Automotive RADAR Market Trajectory, from USD 6.3 Billion (2024) to USD 47.7 Billion (2034) with 23.6% Growth

WILMINGTON, NEW CASTLE, DE, UNITED STATES, June 19, 2025 /EINPresswire.com/ -- According to a new report published by Allied Market Research, titled, "Automotive RADAR Market," The Automotive RADAR Market Size was valued at $6.3 billion in 2024, and is estimated to reach $47.7 billion by 2034, growing at a CAGR of 23.6% from 2025 to 2034.

A driving feature has been gaining traction in recent years and governments of various countries are mandating the installation of advanced driving assistance systems (ADAS) to avoid accidents on roads. One of the key applications of ADAS consists of object detection, collision warning, and blind-spot monitoring. Each of these safety features works on radar technology and thus automotive radar plays a key role in advanced driver assistance systems. In addition, a rise in demand for vehicles with ADAS technology is anticipated to propel the growth of the automotive radar market during the Automotive RADAR Market Forecast timeframe.

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The key factors leading to the growth of automotive radar are rise in demand for safety features in automobiles and increase in demand for comfortable driving. In addition, strict rules and regulations for safety features are anticipated to propel the growth of the market. However, high cost and complex structure, and low efficiency in bad weather conditions hinder the growth of the automotive radar market. Furthermore, increase in technological advancement and innovation in ADAS are anticipated to provide remarkable growth opportunities for the automotive radar market leaders. All the factors mentioned are expected to have a significant impact on the automotive radar market during the forecast period.

Automotive radar has emerged as one of the most critical sensing technologies in modern vehicles, facilitating the transition from conventional driving to semi-autonomous and fully autonomous mobility. It serves as the backbone for several safety and automation features, enabling real-time detection, classification, and tracking of objects around the vehicle. Radar sensors emit electromagnetic waves and analyze their reflections to calculate the speed, range, and angle of nearby objects—ensuring reliable operation even under poor visibility conditions like rain, fog, or darkness. Unlike camera-based systems, radar is less affected by environmental constraints, making it indispensable in safety-critical scenarios. As the automotive industry pushes toward higher levels of autonomy, the need for robust, high-resolution radar systems continues to intensify. The market is segmented based on radar range—short-range (for blind spot monitoring and parking assist), medium-range (for lane change assist and cross-traffic alerts), and long-range (primarily for adaptive cruise control and highway pilot systems). Integration of multiple radars in a single vehicle is becoming the norm, especially in premium and electric vehicle models, to enable 360-degree environmental coverage.

Technological evolution is significantly reshaping the automotive radar landscape. Traditional analog radars are rapidly being replaced by digital and software-defined radar systems, which offer superior resolution and can distinguish between objects more effectively. Notably, the rise of 4D imaging radar, which adds elevation data to the traditional 3D (range, angle, and velocity) sensing, is helping vehicles achieve near-LiDAR level accuracy at a fraction of the cost. Players such as Arbe Robotics and Uhnder are pioneering this shift, developing chipsets that offer enhanced field of view, interference mitigation, and simultaneous multi-target tracking. Meanwhile, established automotive suppliers like Continental, Bosch, and Aptiv continue to invest heavily in sensor fusion technologies—combining radar with camera and LiDAR data—to improve overall situational awareness. For instance, in March 2024, Bosch announced a strategic partnership with NVIDIA to integrate AI-based perception software into its radar systems, aimed at enabling predictive driver assistance capabilities and smarter obstacle avoidance.

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The Automotive RADAR Market Size is also seeing innovations in packaging and integration. Radar-on-chip (RoC) designs, where all the critical components are embedded onto a single silicon chip, are reducing size and cost, making radar more viable for mass-market vehicles. This miniaturization trend is driving the deployment of radar not just in front-facing systems but also on side and rear bumpers, supporting features like rear cross-traffic alerts and advanced parking automation. Additionally, over-the-air (OTA) update capabilities are being embedded into radar platforms, allowing OEMs to continuously upgrade performance or add new functionalities without hardware changes.

Regional dynamics also play a significant role in shaping the Global Automotive RADAR Market. Asia-Pacific, led by China and Japan, dominates global demand due to their massive automotive production volumes and increasing investment in EV and ADAS platforms. Europe, known for

stringent safety norms and a strong presence of luxury OEMs, is driving innovation in long-range and imaging radar systems. In North America, radar adoption is being reinforced by regulatory pushes such as the proposed mandate by NHTSA for automatic emergency braking systems in all light vehicles—a feature that typically relies on radar. Moreover, the integration of radar in commercial vehicles, such as trucks and delivery vans, is gaining momentum as fleet operators seek to improve safety, lower insurance costs, and enable platooning or automated convoy operations.

While the Automotive RADAR Industry outlook is promising, challenges such as radio frequency interference, regulatory spectrum limitations, and calibration complexities during manufacturing and maintenance persist. However, the increasing adoption of AI for signal processing, as well as the industry-wide shift toward vehicle architecture standardization, is expected to address many of these barriers over time. As automotive OEMs and Tier-1 suppliers align their roadmaps with autonomous mobility goals, automotive radar will remain an essential component of the vehicle sensor suite, enabling safer, smarter, and more autonomous driving experiences in the coming decade.

The automotive radar market is segmented on the basis of application, frequency, range, vehicle type, and region. Application segment includes adaptive cruise control (ACC), autonomous emergency braking (AEB), blind spot detection (BSD), forward collision warning system, intelligent park assists, and others. By frequency, the Automotive RADAR Industry is categorized into 24 GHz, 77 GHz, and 79 GHz. By range, the market is classified into long-range radar (LRR), and short & medium range radar (S&MRR). By region, the Global Automotive RADAR Market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

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Key players included in the Automotive RADAR Market Analysis are Analog Devices, Inc., BorgWarner Inc., Continental AG, DENSO Corporation, NXP Semiconductors, Robert Bosch GmbH, Texas Instruments, Valeo, Veoneer Inc., ZF Friedrichshafen AG and others hold major automotive radar market share.

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David Correa
Allied Market Research
+1 800-792-5285
email us here
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X