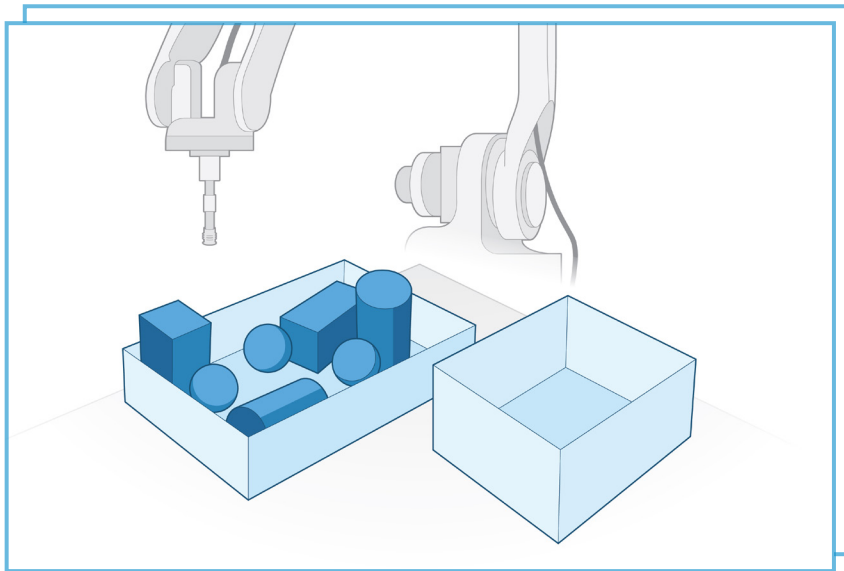# PickOne
Software Module:

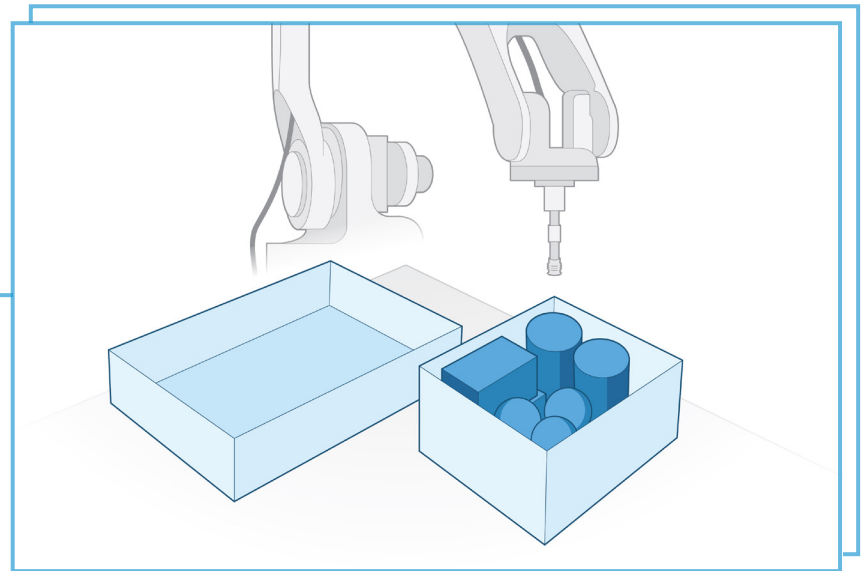### Case Transfer
and Packing

About this Model

This software module extends the power of **PickOne** for applications involving picking items from totes and packing them into cases for shipment.

Benefits

- Promote associates to more value-added work
- Reduce turnover by improving job satisfaction
- Reduce per unit handling cost
- Improve order accuracy

BEFORE

AFTER

How it works

Step 01

When items are presented to the robot picking station in a tote, the **PickOne Perception Kit** images the items.

Step 02

The **PickOne** software analyses the 2-D, 3-D, and AI data to identify each pickable item in the scene and assigns each one an associated confidence level.

Step 03

PickOne sends the robot controller an array of locations and data for each pickable item via the **PickOne API**. If no items in the scene have a high enough confidence level, there are two options.

The first option is for **PickOne** to issue a shuffle command to the robot controller to perturb either the tote or the items in the tote and rescan them.

If the system is **Yonder** enabled, the second option is to issue a **Yonder** request. **Yonder** sends a picture of what the system sees to a remotely connected **Crew Chief** who handles the exception by selecting an item in the scene to be picked. In seconds, **Yonder** updates **PickOne**, and **PickOne** sends the data to the robot.

In parallel, **Yonder** stores the **Crew Chief**'s responses allowing the machine-learning algorithms to make the system smarter as it works. This ensures even higher performance over time.

Step 04

Upon placement, the **PickOne Perception Kit** images the place zone to ensure a quality event. If it detects an out-of-spec placement, it signals the robot to resolve the issue.

Details
Case Transfer and Packing

Features

- **Item Classification** — Classifies items by package type to enable dynamic adjustments grip strategy, acceleration, deceleration, speed, and path.

- **Collision Avoidance** — Calculates the approach to the pick and prevents collisions with the tote.

- **Empty Bin Detection** — If the tote or tote section is empty, the system signals the robot.

- **Height Detection on Place** — Ensures that the placed items are not too tall for the shipper.

- **Stir** — If no pickable item is detected and the pick zone is not empty, **PickOne** can issue a stir command for the robot to reorient the items in the tote.

- **Base AI Model** — **PickOne** has developed AI models to speed up the deployment of systems. Based on the product mix, the appropriate AI model will be selected for the application.

Supported Application Capabilities

- **Multi-Mode Gripper** — Supports systems with more than one grasping strategy such as gripper zones, extendible cups, and automatic tool changers.

- **Shuffle** — If the system is equipped with a device to jostle the tote; no pickable item is detected; and the pick zone is not empty, Yonder can issue a stir command to reorient the items in the tote.

- **Barcode Reading** — Supports DataLogic barcode reader for items, totes, or shippers.

- **Message Payload** — Send Barcode data to customer specified server using SMS protocol.

- **Case Handling** — The robot can be used to pick and empty case, place it in the pack location. Once the items are placed into the case, the robot can be used to move the case to an outbound conveyor.

Specifications

- Industry leading pick command processing speeds: 250ms - 400ms typical
- Typical pick rates of 350-750 picks per hour
- Supports millions of SKUs
- Supported item types: boxes, padded envelopes, poly bags, tubes, bottles, pouches, and unpackaged items.
- Supported Sensors - Intel RealSense D415
- Supported Robot Controllers: Fanuc*, Yaskawa*, ABB, Universal Robot, Kuka, Kawasaki, Denso, Festo, Rockwell Automation (Allen-Bradley)

What's Included

PickOne Software Module for Case Transfer and Packing, Perpetual License (P/N 1002-001-1006-01)

- PickOne Software Module for Case Transfer and Packing
- PickOne Base AI Model
- PickOne PackML State Machine for Designated Robot Controller
- Sample PickOne Case Transfer and Packing Program for Designated Robot Controller

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