



Global and China Low Speed Autonomous Driving Industry Report, 2019-2020

Apr.2020

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 2019, low speed autonomous driving market tended to calm down, with more regular pilots but on small scale. In 2020, the COVID-19 pandemic brings new opportunities to low speed autonomous delivery industry.

Autonomous minibuses aim to meet the needs for picking up passengers at the front and rear ends. A combination of factors such as technology, cost and rules impede the emergence of large, profitable autonomous minibus companies. Some players plan commercial operation in 2020. Navya as the one deploying the most autonomous minibuses worldwide had sold a total of 164 autonomous minibuses by the end of 2019. Yet it announced that it would no longer sell vehicles and turn to sales of system technologies considering high cost and meager profit, and that in future vehicles would be produced purely for research and development, test and exhibition. EasyMile and May Mobility have an autonomous minibus fleet of 80 units and 25 units, separately, with pilot run in the US, Europe and beyond.

In 2019, some companies realized normal commercial operation of projects on public roads, for example, EasyMile had more than 230 projects worldwide and enabled normal operation on some Canadian public roads.

Baidu Apolong, an autonomous minibus which debuted in 2018, springs up the most rapidly in China. According to the data released, over 100 units of Apolong minibuses already go into operation. Apart from Apolong, in 2019 several bus manufacturers in China also rolled out their own autonomous minibuses. Examples include Uisee Technology which ran autonomous shuttle buses in places such as Guangzhou Baiyun International Airport, Nanning Garden Expo Park and Xingtai Garden Expo Park.

Autonomous Minibus Layout of Major Bus Manufacturers in China

Company	Product	Picture	Launch Time	Passenger Load (seat + standing-room-only)	Max. Speed (Speed Limit)	Commercial Operation	Scenario Deployment
Xiamen King Long United Automotive Industry Co., Ltd.	Apolong		Apr.2018	8/14 seats	40km/h	Available to mass production	King Long Apolong seen in 30 scenarios in 25 cities
King Long United Automotive Industry (Suzhou) Co., Ltd. (Higer Bus)	Higer Pro-Blue		Apr.2019	7+7	/	Test	Trial operation is carried out in CATARC Intelligent Connected Vehicle Demonstration Area
Xiamen Golden Dragon Bus Co., Ltd.	ALLSTAR battery electric microcirculation bus		May 2018	13	50Km/h	Trial operation	Operation tests have been conducted in Shanghai, Fujian (Pingtan County), Xiamen, Chongqing, Changzhou, Hangzhou, Taiwan, Singapore, etc.
Zhengzhou Yutong Bus Co., Ltd.	Yutong intelligent connected bus		Apr.2019	8	/	Trial operation	
Dongfeng Motor Group	Dongfeng Sharing-VAN		Apr.2019	4/6	30km/h	Test	Tested in Europe
Skywell New Energy Automobile Group Co., Ltd.	Skywell Blue Whale		Mar.2019	12	40km/h	Test	/
Hongqi	5G autonomous electric minibus		Mar.2019	/	/	/	Hangzhou

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Statistics of Autonomous Delivery Vehicle Deployment Scenarios in China

Company	Key Product	Scenarios Deployed
Auto X	Autonomous delivery vehicle	Deliver small objects in scenarios, e.g., parks and residential areas.
ldriverplus	WOBIDA autonomous delivery vehicle	Book delivery in Tsinghua University Library; delivery of goods together with Deppon; and food delivery in cooperation with hospitals.
Uisee Technology	Autonomous logistic vehicle (autonomous electric tractor, AET)	Transport luggage at Hong Kong International Airport; make deployments at Guangzhou Baiyun International Airport and Beijing Capital International Airport; take charge of logistics transport in factory area of SGMW Baojun Base.
Beijing Technology	BooCax Ostrich autonomous delivery vehicle	/
Shenzhen Unity Drive Innovation Technology	Hercules-I-Plus autonomous delivery vehicle	Deployed in a Foxconn industrial park, Huawei Smart Campus, etc..
Neolix Technologies	AX1 mini logistics vehicle	Operate in Xiong'an New Area, Changzhou of Jiangsu and other places to deliver group meals in three scenarios; as a form of mobile retail, autonomous vehicles are used to sell retail goods like fast food and coffee.
ZhenRobotics	RoboPony autonomous delivery vehicle	Operate in over 10 parks in Beijing, Nanjing, Shanghai and Chengdu, and sign orders and establish close partnerships with over 10 industry leaders.
Wuhan Technology	Aisimba autonomous delivery vehicle	Aisimba has carried out pilot projects in several parks and universities and colleges in Wuhan city, in a bid for normal commercial operation of autonomous delivery vehicles.
Changsha Intelligent Technology (Go Further.AI)	Xingshen ChaoYing 800C	As of early 2020, the company's autonomous vehicles had traveled 18,000km in total and delivered 14,984 orders, which means all-weather safe operation of 10km per vehicle on average each day.
	Factory autonomous vehicle	Provide autonomous delivery vehicles for JD Logistics and other customers.
Candela Technology (Beijing)	Sunny autonomous logistic vehicle	Autonomous delivery vehicles already work in such scenarios as science & technology parks, commercial buildings, university campuses and hospitals, e.g., Shenzhen Bay Eco-Technology Park and Foshan Country Garden Headquarters and hospitals.
Beijing Technology	Yours Yours Delivery	Cooperate with Korean and Japanese takeaway and logistics platforms; target small stores (e.g., convenience stores, compact supermarkets, milk tea shops and coffee houses) at streets and alleyways; make retail deployments in ginza mall shopping centers and U Town Mall in Beijing.
White Rhino Auto (Beijing) Technologies	White Rhino autonomous vehicle	In late 2019, it carried out trial operation of instant autonomous delivery of fresh goods in Beijing Autonomous Driving Demonstration Zone (Haidian District Environmental Protection Park).

Low speed autonomous delivery vehicle market targets demand for last-mile delivery. In 2019, autonomous delivery vehicle market was advancing steadily. Quite a few companies explored scenario application, with normal trials under way. For instance, Neolix Technologies Co., Ltd. launched an autonomous retail vehicle and put it into trial operation in several parks of Beijing; in late 2019, UISEE deployed autonomous luggage vehicles for normal operation at Hong Kong International Airport.

The problems like high cost, imperfect policies and regulations as well as technical limitations are however still in the way of operating autonomous delivery vehicles on large scale.

Source: ResearchInChina

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In early 2020, autonomous delivery vehicles of companies including JD Logistics, Neolix Technologies, Idriverplus, Uisee Technology and Meituan joined in the fight against COVID-19, creating new opportunities for autonomous delivery industry.

The attempts on operation of autonomous delivery vehicles on real roads are a boon for large-scale deployments. For example, JD Logistics intelligent delivery robots navigated by Beidou satellites accomplished intelligent delivery from the JD Logistics Wuhan Renhe Station to the No.9 Hospital of Wuhan at a speed of 15km/h; in February 2020, Neolix Technologies had 18 autonomous vehicles in anti-epidemic efforts in Wuhan Leishenshan Hospital and communities of the city; during the outbreak, White Rhino Auto (Beijing) Technologies helped Wuhan Guanggu Mobile Cabin Hospital distribute materials, and provided autonomous delivery services (vegetables and fruits) for communities along a Haidian district demonstration road.

The roleplaying of autonomous vehicles during the epidemic is welcomed by people, in readiness for wider application of autonomous vehicles.

In this period, quite a few autonomous delivery vehicle companies closed a new funding round. Examples include Uisee Technology which finished a series B funding round (where Bosch was an investor) in February 2020; Neolix Technologies receiving investment for its A+ funding round from investors like Leading Ideal in March 2020; and White Rhino Auto raising funds from Chentao Capital in the angel funding round also in March.

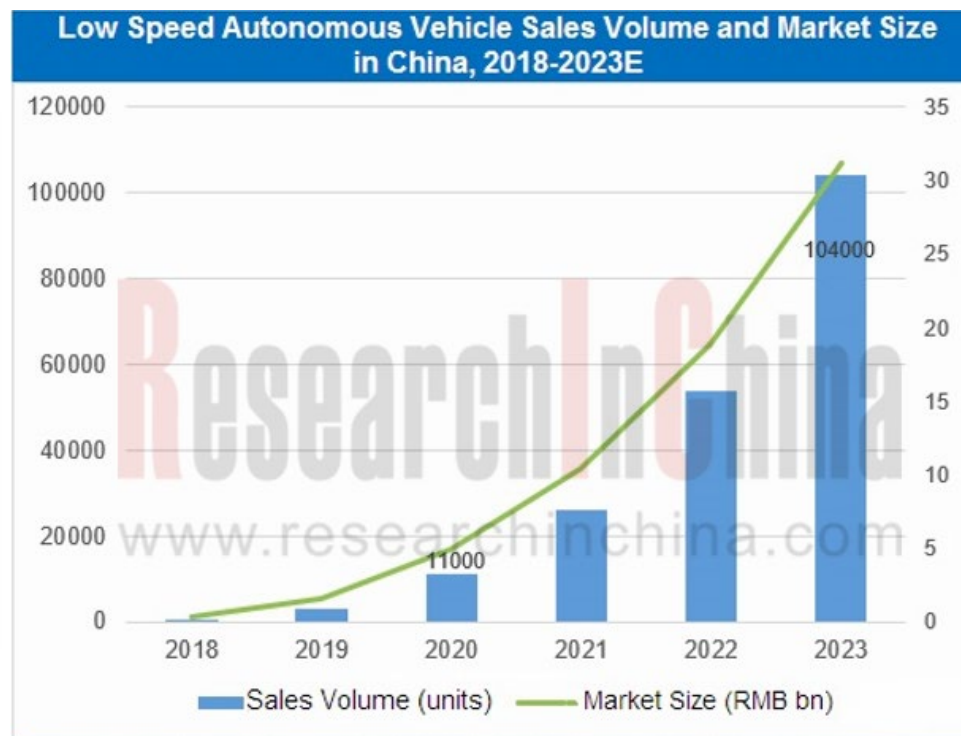
In 2019, there existed altogether 700 to 900 autonomous minibuses worldwide, and about 2,000 to 3,000 autonomous delivery vehicles, a figure projected to outnumber 10,000 units in 2020.

Market Size of Autonomous Minibus and Autonomous Delivery Vehicle by the End of 2019

Company/Project	Autonomous Minibus Quantity (Estimated)	Autonomous Delivery Vehicle Quantity (Estimated)
Apolong	200 or so	
Navya	164	
EasyMile	80	
May Mobility	25	
Beijing Yours Technology		300
Starship		200
Neolix Technologies		150
Wuhan Aisimba Technology		150
Global Total	About 700-900	About 2,000-3,000

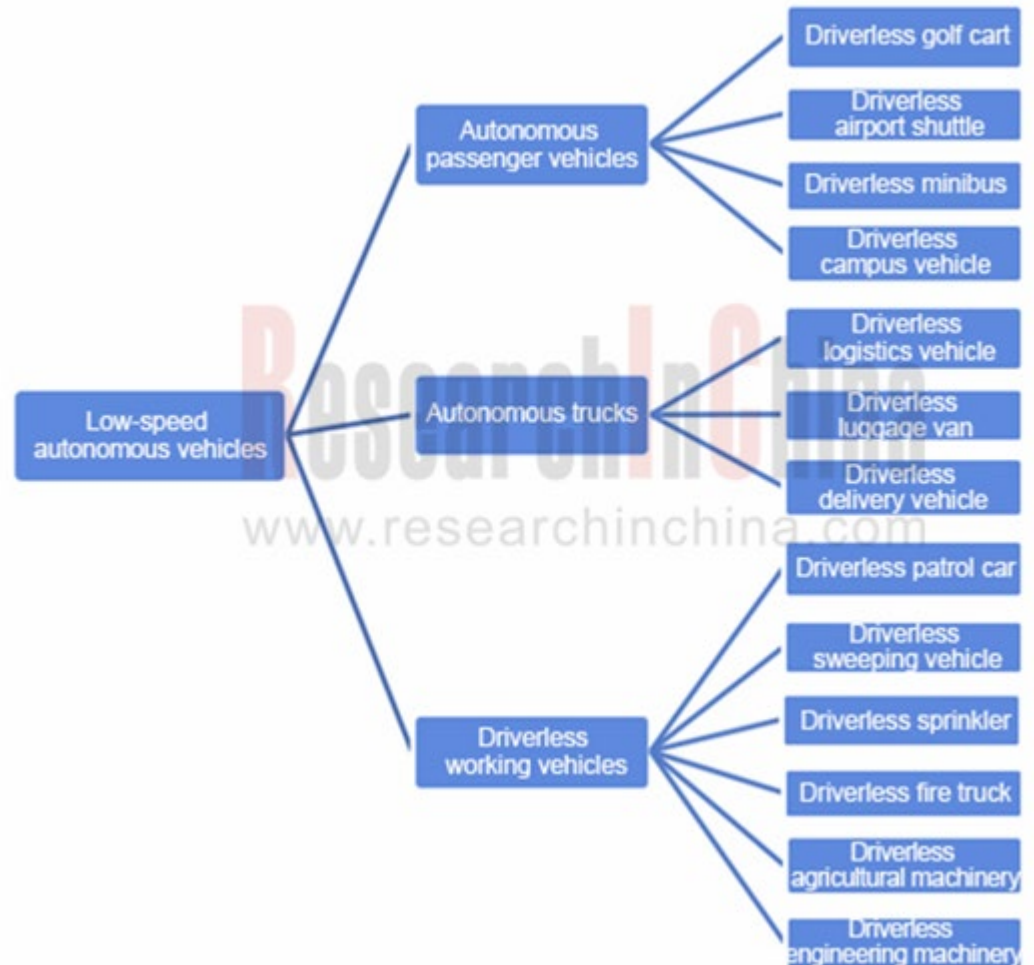
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11,000 units of low speed autonomous vehicle will be sold in China in 2020, according to our prediction for the market in early 2019, but the sales figure in 2020 is now trimmed to 15,000 units considering that a few segments enjoy better-than-expected growth.



From our classification block diagram above, it can be seen that a report is unable to cover dynamics of all low speed autonomous vehicle segments. On the basis, we prepare two reports on low speed autonomous vehicle: Global and China Low Speed Autonomous Driving Industry Report, 2019-2020, and Global and China Special Autonomous Vehicle (Autonomous Working Vehicle) Industry Report, 2019-2020.

Classification of Low Speed Autonomous Vehicle



1 Low Speed Autonomous Vehicle Industry

1.1 Overview

1.1.1 Definition

1.1.2 Classification

1.1.3 Impediments to Application

1.1.4 Application Roadmap

1.1.5 Main Technologies

1.2 Low Speed Autonomous Passenger Vehicle Technology

1.2.1 System Composition

1.2.2 System Architecture

1.2.3 Composition

1.3 Low Speed Autonomous Goods Vehicle Technology

1.3.1 Classification

1.3.2 Perception Solutions

1.3.3 Cost Structure

1.3.4 Technology Architecture

2 Low Speed Autonomous Vehicle Market

2.1 Low Speed Autonomous Passenger Vehicle Market

2.1.1 Global Autonomous Minibus Market Size by Volume, 2018-2025E

2.1.2 Global Autonomous Minibus Market Size by Value, 2018-2025E

2.1.3 Autonomous Minibus Market Segments

2.1.4 Competitive Pattern

2.1.5 Product Layout of Low Speed Autonomous Passenger Vehicle Companies: Foreign Companies

2.1.6 Product Layout of Low Speed Autonomous Passenger Vehicle Companies: Chinese Companies

2.1.7 Recent Financing and Partners of Low Speed Autonomous Passenger Vehicle Companies

2.1.8 Plans of Low Speed Autonomous Passenger Vehicle Companies

2.1.9 Autonomous Minibus Business Model

2.2 Low Speed Autonomous Goods Vehicle Market

2.2.1 Comparison of Low Speed Autonomous Delivery Vehicle Products between: Foreign Companies

2.2.2 Comparison of Low Speed Autonomous Delivery Vehicle Products between: Chinese Companies

2.2.3 Recent Financing Events of Low Speed Autonomous Delivery Vehicle Companies

2.2.4 Major Logistics Companies' Deployments in Low Speed Autonomous Delivery Vehicle

2.2.5 New Development Opportunities for Autonomous Delivery

2.2.6 Development Trends of Low Speed Autonomous Delivery Vehicle

2.3 Applied Scenarios

2.3.1 Residential Community Autonomous Minibus Scenario

2.3.2 Microcirculation Bus Scenario

2.3.3 Autonomous Delivery Vehicle Scenario

2.3.4 Autonomous Logistics at Airports

2.3.5 Autonomous Delivery

2.3.5 Autonomous Delivery

2.3.6 Autonomous Logistics Distribution in Parks

2.3.7 Autonomous Retail Vehicle

3 Global Low Speed Autonomous Passenger Vehicle Companies

3.1 Transdev

3.1.1 Profile

3.1.2 Automatic Transport System

3.1.3 Major Autonomous Driving Test Projects

3.1.4 Autonomous Vehicle Operation Cases

3.1.4 Autonomous Vehicle Operation Cases

3.1.4 Deployments on Public Road

3.1.5 Autonomous Bus Business Model

3.1.6 Role Played and Technology Partners

3.1.7 Developments

3.2 Navya

3.2.1 Profile

3.2.2 Development History

3.2.3 Main Projects

3.2.4 Autonomous Vehicles

3.2.5 Operating Results

3.2.6 Main Partners in Value Chain

3.3 Local Motors

3.3.1 Profile

3.3.2 Main Products

3.3.3 Summary of Deployed Projects

3.3.4 Main Partners

3.4 Auro Robotics

3.4.1 Profile

3.4.2 Main Products and Technologies

3.5 May Mobility

3.5.1 Profile

3.5.2 Main Products

3.5.3 Operating Projects

3.6 2getthere

3.6.1 Profile

3.6.2 Main Products

3.6.3 Main Projects

3.7 BestMile

3.7.1 Profile

3.7.2 Main Products

3.7.3 Main Customers and Projects

3.7.4 Where to Deploy Autonomous Vehicles

3.8 Easy Mile

3.8.1 Profile

3.8.2 Low Speed Autonomous Driving Products

3.8.3 Main Operating Projects

3.8.4 Projects Launched in the US

3.8.5 Deployments in China

3.9 SB Drive

3.9.1 Profile

3.9.2 Remote Operation Monitoring Platform

3.9.3 Main Test Projects in Japan

3.9.4 Latest News

3.9.5 GACHA

3.10 ohmio

3.10.1 Profile

3.10.2 Main Products

3.10.3 Autonomous Vehicle Test

3.10.4 Deployments in China

3.11 e.go Mobile

3.11.1 Profile

3.11.2 Autonomous Electric Bus

3.11.3 Electric Shuttle Bus

3.11.4 Autonomous Electric Truck

3.12 Coast Autonomous

3.12.1 Profile

3.12.2 Drive Testing

3.12.2 Latest News

3.13 Optimus Ride

3.13.1 Profile

3.13.2 Products and Technologies

3.13.3 Latest News

4 Chinese Low Speed Autonomous Passenger Vehicle Companies

4.1 Apolong

4.1.1 Overview

4.1.2 Main Products and Technologies

4.1.3 Fleet Management Platform

4.2 Suzhou Magride Technology Co., Ltd.

4.2.1 Profile

4.2.2 Main Technologies

4.2.3 Product Roadmap

4.2.4 Application Cases

4.3 Shenzhen ECHIEV Automatic Driving Technology Co., Ltd.

4.3.1 Profile

4.3.2 Progress in Business

4.3.3 Main Products

4.3.4 Application of Driverless Campus Vehicle

4.4 DeepBlue Technology (Shanghai) Co., Ltd.

4.4.1 Autonomous Driving Roadmap

4.4.2 Developments

4.4.3 Main Products

4.4.4 Latest News

4.5 DongfengMotor Corporation

4.5.1 Dongfeng Sharing-VAN

4.5.2 Dongfeng Sharing-VAN: Technological Highlights

4.5.3 Dongfeng Sharing-VAN: Applied Scenarios

4.5.4 Dongfeng Sharing Box

4.6 Yutong Intelligent Connected Bus

4.6.1 Overview

4.6.2 Main Features

4.6.3 Progress

4.7 Golden Dragon

4.7.1 Profile

4.7.2 Autonomous Driving Products and Technologies

4.8 Skywell

4.8.1 Profile

4.8.2 Intelligent Connected Vehicle Layout

4.8.3 Driverless Sightseeing Car

5 Global Low Speed Autonomous Goods Vehicle Companies

5.1 Nuro.ai

5.1.1 Profile

5.1.2 Development History

5.1.3 Products and Services

5.2 Starship

5.2.1 Profile

5.2.2 Main Products

5.2.3 Development Progress

5.2.4 Food Delivery Service

5.3 ZMP

5.3.1 Profile

5.3.2 Development History

5.3.3 Product Brand Layout

5.3.4 Main Products and Technologies

5.4 Udelv

5.4.1 Profile

5.4.2 Main Products and Technologies

5.4.3 Main Customers

5.4.4 Collaborations

5.5 Amazon Scout

5.5.1 Introduction to Scout

5.5.2 Test Projects

5.6 Robby

5.6.1 Profile

5.6.2 Autonomous Delivery Car

5.7 Auto X

5.7.1 Profile

5.7.2 Product Layout in Autonomous Logistics Field

5.7.3 Low Speed Autonomous Driving Products

5.7.4 Developments of Autonomous Logistics Vehicle

6 Chinese Low Speed Autonomous Goods Vehicle Companies

6.1 Idriverplus

6.1.1 Profile

6.1.2 Development History

6.1.3 Low Speed Autonomous Driving Solutions

- 6.1.4 Low Speed Autonomous Logistics Vehicle
- 6.1.5 Application Cases of Autonomous Logistics Vehicle
- 6.1.6 Main Technical Solutions
- 6.1.7 Development Challenges
- 6.2 Uisee Technology
 - 6.2.1 Profile
 - 6.2.2 Product System
 - 6.2.3 Autonomous Luggage Vehicle
 - 6.2.4 Factory Autonomous Logistics Vehicle
 - 6.2.5 Autonomous Minibuses and Application Cases
 - 6.2.6 Autonomous Delivery Vehicle Solutions
 - 6.2.7 Latest News
- 6.3 Shenzhen Unity Drive Innovation Technology Co., Ltd.
 - 6.3.1 Profile
 - 6.3.2 Main Products
 - 6.3.3 Partners
- 6.4 Neolix Technologies Co., Ltd.
 - 6.4.1 Profile
 - 6.4.2 Main Products and Technologies
 - 6.4.3 Production and Promotion of Autonomous Logistics Vehicle
- 6.5 ZhenRobotics
 - 6.5.1 Profile
 - 6.5.2 Development History
 - 6.5.3 R&D and Production Layout
 - 6.5.4 Autonomous Last-mine Delivery Vehicles and Main Technologies
 - 6.5.5 Autonomous Vehicle Application Cases
 - 6.5.6 Product Technology Roadmap and Development Plan
- 6.6 Wuhan Aisimba Technology Co., Ltd.
 - 6.6.1 Profile
 - 6.6.2 Main Products
 - 6.6.3 Main Technologies
 - 6.6.4 Application Cases
- 6.7 Changsha Xingshen Intelligent Technology Co., Ltd. (Go Further.AI)
 - 6.7.1 Profile
 - 6.7.2 Autonomous Logistics Vehicle
 - 6.7.3 Factory Autonomous Vehicle
 - 6.7.4 Application Cases
- 6.8 Candela (Shenzhen) Technology Innovation Co., Ltd.
 - 6.8.1 Profile
 - 6.8.2 Autonomous Logistics Vehicle for Last-mile Delivery
 - 6.8.3 Application Cases
- 6.9 Beijing Yours Technology Co., Ltd.
 - 6.9.1 Profile
 - 6.9.2 Yours Delivery
 - 6.9.3 Yours Retail
- 6.10 White Rhino Auto (Beijing) Technologies Co., Ltd.
 - 6.10.1 Profile
 - 6.10.2 White Rhino Autonomous Vehicle

- 6.10.3 Application Cases
- 6.11 Suning Logistics
 - 6.11.1 Profile
 - 6.11.2 Main Autonomous Delivery Vehicle Products
 - 6.11.3 Operation of Autonomous Vehicle
 - 6.11.4 Contactless Delivery Service
- 6.12 Meituan Autonomous Vehicle Delivery
 - 6.12.1 Profile
 - 6.12.2 Autonomous Delivery Layout
 - 6.12.3 Main Autonomous Delivery Vehicles
 - 6.12.4 Autonomous Delivery Open Platform
 - 6.12.5 Autonomous Delivery Anti-epidemic Assistance Plan
 - 6.12.6 Developments
- 6.13 JD X Division
 - 6.13.1 Autonomous Delivery Vehicle
 - 6.13.2 Development History of Autonomous Vehicle
 - 6.13.3 Autonomous Car
 - 6.13.4 Autonomous Delivery Layout
 - 6.13.5 Application of Autonomous Vehicle
- 6.14 Cainiao
 - 6.14.1 Profile
 - 6.14.2 Product Lines
 - 6.14.3 Main Functions
 - 6.14.4 Latest News

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