



**ADAS and Autonomous Driving Industry
Chain Report 2018 (VI)- Commercial
Vehicle Automated Driving**

August 2018

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

ADAS and Autonomous Driving Industry Chain Report 2018 - Commercial Vehicle Automated Driving, about 195 pages, covers the following:

- ◆ Overview of autonomous commercial vehicle industry
- ◆ Technologies, stages and costs of autonomous commercial vehicle
- ◆ Truck platooning autonomous driving
- ◆ Foreign commercial vehicle automated driving solution providers
- ◆ Chinese commercial vehicle automated driving solution providers
- ◆ Layout of foreign commercial vehicle makers in autonomous driving
- ◆ Layout of Chinese commercial vehicle makers in autonomous driving

With the enforcement of the new standard Safety Specifications for Commercial Bus, the commercial vehicle ADAS market in China springs up, and start-ups such as Roadefend, Maxieye, Minieye and INVO have earned the revenue of tens of millions or even hundreds of millions of yuan.

In terms of autonomous commercial vehicle, solution providers such as Westwell Lab, TrunkTech, PlusAI, TuSimple and FABU Technology have arisen. Most of them are committed to unmanned port trucks with autonomous container truck solutions. In China, there are more than 20,000 container trucks at ports, and each driver is paid about RMB300,000 per year, an opportunity for autonomous driving replacement.

There are many challenges for the access of autonomous driving to any particular scenario. For instance, driverless container trucks need to be in line with the production logic and dock management system of ports and interact with bridge cranes, tire cranes and other equipment. It sounds like autonomous driving along fixed routes. In fact, a new driving environment will be created in less than half a day after the containers stacked at ports are hoisted back and forth.



Copyright 2012ResearchInChina

Autonomous commercial vehicles are first seen as port container trucks, which is quite similar to low-speed automated vehicle applied for driverless delivery. Closed areas, low-speed driving, the rising labor costs as well as the developed e-commerce and logistics in China are all driving factors.

Commercial vehicle automated driving solution providers often partner with commercial vehicle manufacturers to enter a target market. After the first-kilometers and last-kilometers unmanned freight market starts, the much larger freeway autonomous truck market will grow in a progressive way. Initially, autonomous trucks will be realized through platooning -- the first truck is manipulated by a driver while the following trucks are not.

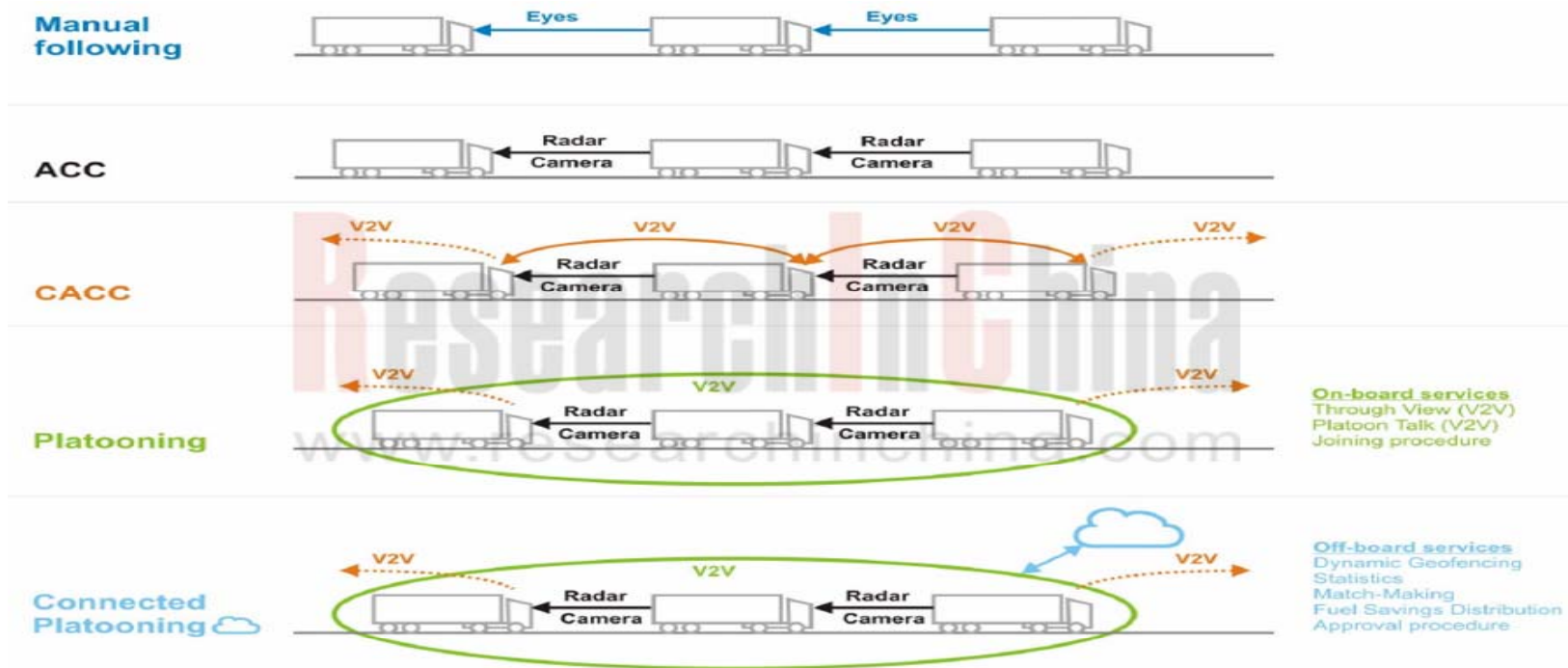
Cooperation between Chinese ADAS Autonomous Driving Solution Providers and Commercial Vehicle Makers

	Dongfeng Trucks	Dongfeng Liuzhou Motor	Foton	SINOT RUK	FAW Jiefang	Yutong Bus	Shaanxi Automobile Group	SAIC	KING LONG	CRRC
Minieye	√	√								
Maxieye						√				√
ZongMu technology						√				
Ningbo Intesight			√							
Invo					√		√		√	
Tsintel Technology						√			√	
Baidu			√						√	
Westwell Lab								√		
TrunkTech				√						
PlusAI					√					
TuSimple							√			

Source: ResearchInChina

Platooning will go through CACC, Platooning, Connected Platooning and other stages.

Europe is a leader in platooning. Individual carmakers conduct Platooning tests, and multiple automakers organize cross-brand trucks for driving tests and even hold European Truck Platooning Challenge. There is an urgent need for Chinese companies to catch up in this field. The amazingly huge autonomous driving market is full of difficulties and challenges to ground, and the commercialization process is slower than expected. Fortunately, the Chinese market has witnessed the world's largest number of autonomous driving start-ups that work closely with traditional automakers to step into various segments and solve all technical problems around the clock. Like Chinese electric vehicle market which is the largest in the world, China's autonomous driving market is bound to be the biggest one around the globe.



1 Overview of Commercial Vehicle Automated Driving Industry

- 1.1 Active Safety and ADAS Become Mandatory Requirements
- 1.2 Safety Specifications for Commercial Vehicle for Cargo Transportation (2018)
- 1.3 Domestic Laws on Active Safety and ADAS
- 1.4 Reference Architecture of Commercial Vehicle Automated Driving
- 1.5 Evolution of Commercial Vehicle Automated Driving
- 1.6 Typical Application Scenarios of Commercial Vehicle Automated Driving
- 1.7 Technical Solutions for Typical Application Scenarios of Commercial Vehicle Automated Driving
- 1.8 Roadmap of Commercial Truck Automated Driving
- 1.9 Key Challenges of Commercial Vehicle Automated Driving
- 1.10 Most Problems in Truck Industry Can Be Solved via Automated Driving
- 1.11 Port Driverless Truck

2 Technology, Stages and Costs of Commercial Vehicle Automated Driving

- 2.1 Technology and Development Stages of Commercial Vehicle Automated Driving
 - 2.1.1 Commercial Vehicle Automated Driving Technology: Perception, Decision-making and Control
 - 2.1.2 Key Technologies of Autonomous Truck
 - 2.1.3 Expected Development Paths of Automated Commercial Vehicle
 - 2.1.4 Truck Automated Driving by Stage
 - 2.1.5 Functions in L0-L5
- 2.2 ADAS Functions Required by Commercial Vehicle
 - 2.2.1 The Most Fundamental ADAS Functions on Truck
 - 2.2.2 ADAS on Volvo Commercial Vehicles
- 2.3 Costs of Truck Automated Driving

- 2.3.1 Impact of Truck Automated Driving on Operating Costs
- 2.3.2 Three Application Cases of Truck Automated Driving
- 2.3.3 Calculation of Payback Period of Automated Driving in Application Cases
- 2.3.4 Impact of Vehicle Platooning on Payback Period
- 2.4 Challenges and Influence of Automated Truck
- 2.4.1 Impact on Stakeholders in Truck Industry
- 2.4.2 Technology Push of Different Stakeholders

3 Commercial Vehicle Platooning Autonomous Driving

- 3.1 Overview of Truck Platooning
 - 3.1.1 Key Components for Autonomous Truck Platooning
 - 3.1.2 Truck Platooning Technology: Truck Connection
 - 3.1.3 Truck Platooning Technology: CACC (Cooperative Adaptive Cruise Control)
 - 3.1.4 Vehicle Platooning Technology: from ACC, CACC to Connected Platooning
 - 3.1.5 Design Structure of Truck CACC System
 - 3.1.6 Cooperative Truck Platooning Aerodynamics
- 3.2 Participants in Truck Platooning
 - 3.2.1 Competitive Edges of Large Fleet Operators in Platooning
 - 3.2.2 List of Participants in Platooning Field
- 3.3 Business and Social Value of Truck Platooning
- 3.4 Procedures of Truck Platooning
- 3.5 Development of Truck Platooning in Europe
 - 3.5.1 Roadmap of Truck Platooning Automated Driving in Europe
 - 3.5.2 European Truck Platooning Challenge (ETPC)
 - 3.5.3 Multi-brand Truck Platooning Programs in Europe
 - 3.5.4 Truck Platooning Program in Europe: Sweden4Platooning

- 3.5.5 Truck Platooning Program in Europe: ENSEMBLE
- 3.5.6 Finland-Norway Truck Platooning Test
- 3.6 Truck Platooning Programs in the United States
 - 3.6.1 FHWA-FMCSA Truck Platooning Program
 - 3.6.2 Nine States Allow Tests and Over 20 States Are Interested in It

4 Foreign Providers of Commercial Vehicle Automated Driving Solutions

- 4.1 Starsky Robotics
 - 4.1.1 Technology Solutions
- 4.2 Embark
 - 4.2.1 Embark AI System
- 4.3 Peloton Technology
 - 4.3.1 Peloton Team
 - 4.3.2 Peloton Truck Platooning System
 - 4.3.3 Peloton PlatoonPRO
 - 4.3.4 Peloton + Omnitrac's Strengthen Fleet Management and Platooning
 - 4.3.5 Industry Leaders' Investment into Peloton Technology
 - 4.3.6 FCAM Reduces Rear-end Collisions by 71%
- 4.4 BestMile
 - 4.4.1 Core Engine of BestMile Mobility Platform
 - 4.4.2 System Architecture of BestMile Mobility Platform
 - 4.4.3 APP of BestMile Mobility Platform
 - 4.4.4 BestMile's Solutions for Autonomous Fleet Management
 - 4.4.5 Application of BestMile's Products to Autonomous Bus
 - 4.4.6 BestMile's Specific Solutions: Ride-hailing and Micro-transit
 - 4.4.7 Integration under Multi-mode Environment

4.4.8 Value Chain, Customers and Partners of BestMile

4.4.9 Cooperative Projects of BestMile

4.5 Oxbotica

4.5.1 Oxbotica's Products

4.5.2 Oxbotica's Automated Driving Programs

4.6 Einride

4.6.1 T-Pod and T-Log

4.7 KeepTruckin

4.7.1 KeepTruckin's Products

4.8 INRIX

4.8.1 INRIX AV Road Rules Platform

4.9 WABCO

4.9.1 Development Course

4.9.2 Layout in Automated Driving Products

4.9.3 OnGuardACTIVE

4.9.4 ADAS System

4.9.5 Industry Leader

4.10 Kodiak

5 Chinese Commercial Vehicle Automated Driving Solution Providers

5.1 Tianjin Tsintel Technology Co., Ltd.

5.1.1 Tsintel's Commercial Vehicle AEB

5.1.2 Architecture and Application Cases of Tsintel's Commercial Vehicle AEB Systems

5.1.3 Tsintel's Automated Driving Solutions for Specific Scenarios

5.2 Beijing TuSimple Future Technology Co., Ltd.

5.2.1 Core Technologies and Position

- 5.2.2 TuSimple Makes Inroad into the Field of Port Container Truck Autonomous Transportation
- 5.3 Shanghai Westwell Information Technology Co., Ltd.
 - 5.3.1 Core Technologies
 - 5.3.2 Products and Applications
- 5.4 Hangzhou Zhuying Technology Co., Ltd./Fabu Technology Limited
 - 5.4.1 Core Technologies
 - 5.4.2 Products and Development Strategy
- 5.5 PlusAI Inc.
 - 5.5.1 Core Technologies and Application Scenarios
 - 5.5.2 Application Cases
- 5.6 TrunkTech
 - 5.6.1 TrunkTech's Autonomous Electric Trucks
- 5.7 Changsha Intelligent Driving Research Institute – A Supplier of Intelligent Logistics Vehicles and Systems
 - 5.7.1 Heavy Truck Automated Driving Solutions
- 5.8 Henan Huhang Industry Co., Ltd.
 - 5.8.1 Coach Application Solution
 - 5.8.2 Bus Application Solution
 - 5.8.3 Hazardous Chemicals Transport Vehicle Application Solution
 - 5.8.4 Truck Application Solution
 - 5.8.5 Learner-driven Vehicle Application Solution
- 5.9 G7

6 Automated Driving Layout of Foreign Commercial Vehicle Companies

- 6.1 Volkswagen (VW)
 - 6.1.1 VW's Automated Driving Projects
 - 6.1.2 AdaptIVe Project

- 6.1.3 L3PILOT Project
- 6.1.4 Roadmap of Mobility Services and Products
- 6.1.5 MaaS Commercial Vehicles
- 6.1.6 Autonomous Truck Layout
- 6.1.7 MAN SE's Autonomous Trucks for Highway Construction

- 6.2 PACCAR
 - 6.2.1 Share in Heavy Truck Market and Industry Ranking
 - 6.2.2 Financial Data
 - 6.2.3 New Products and Technologies
 - 6.2.4 Automated Driving Technologies and Truck Platooning

- 6.3 Volvo
 - 6.3.1 Financial Status by Division
 - 6.3.2 Mass-produced Active Safety Systems
 - 6.3.3 Future Trucks
 - 6.3.4 Layout of Commercial Vehicle Automated Driving

- 6.4 Daimler
 - 6.4.1 Layout of Commercial Vehicle Automated Driving
 - 6.4.2 SuperTruck 1 Project – Development Roadmap
 - 6.4.3 SuperTruck 1 Project – Overview
 - 6.4.4 SuperTruck 2 Project – Challenges
 - 6.4.5 SuperTruck 2 Project – Development Steps
 - 6.4.6 SuperTruck 2 Project – Stages
 - 6.4.7 Autonomous Truck Layout and Partners
 - 6.4.8 Autonomous Truck ADAS Roadmap

6.5 SCANIA

- 6.5.1 Financial Status, 2013-2017
- 6.5.2 Operating Business and Market Status
- 6.5.3 Automated Driving Solutions
- 6.5.4 Autonomous Trucks and Bus Solutions
- 6.5.5 Autonomous Tramcar, Truck and Bus
- 6.5.6 Automated Driving Test
- 6.5.7 Autonomous Truck Platooning

7 Automated Driving Layout of Chinese Commercial Vehicle Companies**7.1 Beiqi Foton Motor Co., Ltd.**

- 7.1.1 Strategic Clients and Global Partners
- 7.1.2 Foton and Baidu Cooperated to Launch Autonomous Trucks
- 7.1.3 Foton Acquired China's First Commercial Vehicle Automated Driving Test License
- 7.1.4 Foton's Intelligent Driving Layout
- 7.1.5 Foton's Commercial Vehicle Ecosystem

7.2 Dongfeng Motor Corporation

- 7.2.1 Dongfeng's Commercial Vehicle Application Scenario Planning
- 7.2.2 Intelligent Vehicle Planning of Dongfeng Liuzhou Motor Co., Ltd.

7.3 China National Heavy Duty Truck Group Co., Ltd. (SINOTRUCK)**7.4 FAW Jiefang Automotive Co., Ltd.****7.5 Shaanxi Automobile Holdings Limited****7.6 SAIC-IVECO Hongyan Commercial Vehicle Co., Ltd.****7.7 Zhengzhou Yutong Bus Co., Ltd.****7.8 Xiamen King Long United Automotive Industry Co., Ltd.****7.9 CRRC Corporation Limited**

You can place your order in the following alternative ways:

1. Order online at www.researchinchina.com
2. Fax order sheet to us at fax number: +86 10 82601570
3. Email your order to: report@researchinchina.com
4. Phone us at +86 10 82600828

Party A:			
Name:			
Address:			
Contact Person:		Tel	
E-mail:		Fax	

Party B:			
Name:	Beijing Waterwood Technologies Co., Ltd (ResearchInChina)		
Address:	Room 801, B1, Changyuan Tiandi Building, No. 18, Suzhou Street, Haidian District, Beijing, China 100080		
Contact Person:	Liao Yan	Phone:	86-10-82600828
E-mail:	report@researchinchina.com	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)3,400 USD
- Hard copy 3,600 USD
- PDF (Enterprisewide license)..... 5,000 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) 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

For any problems, please contact our service team at: