

# Sales volume of passenger cars equipped with OEM DVRs increased by 52.5% year-on-year in 2022 H1

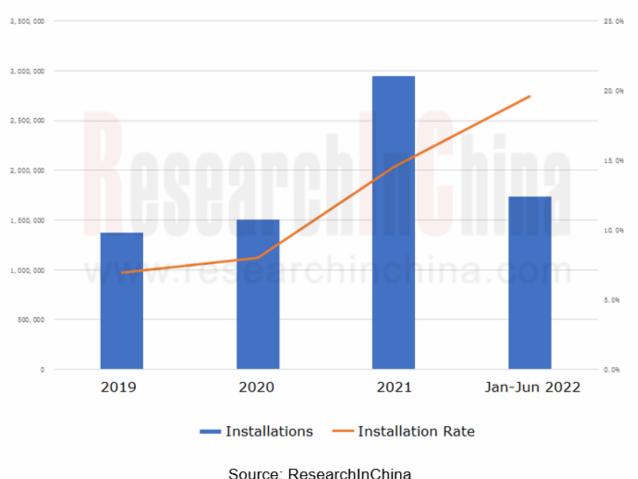
Driving recorder research: sales volume of passenger cars equipped with OEM DVRs increased by 52.5% year-on-year in 2022 H1

In April 2021, the Ministry of Industry and Information Technology stipulated: "Each passenger car should be equipped with an event data recorder (EDR) that complies with GB 39732. The passenger car equipped with an automotive video driving record system (driving recorder/ digital video recorder) that complies with GB/T 38892 should be deemed to meet the requirements." The regulation has been applied to newly produced vehicles from January 1, 2022. As EDRs has become the standard configuration of new cars, the OEM installation rate of driving recorders/digital video recorders (DVRs) has also risen.

# In 2022H1, the sales volume of passenger cars equipped with OEM DVRs increased by 52.5% year-on-year

From a monthly trend, the OEM installation rate of driving recorders in passenger cars (note: the sales proportion of passenger cars with driving recorder as standard configuration as a percentage of the total passenger car sales volume) jumped from 8.9% in April 2021 to 21.9% in June 2022.

On annual basis, the OEM installation rate of driving recorders in passenger cars hit 7.0% in 2019, 8.0% in 2020, 14.5% in 2021, and 19.6% in 2022H1. It is expected to be 22% in the entire 2022.



#### Installations and Installation Rate of OEM Driving Recorders in China, 2019-2022



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#### Independent brands and new energy vehicles are the main roles that include driving recorders into standard configuration

The installation rate of driving recorders as standard configuration for independent brand models has been at a relatively high level, reaching 19.3% in 2019 when joint venture brands only secured 0.2%. In 2022, independent brand models will achieve installation rate of 29.4% as the main force in the standard configuration of driving recorders.

However, since 2021, the installation rate of joint venture brands has made progress quickly, from 2.0% in 2020 to 8.4% in 2021 and 11.6% in 2022H1. Compared with 2019, it increased by 11.4 percentage points, higher than 10.1 percentage points gained by independent brands.

Installation Rate of OEM Driving Recorders in China (Joint Venture/Independent

Brands), 2019-2022

|                          |                      | ••    |       |              |
|--------------------------|----------------------|-------|-------|--------------|
| Vendors                  | 2019                 | 2020  | 2021  | Jan-Jun 2022 |
| Joint ventures           | 0.2%                 | 2.0%  | 8.4%  | 11.6%        |
| Independent<br>companies | 1 <mark>9.3</mark> % | 19.1% | 22.9% | 29.4%        |
| Total                    | 7.0%                 | 8.0%  | 14.5% | 19.6%        |
|                          |                      |       |       |              |

Source: ResearchInChina

The installation rate of OEM driving recorders for new energy vehicles swelled by 14.3 percentage points from 20.4% in 2019 to 34.7% in 2022H1. For traditional fuel vehicles, the installation rate rose by 7.6 percentage points from 6.2% in 2019 to 13.8% in 2022H1. The growth in the sales volume of new energy vehicles also led to the growth of OEM driving recorders.

#### Installation Rate of OEM Driving Recorders in China (New Energy/Fuel Vehicles),

2019-2022

|                        | 2019                | 2020           | 2021  | Jan-Jun 2022 |
|------------------------|---------------------|----------------|-------|--------------|
| New energy<br>vehicles | 20 <mark>.4%</mark> | 24.9%          | 30.1% | 34.7%        |
| Fuel vehicles          | 6. <mark>2%</mark>  | 6.5%           | 11.3% | 13.8%        |
| Total                  | 7.0%                | 8.0%           | 14.5% | 19.6%        |
|                        |                     | Deserved la Ob |       |              |

Source: ResearchInChina



By the sales volume of models with driving recorders as standard in 2022H1, the top five brands included BYD (345,000 units), Nissan (284,000 units), Tesla (198,000 units), Changan Automobile (187,000 units) and Geely (82,000), with the respective installation rate as standard configuration of 58.8%, 76.9%, 100.0%, 46.7% and 21.2%. Chinese local new energy vehicle brands Li Auto and NIO regard driving recorders as standard, while traditional brands BMW and Mercedes-Benz only install OEM driving recorders on 12.2% and 10.4% of their vehicles respectively.

Top20 Brands by Installation Rate of OEM Driving Recorders in China, Jan-Jun

2022

| Brands                         | Sales volume of models with driving recorders as standard | Installation rate of driving<br>recorders |  |  |  |
|--------------------------------|---|---|--|--|--|
| BYD                            | 344,786   | 58.8%                                     |  |  |  |
| Dongfeng Nissan                | 284,315   | 76.9%                                     |  |  |  |
| Tesla                          | 198,196   | 100.0%                                    |  |  |  |
| Changan Automobile             | 180,714   | 46.7%                                     |  |  |  |
| Geely                          | 82,116  | 21.2%                                     |  |  |  |
| Li Auto                        | 60,801  | 100.0%                                    |  |  |  |
| Grea <mark>t Wall T</mark> ank | 54,861  | 100.0%                                    |  |  |  |
| NIO                            | 49,439  | 100.0%                                    |  |  |  |
| BMW                            | 37,678  | 12.2%                                     |  |  |  |
| Grea <mark>t Wall HAVAL</mark> | 37,088  | 15.9%                                     |  |  |  |
| Geely Lynk & Co                | 32,097  | 40.5%                                     |  |  |  |
| Mercedes-Benz                  | 29,808  | 10.4%                                     |  |  |  |
| Changan COS                    | 28,989  | 33.6%                                     |  |  |  |
| Leapmotor                      | 27,498  | 59.6%                                     |  |  |  |
| GAC Trumpchi                   | 25,605  | 18.2%                                     |  |  |  |
| Chery                          | 21,702  | 17.7%                                     |  |  |  |
| SAIC Roewe                     | 20,409  | 15.5%                                     |  |  |  |
| ZEEKR                          | 18,816  | 100.0%                                    |  |  |  |
| Neta                           | 18,710  | 31.8%                                     |  |  |  |
| BEIJING                        | 16,803  | 41.8%                                     |  |  |  |
|                                | Source: ResearchInChina                                   |   |  |  |  |

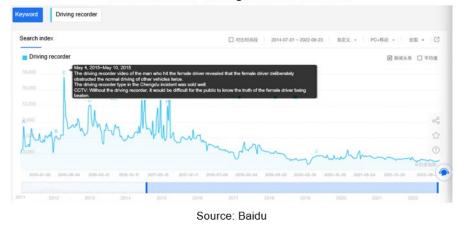


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# Driving recorder technology integration: ADAS, streaming media and intelligence

Driving recorders are undoubtedly indispensable for Chinese car owners. In 2015, the driving recorder video incident directly spurred the driving recorder aftermarket where 10 million driving recorders were sold that year as the best-selling automotive electronic products on Double 11, a Chinese unofficial ecommerce holiday and shopping festival similar to Black Friday in the U.S.

Search Index of "Driving Recorder" on Baidu



addition navigation, to In accident frauds, preventing handling traffic assisting in accident disputes and electronic violation disputes, driving recorders offer more and more functions. With the development of automotive intelligent connectivity, functions such as electronic fence. parking monitoring and alarm, and even ADAS functions like LDWS and FCWS have become standard for driving recorders, but AM driving recorders only integrate the most basic ADAS functions due to limitations of hardware, software and vehicle data acquisition.

With a higher installation rate, driving recorders can share the inputs (cameras) and outputs (displays) with other smart cockpit devices, which not only saves costs, but also better realizes integration of intelligent connection functions.

#### Typical Functions of AM Driving Recorders







LDWS Lane Departure Warning System 车道偏离报警技术

ISRM Internet + Smart Rearview Mirror 互联网+智能后视镜技术

LCF Fliter 滤光校正技术







WDRI Range Imaging 宽动态影像技术

SIS Semantic Interaction 语义交互技术

GPS+Beidou Positioning GPS+北斗双模技术



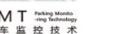




IFI ₩ireless <sup>Fidelity</sup> 线连接技术

FCWS Front Collision 前方防碰撞报警技术 BVC Sluetooth Voice Command 全屏后视技术





SSDS Split Screen Disputy System

FABC Frent And Back Camera 前后双录技术

Source: JADO SMART

分屏显示技术



## **Comparison between Aftermarket Smart Cloud Mirrors**

| Product                                     | Price<br>(RMB) | How<br>to fix | СРИ                         | Wide-angle lens           | Operati<br>ng<br>temper<br>ature | Power supply  | Intelligen<br>t voice<br>interactio<br>n | AD<br>AS | Reve<br>rse<br>imag<br>e | Driving<br>recorder |
|---|----------------|---------------|-----------------------------|---------------------------|----------------------------------|---|--|----------|--------------------------|---------------------|
| YI Smart<br>Rearview<br>Mirror              | 199-<br>269    | Strap<br>-on  | MTK<br>MT86<br>65           | Front: 140°               | -10℃<br>~60℃                     | Cigarette lighter   | V  | 7        | ×                        | N                   |
| LNDU Smart<br>Rearview<br>Mirror            | 349-<br>929    | Strap<br>-on  | Huaw<br>ei<br>Hisilic<br>on | Front: 170°/Back:<br>140° | -20℃<br>~70℃                     | Cigarette<br>lighter/decompre<br>ssion wire<br>connected to<br>crispers or<br>batteries | V  | ~        | N                        | V                   |
| MapGoo<br>Smart<br>Rearview<br>Mirror X8S   | 699            | Strap<br>-on  | -                           | Front: 150°/Back:<br>110° | -20°C<br>~65°C                   | Cigarette lighter   | ~  | V        | N                        | V                   |
| 360 Smart<br>Rearview<br>Mirror S650        | 748            | Strap<br>-on  | MTK<br>MT86<br>65           | Front: 140°/Back:<br>130° | -20°C<br>~70°C                   | Cigarette lighter   | 1  | V        | N                        | V                   |
| Xiaomi 70Mai<br>Rearview<br>Mirror          | 799            | Strap<br>-on  | MTK<br>MT86<br>65           | Front: 140°/Back:<br>130° | -20°C<br>~70°C                   | Cigarette lighter   | √  | V        | N                        | V                   |
| Xiaomi Mijia<br>Smart<br>Rearview<br>Mirror | 999            | Strap<br>-on  | MTK<br>MT86<br>65           | Front: 150°/Back:<br>138° | -20℃<br>~70℃                     | Cigarette lighter   | ~  | V        | V                        | N                   |
| Duxiaojing<br>Smart<br>Rearview<br>Mirror   | 999            | Strap<br>-on  | SL85<br>41E                 | Front: 90°                | _                                | Cigarette lighter   | ~  | V        | ×                        | V                   |

#### Comparison between Aftermarket Smart Cloud Mirrors



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