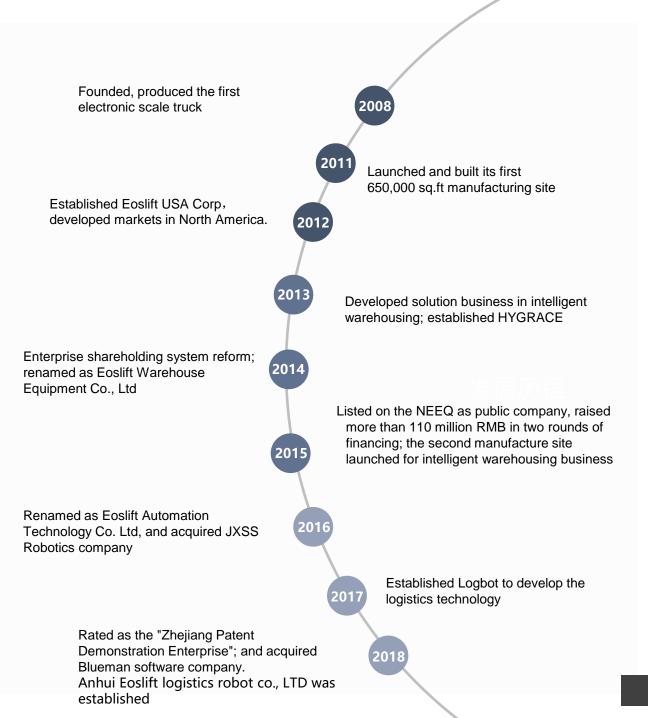


# **Company Introduction**

Company	Eoslift Automation Technology Corp.
Tickler	831758 (22-01-2015)
Description	The company began as a material handling equipment manufacturing and trade business. Today, the company has developed into systems integrator, providing solutions, services and equipment.
Core Business	Intelligent warehousing and intra-logistics solutions, intelligent material handling equipment manufacturing, and industrial robotic systems for packaging and machine handling
Legal Representative	Yuejin Jiang (Andy)
Address	No. 99, Yanjin Road, WangHai District, Haiyan, Zhejiang, 314317
Phone	+573 86229999
Website	http://www.eoslift.com
Founded	2008
Stock Exchange	National Equities Exchange and Quotations
Headcount	Approx. 300 (FY2018/ 10 Consolidated)





# **Company Structure**

# EOSLIFT Automation Technology Corp.

Eoslift USA Corporation California, United States

Jiaxing Blueman
Warehousing Software
Co.,Ltd (Jiaxing)

Hygrace Technology Co., Ltd. (Jiaxing) Shanghai JXSS Robotic Systems Co., Ltd. (Shanghai)

Logbot (Shanghai) Logistic Technology Co.,Ltd Eoslift AGV Robotic Co.,Ltd (Hefei,Anhui)

#### **Core Business:**

North America Sale and after-sale service

#### **Core Business:**

warehousing management and control system

#### **Core Business:**

Embedded
Software
Development and
core components
and parts R&D

#### **Core Business:**

Robot system integration specific on Palletizing and Depalletizing technology

#### **Core Business:**

Robot as the core of logistics sorting and storage solutions Core Business: AGV R&d and production

# **Company Strengths**



### INCOME

30+ Million USD (2018 results)



#### **Research and Development**

10%+ revenue



### **PATENTS**

260+ (by end of Dec. 2018)

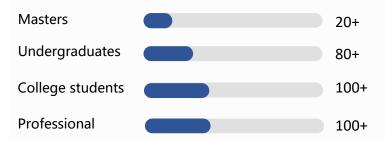


### **PROJECTS**

100+ (by end of Dec 2018)

#### **EMPLOYEES**

300+ (here is the number of workers by the end of Oct 2018)





20+ Masters

80+ Undergraduates

■ 100+ Professional

### **About our clients?**

Our clients are distributed in various fields and include:

### Fortune 500 companies









































































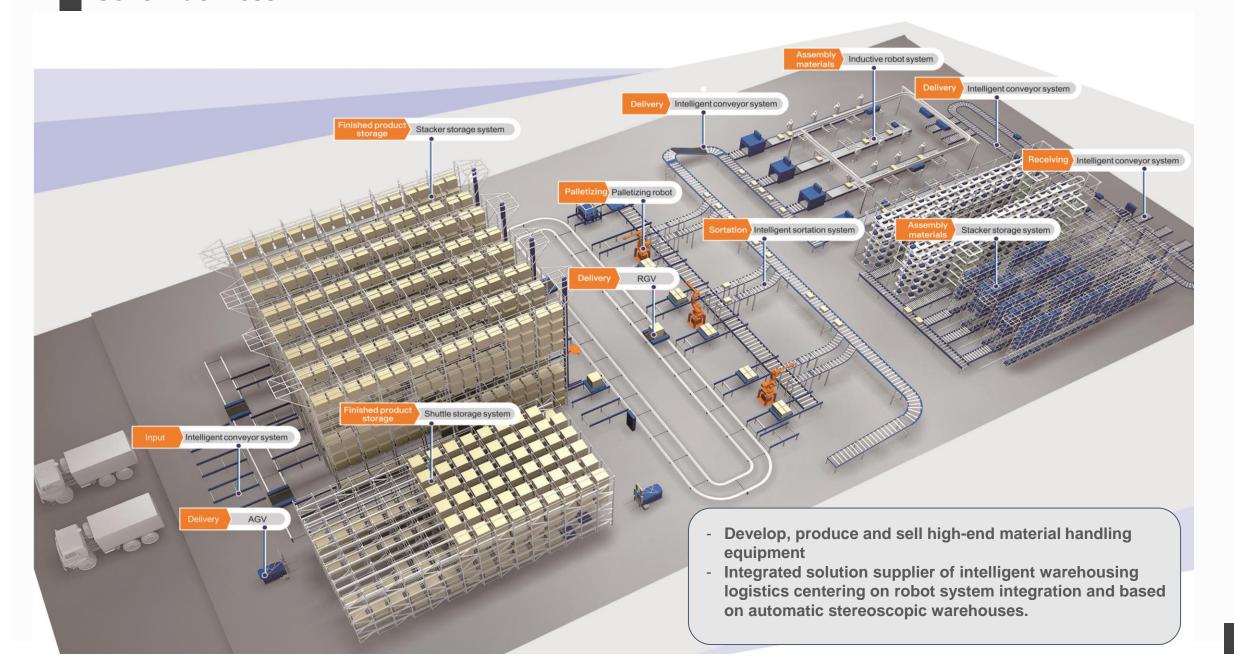








# **Core Business**



# **Core Product: Eoslift Material Handling Equipment**

# Pallet Truck W16 / 20 W16/20 W15E L16 E20V M25 / 30 **Stackers** Y12 T16 S15 H10 / 15 L16



#### HISTORY

10+Years (before EOSLIFT establishment)



### **TYPES & KINDS**

2 types &11 kinds (A. pallet truck, 6 B. stacker, 5)



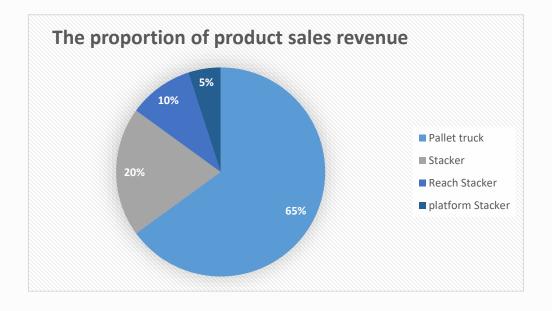
## DISTRIBUTION CHANNELS

**3 in total** (domestic ,abroad ,EBAY、Amazon )



# COUNTRIES & REGIONS

60(for foreign trade)



# **Core Product: Eoslift Material Handling Equipment**

### **Product Features**

#### **Pallet Truck**



### Security

- · Emergency reversing device and emergency brake function
- · High-strength arm protection design, to ensure safe operation of driver
- · Curve control technology; more accurate and secure turns
- Pedal folded automatically reduces travel
- Operation and maintenance cost is low

### Intelligent

Equipped with LIONMAN fleet management system, which has functions of operator authority management, on-line monitoring of truck conditions, release of notification information, and generates a comprehensive report

### Reliability

- Designed to the highest security level in Europe, installed with corresponding components
- Anti-slip; more stable
- Strong bearing capacity
- · Wears well over time

#### Comfort

- Ergonomically designed handle with accessible buttons, reducing operator fatigue
- · Exceptional maneuverability in extremely confined areas, ensured by creep speed button

### **High Efficiency**

- · High-capacity battery ensures excellent life cycle
- · Low-battery locking function extends the battery life
- · Electromagnetic and regenerative braking system, greatly improves efficiency
- Low operation and maintenance cost

Cost effective Consistent and **Reliable Quality Ergonomic Design** 







### **Core Product: Eoslift AS/RS Solutions**







Hoist Rope
6 times the safety factor design, uses imported non-lubricating wire rope



Trapper
Exceptional rapid lifting technology.
Effectively clamps the loading platform on the upright guide rail

This stacker is a kind of automatic material handling equipment, and is the core component of our stereoscopic warehouses. Stereoscopic warehouses can improve the utilization ratio of large unit areas, increase labor productivity, reduce labor intensity and production cost, reduce errors in goods and information processing, reasonably and effectively carry out inventory management control of materials, better meet the needs of special warehousing environment, improve operation quality, ensure the safety of goods in the whole warehousing process, and make it easy for system integrations of other technology.

#### **Fast and Efficient**

- Fast running speeds, but highly reliable and accurate

#### **High Security**

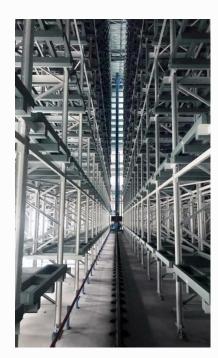
- Secure design with European standards components
- Meets European standards and measures

#### **Perfect Hardware Configuration**

 Manges well under various environment and temperature conditions (i.e. cold storage units of up to -30°C

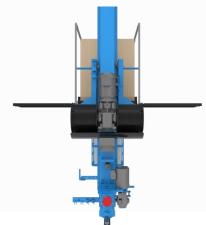
#### Energy units can be replaced and recycled

- Minimizes the number of parts
- Long running service life
- Low operation and maintenance costs



# Core Product: Eoslift AS/RS Solutions

Conventional Stacker ES	
Maximum Load Capacity	500-1500kg
Maximum Height	7-25 m
Travel Speed	180 m/min
Travel Acceleration	0.35 m/s2
Hoisting Speed	60 m/min
Hoisting Acceleration	0.5 m/s2
Fork Speed	30/60 m/min
Product features	<ul> <li>(Optional) Double extension fork to improve storage density</li> <li>Vertical double wire rope hoist can improve the lifting safety of the cargo platform</li> <li>The double closed loop control system can realize the quick start, quick stop and precise positioning of the stacker, and the servo control effect can be achieved.</li> </ul>





Light Stacker EM	
Maximum Load Capacity	20-200 kg
Maximum Height	3-8 m
Travel Speed	220 m/min
Travel Acceleration	0.8 m/s2
Hoisting Speed	60 m/min
Hoisting Acceleration	0.5 m/s2
Fork Speed	30/60 m/min
Product features	<ul> <li>(Optional) Dual-drive asynchronous servo system to optimize product performance</li> <li>(Optional) Cargo platform explosion -fire extinguishing system lithium battery storage is the best choice</li> </ul>

# Core Product: Eoslift AS/RS Solutions

Overweight/Ultra High Stacker EH	
Maximum Load Capacity	2000-8000kg
Maximum Height	25-35 m
Travel Speed	120/160m/min
Travel Acceleration	0.35 m/s2
Hoisting Speed	60 m/min
Hoisting Acceleration	0.3/0.5 m/s2
Fork Speed	30/60 m/min
Product features	<ul> <li>Variable sections of double columns technology adopted. Inertia momentum and strength of column sections improved; stability of stacker vastly increased.</li> <li>Many parts that require maintenance installed at the bottom of machine for easy access and repairs.</li> </ul>





Transfer StackerEP	
Maximum Load Capacity	500-8000kg
Maximum Height	7-25 m
Travel Speed	120 m/min
Travel Acceleration	0.35 m/s2
Hoisting Speed	30 m/min
Hoisting Acceleration	0.5 m/s2
Fork Speed	30/60 m/min
Product features	<ul> <li>Through 2-4 roadways, it can handle 4-8 rows of shelves to improve high-density storage;</li> <li>Double station cargo platform is optional, with 2 independent cargo forks, one operation can handle two stations of products</li> </ul>

# Core Product: Eoslift Transport System (Conveyors )

Our intelligent transport systems could be connected with stereoscopic warehouses, and is designed with various conveyors, automatic guided vehicle (AGV) and rail guided vehicle etc. for linear, curved, or vertical transporting of storage units. We are capable of developing different transport solutions depending on goods input/output mode of stereoscopic warehouse.

Eoslift integrated transport system is highly flexible and easy to assemble and maintain. In order to minimize failure rate, our equipment is designed with straightforward structure, which has lower requirement for operator's competence. Eoslift works with outstanding upstream suppliers to integrate reliable and durable mechanical equipment for various internal logistics areas such as pallet transport system, storage bin transport system and carton transport system; perfect performance is enhanced by low noise and efficient operation.



**Features:** Reliable operation with low power consumption and strong adaptability and flexibility of transmission lines.

**Applicable:** Conveys materials from the initial feeding point to the final one on a specific conveyor line.



**Features:** Widely used in the logistics system: fast speed, low cost, all in a limited space to achieve reciprocating movement.

**Applicable:** Mainly used in highspeed and efficient plane automatic conveying of unit materials in automatic logistics system





**Features:** Simple structure, high reliability, easy to use and maintain. Large throughput, fast speed, light operation, can achieve multi - species collinear diversion.

**Applicable:** All kinds of boxes, bags, pallets and other product transport, bulk, small items, or irregular items on the pallet or turnover box transport. Pallets can be loaded and unloaded by forklifts.



Features: Chain conveyor has large transportation capacity, various conveying chain structures, and a variety of accessories, which makes it easy to achieve storage and conveying.

**Applicable:** It can be used as assembly line or storage and transportation of materials, conveying pallets, large turnover boxes, etc.

# Core Product: EOSLIFT AGV (Automated Guided Vehicle)

obstacle avoidance.

### Navigation Modes

In the humancomputer interaction

environment, it is better to avoid obstacles by using laser.

Comparison of Mainstream AGV Navigation Modes				
	Magnetic Bar Navigation	Laser SLAM (Reflector)	Laser SLAM (SLAM)	Visual Navigation (VSLAM)
Usage Scenarios	Workshop Internal	Indoor	Relatively Fixed Interior	Indoor
Reference	Magnetic Stripe+RFID	Reflector	The Surrounding Environment	No Tracks or Landmarks Needed
Positioning Accuracy	±10mm	±15mm	±15mm	±15mm
Conventiona Speed	0-40m/min	0-72m/min	0-72m/min	0-72m/min
dvantage	AGV positioning is accurate, the path laying, change or expansion of the electromagnetic navigation is	Accurate AGV positioning; No other locating facilities are required on the ground.	No additional equipment is required for the environment and the route is easy to extend.	Accurate positioning, ground without other positioning facilities, suitable for a variety of production and work environment.
	relatively easy.  Magnetic strip costs less.  In the human- computer	The driving path can be flexible, can adapt to a variety of on-site environments.  It is the advanced	Dispatch and avoidance is more flexible	Autonomous positioning, autonomous decision-making, automatic path planning and flexible

navigation method preferred by many AGV manufacturers at

home and abroad.



# Core Product: EOSLIFT AGV (Automated Guided Vehicle)

### **EOSLIFT AGV SYSTEM - Customization + Three in One + Efficient Scheduling + Intelligent Charging**

#### Truck Types

- Forklift type
- Backpack type
- Latent type

#### **Navigate Modes**

- VSLAM navigation
- Laser feedback navigation
- SLAM navigation
- Magnetic stripe navigation
- Qr code navigation
- Hybrid navigation

#### Chassis Structure

- Steering wheel
- Differential
- Mecanum Wheel



#### **Raw Material Transportation**

AGV transports the corresponding raw materials from the storage area to the production lines according to the upper system (latent AGV with drum)

#### **Pallet Transportation**

AGV lifts pallet-load from the production line or warehouse area to the designated area. It is mainly used in the production industry or warehousing transit. (Carry-type AGV, Stacking AGV)

#### **Process Assembly**

According to upper system instructions, AGV load components from one process to another for assembly (latent AGV)

#### **Transportation of finished products**

AGV loads finished products and transports them from production line to designated storage area or loading and unloading terminal

#### **Special Scene Transportation**

AGV load production line to enter scenarios that people can't access, such as refrigerators, high temperature zones (customized refrigerators, explosion-proof AGV, etc.)

# Core Product: EOSLIFT AGV (Automated Guided Vehicle)

Model: TL16				
Max.lift Height	3600mm	System Interface	Reserved MES, scheduling system interface	
Rated Capacity	1600kg	Fork Length mm	1150mm	
Overall Length	2250mm	Width of Single Fork	185	5mm
Overall Width	830mm	Outside of Two Forks is Wide	565mm	685mm
Tuning Radius	1725mm	Ground Clearance	30mm	
Navigation Modes	laser SLAM	Travel Speed m/min	≤120m/min	
Positioning Accuracy	±5mm(Higher accuracy requires secondary positioning)	Walk Way	Forward, backward, turn	
Non-contact Sensor	Beiyang safety protection lidar	Climbing Ability (full load/no load)	8%/10%	
Contact Sensor	Conductive rubber	Battery Type	Lithium battery/lead-acid battery	
Sound and Light Warning Template	Sound and light cues	Battery Capacity	150/280AH	150/320AH
Wireless Network	Industrial-grade WIFI	Charging Way	Automatic line charging/manual charging	



# Core Product: EOSLIFT AGV



Model: GL20				
Max.lift Height	205mm	System Interface	Reserved MES, scheduling system interface	
Rated Capacity	2000kg	Fork Length mm	1150mm	
Overall Length	1980mm	Ground Clearance	30mm	
Overall Width	830mm	Outside of Two Forks is Wide	565mm	685mm
Tuning Radius	1775mm	Width of Single Fork	175	mm
Navigation Modes	laser SLAM	Travel Speed m/min	≤120m/min	
Positioning Accuracy	±5mm(Higher accuracy requires secondary positioning)	Walk Way	Forward, backward, turn	
Non-contact Sensor	Beiyang safety protection lidar	Climbing Ability (full load/no load)	8%/10%	
Contact Sensor	Conductive rubber	Battery Type	Lithium battery/lead-acid battery	
Sound and Light Warning Template	Sound and light cues	Battery Capacity	150/280AH	150/320AH
Wireless Network	Industrial-grade WIFI	Charging Way	Automatic line charging/manual charging	

# Core Product: EOSLIFT AGV

Model: BM12				
Rated Capacity	1200kg	Wireless Network	Industrial-grade WIFI	
Overall Length	1740mm	System Interface	Reserved MES, scheduling system interface	
Overall Width	1505mm	Minimum Fork Height	50mm	
Tuning Radius	Omnidirectional	Travel Speed m/min	≤120m/min	
Navigation Modes	Magnetic bar navigation	Walk Way	Forward, backward, turn	
Positioning Accuracy	±5mm((Higher accuracy requires secondary positioning)	Climbing Ability (full load/no load)	≤8%	
Non-contact Sensor	SICK safety guard lidar	Battery Type	Lithium battery/lead-acid battery	
Contact Sensor	Conductive rubber	Battery Capacity	150/280AH 150/320AH	
Sound and Light Warning Template	Sound and light cues	Charging Way	Automatic line charging/manual charging	



# Core Product: Sorting System

Intelligent sorting system determines which sorting entrance products should enter through: bar code scanning, color code scanning, keyboard input, weight detection, speech recognition, height detection and shape recognition. By introducing automation equipment, sorting operation achieves the advantages of unmanned processes;

low error rate and high sorting efficiency.



#### **Slider Sorter**

**Features:** Maximum sorting efficiency up to 14400 pieces/hour, high stability.

**Applicable:** Adapts to different sizes, weights and shapes of various goods.

#### **Cross-belt Sorter**

**Features:** The maximum sorting efficiency is up to 10000 pieces/hour, while maintaining low error rate.

**Applicable:** Suitable for sorting all kinds of small goods, such as food, cosmetics, clothing, etc.

#### Jack-up Wheel Sorter

**Features:** Low cost, sorting efficiency up to 6000 pieces/hour.

**Applicable:** Suitable for cardboard boxes, plastic boxes and other flat bottom goods.

#### AGV Sorting System

**Features:** Sorting efficiency increased by 100% with 100% correct rate achieved, and greatly reduced labor costs.

**Applicable:** Suitable for sorting a variety of small goods, widely used in express delivery, medicine and e-commerce industries.

# Core Product: Robot Coding and Stacking System

In the traditional stacking system, stacking manipulators could only deal with specific products. If stacking is needed for products of different packing specifications, it was often necessary to install multiple mechanical arms, which requires a lot space and costs too much.

EOSLIFT offers a safe, efficient, and cost-effective hybrid stacking solution with a highly modular design. It combines the robots unpacking and stacking scheme with the box-type shuttle technology. Mainly including the mechanical arm, multi-functional fixture, material handling equipment, etc. It realizes the full automation process under the control of Lionman warehouse management system. Based on the visual system used to distinguish goods and categories, stacking order before sending in the warehouse management system, artificial intelligence algorithm was independent to perform complex calculation. According to the product parameters to determine the best way to load the pallet, ultimately achieve at the same time the products of different package sizes and orderly automatic on the pallet, picking speed for 2 or 3 times higher than that of the traditional way.







The robot can be equipped with a variety of clamps and multiple mechanical arms.

Robot palletizer can be integrated into any production line to provide intelligent, robotic and networked production site. It can realize the palletizing logistics of various operations in beer, beverage and food industries. It is widely used in products packaged in cartons, plastic boxes, bottles, bags, barrels, film package. It is equipped with three-in-one filling line and stacks all kinds of bottles, cans, boxes and bags.





# Core Product: MiniLoad AS/RS



Redundancy/Work Balance

**Order Accurately** 

High Space Utilization

**Low Labor Cost** 

**Direct Access** 

The Goods Safety

**Operation Efficiency** 

**Inventory Accuracy** 

Application Scenario: Selection of production and distribution links. Storage of a large number of categories, each limited number of small parts, warehouse production efficiency requirements.

























Medicine/Cosmetics

New Energy Battery E-commerce Manufacturing

Kitchenware

Books /Journal

Tobacco

Auto Industry

Physical Distribution

Retail

Foodstuff

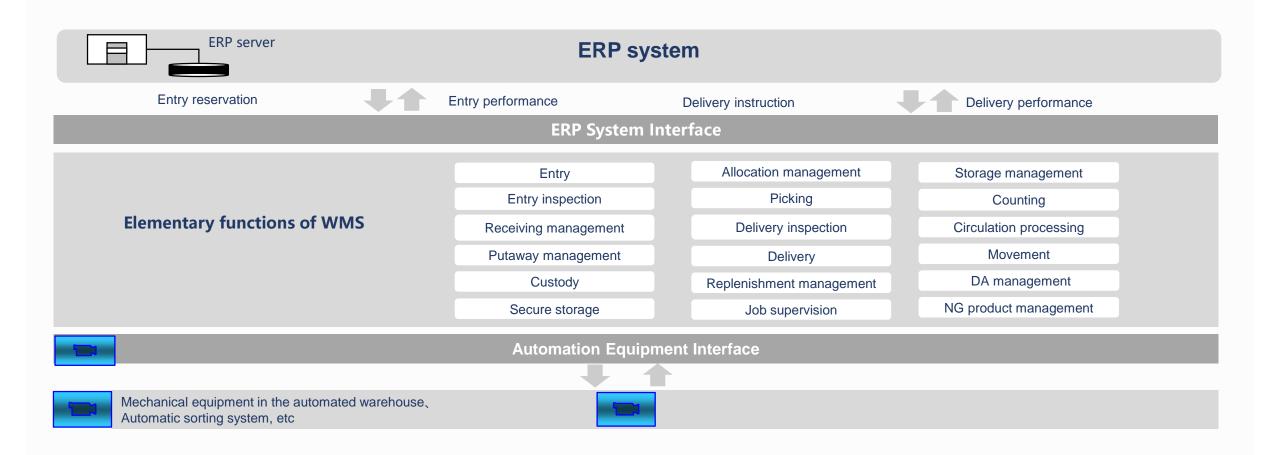






# Core Software: WMS/WCS Intelligent Warehouse Management System

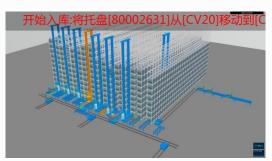
**System functions** 



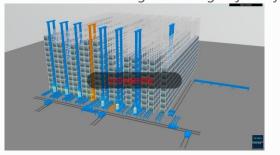
# Core Software: WMS/WCS Intelligent Warehouse Management System

#### **3D Monitoring System**

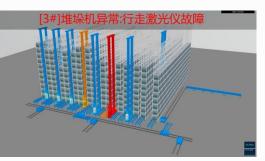
As an important module of LionMan intelligent warehouse management software, 3D monitoring system is independently developed by Eoslift, which plays an important role in unmanned warehousing. Our 3D monitoring system can observe the three-dimensional storage environment, and real-time storage situation from the browser window. This reflects the real-time storage situation directly on screen. The main functions include 3D simulation display of real scene of stereo warehouse, real-time physical location, status data, fault monitoring of stereo warehouse equipment and remote camera monitoring.



Real-time monitoring of moving trajectory



Automatic reconnection after disconnection



Fault alarm of equipment



Supporting remote camera



- Technology Leadership:
   Independent Patents, Industry
   Leadership
- Space authenticity: Threedimensional space view
- Business Value:
- Solving Problems and provide quick response

## Core Software: WMS/WCS Intelligent Warehouse Management System



#### **Excellent software framework**

Quickly meet customers changing requirements; and multi-terminal support (PC, mobile phone, etc.)

#### **3D Monitoring System**

The advanced 3D monitoring & alarming system can dynamically submit all operation and alarm information of equipment.

#### **Abundant software interfaces**

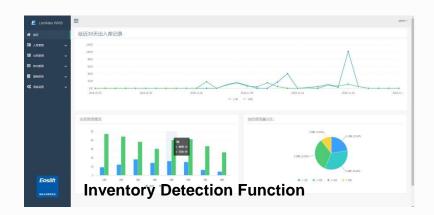
Applicable to various upper monitoring systems for rapid docking and development (DBLink, webservice, etc.).

#### Al big data algorithm

The system obtains route KPIs after deeply learning the access efficiency of customers. Analyze optimal route; decide the first-rank goods allocation to maximize the access efficiency through big data algorithm.

#### **Mature communication protocol**

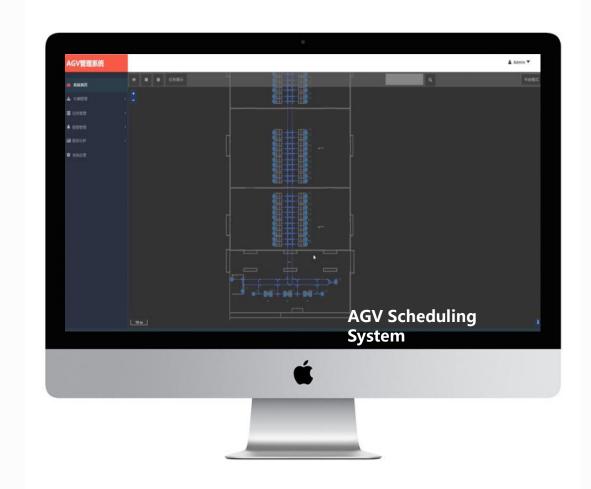
It is more convenient and flexible than the traditional OPC communication mode; the customized protocol is proven to be stable and reliable after tests from many projects. Results provided by our strong software and electrical teams at EOSLIFT.





Remote After-sales Service

# Core Software: AGV Scheduling System





### **Visual monitoring**

The fully functional graphic monitoring interface can monitor and control the vehicle driving in real time.



#### **Route planning**

Plan the route with intelligent algorithm and adjust it according to the driving conditions, in real time.



### **Intelligent KPI**

Obtain the KPI by analyzing the use frequency of vehicle and routes, to serve as the data basis for vehicle number and path changes.



#### Intelligent KPI

Obtain the KPI by analyzing the use frequency of vehicles and routes, to serve as the data basis for vehicle number and path changes.

### **Business Process**



- Project information
- · Demand of customers
- Project due diligence
- Industry analysis
- Data analysis



### **Solution customization**



- Process planning •
- Solution design •

(machinery, electric and software)

- Solution demonstration
  - Solution confirmation
    - Contract signing •



### **After-sales service**

- · After-sales service
- Operation training (theory, remote teaching, field teaching, and practice)
- After-sales training
- Remote warning
- Active safety

### **On-site construction**



- Set up a project team •
- Production outsourcing
  - Assembly in plant
    - Test in plant
  - Field installation
  - Field debugging
  - Joint debugging •
  - Trial and operation

# **Cooperation Advantages**



Cost Advantage

Products independent research, and development and production.
Parts composed of international recognized brands. High quality and low prices.

# Why Eoslift?



Technical advantages

The company has 160+ patents related to intelligent warehousing equipment.

Most of the professional equipment R&D (research and development) team members have served on world famous system integrators. More than 150 successful project cases.



Service advantages

We provide a 360 degree all-round multi-dimensional service solution consisting of remote service, on-site service and customer service hotline. Our professional team will help you solve problems in real-time.

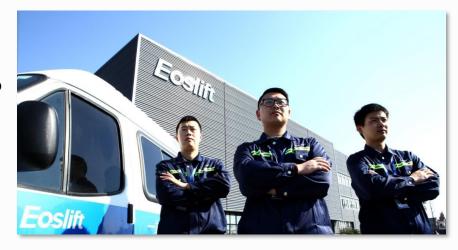
### **After-sales Service**

The professional engineers at EOSLIFT and after-sales service teams are ready to answer customers' questions, to rapidly analyze faults, and to provide standard maintenance procedures, systematic training services and various service care.

### After-sales services include

- 24/7 service hotline
- Timely and efficient professional maintenance team
- Support consultation via WeChat, official website and hotline, to solve any problems as soon as possible, so as to save time for business operation interruptions.





# After-sales training Customer service and support

Maintain & manage solutions Remote real-time monitoring



### Remote real-time monitoring

Intelligent warehouse service system is a complete equipment maintenance platform independently developed by EOSLIFT. It significantly enhances the efficiency of after-sales services by finding out the cause of equipment failure against time since IoT may collect and store key specifications in a cloud server.



- Monitor the equipment remotely to foresee and prevent potential shutdown problems
- · Planar management by customers

# Intelligent Warehousing: Case Review (1/4)

### **Intelligent Warehousing System of Zhongyi Chemical Fiber**

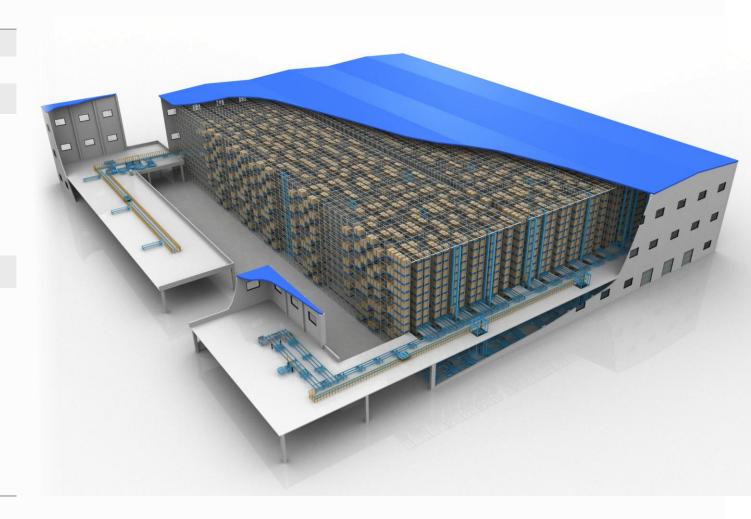
### **Category**

Chemical fiber

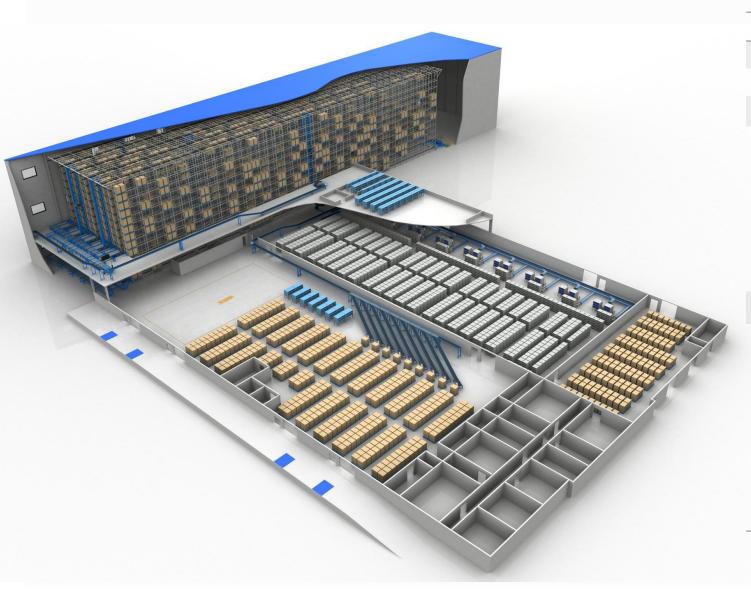
### **Project features**

- 24-meter high shelves;
- · Easy storage for customers;
- Greatly improved efficiency by connection between customer's equipment and access terminals, and automatic distribution to manual operation positions;

- 36,865 goods locations
- 18 double-deep stackers
- 3 pallet-assembly machines
- 1 set of conveyor lines
- 2 RGV carts
- Software applies the WMS and the WCS systems



# Intelligent Warehousing: Case Review (2/4)



### **Intelligent Warehousing System of Xiangxin Pharmaceutical**

#### **Category**

Pharmaceutical distribution

### **Project features**

- Divided into the stereoscopic warehouse and picking area
- The stereoscopic warehouse stores, collects and delivers goods
- The picking area picks goods by FCL and LCL
- The project is highly intelligent in handling materials supply and order delivery, reducing labor and meaningfully improving efficiency and accuracy

- Stereoscopic warehouse: 9,840 goods locations, 5 single-deep stackers and supporting conveyor lines
- Picking area: 715 picking shelves, 64 AGV carts, and an automatic goods collection & sorting system
- Software applies the WMS and the WCS software systems

# Intelligent Warehousing: Case Review (3/4)

# IIntelligent Production & Warehousing System of Xiubo (Guangxi) Boars' Semen

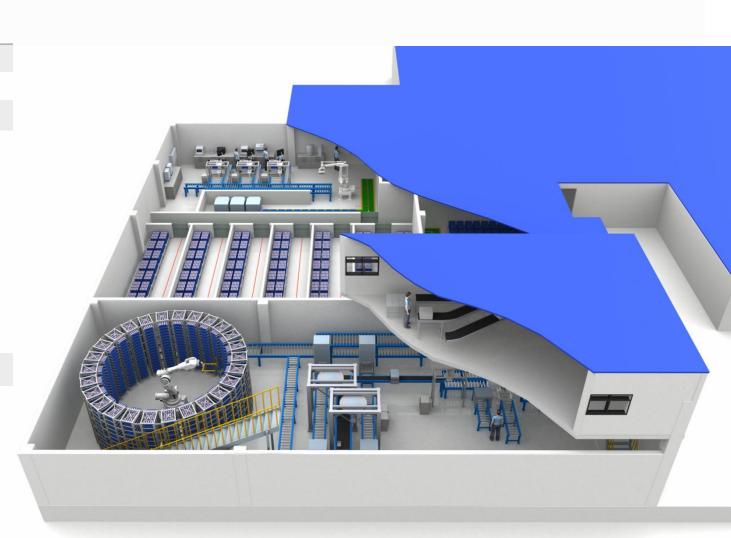
#### **Category**

Animal husbandry

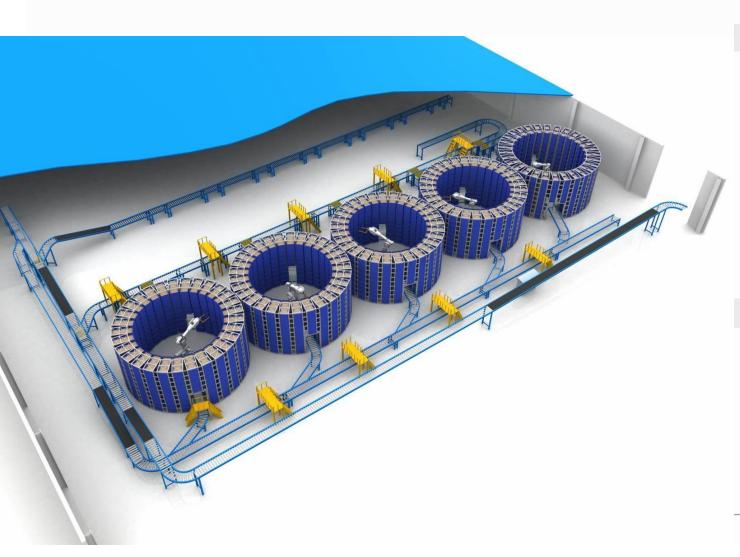
### **Project features**

- Intelligent and automatic filling, progressive cooling, storage, sorting, and packaging;
- Up to 9,000 bags can be produced every day, greatly facilitating the delivery efficiency
- Better automatic order selection, to save labor and improve work efficiency and accuracy
- Real-time goods tracking, seamless communication with the upstream system, and meet the requirements of work systems

- Robot system: 10 ABB manipulators, 5 AGV carts and corollary equipment
- Delivery system: a box delivery system and an automatic sealing & delivery equipment for aluminum foil boxes
- Other support equipment: Miniload shelf, 2 labeling machines, an automatic turnover device, and 1,200 customized pallets
- Software applies the WMS and the WCS systemsms.



# Intelligent Warehousing: Case Review (4/4)



### **Vipshop Miniload Robot System**

#### **Category**

E-commerce

### **Project features**

Consisting of an all-round rotatory robot, double annular shelves, and two access mini conveyor lines, the system hardware is 3m high and covers an area of 60 sq m. About 600 material boxes can be closely arranged here, effectively saving the work area and more than doubling the efficiency in a unit area (efficiency of daily order processing per square meter). The robot can work in a rotatory and stereo way to greatly accelerate the picking speed. It provides a flexible auto-cache and an intelligent picking method between "goods to people", with the rate of order delivery shooting up.

- An ABB manipulator;
- 5 Miniload shelf;
- A box delivery system;
- Software applies the WMS and the WCS systems



### The Future of Warehousing



