



INTELLIGENT LOGISTICS ROBOT SYSTEM

GUOZI



Counterbalanced
Forklift AGV



3T
Handling
Forklift AGV



Hand
Forklif



B5-roller-X
Intelligent
Handling Chassis



B10
Intelligent
Handling Chassis



A10
Intelligent Lacking AGV



In

Corporate Vision

COMMITTED TO BECOMING

**A GLOBAL LEADING
COMPANY
IN MOBILE ROBOT**



| Core Advantages |

Professional Logistics Planning

We deeply explore user needs from the perspective of partnership, and deeply customize solutions with logistics experts. We use professional scientific means to verify, realize value through products and the whole process, and meet customer's expectations for logistics.



Digging Needs



Professional Design



Global Simulation



Mapping Correction



Product Definition



Mobile Chassis

Fully diversified chassis forms (wheel type, bridge type, differential speed, omnidirectional, steering wheel) can be quickly and flexibly customized



Autonomous Navigation

Industrial complex semi-open environment, millimeter-level full-cycle accuracy, chain data-driven algorithm evolution



Smart Hardware

Full-level autonomous hardware (sensing-communication-drive-control), embedded visual configuration software and algorithms



Smart Device

Intelligent support for the full life cycle of intelligent robots (AMR/AGV)



Safety Guarantee

The safety loop formed by sensor control (laser, ultrasonic, infrared sensor, safety bumper) and functional safety (FS) ensures the safety in the working environment



Configuration Software

GUOZI ROBOT ADVANCED CONFIGURATION ENVIRONMENT

Create a Smarter Future With Robots

Fully respond to various customization needs

GRACE+

Facilitates the construction of various products and applications

RAAT Robot As A Tool

Create a Smarter Future With Robots

The core characteristics of RAAT are high adaptability and high flexibility. Compared with robots that must work based on fixed routes, rules, and standardized requirements, we do not need to customize solutions due to the diversity and complexity of scenarios. Our robots will be more adaptable to various complex and mixed collaborative industrial scenarios. It can achieve flexible recognition of objects in the scene, and finally achieve "low cost, maintenance-free", allowing robots to have broader application scenarios.

CONVENIENT

QUICK DEPLOYMENT
USER FRIENDLY

UNIVERSAL

STANDARD PRODUCT
EASY TO OPERATE

RELIABLE

SAFE SYSTEM
STABLE PERFORMANCE

RAAS Robot As A Service

Provide Intelligent Solutions for Applications
in Various Industries

We pay attention to the deep cultivation of the industry and the accumulation and replication of scenarios. We understand the needs of the industry, are proficient in process technology, and are committed to solving customer pain points, so as to truly realize the implementation of user needs, intelligent solutions, and synergy of integrated systems.

CUSTOM

UNDERSTAND INDUSTRY
PAIN POINTS
DIG DEEP INTO USER
NEEDS

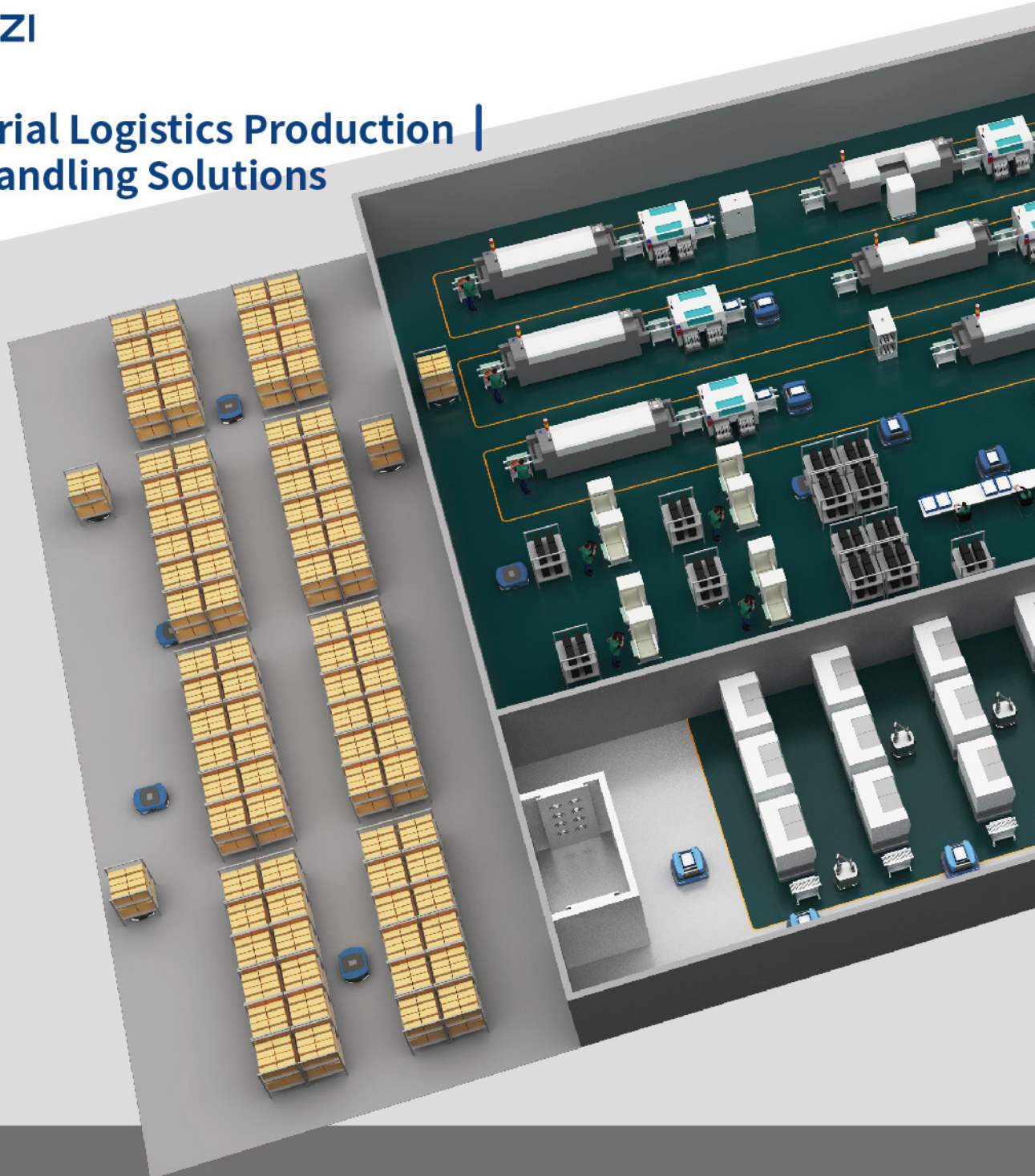
INTELLIGENT

LEADING PRODUCT
INDUSTRY
HIGH PROJECT
ADAPTABILITY

COLLABORATIVE

SOLUTIONS FOR VARI-
OUS INDUSTRIES
STRONG SYSTEM INT-
TEGRATION ABILITY

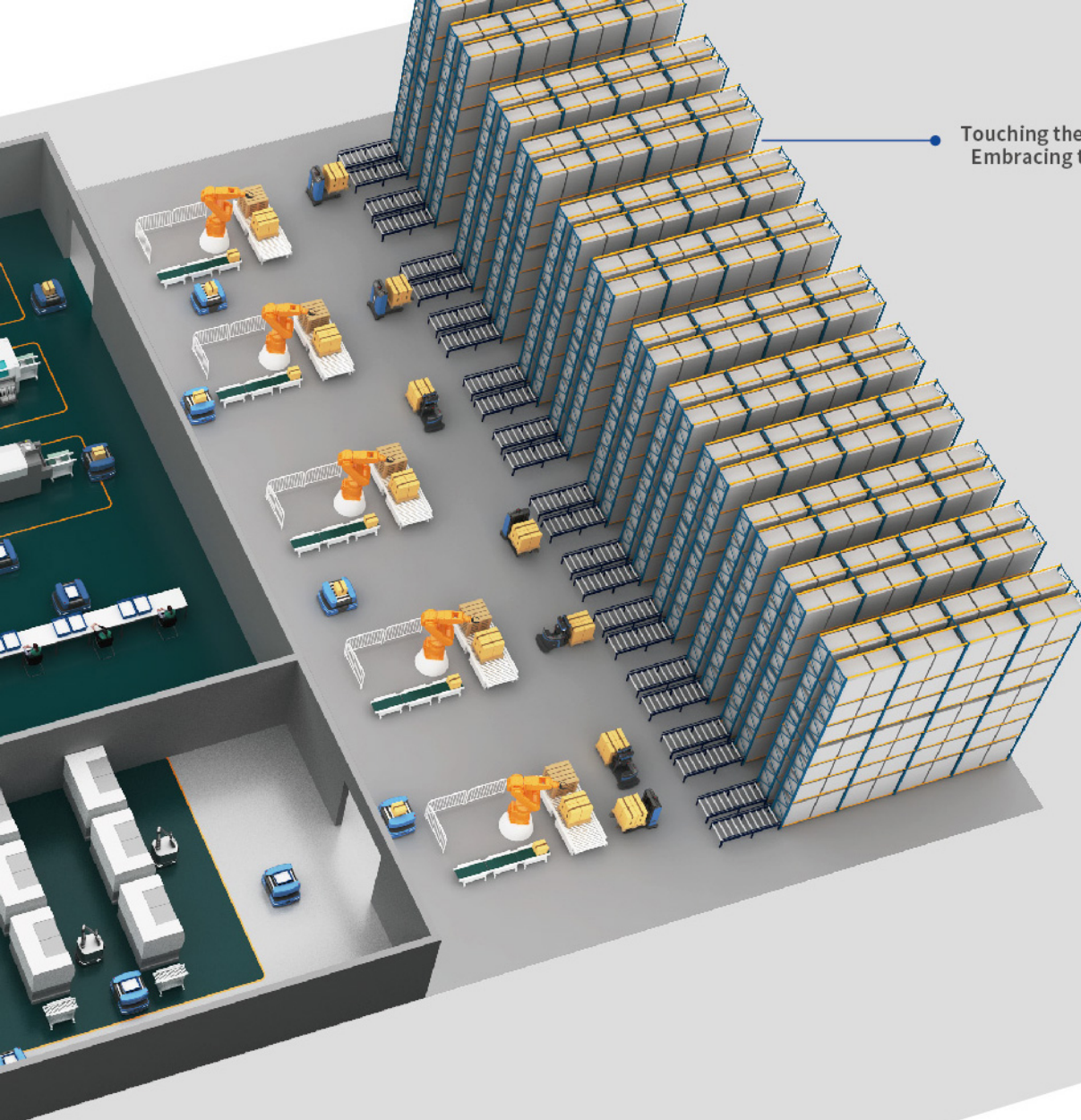
Industrial Logistics Production Line Handling Solutions



Project Overview

Guozi robot industrial logistics production line handling solutions based on flexible handling robots, with the robot dispatching management system REX as the core, breaks the logistics handling bottleneck of the discrete process of the factory, redefines intelligent handling, improves production efficiency, and greatly reduces labor costs.

The flexible handling robot inventively adopts the four product design concepts of "dive-in handling, traction handling, shuttle handling, and fork-type handling", covering the entire scene of production line handling, and can efficiently complete the rapid transfer of materials in various production lines/stations, fully automatic loading and unloading as well as the realization of cross-floor and cross-plant transportation, open up the material flow of the entire production line, suitable for automobile manufacturing, construction machinery, 3C electronics, photovoltaics, semiconductors, tobacco and other industries.



Touching the World and
Embracing the Future!

Project Highlights

Multi-scenario

Various types of car bodies are designed to realize material handling between various stations in different production lines, and fully automatic loading and unloading of materials.

Auto-docking

Customize the connection design according to different production line sizes, and flexibly connect roller, conveyor belts, lifting mechanisms, and ASRS.

Auto-handling

The system provides a Web-service interface, which can connect with the enterprise MES/WMS system, and automatically issue tasks to robots to realize fully autonomous handling.

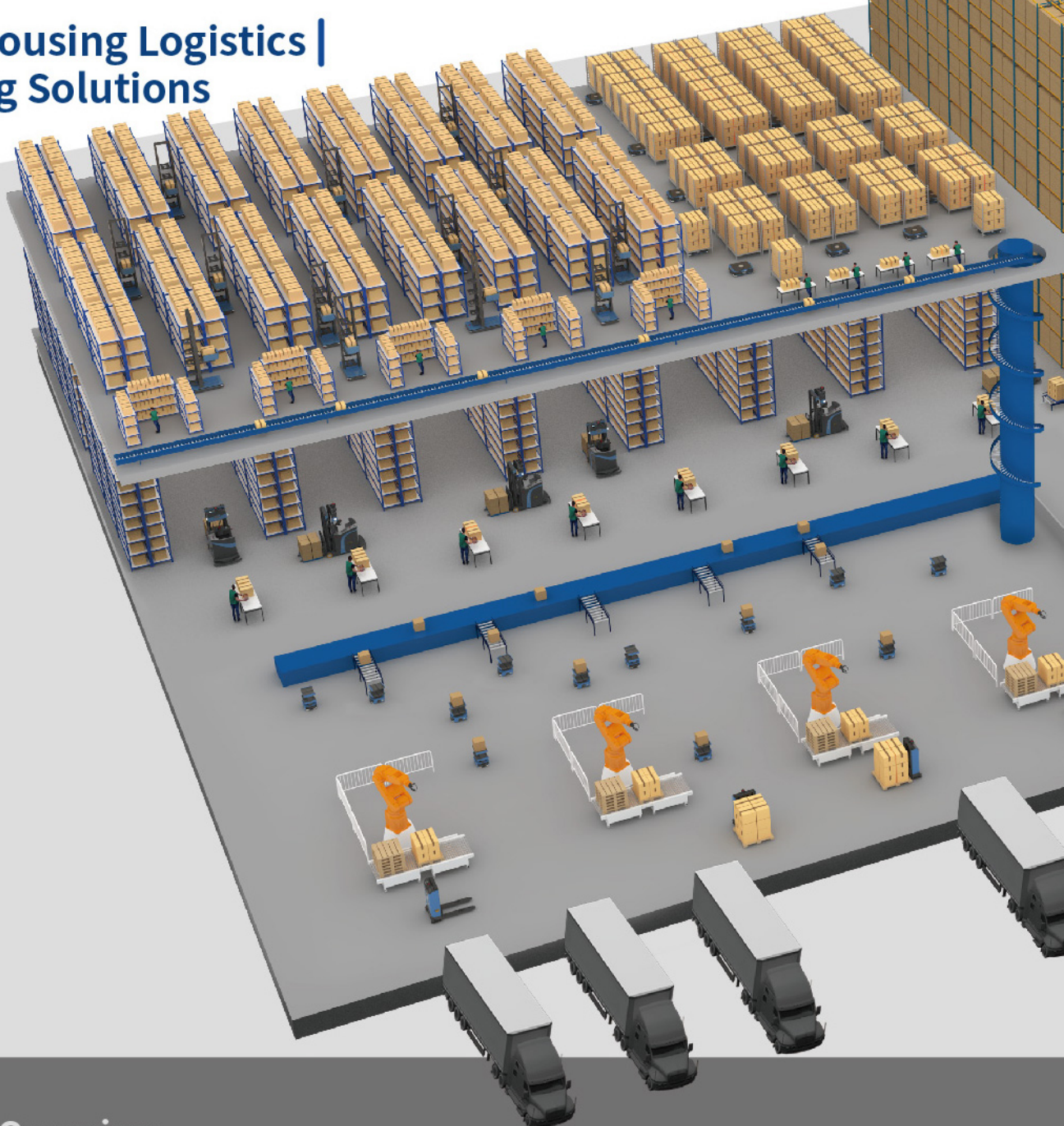
Multiple Vehicles

It supports simultaneous dispatching of multiple types of robots, and can flexibly plan and adjust the robot path according to the needs of the production line to ensure the best operating efficiency.

User Friendly

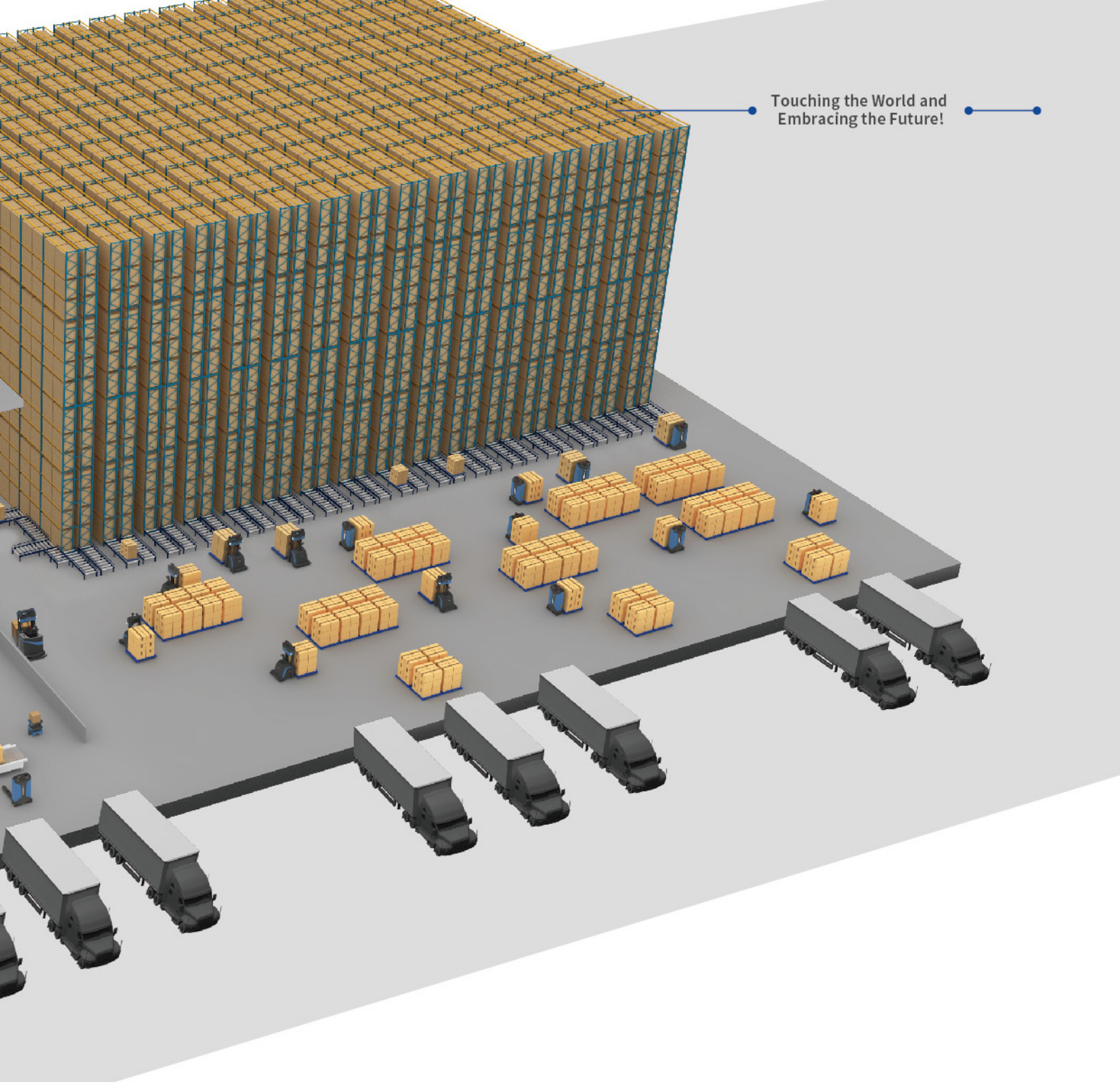
The system supports independent map modification, real-time monitoring of robot operation status, real-time position, and intelligent operation and maintenance.

| Warehousing Logistics | Picking Solutions



Project Overview

Guozi warehousing logistics picking solutions based on flexible picking robots, with the robot dispatching management system REX as the core, and based on the efficient and accurate picking, it provides solutions that can be applied to a variety of scenarios, including relay picking, station picking, online picking, etc.



Touching the World and
Embracing the Future!

Project Highlights

Quick

The picking efficiency of robots is more than 30% higher than manual picking.

High

High racks rather than the traditional manual work space and can effectively increase the warehouse volume by more than 30-40%.

Accu- rate

99.99% picking accuracy ensures accurate storage operations.

Stable

Efficiency balanced output, improving the overall warehouse operation performance by more than 40%.

Last- ing

24-hour uninterrupted operation, improving the efficiency of the whole warehouse by more than 50%.

Intelligent Forklift Robot



Product		Handling Forklift AGV	Stacking Forklift AGV
Basic Parameters	Dimensions (mm)	2254×1177×2193	2459×1177×2330
	Weight(Kg)	1390	1230
	Rated Load(Kg)	3000	2000
	Lifting Height (mm) can be customized	205	3000
	Fork Size(mm)	1220×180×65	1220×180×65
Navigation Performance	Navigation Method	Laser Slam/Reflector	Laser Slam/Reflector
	Positioning Accuracy (mm)	±5	±5
Motion Performance	Maximum Moving Speed (no load) (m/s)	1.5	1.5
	Maximum Moving Speed (full load) (m/s)	1.2	1.2
	Maximum Gradeability (full load/no load) (%)	6/8	5/8
Safety	Safety Sensor	Front, back and sides	Front, back and sides
	Safety Bumper	Available	Available
	Emergency Button	Front and sides	Front and sides
Battery	Battery Type	Iron Phosphate Battery	Iron Phosphate Battery
	Rated Voltage (V)	24V	24V
	Battery Capacity (Ah)	180Ah	180Ah
	Battery Cycles	2500times	2500times
	Rated Operating Time (H)	6~8h	6~8h
Other Functional Customization	Flexible Entry	Optional	Optional
	3D Protection	Optional	Optional
	Natural Stacking	Unavailable	Optional



Counterbalanced Forklift AGV

3T Counterbalanced Forklift AGV

2T Reach Forklift AGV

3050×1200×2273

3746×1290×3005

2812×1290×2426

2325

5750

2500

1500

3000

2000

3000

4500

2700

1220×100×45

1200×150×50

1150×122×45

Laser Slam/Reflector

Laser Slam/Reflector

Laser Slam/Reflector

±5

±5

±5

1.5

1.2

1.5

1.2

1.0

1.2

5/8

5/8

5/8

Front, back and sides

Front, back and sides

Front, back and sides

Available

Available

Available

Front and sides

Front and sides

Front and sides

Iron Phosphate Battery

Iron Phosphate Battery

Iron Phosphate Battery

24V

48V

24V

180Ah

404Ah

252Ah

2500times

2500times

2500times

6~8h

6~8h

6~8h

Optional

Optional

Optional

Optional

Optional

Optional

Optional

Optional

Optional

Intelligent Handling Robot



Product		Ants 3	Ants 6
Basic Parameters	Dimensions L*W*H(mm)	795×560×285	948×730×265
	Lifting Plate Size L*W*H(mm)	691×521×11.5	Φ644×14
	Rated Load(kg)	400	800
	Weight (kg)	100	200
	Clearance From the Ground (mm)	20	20
	Rotation Diameter (mm)	855	950
	Lifting Distance(mm)	60	60
	Lifting Time (s)	3	3
Navigation Performance	Function of AGV Rotating Without Goods Rotating	Available	Available
	Navigation Mode (Q/L)	QR Code/Laser Reflector	QR Code/Laser Reflector
	Stop Accuracy (mm)	±5	±5
	Stop Angle Accuracy(mm)	<0.5	<0.5
Motion Performance	Movement Method	Forward, Reverse, Turn, Rotate	Forward, Reverse, Turn, Rotate
	Rated Moving Speed (no load)(m/s)	2.0	2.0
	Rated Moving Speed (full load)(m/s)	1.5	1.5
	Maximum Grade-ability (full load/no load)%	3/5	3/5
	Obstacle Climbing Ability(Full Load)(mm)	5	5
	Gap Crossing Ability(Full Load)(mm)	8	8
Network Performance	Network Configuration	5.8GHz WiFi/5G	5.8GHz WiFi/5G
	3D Protection	Optional	Optional
Safety	Obstacle Detection Mode	Front Laser Detection(Back Optional)	Front Laser Detection(Back Optional)
	Max Detection Range(m)	4	4
	Front Laser Max Detection Angle(°)	240	190
	Back Laser Max Detection Angle(°)	160	160
	Collision Detection	Front&Back Safety Bumpers+E-stop Button	Front&Back Safety Bumpers+E-stop Button
	Sound and Light Alarm	Available	Available
	Battery Type	Lithium Iron Phosphate Batteries	Lithium Iron Phosphate Batteries
Battery	Rated Voltage (V)	51.2	51.2
	Rated Operating Time (H)	8	8
	Charge-discharge Ratio	1:7	1:6



Ants 10	Ants 10 CE&UL	Ants 15
1146×810×275	1141×810×275	1146×810×275
1080×770×10	855×710×10	1080×770×10
1100	1000	1600
210	210	210
30	30	30
1150	1150	1150
68	68	68
4.6	4.6	6
Available	Available	Available
QR Code/Laser Reflector	QR Code/Laser Reflector	QR Code/Laser Reflector
±5	±5	±5
<0.5	<0.5	<0.5
Forward, Reverse, Turn, Rotate	Forward, Reverse, Turn, Rotate	Forward, Reverse, Turn, Rotate
1.6	1.6	1.2
1.5	1.5	1
3/5	3/5	3/5
5	5	5
8	8	8
5.8GHz WiFi/5G	5.8GHz WiFi/5G	5.8GHz WiFi/5G
Optional	Optional	Optional
Front Laser Detection(Back Optional)	Front Laser Detection(Back Optional)	Front Laser Detection(Back Optional)
4	4	4
240	200	240
160	160	160
Front&Back Safety Bumpers+E-stop Button	Front&Back Safety Bumpers+E-stop Button	Front&Back Safety Bumpers+E-stop Button
Available	Available	Available
Lithium Iron Phosphate Batteries	Lithium Iron Phosphate Batteries	Lithium Iron Phosphate Batteries
51.2	51.2	51.2
8	8	8
1:6	1:6	1:6

Intelligent Picking Robot



Product		P4 (CE Version Available)	P4-D (Double Deep)
Basic Parameters	Dimensions (mm)	1736×880×5275	1739×880×5275
	Weight (kg)	550	560
	Standard AGV Bin Range L*W*H(mm)	L:300~610 W:360~400 H:100~400	L:300~610 W:340~400 H:100~400
	Standard Mast Layers	5 layers, 30 kg each, max custom 8 layers	5 layers, 30 kg each, max custom 8 layers
	Rated Tine Load (kg)	30	30
	Rated Handling Load (kg)	250	250
Navigation Performance	Navigation Method	QR Code Navigation (camera)	QR Code Navigation (camera)
	Secondary Stop Accuracy (single) (mm)	±10	±10
Motion Performance	Rated Running Speed (no load) (m/s)	1.2	1.2
	Rated Running Speed (full load) (m/s)	1	1
	Grade-ability (full load)	<5% (3°)	<5% (3°)
Network Performance	Container Secondary Positioning Method	QR Code Positioning (camera) (contour positioning optional)	QR Code Positioning (camera)+ Contour Positioning (laser)
	Minimum Docking Height(mm)	310	310
	Maximum Docking Height(mm)	4945	4945
	Lifting speed (no load/full load) (m/s)	0.5/0.5	0.5/0.5
	Container Secondary Placement Accuracy (mm)	±10	±13
	Secondary Lifting Stop Accuracy(mm)	±1	±1
	Fork Tine Telescopic Distance(mm)	0-935	0-1600
	Fork Tine Telescopic Secondary Stop Accuracy (mm)	±1	±1
Safety	Network Configuration	5.8GHz WiFi/5G	5.8GHz WiFi/5G
Battery	Rated Working Time (h)	8	8



P4-F (Hold)

P4-X (Adaptive Fork)

1720×880×5275

1739×880×5275

540

560

L:300~700 W:300~550 H:100~400

L:300~610 W:200~400 H:100~400

5 layers, 50 kg each, max custom 5 layers

5 layers, 30 kg each, max custom 8 layers

50

30

250

250

QR Code Navigation (camera)

QR Code Navigation (camera)

±10

±10

1.2

1.2

1

1

<3% (2°)

<5% (3°)

Contour Localization (depth camera)

QR Code Positioning (camera)+
Contour Positioning (laser)

430

310

4915 (depends on the height of the bin)

4945

0.5/0.5

0.5/0.5

±13

±13

±1

±1

0-1000

0-935

±1

±1

5.8GHz WiFi/5G

5.8GHz WiFi/5G

8

8

Intelligent Heavy Duty Robot



Product		3T Heavy Duty AGV	4T Heavy Duty AGV
Basic Parameters	Dimensions L*W*H(mm)	Customized	Customized
	Rated Load(kg)	3000	4000
	Weight (kg)	1070	1900
	Chassis Clearance (mm)	40	50
	Rotation Diameter (mm)	2200	6000
	Lifting Height(mm)	330	600
	Drive Wheel Spacing (mm)	1480 (mm)	4200 (mm)
Navigation Performance	Navigation Method	QR Code /Laser /Magnetic Navigation	QR Code /Laser /Magnetic Navigation
	Navigation and Positioning Accuracy (mm)	±10	±10
	Stop Position Accuracy (mm)	±10	±10
	Secondary Positioning Accuracy (single vehicle/multi-vehicle) (mm)	±10	±10
	Stop Angle Accuracy(°)	<0.5	<0.6
Motion Performance	Movement Method	Forward, Backward, Turn, Rotate, Traverse	Forward, Backward, Turn, Rotate, Traverse
	Drive Mode	Steering wheel	Steering wheel
	Braking Method	Electromagnetic Brake	Electromagnetic Brake
	Braking Distance (mm)	234mm	321mm
	Rated Moving Speed (no load)(m/s)	0.6~0.8/0.4~0.6	0.6~0.8/0.4~0.6
	Rated Moving Speed (full load)(m/s)	0.8/0.6	0.8/0/6
	Max Moving Speed (full load) (m/s)	0.8/0.6	0.8/0/6
	Average Moving Speed (full load) (m/s) (efficiency calculation)	0.6	0.6
Network Performance	Network Configuration	802.11b/g/n/ac	802.11b/g/n/ac
Safety	Obstacle Detection Method	Laser Detection (diagonal)	Laser Detection (diagonal)
	Max Detection Range (m)	4m	4m
	Safety Bumper	all-around safety bumper detection	all-around safety bumper detection



6T Heavy Duty AGV

Customized
6000
2200
40
3400
380
2404 (mm)
QR Code /Laser /Magnetic Navigation
±10
±10
±10
<0.5
Forward, Backward, Turn, Rotate, Traverse
Steering wheel
Electromagnetic Brake
191mm
0.5~0.7/0.3~0.45
0.7/0.45
0.7/0.45
0.4
802.11b/g/n/ac
Laser Detection (diagonal)
4m
all-around safety bumper detection

Product

Crabs 20

Basic Parameters	Dimensions L*W*H(mm)	1868×618×405
	Rated Load(kg)	2000
	Weight (kg)	450
	Chassis Clearance (mm)	25
	Rotation Diameter (mm)	1967
	Lifting Height(mm)	80
Navigation Performance	Navigation Method	QR Code /Laser /Magnetic Navigation
	Stop Position Accuracy (mm)	±5
	Stop Angle Accuracy(°)	<0.5
Motion Performance	Movement Method	Forward, Backward, Turn, Rotate, Traverse
	Drive Mode	Steering wheel
	Rated Moving Speed (no load)(m/s)	1.2
	Rated Moving Speed (full load)(m/s)	0.6
	Rated Traversing Speed (no load) (m/s)	0.6
	Rated Traversing Speed (full load) (m/s)	0.4
Network Performance	Grade-ability (full load\no load)	3/5
	Network Configuration	5.8GHz WiFi/5G
Safety	Obstacle Detection Method	Front Laser Detection (Back Laser Optional)
	Front Laser Max Detection Angle(°)	270
	Back Laser Max Detection Angle(°)	270
	Contact Detection	4 around Safety Bumper + Emergency Stop Button
	Audible&Visual Alarm	Available
Duration Performance	Rated Operating Time (H)	8
	Charge-discharge Ratio	1:5

SLIM Intelligent Forklift AGV



Product		SLIM Stacking Robot (CE Optional)	SLIM Handling Robot
Basic Parameters	Dimensions (mm)	1750×882×2040	1684×955×2035
	Weight(Kg)	700	580
	Rated Load(Kg)	1400	2000
	Lifting Height (mm) can be customized	1600	205
	Fork Size(mm)	1220×180×65	1220×180×65
Navigation Performance	Navigation Method	Laser Slam/Reflector	Laser Slam/Reflector
	Positioning Accuracy (mm)	±5	±5
Motion Performance	Maximum Moving Speed (no load) (m/s)	1.5	1.5
	Maximum Moving Speed (full load) (m/s)	1.2	1.2
	Maximum Grade-ability (full load/no load) (%)	3/5	3/5
Safety	Safety Sensor	Front, back and sides	Front, back and sides
	Safety Bumper	Available	Available
	Emergency Button	Front and sides	Front and sides
Battery	Battery Type	Iron Phosphate Battery	Iron Phosphate Battery
	Rated Voltage (V)	24V	24V
	Battery Capacity (Ah)	180Ah	180Ah
	Battery Cycles	2500times	2500times
	Rated Operating Time (H)	7~10h	7~10h
Other Functional Customization	Flexible Entry	Optional	Optional
	3D Protection	Optional	Optional
	Natural Stacking	Optional	Optional



SLIM Reach Robot (CE Optional)

ATOM-SMART Intelligent Handling Robot

2050×1200×2142

1524×760×597

1890

200

1400

1000

1600

210

1200×150×40

1200×185×65

Laser Slam/Reflector

Laser Slam/Reflector

±5

±10

1.5

1

1.2

0.8

3/5

1/3

Front, back and sides

Front

Available

Unavailable

Front and sides

sides

Iron Phosphate Battery

Iron Phosphate Battery

24V

48V

180Ah

48Ah

2500times

1500

7~10h

6-8h

Optional

Unavailable

Optional

Optional

Optional

Unavailable

| Applications |

Intelligent Handling Project of High-density Plastic Factory Warehouse

Oil and Gas Chemical Industry Stacking Reach Forklift AGV



Overview

The client is a large-scale oil refining, chemical, and chemical fiber joint venture under Sinopec. Its high-density warehouse in a plastic factory in Shandong has long used traditional manual forklifts for material transfer. In such condition, the labor intensity is high, and the safety cannot be guaranteed. The low degree of informatization makes it even difficult to adapt to the rapid development needs of enterprises.

Solutions

The intelligent handling solution provided by Guozi Robot is based on multiple stacking reach forklift AGV, adopts various logistics technologies such as natural stacking and conveyor line docking, and is supplemented by a trunk loading system to help client realize a complete intelligent logistics operation process. This system reduces labor costs, improves the efficiency of warehouse transportation and circulation, and has obvious effects of reducing staff and increasing efficiency overall. At the same time, informatization and visualization are carried out on site, so that the entire information can be checked, visualized, and controlled, and warehouse logistics can be informative and automated.

Advantages

- The AGV uses a large-capacity lithium battery and has a self-heating function to ensure the normal use of the AGV when the temperature is low in winter.
- The AGV is precisely positioned and adopts natural stacking technology, without the need for on-site environment modification, to meet the needs of high density storage locations.
- The task balance strategy, dispatching balance strategy, and temporary task transfer scheme are adopted to realize fast operation. To avoid congestion caused by queuing vehicles and ensure operating efficiency. And an automatic loading system is adopted to realize precise positioning of logistics vehicles and complete automatic loading of products.
- Downsize and increasing efficiency: about 50% of manpower is saved, the efficiency of inbound/outbound and storage is increased by 30%, and the direct economic benefits are greatly improved.
- The accuracy of material information in the warehouse area has increased to 99.9%, which greatly reduces the picking errors when shipping.

Flexible Logistics Project of Mini Excavator Production Line

Construction Machinery Industry Heavy-Duty Intelligent Handling AGV



Overview

The client is one of the world's leading manufacturers in the construction machinery industry, and its mini-excavator manufacturing plant is a benchmark "lighthouse factory" in the construction machinery industry that is less manned, digitized, and intelligent. The factory originally relied on traditional production modes such as manual hoisting and forklift transfer, and the material and parts logistics turnover mode based on manpower has become a bottleneck for the improvement of the company's manufacturing capacity.

Solutions

Aiming at the client's existing structural parts and production process, Guozi AGV flexible logistics solutions use only 121 AGVs to realize the flexible assembly production line of micro-excavator equipment, as well as the flexible logistics transfer between the structural parts workshop and the final assembly workshop. Through the Guozi REX dispatching system, the AGV completes the transfer task of production materials, pulls the upper and lower body of the excavator to each station for assembly, and the materials on the production line are transported to the designated location on time and on demand through various types of AGV.

Advantages

After the system is put into operation, the system can automatically schedule materials on the day of production, generate AGV circulation tasks to manage material transportation, distribute goods according to the production rate, and intelligently locate storage, etc., greatly reducing invalid turnover and improving production efficiency. The project helped the customer achieve 81.9% automatic materials discharge, shorten the overall manufacturing cycle by 54.6%, and realize real-time production data collection through applications such as digital twinning, logistics simulation, and online measurement.

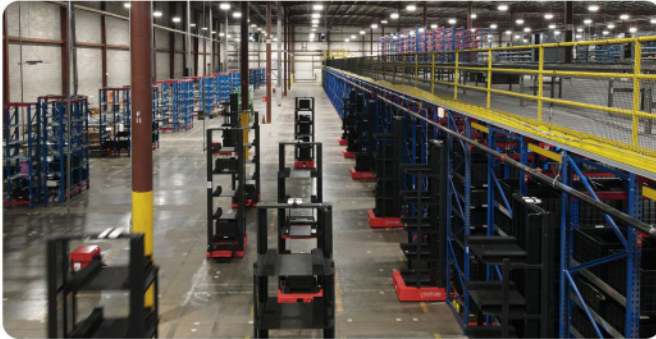
- **Improve production efficiency:** due to the intelligent dispatching of the entire line, the production rate has been improved, and the production efficiency of the workshop has been increased by more than 30%.

- **Reduce the backlog of funds:** the logistics planning is optimized, the way of material preparation is changed, and the inventory of raw materials, turnover materials, and finished products is reduced.

| Applications |

Intelligent Picking Project of E-Commerce Warehouse

E-Commerce Warehousing Industry Multi-Layer Bin Picking Robot



Overview

American Staples is currently one of the largest office supplies retailers in the world. In 2016 and 2021, it joined hands with Guozi twice to become a strategic partner. It has deployed more than 2,000 bin-picking robots in total. In their many large warehouses in North America, we have built a stable and reliable intelligent logistics system. This project is Staples in New York, with a warehouse area of more than 12,000 square meters, a total of more than 40,000 storage locations, more than 15,000 active SKUs in the warehouse, and an average daily order volume of more than 20,000 orders.

Solutions

Guozi e-commerce warehouse intelligent picking solution aims at the three pain points of low warehouse capacity, low efficiency of inbound and outbound, and high document error rate, and uses Picking robots based on high-level shelf storage to greatly increase warehouse storage capacity. Adopting the mode of separate picking and recombination based on popular and unpopular areas, it not only realizes the rapid picking of small-volume "cold materials" with low picking frequency, but also solves the problem that "hot materials" with large-volume picking and high frequency need to be transported by robots multiple times, greatly improving storage efficiency.

Advantages

During the "Black Friday" period, the first annual sales peak in North America after the delivery of the project, a record-breaking task volume of over 70,000 order lines was completed on an average daily inbound and outbound, and the overall picking efficiency was improved by more than 50% compared with traditional manual picking

- The maintenance and update of software and dispatching system can be updated online without stopping, that is, it can be updated while working.
- Dynamic distribution of popular-selling and unpopular-selling products, adjust the location layout at any time, improve picking efficiency, and realize SKU allocation and SKU inventory optimization and efficiency improvement.
- The picking mode combined the mobile robot and the robot arm to further improve the intelligence and picking efficiency of the picking station.
- Innovative fire avoidance mode to fully guarantee the safety of people, vehicles and goods in the emergency situations

Intelligent Handling Project of Battery Cell Workshop

Photovoltaic Industry ANTS3 Slim Stacking Robot



Overview

The client is one of the top 500 private enterprises in China and a provider of smart energy solutions. Its production base in Jiangsu is responsible for the production of photovoltaic battery cells. The production of photovoltaic cells requires 24 hour uninterrupted operation, which has high requirements for handling accuracy and efficiency. Traditional manual operations are difficult to meet the needs of rapid development of enterprises.

Solutions

Guozi battery cell intelligent logistics system, applying more than 100 AGVs and integrated equipment such as robotic arms, conveyor lines, and cache WIP, to realize the intelligent flow of empty and full baskets from mixing to slitting and packaging. At the same time, the logistics system is compatible with machine consumable replacement, maintenance, technical upgrades, etc. tasks, and finally achieve the customer handling rate and on-time rate indicators to ensure stable and efficient production.

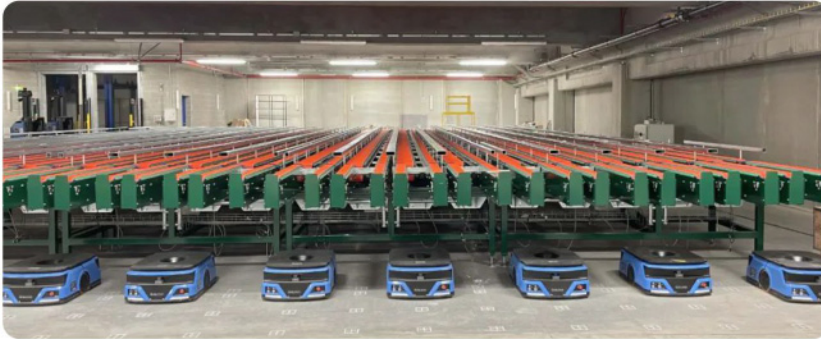
Advantages

- This project is an intelligent transformation and upgrading of an already operating factory. During the project delivery process, Guozi realized "production while transformation" through the design of the optimal implementation plan to ensure that the production capacity will not be affected.
- The on-site operation channel is narrow, and the robot adopts high-precision laser SLAM and visual positioning technology to achieve safe and stable operation. According to the project process and site conditions, the intelligent material Control System (MCS) and the intelligent dispatching system (RCS) are efficiently integrated to optimize the matching algorithm, achieving optimal efficiency through optimal demand generation, task management, and path planning.
- The whole factory has reduced manpower by 60%, improved cleanliness by 60%, increased automation by 90%, and reduced heavy manual labor by 98%.

| Applications |

Intelligent Storage and Handling Project of Food Processing Industry

Food IndustryA NTS-3 Slim Stacking Robot



Overview

The client of this project is an Italian manufacturer integrating agricultural planting, production processing, packaging and transportation. The intelligent storage and handling solution provided by Guozi is centered on the lifting handling robot A3 and the Slim stacking robot to realize pallet circulation. The automatic circulation of materials and boxes in the storage area, conveying line, and picking station replaces manual work and helps the intelligent upgrade of the traditional operating mode in food industry.

Solutions

Guozi intelligent storage and handling solution aims at the characteristics of many types of food and complex production processes in food production warehouses, and inventively uses dynamic storage location management and dynamic route planning in software development to make storage locations and handling more intelligent and effectively in complex environments.

The lifting handling robot A3 transports the fully loaded turnover boxes and food packaging materials to the designated area, and the Slim stacking robot transports the full pallet of packaging materials and the finished food pallets that have completed quality inspection, so as to improve the efficiency of transportation and delivery. The overall product delivery volume is 2-3 times that of the traditional food industry, and the operating efficiency has increased by 80%.

Advantages

Guozi intelligent storage and handling solution greatly improves the efficiency of warehouse handling and accelerates the operation of food production processes, while ensuring a safe and healthy production and operation process and environment. With more than 100 logistics robots as the core, it brings our client a flexible, intelligent and efficient new model of intelligent warehousing and logistics, and the products & systems used have passed CE certification, helping customers to speed up while fully guaranteeing product quality and safety, and ensuring client, operators and workers are all in a safe and healthy product environment.

Intelligent Storage Project of Pharmaceutical Industry

Pharmaceutical Industry Counterbalanced Forklift Robot



Overview

The client is a state-owned pharmaceutical distribution company with a development history of more than 20 years, and one of the top 100 pharmaceutical distribution companies in China. With the continuous increase in the export volume of medicines, the problems of high error rate and low management efficiency in the manual operation mode of the original medicine warehouse have become increasingly critical. There is an urgent need for a highly automated and efficient intelligent logistics solution to improve operational efficiency.

Solutions

In August 2018, 5 Guozi laser navigation counterbalanced forklift robots were introduced. The dispatching system REX is integrated with the customer's WMS system to realize 6 types of tasks, including inbound, replenishment, returned goods, sales outbound task, purchase and return outbound tasks, and replenishment outbound tasks.

Advantages

- The AGV operation interface is simple and user friendly
- Optimize the docking process between WMS and AGV, reduce the peak operation, and realize the process transformation of warehouse logistics from "person to goods" to "goods to person"
- There are picking and replenishment modes in the operation process. The whole pallet is unloaded at the designated place, and the half pallet is used for the fast entry and exit mode of the bus station to reduce the logistics time.
- Increase the height measurement and weighing module to provide rapid statistics of the number of medicines for pharmaceutical storage
- Reduce the manpower demand by 5-6 people, save about 40% of manpower costs, and realize 24-hour uninterrupted operation.
- Increase the volume of inbound and outbound operations by 100%, increase the efficiency of inbound and outbound warehouses by 30%, and the effect is obvious.

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