



HAIROBOTICS

Case Study

SF-DHL Supply Chain China

Apparel Warehouse

SF-DHL Supply Chain

SF Supply Chain is the leading supply chain service provider in China, covering Mainland China, Hong Kong and Macau. The company has amalgamated world-class supply chain expertise from Deutsche Post DHL Group and the extensive domestic infrastructure and solid customer base from SF Holding, providing superior integrated supply chain solution to its customers.

The company operates a warehouse that serves a fashion brand providing B2B & B2C order fulfillment, sample management, and reverse logistics services. Their team consulted with solution providers across the country to evaluate the most suitable warehouse automation solution to tackle their challenges and improve the efficiency of their operations.



Location
Shanghai, China

Industry
E-commerce, Apparel

The Challenges

The company needed to optimize its warehouse operations to meet the increasing demand of orders and optimize the storage capacity. The objective for this project was to find an automated solution that can meet the needs of the warehouse, optimize the picking efficiency and maximize storage capacity to deal with surged volumes during online shopping festivals.

- **Low picking efficiency and accuracy**
- **Insufficient storage capacity**
- **Improving system security**
- **Surged volumes during online shopping festivals**



SF-DHL warehouse

Our Solution

A key feature of our warehouse automation solution is the HAIPICK System, a new case-to-person (GTP) order fulfillment system featuring HAIPICK ACR robots. The system has a flexible yet compact design that maximizes space and easily integrates with different equipment, increasing efficiency and productivity.



HAIPICK A42

Inventory reception

The storage and picking area covers 2,000 square meters and includes customized 4m tall shelves accommodating 18,500 totes over nine levels. HAIPICK ACR robots can reach all totes on the shelves effortlessly.

Inbound inventory is transported from the receiving area to the workstations. There are 3 on-robot picking workstations. Then each stock keeping unit (SKU) is "checked-in" and put into customized storage totes. Each storage tote can store 1 or mixed SKUs. An operator then scans each storage tote and places them on the robot's back trays. The HAIQ system then assigns locations and puts them away immediately.

Order fulfillment

The HAIPICK ACR robots supply the inventory totes to the on-robot picking workstations. The inventory that is retrieved from the shelves is delivered to the workstations as required per order. Each HAIPICK ACR robot can pick up to 4 totes enabling multi-order picking. This process is done completely autonomous; robots know exactly where each tote is located, identify them and bring them to the operators at the working stations ensuring high efficiency and accuracy.

When the robot arrives at the workstation, the operator picks the required item, scans the SKU code, and places it on the put-to-light shelf.

HAIQ software platform manages the data and gives orders to the HAIPICK ACR robots, eliminating the potential for picking errors. In fact, the overall order accuracy rate is 99.99%.

Customer Value

Efficient inbound and outbound

With HAIPICK system, inbound efficiency increased 20 times, and outbound efficiency increased 3.5 times. The brain of our solution, HAIQ Software Platform, was capable of dispatched 8 HAIPICK ACR robots simultaneously and intelligently realized accurate picking, storage, and handling of cases. More than 2,500 pieces of clothing were stored, and nearly 700 pieces of clothing were picked and distributed every hour.

x20 times

Inbound efficiency

x3.5 times

Outbound efficiency



Outbound process, operator picking orders from HAIPICK ACR robot.

Storage density up by 80%

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

+80%

Storage density



HAIPICK ACR robots in operation at SF-DHL warehouse

Kanban visual management system

The Kanban visual management system is easy to use, efficient and accurately manages information. It 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.

One week for deployment, one month to go live

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

HAIQ Software Platform

HAIQ Software Platform is the intelligent brain of the HAIPICK system. It can be connected to external management systems, perform data analysis and visual management to ensure the simultaneous dispatch of multiple robots and various equipment.

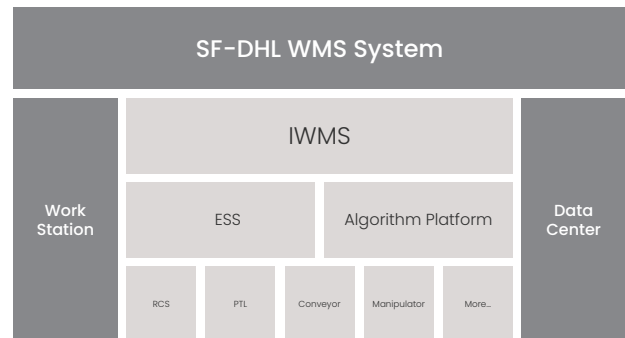
Intelligent tracking & reporting

The software provided full control, track, and trace for every order, as well as visibility and insight into

system performance. Operators easily kept track of orders.

Easy integration

HAIQ Software Platform easily integrated with customer's WMS system. The flexibility of HAIQ allows it to integrate with other popular systems such as ERP, WMS, and MES. The system interacted with all kinds of equipment such as ACR robots, charging stations, workstations, etc.



Reliability and safety

The system ensures data security. If an error occurs, the system service will not be interrupted. Data will not be lost when the power is off. The system can be automatically restored.



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