

Global Automotive LiDAR Market to Reach USD 113.77 Million by 2032

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Abstracts

The Global Automotive LiDAR Market was valued at USD 504.2 million in 2023 and is expected to grow at a CAGR of 9.4% over the forecast period 2024-2032. The automotive industry is undergoing a radical transformation with the integration of advanced driver assistance systems (ADAS) and autonomous vehicle technologies. LiDAR (Light Detection and Ranging) has emerged as a cornerstone for high-precision 3D mapping, real-time object detection, and enhanced road safety mechanisms, driving its adoption across self-driving and semi-autonomous vehicles. This surge in demand for high-resolution perception technology is fueling significant investments in solid-state and mechanical LiDAR systems by major industry players.

LiDAR technology plays a critical role in enabling Level 3 to Level 5 autonomy, providing accurate depth perception, high-definition mapping, and enhanced situational awareness. The rapid strides in sensor miniaturization, reduced production costs, and software integration have significantly contributed to LiDAR's expanding application in the automotive domain. Additionally, the transition from mechanical LiDAR to solid-state LiDAR is expected to accelerate market growth, as solid-state sensors offer higher reliability, lower power consumption, and increased durability for long-term deployment in electric and autonomous vehicles.

Governments worldwide are enacting stringent safety regulations and policies to facilitate the adoption of autonomous and connected vehicle technologies. Rising concerns over traffic congestion, road accidents, and environmental sustainability have led to heightened investments in LiDAR-based safety systems. However, high implementation costs, limited scalability, and integration challenges with existing automotive architectures remain significant barriers. The increasing focus on cost-effective LiDAR solutions, combined with technological advancements such as

frequency-modulated continuous-wave (FMCW) LiDAR, is expected to unlock new opportunities for market players.

Regionally, North America dominated the Automotive LiDAR Market in 2023, owing to the presence of leading autonomous vehicle manufacturers, extensive R&D investments, and favorable regulatory policies supporting ADAS deployment. The United States is at the forefront of self-driving vehicle innovations, with companies like Tesla, Waymo, and General Motors investing in next-generation LiDAR solutions. Meanwhile, Asia-Pacific is poised to witness the fastest growth, driven by rising demand for advanced mobility solutions, increasing automotive production, and government-backed smart city initiatives in China, Japan, and South Korea. Europe is also experiencing substantial market growth, with automotive giants such as BMW, Audi, and Volkswagen integrating LiDAR-based technologies to enhance vehicle safety and automation capabilities.

Major Market Players Included in This Report Are:

Velodyne LiDAR, Inc.

Innoviz Technologies Ltd.

Luminar Technologies, Inc.

Valeo S.A.

Hesai Technology

Ouster, Inc.

AEye, Inc.

Quanergy Systems, Inc.

Continental AG

LeddarTech Inc.

RoboSense LiDAR

Cepton Technologies, Inc.

Blickfeld GmbH

Waymo LLC

Xenomatrix N.V.

The Detailed Segments and Sub-Segments of the Market Are Explained Below:

By Technology

Mechanical LiDAR

Solid-state LiDAR

By Application

Autonomous Vehicles

Advanced Driver Assistance Systems (ADAS)

Others

By Propulsion Type

Electric Vehicles

Internal Combustion Engine (ICE) Vehicles

By Vehicle Type

Passenger Vehicles

Commercial Vehicles

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

Years Considered for the Study Are as Follows:

Historical Year – 2022

Base Year – 2023

Forecast Period – 2024 to 2032

Key Takeaways:

Market estimates and forecasts from 2022 to 2032, providing valuable insights into industry growth patterns.

Comprehensive regional analysis, including country-level market assessments.

Competitive landscape examination, detailing key players, strategic initiatives, and innovation trends.

In-depth analysis of market drivers, challenges, and opportunities, influencing future growth trajectories.

Evaluation of industry disruptions, regulatory frameworks, and investment strategies, shaping the Automotive LiDAR Market.

Contents

CHAPTER 1. GLOBAL AUTOMOTIVE LIDAR MARKET EXECUTIVE SUMMARY

- 1.1. Global Automotive LiDAR Market Size & Forecast (2022-2032)
- 1.2. Regional Summary
- 1.3. Segmental Summary
 - 1.3.1. By Technology
 - 1.3.2. By Application
 - 1.3.3. By Propulsion Type
 - 1.3.4. By Vehicle Type
- 1.4. Key Trends
- 1.5. Recession Impact
- 1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL AUTOMOTIVE LIDAR MARKET DEFINITION AND RESEARCH ASSUMPTIONS

- 2.1. Research Objective
- 2.2. Market Definition
- 2.3. Research Assumptions
 - 2.3.1. Inclusion & Exclusion
 - 2.3.2. Limitations
 - 2.3.3. Supply Side Analysis
 - 2.3.3.1. Availability
 - 2.3.3.2. Infrastructure
 - 2.3.3.3. Regulatory Environment
 - 2.3.3.4. Market Competition
 - 2.3.3.5. Economic Viability (Consumer's Perspective)
 - 2.3.4. Demand Side Analysis
 - 2.3.4.1. Regulatory Frameworks
 - 2.3.4.2. Technological Advancements
 - 2.3.4.3. Environmental Considerations
 - 2.3.4.4. Consumer Awareness & Acceptance
- 2.4. Estimation Methodology
- 2.5. Years Considered for the Study
- 2.6. Currency Conversion Rates

CHAPTER 3. GLOBAL AUTOMOTIVE LIDAR MARKET DYNAMICS

3.1. Market Drivers

- 3.1.1. Rising Adoption of Advanced Driver Assistance Systems (ADAS) and Autonomous Technologies
- 3.1.2. Increasing Demand for High-Precision 3D Mapping and Object Detection
- 3.1.3. Supportive Regulatory Policies and Safety Mandates

3.2. Market Challenges

- 3.2.1. High Implementation Costs and Limited Scalability
- 3.2.2. Integration Challenges with Existing Automotive Architectures

3.3. Market Opportunities

- 3.3.1. Technological Advancements such as FMCW LiDAR
- 3.3.2. Expansion in Emerging Markets and Cost-Effective Sensor Solutions
- 3.3.3. Growing Investment in Autonomous Vehicle R&D

CHAPTER 4. GLOBAL AUTOMOTIVE LIDAR MARKET INDUSTRY ANALYSIS

4.1. Porter's 5 Force Model

- 4.1.1. Bargaining Power of Suppliers
- 4.1.2. Bargaining Power of Buyers
- 4.1.3. Threat of New Entrants
- 4.1.4. Threat of Substitutes
- 4.1.5. Competitive Rivalry
- 4.1.6. Futuristic Approach to Porter's 5 Force Model
- 4.1.7. Porter's 5 Force Impact Analysis

4.2. PESTEL Analysis

- 4.2.1. Political
- 4.2.2. Economical
- 4.2.3. Social
- 4.2.4. Technological
- 4.2.5. Environmental
- 4.2.6. Legal

4.3. Top Investment Opportunity

4.4. Top Winning Strategies

4.5. Disruptive Trends

4.6. Industry Expert Perspective

4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL AUTOMOTIVE LIDAR MARKET SIZE & FORECASTS BY TECHNOLOGY 2022-2032

5.1. Segment Dashboard

5.2. Global Automotive LiDAR Market: Technology Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)

5.2.1. Mechanical LiDAR

5.2.2. Solid-state LiDAR

CHAPTER 6. GLOBAL AUTOMOTIVE LIDAR MARKET SIZE & FORECASTS BY APPLICATION 2022-2032

6.1. Segment Dashboard

6.2. Global Automotive LiDAR Market: Application Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)

6.2.1. Autonomous Vehicles

6.2.2. Advanced Driver Assistance Systems (ADAS)

6.2.3. Others

CHAPTER 7. GLOBAL AUTOMOTIVE LIDAR MARKET SIZE & FORECASTS BY PROPULSION TYPE 2022-2032

7.1. Segment Dashboard

7.2. Global Automotive LiDAR Market: Propulsion Type Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)

7.2.1. Electric Vehicles

7.2.2. Internal Combustion Engine (ICE) Vehicles

CHAPTER 8. GLOBAL AUTOMOTIVE LIDAR MARKET SIZE & FORECASTS BY VEHICLE TYPE 2022-2032

8.1. Segment Dashboard

8.2. Global Automotive LiDAR Market: Vehicle Type Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)

8.2.1. Passenger Vehicles

8.2.2. Commercial Vehicles

CHAPTER 9. GLOBAL AUTOMOTIVE LIDAR MARKET SIZE & FORECASTS BY REGION 2022-2032

9.1. North America Automotive LiDAR Market

- 9.1.1. U.S. Automotive LiDAR Market
 - 9.1.1.1. Technology Breakdown & Forecasts, 2022-2032
 - 9.1.1.2. Application Breakdown & Forecasts, 2022-2032
 - 9.1.1.3. Propulsion Type Breakdown & Forecasts, 2022-2032
 - 9.1.1.4. Vehicle Type Breakdown & Forecasts, 2022-2032
- 9.1.2. Canada Automotive LiDAR Market
- 9.2. Europe Automotive LiDAR Market
 - 9.2.1. U.K. Automotive LiDAR Market
 - 9.2.2. Germany Automotive LiDAR Market
 - 9.2.3. France Automotive LiDAR Market
 - 9.2.4. Spain Automotive LiDAR Market
 - 9.2.5. Italy Automotive LiDAR Market
 - 9.2.6. Rest of Europe Automotive LiDAR Market
- 9.3. Asia-Pacific Automotive LiDAR Market
 - 9.3.1. China Automotive LiDAR Market
 - 9.3.2. India Automotive LiDAR Market
 - 9.3.3. Japan Automotive LiDAR Market
 - 9.3.4. Australia Automotive LiDAR Market
 - 9.3.5. South Korea Automotive LiDAR Market
 - 9.3.6. Rest of Asia-Pacific Automotive LiDAR Market
- 9.4. Latin America Automotive LiDAR Market
 - 9.4.1. Brazil Automotive LiDAR Market
 - 9.4.2. Mexico Automotive LiDAR Market
 - 9.4.3. Rest of Latin America Automotive LiDAR Market
- 9.5. Middle East & Africa Automotive LiDAR Market
 - 9.5.1. Saudi Arabia Automotive LiDAR Market
 - 9.5.2. South Africa Automotive LiDAR Market
 - 9.5.3. Rest of Middle East & Africa Automotive LiDAR Market

CHAPTER 10. COMPETITIVE INTELLIGENCE

- 10.1. Key Company SWOT Analysis
 - 10.1.1. Velodyne LiDAR, Inc.
 - 10.1.2. Innoviz Technologies Ltd.
 - 10.1.3. Luminar Technologies, Inc.
- 10.2. Top Market Strategies
- 10.3. Company Profiles
 - 10.3.1. Velodyne LiDAR, Inc.
 - 10.3.1.1. Key Information

- 10.3.1.2. Overview
- 10.3.1.3. Financial (Subject to Data Availability)
- 10.3.1.4. Product Summary
- 10.3.1.5. Market Strategies
- 10.3.2. Valeo S.A.
- 10.3.3. Hesai Technology
- 10.3.4. Ouster, Inc.
- 10.3.5. AEye, Inc.
- 10.3.6. Quanergy Systems, Inc.
- 10.3.7. Continental AG
- 10.3.8. LeddarTech Inc.
- 10.3.9. RoboSense LiDAR
- 10.3.10. Cepton Technologies, Inc.
- 10.3.11. Blickfeld GmbH
- 10.3.12. Waymo LLC
- 10.3.13. Xenomatix N.V.

CHAPTER 11. RESEARCH PROCESS

- 11.1. Research Process
 - 11.1.1. Data Mining
 - 11.1.2. Analysis
 - 11.1.3. Market Estimation
 - 11.1.4. Validation
 - 11.1.5. Publishing
- 11.2. Research Attributes

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