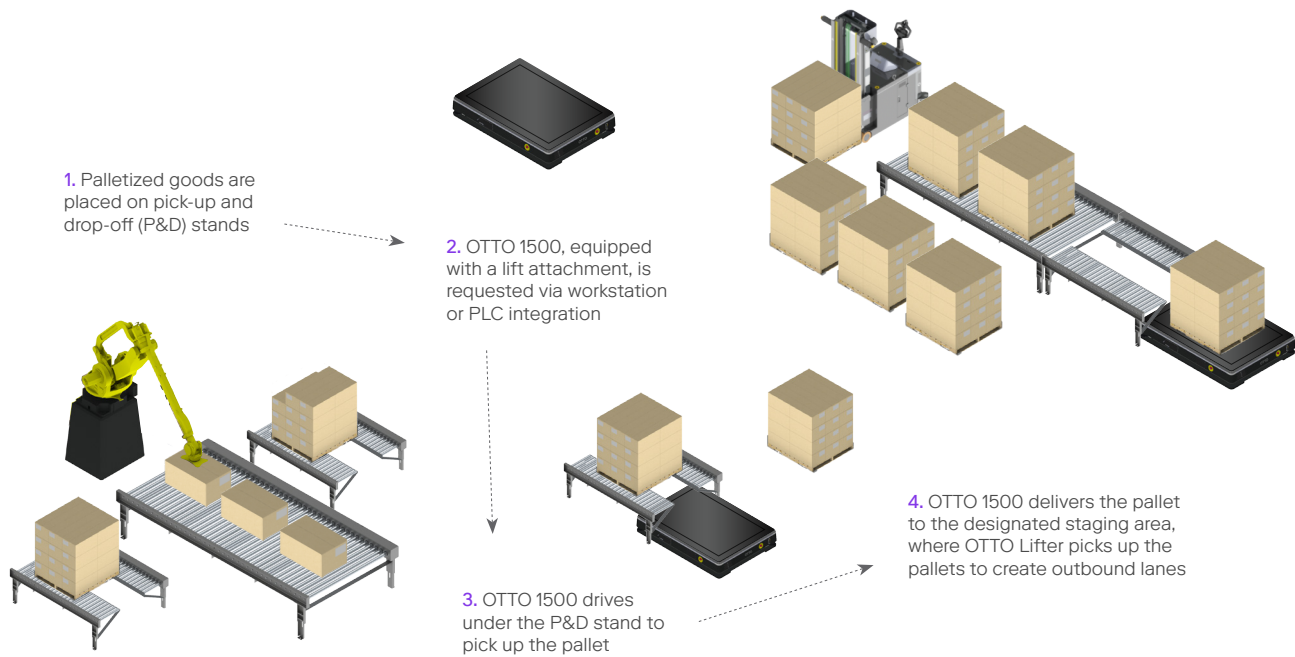
Dimensions	1837 x 1283 x 351 mm (72.3 x 50.5 x 13.85 in)	Suspension	Passive, Rocker
Mass	627 kg (1382 lbs)	Ground Clearance	16 mm (5/8 in)
Turning Radius	Turn in place	Traversable Gap	16 mm (5/8 in)

## ENERGY SYSTEM

Battery Capacity	80 Ah	Battery Voltage	52.8 V
Runtime (90% to 10%)	10 hr	Max Charge Rate	80 A
Charge Time (10% to 90%)	60 min	Battery Life	3,000 full charge cycles
		Battery Charging Options	Autonomous Opportunity Charging (Default) Manual Charging

## SAMPLE WORKFLOW

### Palletized Finished Goods to Outbound



## SAFETY SYSTEM

Intelligent Braking	Redundant monitoring with safety-system interlock	Standards Compliance	ANSI/ITSDF B56.5, RIA R15.08-1, ISO 12100/13849-1/3691-4, FCC Part 15 Subpart B / ICES-003, ICES-002, EN 1175-1/60204-1
Adaptive Fieldsets	Intelligent PL-d rated switching fieldsets (patent-pending)	Manual Control	Pendant-based manual control. Guided autonomous control available via OTTO software interface.
E-Stop	4 E-Stops (1 per side) + user E-Stop circuit interface		

## AUTOMATION INTERFACE

Power Interface	24 VDC, 10 A, regulated, unswitched 52.8 VDC nominal, 50 A, unregulated	Safety Interface	Dual-channel E-Stop breakout, 2 safety-rated GPIO, 1 attachment interface fault line
Signal Interface	1x Ethernet, 1x USB 3.1, 1x HDMI 1 CAN Bus, 5 GPIO (2 safety rated) 1 interface control line		

## CONTROL SYSTEM

Sensors	4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV) Embedded 6-axis IMU	Computer	Solid-state Military Spec Computer with dedicated GPU
		Communication	WiFi 2.4 / 5 GHz (802.11 a/b/g/n/ac) 2x Long-range Omnidirectional Antennae

## ACCESSORIES (SOLD SEPARATELY)

Charging	Autonomous Supercharger (80 A) Manual Trickle Charger (25 A)
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## ENVIRONMENTAL

IP Classification	IP20	Humidity	10-95% non-condensing
		Temperature	0 to 40° C

For more information visit [ottomotors.com/1500](http://ottomotors.com/1500)  
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