



Multiway Horizons

Empowering Smart Manufacturing
with AI-Enabled Flexible Robots

www.mw-r.com

Multiway Horizons

We leverage machine vision and AI technologies to develop adaptable solutions that drive smart manufacturing and intelligent logistics. Through vehicle-road collaboration, vehicle-factory collaboration, and comprehensive monitoring of business dynamics, we enable visualized management and ensure a secure operational environment facilitated by an edge computing data processing platform. This guarantees the stable operation of the factory, cost reduction, and improved efficiency.



Three Key Functions



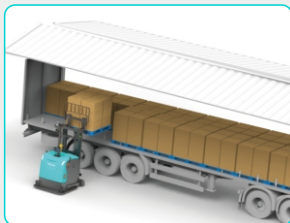
Function Module

Flexible Empowerment



Cage Stacking

- Cage deformation detection
- Stacking safety inspection
- Cargo offset detection
- Disassembly and stacking at different heights
- Single-side clearance of up to 10mm is supported



Automated Loading and Unloading for Vehicles

- Compatible with multiple vehicle types (wing body, flatbed, van)
- Location planning for different cargos (optimized space utilization)
- The maximum tilt angle of the tailgate dock leveler is 8°



High-Bay Storage

- High-precision cargo picking and placing
- Cargo unloading space detection



Pallet Posture Recognition

- Support pallet deviation of up to $\pm 45^\circ$ and ± 80 cm
- Compatible with various types of pallets, cages, etc.
- Non-stop pallet pose identification by visual perception
- Non-standard carriers support online modeling by users for rapid deployment
- Support side placed, front picking;

Operation and Management



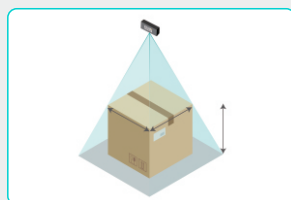
Visual Inventory

- Inspection of images for full-pallet cargo
- Calculation of full-pallet cargo quantity



Storage Location Detection

- Available location detection
- Offset detection
- Detects presence or absence of any cargo at any slot: no training required



Cargo Information Recognition

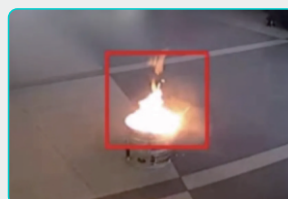
- Barcode recognition
- Chinese character recognition
- Overload detection
- Diameter measurement
- Color recognition
- Quantity calculation
- Contour detection
- dth × Height measurement

Safety Monitoring



Vehicle-Road Collaboration

- Intruder detection
- Foreign object detection on tracks
- Path interference detection



Environmental Safety Detection

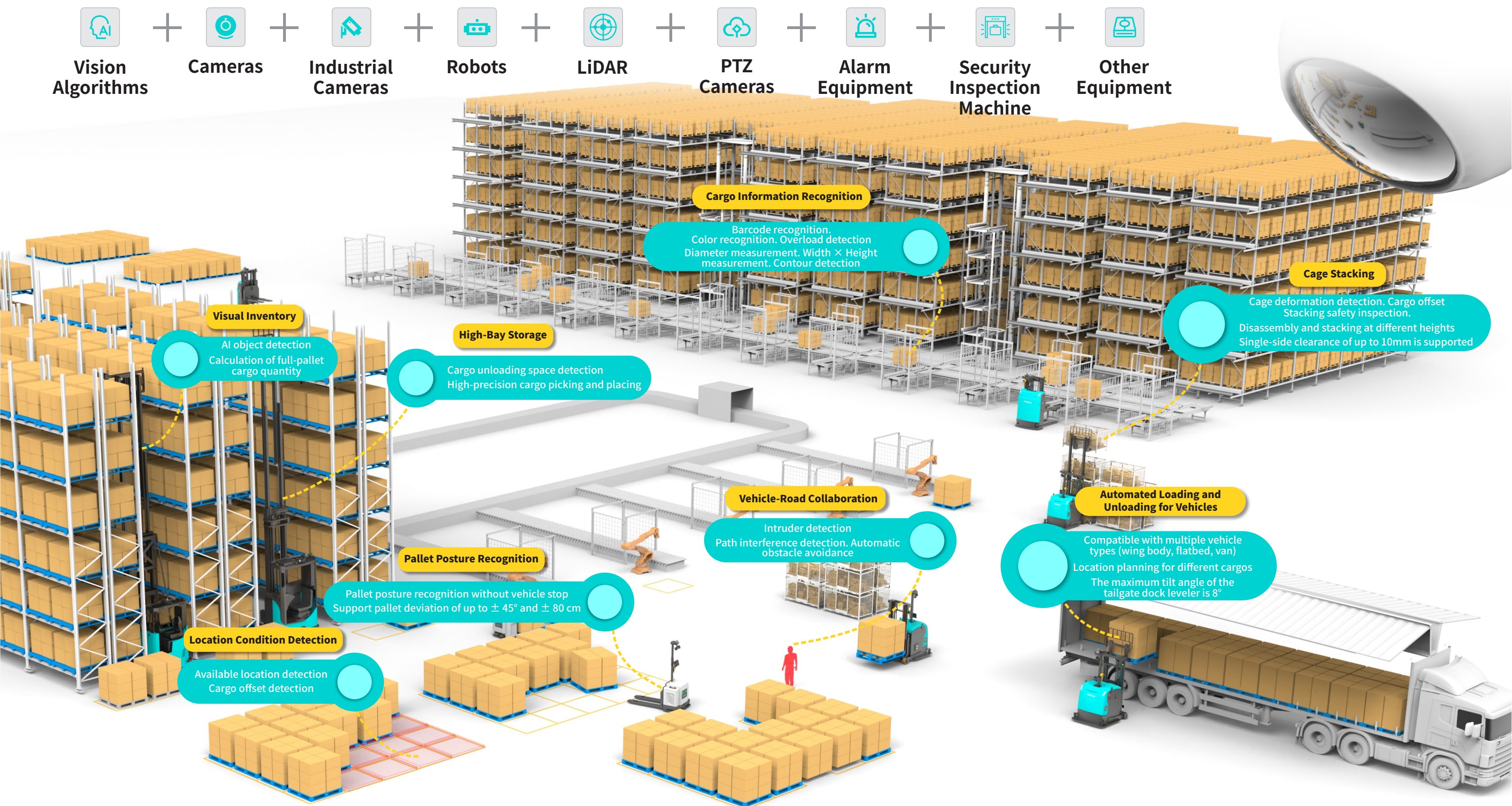
- Open flame and smoke detection
- Calculation of full-pallet cargo quantity



Worksite Safety Inspection

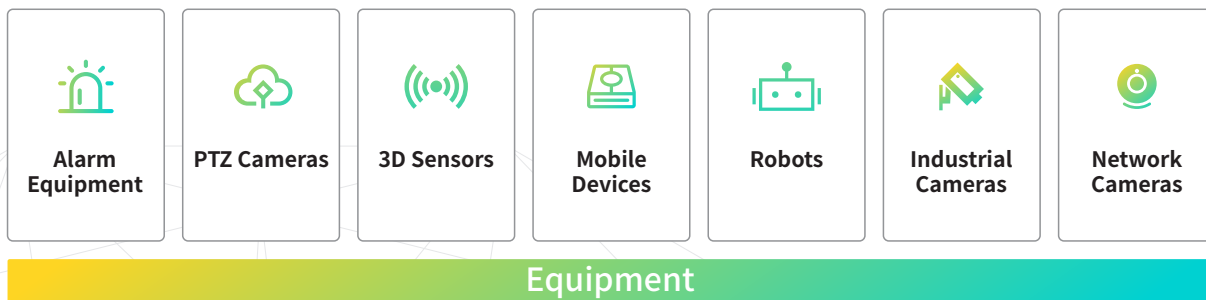
- Face recognition
- Off-duty detection
- Fall detection
- Uniform detection
- Helmet detection
- Glove detection
- Abnormal behavior detection
- Cargo overturning detection

Flexible Vision Solution—Horizons System

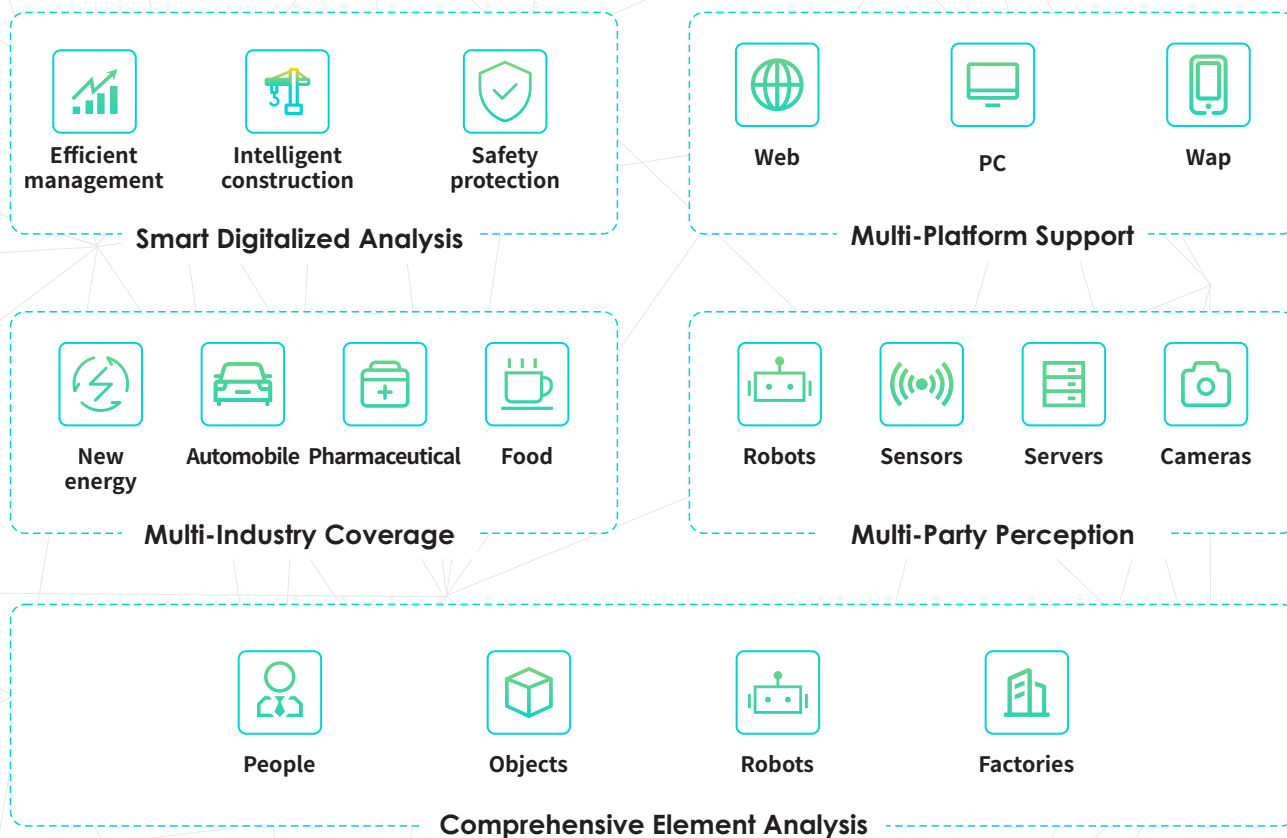


Constituent Elements

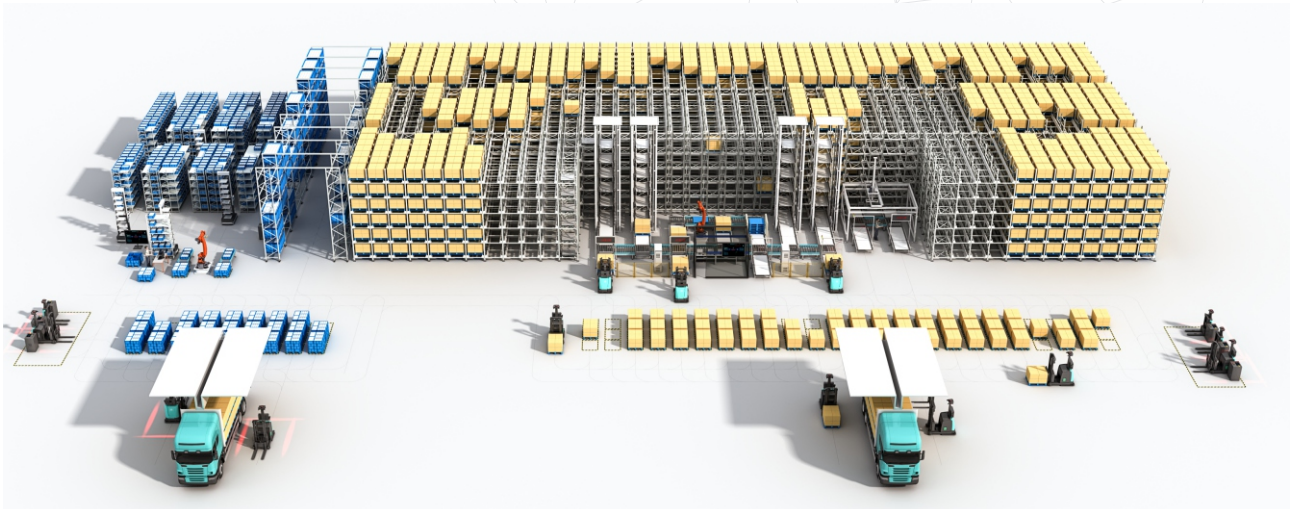
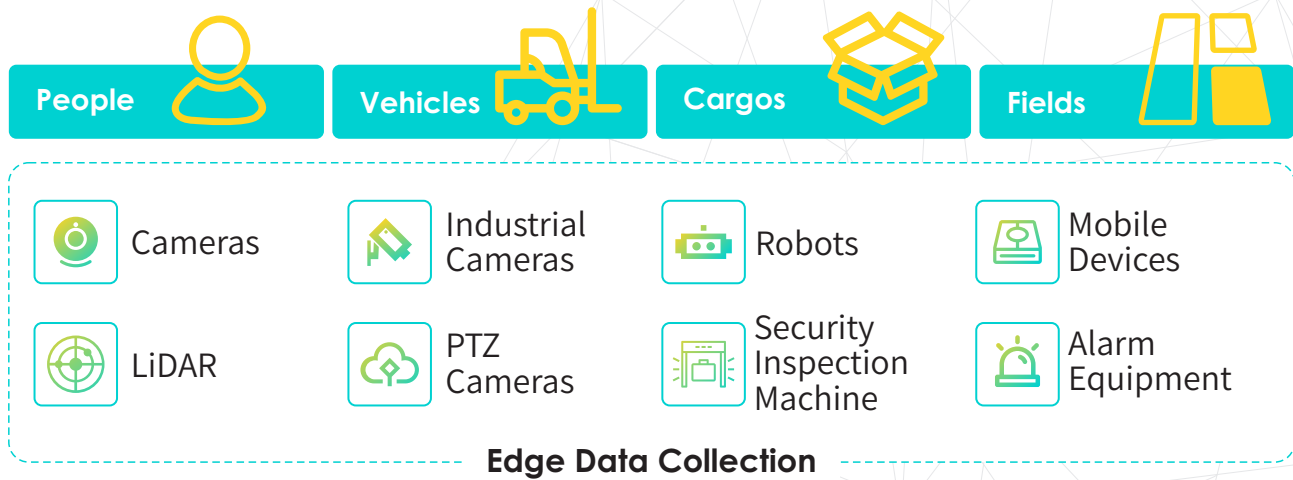
Hardware Equipment



Analysis of Applications



Smart Factory Application

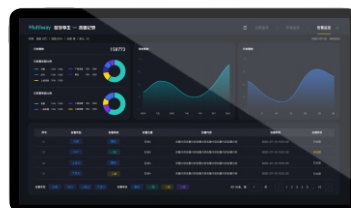


Real-time AI Computing
with Cloud Data Integrated
Providing a Traceable
Cloud Platform




Real-time
Computing Platform

Data Visualization Platform
Intuitive and Intelligent
Management Decision-Making




Visualized
Analysis Platform

Flexible Configuration and
Management of Edge Device
Services in the Cloud
Make the Devices Manageable




O&M Management
Platform

Multiway Robotics

Multiway Robotics, a leading intelligent intralogistics solution provider, is dedicated to improve intralogistics efficiency, ensure work safety and reduce labor operational cost.

Global Presence: The headquarters is located in Shenzhen, China, with production facilities in Zhejiang Wuzhen. Multiway has also established subsidiaries in the United States, Germany, Japan, South Korea, and more, extending business, operations, and services to 40+ countries and regions worldwide.

Our Expertise: Focusing on advanced robotics and AI technology, Multiway Robotics is committed to delivering cutting-edge Smart Intralogistics Solution to our customers. Multiway offers a comprehensive, integrated innovation delivery platform and solutions, ranging from core sensors and algorithms to self-developed unmanned forklifts and upper-level control systems. Hardware products include a full range of unmanned forklifts and four-way shuttle, while software systems encompass WMS, RCS, WCS, on-site management systems, and various visual solutions.

Software WMS, RCS, WCS, Multiway Horizons, Simulation

Hardware: AGV forklifts, AGV Tugger, AMR & Four-way Shuttle

After successfully delivering numerous benchmark projects in industries such as factories, warehousing, and logistics, Multiway has become a trusted and ongoing collaborative partner for many industry-leading customers.

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