

Automotive Radar Market - Strategic Insights and Forecasts (2026-2031)

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Abstracts

The Automotive Radar market is forecast to grow at a CAGR of 11.7%, reaching USD 19.3 billion in 2031 from USD 11.1 billion in 2026.

The global automotive radar market is positioned for robust expansion through 2031, supported by increasing safety requirements in vehicles and rising adoption of advanced driver assistance systems (ADAS). Automotive radar systems are critical components for enabling features such as adaptive cruise control, blind spot detection, automated emergency braking, and other safety functions. Market growth is underpinned by regulatory mandates for enhanced vehicle safety, growing consumer preference for automated features, and advancements in radar technologies that improve performance and reliability. The market also benefits from broader trends in electrification and autonomous driving, which drive further integration of radar sensors into vehicle platforms.

Market Drivers

A key driver of the automotive radar market is the widespread adoption of ADAS and semi-autonomous driving functions. Radar sensors provide essential object detection, distance measurement, and environmental awareness, enabling systems to detect obstacles and respond to dynamic driving conditions. Automakers increasingly include multiple radar modules in new vehicle platforms to meet safety standards and consumer expectations for convenience and protection. The rise of electric vehicles (EVs) has further stimulated radar demand; EVs often integrate advanced sensing suites to support autonomous capabilities and improve driver experience. Additionally, stringent global safety regulations, such as those from various national highway safety authorities, require the inclusion of radar-based systems to comply with crash

avoidance and collision mitigation standards, further accelerating market growth.

Another driver is technological advancement in radar capabilities. Innovations such as 77 GHz frequency radar systems and 4D imaging radars enhance resolution, range, and detection accuracy. These improvements allow vehicles to perceive their surroundings more effectively in diverse weather and traffic conditions, expanding the applicability of radar across vehicle segments and use cases. Miniaturization and integration with other sensors, such as cameras and LiDAR, are reducing system cost and facilitating adoption across mid-range and volume vehicle segments.

Market Restraints

Despite strong growth drivers, the automotive radar market faces challenges that could temper expansion. High costs associated with advanced radar sensors remain a barrier for integration in lower-priced vehicles. Cutting-edge radar systems with high resolution and multiple beams require sophisticated components and manufacturing processes that elevate unit costs. These costs can be prohibitive for cost-sensitive segments, limiting broader market penetration.

Performance limitations in certain environmental conditions also pose a restraint. Radar systems can experience reduced accuracy in heavy rain, snow, or cluttered urban environments, affecting reliability. These limitations may constrain the effectiveness of radar in some use cases, prompting OEMs to blend radar with complementary sensor technologies to mitigate shortcomings, which can further increase system costs. Furthermore, competitive pressure from alternative sensing technologies, such as LiDAR and vision systems, could influence adoption dynamics despite the strong role of radar in safety applications.

Technology and Segment Insights

Automotive radar technology is segmented primarily by range and application. Long-range radar (LRR) systems support high-speed applications such as adaptive cruise control and highway autonomous driving assistance, while short- and medium-range radar (SRR/MRR) systems are suited for blind-spot detection, parking assistance, and close-range object detection. Frequency segmentation, especially the shift toward 77 GHz and higher bands, provides superior resolution and target discrimination compared to legacy 24 GHz systems. Radar integration with sensor fusion frameworks that combine radar, camera, and LiDAR data is becoming

increasingly prevalent, enabling more robust perception stacks for advanced and autonomous driving functions.

Passenger vehicles currently account for the largest share of radar demand due to high production volumes and rapid ADAS adoption. Commercial vehicles are also emerging as a growth segment, driven by safety priorities in fleet operations and regulations that mandate advanced safety systems in trucks and buses.

Competitive and Strategic Outlook

The automotive radar market is competitive and evolving, with major semiconductor and automotive component companies investing in radar sensor innovation. Key players are focusing on enhancing radar performance, reducing costs, and expanding product portfolios to address diverse vehicle segments. Strategic partnerships between automotive OEMs and radar technology providers are on the rise, enabling faster integration of radar systems into next-generation vehicle platforms. Mergers, acquisitions, and collaborations help companies secure technology advantages and scale production to meet growing global demand.

Emerging markets, particularly in Asia-Pacific, are expected to drive future growth due to increasing vehicle production, rising consumer affluence, and supportive regulatory environments. North America and Europe remain important markets, supported by stringent safety regulations and high adoption of ADAS.

In , the global automotive radar market is set for sustained growth through 2031, driven by the proliferation of vehicle safety systems, regulatory mandates, and advancements in sensor technologies. While cost and performance challenges persist, strategic innovations and integration approaches are likely to broaden adoption across vehicle segments and regions.

Key Benefits of this Report

Insightful Analysis: Gain detailed market insights across regions, customer segments, policies, socio-economic factors, consumer preferences, and industry verticals.

Competitive Landscape: Understand strategic moves by key players to identify optimal market entry approaches.

Market Drivers and Future Trends: Assess major growth forces and emerging developments shaping the market.

Actionable Recommendations: Support strategic decisions to unlock new revenue streams.

Caters to a Wide Audience: Suitable for startups, research institutions, consultants, SMEs, and large enterprises.

What Businesses Use Our Reports For

Industry and market insights, opportunity assessment, product demand forecasting, market entry strategy, geographical expansion, capital investment decisions, regulatory analysis, new product development, and competitive intelligence.

Report Coverage

Historical Data: 2021-2024, Base Year: 2025, Forecast Years: 2026-2031

Growth opportunities, challenges, supply chain outlook, regulatory framework, and trend analysis

Competitive positioning, strategies, and market share evaluation

Revenue growth and forecast assessment across segments and regions

Company profiling including strategies, products, financials, and key developments

Contents

1. EXECUTIVE SUMMARY

2. MARKET SNAPSHOT

- 2.1. Market Overview
- 2.2. Market Definition
- 2.3. Scope of the Study
- 2.4. Market Segmentation

3. BUSINESS LANDSCAPE

- 3.1. Market Drivers
- 3.2. Market Restraints
- 3.3. Market Opportunities
- 3.4. Porter's Five Forces Analysis
- 3.5. Industry Value Chain Analysis
- 3.6. Policies and Regulations
- 3.7. Strategic Recommendations

4. TECHNOLOGICAL OUTLOOK

5. AUTOMOTIVE RADAR MARKET BY RANGE

- 5.1. Introduction
- 5.2. Medium-Range Radar
- 5.3. Short-Range Radar
- 5.4. Long-Range Radar

6. AUTOMOTIVE RADAR MARKET BY APPLICATION

- 6.1. Introduction
- 6.2. Adaptive Cruise Control
- 6.3. Intelligent Park Assist
- 6.4. Autonomous Emergency Braking
- 6.5. Others

7. AUTOMOTIVE RADAR MARKET BY VEHICLE TYPE

- 7.1. Introduction
- 7.2. Passenger Vehicles
- 7.3. Commercial Vehicles

8. AUTOMOTIVE RADAR MARKET BY GEOGRAPHY

- 8.1. Introduction
- 8.2. North America
 - 8.2.1. USA
 - 8.2.2. Canada
 - 8.2.3. Mexico
- 8.3. South America
 - 8.3.1. Brazil
 - 8.3.2. Argentina
 - 8.3.3. Others
- 8.4. Europe
 - 8.4.1. United Kingdom
 - 8.4.2. Germany
 - 8.4.3. France
 - 8.4.4. Italy
 - 8.4.5. Spain
 - 8.4.6. Others
- 8.5. Middle East & Africa
 - 8.5.1. Saudi Arabia
 - 8.5.2. United Arab Emirates
 - 8.5.3. Others
- 8.6. Asia Pacific
 - 8.6.1. China
 - 8.6.2. India
 - 8.6.3. Japan
 - 8.6.4. South Korea
 - 8.6.5. Taiwan
 - 8.6.6. Thailand
 - 8.6.7. Others

9. COMPETITIVE ENVIRONMENT AND ANALYSIS

- 9.1. Major Players and Strategy Analysis

- 9.2. Market Share Analysis
- 9.3. Mergers, Acquisitions, Agreements, and Collaborations
- 9.4. Competitive Dashboard

10. COMPANY PROFILES

- 10.1. Continental AG
- 10.2. Robert Bosch GmbH
- 10.3. Texas Instruments Incorporated
- 10.4. NXP Semiconductors
- 10.5. Infineon Technologies AG
- 10.6. STMicroelectronics
- 10.7. Rohde & Schwarz
- 10.8. Indie Semiconductor
- 10.9. S.M.S. Smart Microwave Sensors GmbH
- 10.10. Analog Devices, Inc.
- 10.11. Uhnder, Inc.

11. APPENDIX

- 11.1. Currency
- 11.2. Assumptions
- 11.3. Base and Forecast Years Timeline
- 11.4. Key benefits for the stakeholders
- 11.5. Research Methodology
- 11.6. Abbreviations

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