The Future of Industry - Logistics

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The global warehouse automation market is estimated to grow at a **CAGR of 14%, reaching $30 billion** by 2026

Warehouse Automation Market Size 2020 - 2026
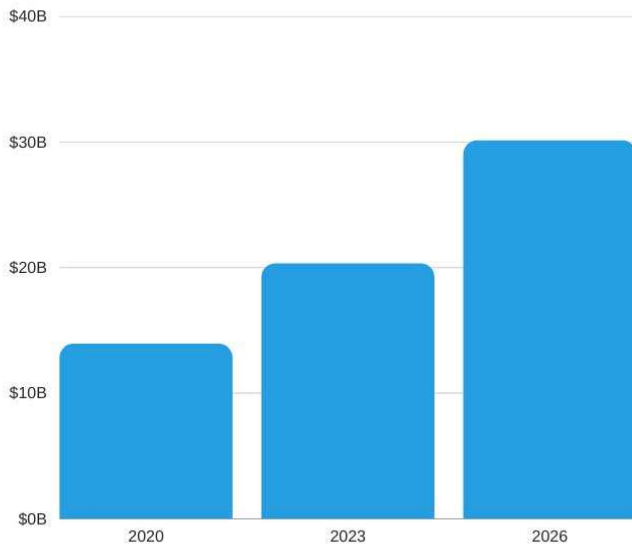
Source: Statista: Worldwide Warehouse Automation Market Size

SelectHub

https://www.selecthub.com/warehouse-management/warehouse-automation-trends/

Warehouse Automation Market Map 2020 – 6th Edition

Manufacturing customers and logistics customer face different types of operational challenges

Manufacturing:

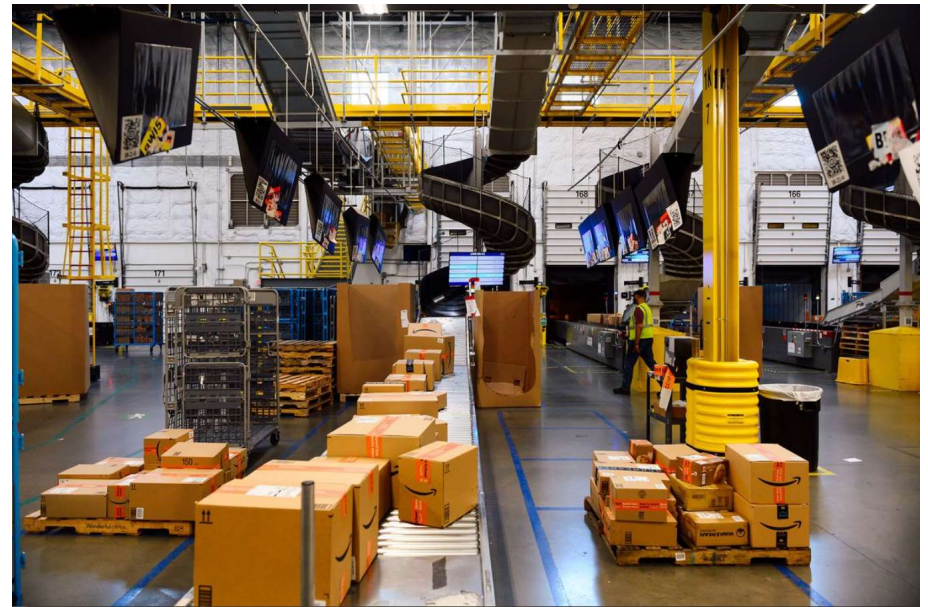Same product, high speed, labor costs, most went through automation

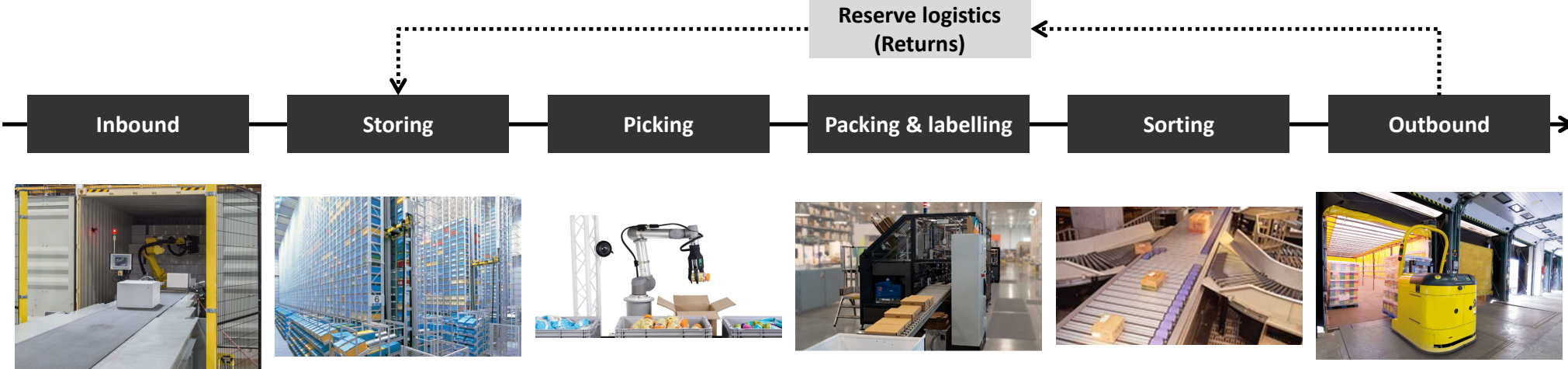**Logistics:**

Different product, high speed, labor costs, space, in the process of being automated

The general process at a warehouse

Reserve logistics (Returns)

Inbound	Storing	Picking	Packing & labelling	Sorting	Outbound

Safety

Traceability

Warehouse automation development trends

Warehouse labor breakdown for split-case distribution services.

2

- 9%, Inventory, 4%, Miscellaneous re-warehousing
- 3.5%, Put away
- 1.5%, Inbound check
- 2%, Unload
- 20%, Replenish
- 2.5%, Load
- 7.5%, Check and pack
- 50%, Pick

1
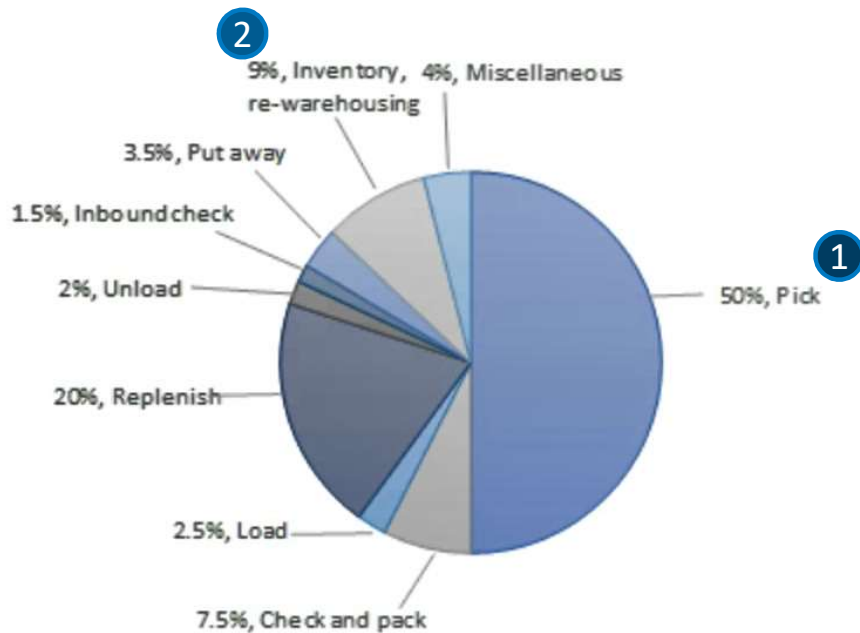
Warehouse Automation Trends
THAT WAREHOUSE MANAGEMENT SOFTWARE BUYERS SHOULD KNOW ABOUT

BIG DATA AND PREDICTIVE ANALYTICS	MODULAR SOLUTIONS
IOT AND CONNECTED LOGISTICS	WIRELESS FLEET MANAGEMENT
RISE OF THE ROBOTS	

3
Space

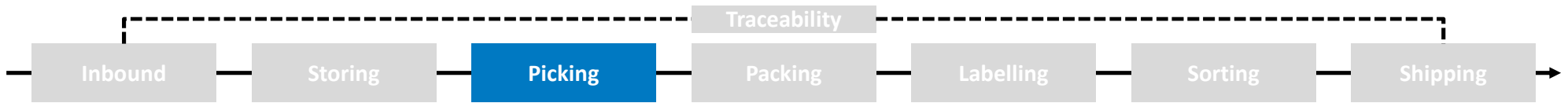# Order picking – dealing with the "randomness" in a large space

| Inbound | Storing | **Picking** | Packing | Labelling | Sorting | Shipping |

Traceability

(A) Robotic order picking station

Key technologies applied:

Bar-code reader / Sensors / Safety / order picking management software

(B) "Follow Me" order picking robot

Key technologies applied:

AMR / RFID / order picking management software

(C) Fully-automated order picking

Key technologies applied:

3D vision / Intelligent gripper / Cobot

Omron's solution for P2G order picking

AMRs eliminate walking distances for warehouse associates using software managed zone picking strategy

Order picking solution designed for a 3PL

Standard order picking solution developed by an logistics OEM

Enhancing Omron's position for G2R order picking market

Partnerships with AI vision software partners broaden Cobot's capability to handle "unknown" objects

RIGHTHAND ROBOTICS™

a) Code reading application

b) Safety assessment
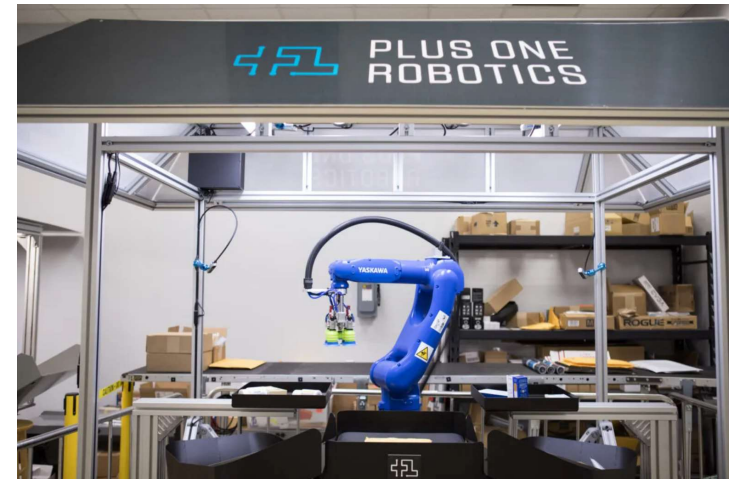
c) Item picking with cobot

+ NX/NA + B5L + etc

FIZYR

+ 3rd party 3D camera

Item picking with cobot

PLUS ONE ROBOTICS

+ 3rd party 3D camera

Item picking with cobot

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Inventory Tracking – tracking the "unknowns" with efficiency

Inbound → Storing → Picking → **Packing** (Traceability) → Labelling → Sorting → Shipping

Labels

RFIDs

Using RFID for inventory tracking

- RFID tower mounted on AMR
- Integrated with inventory tracking software
- High accuracy and low human costs

Tunnel scanning

Separated image acquisition and processing devices create architectural flexibility and lowers overall solution costs

Industrial Camera Based Scan Tunnel

Equates To Improved

Flexibility

Scalability

& Reduced Cost

Scalability
Same Controls, Software Package for Single Side as 6 Sides W/ 3D Profile

Flexibility
Different Resolution Cameras & Lensing easily accomplished

Support & Installation
Can be purchased w/install & or Remote Support Package

Gig-E Industrial Cameras for 1-5 Sided Solutions
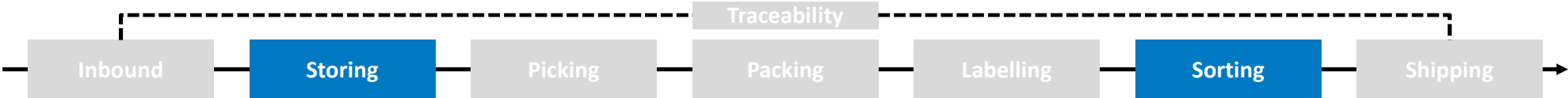
Gig-E Industrial Line Scan Camera for 6th Side

Low Cost Lensing for Fixed Distance & High Speed Autofocus for Variable Distance

3rd Party 3D Profile Laser as an add on option if desired

Automated storage – bringing space saving advantage

| Inbound | **Storing** | Picking | Packing | Labelling | **Sorting** | Shipping |

Traceability

ADJUSTABLE PALLET RACKING

Automatic storage and retrieval (AS/RS) system or robotic shelf

Key technologies applied:

Shuttle robot / Sensors / Safety / RFID / inventory management software

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Connecting AMRs with AS/RS

Replace conveyors with AMRs to bring ultimate flexibility in the infrastructure of your warehouse

https://andugo.io/report/aa997c6d-182d-4a3b-b6c3-e4f3d23064af

https://www.par.com/capabilities/automated-assembly/handling/fulfillment/

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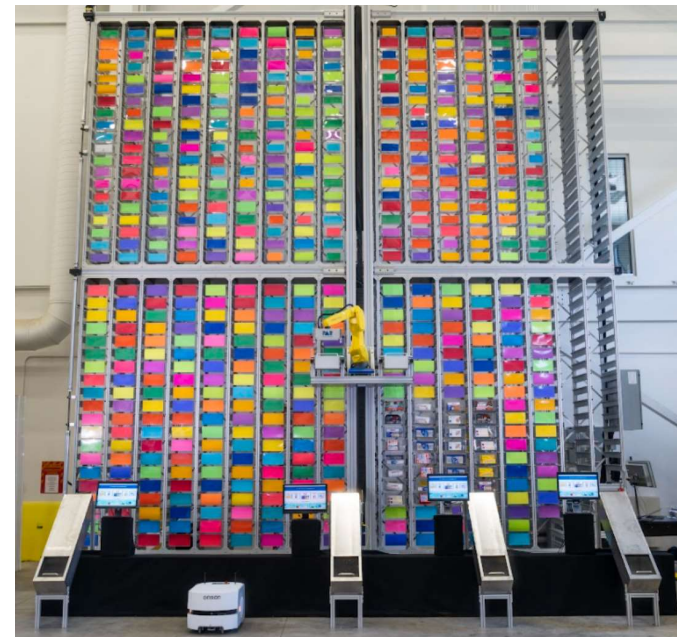
We invite you to…

Partner with Omron to develop
ground-breaking solutions

Bring customers to us for PoC testing