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Global Wide-angle Automotive-grade LiDAR Market Growth 2026-2032

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Abstracts

The global Wide-angle Automotive-grade LiDAR market size is predicted to grow from US$ 856 million in 2025 to US$ 2536 million in 2032; it is expected to grow at a CAGR of 16.8% from 2026 to 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.

LP Information, Inc. (LPI) ' newest research report, the ?Wide-angle Automotive-grade LiDAR Industry Forecast? looks at past sales and reviews total world Wide-angle Automotive-grade LiDAR sales in 2025, providing a comprehensive analysis by region and market sector of projected Wide-angle Automotive-grade LiDAR sales for 2026 through 2032. With Wide-angle Automotive-grade LiDAR sales broken down by region,

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market sector and sub-sector, this report provides a detailed analysis in US$ millions of the world Wide-angle Automotive-grade LiDAR industry.

This Insight Report provides a comprehensive analysis of the global Wide-angle Automotive-grade LiDAR landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on Wide-angle Automotive-grade LiDAR portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms? unique position in an accelerating global Wide-angle Automotive-grade LiDAR market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for Wide-angle Automotive-grade LiDAR and breaks down the forecast by Laser Wavelength, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global Wide-angle Automotive-grade LiDAR.

This report presents a comprehensive overview, market shares, and growth opportunities of Wide-angle Automotive-grade LiDAR market by product type, application, key manufacturers and key regions and countries.

Segmentation by Laser Wavelength:

905nm LiDAR

1550nm LiDAR

Segmentation by Scanning Technology:

Mechanical LiDAR

MEMS LiDAR

Solid-State LiDAR

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Segmentation by Field of View:

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

Segmentation by Application:

- Passenger Vehicles
- Commercial Vehicles

This report also splits the market by region:

- Americas
  - United States
  - Canada
  - Mexico
  - Brazil
- APAC
  - China
  - Japan
  - Korea
  - Southeast Asia
  - India

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Australia

Europe

Germany

France

UK

Italy

Russia

Middle East & Africa

Egypt

South Africa

Israel

Turkey

GCC Countries

The below companies that are profiled have been selected based on inputs gathered from primary experts and analysing the company's coverage, product portfolio, its market penetration.

Seyond

Rayz

Hesai Technology

Leishen Intelligent System

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Huawei

Valeo

RoboSense

Luminar

Ouster

Innoviz

Aeva

ZF

Cepton

AEye

Livox

Key Questions Addressed in this Report

What is the 10-year outlook for the global Wide-angle Automotive-grade LiDAR market?

What factors are driving Wide-angle Automotive-grade LiDAR market growth, globally and by region?

Which technologies are poised for the fastest growth by market and region?

How do Wide-angle Automotive-grade LiDAR market opportunities vary by end market size?

How does Wide-angle Automotive-grade LiDAR break out by Laser Wavelength, by Application?

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13 KEY PLAYERS ANALYSIS

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