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Global Wide-angle Automotive-grade LiDAR Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Wide-angle Automotive-grade LiDAR market size was valued at US$ 900 million in 2025 and is forecast to a readjusted size of US$ 2535 million by 2032 with a CAGR of 15.8% during review period.

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,

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receivers, lenses, filters), mechanical components (MEMS micromirrors, rotating motors), and electronic components (chips, converters). The midstream link comprises 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 is a detailed and comprehensive analysis for global Wide-angle Automotive-grade LiDAR market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Laser Wavelength and by Application. As the

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market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Wide-angle Automotive-grade LiDAR market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Wide-angle Automotive-grade LiDAR market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Wide-angle Automotive-grade LiDAR market size and forecasts, by Laser Wavelength and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Wide-angle Automotive-grade LiDAR market shares of main players, shipments in revenue ($ Million), sales quantity (K Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries
To assess the growth potential for Wide-angle Automotive-grade LiDAR
To forecast future growth in each product and end-use market
To assess competitive factors affecting the marketplace
This report profiles key players in the global Wide-angle Automotive-grade LiDAR market based on the following parameters - company overview, sales quantity, revenue, 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.

Market Segmentation

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Wide-angle Automotive-grade LiDAR market is split by Laser Wavelength and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Laser Wavelength, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Laser Wavelength

905nm LiDAR

1550nm LiDAR

Market segment by Scanning Technology

Mechanical LiDAR

MEMS LiDAR

Solid-State LiDAR

Market segment by Field of View

Narrow-Band Wide-Angle

Ultra-Wide-Angle

Panoramic 360°

Market segment by Application

Passenger Vehicles

Commercial Vehicles

Major players covered

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Seyond

Rayz

Hesai Technology

Leishen Intelligent System

Huawei

Valeo

RoboSense

Luminar

Ouster

Innoviz

Aeva

ZF

Cepton

AEye

Livox

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)
Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)
Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)
South America (Brazil, Argentina, Colombia, and Rest of South America)
Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

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The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Wide-angle Automotive-grade LiDAR product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Wide-angle Automotive-grade LiDAR, with price, sales quantity, revenue, and global market share of Wide-angle Automotive-grade LiDAR from 2021 to 2026.

Chapter 3, the Wide-angle Automotive-grade LiDAR competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Wide-angle Automotive-grade LiDAR breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Laser Wavelength and by Application, with sales market share and growth rate by Laser Wavelength, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Wide-angle Automotive-grade LiDAR market forecast, by regions, by Laser Wavelength, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Wide-angle Automotive-grade LiDAR.

Chapter 14 and 15, to describe Wide-angle Automotive-grade LiDAR sales channel, distributors, customers, research findings and conclusion.

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