

HAI ROBOTICS

HAI ROBOTICS

**Next-Gen Warehouse Automation with
Autonomous Case-handling Robotic System**



Product Manual



www.hairobotics.com

HAI ROBOTICS

Next-Gen Warehouse Automation with Autonomous Case-handling Robotic System

HAI ROBOTICS is the pioneer and leader in autonomous case-handling robotic system. The company is committed to providing efficient, intelligent, flexible, and customizable automation solutions through advanced robotics and AI algorithms creating value to every warehouse and factory.

The company successfully launched the first ACR system, HAIPICK, in 2015. It was the first autonomous case-handling robotic system (ACR system) ever developed and put into commercial use. Its wide range of applications include apparel, e-commerce, retail, manufacturing, 3PL, electronics, pharmaceutical, energy, and automotive. With HAIPICK system, customers can realize warehouse automation transformation in one week, increase storage density by 80% - 130%, and improve work efficiency of workers by 3 - 4 times.

HAI ROBOTICS is expanding its business and technical service centers globally and cooperates with integrators to develop tailored solutions and services for various industries.

Core Competence of HAI ROBOTICS



Strong R&D Capabilities
(60% R&D Workforce)



Global Sales & Services Network



Customized Solution Planning



Completed Manufacturing System



Whole Process Quality Monitoring



Customer Service



Global Patents

Our Partners



ERAL·艾莱依

PHILIPS

SPH 上海医药
SHANGHAI PHARMA



One-stop Services



Planning

Requirements Research, Data Analysis, System Design, Equipment Configuration, System Simulation



System Integration

Detailed Design, System Interface, Deployment Planning, Business Contracting



Manufacturing

Software Development, Hardware Customization, Equipment Design, Equipment Manufacturing



Deployment

Equipment Installation, System Testing, Project Pilot Test



Cutover

Customer Training, System Commissioning, System Acceptance



Customer Service

Periodic Visits, System Maintenance, Spare Parts Supply, Hotline Service

Industry Applications



Apparel



E-commerce



Retail



Manufacturing



3PL



Electronics



Pharmaceutical



Energy



Automotive



- Headquarters
- Plants
- Branch Offices Subsidiaries
- Partners

Headquarters Shenzhen

Plants Dongguan

Branch Offices Beijing/Shanghai/Suzhou

Subsidiaries Tokyo/HongKong

Partners Globally



JDL 京东物流

Panasonic



HAIPICK SYSTEM

HAI ROBOTICS successfully launched the first ACR system, HAIPICK, in 2015. It can achieve warehouse automation management, realize intelligent picking, handling, sorting, and accept customized requirements suitable for various application scenarios.



HAIPICK A42

HAIPICK A42D

HAIPICK A42N

HAIPICK A42T

HAIPICK A42 SLAM



**7 days for deployment,
1 month to go live**

Easy to transform
and upgrade



**Increases operational
efficiency by 3 – 4 times**

Intelligent picking,
and handling



**Increases storage density by
80% - 130%**

Covers a broader storage space
range (0.25m - 6.5m)



Flexible customization

Suitable for a variety of
application scenarios



Rapid ROI

Significantly shortens the
return period of investment

Dedicated to R&D of autonomous case-handling robotic system, HAI ROBOTICS has successfully developed innovative technologies that include HAIPICK robots, charging stations, customizable storage units, workstations, and HAIQ software platform. The company provides customized solutions according to customers' warehouse automation transformation requirements and applications in different scenarios.

Products

HAIPICK Robots

Product Advantages

- ✓ **Autonomous & Intelligent functions:** Autonomous picking, handling, navigation, and charging
- ✓ **Ultra-wide storage range:** Covers a broader storage space range from 0.25m to 6.50m
- ✓ **Fast & stable:** Stable speed 1.8m/s with/without load
- ✓ **Multi-case handling:** Each robot can store up to 8 cases at the same time
- ✓ **Wireless communication:** Supports 5GHz band and Wi-Fi to ensure a smooth operation
- ✓ **Multiple safety protection:** Obstacle detection, active obstacle avoidance, anti-collision alarm, and emergency stop
- ✓ **Mixed picking:** Compatible with cartons/totes, multi-size cases
- ✓ **Flexible & customizable:** Supports different customized requirements including height and color
- ✓ **The Ideal solution:** Tailored specially to meet different application scenarios to deliver the best solution

HAIPICK A42 ACR

Standard height 4.22m
Customizable 1m - 5m

Multi-case handling
Transports up to 8 cases at the same time

Accurate picking & placing
Accuracy $\pm 3\text{mm}$

Stable speed with/without load
Reaches 1.8m/s

First commercial project in March 2018



HAIPICK A42D

Double-deep ACR

Standard height 4.22m

Customizable 1m - 4.5m

Customizable telescopic fork

Suitable for double-deep shelving

Intelligent algorithm optimization

Guarantees operational efficiency

Increases storage density by up to 130%

Reduces the number of aisles by up to 50%

First commercial project in March 2020



A42N



A42D

HAIPICK A42N

Carton-picking ACR

Standard height 4.22m

Customizable 1m - 4.5m

Recognition of goods without a code

Adopts 3D visual recognition technology for picking and placing

Supports mixed picking of cartons and totes

Compatible with multi-size cartons and totes

First commercial project in May 2020

HAIPICK A42T

Telescopic Lift ACR

Standard height 3.7m
Customizable 1.5m - 3.7m

Ultra-wide storage space range
From 0.25m to 6.50m

Convenient transportation
and rapid deployment
Small body size

Flexibly shuttles between
different floors and fire zones

Intelligent lifting, meeting different height requirements
Suitable for warehouses with irregular heights

A42 SLAM



HAIPICK A42 SLAM

Laser SLAM ACR

Efficient handling

Laser SLAM

Accurate picking and placing

System access

Flexible interaction with other platforms



Workstations

Products

HAI ROBOTICS provides customized workstation solutions, including on-robot picking workstation, on-conveyor picking workstation, on-shelving picking workstation, and HAIPORT-powered workstation, adaptable to different business scenarios.



On-robot picking workstation



On-conveyor picking workstation

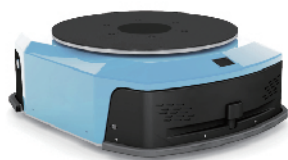


On-shelving picking workstation



HAIPORT-powered workstation

More Docking Methods



Latent AGV



Robotic arm



HAIPORT-powered Workstation

HAIPORT-powered workstation is an automatic machine that powers conveyor workstations. It docks with HAI PICK robots and conveyor workstations, loading multiple cases simultaneously from the conveyor onto the robot's storage trays or unloading multiple cases at one time from the robot onto the conveyor, effectively increasing the conveyor's loading and unloading efficiency.

Benefits



Multi-case loading/unloading

Load/unload 6 cases simultaneously



Efficient & fast

Loading speed 3s
unloading speed 5s



Flexible & adjustable

Flexible mobility, making installation easier and faster



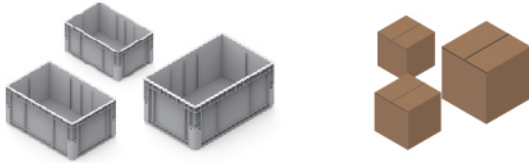
Safe & Comfortable

Replace manual loading/unloading, improving worker's safety and comfort

Storage Units

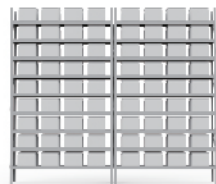
Easy to build, transform, and upgrade

Carton/tote Multi-size carton/tote



Shelving

Customizable shelves
(height, size & type)



Charging Station

- ✓ Independent charging, supports fast/full charging modes to ensure 7x24h operation
- ✓ Easy to operate, plug and play, real-time display of charging and communication status
- ✓ Multiple protection mechanisms, voltage limit/overheat/current limit/short circuit/reverse connection/electric shock protection

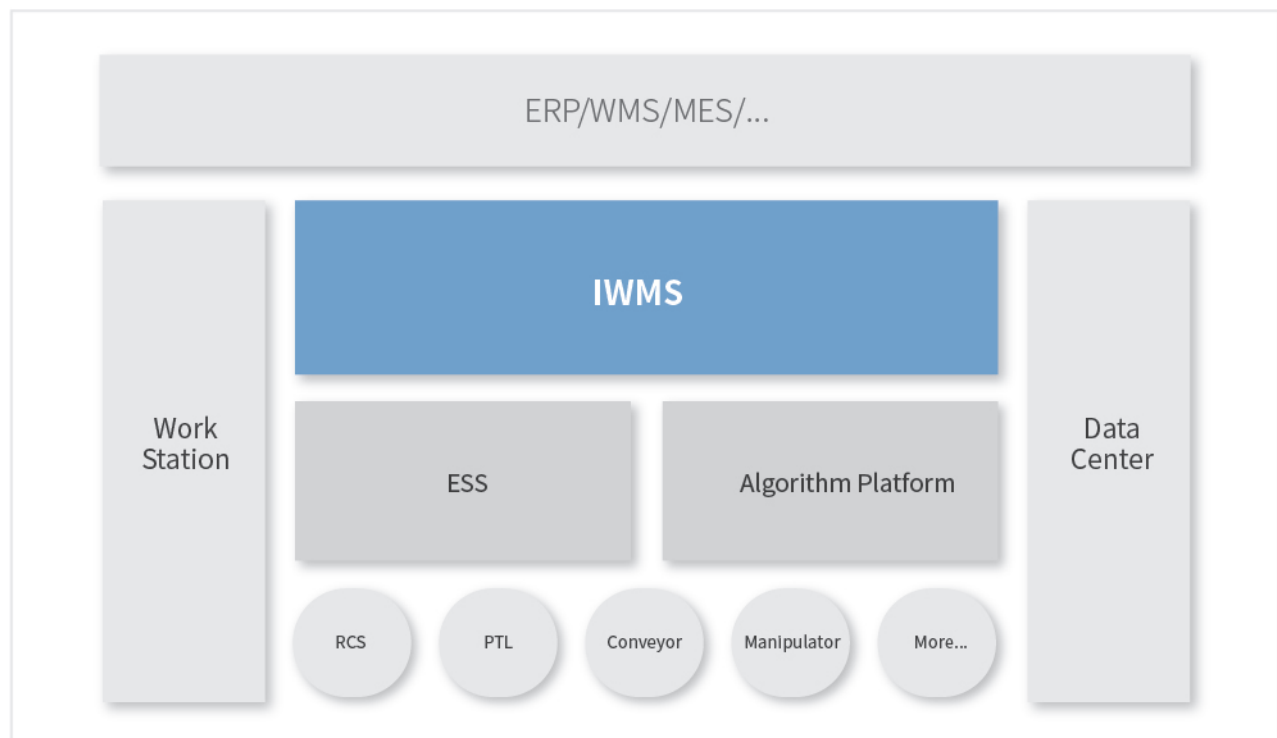
Charging Station



HAIQ Software Platform

The HAIQ software platform is the intelligent brain of HAI ROBOTICS HAIPICK system. It can be connected to the external management systems, deal with relevant business requirements, perform data analysis and visual management to ensure the simultaneous dispatch of multiple robots and various equipment. It realizes system health prediction and monitoring, and optimizes the system based on reinforcement learning and deep learning.

Products



01 IWMS – Intelligent Warehouse Management System

IWMS integrates with the company's management system to realize business data management, warehouse operation management, inventory location management, equipment management monitoring, and intelligent report management, performing self-optimization based on operational data collected over time.

Business data management

- Basic data
- Inbound/outbound data
- Inventory data
- Device data

Coordinated inventory management

- One case, one product / one case, multiple products
- One case, one compartment / one case, multiple compartments
- CTU tote storage
- KIVA shelf storage

Warehouse monitoring

- Equipment task monitoring
- Equipment status monitoring
- Equipment health monitoring

Report management

- Inbound/outbound report management
- Inventory change report
- Equipment efficiency report
- Workstation efficiency report

Warehousing management

- Outbound / inbound
- Inventory check
- Commodity batch management
- Commodity bar code management

02 ESS – Equipment Schedule System

ESS manages the scheduling of robots, conveyor systems, rollers, mechanical arms, and other components. It deals with order tasks and interacts with workstations and data centers, realizing intelligent order allocation, intelligent task allocation, inbound/return location, dynamic inventory checking, and other functions.

Major functions

- Workstation task allocation/ load balance control
- Equipment (robot/conveyor/robotic arm) task allocation
- Robot flow control in different areas
- Dynamic inventory allocation/location optimization
- Equipment monitoring / Abnormality handling

03 RCS – Robot Control System

RCS can support 600 robots working simultaneously. It manages the HAIPICK route planning, transportation, and charging. RCS guarantees to increase the efficiency of the robot task executions, predicts, and monitors the robot's conditions.

Major functions

- Robot task tracking
- Mix-scheduling of robots, equipment, and fields
- Overall path planning
- Traffic control
- Intelligent charging management (configurable charging strategy)
- Congestion detection

04 Intelligent Algorithm Platform

The Intelligent Algorithm Platform can accurately calculate the most efficient transportation path and sorting plan based on the warehouses cargo quantity, regional location, inbound and outbound traffic, performing real-time task assignments for each robot. At the same time, it provides data analysis of commodity flow, high demand, and relevance to optimize business processes.

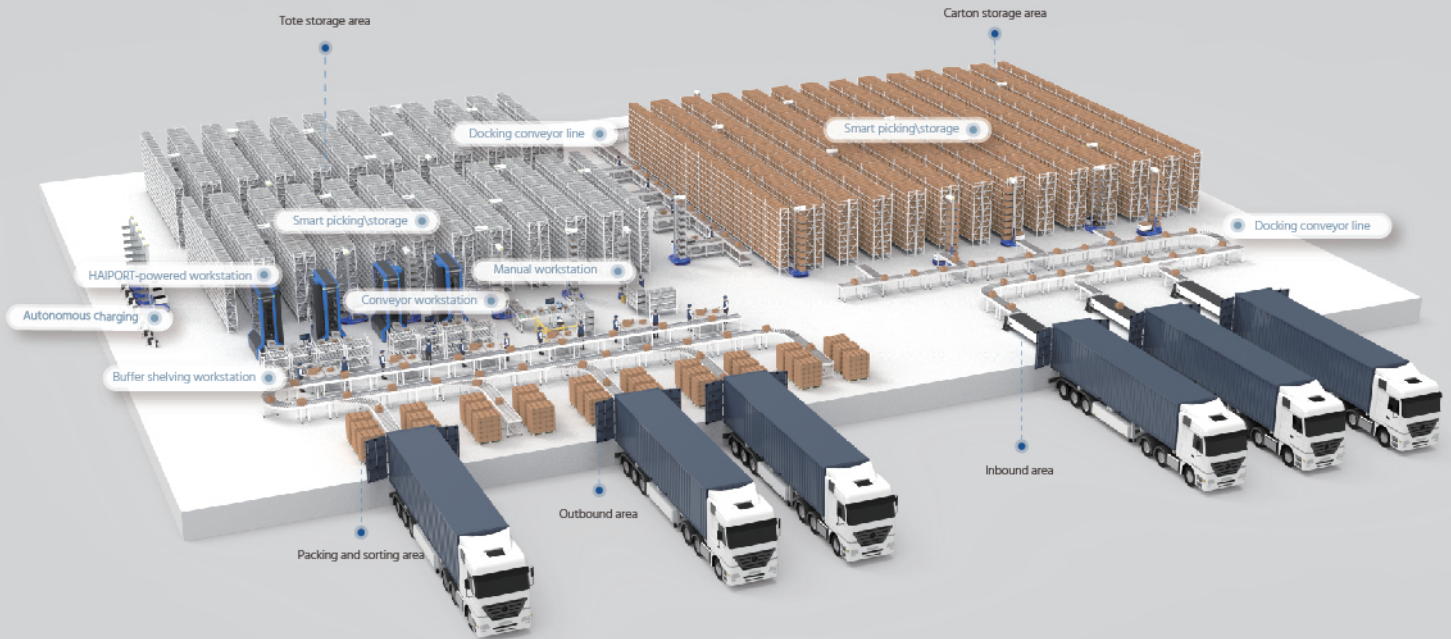
Major functions

- Task allocation algorithm
- Area flow control algorithm
- Location optimization algorithm
- Inbound/outbound strategy
- Commodity demand analysis
- Commodity relevance analysis



Solutions

Smart Warehouse Logistics Solution



Cost-saving and high-efficiency, enabling smart warehouse

Smart warehouse logistics solution covers HAIPICK ACR and HAIQ software platform, providing customers with efficient "case-to-person" and automated full-process solutions, carrying out digital and information management upgrades, reducing costs and increasing efficiency.



Multi-business support

Supports 2B, 2C, bonded warehouse, and other businesses to meet diverse needs.



Rapid and flexible deployment

Responds quickly to business needs, achieving deployment in 7 days, and can go live in 1 month.



Flexible solution

Easy to expand, transform and relocate, quick response to market demands, and business changes.



Cost-saving and high-efficiency

Optimizes operation procedures, improves storage efficiency, and shortens investment return cycles



Multi-business support

Supports 2B, 2C, bonded warehouse, and other businesses to meet diverse needs.



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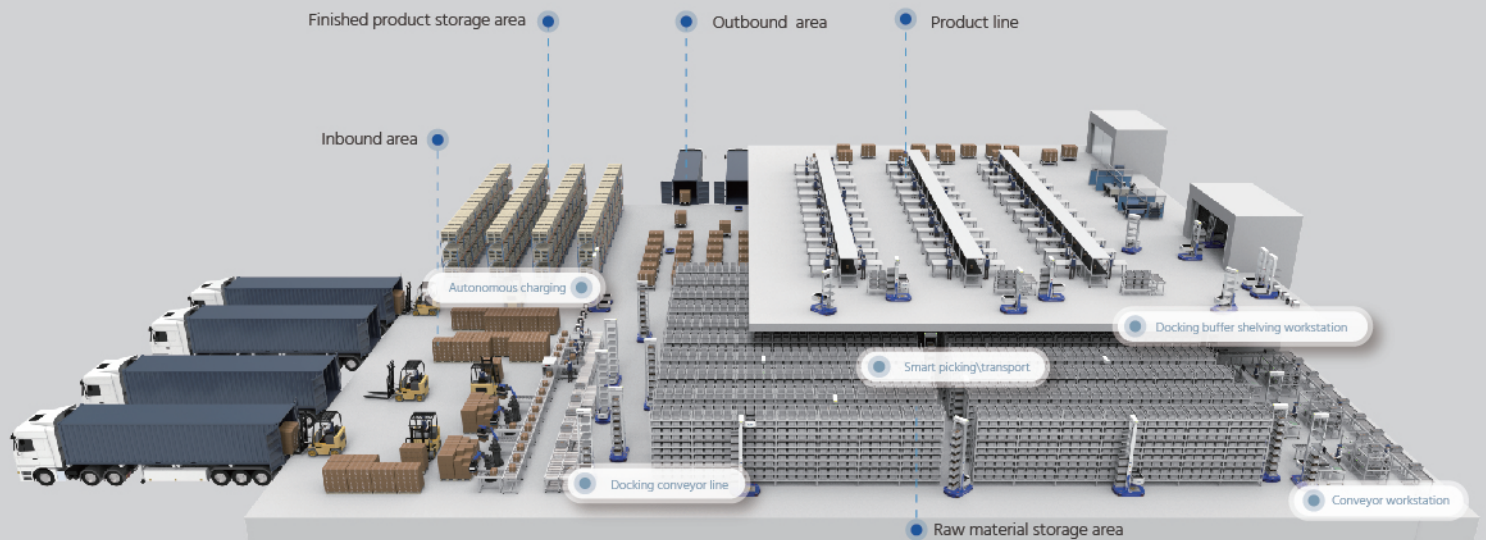


Cost-saving and high-efficiency

Optimizes operation procedures, improves storage efficiency, and shortens investment return cycles

Solutions

Smart In-plant Logistics Solution



The new era of manufacturing creates flexible and intelligent logistics

The combination of HAIPICK ACR and HAIQ software platform flexibly meets the needs of various production lines. It enables access to the raw material area, buffer area, finished and semi-finished product storage areas, and production lines, realizing information management and creating a fully automated intelligent manufacture logistics solution.



Efficient human-machine collaboration

Creates an operating system with efficient collaboration of "people-goods-field"



Operation process optimization

Optimizes inbound and outbound processes to create the best solution.



Facilitate efficient production

Flexibly responds to customized production requirements and facilitates efficient manufacturing.



Flexible interaction

Flexible interaction with different operating platforms such as rollers, shelves, and manual workstations.



Whole automation process

Can configure customized solutions to create automated and intelligent factories.



Quick response

Responds to changing business needs and achieves rapid expansion and production change.



Multi-production line management

Meets the production needs of multiple production lines.



Reduces operating costs

Increases labor efficiency by 3-4 times resulting in less operating costs.



Material information management

Digital management platform realizes material safety tracking and information management.



Wide range of applications

Meets diverse production and industry scenarios.

Case Studies

Autonomous Case-handing Robotic System

BEST Supply Chain

Apparel
Warehouse



Improved picking efficiency four times and storage density by 80%; During the biggest online shopping festival in China, average efficiency was twice the usual, and the highest efficiency reached four times. The project has been running smoothly for two years

TOP 3PL Company

Cross-border E-commerce
Warehouse in HK



The first double-deep ACR project achieved ultra-high storage density by up to 130% and effectively reduced the number of aisles by up to 50%.

Hospital in Shenzhen

Smart Medical
Supply Warehouse



By connecting directly to the hospital's SPD system, the robots handle and sort medical supplies automatically, improving the management of supplies, increasing storage density by 30%, and realizing deployment in one week, allowing the project to go live in one month.

Xinning Logistics

SMT Electronics
Supply Warehouse



Storage density increased by 60%, efficiency increased 4 times, material information accurately managed, errors reduced significantly.

MUJIN

Robotic Arm
Joint Project



Interacts with robotic arm to create a fully unmanned warehouse; storage efficiency significantly improved, and storage density is increased by 80%.

ERAL

Apparel
Manufacturing



Combined with the conveyor, the solution creates a fully automatic warehouse, realizing automated inbound, storage, and outbound, achieving a smooth and efficient operation.



HAI ROBOTICS

SF-DHL Apparel Warehouse in Shanghai

SF-DHL in Shanghai was looking for an efficient, intelligent, and flexible automation solution to meet the demand for the 618 online shopping festival. The automation transformation project aimed to improve overall operation efficiency, reduce labor costs, and optimize storage density. The implementation included 9 units of HAIPICK A42, 3 workstations, and HAIQ Software Platform. The warehouse area is 2,000 m², including 1,500 m² of shelving storage area with 20,000 storage spaces. HAI ROBOTICS delivered the project within one month, and the HAIPICK system came into operations automating the storage, handling, transportation, and other essential processes.

Application Results

Increase storage space: it can realize 4m shelving, increasing storage density by 80%

The 4.2m high HAIPICK A42 robot allows the warehouse to use 4m high shelves (the traditional manual shelf is only 2m). The project achieves average storage of 10 standard cases per square meter, increasing storage density by 80%.

Kanban visual management system: easy to operate, achieving efficient and accurate information management

The Kanban visual management system allows warehouse operators and managers to track orders and robots' status in the system. Conveniently realize the operation and the whole process of information management.



Rapid deployment: within one week, and commissioning in one month!

In one week, the deployment was completed in a 2,000 square meters warehouse. Commissioning took one month, meeting the project's urgent delivery requirements and helping the warehouse complete the operations for one of China's biggest online shopping festivals.

Improve labor efficiency: Inbound efficiency is improved 20 times, outbound efficiency is improved 3.5 times

Combined with HAI ROBOTICS' self-developed path planning and depth algorithm, HAIQ Software Platform simultaneously dispatched 9 HAIPICK robots to work together in the warehouse, and intelligently realized the accurate storage, handling, and sorting of cases. More than 2,500 pieces of clothing can be store in the warehouse, and nearly 700 pieces of clothing can be picked and distributed every hour. The efficiency of storage and delivery was increased 20 times and 3.5 times, respectively.



Customer Feedback

Ping Zhifeng, General Manager of FMCG/Retail Business Unit of SF-DHL

"Through this project, we see more possibilities for intelligent warehousing in the future. SF-DHL strongly supports warehouse automation. In the future, we will automate more warehouses with HAI ROBOTICS, and use innovative technologies such as big data, Internet of things, and artificial intelligence to realize more applications in intelligent scenarios."



Philips Zhuhai Household Appliance Factory

HAI ROBOTICS

In recent years, Philips Zhuhai's home appliance factory's demand for intelligent warehouse transformation has become increasingly urgent. The customers hope to increase picking and handling efficiency through automation transformation and realize intelligent inbound and outbound warehousing processes with data-based and information-based warehousing management. The project introduced multiple HAIPICK A42 robots, conveyor workstations, buffer shelving workstations, and put to light system for automation transformation to meet the feeding needs of numerous production lines, and completed the standardization of case turnover and the use of QR codes.

Application Results

Intelligent split orders to meet different business needs

The HAIQ Software Platform transformed paper-based management to digital and information management. It realized storage by areas, strictly following bonded and non-bonded commodities' attributes to carry out inventory management, storage management, intelligent split orders, and deliveries, reducing manual errors, and reaching a picking accuracy of 99.9%.

An efficient case-to-person solution to improve human efficiency

HAIPICK robots replace manual labor to carry out efficient picking and handling. One worker can complete 2-3 workers' tasks, satisfy the feeding demand of multiple production lines, improve the human efficiency, and significantly saves the workforce and cost.

Rational planning to realize a flexible storage warehouse process

HAIPICK robot intelligently identifies incoming warehousing components and parts, carries out handling and storage, and connects with the conveyor line to realize flexible warehousing. The storage area is equipped with buffer shelving workstations and put to light system, which flexibly supports various methods such as separate picking and whole case picking, saving waiting time, and realizing flexible and smart warehousing.

Creating Philips Intelligent logistics standardization

The warehouse system unifies the standard case turnover and standardizes the use of QR code labels, reduces the consumables and logistics cost, and realizes logistics information standardization. This pilot project is the first intelligent warehouse transformation for Philips Group, pushing forward its construction of a standard and intelligent logistics system worldwide.



Customer Feedback

Thomas Lal, Senior Manager of Philips Supply Chain in Zhuhai

"Philips Group attaches great importance to the warehouse automation transformation project from Dutch headquarters to Zhuhai management. After one year of full investigation and comprehensive evaluation, we selected HAI ROBOTICS' HAIPICK system. This new case-handling type robot system greatly meets our storage needs, realizes intelligent picking, handling, and flexible warehousing, and truly optimizes the warehouse operation process and improves human efficiency. In the future, we will carry out more in-depth cooperation with HAI ROBOTICS to build a benchmark for smart factories and enable intelligent manufacturing."



HAI ROBOTICS

Xin Hee Large Clothing Logistics Center in Xiamen

Xin Hee is building a large-scale automated logistics center in Tong'an, Xiamen. The logistics center has 6 floors. HAI ROBOTICS helped transform the case picking area (floor 3 and 4) into an automated logistics management warehouse for 2B and 2C goods with high efficiency and quality. The project introduced 34 customized HAI PICK A42 robots, 14 U-shaped conveyor workstations, 12 charging stations, and the HAIQ Software Platform. The project has realized a shelving area of 6,200 square meters and has provided more than 50,000 storage spaces.

Application Results

HAI PICK robots improve manual work and the process of placing and handling cases

34 customized HAI PICK robots shuttle through different floors (floor 3 and 4) quickly, according to the instructions, carry out case storage, handle, and sort accurately, improving manual work. The 5,000 square meters warehouse only needs 7 workers to sort goods in the workstation area, saving the labor cost and significantly improving manual operation.

Rational planning, warehouse storage utilization reaches 90%

HAI ROBOTICS' scheme plan uses 1,706 sets of shelves, providing a total of more than 50,000 storage spaces and realizes the storage of 8 customized cases per square meter. HAI PICK robot is 4.5m high, making the warehouse utilization rate as high as 90%.

Perfect case-to-person design to meet the needs of efficient storage warehouse

The efficient case-to-person solution makes the picking and transportation path of the HAI PICK robot smooth, reduces waiting time, and avoids congestion, realizing 35 cases per hour for each robot.

Seamless connection with WMS system to optimize the location, path, and task allocation

HAIQ can seamlessly connect with Xin Hee's WMS intelligent warehouse management system. After receiving the task instructions from WMS, it can optimize the AI algorithm according to the storage situation of goods, reasonably plan the warehouse location and path, and efficiently schedule the robot to complete the operation of picking and placing cases.

Optimization of human-machine interaction

HAI ROBOTICS designed double-layer U-shaped conveyor workstations. The upper layer is the U-shaped picking case conveyor line, and the lower layer is the order box conveyor line. It can realize the operation of placing sorting, returning, and outbound cases simultaneously. The design improves the comfort and practicality of manual operation.

Customized robots and totes to better meet customers' needs

The maximum height of the customized HAI PICK robot for this project was 4.5m, and the net height suitable for the warehouse was 5m. The size of totes and charging stations were adjusted according to the size of the robot; besides, the robot and charging station's exterior color was customized according to the brand color of Xin Hee.

Flexible and expandable to meet the demand during peak periods and business development

In the case of future growth, the solution can expand the number of robots and charging stations to meet the needs of the company's development.



Customer Feedback

Mr. Wu Yuhui, the project leader of Xin Hee Logistics Center

"The construction of the logistics center is not only to improve the existing logistics management efficiency but also to explore the possibility of an integrated management system with logistics warehousing automation. Combined with the actual warehouse automation construction demand of Xin Hee, HAI ROBOTICS provided customized solutions and optimized the process of case handling, goods picking, and goods transportation in the best way. In the future, we look forward to realizing more warehouse automation innovation in cooperation with HAI ROBOTICS."

Product Specifications

HAIPICK



HAIPICK A42 | ACR

HAIPICK A42D | Double-deep ACR

Basic Parameters	Dimensions (L×W×H) (mm)	1,600×1,000×4,220 (height 1,000~4,500 customizable)	1,750×1,000×4,220 (height 1,000~4,500 customizable)
	Mechanical Rotation Diameter (mm)	1,600	1,750
	Driving Mode	Two-wheel differential, two-way travel	Two-wheel differential, two-way travel
	Navigation Mode	Inertial navigation + QR code	Inertial navigation + QR code
	Pick up Method	Rotating arm + 2D visual correction	Rotating arm + 2D visual correction
	Compatible Case Type	Tote	Tote
	Net Weight (kg)	440	490
	Max. Load of Robot (kg)	150 (customizable up to 300)	150 (customizable up to 300)
	Max. Load of Case (kg)	30/50	30/50
	Storage Capacity	5 (customizable up to 8 totes)	5 (customizable up to 8 totes)
	Dimensions of Case (L×W×H) (mm)	600×400×(330~120)	600×400×(330~160)
	Height of Customized Case (mm)	600~330	600~330
	Picking Height (mm)	400~3,860 (customizable up to 4,640)	400~3,775 (customizable up to 4,075)
Communication	Running Noise (dB(A))	≤75	≤75
	Wireless Mode	Wi-Fi 5GHz 802.11n	Wi-Fi 5GHz 802.11n
Deployment Environment	Temperature (°C)	0~45°C	0~45°C
	Aisle Width (mm)	1,110	1,160
	Ground Flatness (mm/2.25m ²)	±4	±3
Performance	Movement Speed (m/s)	Full/empty load 18	Full/empty load 17
	Stop Accuracy (mm)	±10	±10
Battery	Charging Time (Full Charge) (h)	≤1.5	≤1.5
	Charging Time (Fast Charge) (min)	≤40	≤40
	Working Time (Full Charge) (h)	≈5.4	≈5.4
Safety	Obstacle Detection Mode	✓	✓
	Anti-collision	✓	✓
	Sound & Light Alarm	✓	✓
	Emergency Stop Button	✓	✓
	Anti-static function Function	✓	✓
	Warning Signs	✓	✓

Customized HAIPICK Robots

HAIPICK A42L

Robot Dimensions (L×W×H) (mm)
1,750×1,000×4,220 (height 1,000~4,500 customizable)

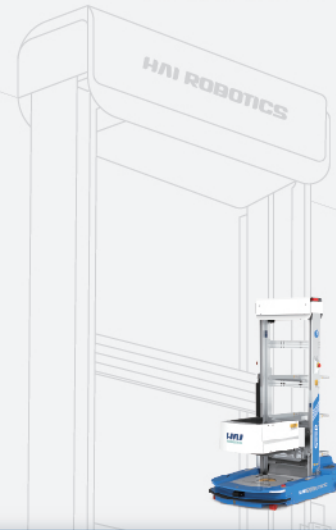
Dimensions of Case (L×W×H) (mm):
650×440×(330~120)

HAIPICK A42LN

Robot Dimensions (L×W×H) (mm)
1,750×1,000×4,220 (height 1,000~4,500 customizable)

Dimensions of Case (L×W×H) (mm):
(650~400)×(440~300)×(330~150)

Robotic System



HAIPICK A42N | Carton-picking ACR

HAIPICK A42T | Telescopic Lift ACR

HAIPICK A42 SLAM | Laser SLAM ACR

1,600×1,000×4,220 (height 1,000~4,500 customizable)

1,600

Two-wheel differential, two-way travel

Inertial navigation + QR code

Rotating arm + 2D/3D visual correction

Tote, carton

440

150 (customizable up to 300)

30/50

5 (customizable up to 8 totes)

(600~300)×(400~300)×(330~150)

600~330

400~3,860 (customizable up to 4,160)

≤75

Wi-Fi 5GHz 802.11n

0~45°C

1,110

±4

Full/empty load 18

±10

≤15

≤40

≈5.4

✓

✓

✓

✓

✓

✓

1,750×1,000×3,700\Max lifting height 6,455

1,750

Two-wheel differential, two-way travel

Inertial navigation + QR code

Rotating arm + 2D visual correction

Tote

670

180

30

6

600×400×(≈200)

600~330

250~6,000

≤75

Wi-Fi 5GHz 802.11n

0~45°C

1,110

±3

Full/empty load 17

±10

≤15

≤40

≈5.4 (100%→20%)

✓

✓

✓

✓

✓

✓

1,600×1,000×2,220

1,600

Two-wheel differential, two-way travel

SLAM+QR code

rotating arm + non-DM pickup + DM pickup

Tote, carton

400

150

30

3

600×400×300

600~330

400~1,860 (customizable up to 4,160)

≤75

Wi-Fi 5GHz 802.11n

0~45°C

1,110

±4

Full/empty load 15

±5

≤15

≤45

≈5.4

✓

✓

✓

✓

✓

✓

Intelligent Charging Station

Installation Method :
Ground fixed installation

Weight :
Single head 30kg/double head 37kg

Dimensions of Charging Station (L×W×H) (mm):
455×320×400

Dimensions of Charger (L×W×H) (mm):
335×200×380



Transform Warehousing with Robotics + AI Ready Solutions



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