



**Global and China AGV (Automated Guided  
Vehicle/ Mobile Robot) Industry Report,  
2017-2021**

**Apr.2017**

## **STUDY GOAL AND OBJECTIVES**

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

## **REPORT OBJECTIVES**

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

## **METHODOLOGY**

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

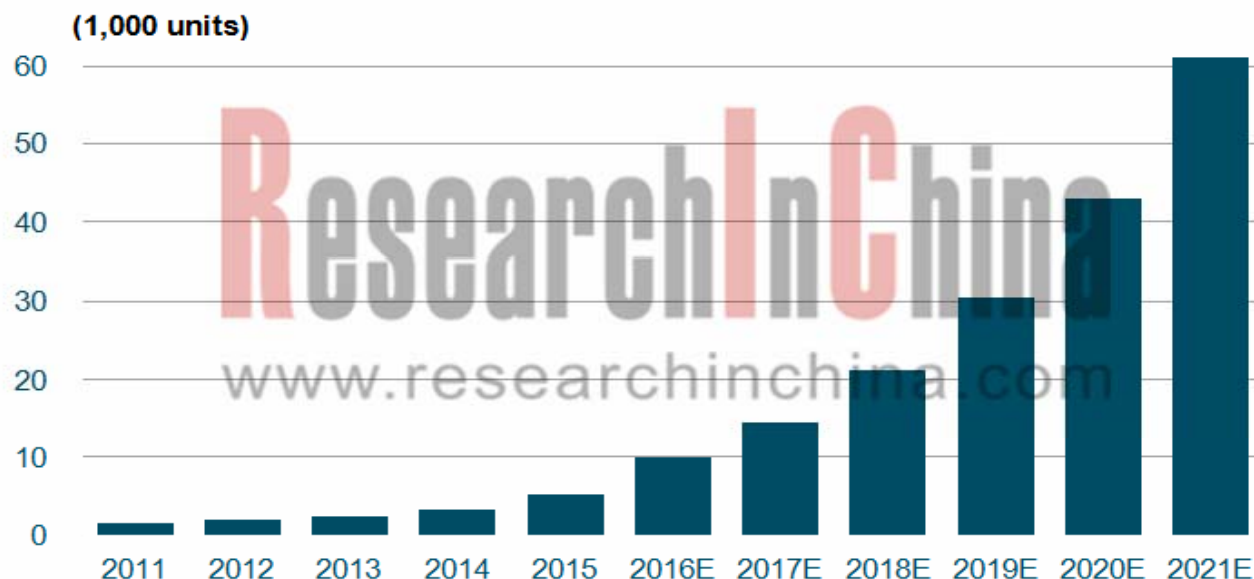
## **INFORMATION SOURCES**

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

## Abstract

In 2016, global AGV sales surged by 38.8% from a year earlier to 22,600 units thanks to favorable policies including industry 4.0 and intelligent automation and more use of AGV for e-commerce; China saw a substantial rise of 88.5% YoY in AGV sales to 9,950 units. It is expected that China's AGV sales will grow at an average annual rate of 43.0% during 2017-2021, achieving 61,000 units in 2021.

### AGV Sales in China, 2011-2021E



Source: ResearchInChina

Production logistics including automobile and home appliance manufacturing still has the largest and steady demand for AGV in China, with a share of around 55% in the country's total demand for AGV in 2016, but poses higher requirements on intelligent automation of AGV products; warehousing logistics like ecommerce witnesses soaring demand for AGV, occupying roughly 29% of the total in 2016 and expectedly up to 32% in 2021.

In the Chinese AGV market in 2016, domestic companies grabbed an 85% share in total sales, and foreign peers 15%. In fact, the foreign players such as JBT, Egemin, Rocla, Swisslog, Daifuku and Meidensha, dominated the high-end market; the low- and middle-end markets were taken up by Chinese brands, e.g., Siasun, KSEC Intelligent Equipment, Machinery Technology Development and Sanfeng Intelligent Conveying Equipment.

At present, dependence on imported AGV core parts like laser navigation, motor and control system still constitutes one of the key impediments to expansion of China's AGV market. In recent years, Chinese manufacturers intensified development and research of AGV, sparing no effort to advance localization of core parts. Thereof, Siasun and KSEC Intelligent Equipment self-developed AGV control systems; GreatStar Industrial and CSG Smart Science & Technology were stepping up manufacture of their own laser sensors for AGV to improve market competence.

Additionally, restricted by technology, AGC products are in the majority in Chinese AGV market, making up around 43% in 2016; AGVs with heavy load and linkage will be key products in China's AGV industry layout, according to the Development Plan for China Robotics Industry (2016-2020).

Global and China AGV (Automated Guided Vehicle, Mobile Robot) Industry Report, 2017-2021 by ResearchInChina highlights the following:

- ◆ Global AGV market (size, demand structure, competitive landscape, development in Japan, Europe, the United States, etc.);
- ◆ Chinese AGV market (size, product structure, demand structure, price, competitive landscape, development trend, etc.);
- ◆ Supply of core parts for AGV, including AGV system, on-board control system, drive system (motor, speed reducer, etc.), navigation system (magnetic navigation sensor, laser navigation, laser scanner, etc.), charging system, etc.;
- ◆ Development of main downstream industries (automobile, parking, electric power, tobacco, etc.) of AGV, and demand for AGV;
- ◆ Operation and development strategy of 23 global and Chinese AGV producers.

### 1 Overview

- 1.1 Definition
- 1.2 Classification
- 1.3 Industry Chain

### 2 Global AGV Market

- 2.1 Market Size
- 2.2 Demand Structure
- 2.3 Competitive Landscape
- 2.4 Regional Development
  - 2.4.1 Japan
  - 2.4.2 Europe
  - 2.4.3 United States

### 3 Chinese AGV Market

- 3.1 Development Overview
- 3.2 Market Situation
  - 3.2.1 Market Size
  - 3.2.2 Ownership
  - 3.2.3 Sales Volume
- 3.3 Market Structure
  - 3.3.1 By Navigation Technology
  - 3.3.2 By Product
  - 3.3.3 By Market
  - 3.3.4 Others
- 3.4 Price
- 3.5 Competitive Pattern
  - 3.5.1 By Region

- 3.5.2 By Type of Company
- 3.5.3 Ranking of Companies
- 3.6 Development Trend

### 4 Upstream and Downstream Industries of AGV

- 4.1 AGV Core Parts
  - 4.1.1 Development Overview
  - 4.1.2 Drive Device System
  - 4.1.3 AGV On-board Control System
  - 4.1.4 Navigation/Guidance System
  - 4.1.5 AGV Battery/Energy System
  - 4.1.6 AGV Master Control System
- 4.2 Downstream Industries of AGV
  - 4.2.1 Automobile Manufacturing
  - 4.2.2 Parking
  - 4.2.3 Power Patrol Inspection
  - 4.2.4 Tobacco Logistics
  - 4.2.5 Heavy Load

### 5 Major Global AGV Players

- 5.1 JBT
  - 5.1.1 Profile
  - 5.1.2 Operation
  - 5.1.3 AGV Business
  - 5.1.4 Presence in China
- 5.2 Daifuku
  - 5.2.1 Profile
  - 5.2.2 Operation

- 5.2.3 AGV Business
- 5.2.4 Presence in China
- 5.3 Dematic
  - 5.3.1 Operation
  - 5.3.2 Presence in China
- 5.4 Swisslog
  - 5.4.1 Profile
  - 5.4.2 Operation
  - 5.4.3 AGV Business
  - 5.4.4 Presence in China
- 5.5 Meidensha
  - 5.5.1 Profile
  - 5.5.2 Operation
  - 5.5.3 AGV Business
  - 5.5.4 Presence in China
- 5.6 Egemin
  - 5.6.1 Profile
  - 5.6.2 Operation
  - 5.6.3 Presence in China
- 5.7 Oceaneering AGV Systems (Frog AGV Systems)
- 5.8 Grenzebach Corporation
- 5.9 Elettric 80
- 5.10 Rocla

### 6 Key Chinese AGV Companies

- 6.1 Shenyang Siasun Robot & Automation Co., Ltd.
  - 6.1.1 Profile
  - 6.1.2 Operation

6.1.3 AGV Robot Business	6.7.3 AGV Business
6.1.4 Development Strategy	6.8 Guangzhou Jingyuan Mechano-Electric Equipment Co., Ltd.
6.2 Yunnan KSEC Intelligent Equipment Co., Ltd.	6.8.1 Profile
6.2.1 Profile	6.8.2 Operation
6.2.2 Operation	6.9 Shanghai Triowin Automation Machinery Co., Ltd.
6.3 Machinery Technology Development Co. Ltd.	6.9.1 Profile
6.3.1 Profile	6.9.2 Operation
6.3.2 Operation	6.9.3 AGV Business
6.3.3 AGV Business	6.10 Shenzhen Casun Intelligent Robot Co., Ltd.
6.4 Hangzhou Great Star Industrial Co., Ltd.	6.10.1 Profile
6.4.1 Profile	6.10.2 Operation
6.4.2 Operation	6.10.3 AGV Business
6.4.3 AGV Business	6.11 Yoneyg Logistics Automation Technology Co., Ltd.
6.5 Guangdong Dongfang Precision Science & Technology Co., Ltd.	6.12 Guangzhou Sinorobot Technology Co., Ltd.
6.5.1 Profile	6.13 Shenzhen OKAGV Co., Ltd.
6.5.2 Operation	
6.5.3 AGV Business	
6.5.4 Prospects	
6.6 Zhejiang Noblelift Equipment Joint Stock Co., Ltd.	
6.6.1 Profile	
6.6.2 Operation	
6.6.3 AGV Business	
6.6.4 Output and Sales Volume	
6.6.5 Development Strategy	
6.7 CSG Smart Science & Technology Co., Ltd.	
6.7.1 Profile	
6.7.2 Operation	

- Architecture Diagram of AGV
- Composition of AGV System
- Operating Scene and Communication Mode of AGV
- Classification of AGV
- Structure of AGV Software
- AGV Industry Chain
- AGV Production Line VS Traditional Production Line
- Global AGV Sales Volume and YoY Growth, 2011-2021E
- Global AGV Market Size, 2014-2021E
- Global AGV Demand Structure by Application, 2016
- Financing and M&As of Major Global AGV Companies, 2016-2017
- Revenue of Major Domestic and Foreign AGV Producers, 2015-2016
- Global AGV Market Size by Country, 2016
- AGVS/AGV Sales Volume in Japan, 2000-2021E
- AGVS Sales Structure in Japan by Category, 2014-2021E
- AGV Market Size in Japan, 2014-2021E
- Newly Installed AGVS and AVGs by European Integrators, 2000-2013
- AGV Installations in Europe, 2011-2015
- AGVS Installations of Major European and American AGV Producers, 2015
- Development History of AGV in China
- AGV Patent Filings in China, 2005-2016
- Development Model of Major AGV Producers in China, 2017
- AGV Market Size and YoY Growth in China, 2014-2021E
- AGV Ownership and YoY Growth in China, 2014-2021E
- AGV Sales Volume and YoY Growth in China, 2011-2017

- AGV Structure in China by Navigation Mode, 2015
- Difference between AGV and AGC
- AGV Sales Structure in China by Product, 2015-2021E
- AGV Demand Structure in China by Sector, 2016&2021E
- Average Price of AGV in China, 2014-2021E
- AGV Price of Major Global and Chinese Producers in China, 2017
- Regional Structure of AGV Producers in China, 2016
- Market Share of AGV Companies in China by Country, 2014-2020E
- Top10 Chinese AGV Producers, 2016
- Presence of Major Global AGV Producers in China, 2016
- Major Global and Chinese AGC Producers, 2016
- Financing and M&As of Major AGV Producers in China, 2014-2016
- AGV Sales Volume and YoY Growth in China, 2015-2021E
- Development Trends of AGV
- Number of Motors, Drivers and Speed Reducers of Per Unit AGV Drive System by Drive Mode
- New Demand for AGV Motors in China, 2014-2021E
- New Demand for AGV Speed Reducers in China, 2016-2021E
- Composition of Laser Guided AGV On-board Control System
- Chinese Controller and Robot Controller Market Size, 2013-2020E
- New Demand for AGV On-board Controllers in China, 2016-2021E
- Major Chinese Controller Producers, 2016
- Classification of AGV Navigation Modes and Core Components
- Major Laser Navigation System Producers in China
- New Demand for AGV Laser Scanners in China, 2016-2021E
- Main AGV Obstacle Avoidance Sensors in China



- Major Chinese AGV Sensor Companies, 2016
- Operating Principle of Magnetic Navigation Sensor for AGV System
- Cycles of AGV Batteries
- Contactless Power Supply AGV System
- Supercapacitor Power Supply AGV System
- Batteries as a Percentage of AGV Projects in Europe, 2015
- Structure of AGV Batteries in China by Product, 2015
- Main Charging Methods of AGV Batteries
- Classification of Global AGV Software Systems
- AGV Software Systems Used by Global and Chinese AGV Producers
- China's Automobile Output and Ownership, 2005-2016
- Features and Configurations of AGV Systems for Car Production Lines
- Density of Use of Car AGVs in Major Countries
- Major Car AGV Producers in China
- Car AGV Sales Volume in China, 2014-2021E
- Global and Chinese AGV Products for Parking
- Global and Chinese AGV for Parking Projects, 2017
- Power Industry's Demand for AGVs in China, 2016-2021E
- Development History of Tobacco Logistics in China, 2003-2017
- Competitive Pattern of AGV for Tobacco Logistics
- Use of AGVs in Some Tobacco Factories in China
- Heavy Load AGV Producers by Purpose
- Businesses of JBT
- Subsidiaries of JBT, 2017
- Revenue and Net Income of JBT, 2010-2016

- Order Backlog of JBT by Product, 2013-2016
- Revenue Breakdown of JBT by Product, 2010-2016
- Revenue Breakdown of JBT by Region, 2012-2016
- AGV Locations of JBT
- JBT's Subsidiaries in China, 2017
- Business Structure of Daifuku
- Revenue Breakdown of Daifuku by Region, 2020E
- Net Sales and Net Income of Daifuku, FY2010-FY2016
- Orders Structure of Daifuku by Sector, FY2013-FY2016
- Sales Structure of Daifuku by Sector, FY2013-FY2016
- Sales Structure of Daifuku by Region, FY2013-FY2016
- Quarterly Sales Structure of Daifuku by Region, FY2013-FY2016
- Main AGV Clients of Daifuku
- AGV Systems of Daifuku
- Daifuku's Sales in China, FY2013-FY2016
- Daifuku's Presence in China
- M&As of Dematic, 2010-2017
- Typical Clients of Dematic in China
- Businesses and Products of Swisslog
- Orders, Sales and Net Income of Swisslog, 2010-2016
- Main Operating Data of Swisslog, 2015-2016
- Orders and Sales Breakdown of Swisslog by Business, 2010-2014
- Business Sales Structure of Swisslog by Region, 2014
- WDS (Warehouse & Distribution Solutions) Orders and Sales of Swisslog, 2010-2014
- WDS (Warehouse & Distribution Solutions) Revenue Structure of Swisslog by Business, 2013-2014

- WDS (Warehouse & Distribution Solutions) Orders of Swisslog by Industry
- Swisslog's Development Strategy for WDS (Warehouse & Distribution Solutions)
- AGVs of Swisslog
- Business Structure of Meidensha
- Net Sales and Net Income of Meidensha, FY2011-FY2016
- Orders of Meidensha, FY2015-FY2016
- Net Sales Structure of Meidensha by Business, FY2012-FY2016
- Net Sales Breakdown of Meidensha by Region, FY2012-FY2015
- Main Products and Clients of Meidensha's Industrial Systems
- Operation of Meidensha's Industrial Systems, FY2015-FY2016
- AGV Systems of Meidensha
- Meidensha's Subsidiaries in Mainland China, 2016
- Businesses of Egemin
- Egemin's Presence in China
- AGVs of Oceaneering AGV Systems
- Grenzebach's Facts, 2016
- Business Members of Grenzebach
- Grenzebach's Subsidiaries by Country/Region
- Revenue and Net Income of Shenyang Siasun Robot & Automation, 2012-2016
- Operating Revenue Structure of Shenyang Siasun Robot & Automation by Product, 2014-2016
- Operating Revenue Structure of Shenyang Siasun Robot & Automation by Region, 2014-2016
- Gross Margin of Shenyang Siasun Robot & Automation by Product, 2013-2016
- AGVs of Shenyang Siasun Robot & Automation
- Main Partners of Shenyang Siasun Robot & Automation
- AGVs of Yunnan KSEC Intelligent Equipment

- Revenue and Net Income of Machinery Technology Development, 2013-2016
- Revenue Structure of Machinery Technology Development by Business, 2013-2015
- Revenue Structure of Machinery Technology Development by Business, 2015H1-2016H1
- Revenue Structure of Machinery Technology Development by Region, 2013-2015
- AGV Business Performance of Machinery Technology Development
- Revenue and Net Income of Hangzhou Great Star Industrial, 2012-2016
- Revenue Structure of Hangzhou Great Star Industrial by Product, 2014-2016
- Operating Revenue Breakdown of Hangzhou Great Star Industrial by Region, 2014-2016
- Revenue and Net Income of Zhejiang Guozi Robotics, 2012-2016
- Characteristics of Zhejiang Guozi Robotics' AGV Systems
- Strategic Layout of Guangdong Dongfang Precision Science & Technology
- Revenue and Net Income of Guangdong Dongfang Precision Science & Technology, 2012-2016
- Operating Revenue Structure of Guangdong Dongfang Precision Science & Technology by Product, 2014-2016
- Operating Revenue Structure of Guangdong Dongfang Precision Science & Technology by Region, 2013-2016
- Milestones in AGV-related Logistics System Business of Guangdong Dongfang Precision Science & Technology, 2014-2016
- Operation of Main AGV Subsidiaries of Guangdong Dongfang Precision Science & Technology, 2015-2016
- Revenue and Net Income of Zhejiang Noblelift Equipment, 2011-2016
- Operating Revenue Breakdown of Zhejiang Noblelift Equipment by Product, 2013-2016
- Operating Revenue Breakdown of Zhejiang Noblelift Equipment by Region, 2013-2016
- Gross Margin of Zhejiang Noblelift Equipment by Product, 2013-2016
- Milestones in AGV-related Business of Zhejiang Noblelift Equipment, 2015-2017
- Capacity, Output and Sales Volume of Zhejiang Noblelift Equipment by Product, 2011-2015
- Sales Volume and YoY Growth of Zhejiang Noblelift Equipment's Walking Type Electric Warehousing Vehicles, 2007-2015
- Sales Volume and YoY Growth of Zhejiang Noblelift Equipment's Rider Type Electric Forklifts, 2007-2015
- Revenue and Net Income of CSG Smart Science & Technology, 2013-2016

- Revenue Structure of CSG Smart Science & Technology by Product, 2015-2016
- Revenue Structure of CSG Smart Science & Technology by Region, 2015-2016
- Revenue and Net Income of Huaxiao Precision (Suzhou), 2013-2016
- AGVs of Huaxiao Precision (Suzhou)
- Revenue and Net Income of Guangzhou Jingyuan Mechano-Electric Equipment, 2013-2016
- Revenue and Net Income of Shanghai Triowin Automation Machinery, 2012-2016
- Revenue Structure of Shanghai Triowin Automation Machinery by Product, 2012-2016
- Revenue Breakdown of Shanghai Triowin Automation Machinery by Region, 2012-2016
- Gross Profit and Gross Margin of Shanghai Triowin Automation Machinery by Product, 2012-2016
- Applications of Shanghai Triowin Automation Machinery's AGV Robots and Main Clients
- Revenue and Net Income of Shenzhen Casun Intelligent Robot, 2013-2016
- Revenue Structure of Shenzhen Casun Intelligent Robot by Product, 2013-2016
- Revenue Breakdown of Shenzhen Casun Intelligent Robot by Region, 2013-2016
- Gross Margin of Shenzhen Casun Intelligent Robot by Product, 2013-2016
- Applications of Shenzhen Casun Intelligent Robot's AGVs and Main Clients
- Main Automotive Clients of Shenzhen Casun Intelligent Robot
- Main Clients of Shenzhen Casun Intelligent Robot in Electronic and Home Appliances Industries
- Main Clients of Yoneyg Logistics Automation Technology
- AGV Business Milestones of Guangzhou Sinorobot Technology, 2014-2017

You can place your order in the following alternative ways:

1. Order online at [www.researchinchina.com](http://www.researchinchina.com)
2. Fax order sheet to us at fax number: +86 10 82601570
3. Email your order to: [report@researchinchina.com](mailto:report@researchinchina.com)
4. Phone us at +86 10 82600828/ 82601561

<b>Party A:</b>			
Name:			
Address:			
Contact Person:		Tel	
E-mail:		Fax	

<b>Party B:</b>			
Name:	Beijing Waterwood Technologies Co., Ltd (ResearchInChina)		
Address:	Room 502, Block 3, Tower C, Changyuan Tiandi Building, No. 18, Suzhou Street, Haidian District, Beijing, China 100080		
Contact Person:	Liao Yan	Phone:	86-10-82600828
E-mail:	<a href="mailto:report@researchinchina.com">report@researchinchina.com</a>	Fax:	86-10-82601570
Bank details:	Beneficial Name: Beijing Waterwood Technologies Co., Ltd Bank Name: Bank of Communications, Beijing Branch Bank Address: NO.1 jinxiyuan shijicheng, Landianchang, Haidian District, Beijing Bank Account No #: 110060668012015061217 Routing No #: 332906 Bank SWIFT Code: COMMCNSHBJG		

Title	Format	Cost
<i>Total</i>		

Choose type of format

- PDF (Single user license) .....2,600 USD
- Hard copy ..... 2,800 USD
- PDF (Enterprisewide license)..... 4,200 USD

※ Reports will be dispatched immediately once full payment has been received.  
Payment may be made by wire transfer or credit card via PayPal.

### About ResearchInChina

ResearchInChina ([www.researchinchina.com](http://www.researchinchina.com)) is a leading independent provider of China business intelligence. Our research is designed to meet the diverse planning and information needs of businesses, institutions, and professional investors worldwide. Our services are used in a variety of ways, including strategic planning, product and sales forecasting, risk and sensitivity management, and as investment research.

#### Our Major Activities

- *Multi-users market reports*
- *Database-RICDB*
- *Custom Research*
- *Company Search*

**RICDB** (<http://www.researchinchina.com/data/database.html>), is a visible financial data base presented by map and graph covering global and China macroeconomic data, industry data, and company data. It has included nearly 500,000 indices (based on time series), and is continuing to update and increase. The most significant feature of this base is that the vast majority of indices (about 400,000) can be displayed in map.

After purchase of our report, you will be automatically granted to enjoy 2 weeks trial service of RICDB for free.

After trial, you can decide to become our formal member or not. We will try our best to meet your demand. For more information, please find at [www.researchinchina.com](http://www.researchinchina.com)

For any problems, please contact our service team at: