奥特莱物流科技
AUTOLINE LOGISTICS TECHNOLOGY

# AUTOLINE
## LOGISTICS TECHNOLOGY
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THE PROVIDER OF THE DIGITAL INTELLIGENCE LOGISTICS TURNKEY SOLUTION


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分享空间智慧 热爱价值共创

SHARE SPACE WISDOM LOVE VALUE CO-CREATION

# ABOUT AUTOLINE

## VISION

Build the world standard of intelligent logistics
Work for open and co-created service ecology

## IDEA

We provide the solution of space
We explore the possibilities of intelligent logistics
We choose the cooperation of technology openness and information sharing
We firmly believe that creating value for customers is creating value for ourselves

**2010** INCORPORATION

**200+** EMPLOYEES

**150** ITEMS INDEPENDENT INTELLECTUAL PROPERTY

## THE PROVIDER OF THE DIGITAL INTELLIGENCE LOGISTICS TURNKEY SOLUTION

Autoline logistics technology headquarters is located in Suzhou Industrial Park,Suzhou City, Jiangsu Province, a hub of innovation. Since its inception in 2010, Autoline has been a leader in digital intelligence logistics solutions, deeply involved in the filed of warehousing and logistics, and has built a comprehensive integrated service industry chain with a strong competitive advantage. As a high-tech enterprise with integrated R&D, design, production, sales and information system integration services, Autoline is at the forefront of technology and responds to market demand by driving the deep integration of new generation information technology and manufacturing industry. The company creates excellent intelligent warehousing and logistics solutions and cutting-edge equipment tailored to customers' needs.

Recruiting top talent and creating glory again. Autoline has an elite team of over 200 employees, with over 80% having a full- time bachelor's degree or above. Half of our team comprises R&D technicians, who leverage their expertise to chart a new course for the future of logistics. The company's strategic layout is comprehensive, with eight responsibility centres spanning marketing, engineering, technology, supply chain, intelligent manufacturing, craft and quality, operation and finance. These centres collaborate to drive the growth and success of Autoline's future.

The three centres (Suzhou R&D And Marketing Centre, Taiyuan Project Execution Centre, Shuozhou Manufacturing Centre) are running in parallel, covering mechanical design and manufacturing, electrical design and development, system design and R&D, as well as digital transformation and upgrading of intelligent warehousing and logistics. It will build up a strong network of comprehensive service capabilities. Autoline logistics technology is built on innovation and quality. As a development idea and adheres to the business philosophy of the "service first"and the core values of "creating value for customers". Our company has a global footprint and has successfully helped thousands of automation projects at home and abroad, set an industry benchmark.

Autoline logistics technology will continue to pursue its original intention, explore new frontiers in logistics technology with an open mind and forward-looking perspective, providing customers with more intelligent ,efficient and greener logistics solutions, and work together to create a new era of intelligent logistics.





At the beginning of its establishment,Autoline has established the grand blueprint of "establishing a technology system with independent intellectual property rights. We have obtained a total of 114 independent intellectual property rights. These include 6 items invention patents, 65 items utility model patents and 43 software copyrights. It impressively demonstrates Autoline's profound innovation and technical strength.Autoline has not only been honoured as a high-tech enterprise and a provincial-level specialized,refined,and new enterprise, but has also made outstanding achievements in standardisation construction. We have successfully passed CMMI5 international software maturity certification, ITSS level 3 information technology service standard certification, as well as ISO series of quality management system, environmental management system and occupational health and safety management system multiple international certifications.and set the industry benchmark.

Autoline is deeply engaged in the field of intelligent warehousing solution.Our comprehensive product line includes WMS (warehouse management system), WCS (warehouse monitoring and scheduling system), and other core systems. These solutions are designed to seamlessly integrate with mainstream ERP and MES systems, as well as with advanced equipment systems such as stacker cranes, conveyors, data acquisition and analysis systems, shuttle board three-dimensional warehousing system, and four-way shuttle vehicle three-dimensional warehousing system. We are at the forefront of the new trend in logistics intelligence. The company is currently accelerating the digital transformation of intelligent logistics,Which is being achieved by relying on independently research and develop cutting-edge artificial intelligence algorithms and internet of things technology, as well as adopting a modularised digital manufacturing strategy. So we have launched a series of high-end products such as the core stacker series-Cangwolf series of standard stacker cranes and Wolverine series of super-heavy stacker cranes with a load capacity of 4-30t, Sky wolf series of super-high stacker cranes with an equipment height of 22-40m, and Icewolf series of super-long stacker cranes with a load length of 4-16m,Silver wolf series of super-wide stacker cranes with a load width of up to 6m, and the Battle wolf single-column stacker cranes up to 2-3m, as well as innovative products such as the four-way vehicle intensive shuttle warehouse and shuttle board three-dimensional warehouse, are complemented by a full series of pallet conveyors and shuttle trucks and other hardware equipment. We provide a comprehensive, end-to-end intelligent equipment integration service, from design to operation and maintenance.Autoline has responded favourably, with high praise and a strong evaluation from the industry. Continuing to lead the intelligent logistics industry to new heights.






# MAIN ADVANTAGE

## Self-Built Production Center-34000m²

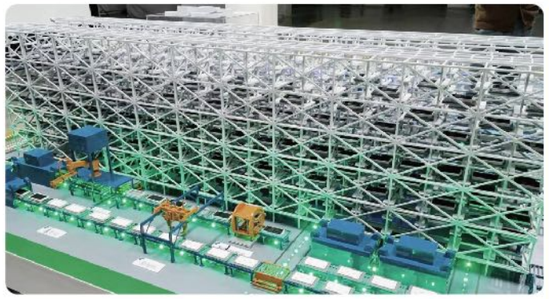
Autoline logistics technology has a 34,000m² production base and is well proficient in the production of non-standard logistics equipment and independent standardised products.

Overcoming supply chain constraints, we are able to flexibly respond to the demand for large quantities and large workpieces, ensuring a balanced and flexible adjustment of production capacity. The strength of prodution not only shows Autoline's insistence on quality, but also reflects our ability to quickly respond to market changes, and injects strong momentum into the logistics industry.

## Independent R&D Software Programs

Autoline logistics technology, with user needs as the core driving force, accurate insight into market expectations, is committed to building a full range of user systems docking and comprehensive control platform. We achieve seamless and customized docking, giving users more choice space. In the field of technological innovation, Autoline constantly explores cutting-edge technology, strives for excellence, improves software quality, performance and user experience, and successfully develops and stably operates a number of software systems with high standards, high stability and high intelligence. These achievements not only show Autoline's strong strength in the field of self-developed software programs, but also set a model for the intelligent transformation of the logistics industry.






## Industry Expansion Model-Non-Standard Projects

Autoline logistics technology has a deep understanding of the industry, accurate insight into the production process and equipment needs. We create non-standard stacker cranes to meet the differentiated requirements of customers. Our cranes are super-long, super-wide, super-high, super-heavy, single-column, and can be adapted to suit a variety of cases,and have leading practical operation experience in the industry .

We conduct in-depth analysis of industry processes and logistics challenges, offering comprehensive system design encompassing overall planning, intelligent warehousing, production line, software, utility engineering, and innovative development of the entire intelligent logistics system. Autoline's customized, precise, and pragmatic intelligent factory logistics solutions and help rebuild logistics value for customers, showing the strength of independent R&D software and overall solutions.

## Modular Production - 35 Day Delivery

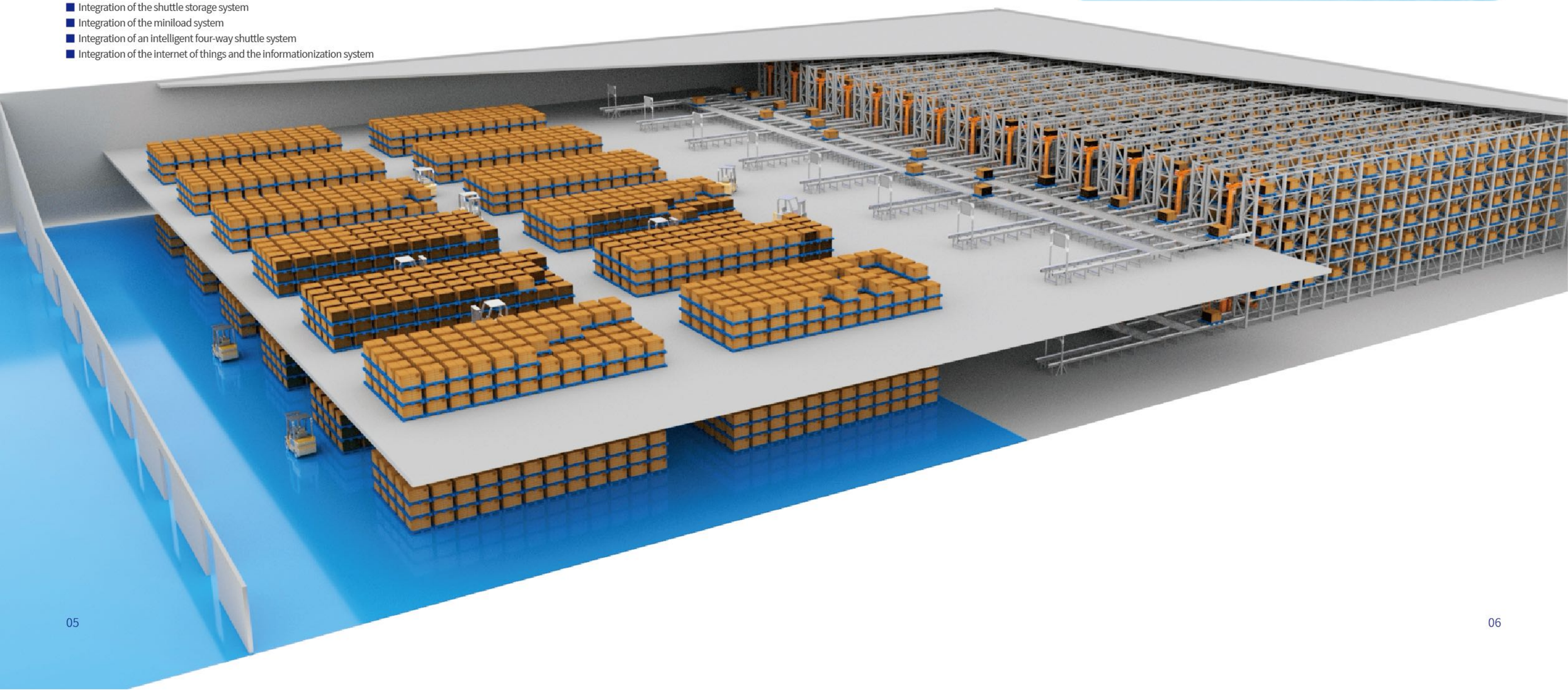
Autoline is the leader in digital intelligence, setting the standard for stacker cranes with our innovative "product modularity" production mode. We have simplified complex manufacturing into standard units, shorten the period of delivery to just 35-40 days. Which is an efficiency leap.

We have built a full-process data ecosystem, aggregating real-time information on warehousing, orders, operations, equipment status and maintenance, and provides data visualisation and in-depth analysis. Also carries intelligent remote diagnosis and operation and maintenance functions, ensuring the safe and stable operation of logistics equipment. Autoline has redefined the production and service standards of logistics equipment by integrating modular production strength and digital intelligence technology, leading the industry to a new height.

# AUTOLINE
## INTELLIGENT LOGISTICS STORAGE SYSTEM

Autoline logistics technology is a leading provider who is deeply ploughing the logistics industry chain,and building a comprehensive,end-to-end intelligent logistics solutions. We provide a full range of services, including WMS, WCS, stacker cranes, conveyors, data acquisition, shuttle boards, four-way shuttles, intelligent distribution and sorting systems, and more. We drive the upgrade of logistics efficiency with technological innovation. The solution connects seamlessly to the mainstream ERP and MES systems in the market and meet the individual needs of different enterprises with their highly modular design and flexibility. Our excellent strength and forward-looking vision in the field of intelligent logistics is demonstrated by these strengths.

- Integration of the automated stereoscopic warehouse system
- Integration of an intelligent sorting system
- Integration of the shuttle storage system
- Integration of the miniload system
- Integration of an intelligent four-way shuttle system
- Integration of the internet of things and the informationization system



# AUTOLINE
## INTEGRATION OF AUTOMATED STEREOSCOPIC WAREHOUSE SYSTEM

### ACCESS AUTOMATION
Years of accumulated experience in the industry, mature stacker systems, conveyor systems, AGV and other equipment to ensure the efficiency of automated access to goods.

### EASY OPERATION
Independently research and develop operating system, with good scalability and flexibility, more convenient operation to complete the job.

### CUSTOMIZED DESIGN
Customizing the design based on actual needs and continuously polish the design to ensure the efficiency and applicability of the system.

### TECHNOLOGICAL INNOVATION
Insisting on continuous innovation in the automated warehousing industry, and always maintain a high level of scientific and technological innovation in the industry.





# AUTOLINE
## INTEGRATION OF INTELLIGENT SORTING SYSTEM

### HIGH EFFICIENCY
Capable of continuous, large volumes sorting, running continuously for more than 100 hours, it can sort thousands of packaged goods per hour.

### EXTREMELY LOW SORTING ERROR RATE
Barcode technology is primarily used to identify goods and improve sorting accuracy.

### STANDARDIZED ASSEMBLY
The use of standardized assembly, the system layout is flexible, particularly convenient in terms of maintenance and inspection, and it is not affected by the site.

### SEAMLESS INTEGRATION
The automatic sorting system can be seamlessly connected with other logistics equipment, like various handling equipment and various storage station cubicles, which can realize the distribution and management of goods.

# AUTOLINE
## INTEGRATION OF SHUTTLE BOARD STORAGE SYSTEM

### HIGH DENSITY STORAGE
Greatly improving the space utilization rate of the warehouse, this design makes it possible to store more goods in a limited space, effectively solving the problem of insufficient storage space.

### AUTOMATED TRANSPORTATION
Shuttle trucks are able to complete automatically the goods of transportation , which improves work efficiency and reduces labor costs.

### INTELLIGENT SCHEDULING
The ability to automatically plan the optimal driving path according to the needs of the goods ensures that the goods can be delivered quickly and accurately.

### ENVIRONMENTAL PROTECTION AND ENERGY CONSERVATION
With stable operation and low energy consumption, the shuttle storage system is designed and operated with energy saving and environmental protection in mind, which helps companies realize green and sustainable warehouse management.



# AUTOLINE
## INTEGRATION OF MINILOAD STEREO SYSTEM

### FAST AND ACCURATE
Small load stacker cranes move quickly and accurately handle the throughput of large-volume order picking or manufacturing.

### HIGH-LEVEL, HIGH-DENSITY STORAGE
Compared to traditional selective rack systems, small-load automated warehouses use more vertical space, and loads are placed on shelves with high precision to optimize storage density

### SMOOTH, QUIET PERFORMANCE
The load stacker uses an aluminum mast and polyurethane wheels for stable and quiet movement even at high speeds.

### REDUCTION OF ENERGY CONSUMPTION
The newer compact stacker models are 15% lighter than previous models. The motors have also been made smaller, reducing power consumption.

# AUTOLINE
## INTELLIGENT FOUR-WAY SHUTTLE

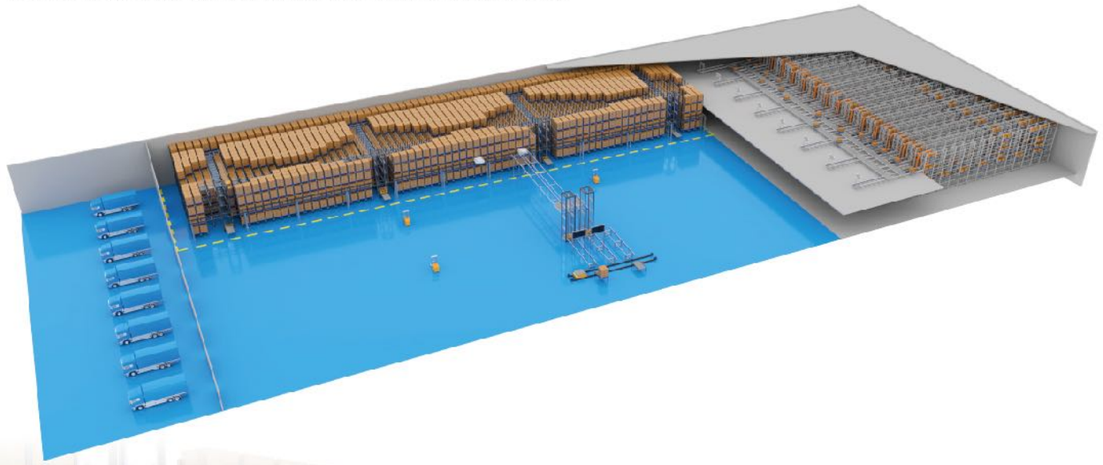
The four-way shuttle is an essential piece of equipment for intensive storage. It comprises a hoist, horizontal conveyor system, shelving system and WMS/WCS management and control system. By combining RFID, barcode and other identification technologies, the shuttle can efficiently manage inventory and facilitate goods in and out of the warehouse. The four-way car boasts a long lifespan, low maintenance costs, flexible multidirectional movement of the product, safety and stability, and is widely used in high-access intelligent three-dimensional warehouses thanks to its mechanical jacking design and low maintenance costs.

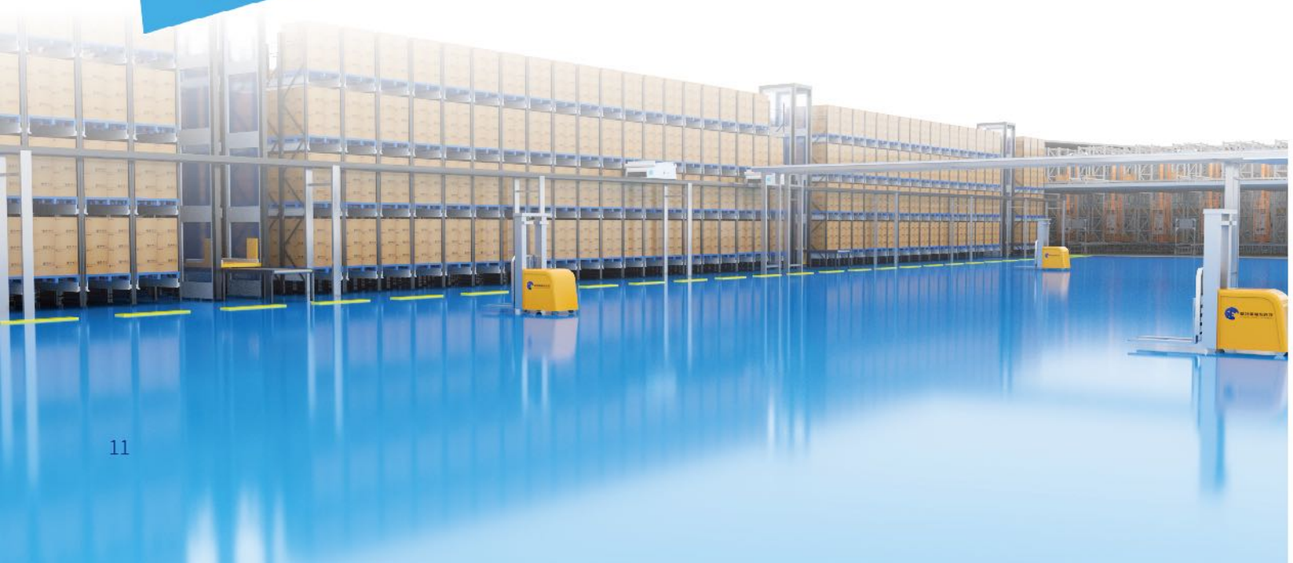
### HIGH SPACE UTILIZATION
The four-way shuttle can be used in conjunction with vertical lifts to facilitate layer change operations, enhance warehouse shelf layout and improve the flexibility and expandability of the operation.

### HIGH-DENSITY AUTOMATION
It has two working modes: full-automatic and semi-automatic. Greatly improve the efficiency of goods access.

### ADAPTABLE
Full-automatic and semi-automatic of the two working modes have greatly improved the efficiency of goods access.

### HIGH FLEXIBILITY
The number of shuttles can be increased or decreased to regulate the capacity of the system, and a fleet of vehicles can also be organised for scheduling to cope with the peak of the system and to solve the bottleneck of access operation.









# AUTOLINE
## INTEGRATION OF THE INTERNET OF THINGS AND INFORMATION SYSTEM

### INTELLIGENCE
Real-time monitoring of various information, and data collection and processing can improve work efficiency, and save resources.

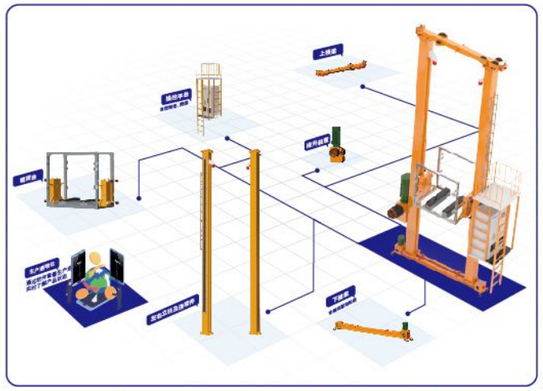
### CONNECTIVITY
It can be connected through various communication technologies to realize information transfer and data sharing between different devices.

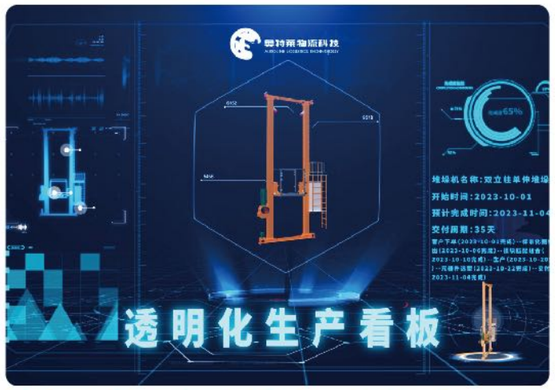
### LARGE-SCALE DEPLOYMENT
Through cloud computing and other technologies, a large number of devices are connected to the same network and managed and monitored through the cloud.

### SAFETY
It can ensure the safety of the devices and datas through adding security measures to make sure that information of device is not disclosed.


# PRODUCT SERIES

Autoline focuses on the research and development of stacker manufacturing more than 10 years, developing steckers for customers in thousands of application scenarios






## STANDARD STACKER

Product Modularity + Production Transparency

## SUPER-LONG STACKER

Load length 4-16m

## SUPER-TALL STACKER

Equipment height 22-40m

## SUPER-WIDE STACKER

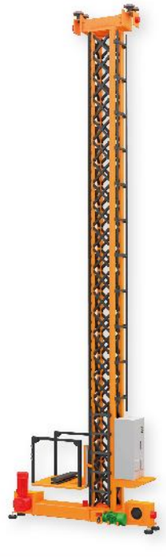
Cargo width ⩽ 6m

## SUPER-HEAVY STACKER

Load capacity 4-30t

## SINGLE COLUMN STACKER

Whole column, high throughput, high work efficiency



# OTHER CORE PRODUCTS

CANTILEVER FORK STACKER

FOUR COLUMN CHAIN ELEVATOR

DOUBLE COLUMN BELT ELEVATOR

THREE COORDINATE HIGH-SPEED ELEVATOR

SINGLE COLUMN ELEVATOR

DOUBLE COLUMN CHAIN LIFT

HIGH SPEED LOCATE ACCURATELY ELEVATOR

RIGID CHAIN LIFTING PLATFORM

TRANSFER CAR

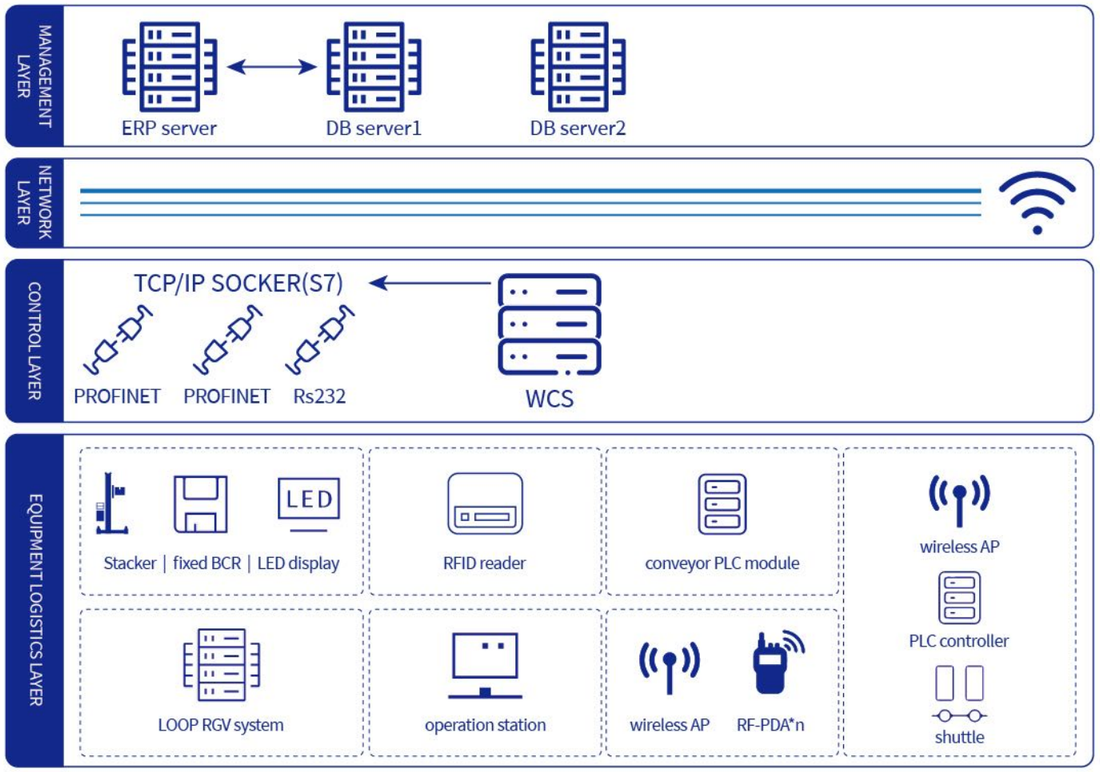
HEAVY RGV

# INTELLIGENT LOGISTICS

## AUTOMATIC CONTROL SYSTEMS

The electrical system uses a reliable plc controller to control the whole system, and each local control station uses a high-speed and reliable national standard industrial field for configuration to ensure the reliable and high-speed operation of the entire control network.

The control system interconnects the upper layer network with the monitoring computer and the industrial network, and realizes the data interaction between the whole control system and the upper layer network.




Our company provides automatic logistics system, logistics equipment and production system for various industries, electrical control planning, design, production、installation, commissioning and electronic control system, transformation and upgrading services for various industries.

The design of electrical control adopts professional eplan control system design software, and establishes a rich component library and standard symbol library,which significantly improves the degree of standardization and the accuracy of design. The generated pdf file has navigation and retrieval functions, which greatly facilitates the inspection and application of drawings data, and is convenient for customers to maintain and repair in the future.

The architecture design of the system adopts the design concept of "decentralized control and centralized management", and the designers are familiar with profinet,ethernet/ip industrial ethernet technology and profibus, controlnet, devicenet, cc-link and other fieldbus technologies. Proficient in siemens, ab, mitsubishi, omron, schneider and other plc programming, to meet the different needs of customers.

The electronic control system offers a variety of manual, automatic and online operation modes, with perfect system alarm function, system network diagnosis function,system monitoring function, system security protection function and system antiinterference function, to give customers advanced and flexible electronic control solutions.





# AUTOLINE

## DIGITAL TWIN DEVELOPMENT

Autoline intelligent logistics solution is a whole-process data intelligence mode, which collects and analyzes warehousing and order core data, equipment status, maintenance information and other data in real time, and supports remote diagnosis and operation and maintenance.

- Operation data statistics and analysis
- Inventory analysis
- Monitor and record real-time operating status of equipment
- Virtual display of real-time device status
- Central dynamic model
- Equipment maintenance records and warning

# WMS INTELLIGENT STEREO STORAGE
## MANAGEMENT SYSTEM

The warehouse management system adopting the internet of things, big data and other technologies to realize intelligent warehouse management, systematic storage management,transparent material preparation management, and operation process optimization and management for enterprises with multiple goods and warehouses. The system supports the individual needs of enterprises with multiple formats,modes and warehouses, and automatically collects and analyzes data information and seamlessly connects upstream and downstream software to provide managers with complete storage information, improve inventory turnover efficiency, improve inventory accurately,optimize warehouse operation standards, and create a real-time, transparent and visual warehouse management system.

Warehousing management system can manage the storage information well for enterprises through itsinbound, outbound and warehouse transfer functions, and by integrating batch managemen,material management, inventory, quality management and instant inventory management functions multi-tier architecture, front-end display, mid-end interaction and security control, back-end data processing

- Multi-tier architecture, front-end display, mid-end interaction and security control,back-end data processing
- Independently modular and user friendly interface
- Monitoring of business logs and system logs
- The system information collection node is implemented in configuration mode

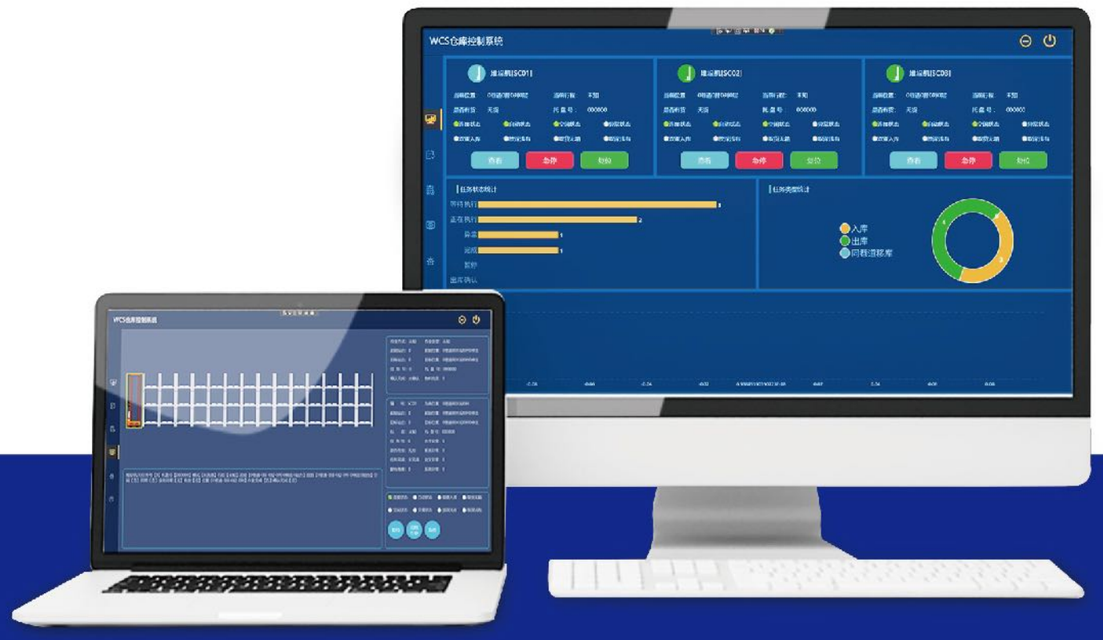
# WCS INTELLIGENT STEREO STORAGE
## MONITORING AND DISPATCH SYSTEM

WCS is a control system located under the WMS and above the PLC completing the connection between the WMS and the automation system.

The basic functions of WCS include accepting the operation instructions of WMS,organizing and combining them to form the operation instructions of each automation system,and distributing them to each automation system. Meanwhile, the field status of each automation system is received and fed back to WMS.

WCS includes device control, fault alarm statistics, task management, and historical task management.

- Standardized development interface, easy to integrate and control
- Safe and reliable
- Optimize decomposition tasks
- Real-time monitoring



# AUTOLINE

## SOLUTIONS FOR THE FOUNDRY INDUSTRY

- Solve the common problems in the foundry industry that castingsa are heavy and difficult to store because of different structures
- Transfer of heavy-duty mold warehouse, cooling warehouse, finished product warehouse
- More than 30 multilayer warehouse projects in the foundry industry have been implemented
- Provide overall solutions and equipment for the sand-core-making process, sand box, mold,conditioning and finished products in the foundry industry





# AUTOLINE

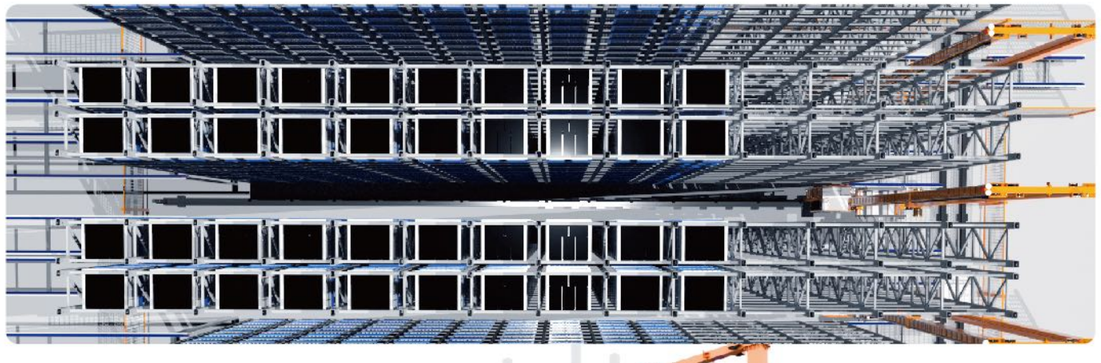
## MULTILAYER WAREHOUSE SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY

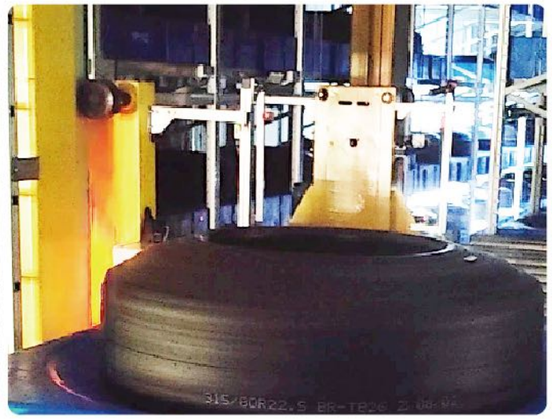
- Multilayer vehicle body warehouse/frame warehouse solves the caching needs between the four major production processes of stamping, welding, painting and final assembly
- Operating speed 80-200m/min, hoisting speed 30-60m/min
- More than 30 multilayer vehicle body warehouse projects have been implemented, providing reliable
- And efficient automotive industry warehouse systems

# AUTOLINE

## MULTILAYER WAREHOUSE SOLUTIONS FOR THE TIRE INDUSTRY

- Application processes: raw materials, mixed rubber sheets, semi-finished products, embryonic embryos, finished product storage and other production process
- Comprehensive range of equipment to meet the needs of high-efficiency, heavy-duty and vehicle tire industry applicati ons
- Load capacity: 100-6500kg
- Operation height: 7-40m
- 24-hour operation, high reliability



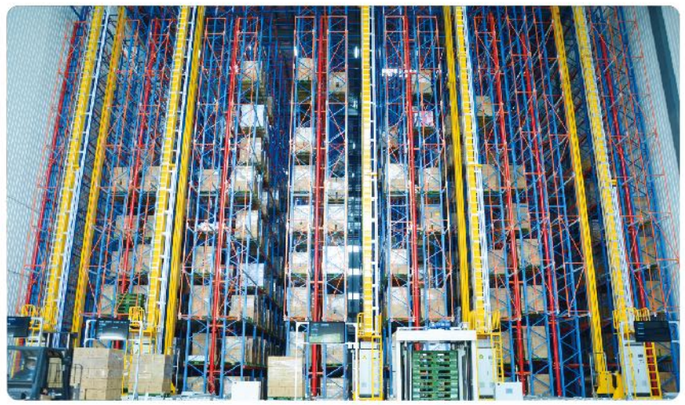


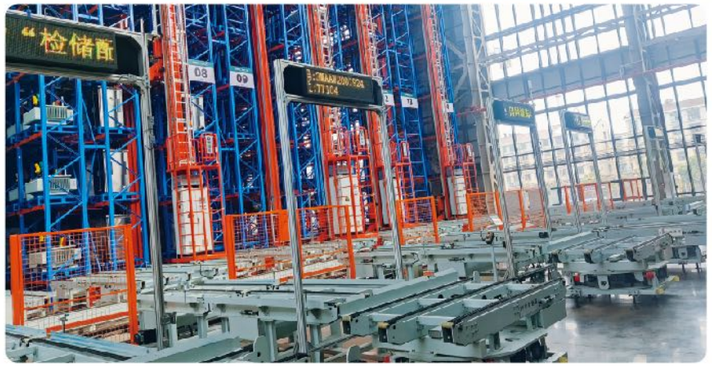
## PROFESSIONAL AFTER-SALES SERVICE GUARANTEE

- Sign a maintenance plan with the customer, listing maintenance items, maintenance frequency and service procedures.
- Regular maintenance during the warranty period, sending dedicated personnel to follow up, and supporting remote operation and maintenance
- For system failures caused by non-operational reasons during the paid warranty period, an emergency plan will be activated, and maintenance personnel will be dispatched for 24-hour on-site guidance on the basis of supporting remote operation and maintenance.
- Regular fault handling time limit: 4 hours

# CLIENT APPLICATION

With rich intergrated innovation experience, we are driving autoline's technological innovation and mutual promotion,and build a collaborative development industrial ecosystem . The company is deeply involved in various industries such as automobiles, pharmaceuticals,food, electric power, tires, military industry, cold chain, casting, chemical industry, electronics, new energy, etc. The whole solution for autoline's warehousing and logistics has covered more than thousands of automation engineering scenarios both at home and abroad, and winning unanimous recognition from domestic and international customers with the spirit of craftsmanship.








# CLIENT APPLICATION

Autoline logistics technology has successfully partnered with hundreds of enterprises and public institutions in the whole world, and has a variety of industries of project expertises. We have cultivated long-term, mutually beneficial relationships with numerous customers to ensure a win-win outcome for all.

Here's a list of some of our esteemed partners, in no particular order:

## NATIONALIZED INDUSTRY

国家电网 STATE GRID
中联重科
中国国家铁路集团有限公司 CHINA RAILWAY
CSSC 中国船舶集团有限公司 CHINA STATE SHIPBUILDING CORPORATION LIMITED
中国重汽 SINOTRUK
中环股份 ZHONGHUAN SEMICONDUCTOR
航天科工
中国五矿集团公司 CHINA MINMETALS CORPORATION
中核集团 CNNC

## PHARMACEUTICAL INDUSTRY

国药集团 SINOPHARM
双鹤药业
联邦制药 UNITED LABORATORIES
以岭药业 YILING PHARMACEUTICAL
惠迪森药业 WHITESON PHARMA
亚宝药业
诚意 CHENG YI
新和成
汇宇制药 HUIYU PHARMACEUTICAL

## FOOD INDUSTRY

中粮 COFCO
五芳斋 WU FANG ZHAI
汤臣倍健 BY-HEALTH
东鹏饮料
金字火腿
奥桑味精

## AUTOMOTIVE - TIRE INDUSTRY

比亚迪汽车
中策橡胶 zc rubber Zhongce Rubber Group Co., Ltd.
KUMHO TIRES 锦湖轮胎
玲珑轮胎
江苏通用科技股份有限公司
上汽集团 SAIC MOTOR
东风日产
BYTON
一汽一大众

## OTHER INDUSTRIES

GSP 冠盛集团
SHS 青岛三合山精密铸造有限公司
Haier 海尔
凯越電氣 KAIYUE ELECTRICAL
JOHNSON ELECTRIC 德昌电机集团
JD.COM 京东

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