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Global Wide-angle Automotive-grade LiDAR Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Wide-angle Automotive-grade LiDAR market size is expected to reach $ 2535 million by 2032, rising at a market growth of 15.8% CAGR during the forecast period (2026-2032).

In 2025, global Wide-angle Automotive-grade LiDAR production reached approximately 2500 K units, with an average global market price of around 350 USD/unit.

Wide-angle automotive-grade LiDAR (Light Detection and Ranging) is a high-precision, vehicle-specific remote sensing device that meets strict automotive industry reliability, durability, and performance standards, characterized by a horizontal field of view typically exceeding 120 degrees (up to 360 degrees for full-surround models) and a vertical FOV of 20-40 degrees. It emits laser beams, calculates the emission-reflection time difference to obtain distance data, and generates high-density 3D point clouds for real-time environmental reconstruction. Its wide-angle design comprehensively covers vehicle blind spots, providing critical environmental perception support for advanced driver assistance systems (ADAS) and autonomous driving, especially in complex urban scenarios to ensure driving safety.

The average single-line production capacity of Wide-angle Automotive-grade LiDAR is 120 K units, the average gross profit margin was 28.5%.

The industry chain of wide-angle automotive-grade LiDAR consists of three closely connected links: upstream, midstream, and downstream. The upstream link includes suppliers of core components, divided into optical components (laser emitters, receivers, lenses, filters), mechanical components (MEMS micromirrors, rotating motors), and electronic components (chips, converters). The midstream link comprises

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LiDAR integrators and software solution providers, which integrate upstream components into finished products, conduct vehicle-level testing and calibration, and develop supporting perception algorithms. The downstream link focuses on automotive-related application scenarios, including passenger cars, commercial vehicles, autonomous driving operations, and extended applications, with the automotive sector as the core application field.

The cost structure of wide-angle automotive-grade LiDAR is dominated by core components, with the overall cost showing a continuous downward trend. The main cost components and their weights are as follows: core optical components account for the largest proportion (45-55%), including laser emitters and receivers that determine key performance indicators; mechanical and electronic components account for 25-30%, with MEMS micromirrors (key for wide-angle scanning) and chips as the main parts; assembly and testing costs account for 10-15%, including component integration, reliability testing, and FOV calibration; R&D and other indirect costs account for 5-10%, covering chipization research, algorithm optimization, and compliance certification. Chipization design and large-scale production have driven significant cost reduction and optimized component cost proportions.

The demand for wide-angle automotive-grade LiDAR is mainly driven by the iterative upgrading of ADAS and autonomous driving technologies, as its wide field of view can effectively make up for the perception blind spots of other sensors and provide necessary safety redundancy, which has become an essential configuration for high-level autonomous driving. With the continuous cost reduction brought by technological iteration and large-scale production, its application has gradually expanded from high-end models to mainstream models, while the rising demand for autonomous commercial vehicles, low-speed autonomous travel tools and intelligent robots has further expanded the demand space. Corresponding business opportunities are concentrated in several aspects: the optimization and localization of core components to reduce costs and improve supply stability, the research and development of integrated solutions combining wide-angle LiDAR with other sensors to enhance perception accuracy, and the expansion of extended application scenarios beyond the automotive field, all of which will bring sustained growth momentum to the industry.

This report studies the global Wide-angle Automotive-grade LiDAR production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Wide-angle Automotive-grade LiDAR and provides market size (US$ million) and Year-over-Year

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(YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Wide-angle Automotive-grade LiDAR that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Wide-angle Automotive-grade LiDAR total production and demand, 2021-2032, (K Units)

Global Wide-angle Automotive-grade LiDAR total production value, 2021-2032, (USD Million)

Global Wide-angle Automotive-grade LiDAR production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)

Global Wide-angle Automotive-grade LiDAR consumption by region & country, CAGR, 2021-2032 & (K Units)

U.S. VS China: Wide-angle Automotive-grade LiDAR domestic production, consumption, key domestic manufacturers and share

Global Wide-angle Automotive-grade LiDAR production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)

Global Wide-angle Automotive-grade LiDAR production by Laser Wavelength, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

Global Wide-angle Automotive-grade LiDAR production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Wide-angle Automotive-grade LiDAR market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Seyond, Rayz, Hesai Technology, Leishen Intelligent System, Huawei, Valeo, RoboSense, Luminar, Ouster, Innoviz, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

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Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Wide-angle Automotive-grade LiDAR market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Laser Wavelength, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Wide-angle Automotive-grade LiDAR Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Wide-angle Automotive-grade LiDAR Market, Segmentation by Laser Wavelength:

905nm LiDAR

1550nm LiDAR

Global Wide-angle Automotive-grade LiDAR Market, Segmentation by Scanning

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Technology:

- Mechanical LiDAR
- MEMS LiDAR
- Solid-State LiDAR

Global Wide-angle Automotive-grade LiDAR Market, Segmentation by Field of View:

- Narrow-Band Wide-Angle
- Ultra-Wide-Angle
- Panoramic 360°

Global Wide-angle Automotive-grade LiDAR Market, Segmentation by Application:

- Passenger Vehicles
- Commercial Vehicles

Companies Profiled:

- Seyond
- Rayz
- Hesai Technology
- Leishen Intelligent System
- Huawei
- Valeo

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RoboSense

Luminar

Ouster

Innoviz

Aeva

ZF

Cepton

AEye

Livox

Key Questions Answered:

1. How big is the global Wide-angle Automotive-grade LiDAR market?
2. What is the demand of the global Wide-angle Automotive-grade LiDAR market?
3. What is the year over year growth of the global Wide-angle Automotive-grade LiDAR market?
4. What is the production and production value of the global Wide-angle Automotive-grade LiDAR market?
5. Who are the key producers in the global Wide-angle Automotive-grade LiDAR market?
6. What are the growth factors driving the market demand?

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