

# **About Multiway**

20+

**Industry Applied** 

450+

Patents & Copyrights

40+

Countries & Regions

1000+

**Project Cases** 

### **Service Philosophy**

We believe that strong R&D and constant innovative capabilities are fundamentals of sustainable growth of the company, furthermore, are the sources of long-term service and insistant empowerment of our customers.



# **Industry Pioneer and Innovator**

### **Most Innovative Full Product Matrix**

- First in the Industry to Design Fully Autonomous Forklifts
- Most Comprehensive Hardware Product Categories in the Industry

### **Fully Self-developed High-performance Core Systems**

- The Only Company in the Industry That Develops Its Own Core Algorithms and Components
- The Only Company in the Industry with a Complete Smart Software Ecosystem

### Global Services for the most Application Scenarios

- The Most Capable Company in Tackling High-complexity Scenarios
- One of the Few Companies in the Industry with Global Service Capabilities



# **Intelligent Transformation from Multiway**





















































































## **Global Network**

### Headquarters Duisburg Showroom & Service Center Showroom & Service Center Tokyo Showroom & Service Center Atlanta, Georgia Showroom & Service Center Germany O Czech Republic O Slovakia **Factory** France O Hungary Spain O South Korea United States Cyprus Japan O Mexico Shenzhen-China Saudi Arabia Thailand O **USA Office German Office** Singapore Australia **South Korea Office Japanese Office** Headquarters & Lab Argentina

# About Multiway Robotics Watch Video



# More than 1000 benchmark projects successfully implemented

Among these customers, more than 40% are well-known companies, including Fortune 500 companies, China's top 500 companies, and industry leaders.

### **Multiway Robotics**

# **Intralogistics Solution**













































Autonomous Forklifts

Four-way Shuttle

AGV Tugger Warehouse Management System

Robot Control System

Warehouse Control System Cloud System

Vision System

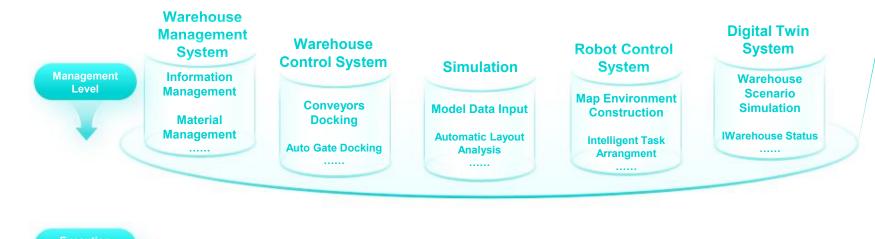
Intelligent Terminal &Peripherals

Intelligent Terminals and Peripheral Devices



Level

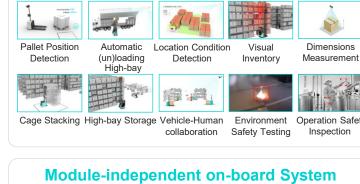
# Complete Software Ecosystem for Digitalization and Intelligent O&M (Operations & Maintenance)



### Self-developed WMS/WCS

- Covering the entire production process including logistics management, warehouse management, quality inspection, etc.
- Closed-loop of on-site logistics, information flow and decision flow
- Flexible connection with customers' existing systems and equipment to provide incremental value (providing standard interfaces)

**Vision Systems** 

















Navigation System

Safety System

Contro System

Vision System

Core Sensor

## **Multiway Robotics**

# **All Categories Product Matrix**

Staying innovative, Multiway has developed all categories of intralogistics products, including unmanned forklifts, AMRs and tow tractors.

















Unmanned handling

Production line

Cross floor handling

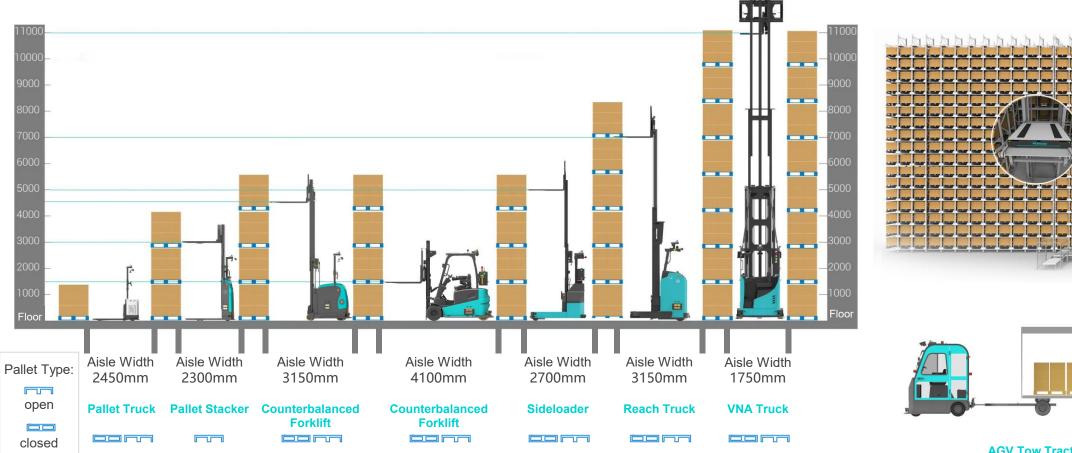
High-bay storage

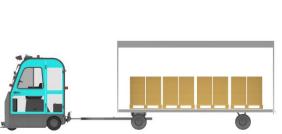
Park logistics

Intensive Access

# Leading Intelligent Intralogistics Solution Provider

AGV forklifts are used in scenarios such as transportation outside the warehouse and docking between ASRS warehouses to ensure the smooth movement of materials & information between different processes, and achieve the intelligent flow of the entire factory intralogistics.





# WeFront X20

Light weight design, low ground-bearing requirement, highly efficient elevator floor changeover, suitable to extremely narrow aisles, and significantly improved space utilization

Fast, flexible, and modular deployment



# WeFront X20S

A pioneer pallet truck that can be fully compatible with pallets of different specifications including 4-way pallets, 2-way pallets, and POD pallets in the industry





### **Multiway Robotics**

Multiway α2

Industry first patent exclusive



One Time, 2 Pallets
Faster Speed, Higher Effiency



# O Series Omni-directional Side-loading Autonomous Forklift

360° rotation, right-angle turning, and efficient operation in narrow aisles

Standardized end-vision system for visual cargo alignr





# K Series Three-way Unmanned Forklift

Maximum lift height up to 11m, operate in aisles as narrow as 1.75m

Standardized end-vision system for visual cargo alignment and placement space detection





# R Series Reach Truck Unmanned Forklift

Maximum lift height up to 10m

Standardized end-vision system for visual cargo alignment and placement space detection



### **Placement space detection**



# Q Series Tail Compartment Loading Unmanned Forklift

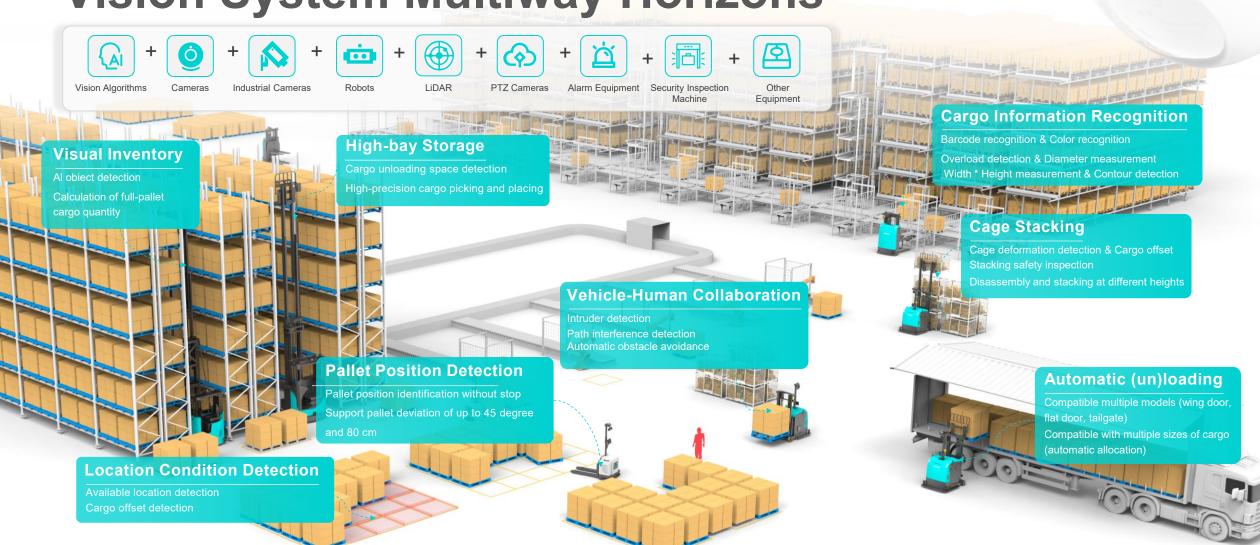
Compatible with wing vans, flatbed trucks, and tail compartment loading; tail ramp support up to 8° incline Zero-gap placement for maximum loading efficiency





### **Multiway Robotics**

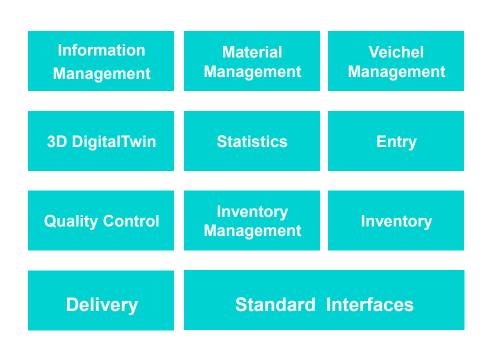
# Vision System Multiway Horizons

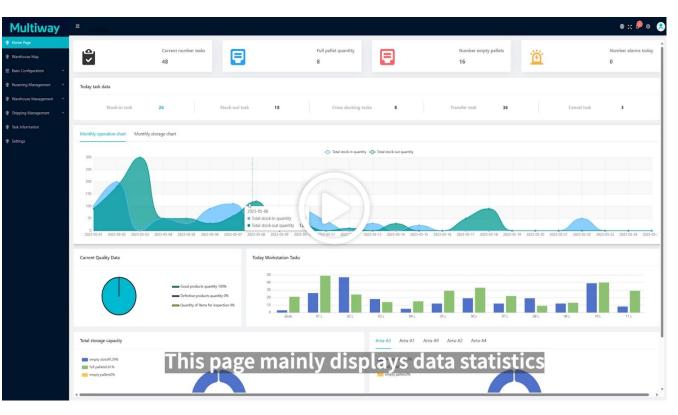




# Multiway Warehouse Management System MW WMS

Multiway Warehouse Management System enables inventory data management, task management, location management, intelligent report management, and monitoring health status of warehouse equipment. It creates a transparent and convenient warehouse management system, breaking the "black box" status of inventory assets, and provides real-time visibility into inventory and cost occupancy information.





# Multiway Robot Control System - MW RCS

Multiway Robot Control System can simultaneously support the collaborative operation of hundreds of vehicles of different models in the same area. It can quickly plan the optimal routes and achieve the overall optimal navigation route planning, thereby completing tasks in the shortest possible time and ensuring the highest operational efficiency.

Map Environment Construction

Intelligent Task
Arrangment

**Optimal Path Planning** 

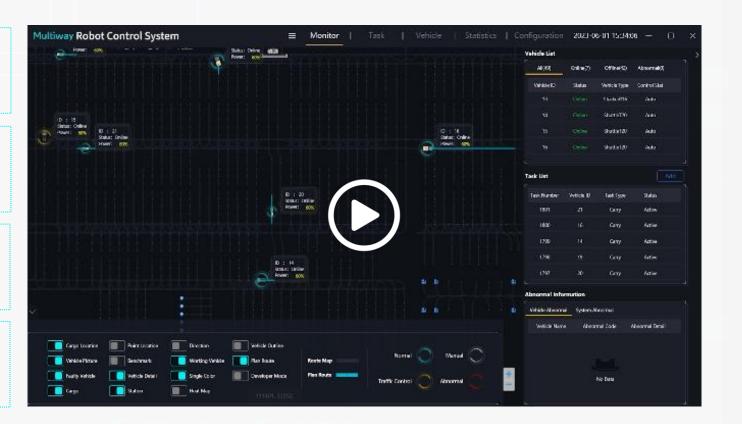
Equipment monitoring and management

Oncoming Lane Mitigation

Auto Charge Management

Intelligent Traffic Control Scheduling

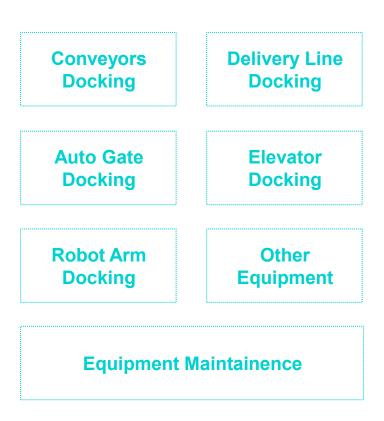
Vehicle dispatch nearby

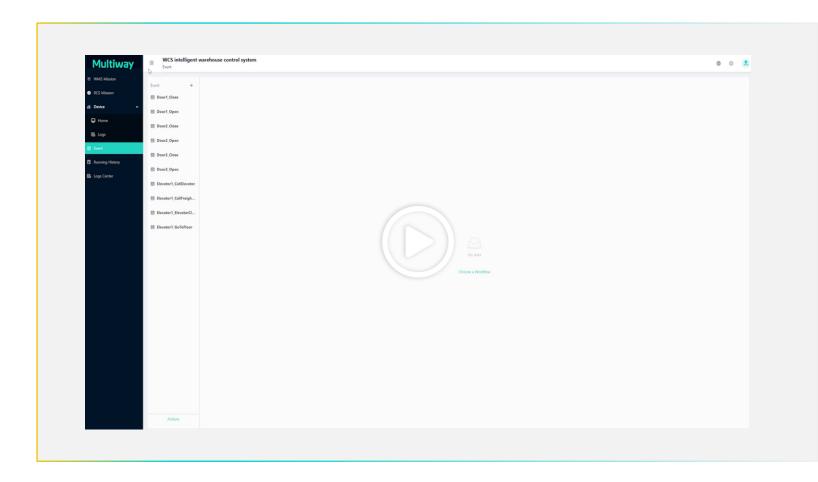




# Multiway Warehouse Control System - MW WCS

Multiway Warehouse Control System integrates the management of robots with elevators, automatic doors, conveyors, rollers, robotic arms, and other devices. It connects the system's functional control panels and data centers to enable unified management of all devices and information flows in the entire field.





# **Multiway Simulation**

The simulation system combines simulation modeling with robots. It supports traffic simulation of hundreds of vehicles under different scenarios, conducts simulation experiments on robot kinematics, dynamics, and trajectory planning algorithms, which enhances the theoretical analysis and design capabilities of robots, including concept design, product selection, offline programming, collision detection, and more, not only shortens production delivery time, but avoids unnecessary rework.



**Model Data Input** 

Automatic Layout Analysis

Collision Possibility Detection

Automatic Path Generation

**Remote On-line Commissioning** 

Machine Action Simulation



# **Robot Safety Protection**

Acoustic + Vision +Physical + Environmental 360° Protection.

### **Point Cloud Obstacle Avoidance**

The forward simulation algorithm can measure the distance to obstacles, autonomously plan the moving speed, ensure the vehicle accelerates and decelerates smoothly without sudden changes in speed.







- 1. The charging station is equipped with a temperature sensing device, which will immediately cut off the power supply if high temperature occurs during charging.
- 2. The vehicle's charging block is equipped with a temperature sensing device, which will immediately stop charging and send an alarm if high temperature occurs during the charging process.
- 3. The battery is equipped with a temperature sensing device inside. Whether it is during charging or discharging, as long as high temperature occurs, the battery will alarm. In serious cases, the external power output will be directly cut off.





### **Overcurrent Protection**

The charging station is equipped with a current detection device. If overcurrent occurs during charging (the output current of the charger is higher than the preset value), the power supply will be cut off immediately.

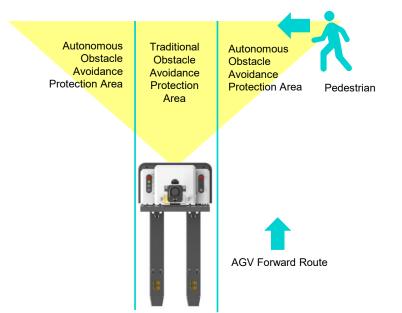
Note: Based on SE15 model. LiDAR and safety device count may vary by model. Please refer to actual specifications.

# **Robot Safety Protection**

### **Vehicle Safety Precautions**

### The vehicle-mounted 3D LiDAR can achieve:

- 1. Identify obstacle types, such as pedestrians, cargo, manual forklifts, AGV forklifts etc.
- 2. Predict the trajectory of dynamic obstacles in real time to provide decision data for the obstacle avoidance system
- 3. Intelligent safety decision-making, dynamically decide the safest obstacle avoidance action based on the type of obstacle and trajectory prediction information.



### **AGV Forklift Safety Precautions**

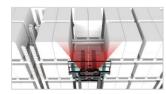
### **Placement Safety**



Placement Location Detection



Placement Space Detection



**Mast Tilt Detection** 

### **Pickup Safety**







**Mast Tilt Detection** 



# Awards, Certifications, and Media Coverage



CE Certification



UL Certification (USA)



KC Certification (Korea)



Main "Little Giant"



National High-Tech Enterprise



ISO 9001 Certified



Enterprise Intellectual Property Management System Certification



Occupational Health and Safety Management System Certification

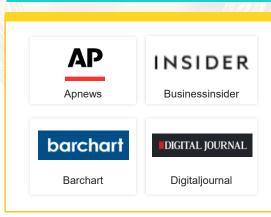


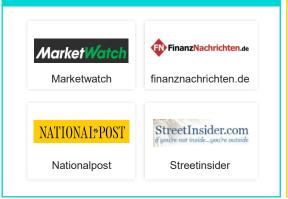
Environmental Management System Certification



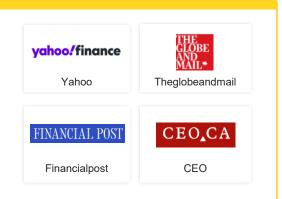
ISO 27001 Certified







Internationally recognized media coverage



# 100% project success rate and highly praised by clients worldwide







# **Cases Studies**



Flat-surface Material Handling



High-level Storage at Line-side Warehouse



Heavy handling



Elevator Transfer Between Floors



Long Material Handling



Unmanned handling



Conveyor Line Docking



Cage Stacking



High-level Storage in Narrow Aisles



AS/RS Docking



High-level Double-deep Picking



Four-way shuttle



**Production Line Docking** 



High-bay storage



Park logistics













Packaging









Food Auto

New Energy

Pharmacy

Machining

Construction Material

Home

Chemical

Clothing

## **Customer Service**

### **On-site Implementation**

Resident Engineer One-on-One Delivery

### **Quick Response**

Worldwide Coverage Nearby Response Support

### 24x7 Customer Service

24H Service Hotline

### **Process System Support**

Weekly Based Delivery
Standardized Delivery Process

### **Remote Upgrade**

Iterating Platform Remote Upgrade

### **Professional Training**

Classroom and Hands-on Training Program Management Impovement

# **Contact Us**

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