

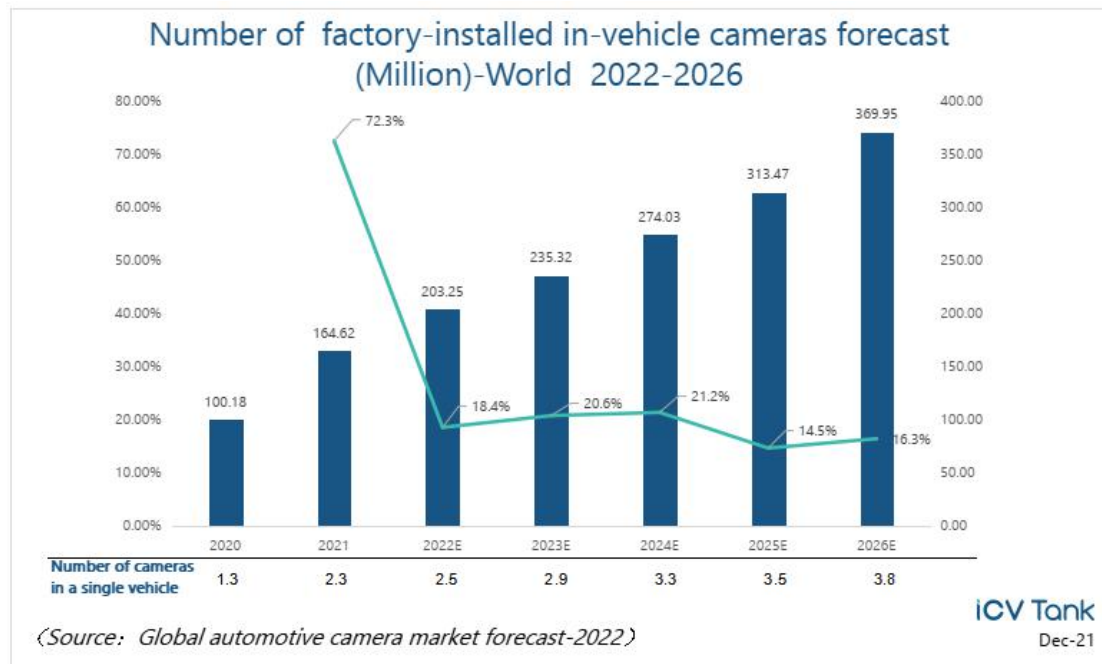
ICV-Global Passenger Cars Are Expected to Have an Average of 3.8 Cameras per Vehicle by 2026



In-Vehicle Camera—the eye of smart car—is used in large numbers in vehicle such as Tesla and NIO due to its low price and important functionality. The global automated vehicles are expected to grow by leaps in 2021, normally, Level 1 (L1) vehicle equipped with 2 cameras and Level 2 (L2) vehicle equipped with 5 cameras. The penetration rate of L1 and above automated vehicles in 2021 has reached 73.62%, which is good news for global camera industry chain companies.

According to the report "Global automotive camera market forecast 2022" released by ICV, a leading cutting-edge technology consultancy, the global average number of vehicle configurations will be 2.3 cameras in 2021, which has a significant increase from 2020, and ICV expects this number will reach 3.8 cameras by 2026.

The total number of factory-installed cameras on vehicles worldwide will grow from about 165 million in 2021 to 370 million in 2026, with an estimated CAGR of 16.2% from 2022-2026.



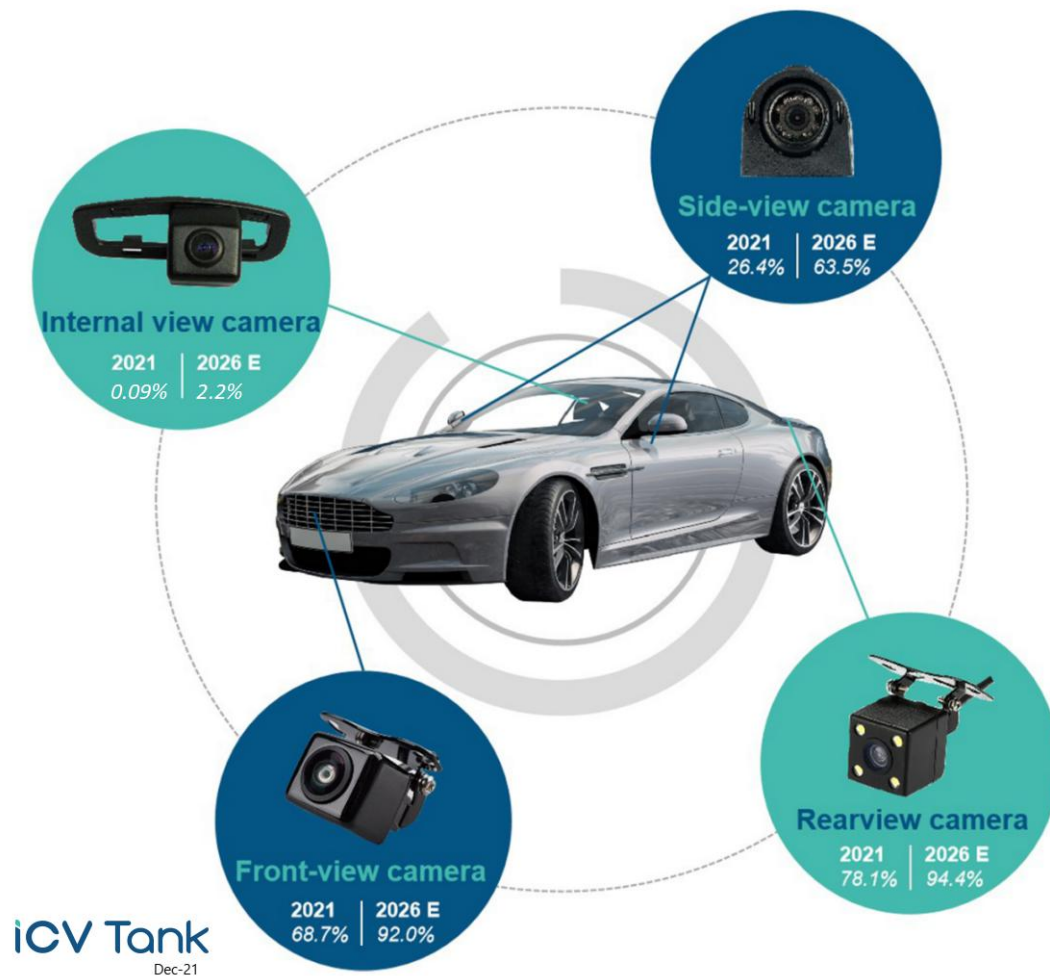
ICV's report states that the global automotive cameras market includes both factory installation and post-factory installation. The post-factory installation market is still a large-scale market, with the global automotive camera factory-installed market reaching US\$12.2 billion in 2021 and the post-factory installation market reaching US\$5.1 billion, accounting for 29% of the total. In the future, with the gradual increase in the penetration of smart cars, cameras will be configured at the factory stage, and the proportion of the post-factory installation market will gradually decline. ICV expects the global factory-installed market for automotive cameras to reach US\$30.6 billion by 2026, with the post-factory installation market only reaching US\$4.9 billion, shrinking to 14%.

ICV analyst Huber Clemens, has raised future market growth expectations in

this study. In 2020, the factory and post-factory installation market analyzed as a whole, while in 2021, ICV separately count the factory installation and post-factory installation, and focus on the factory-installed market, which has an important relationship with the development stage of smart cars.

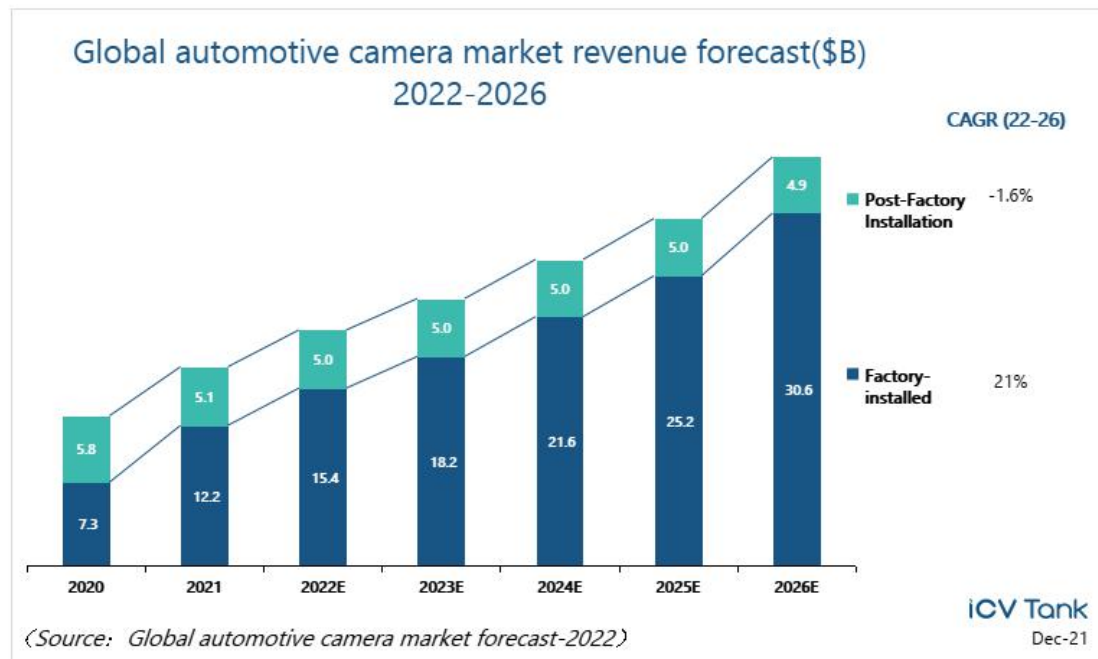
The report also pointed that penetration rate of factory-installed cameras in each position of car is inconsistent, with rear-view cameras currently having the highest penetration rate and side-view cameras having the lowest penetration rate. In 2021, the penetration rates of front-view, rear-view, side-view and side-view cameras were 68.7, 78.1%, 26.4% and 0.09% respectively, and the projected penetration rates of the four orientation cameras will reach 92.0%, 94.4%, 63.5% and 2.2% respectively in 2026.

Factory-installed in-vehicle camera penetration-world



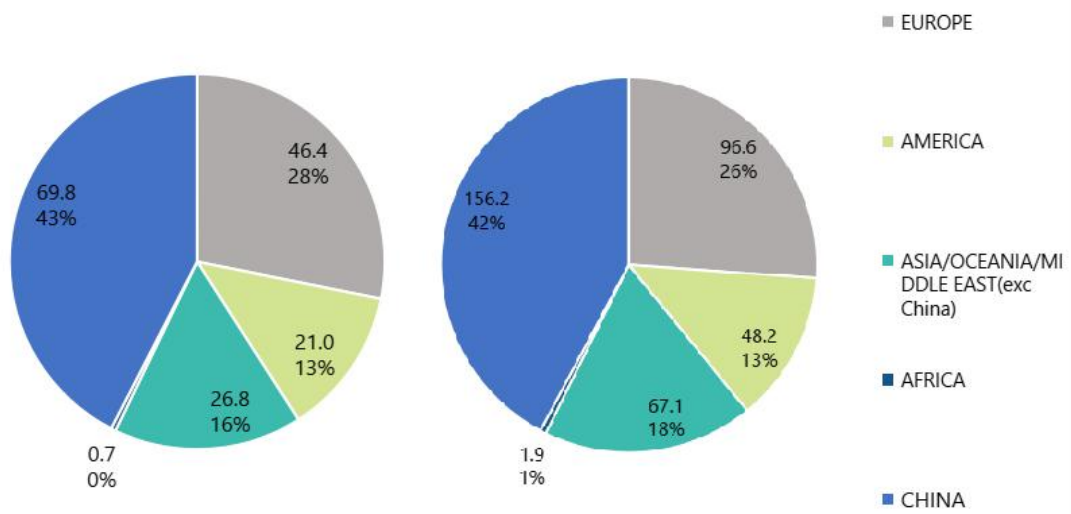
Huber Clemens also believes that the increasing predictability of global smart driving. As more and more countries begin to formulate regulations related to autonomous driving, it will promote more stakeholders invest smart driving industry. In addition, the major global camera industry (including CIS, lenses, motor drives or modules) is in China. As the proportion of Chinese manufacturers entering the supply chain of automotive-grade cameras increases, it will also further drive the development of the in-vehicle camera

industry.



ICV's report analyzes the global regional layout of the factory-installed camera market. According to the sales amount, the world's largest market for automotive camera sales is still in China, which account for 43% in 2021, followed by Europe (28%) , Asia/Oceania/Middle East (except China) with a combined share of 16%. The global market pattern does not change much over the next five years.

Global factory-installed in-vehicle cameras -By region



(Source: Global automotive camera market forecast-2022)

At ICV we are passionately curious about New Technology and we strive to deliver the most robust market data and insights, to help our customers make the right strategic decisions.

We are currently focusing on cutting-edge technologies such as intelligent driving, quantum and AI, and new energy.

We bring together the deepest intelligence across the widest set of capital-intensive industries and markets. By connecting data across variables, our analysts and industry specialists present our customers with a richer, highly integrated view of their world.

That is the benefit of The New Intelligence. We're able to isolate cause and effect, risk and opportunity in new ways that empower our customers to make well-informed decisions with greater confidence.



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