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Global Passenger Car Vision Industry Chain Report 2021

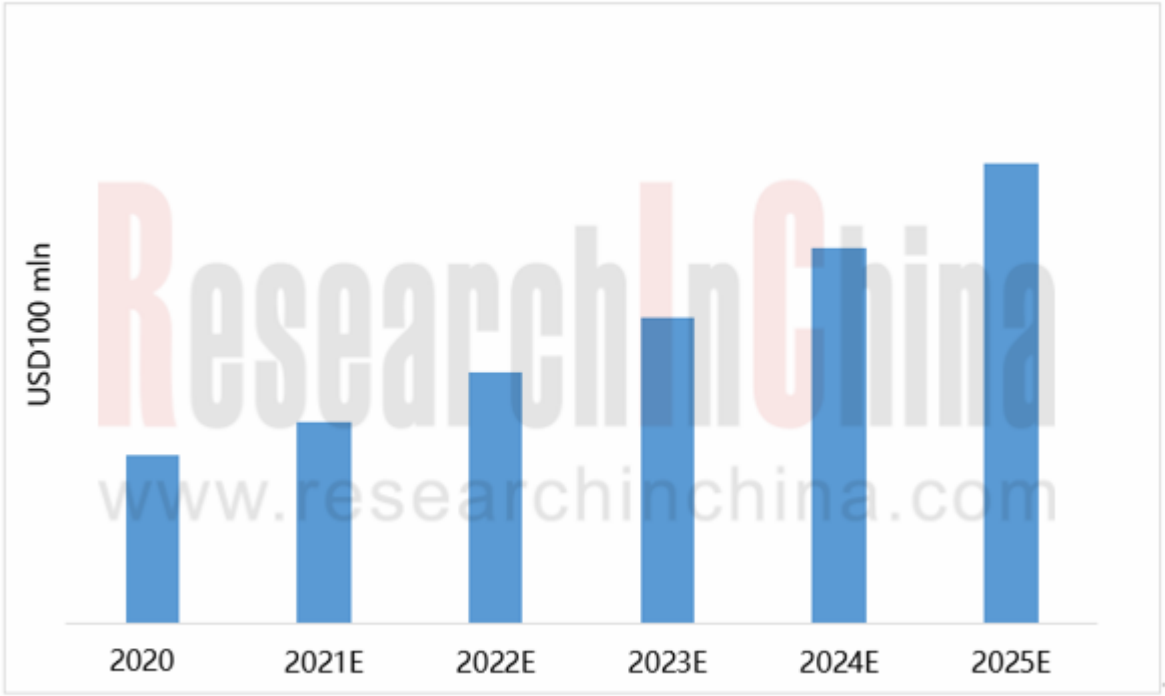
Abstract

ResearchInChina has released Global Passenger Car Vision Industry Chain Report 2021 to analyze and predict global camera technology and market trends, and conduct research on global mainstream camera vendors.

With policies support of governments worldwide, the rapid development of automotive intelligence has promoted the continuous growth of automotive cameras. The global passenger car camera market was worth USD7.02 billion in 2020, and is expected to hit USD19.26 billion in 2025.

In terms of segmented products, in-car surveillance cameras will be a growth engine in the future. In 2018, Japan's ``Preparation Outline for Autonomous Driving Systems" required vehicles with autonomous driving functions to record steering wheel operations and the operating conditions of autonomous driving systems. The ADAS directive of "Europe on the Move" issued in 2019 stipulates that all new vehicles must be equipped with "Drowsiness Warning System" and "Distraction Recognition and Prevention System" from May 2022. In 2024, all vehicles in stock must be equipped with the above functions.

Global Passenger Car Camera Market Size, 2020-2025E



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Endeavored by the government and policies, global camera vendors are following market trends and developing new products to meet the demand for advanced autonomous driving. On the one hand, they expand product lines and strive for a complete range of products. Denso develops electronic rear view mirrors based on monocular, binocular, night vision, surround view, internal vision and other products. Magna has already offered a variety of vision products such as Front View monocular cameras, surround view cameras, side view cameras, internal view DMS, internal view OMS, and internal view rear monitors. It plans to mass-produce interior rear view mirrors in 2022. Combined with cameras, mirrors and software products, the rear view mirrors feature a frameless design and can be electronically switched between traditional rear view mirrors and video displays which can customize the field of view.

Vision Products and Customers of Some Major Camera Vendors in The World

Vendors	Front View			Surround View	Side View	Rear View	Internal Vision	Customers
	Monocular	Binocular	Others					
Denso	√	√	√ Night vision	√	-	-	√ DMS	Daihatsu, Toyota Alphard, Vellfire, Crown, Corolla
Bosch	√	√	-	√ Automated parking	-	-	√ DMS OMS	Mercedes-Benz, SAIC, GAC, Changan, GM, Volkswagen, BMW
Aptiv	√	-	-	-	-	-	-	Audi, SAIC, Volkswagen, GM
Veoneer	√	√	√ Night vision	-	-	-	√ DMS	Mercedes-Benz, Subaru, Renault, Volkswagen, BMW, Volvo, Cadillac
Continental	√	√	-	√	-	√	√ DMS	Volkswagen, Ford, GM, Mazda, Audi, Fiat
ZF	√ Trinocular included	√	-	√ Remote camera	√	-	√ DMS OMS	Volkswagen, FAW, GM, Toyota, Honda, Nissan
MCNEX	√ Trinocular included	-	√ Night vision	√	√	√	√ DMS OMS	Hyundai, Kia, Geely, Beijing Hyundai, Dongfeng Kia
Magna	√	-	-	√	√	√ Mass production in 2022	√ DMS OMS	Honda, BMW, GM, Volkswagen, Mercedes-Benz, Ford, Hyundai
Valeo	√	-	-	√	√	-	√ DMS OMS	Nissan, Audi, GM, Volvo, Hyundai, Honda, Toyota
Faurecia	-	-	-	√ Memory parking	√	√	-	Volkswagen, Fiat, Ford

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On the other hand, enhanced visual recognition and algorithms are integrated with other products to offer diverse functions. In June 2021, ZF and CalmCar cooperated to develop an automated valet parking system based on surround view. The system includes ZF's four surround view 192° fisheye cameras, CalmCar's ultrasonic radar and 360° surround view perception software solutions. Bosch and Hyundai Mobis plan to produce the "in-car monitoring system combined with artificial intelligence" and the "high-performance image recognition technology based on deep learning" in 2022 separately.

Finally, automotive vision should not only integrate autonomous driving functions, but also pay more attention to user experience. 3D surround view will prevail. For example, the new Valeo 360Vue? 3D surround view system gives not only the aerial view of the vehicle, but also a 3D view of the vehicle in the car. The driver can clearly see all obstacles and blind sports near the vehicle. In February 2021, Magna released the 3D surround view system, which can directly see the surrounding environment of the vehicle through the 360° surround view camera to help the driver park and move the vehicle in a narrow space. This system is mainly used in luxury vehicles. In addition, Chinese 3D vision company Smarter Eye is also developing a 3D surround view system.

Valeo 360Vue® 3D Surround View System

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