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Global and China Electronic Rearview Mirror Industry Report, 2024

July 2024

Electronic internal rearview mirrors are growing rapidly, and electronic external rearview mirrors are facing growing pains

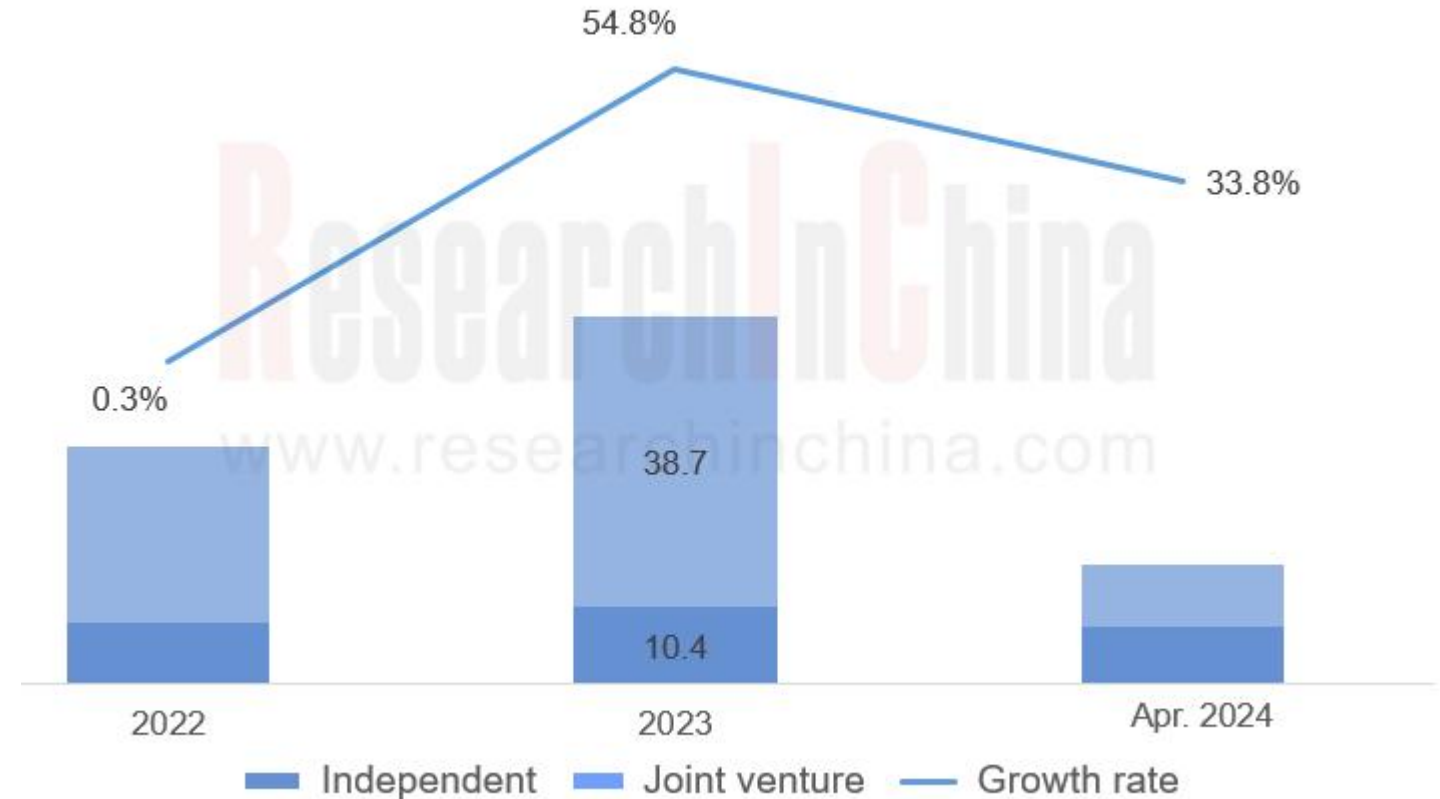
Research on electronic rearview mirrors: electronic internal rearview mirrors are growing rapidly, and electronic external rearview mirrors are facing growing pains

ResearchInChina released "Global and China Electronic Rearview Mirror Industry Report, 2024", which summarizes the development status, loading situation, supplier product layout, and supply chain layout of global and Chinese electronic rearview mirrors, and forecasts the future development trend of electronic rearview mirrors.

1. Streaming media rearview mirror: assembly volume is growing rapidly, and market landscape of TOP 5 has changed

In 2023, the assembly volume of new passenger car electronic rearview mirrors hit 491,000 units, an increase of 54.8% year-on-year. From January to April 2024, the assembly volume of streaming media rearview mirrors was 159,000 units, an increase of 33.8% year-on-year.

Assembly Volume of Streaming Media Rearview Mirrors for Passenger Car (Independent/Joint Venture) in China, 2022-2024
(10,000 units)



Source: ResearchInChina

TOP 5 market pattern

From the perspective of suppliers, Yuanfeng Technology is still in the leading position in the industry, but CR5 decreases from January to April 2024, and market competition intensifies.

From January to April 2024, compared with 2023, the TOP 5 market pattern of electronic internal rearview mirrors changed, with Yuanfeng and Gentex still ranking among the top two. OFILM replaced Huayang in the third place, and FinDreams Technology entered the top five.



Parameter Comparison of Fourth-generation and Fifth-generation Streaming Media Rearview Mirrors of Yuanfeng Technology

Yuanfeng Technology's fifth-generation streaming media rearview mirror products have improved in imaging time, image delay, overexposure, lens halo interference, and rearview mirror image distortion compared with the fourth-generation streaming media rearview mirror products. The specific comparison is as follows:

Parameter Comparison of Fourth-generation and Fifth-generation Streaming Media Rearview Mirrors of Yuanfeng Technology

Product Parameters	Fourth-generation Streaming Media Rearview Mirror	Fifth-generation Streaming Media Rearview Mirror	Regulatory Requirements
Imaging time	25ms	< 12.5ms	< 55ms
System image delay	< 50ms	< 25ms	< 200ms
Overexposure and lens flare interference	< 20%	< 10%	< 25%
Rearview mirror image distortion	5.5%	< 2%	< 20%

Source: ResearchInChina

2. Installation of CMS is less than expected, facing growth troubles

At present, users encounter the following problems when using electronic exterior mirrors:

Screen position needs to be adapted: The position of electronic external rearview mirror screen setting is lower than that of the physical rearview mirror. Users need to adjust the habit of looking at rearview mirror, and the field of vision needs to be lowered, which takes some time to adapt;

Focusing the screen back and forth can cause eye discomfort: the electronic rearview mirror screen is closer to the eye and is an optical screen. When the user reflexively looks at the physical external rearview mirror, the angle of head and the focus position of the eye need to be readjusted.

The screen field of view is slightly narrow: the screen of electronic rearview mirror is too small, the field of view of rearview mirror is a little narrow, and the electronic rearview mirror cannot change the angle at any time and cannot change with the field of view;

It is difficult to accurately determine the distance of the rear car in electronic rearview mirror: Looking at electronic rearview mirror, the rear vehicle looks obviously far away, but when actually looking back, the vehicle is close to the side of the body, the distance is inaccurate, and the user will have uncertainty when changing lanes.

There will be a little delay in the screen, and users are also worried about blue screen, black screen, stuck and other problems;

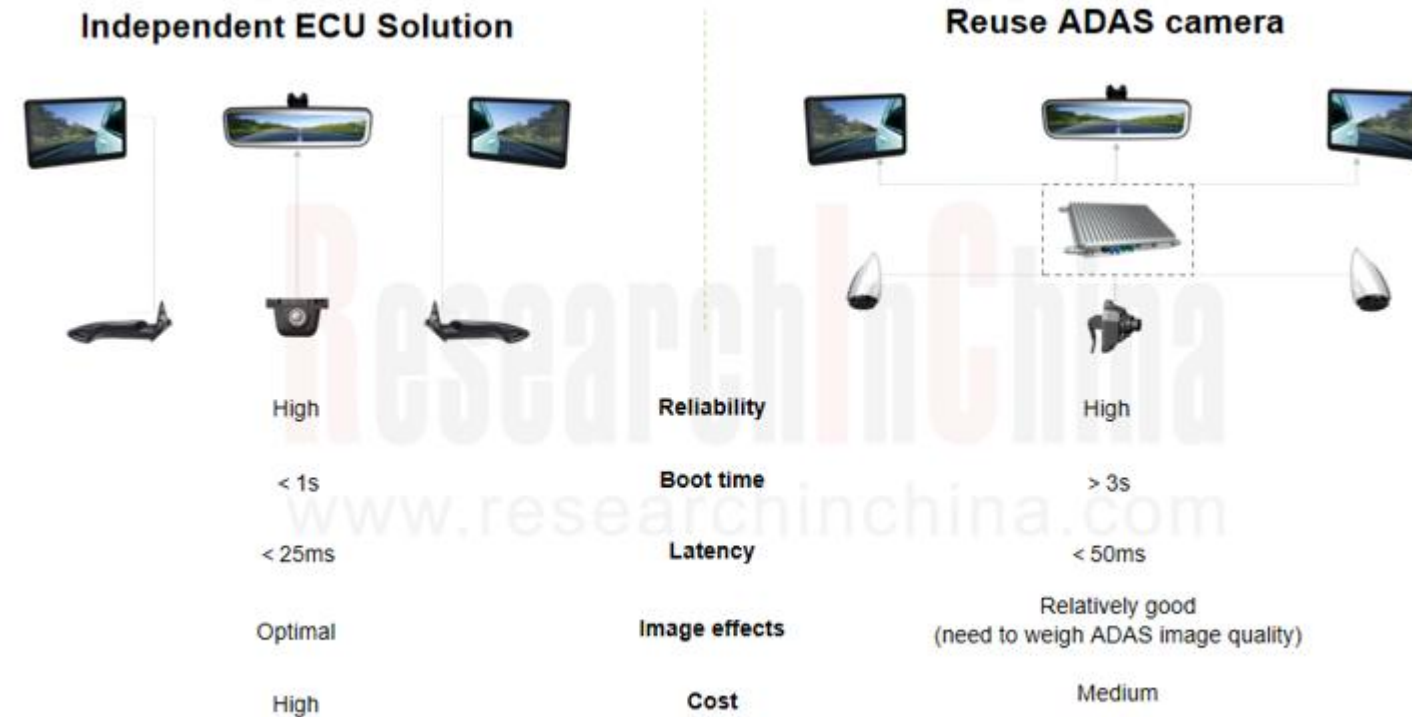
The control authority of head unit is not enough: for example, the heating function of electronic rearview mirror of a certain model needs to be found on the secondary interface. The voice control authority of head unit is too low. When the rearview mirror fogs on highway, the user can only operate blindly.

In addition, the high price of electronic external rearview mirror itself is also an important factor affecting its development. At present, existing models have HUD with digital rearview mirror image function, which can project the blind spot image on both sides of the body on HUD, realizing low-cost function of CMS. Users do not need to pay any fees to use "similar electronic rearview mirror" function. If CMS supplier cannot solve the above problems when using, and the CMS is not recognized by users, the electronic rearview mirror may be replaced by display terminal of this "similar electronic rearview mirror" function.

Electronic Rearview Mirror Solution of Yuanfeng Technology

Faced with this situation, CMS suppliers need to improve user experience of CMS products and reduce CMS costs. In terms of cost reduction, Yuanfeng Technology has launched CMS products that support independent ECUs and reused ADAS architectures, which can be more easily adapted to vehicle development, and ADAS cameras reuse can also reduce CMS costs.

Electronic Rearview Mirror Solution of Yuanfeng Technology

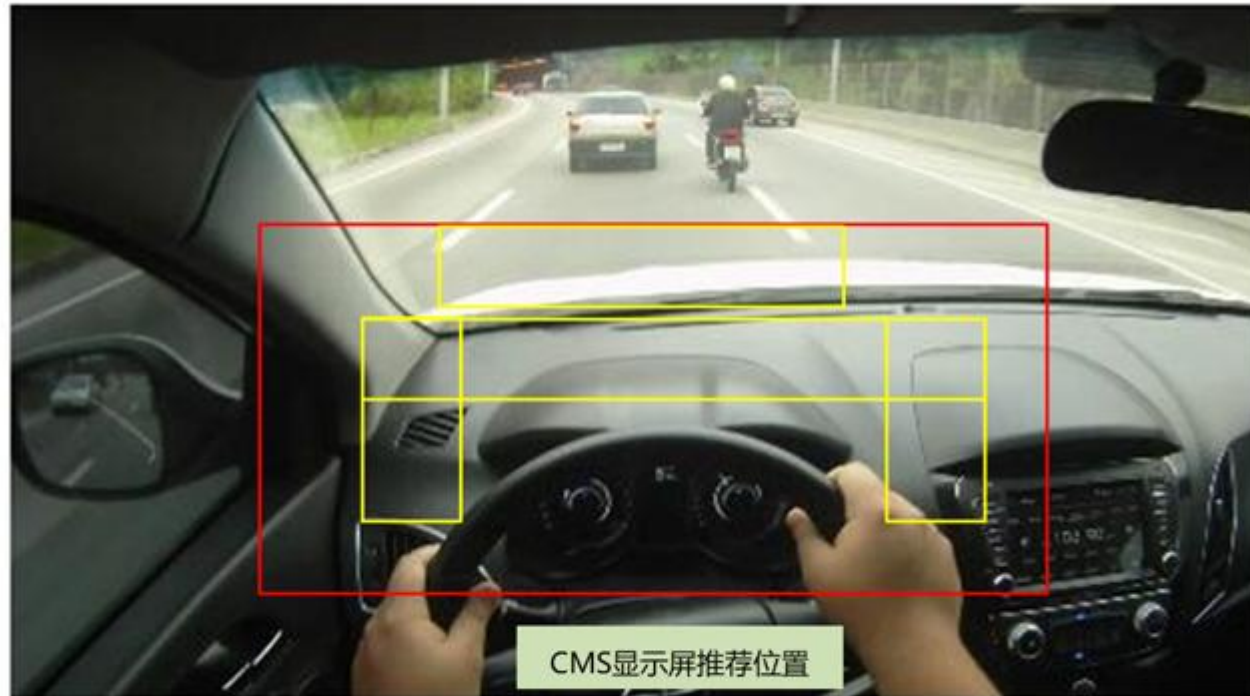


Source: ResearchInChina

Future CMS Display Layout

From the user experience of product, the placement of CMS display is an important part that affects user's driving experience. Common installation positions of CMS display are both sides of instrument, both sides of joint screen, left and right A pillars, and left and right door panels. From the perspective of product layout, the installation position of CMS display should comprehensively consider the integration of cockpit shape and convenience of driver's observation. The best position should be to allow driver to complete the field of vision observation without turning his head as much as possible.

Future CMS Display Layout



Source: Great Wall

There will be an intermediate transition product form of electronic exterior rearview mirrors in the future

3. There will be an intermediate transition product form of electronic exterior rearview mirrors in the future

Under the situation that CMS has not yet installed in volume, the appearance of CMS intermediate transition product form may be a new trend. It is undeniable that CMS has great advantages over traditional rearview mirrors in scenarios such as rain and fog, and the impact of bad road lighting environments. But for the current users who dare not rely solely on electronic rearview mirrors, can there be a form in which CMS coexists with traditional rearview mirrors, or can traditional rearview mirrors be retained and existing products be used to achieve CMS functions? At present, Li Auto and IM have realized the form of "similar electronic exterior rearview mirror" function by using existing products.

Taking Li Auto as an example, in May 2024, Li Auto's latest OTA 5.2 added HUD digital rearview mirror imaging function. This system directly calls the surround/side view camera, projects the blind spot images on both sides of car on HUD while the driver toggles steering lever, and can issue a blind spot alarm in time through HUD blind spot image. Although there is a large gap in image display clarity compared to CMS, the low-cost function of CMS is realized.

Li Auto OTA 5.2 adds HUD digital rearview mirror imaging function



Source: Li Auto

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