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August 2021

# Global and China Commercial Vehicle Telematics Industry Report, 2021

**In 2021, China's commercial vehicle intelligent connected terminal industry heads in the following three directions.**

The first-generation commercial vehicle intelligent connected terminals mainly for satellite positioning and monitoring became available on market due to policies. During decades of development, occupant entertainment capabilities have been added in addition to original functions such as position detection and driving analysis, so as to meet young drivers' needs for intelligent connected cockpits. In future, "policies and domestic demand" will combine to promote the commercial vehicle telematics industry head in the following directions.

***Trend 1: new national standards and new policies will contribute to a nearly RMB4 billion expansion of the market.***

As the Chinese Phase VI Emission Standards (China VI) for commercial vehicles and the new version of the national standard Vehicle Traveling Data Recorder came into effect in the second half 2021, it is expected that the market will expand by nearly RMB4 billion.

**1. Travelling Data Recorder**

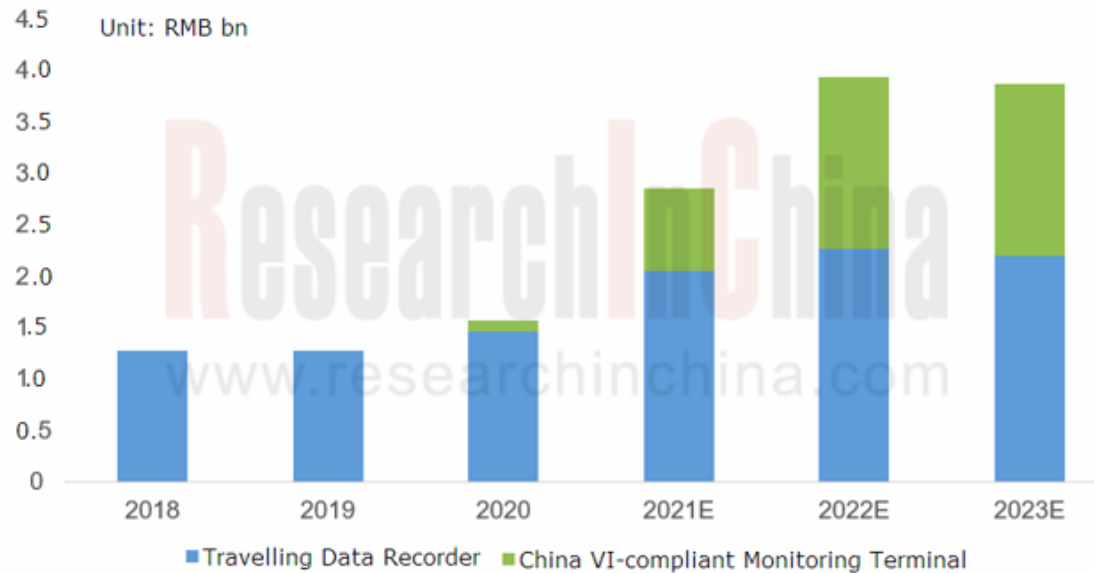
In February 2021, the Ministry of Public Security of China released the exposure draft of the Vehicle Traveling Data Recorder (GB/T 19056-XXXX). Compared with the old version, it adds such functions as audio and video recording, Wi-Fi communication, wireless public network communication, automatic timing, protective memory (disaster recovery), and driver identification and requires better positioning capability. The new national standard is about to take effect on October 1, 2021. And then travelling data recorders will carry more functions but become much more expensive. It is expected that China's travelling data recorder market will be worth more than RMB2.2 billion in 2023.

**2. China VI-compliant Monitoring Terminal**

From July 1, 2021 onwards, all homemade, imported and registered heavy duty diesel vehicles (including heavy and light trucks) must be subject to the Chinese Phase VI Emission Standards. According to the policy, vehicles are required to pack standard-compliant on-board terminals for remote emission management before leaving factory. As the standard is implemented, the penetration of China VI-compliant monitoring terminals in heavy, medium-sized and light trucks will reach 100%. It is predicted that the China VI-compliant monitoring terminal market will be worth more than RMB1.6 billion in 2023.

In 2020, the top five suppliers of commercial vehicle travelling data recorders were Xiamen Yaxon Network Co., Ltd., Hangzhou Hopechart IoT Technology Co., Ltd., Qiming Information Technology Co., Ltd., South Sagittarius Integration Co., Ltd. and Shanghai Shihang Network Technology Co., Ltd., together sweeping over 65% of the market.

**Market Size of Commercial Vehicle Travelling Data Recorder and China VI-compliant Monitoring Terminal, 2018-2023E**



Source: ResearchInChina

**Products and Supported Customers of Top5 Commercial Vehicle Travelling Data Recorder Suppliers**

Supplier	Product	Revenue (RMB mln)		Supported Customer
		2019	2020	
<b>Yaxon Network</b>	Yunxiang Telematics PaaS cloud service system, commercial vehicle telematics terminal, vehicle cooperation fuel-saving control system, secure T-BOX, automotive cyber security support system, and Beidou terminal and industry application system	713	810	FAW Jiefang, Dongfeng Motor, Beiqi Foton, Sinotruk, SAIC-IVECO Hongyan, King Long, JAC
<b>Hopechart IoT</b>	Beidou dual-mode driving recorder, vehicle intelligent center console display, telematics module T-Box, new energy vehicle T-Box, 4G vehicle video recorder, portable positioning terminal, etc.	313	456	Shaanxi Automobile, Beiqi Foton, Sinotruk, Beiben Trucks, XCMG Heavy Truck, Hua Ling Automobile, Sany
<b>Qiming Information</b>	Intelligent connected cloud platform, driving recorder, vehicle T-Box, China VI-compliant OBD products, etc.	1,521	1,552	FAW Jiefang
<b>South Sagittarius Integration</b>	Commercial vehicle physical TSP monitoring system, telematics terminal product T-BOX, new energy vehicle remote monitoring terminal, China VI-compliant exhaust monitoring terminal, etc.	--	--	Dongfeng Motor
<b>Shihang Network</b>	Vehicle terminal series, center console series, ADAS, auxiliary sensors	--	--	Sinotruk, XCMG Heavy Truck

Source: ResearchInChina

***Trend 2: connected terminals tend to be more integrated and the situation of “multiple terminals per vehicle” will be turn around.***

Commercial vehicles are more applicable to autonomous driving scenarios than passenger cars, including ports, mines and highway platooning. Automakers vie for deploying related products. FAW Jiefang J7 L3 Super Trucks for logistics scenarios have been delivered to JD; Shaanxi Automobile Delong X6000 acquired China’s first national autonomous driving license for L4 heavy trucks. As high levels of automated driving are applied, commercial vehicles require telematics terminals to have better technical performance. For example, leading suppliers like Yaxon Network have introduced, tested and applied 5G V2X products.

**Yaxon Network 5G OBU: integrate 5G mobile communication, GPS/BeiDou Navigation Satellite System (BDS), and V2X communication.**

Yaxon Network 5G-V2X OBU supports Beidou centimeter-level high-precision positioning application. The device can collect all in-vehicle working condition data, location and traffic information, and communicates and interacts with off-vehicle equipment and data platforms via wireless communication modes like 4G/5G, V2X, WIFI and Bluetooth, building an omnidirectional network for V2V (vehicle to vehicle), V2P (vehicle to pedestrian), V2I (vehicle to infrastructure) and V2C (vehicle to cloud) communications.

Yaxon Network 5G OBU has been seen in Zhengzhou Financial Island V2X Project, Xiamen Port Autonomous Driving V2X Project, SAIC-GM-Wuling V2X Project, and Fujian Expressway V2X Project.

**Yaxon Network 5G OBU**



**Zhengzhou Financial Island V2X Project (the model in the picture is Yutong Xiaoyu)**



**Hopechart 5G-V2X Product has undergone testing.** In regard to 5G-V2X R&D, Hopechart's V-BOX has been tested and installed by OEMs. This product integrates V2V, V2I, 5G and Beidou/GPS satellite positioning modules. Hopechart also works with OEMs on development of an OTA platform which is connected to terminals for commercial vehicle OTA updates.

**Hopechart V-BOX Prototype**



***Trend 3: the increase of young drivers will fuel transformation of commercial vehicle occupant entertainment terminals.***





The rising demand for intelligent connected cockpits comes with the increase of post-80s and post-90s drivers. At present, capabilities such as large display, voice, online entertainment and smartphone mirroring hold the trend.

For example, in terms of product form, the mainstream large-size displays for commercial vehicles have been enlarged to current 10 inches from original 7 inches, and some auto brands have begun trying to use 12-inch displays.

As for product features, mainstream functions of passenger cars, including online audio and video, voice recognition, remote control and smartphone mirroring, are making their way into commercial vehicles of manufacturers such as FAW Jiefang, Shaanxi Heavy Duty Automobile, Beiben Trucks and Foton Daimler, which have rolled out related products.

On April 19, 2021, Foton Daimler unveiled Auman Galaxy at Auto Shanghai, a super heavy truck that packs 12.3-inch LCD dashboard, 10-inch center console display, and built-in Foton e Home System that offers capabilities like driving behavior analysis, vehicle status check and maintenance reservation. Auman Galaxy also carries X-OS, China's first heavy truck intelligent operating system that enables a slump in fuel consumption and brings higher economic benefits.

## Installation of Large Center Console Displays by Some Brands

Brand	FAW Jiefang	Shaanxi Heavy Duty Automobile	Beiben Trucks	Foton Daimler
Product	JH6 Premium 550 Four-Season Version	Delong X5000	V3ET Elite Version Tractor	Auman Galaxy
Launch Time	2019H1	2019H2	2020H1	Oct. 2021
Console Display Size (Inches)	10	10	10.25 (8:3)	10
Picture of Display				
Main Features	<ul style="list-style-type: none"> <li>Navigation</li> <li>Bluetooth</li> <li>Online music</li> <li>Vehicle Wi-Fi</li> <li>Voice recognition</li> <li>Wake-up words: Hello, Jiefang</li> <li>Support of voice search of location, navigation settings and online music player</li> <li>Driving behavior analysis</li> <li>Driving track playback</li> <li>Mileage and fuel consumption statistics</li> <li>Vehicle failure reminder</li> <li>Vehicle repair and maintenance information push</li> <li>Smartphone mirroring</li> </ul>	<ul style="list-style-type: none"> <li>Navigation (fleet grouping, traffic restriction reminder)</li> <li>Vehicle self-check system</li> <li>Online music (Kuwo Music)</li> <li>Smartphone interconnection (Baidu Carlife)</li> <li>Vehicle Wi-Fi</li> <li>Driving score</li> <li>Voice recognition</li> <li>Wake-up words: Hello, Delong</li> <li>Support of voice search of location and navigation settings</li> </ul>	<ul style="list-style-type: none"> <li>Navigation</li> <li>One-stop inquiry of surrounding service stations</li> <li>Online music and movies</li> <li>Vehicle failure detection</li> <li>Driving record check</li> <li>Fuel consumption detection</li> <li>Vehicle detection</li> <li>Irregular driving behavior reminder</li> <li>WeChat</li> </ul>	<ul style="list-style-type: none"> <li>X-OS heavy truck intelligent operating system</li> <li>Predictive driving based on electronic maps</li> <li>Fatigue driving detection</li> <li>Navigation</li> <li>Baidu Carlife</li> <li>Online infotainment</li> <li>Foton e Home</li> </ul>

Source: ResearchInChina

Differing from passenger car telematics focusing on occupant entertainment, commercial vehicle telematics prefers lower cost and higher efficiency. As cockpit capabilities get improved, the connected devices for commercial vehicles may increase ADAS intelligent driving modules for improving computing force of cockpits, and combine AI and big data analysis technologies to identify driving behaviors, reduce driving risks and fuel consumption, and achieve efficient regulation.

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## Beijing Headquarters

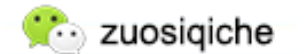
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