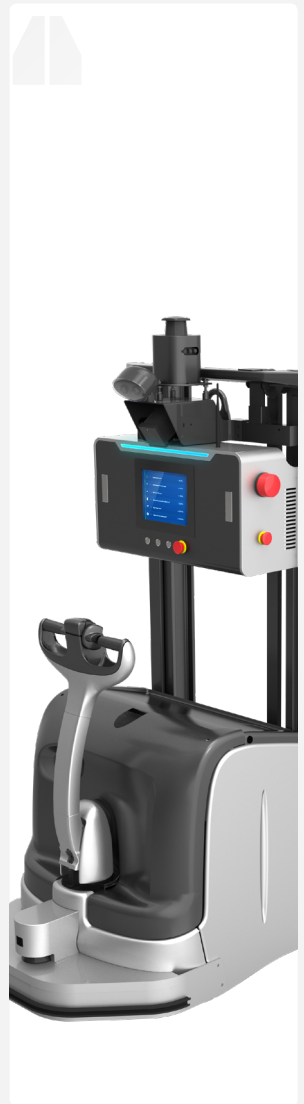
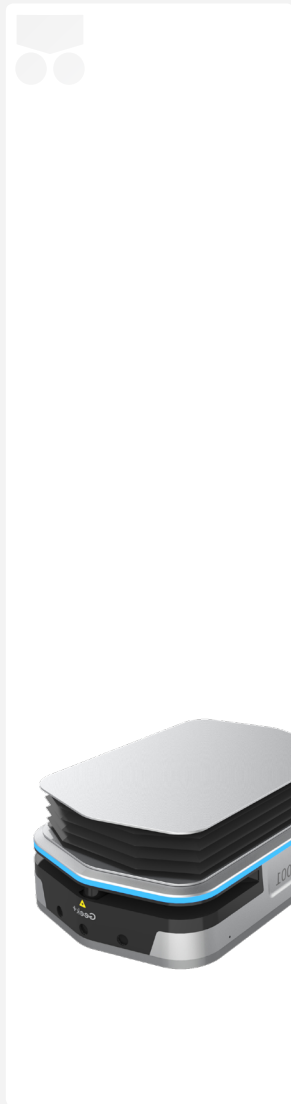


# Intelligent Robot Solutions for Logistics



# ROBOTICS FOR LOGISTICS

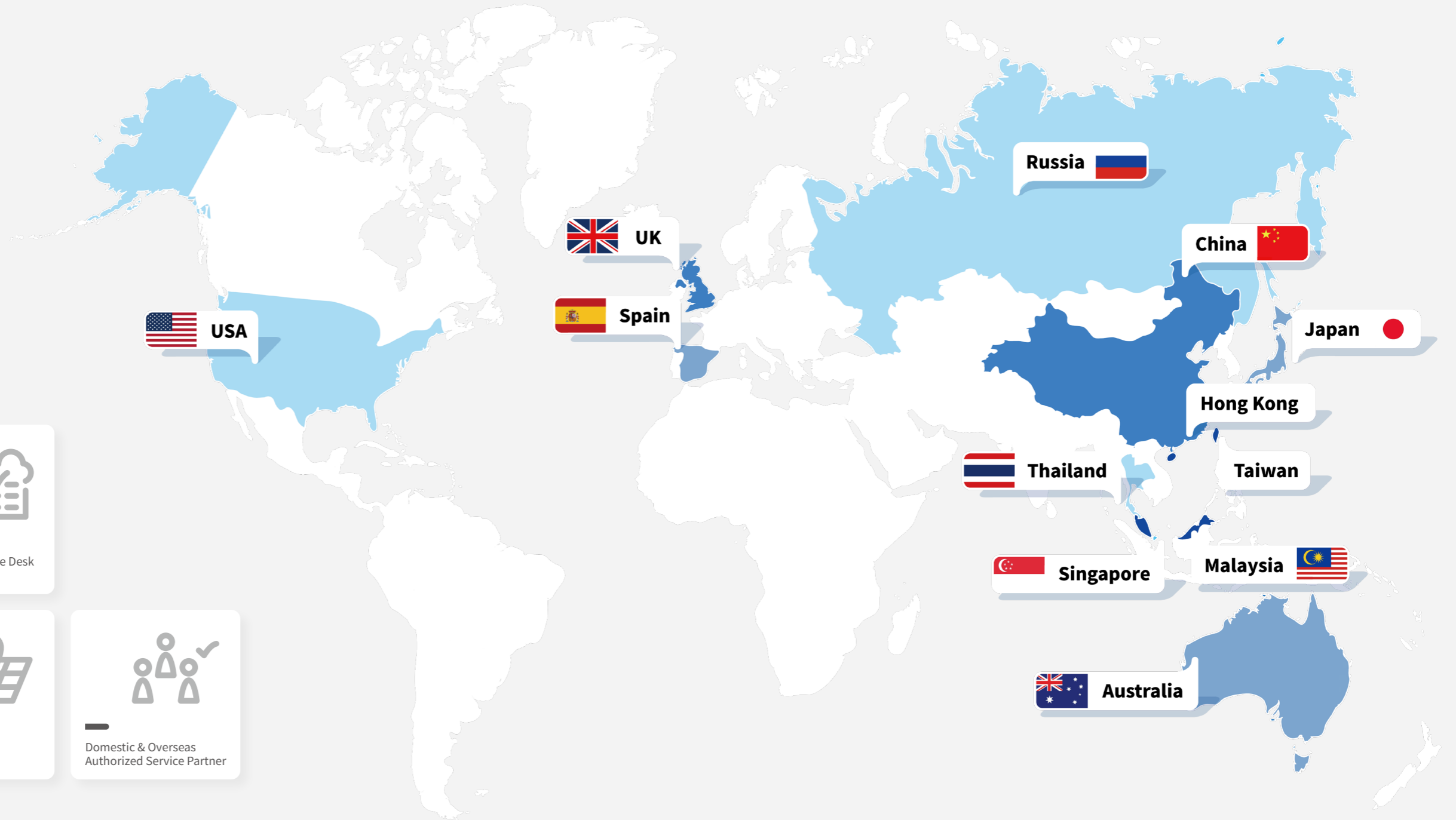


## About Geek+:

Led by Artificial Intelligence ("AI") and robotic technologies, Geek+ provides one-stop robotic solutions to enhance efficiency for users in the logistics field and warehouse management. Largely perfecting the warehouse's storage and simplifying steps in order fulfillment, the techniques also bring a labor-free environment in terms of efficient parcel consolidation, effective inventory's system, accurate correlation of SKUs and optimized management of robots.

In 5-year development path, over 70 successful cases and 6000+ units of robots working in some well-known enterprises' warehouses. Geek+ has already been a leading provider in warehousing and logistic automation solution. In Oct 2018, Geek+ fought off strong competition from other robotics companies to take Supply Chain Excellence Award in London.

# Distributor Network:



## Geek+ Cares

- 7 x 24 Hours
- Cloud Based Service Desk
- Multi-language Customer Interface
- Geek+ Regional Service Center
- Domestic & Overseas Authorized Service Partner

## Our Customers

<b>E-Commerce</b> 	<b>Retail</b> 	<b>Express</b> 	<b>Pharmaceutical</b> 	<b>Apparel</b> 	<b>Manufacture</b> 	<b>3PL</b> 

# Picking System

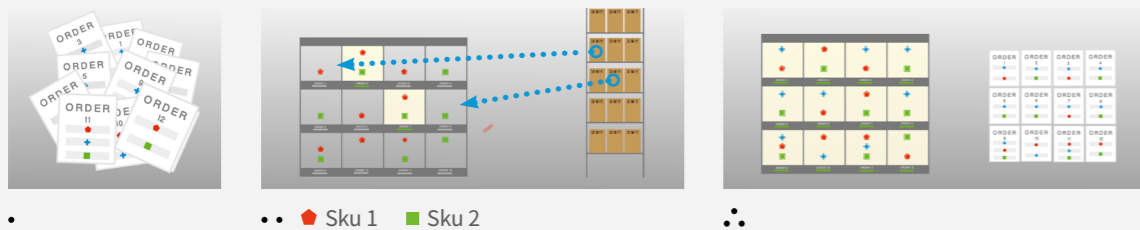


## "Goods To Person" Picking

**Geek+ Picking System** realizes "Goods to person" picking by enabling robots to carry shelves, which breaks the traditional person to goods Law. It can reduce travel path for workers and help ship orders quickly, accurately and efficiently.

## Order Grouping & Multiple Picking

The robots are powered by machine learning algorithms which allow the system to bring as many products as possible to a work station in the shortest time to increase pick performance. Inventory analysis has always been accessible.



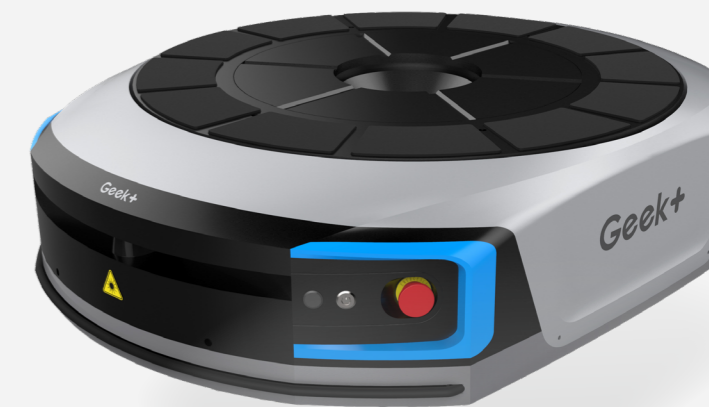
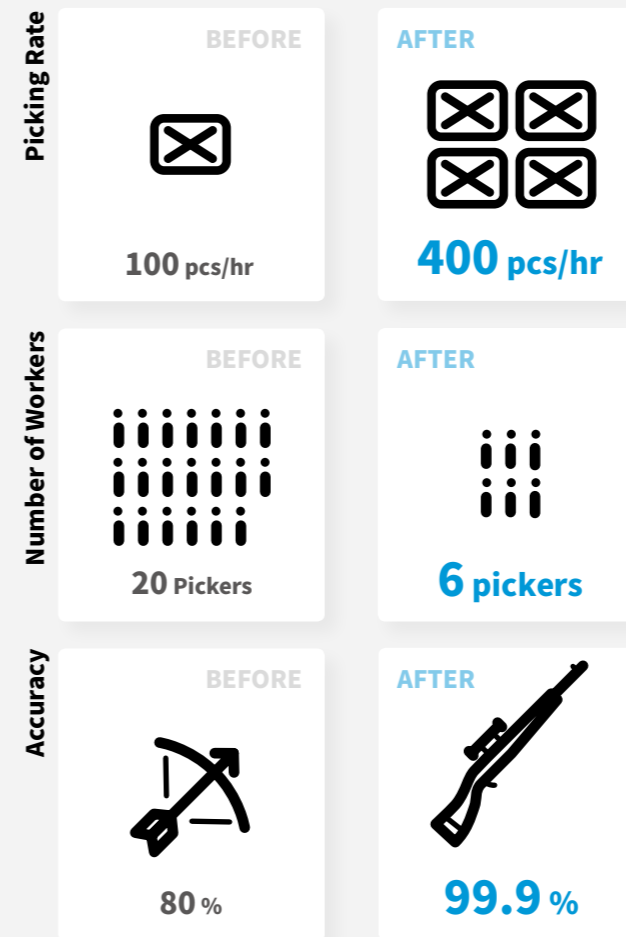
## Benefits

- Rapid ROI**  
2-3 years payback period
- No Single Point of Failure**  
Spare built-in system and keep 24 hour operation
- Artificial Intelligent**  
Flexible intelligent schedule
- Increased Accuracy**  
Accuracy up to 99%
- Improve Productivity**  
Triple labor picking rate
- Fast Deployment**  
1 month



## Case Study

With an aim of improving productivity and efficiency, Empower, a 3PL provider, deployed with 65 geek+ robots in a 8,000 m<sup>3</sup> warehouse to handle 100,000 daily orders. The picking rate is about 300-600 pcs per hour will bring a reduction of 30% in labor cost.



# Moving System



**Moving robot** leverages advanced SLAM laser navigation method to identify factory's environment and schedule the route independently. The robots are able to avoid and bypass the obstacle to deliver pallet / rack to the destination in a flexible and smooth way.

## 1 Pallet moving:

Robots carry pallet to achieve automatic material handling, which improves production flexibility.

## 2 Flexible workbin moving:

Robots realize automatic moving and manual handling assisting for light loads with SLAM navigation.

## 3 Flexible roller joint:

Equipped conveyor, robots realize flexible roller joint to production line with SLAM navigation.



## Benefits



### Different Modular for Various Applications

Grippers, rollers, tools and special equipment



### PLC (Programmable Logic Controller)

Integration with all kinds of machinery systems



### No Single Point of Failure

Spare built-in system and keep 24 hour operation



### Secured Safety

Multi-sensor infusion to minimize risk



### Artificial Intelligent

Flexible intelligent schedule

Labor Cost

BEFORE



Increases annually

AFTER



30% Reduce

Safety

BEFORE



Low

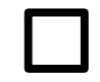
AFTER



High

Flexibility

BEFORE



Low

AFTER



High

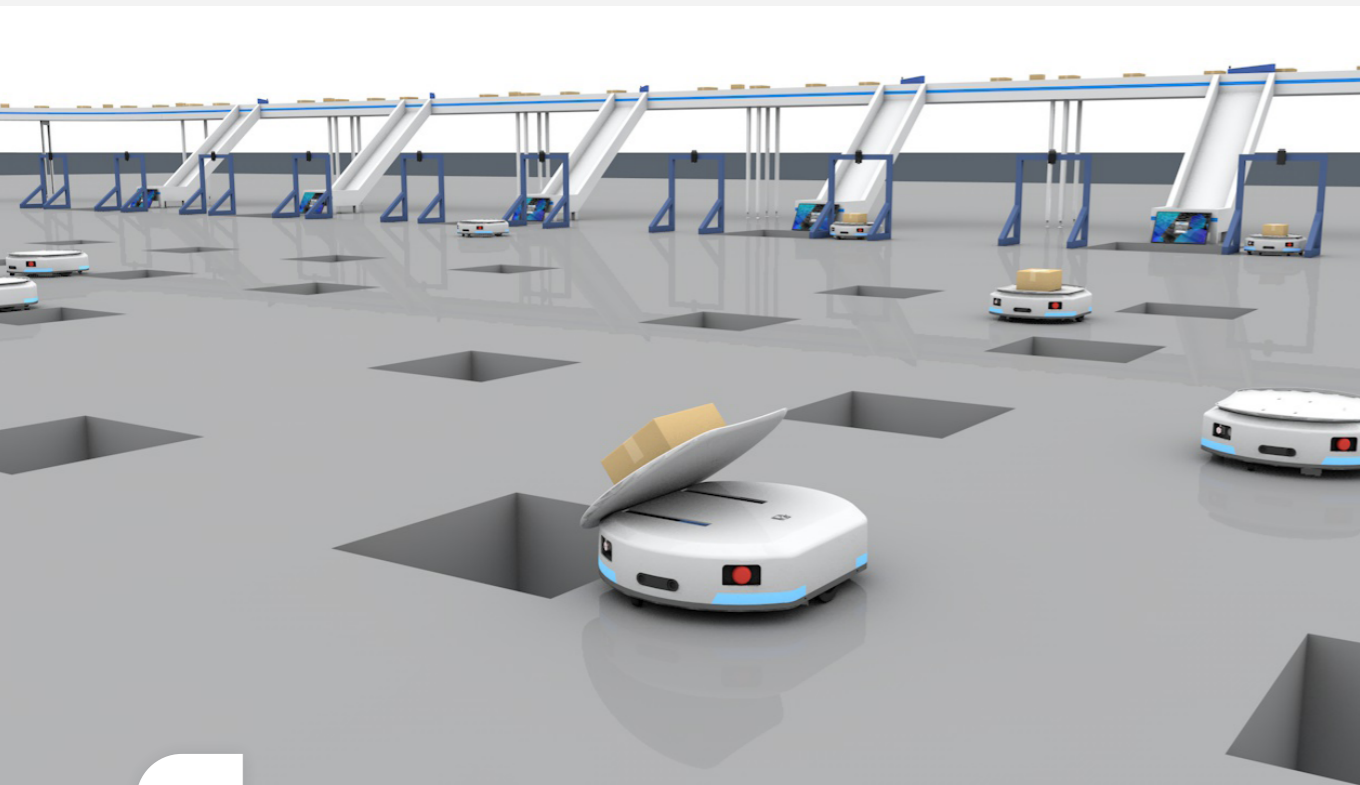


## Case Study:

A manufacturer of unmanned aerial vehicles, DJI, deployed several units of M100 at 4200 m<sup>3</sup> warehouse. Without extra navigation marker, the robot moves freely at unmanned zone and the operation turns to full automatic warehouse.



# Sorting System



**Geek+ Sorting Robot** uses a strong AI algorithm and flexible system scheduling to figure out the most effective path and reduce convergence. The robot could do fast sorting automatically and send parcels to the corresponding shipment port.

**S10** robot with steel platform can carry a small parcel at the supplying point and then pick to bin. It helps time and cost saving.



**S20** sorting system is without steel platform. The robot uses QR code navigation, determine the direction of parcel by scanning QR code on parcel. Also, it has good flexibility and scalability.

## Benefits

**Increasing Sorting Rate**  
10,000 - 12,000 pcs/hrs

**Space Utilization**  
Save 60 - 90% space area

**Lower Labor Cost**  
80% labor less than traditional

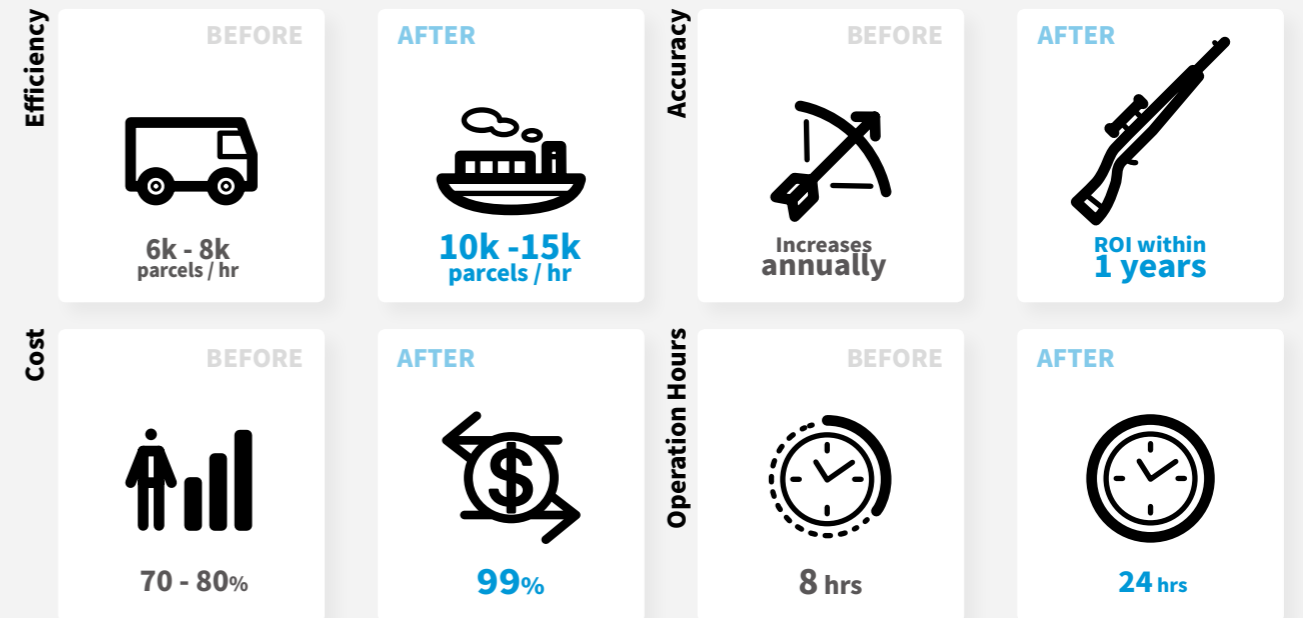
**Short ROI**  
Within 12 months payback period

**Fast Implementation**  
1-3 months



## Case Study:

300 sorting robots with steel platform have been widely applied in China post parcel processing center which is approximately a 1300m<sup>3</sup> sorting-area. Not only increased the speed of sorting, but also highly utilizing and saving 60% - 90% of space for area of floor.



**Geek Automated Forklift** has realized self-driving through SLAM navigation and is capable of automated storage and retrieval. Its sensors can detect the measurement and position of the goods on the shelves, pinpoint the pallet slots accurately and carry the goods to the appointed area under the instruction from the scheduling system.

## Benefits



### Labor Reduction

Perform loading, unloading and moving pallets automatically



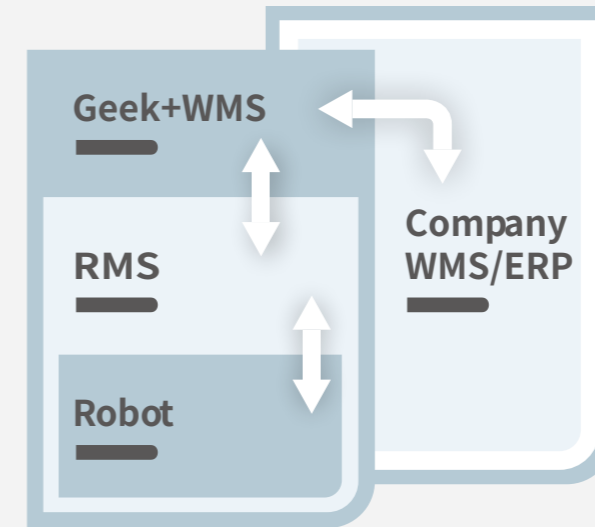
### Space Utilization

Work in warehouses with narrow aisles, block storages, deep-lane stacking



### Low Risk and Safety

Cater any complex working environments

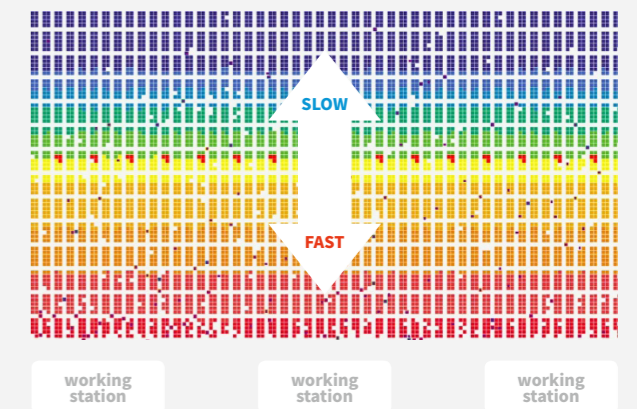


## Real-time Inventory Management

Integrating customers' WMS with Geek+ system simultaneously

## Artificial Intelligence Optimization Strategy

Dynamic storage and relocation of goods by frequency of purchase



## Customer Values



### Rapid ROI

2 – 3 years payback period



### Boost Productivity

Increase 300 to 700 picks/ hr



### Flexible & Scalable

Scaled up or down easily  
3 months implementation time



### Space Utilization

Up to 30% space saving

# Parameter



**P800**   **P500**   **M100**   **S20T-H**   **S20C-H**   **S10**   **F14L**   **F16L**

## Size & Weight

<b>Weight</b>	180 kg	130 kg	68 kg	70 kg	75 kg	12 kg	1200 kg	1200 kg
<b>Payload</b>	800 kg	500 kg	200 kg	8 kg	20 kg	6 kg	1400 kg	1600 kg
<b>Length</b>	1040 mm	920 mm	750 mm	560 mm	560 mm	460 mm	2300 mm	2300 mm
<b>Width</b>	820 mm	690 mm	500 mm	530 mm	600 mm	380 mm	950 mm	950 mm
<b>Height</b>	280 mm	280 mm	210 mm	1250 mm	1000 mm	140 mm	2200 mm	2200 mm
<b>Drive Mode</b>	Two-wheel differential drive							

## Battery & Efficiency

<b>Speed</b>	1.5 m/s	1.5 m/s	1.5 m/s	2.5 m/s	2.5 m/s	3.0 m/s	1.5 m/s	1.5 m/s
<b>Lift Height</b>	-	-	-	-	-	-	3010 mm*more	3010 mm*more
<b>Charging Mode</b>	Automatic charging, support user-defined							
<b>Operation Duration</b>	24 hours operation, support user-defined							
<b>Battery</b>	Li-ion, 38.5 ah	Li-ion, 38.5 ah	Li-ion, 24.7 ah	Li-ion, 12 ah	Li-ion, 12 ah	Li-ion, 6 ah	Lead-acid/lithium	Lead-acid/lithium

## Safety & Navigation

<b>Navigation</b>	2D bar code visual or others	2D bar code visual or others	SLAM	2D bar code visual	2D bar code visual	2D bar code	Laser radar or SLAM	Laser radar or SLAM
<b>Obstacle Avoidance</b>	Infrared laser/ultrasonic(opt.)	Infrared laser/ultrasonic(opt.)	Laser radar	Laser radar and others ± 10 mm	Laser radar and others ± 10 mm	Laser ranging	-	-
<b>Control/ Stop Precision</b>	< 10 mm	< 10 mm	< 20 mm			< 10 mm	± 10 mm	± 10 mm
<b>Communication</b>	WIFI/IEEE802.11 b/g/n							
<b>Emergency Switch</b>	Available, switch at each side							
<b>Protection Grade</b>	IP54	IP54	IP43	IP54	IP54	IP54	-	-







**CONTACT US**



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