



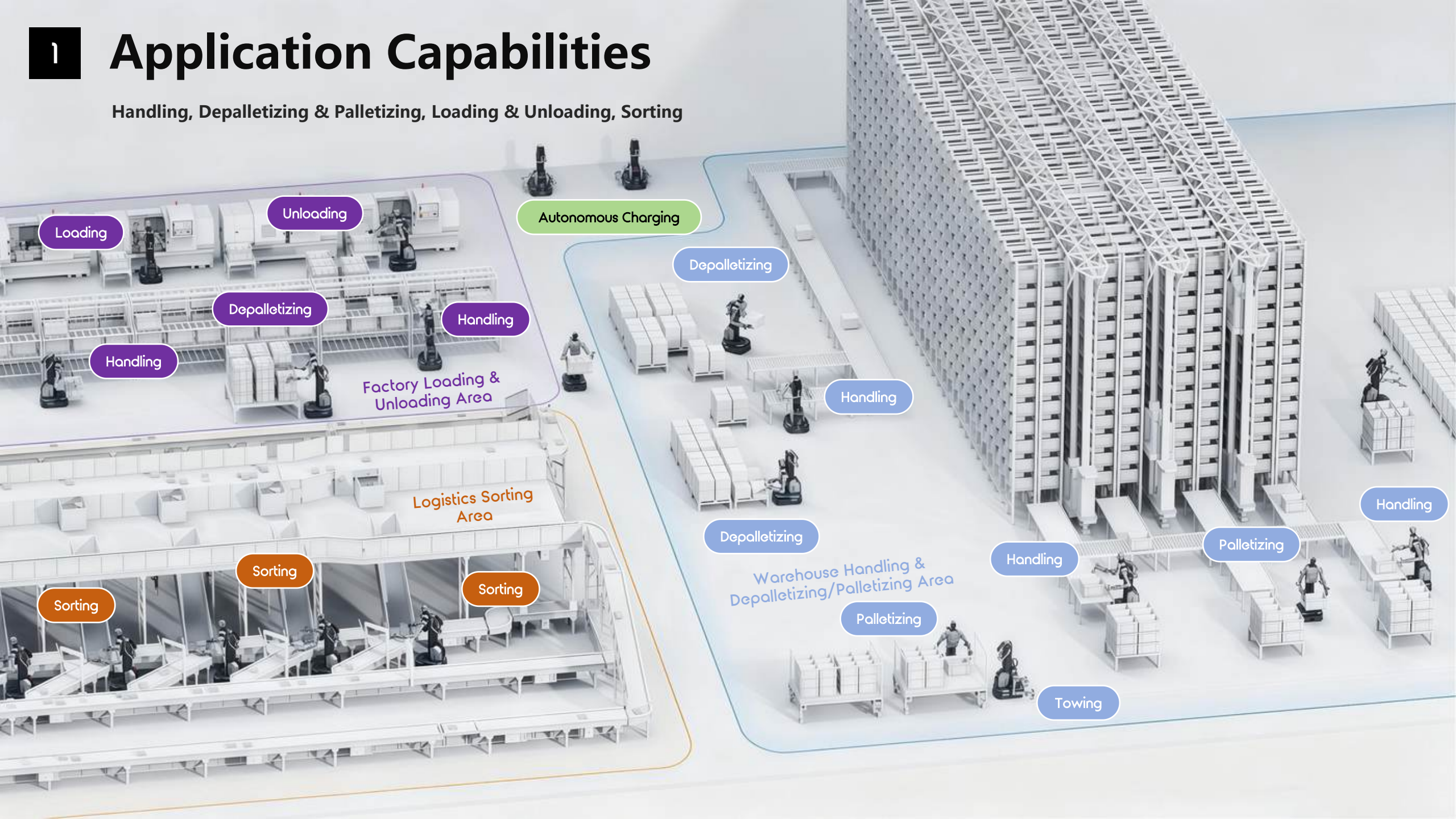
Cruzr Y1

Industrial Embodied Intelligence Humanoid Robot

Built for industrial scenarios: reliable, efficient, flexible, and cost-effective

Application Capabilities

Handling, Depalletizing & Palletizing, Loading & Unloading, Sorting



2

Bin Handling

Container Type: Plastic Bin

Flexibility: Compatible with multi-sized bins of the same type

Max Dimensions: 650 × 450 × 400 mm

Minimum Cycle Time: 15 seconds



2

Carton Handling

Container Type: Carton

Flexibility: Compatible with multi-sized bins of the same type

Max Dimensions: 650 × 450 × 400 mm

Minimum Cycle Time: 15 seconds



3

Bin Depalletizing & Palletizing

Container Type: Plastic Bin

Flexibility: Compatible with multi-sized bins of the same type

Max Dimensions: 650 × 450 × 400 mm

Minimum Cycle Time: 30 seconds



3

Carton Depalletizing & Palletizing

Container Type: Carton

Flexibility: Compatible with multi-sized bins of the same type

Max Dimensions: 650 × 450 × 400 mm

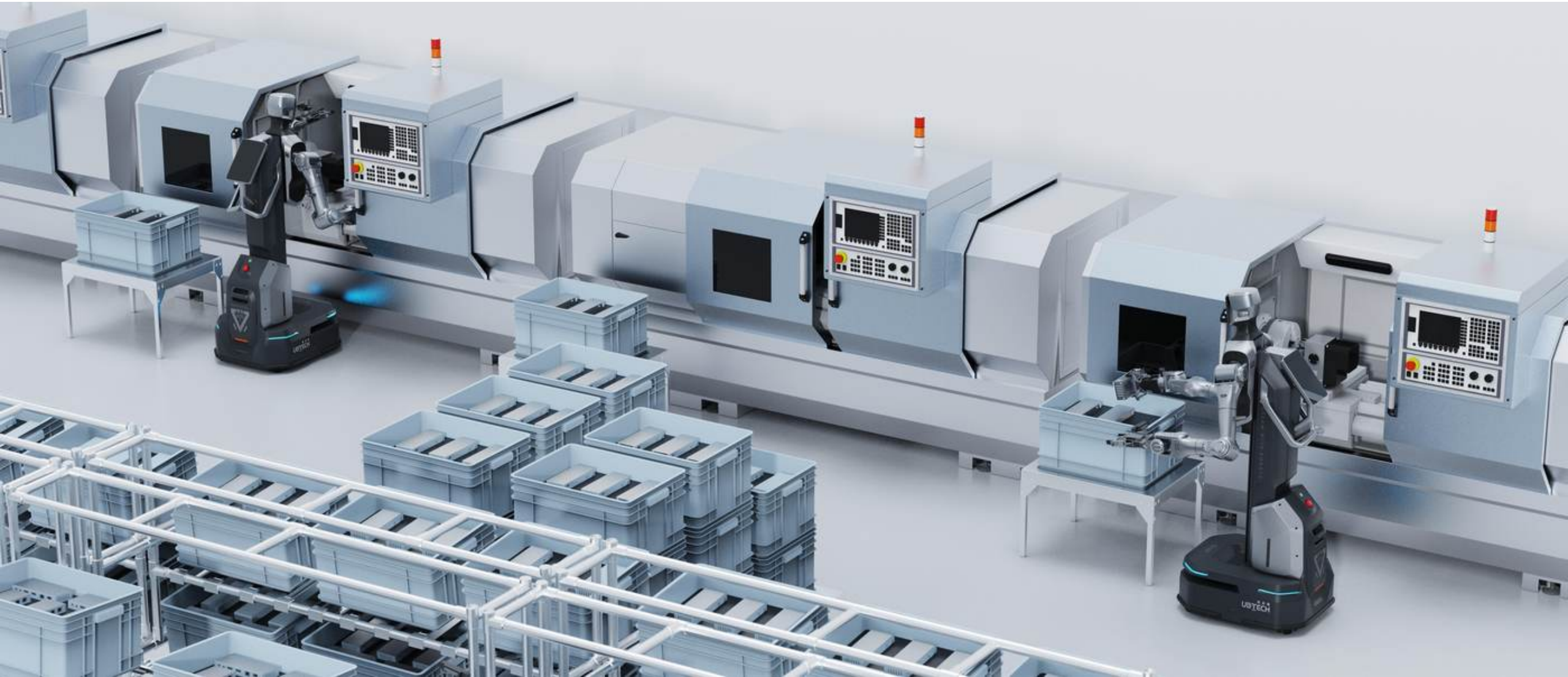
Minimum Cycle Time: 45 seconds



4 Loading & Unloading

Material: Metal parts, plastic parts, etc.
Flexibility: Precise picking & placing of ordered parts

Size: 50 – 1000 mm
Minimum Cycle Time: 10 seconds



5

Sorting

Material: Hard packages, soft packages, documents, etc.

Flexibility: Precise picking & placing of mixed and disordered items

Size: 50 – 1000 mm

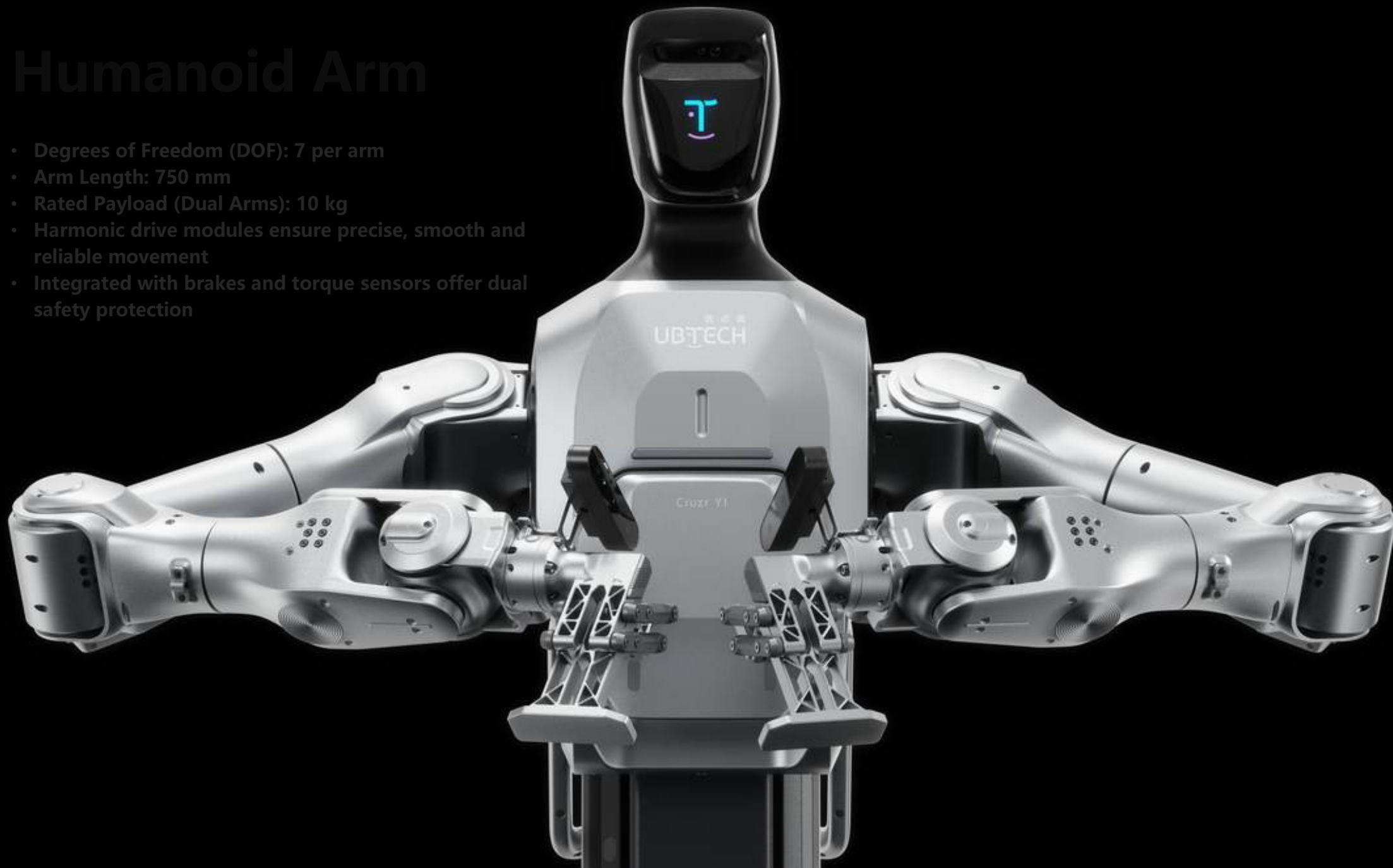
Minimum Cycle Time: 5 seconds



6

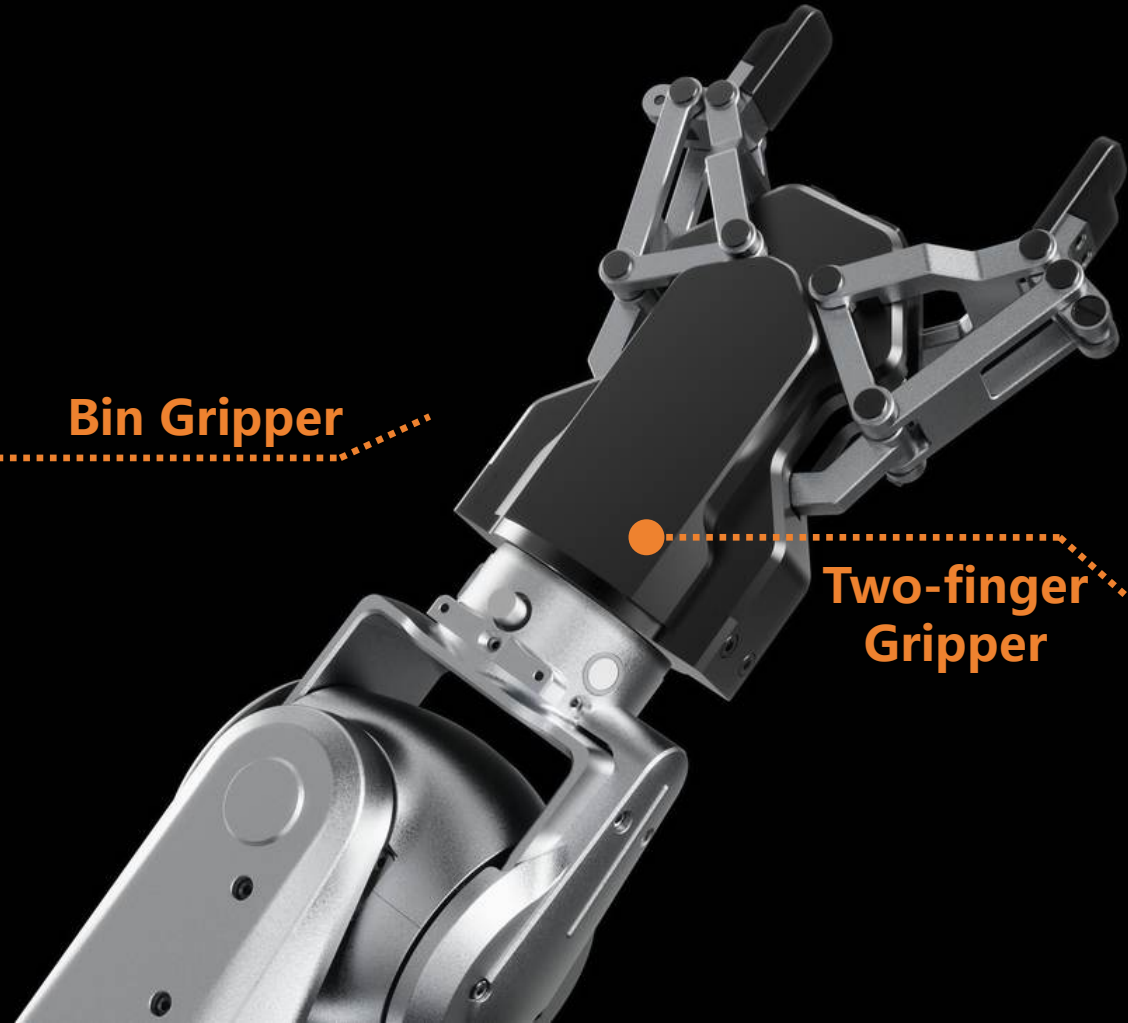
Humanoid Arm

- Degrees of Freedom (DOF): 7 per arm
- Arm Length: 750 mm
- Rated Payload (Dual Arms): 10 kg
- Harmonic drive modules ensure precise, smooth and reliable movement
- Integrated with brakes and torque sensors offer dual safety protection



End Effector | Customizable on Demand

Custom end effectors for diverse applications
Standard ISO 9409-1 mounting flange
Plug-and-play support



Bin Gripper



Two-finger
Gripper

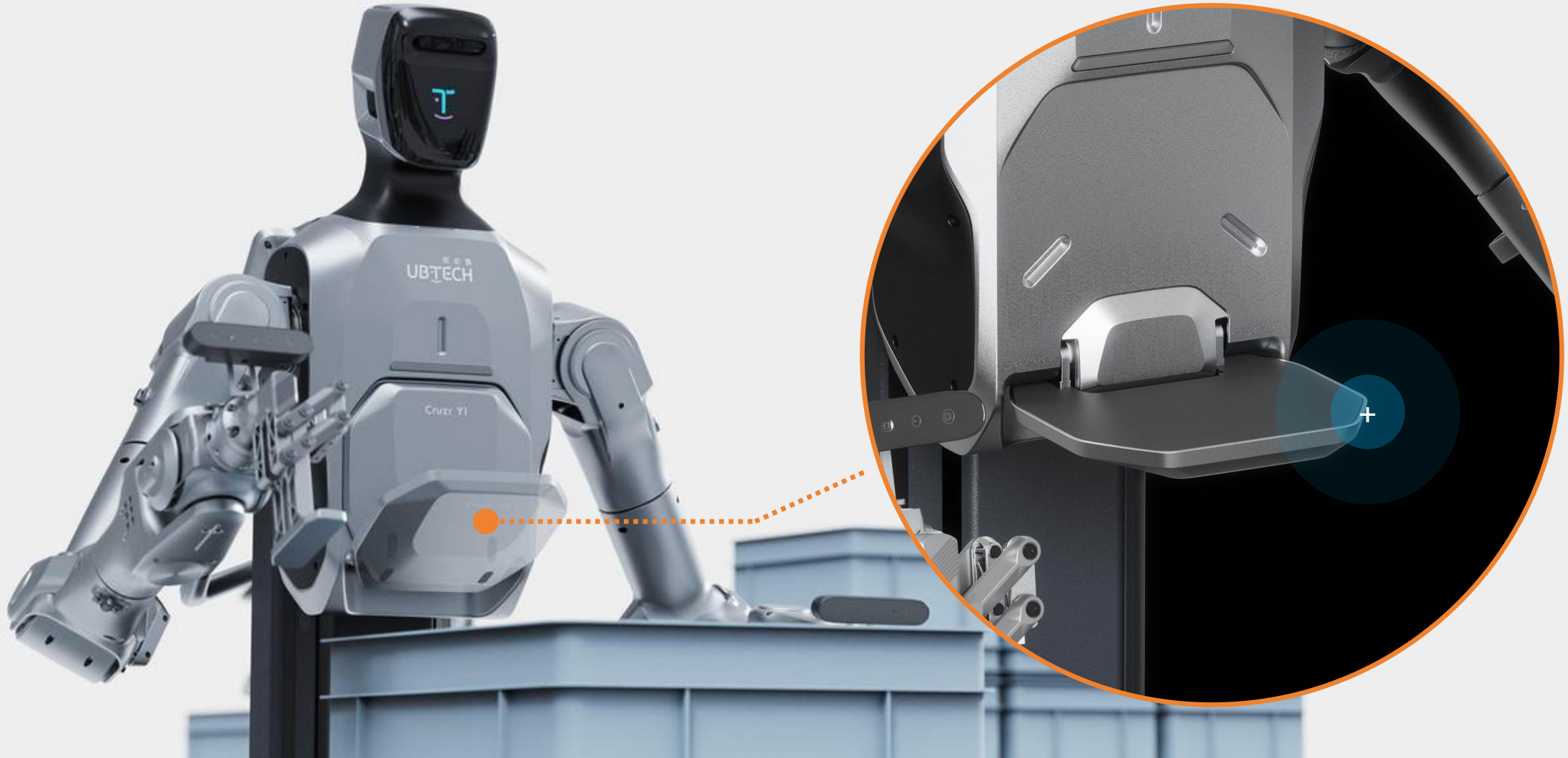


Carton Clamp

8

Waist Load Support Plate

The unique waist load tray eases arm load, reduces joint wear and improves robot durability and reliability.



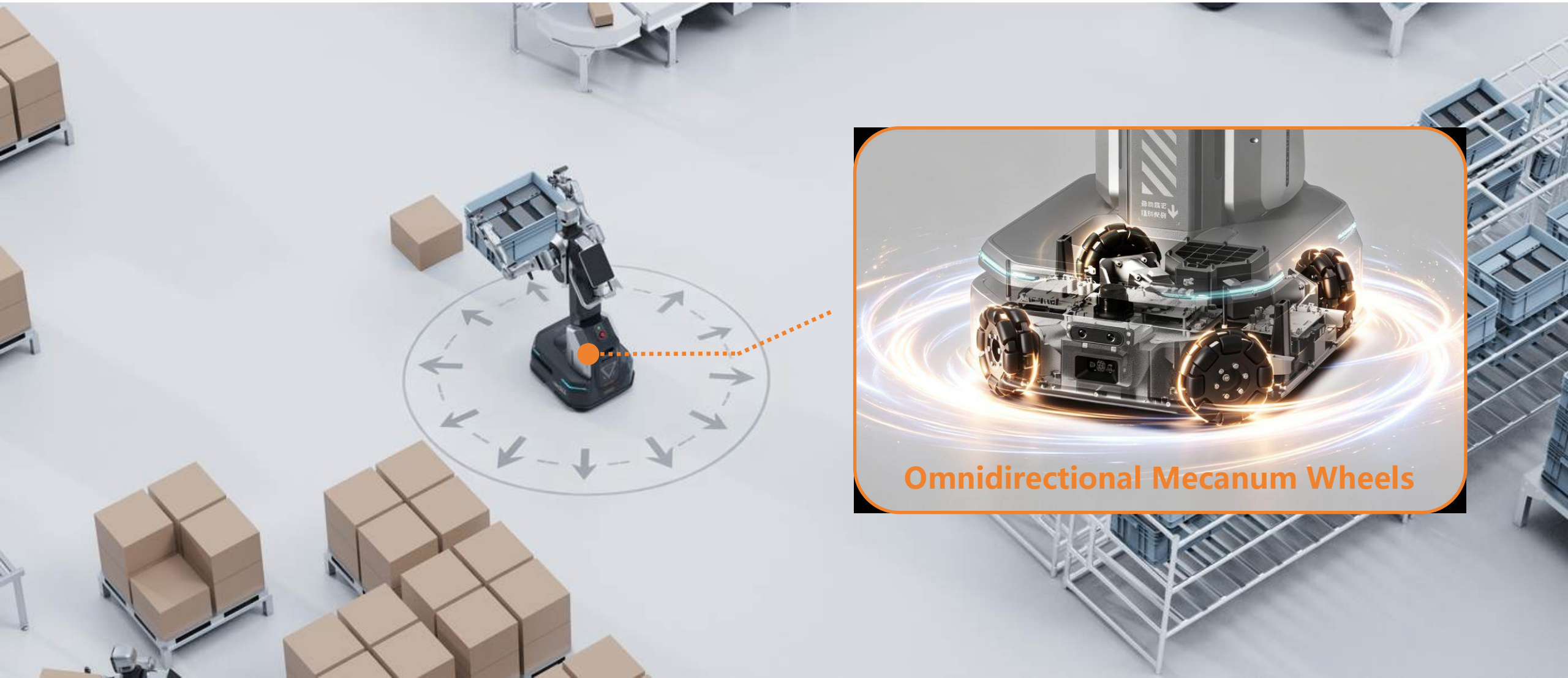
9 Rear Manual Pusher

The ergonomic rear pusher allows easy, labor-saving movement for robot transfer across areas.



Omnidirectional Base Wheels

Omnidirectional wheel design for free translation in all directions, Navigates complex paths with ease, Boosts space utilization and movement efficiency



Omnidirectional Mecanum Wheels

Vertical Lifting, Safe & Efficient

Lifts up to 850 mm, supporting operation within 0–1.8 m height range.



12

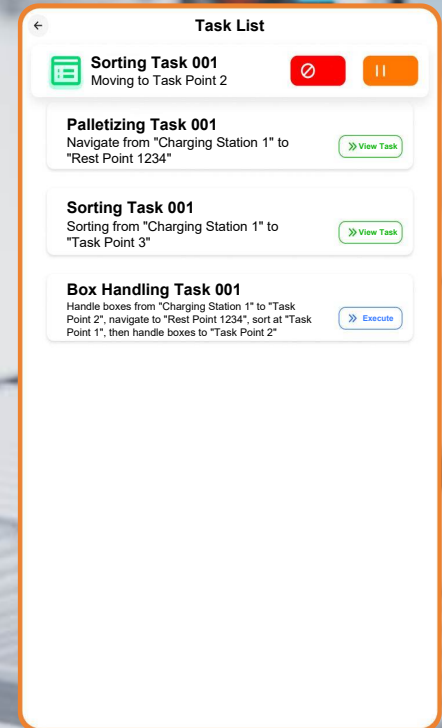
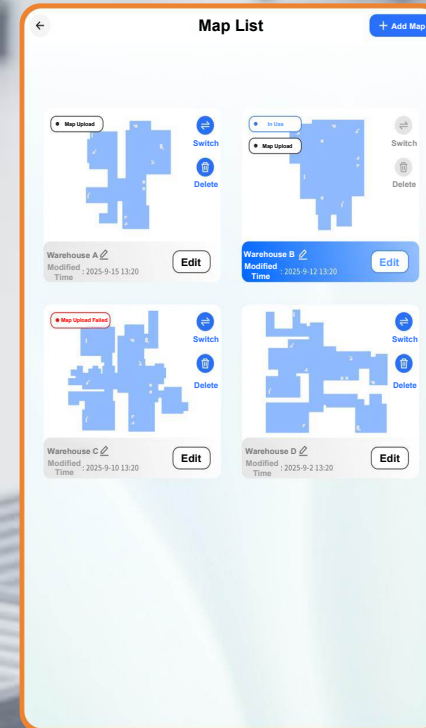
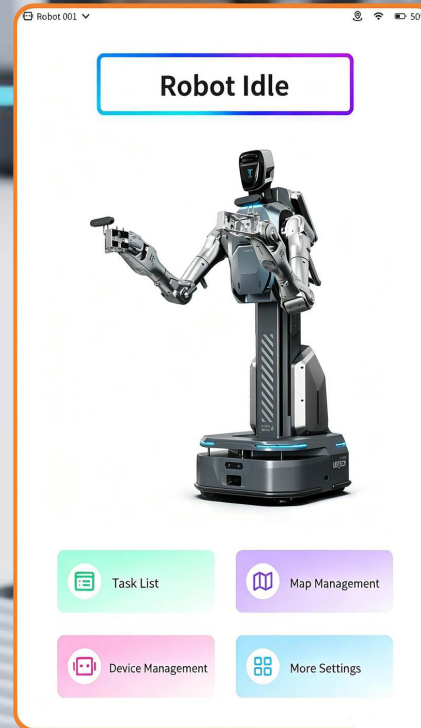
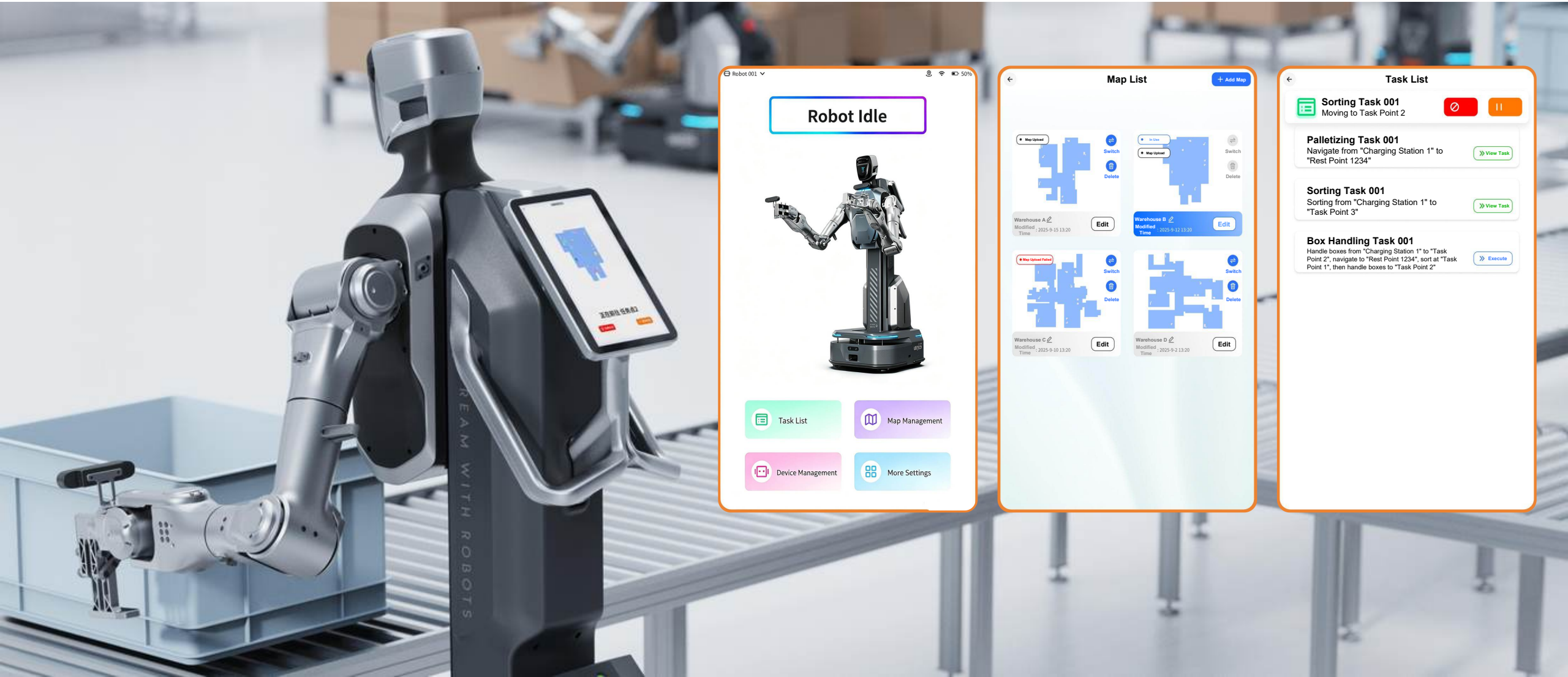
Auto Charging + Quick-change Battery

Real-time battery monitoring via cloud, Self-developed charging piles, Auto select charging/battery swap by task priority, Dynamic energy management



Human-Machine Interaction

Skill Management, Task Management, Map Management, Device Management



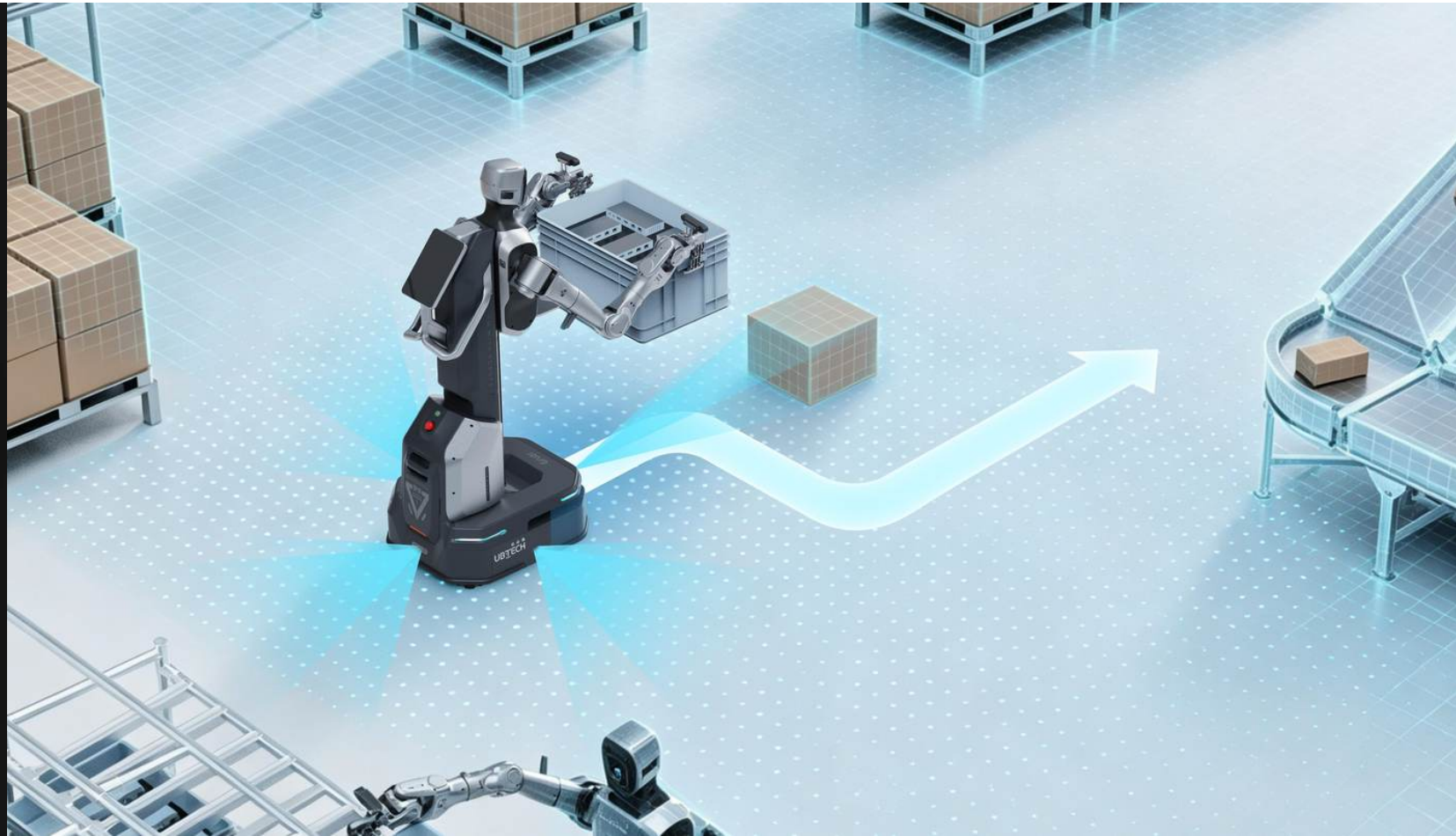
Fused Navigation and Obstacle Avoidance Solution

Intelligent Navigation, Precise & Efficient: Equipped with multi-sensor fused navigation of LiDAR SLAM and binocular vision. It achieves accurate movement and stopping, supports free path planning, and adapts well to complex working environments.

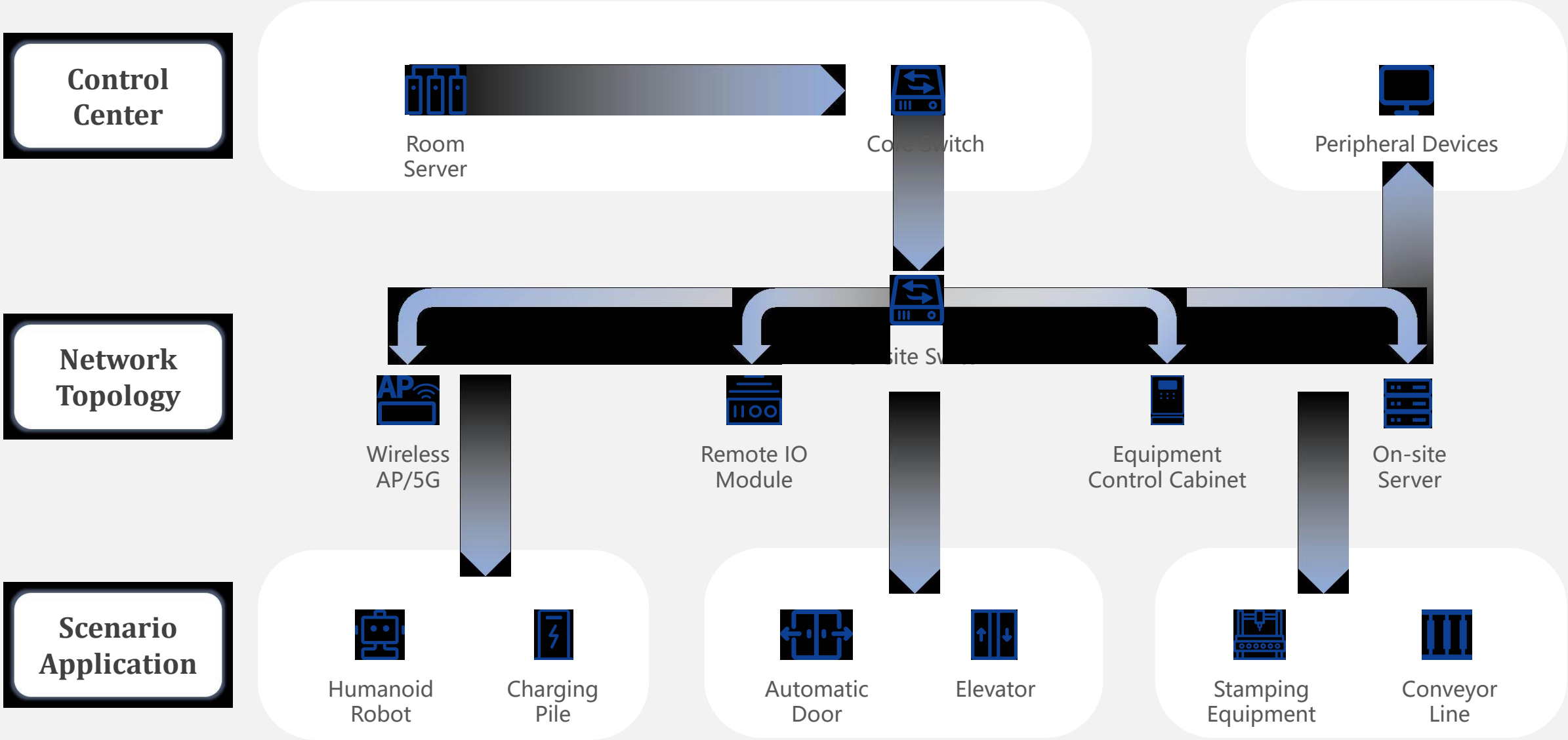


Fused Navigation and Obstacle Avoidance Solution

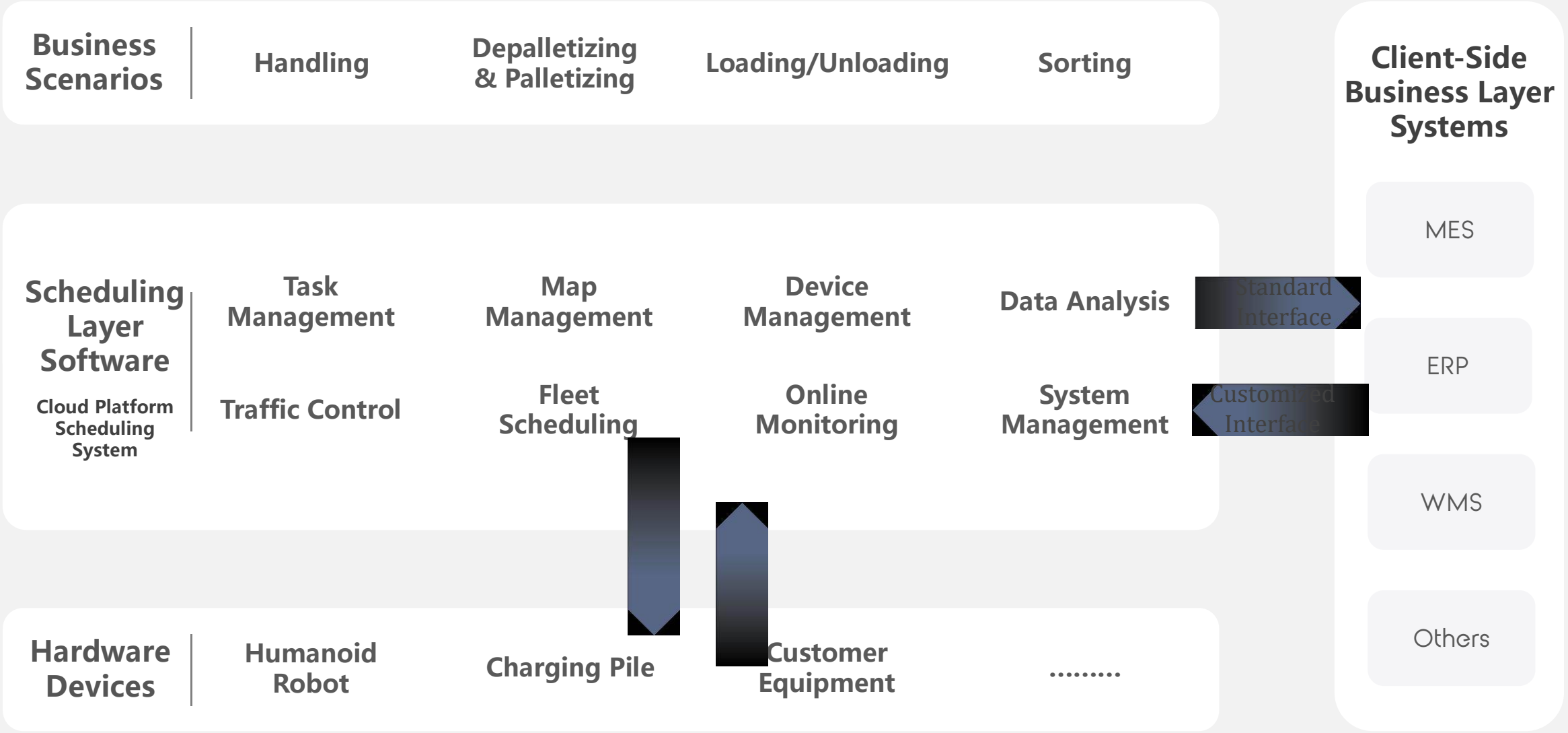
Multiple Obstacle Avoidance, Safe and Reliable: Integrated with LiDAR, vision, TOF, audio & light alerts and safety bumpers. The all-round protection system guarantees safety during human-robot collaboration.



Hardware System Architecture



Software System Architecture



Cloud Platform System



Task Management

Task Creation & Distribution
Intelligent Task Allocation
Task Status Monitoring
Task Priority Management



Map Management

Map Creation & Editing
Path Planning & Optimization
Zone Management & Traffic Control
Map Version Management



Robot Management

Robot Status Monitoring
Robot Skill & Parameter Configuration
Robot Fault Diagnosis
Robot Fleet Scheduling



Data Management

Real-time Data Monitoring
Data Report Generation
Data Analysis & Visualization
Historical Data Traceability Query

Cruze Y1 Main Specifications



Head RGBD
(1pcs)

Load Support Tray
(1pcs)

Arms
(2pcs)

Lifting Module(1pcs)

Wrist RGBD
(2pcs)

End Effector
(2pcs)

LiDAR
(1pcs)

Area-array TOF
(2pcs)

Auto Charging Port
(1pcs)

Operation Screen
(1pcs)

Manual Push Handle
(1pcs)

Power Switch
(1pcs)

Emergency Stop Button
(1pcs)

Battery
(1pcs)

Status Indicators
(4pcs)

Binocular Camera
(2pcs)

Cruzt Y1 Parameters

Basic Parameters	Weight	90+kg	Safety Protection	Cameras	Head RGBD*1 Hand RGBD*2
	Size	650*550*1700mm		Chassis Obstacle Avoidance	Front: LiDAR + Binocular Vision Rear: Binocular Vision Left: Area-array TOF Right: Area-array TOF Bottom: Full-perimeter Safety Bumper
	Navigation	LiDAR slam+Vslam			
	Wireless Communication	Wifi/5G			
Motion Performance	Chassis Type	Omnidirectional Chassis	HMI	Emergency Stop Button	1pec
	Speed	1.5m/s		Display	Rear*1, Front*1
	Lifting	Vertical		Speaker	1pec
	Min Passage Width (Loaded)	1800mm		Indicators	4pecs
	Min Passage Width (Unloaded)	1200mm		Voice Alert	Standard
	Positioning Repeatability	±20mm/±2°		Type	LiFePO ₄ (LFP) Battery
Arm Parameters	Length	750mm	Power Management	Continuous Operation Time	> 4h
	Payload	10kg		Method	Auto/Manual/Quick Battery Swap
	DOF	7		Charge Time	< 1.5h
	Force Control	Standard	Working Environment	Temperature	0-45℃
	Brake Hold	Standard(7-axis)		Humidity	5%-95%
	Working Height Range	0-1800mm		Storage Temperature	-15℃-60℃
				Indoor/Outdoor	Indoor

From shoulder center to the 7th joint end mounting flange

Software Release Plan



2026/5-2026/6

Handling

Bin & Carton Handling, Depalletizing & Palletizing, Compatible with boxes and pallets of various sizes



2026/7-2026/8

Loading & Unloading

Point-to-Point Loading/Unloading for Regular Materials



2026/9-2026/10

Sorting

Sorting, Loading/Unloading and Teleoperation for Unplaced and Irregular Parts

Dream with Robots



**UBTECH Embodied AI Humanoid Robots Enable
Full Flexibility Upgrade in Manufacturing**

