
GET A
COMPETITIVE EDGE
WITH ROBOTIC
SOLUTIONS
OTTO
OTTO
01
Honeywell
Intelligrated

SMART ROBOTICS SMARTER DC SMARTEST DECISION

Creating a smart, productive and profitable distribution center (DC) requires expert system integration. You know how your facility works. Smart robotics can make it work better. From our end-to-end distribution center experience comes smart automation processes that help you push what's possible. Robotics from a DC expert? That's smart.

RESULTS-DRIVEN ROBOTICS

Scalable robotic solutions increasingly deliver significant competitive advantages to modern distribution centers. By leveraging advanced robotic technology with extensive material handling experience, warehouse automation solutions from Honeywell Robotics offer fully integrated, end-to-end strategies designed specifically for the unique needs and challanges of DCs. These solutions provide the speed, accuracy and efficiency to satisfy a broad and growing range of operational requirements.

INDUSTRIES SERVED:

- E-commerce
- Retail
- Food
- Beverage
- Consumer packaged goods
- Pharmaceutical and medical supply
- Wholesale
- Post and parcel
- Third-party logistics

Innovative designs, application expertise and committed support ensure maximum dependability and round-the-clock productivity. A diverse robotics portfolio ensures these systems can be customized to your unique needs. Robotic solutions also relieve workers of some of the most arduous, repetitive and injury-prone tasks, freeing up limited labor for more rewarding, higher-value jobs.

Honeywell Intelligrated is recognized by the Association for Advancing Automation (A3) as a Certified Robot Integrator, with more than a quarter-century of experience providing single-source robotic solutions for high-performance distribution and manufacturing operations. From system concepting, simulation, fabrication and integration to installation and commissioning, training and ongoing support, each solution is approached with a comprehensive lifecycle view to maximize the value of your system.

PRODUCTIVITY AND PRECISION IN ANY APPLICATION

Multiple solutions from Honeywell Robotics provide flexible, scalable options for a variety of applications, including:

- **Smart flexible depalletizing** — Quickly unload mixed-SKU or single-SKU pallets in any sequence with no pre-programming.
- **Mobile robotics** — Transport loads, handle carts, and perform machine tending jobs with autonomous mobile robots (AMRs).
- **Loading and unloading** — Autonomously load and unload trailers with minimal operator supervision or intervention.
- **Palletizing** — Efficiently build stable pallet loads according to operational requirements.

CERTIFIED FOR SEAMLESS INTEGRATION

Honeywell Intelligrated is an A3-Certified Robot Integrator, with extensive experience implementing robotic solutions that work seamlessly with existing automation equipment. Robotic systems come with integrated software and controls, enabling easy training, simple daily use and straightforward maintenance.

A3 ROBOTICS | CERTIFIED Robot Integrator

EVALUATE PERFORMANCE *BEFORE* YOU BUY

While automation and robotics offer logical solutions to the challenges faced by many DCs, robotic technology presents a lot of confusing choices. Worse, many of the solutions that exist today can't

address the unique demands of modern distribution centers. The majority of existing logistics solutions providers fail to meet the market or technical requirements critical to DCs, or lack the infrastructure necessary for full-scale implementation.

To help DCs develop robotic solutions that really work for the logistics industry, Honeywell Robotics offers a full suite of Robotic Solution Design Services. From robotic cells to full-system designs, tools like simulation, software and feature analysis, prototype designs, system modeling and more can help you to find robotic solutions that meet your unique needs — *before* you break ground or begin site integration.

Using these tools, you can determine how different solutions will perform and learn how quickly you'll see return on your investment. You'll get estimates of rates and throughputs based on your own unique product mix.

Simulations can identify where robots will provide the greatest benefit and show where conveyors, storage systems or other solutions might be most effective. You also can calculate how many people automation will free up for safer and higher-value jobs. These powerful development tools ensure that you get the right solution, without having to rely on trial and error.



ROBOTIC PALLETIZING AND DEPALLETIZING SOLUTIONS

Robotic palletizing and depalletizing solutions from Honeywell Robotics increase throughput and improve ergonomics while reducing your operational costs. Robotic solutions automate the labor-intensive tasks of stacking and unstacking a broad range of products, packaging types and configurations. SKU proliferation, international markets or other complexities are easily accommodated. Modular designs offer compact footprints and can scale from a single robot to large multi-arm systems as your future growth demands.

ROBOTIC PALLETIZING SOLUTIONS

IntelliGen™ palletizing software — Enables easy adaptation of pallet load configurations and stacking patterns based on product size, packaging changes or other variables.

Mixed-load or mixed-case order fulfillment — Efficient replenishment and delivery with less-than-full pallet loads of mixed product and labels-out configurations for retail display.

Stack-and-wrap robotic palletizing cell — Builds pallet loads with increased stability and higher sustained throughput, while allowing a single operator to monitor multiple functions.

Pallet and sheet handling — Boost speeds and reduce costs by automating the insertion of slip sheets, tier sheets and empty pallets into robotic palletizing cells.



KEY FEATURES OF THE SMART FLEXIBLE DEPALLETIZER

- Multi-pick
- Constant pallet mode
- 8' pallet handling*
- Automatic speed adjustment
- Automatic height adjustment
- Box on ground detection
- Slip sheet handling
- Empty pallet detection

** Layers above 72" must be consistent SKUs.*

SMART FLEXIBLE DEPALLETIZING

Depalletizing is a physically demanding, injury-prone job with high turnover. Honeywell Robotics is meeting the challenges of this arduous task with a fully automated solution, driven by sophisticated machine learning (ML) plus advances in perception and gripping technologies.

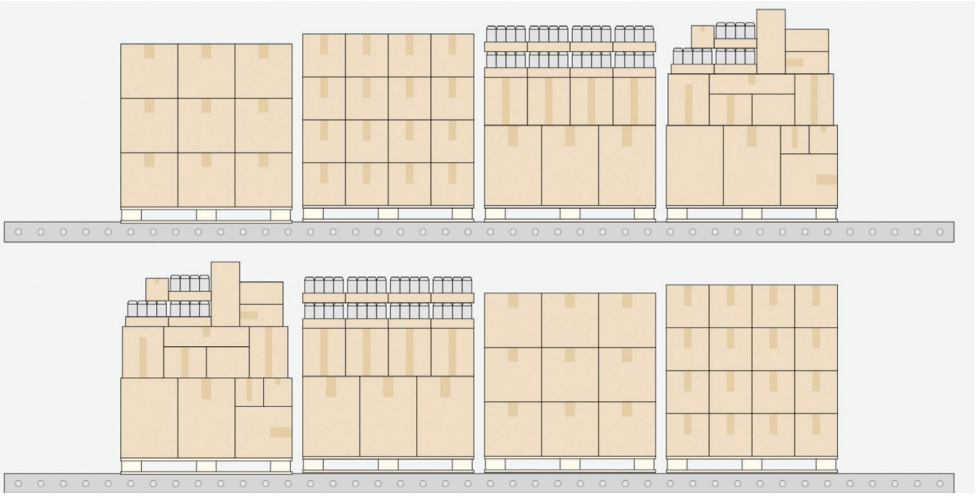
Capable of handling a wide range of product shapes and sizes, depalletizing robots can seamlessly transition from mixed-SKU to single-SKU pallets in any sequence — from a single work cell to an integrated system — without requiring additional programming or operator intervention. A soft, efficient gripping unit delivers faster, more consistent throughput with less product damage. The robot's logic optimizes lifting force to each item's weight and automatically adjusts the gripping angle to safely handle items that don't lie flat on the pallet.

ANY PATTERN

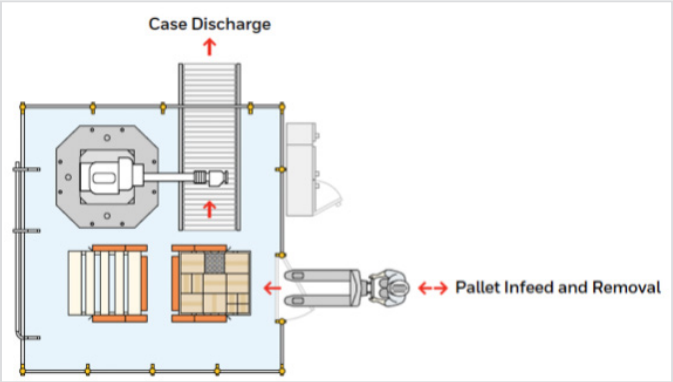
ANY SEQUENCE

NO PAUSING

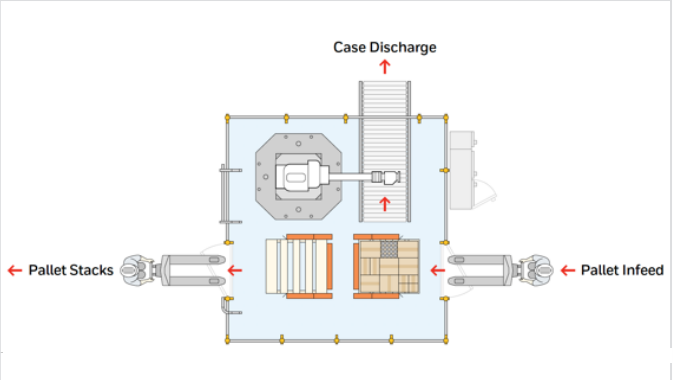
NO PRE-PROGRAMMING



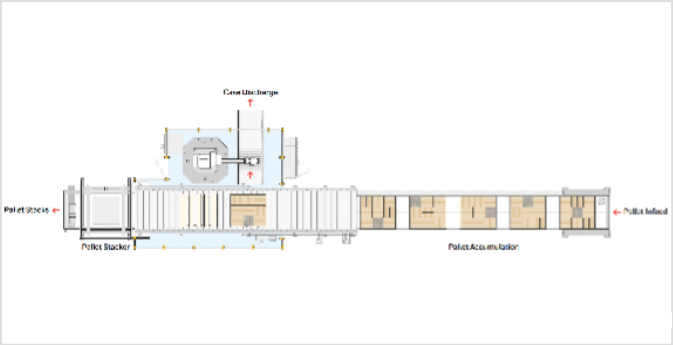
Several flexible configuration options will ensure this turnkey system integrates seamlessly into your existing workflows. In addition to overcoming a common operational bottleneck, the system will help you to reduce worker injuries, schedule more accurately, and lower logistics costs while reducing exposure to a challenging labor market.



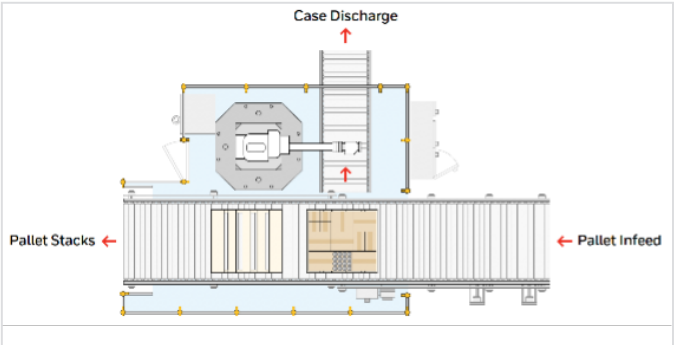
Manual feed



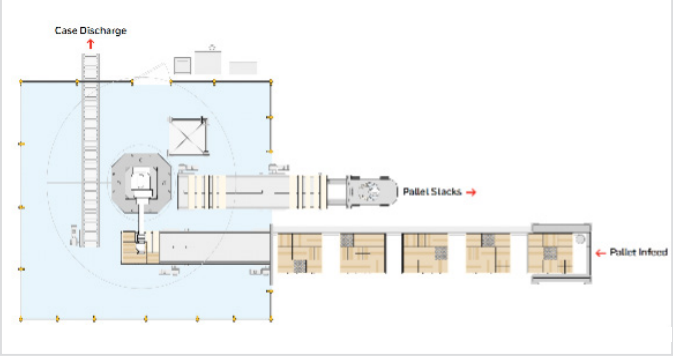
Robotic pallet handling



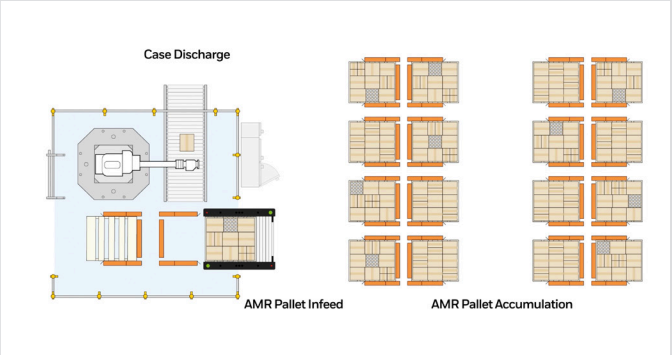
Automatic pallet stacking



Automatic infeed and discharge options



Single-side options



Integration with AMRs

MOBILE ROBOTICS

Autonomous mobile robots (AMRs) are among the fastest-growing automation strategies available to the logistics and manufacturing industries today. Supplied in strategic collaboration with OTTO Motors, AMRs are smart enough to interact safely with human co-workers and other vehicles, find a different route if their original path is blocked, and respond to rapid changes in orders or logistics needs — all without human intervention.

AMRs are also highly cost-effective, requiring minimal information technology (IT) or infrastructural changes. No tape, markers or wires are needed for navigation, and the robots require only a short set-up period to learn their surroundings.

AMRs can be deployed to ease labor burdens, improve productivity, reduce or eliminate errors, lower costs, and help your operation to stay nimble in constantly changing market conditions.



PALLET CONVEYANCE

Autonomous forklifts can perform many of the same transport tasks as a traditional forklift without supervision or additional equipment. Other AMRs can be loaded or unloaded directly with a forklift, move loads independently between compact pick-up and delivery (P&D) stands, or interact autonomously with conveyor systems.

Common pallet conveyance applications include:

- **Warehouse transport —** AMRs move palletized products to storage locations after unloading.
- **Cross-docking —** Robots carry pallets routed from inbound trailers or containers directly to the respective outbound trailer.
- **Connecting islands of automation —** Completed pallet loads are transported between various warehouse operations, such as palletizers, wrappers or pallet cranes.
- **Creating and clearing staging lanes —** OTTO Lifter autonomously creates or clears lanes of pallets (end-to-end or side-by-side) with a single command, automatically compensating for changing positions or gaps in the lane.
- **Trash removal —** Robots collect and transport corrugate, dunnage and recyclables to processing areas.

In addition, pallet conveyance AMRs increase operational savings by reducing the number of traditional forklifts and operators needed for transport, enabling operators to be repurposed for other value-added operations.

PICKING AND CART TRANSPORT

Mobile robots can provide significant productivity benefits by automating the movement of carts used to transport picked orders, returns or kits. AMRs can travel over any floor surface smooth enough to handle a traditional cart pushed by a worker. Instead of spending more than half the day walking, workers can simply park carts in designated pick-up locations and call robots to come pick them up. In this way, carts can be transported virtually anywhere in a facility with little or no human intervention.

AUTOMATED MACHINE TENDING

AMRs with the in-line conveyor option can be used to transport parts and goods between automated manufacturing equipment, replenish automated storage and retrieval systems (AS/RS), or handle items that can't easily be moved by conveyors. They can also provide a flexible "bridge" between different conveyor systems.

MAXIMIZING UPTIME

Some OTTO AMRs can operate for an entire shift or longer on a 90% charge, and autonomously dock with optional charging stations when not needed for other tasks, extending their effective run time without human supervision.

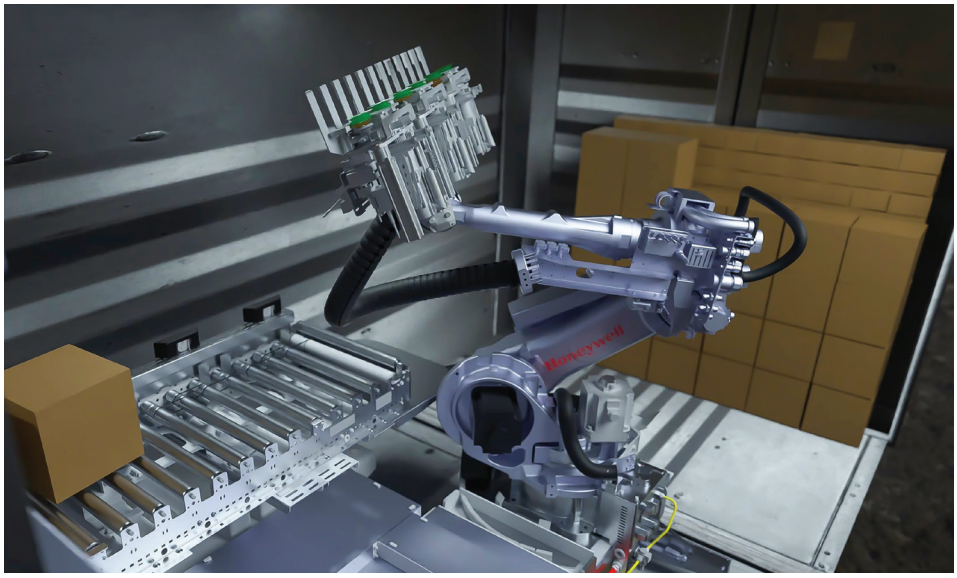
ROBOTIC UNLOADER

In situations where trailers transport stacked products of a consistent size, robotic unloaders can fully automate the unloading of trucks, trailers and containers. These robots operate quickly and require minimal operator supervision or intervention, with no need to change processes or add supporting equipment.

SOLUTIONS OVERVIEW

Intelligent automated material handling solutions from Honeywell Intelligrated optimize processes, increase efficiency, and give businesses a competitive edge. Honeywell Intelligrated designs, manufactures, integrates and installs complete warehouse automation and software solutions, including:

- Automated storage and retrieval solutions (AS/RS)
- Conveyor and pallet conveyor systems
- Fulfillment technologies
- Honeywell Robotics
- Labor management software
- Lifecycle Support Services
- Machine controls
- Palletizing and depalletizing
- Sortation systems
- Voice solutions
- Warehouse execution systems



LIFECYCLE SUPPORT SERVICES

Lifecycle Support Services employs a consultative, data-driven approach to achieve your critical business outcomes. By delivering proactive, value-added services and solutions, we can help you to reduce the risk of downtime and increase system availability, longevity and dependability. Drawing from a full spectrum of strategic services, we offer multiple engagement models, tailored to your business, culture and strategy. Our comprehensive portfolio constitutes the key building blocks of a successful lifecycle asset management plan. By conducting assessments of both your equipment condition and operational efficiency, we can determine how to optimize your operations with:

- Engineered Solutions
- Technical Services
- Contract Services
- Training
- Honeywell Intelligrated Spare Parts

THE CONNECTED DISTRIBUTION CENTER

The pace of change in modern commerce is putting tremendous pressure on fulfillment operations. To stay competitive and protect profits, companies need solutions that help them achieve maximum throughput, day-to-day flexibility, future-proof scalability and intelligence to make informed decisions.

The Connected Distribution Center helps companies make the digital transformation necessary to increase reliability, improve utilization and maximize productivity through:

- Intelligent, data-driven, high-speed execution
- Automated, adaptable processes for machines and workers
- Optimized utilization with the ability to seamlessly adapt and expand
- Insights and predictive analytics, from sensors to the cloud

Honeywell Intelligrated
+1 866.936.7300
info@intelligrated.com
sps.honeywell.com

Follow us on Twitter: twitter.com/intelligrated
Learn more on YouTube: Honeywell Intelligrated

GCEBR (EN/US) | REV 4 | 5/22
© 2022 Honeywell International Inc.