RCS

Dispatching
System RCS

Multiway Robotics Co., Ltd.

Introduction to RCS System

The Multiway Robotics Dispatching System can simultaneously **support the cooperative operation of hundreds of vehicles of different models on the same site**. It can quickly design optimal routes and optimal navigation route planning, thus completing tasks in the shortest time and ensuring the highest efficiency.

Currently, Multiway Robotics Dispatching System has been deployed in **400+** real projects in the fields of **automotive, food, pharmaceutical distribution, new energy, cold chain, etc.**, with more than a hundred units deployed at the site of several leading enterprise customers

Real-time construction of the environment

Optimal path planning

Dispatching of intelligent traffic control

Monitoring and management of equipment
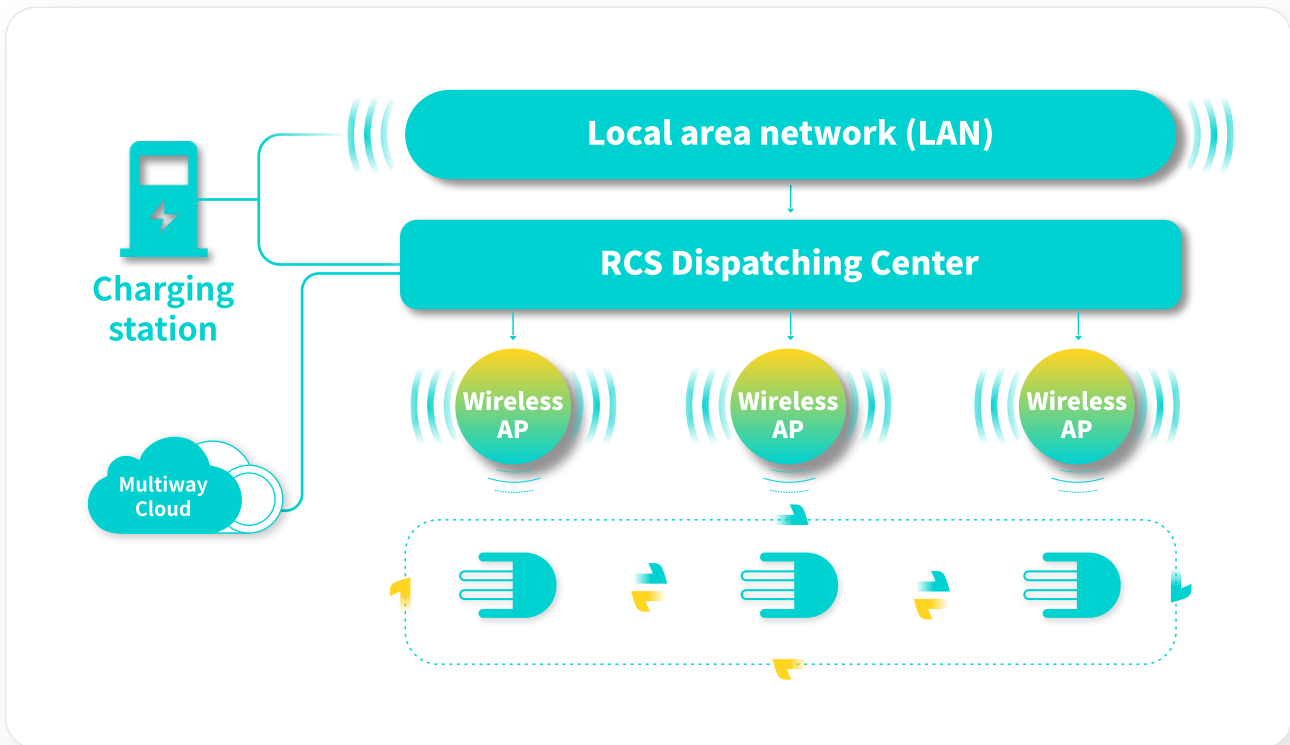
Principle of proximity

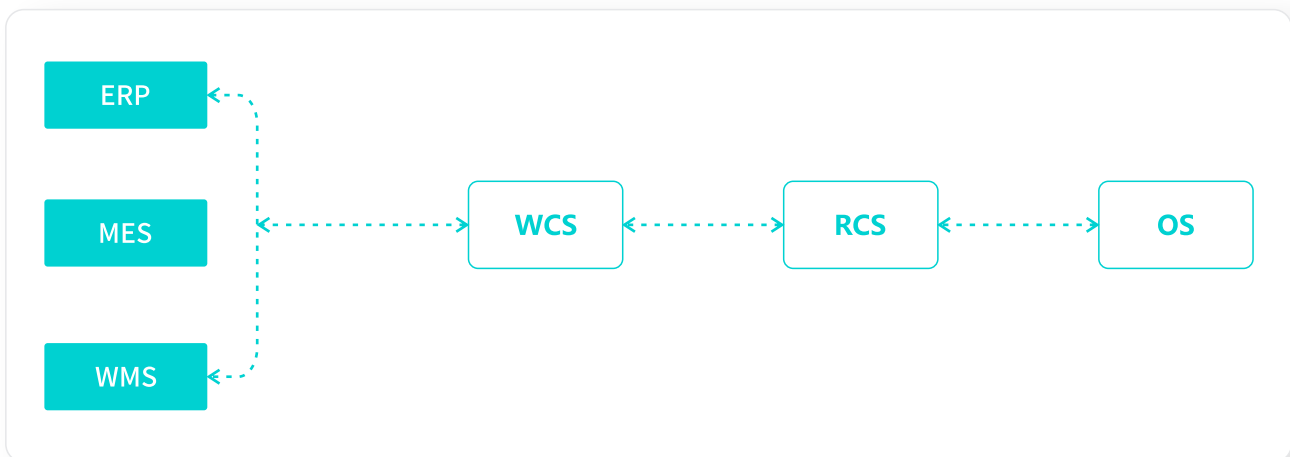Intelligent task sequencing

Self-charging management

Dynamic avoidance in multi-vehicle conditions

Network Architecture

Charging station

Multiway Cloud

Local area network (LAN)

RCS Dispatching Center

Wireless AP

Wireless AP

Wireless AP

System Interfacing Logic

ERP

MES

WMS

WCS

RCS

OS

System Function

Dynamic monitoring

Web-based system information access and remote monitoring are available

Real-time display of operational maps (Support 3D digital twin)

Real-time display of vehicle tasks, location, status, battery level, etc.

Real-time display of task list information

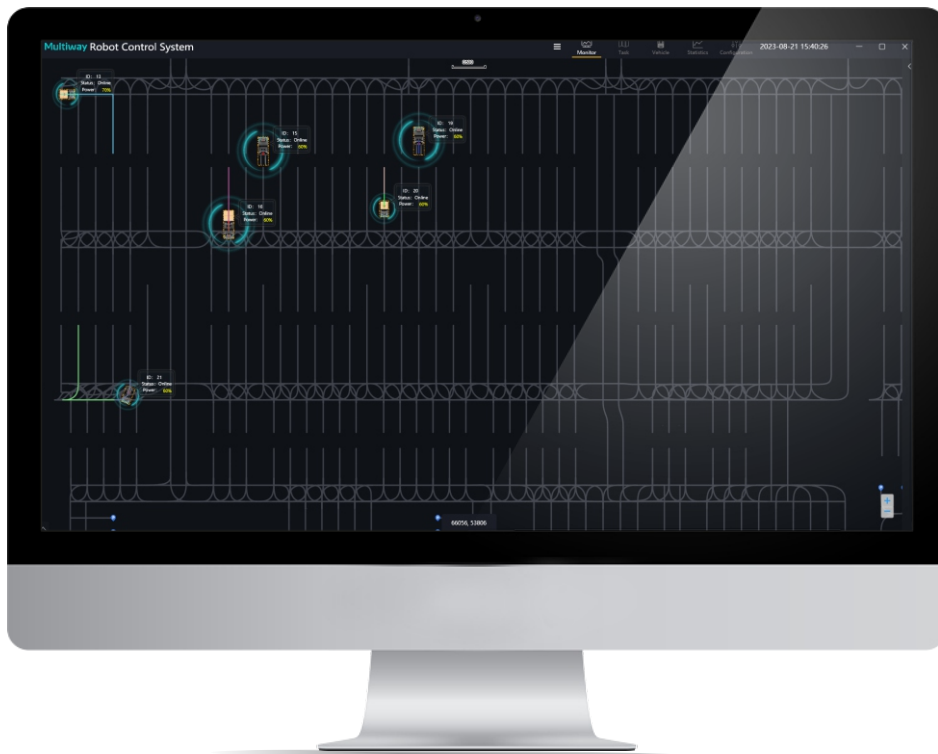Real-time display of tasks, systems, vehicle abnormalities

Query task and vehicle information

Support for configuring parameters in the backstage
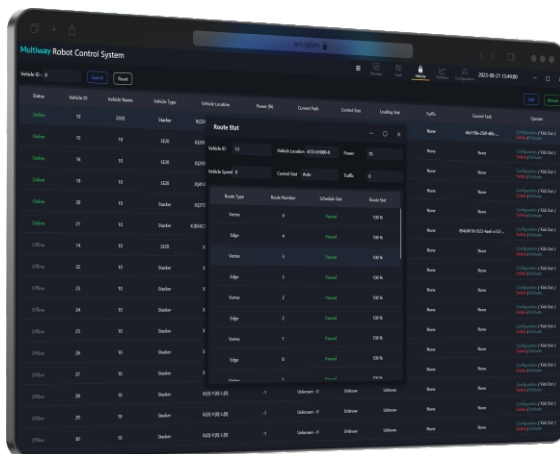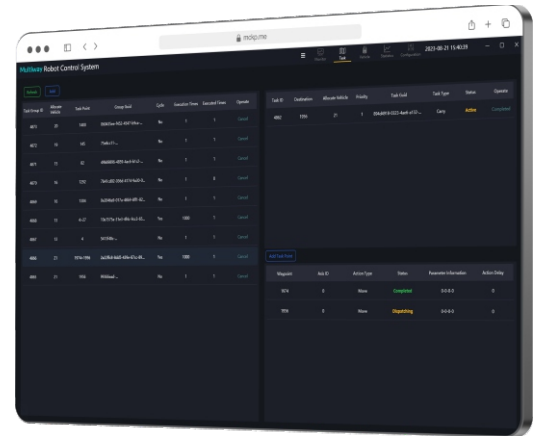
Different users or user groups can set operation privileges

Task management

- Monitor task execution status in real time

- Create tasks to assign vehicles to transport goods to a target point

- Create recurring tasks

- Manually cancel and complete tasks in the management task status

Vehicle management

- Monitor vehicle operating status in real time

- Configure vehicle information

- Configure simulation vehicles to simulate the operation of real vehicles

- View vehicle route details and traffic control

Report statistics

- Record running track, traffic control time, failure rate, etc.

- Record running tasks and automatically generate task logs

- Data analysis (efficiency, mileage, utilization, etc.), support for graphs and data export

- Report system failures, generate events, and query logs

Traffic control

- 🐍 Optimize routes for traffic control in real time
- 🐍 Adjust the vehicle running profile to reduce traffic pipes and avoid collisions in real time
- 🐍 According to the robot meeting/following status, task priority, adjust the traffic control issuing mechanism in real time
- 🐍 According to road conditions, adjust and dynamically avoid in real time
- 🐍 Traffic control handling of multiple cars on different floors calling the same elevator at the same time
- 🐍 Vehicle-road collaboration is available
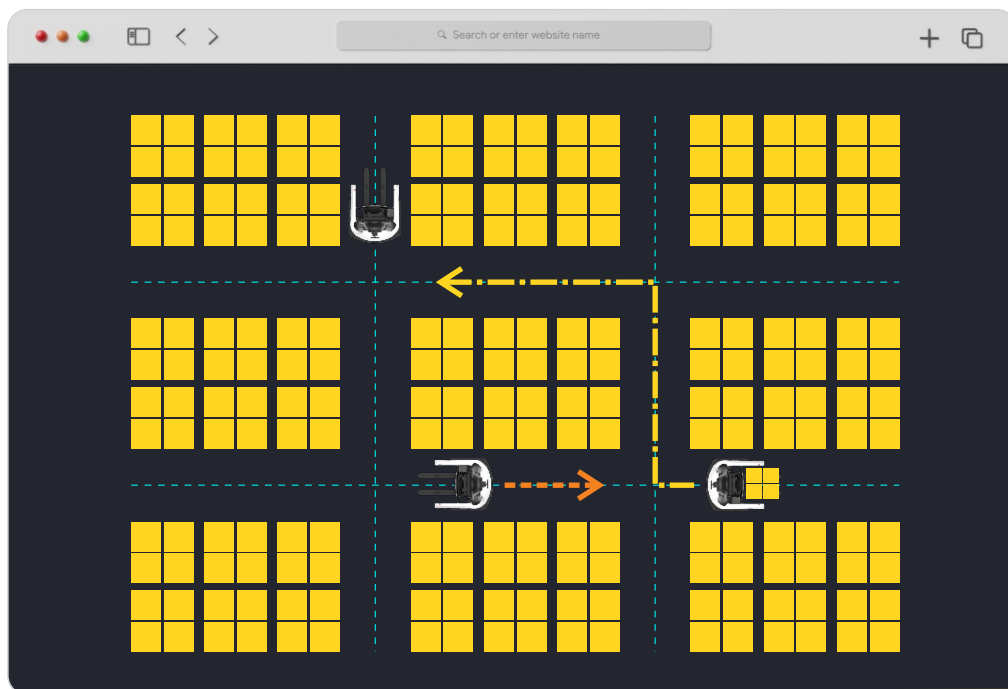
Traffic control mechanism

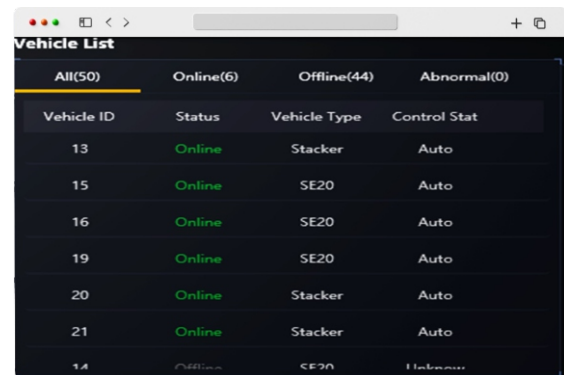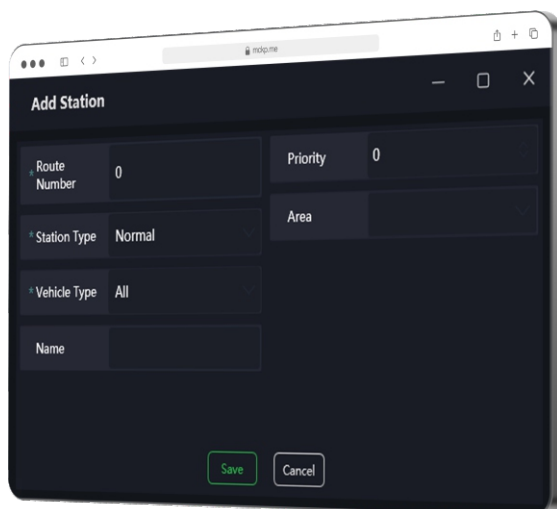| Space collision detection	Control of route issuance	Block group protection	Restrictions on roadway operations	Event interaction mechanism	Dynamic avoidance algorithm

Equipment management

🐍 Self-check the communication status of robot components in real time

🐍 Monitor multiple robot batteries for low battery warning and recharging in real time

🐍 Monitor robot position, obstacle avoidance, motion and other information in real time

🐍 Real-time monitor the communication status of various modules docking in the system

🐍 Remote one-touch parking is available

🐍 Remote OTA upgrade without manual intervention

Vehicle List

	All(50)	Online(6)	Offline(44)	Abnormal(0)
Vehicle ID	**Status**	**Vehicle Type**	**Control Stat**	
13	Online	Stacker	Auto	
15	Online	SE20	Auto	
16	Online	SE20	Auto	
19	Online	SE20	Auto	
20	Online	Stacker	Auto	
21	Online	Stacker	Auto	
14	Offline	SE20	Unknow	

System configuration

🐍 Event configuration: configure notification, interaction events with wcs

🐍 Charging configuration: configure automatic vehicle charging strategy

🐍 Standby point configuration: configure the vehicle to automatically return to the designated standby point

🐍 Map configuration: map upload, map activation

🐍 Model configuration: model information configuration

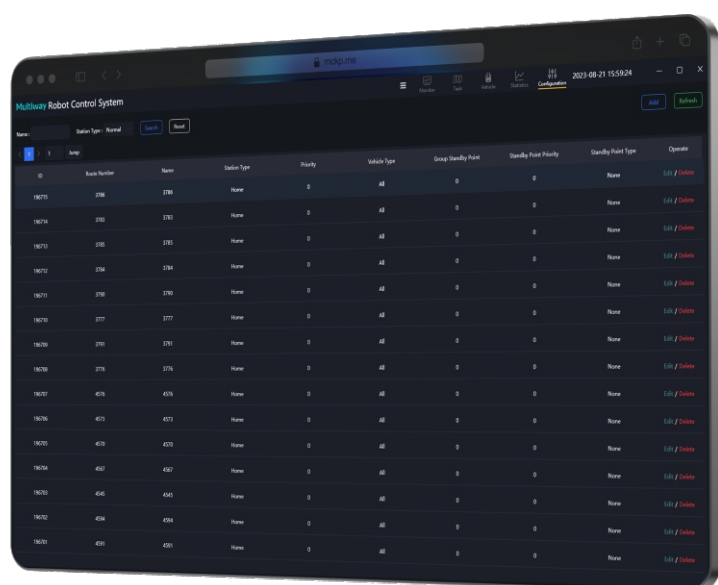🐍 Station configuration: charging point, standby point, storage point, etc.

Multiway Robotics

Multiway Robotics, a leading intelligent intralogistics solution provider, with the mission of "Establish a new and efficient employment mode", is dedicated to drive continuous upgrades in social productive forces.

Global headquarter and laboratory are located in Shenzhen, China, with production facilities in Hefei. Multiway has also established subsidiaries in the United States, Germany, Japan, South Korea, and more, extending business, operations, and services to 30+ countries and regions worldwide.

Focusing on advanced robotics and AI technology, Multiway Robotics is committed to delivering cutting-edge intelligent manufacturing and smart logistics solutions 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 Multiway Cloud, WMS, RCS, WCS, on-site management systems, and various visual solutions.

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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