Pickle Robot Unload System

Overview and Benefits

- The Pickle Unload System automates unloading packages from floor-loaded trailers and ocean freight containers to deliver transformative labor optimization at the dock.

- Typically achieves ROI in less than 18 months by amplifying labor productivity.

- Autonomously unloads eligible containers in under 2.5 hours with almost no operator input.

- Substantially reduces labor turnover on the dock and improves the flow of goods through your inbound process.

- The most common freight types are apparel, footwear, linens, housewares, food, toys, tools, and general merchandise.

The Pickle Robot Unload System is an autonomous mobile manipulation system suitable for use with floor-loaded trailers and containers at typical dock doors.

Performance At a Glance

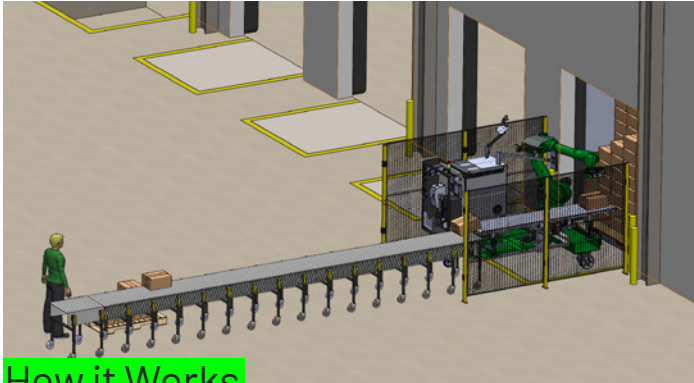| Typical Payback in Under 18 Months	600+ PPH and Improving	Cartons Weighing Up to 60 lbs	Box Sizes From 9" cube to 24" x 24" x 30"	Up to 15 Different Box Types per Trailer

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THE TECH

The system does not require integration with warehouse management or control systems.

The turn-key robotic automation system uses machine vision, AI, advanced sensors, sophisticated manipulation software, industrial robotic components, and an advanced gripper system mounted on an engineered mobile base with an onboard conveyor that is interfaced with a commercial powered flex conveyor.
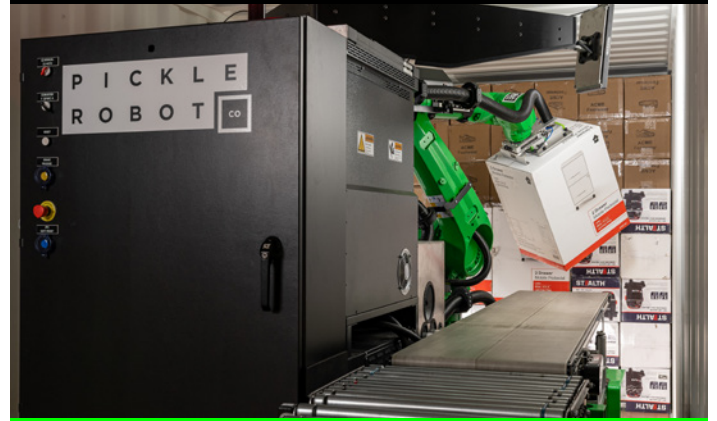
How it Works

1. A worker on the dock extends the dock leveler into the container/trailer and then positions the system in front of the freight in the open doors to begin the unload process.

2. The AI-backed perception system identifies boxes inside the trailer and advanced manipulation and path planning drives the robot arm and suction-based gripper to pick boxes and place them on the onboard conveyor.

3. The system is connected to a standard powered flex conveyor that moves the boxes out to the dock area. The flex conveyor may stand alone for manual palletizing work in the dock area or interface directly with a fixed induction point to take packages into the operation for downstream processing such as sortation, palletization, or storage.

4. When the robot has picked all the boxes within reach, the mobile base autonomously drives forward to continue picking.

5. Once the container/trailer is empty, the system alerts a nearby dock worker to back it out onto the dock where they position it for the next container/trailer to unload.

Pickle Robots Work with People

The system is designed so existing warehouse staff can safely manage and interact with it. These interactions take just minutes per container for staff to execute while they still perform their other duties. At the start of each trailer/container, staff position the system on the dock leveler in front of the dock door, inspect the trailer for any hazards and obvious ineligible freight, and instruct the system to begin operations. In the rare instances when the robot encounters something ineligible as it is picking within the trailer, the system will alert an operator to intervene. These "interventions" typically involve clearing a problem package or other obstacle while the robot is in a safely paused state.

About Pickle Robot Company

Pickle robots unload trucks, trailers, and containers of floor-loaded merchandise. The alternative is manual work that is difficult, dirty, sometimes dangerous, and increasingly hard to staff. Pickle Robot is laser focused on automating unloading using AI, machine learning, computer vision, advanced sensors, and industrial robotics to deliver engineered products customers rely on. Pickle Robot Unload Systems work with people on loading docks to make the work safer, faster, and more efficient. Pickle robots unload trucks.