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Global LIDAR for Autonomous System Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

https://marketpublishers.com/r/G8075168E453EN.html
Date: August 2026
Pages: 113
Price: US$ 3,480.00 (Single User License)
ID: G8075168E453EN

Abstracts

According to our (Global Info Research) latest study, the global LIDAR for Autonomous System market size was valued at US$ 1217 million in 2025 and is forecast to a readjusted size of US$ 3015 million by 2032 with a CAGR of 14.6% during review period.

LiDAR serves as the core perception sensor of an autonomous driving system, emitting laser pulses and measuring their time-of-flight to generate high-precision 3D point cloud data of the surrounding environment, providing real-time centimeter-level environmental modeling. Its primary objective is to achieve obstacle detection, object classification, and motion state estimation in complex traffic scenarios, compensating for the perception deficiencies of cameras under low-light, strong backlight, and long-distance conditions, while complementing millimeter-wave radar to ensure reliable perception redundancy in adverse weather such as rain, fog, and dust. Through multi-beam scanning and solid-state design, the sensor maintains real-time tracking accuracy of dynamic targets at high speeds, and leverages multi-echo technology to penetrate partial obstructions and extract critical contour information, thereby delivering unambiguous map-level structured data to the path planning and decision-making modules. Ultimately, this multi-layer data fusion enables the autonomous system to accurately resolve the spatial-temporal relationship between the ego vehicle and its environment, sustaining functional safety in extreme edge cases and achieving a fully deterministic closed-loop chain from environmental perception to behavior prediction. In 2025, the global production of LiDAR for autonomous systems was 3.18 million units, with an average price of $372 per unit.

The future development trend of the LiDAR for Autonomous System industry is

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embodied in the dual-track reconstruction of technology and business. From the perspective of enterprise revenue and profit, mainstream LiDAR manufacturers are accelerating their transformation from pure hardware sales to "perception system integrators." According to the official annual report of Hesai Technology, its strategic focus has shifted from simply increasing LiDAR shipment volumes to creating recurring revenue through software subscriptions and feature upgrades. Meanwhile, Valeo emphasized in its investor communications that its third-generation LiDAR achieves deep integration with pre-fusion algorithms, a move intended to increase the gross profit contribution per unit rather than relying solely on scale expansion. The "Smart Vehicle Innovation and Development Strategy" issued by the Chinese government explicitly encourages reducing the cost of core sensors while improving their vehicle-grade reliability. This top-level design is driving enterprises to shift their profit center construction from generating point cloud data to providing more efficient supervision signals for backend algorithms. Notably, RoboSense mentioned in its quarterly business review that the increasing penetration rate of solid-state LiDAR in vehicles is significantly lowering hardware gross margins. However, industry leaders are hedging against this profit pressure by mastering dedicated chip design capabilities and vehicle-grade mass production yield control. Overall, the major future trend in the industry is no longer a simple price war, but a competition to provide the most stable perceptual confidence with the lowest latency in complex traffic environments, thereby converting system-level redundancy into a certainty premium that automakers are willing to pay for. The core of this transformation path lies in changing the role of LiDAR in the automotive supply chain from a "optional component" to a "high-value-added decision-making foundational part."

This report is a detailed and comprehensive analysis for global LIDAR for Autonomous System market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the 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 LIDAR for Autonomous System market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global LIDAR for Autonomous System market size and forecasts by region and country,

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in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global LIDAR for Autonomous System market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global LIDAR for Autonomous System 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 LIDAR for Autonomous System

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 LIDAR for Autonomous System 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 Aeva Technologies, AEye, Ouster, Valeo, Luminar Technologies, DENSO, Continental AG, Cepton, Innoviz, MicroVision, etc.

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

Market Segmentation

LIDAR for Autonomous System market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

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Market segment by Type

Mechanical Rotating LIDAR

Hybrid Solid-State LIDAR

All-Solid-State LIDAR

Market segment by Principle

Time-of-Flight (ToF)

Frequency Modulated Continuous Wave (FMCW)

Phase-based

Laser Triangulation

Market segment by Detection Distance

Less than 50m

50?200m

200?500m

Market segment by Application

Advanced Driver Assistance Systems (ADAS)

Autonomous Passenger Vehicles

Unmanned Delivery Vehicles

Intelligent Traffic Management

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Others

Major players covered

Aeva Technologies

AEye

Ouster

Valeo

Luminar Technologies

DENSO

Continental AG

Cepton

Innoviz

MicroVision

Livox Technology (DJI)

RoboSense

Hesai Technology

Innovusion (Suzhou)

Huawei

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

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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)

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

Chapter 1, to describe LIDAR for Autonomous System product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of LIDAR for Autonomous System, with price, sales quantity, revenue, and global market share of LIDAR for Autonomous System from 2021 to 2026.

Chapter 3, the LIDAR for Autonomous System competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the LIDAR for Autonomous System 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 Type and by Application, with sales market share and growth rate by Type, 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 LIDAR for Autonomous System market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

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

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Chapter 13, the key raw materials and key suppliers, and industry chain of LIDAR for Autonomous System.

Chapter 14 and 15, to describe LIDAR for Autonomous System sales channel, distributors, customers, research findings and conclusion.

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