Automotive Radar Market by Range (Short Range, Medium Range, Long Range), Vehicle Type (PC, LCV, HCV), Frequency (2X-GHz and 7X-GHz), EV Type (BEV, PHEV, FCEV, HEV), Mounting (In-cabin, Exterior), Application, and Region - Global Forecast to 2032

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Report description:

The automotive radar market is estimated to be USD 5.36 billion in 2025 and is projected to reach USD 22.83 billion by 2032 at a CAGR of 23.0% from 2025 to 2032. The automotive sector is witnessing a major shift from emphasizing vehicle performance and fuel efficiency to focusing on safety and convenience. Applications such as intelligent park assist, cross traffic alert, and autonomous emergency braking rely on radar technology for precise short-range detection, enhancing vehicle safety and maneuverability. Further, the market is also witnessing the emergence of 4D imaging radar systems, capable of high-resolution object detection over extended ranges, further solidifying radar's role in the evolution of autonomous driving technologies.
"The 7X-GHz frequency segment to dominate market during the forecast period"
The 7X-GHz radar systems, particularly those operating at 77 GHz and 79 GHz, are poised to dominate the automotive radar market in 2025, driven by their superior resolution and range capabilities essential for advanced driver-assistance system (ADAS) and autonomous driving features. These high-frequency radars offer enhanced object detection and tracking precision, making them critical for applications like adaptive cruise control, lane keeping assist, and automatic emergency braking. The surge in demand is further fueled by stringent government regulations mandating vehicle safety features; for instance, the European Union's Vehicle General Safety Regulations, effective from July 2024, require all new vehicles to incorporate specific ADAS functionalities such as intelligent speed assistance, automatic emergency braking, and lane keeping assist, thereby accelerating the adoption of 7X-GHz radar systems. In response to this growing demand, companies are innovating products; for instance, in November 2024, at the electronica 2024 trade fair in Munich, with its SX600 and SX601, Bosch offered system-on-a-chip (SoC) solutions for radar systems that operate in the 77 GHz band. Such advancements underscore the pivotal role of 7X-GHz radar

technology in shaping the future of vehicular safety and automation.
"Medium-range radar to hold significant market share during forecast period"
The medium-range radar segment is projected to hold a prominent share of the automotive radar market due to its optimal balance between performance and cost, making it suitable for a wide range of applications such as adaptive cruise control, blind spot detection, and lane change assistance. These radars typically cover a range of 30 to 80 meters, which is ideal for mid-range detection scenarios required in both highway and urban driving environments. Models such as the Mercedes-Benz C-Class, Volkswagen ID.4, and Toyota Camry integrate medium-range radar for functions like adaptive cruise control, lane change assist, and blind spot monitoring. Their ability to function effectively in various weather and lighting conditions, along with increasing integration in mid-range and premium vehicles, further supports their dominant market position as automakers prioritize safety and semi-autonomous features.
"China to hold largest market share in Asia Pacific during forecast period"
China continues to dominate the Asia Pacific automotive radar market, driven by rapid advancements in 4D millimeter-wave (mmWave) radar technology and a surge in domestic production. For instance, NIO's second brand, Lixiang L60, launched in 2024 with all models equipped with 4D imaging millimeter-wave radar, was developed by SAEON Lingdong. This technology, backed by investments from Xiaomi and NIO Capital, enhances the perception capabilities of intelligent driving systems. Further, in April 2025, BYD Auto recently unveiled its new self-driving system called the God's Eye. The company says it will integrate the solution across all of its models, including its subsidiary brands like Denza, Fangcheng Bao, and Yangwang. BYD's strategy of developing its own SoC for the God's Eye system while partnering with NVIDIA and Horizon Robotics for computing has produced a cost-effective ADAS for entry-level EVs under USD 10,000. This move is likely to intensify price competition in China's EV market and push competitors to offer ADAS in budget models, accelerating ADAS adoption nationwide and positively impacting market growth. Also, Chinese OEMs such as BYD, NIO, and Li Auto are increasingly adopting a 5-radar (5R) approach for ADAS to enhance features like Navigation on Autopilot (NOA) and Level 3 (L3) autonomous driving. Such developments would drive automotive radar market growth during the forecast period.
Breakup of Primary Interviews:
In-depth interviews have been conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.
-□By Company Type: Tier I - 41%, Tier II - 24%, and OEMs - 35%
-□By Designation: C Level - 35%, D Level - 49%, and Others - 16%
-□By Region: Asia Pacific-37%, Europe-36%, North America-24%, Rest of the World-7%
The automotive radar market is dominated by key players such as Robert Bosch GmbH (Germany), Continental AG (Germany), Aptiv (Ireland), Denso Corporation (Japan), and NXP Semiconductors (Netherlands).
The study includes an in-depth competitive analysis of these key players in the automotive radar market, with their company profiles, recent developments, and key market strategies.
Research Coverage:
This research report categorizes the automotive radar market By range (short-range radar, medium-range radar, and long-range radar), by vehicle type (passenger car, light commercial vehicle, heavy commercial vehicle), by frequency (2X-GHz and 7X-GHz), by EV type (BEV, PHEV, FCEV, and HEV), by application [adaptive cruise control (ACC), autonomous emergency braking (AEB), blind spot detection (BSD), forward collision warning system (FCWS), intelligent parking assistance (IPA), cross traffic alert (CTA), lane departure warning system (LDW) and traffic jam assist (TJA)], by mounting (in-cabin and exterior) and by region (North America, Europe, Asia Pacific, and the Rest of the World). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the market. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions & services, key strategies, contracts, partnerships, agreements, new product & service launches, mergers & acquisitions, and recent developments associated with the automotive radar market. Competitive analysis of upcoming startups in the automotive radar market ecosystem has been covered in this report.

Reasons to Buy this Report

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall automotive radar market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report will also help stakeholders understand the pulse of the market and provide them with information on key market drivers, restraints, challenges, and opportunities.
The report provides insights into the following pointers:

-□Analysis of key drivers (increasing consumer demand for ADAS in vehicles, increasing reliance on Doppler frequency shift technology impacting the market growth, advancements in 7X-GHZ radar technology driving the market growth, integration with electric and connected vehicles), restraints (inability to distinguish multiple targets, varying climate conditions affecting radar performance and reliability), opportunities (growing push for autonomous vehicles, unlocking new business models and smart mobility solutions with automotive radar technology models, growing adoption of 4D imaging radar for enhanced safety, autonomy, and cost-effective sensor fusion in next-gen vehicles), and challenges (competition from alternate technologies, fluctuating raw material prices and supply chain disruptions) influencing the growth of the automotive radar market

-□Product Development/Innovation: Detailed insights into upcoming technologies and research & development activities in the automotive radar market

-□Market Development: Comprehensive information about lucrative markets (the report analyses the automotive radar market across varied regions)

-□Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the automotive radar market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players: Robert Bosch GmbH (Germany), Continental AG (Germany), Aptiv (Ireland), Denso Corporation (Japan), and NXP Semiconductors (Netherlands), among others, in the automotive radar market

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