

Automotive LiDAR Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **Industry:** Autonomous Driving, ADAS & Safety (Automotive & Transportation)

> **Source:** <https://www.mordorintelligence.com/industry-reports/automotive-lidar-market>

> **Scraped Date:** 2026-09-17

Executive Market Summary

Market Metric	Details
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Base Market Size	USD 1.63 billion
Projected Forecast (2031)	USD 1.63 billion
Growth Rate (CAGR)	32.09 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

![Major players in Automotive LiDAR industry](images/chart_2.png)

![Automotive LiDAR Market (2025 - 2030)](images/chart_3.png)

![Automotive LiDAR Market: Market Share by Application, 2025](images/chart_4.png)

![Automotive LiDAR Market: Market Share by Range, 2025](images/chart_5.png)

![Automotive LiDAR Market CAGR (%), Growth Rate by Region](images/chart_6.png)

![Automotive LiDAR Market Concentration](images/chart_7.png)

![Icon](images/chart_8.png)

![footer background image](images/chart_10.png)

![Mordor Intelligence on Facebook](images/chart_12.svg)

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![Mordor Intelligence on Instagram](images/chart_15.svg)

![ESOMAR](images/chart_17.png)

![GPTW](images/chart_19.png)

Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview

Study Period

2020 - 2031

Market Size (2026)

USD 1.63 Billion

Market Size (2031)

USD 6.54 Billion

Growth Rate (2026 - 2031)

32.09 %

Fastest Growing Market

Asia Pacific

Largest Market
|

Asia Pacific
|

Market Concentration
|

High
|

Major Players

*Disclaimer: Major Players sorted in no particular order

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Market Overview

Automotive LiDAR Market Analysis by Mordor Intelligence

The automotive LiDAR market size was valued at USD 1.23 billion in 2025 and estimated to grow from USD 1.63 billion in 2026 to reach USD 6.54 billion by 2031, at a CAGR of 32.09% during the forecast period (2026-2031). Rising demand for Level 3 and above automated driving, falling sensor prices, and tightening perception-focused safety rules are accelerating volume growth. Chinese original-equipment manufacturers (OEMs) currently account for the highest installation density, and tier-1 suppliers are entering multiyear supply programs that bring production-grade sensors into mainstream vehicle platforms. Breakthroughs in frequency-modulated continuous-wave (FMCW) architectures now enable a 400-meter range at Class 1 eye-safety limits, positioning the technology as the leading candidate for highway autonomy. Partnerships between hardware vendors and cloud software stacks are reshaping traditional supply chains, while regional subsidies and new assessment protocols make high-resolution perception a basic requirement for premium and, increasingly, mid-priced vehicles.

Key Report Takeaways

- * ADAS, by application, held a dominant 85.12% share of the automotive LiDAR market in 2025, with projections indicating a robust expansion rate of 37.88% CAGR through 2031.

- * By technology type, mechanical/spinning LiDAR systems led with 62.15% of the market share in 2025, while the FMCW segment is projected to expand at a 47.46% CAGR through 2031.

- * By vehicle type, passenger cars held 77.65% of the automotive LiDAR market share in 2025, and are expected to grow at a 31.1% CAGR by 2031.

- * By range, short and mid-range units (Up to 150 m) captured 64.10% of the market size in 2025, while the long-range (above 150 m) segment is expected to expand at a 32.4% CAGR.

- * By installation position, roof-mounted modules led with 38.62% of the automotive LiDAR market share in 2025, whereas headlamp-integrated modules are expected to grow at a 35.1% CAGR.

- * By geography, Asia-Pacific commanded 41.75% of 2025 revenue, and the region, excluding Japan, is projected to register the fastest 25.9% CAGR between 2026 and 2031.

Key Market Trends

Drivers Impact Analysis of Automotive LiDAR Market*

Driver |
(~) % Impact on CAGR Forecast |
Geographic Relevance |
Impact Timeline |

Mid-Priced Vehicle Adoption

|

+8.5%

|

Global, with strongest impact in China and Europe
|

Medium term (2-4 years)
|

FMCW Lidar Sensor Breakthroughs

|

+6.6%
|

Global, led by North America and China
|

Long term (≥ 4 years)
|

Autonomy Ratings Mandating Higher-Resolution

|

+6.5%
|

Europe, China, with spillover to other regions
|

Short term (≤ 2 years)
|

Deals Between Tier-1s and Cloud AV Stacks

|

+4.8%
|

Global, concentrated in major automotive markets
|

Medium term (2-4 years)
|

L3-Ready Sensor Suite Subsidies

|

+3.9%
|

China, with competitive pressure globally

Short term (≤ 2 years)

Highway Lidar Subscription Monetization

|

+2.7%

North America, Europe, premium segments globally

Long term (≥ 4 years)

Source: Mordor Intelligence

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Competitive Landscape

Competitive Landscape

Hesai leads the automotive LiDAR market, closely followed by Huawei HI-XG and RoboSense. Valeo retains a niche with its Scala series, while Luminar commands a significant share across European premium contracts.

Competitive strategies focus on vertical integration, cost leadership, and differentiated architectures. Chinese suppliers leverage large domestic EV customer bases to reach annual run-rates above 500,000 units, gaining cost advantages. Western startups emphasize FMCW intellectual property, velocity data, and long-range performance to secure premium contracts. Joint ventures between tier-1s and cloud providers—Mobileye-Innoviz, Daimler-Aeva, illustrate growing alliances that pool hardware and algorithm expertise for end-to-end autonomy solutions.

Hesai invested in a wafer-to-module plant that doubles output capacity, signaling expectations for sustained growth. Meanwhile, suppliers diversify into adjacent markets, industrial robots, construction machinery, and smart infrastructure, to hedge automotive cyclicalities. Overall, technological pluralism persists, but scale requirements favor players with manufacturing depth and software ecosystems.

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Hesai Technology

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Valeo SA

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Luminar Technologies Inc.

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Huawei Technologies Co., Ltd.

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RoboSense Technology Co., Ltd.

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*Disclaimer: Major Players sorted in no particular order

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Component Component 3 Scope Of The Report Bottom

Global Automotive LiDAR Market Report Scope

LIDAR - sometimes called time of flight (ToF), laser scanners or laser radar - is a sensing method that detects objects and maps their distances. The technology works by illuminating a target with an optical pulse and measuring the characteristics of the reflected return signal. The width of the optical pulse can range from a few nanoseconds to several microseconds. The study analyses the application of LiDAR in automotive industry. It provides a in-depth analysis of the application along with the extent of development and adoption in various geographies.

By Application

Robotic Vehicles
|

ADAS
|

Level 2+ / 2++
|

|

Level 3 / 4

|

Level 5

Segmentation Accordion Item

By Geography

North America

United States

|

Canada

|

Rest of North America

South America
|

Brazil
|

|

Argentina
|

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Rest of South America
|

Europe
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Germany
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France
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United Kingdom
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Italy
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Spain
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Russia
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Rest of Europe
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Asia-Pacific
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China
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Japan
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South Korea
|

|

India

|

|

Rest of Asia-Pacific

|

Middle East and Africa

|

Saudi Arabia

|

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United Arab Emirates

|

|

South Africa
|

|

Rest of Middle East and Africa
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Frequently Asked Questions

What is the current size of the Automotive LiDAR market?

The Automotive LiDAR market was valued at USD 1.63 billion in 2026 and is projected to grow at a 32.09% CAGR to USD 6.54 billion by 2031.

Which region leads global demand?

Asia-Pacific holds 41.75% of target market revenue due to China's aggressive autonomous-vehicle policies and local manufacturing ecosystems.

Why is FMCW technology gaining traction?

FMCW simultaneously measures distance and velocity, avoids crosstalk, and delivers 400 meter range at Class 1 eye safety, driving the fastest segment growth at 47.46% CAGR.

How do regulations influence adoption?

UNECE R157 in Europe and China NCAP 2026 both require higher-resolution perception, effectively pushing LiDAR into Level 3 and above production vehicles.

What challenges limit LiDAR penetration in entry-level cars?

Strict eye-safety power limits and cheaper radar-camera sensor fusion keep added hardware costs high, slowing adoption in vehicles priced below USD 25,000.