Radar Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Radar Systems Market size is estimated at USD 36.12 billion in 2025, and is expected to reach USD 47.64 billion by 2030, at a CAGR of 5.69% during the forecast period (2025-2030).

Radars can be used in meteorology, aerial surveillance, and maritime domains. Radars in automobiles can help measure the speed of cars on the road. Companies are using AI technologies to develop different types of radars for various industrial applications. A significant technological advancement is laser radar, which is ideal for usage in the automotive sector.

Key Highlights
- The worldwide spending on military and defense services has increased over the years, and countries are investing in AI-supportive technologies for security to keep their country and border safe from intruders. Japan's Self-Defense Forces deployed SPY-7 radar, developed by Lockheed Martin. When connected to the Aegis Weapon System for Japan, this radar will aid in identifying, tracking, and discriminating ballistic missile threats and successfully targeting interceptors.
- Automobile companies are investing heavily in autonomous driving solutions, the major factor behind the rising demand for automotive hardware products like domain control units, cameras, radar, safety sensors, and more. Hyundai introduced a radar-based rear occupant alert system for passenger convenience and safety at the highest level of autonomous driving. The system can detect even the slightest movement of a passenger and is composed of a radar sensor module concealed in the ceiling, CAN, and the Integrated Body-control Unit (IBU).
- The COVID-19 pandemic squeezed the world economy by affecting the manufacturing industry, production, disruption, and financial systems. Many countries reduced their budget for their defense services to overcome inflation, which affected the demand for radar systems as military services are the primary users of this application. The international trade of radar systems was also affected as companies held back their funds for non-essential collaboration.

- It is important to study the architecture of the products where the radar is being plugged for further use, as radar is often used with other sensing technologies, such as video cameras and LiDAR. Automobile radars must function in various urban, rural, and inter-state contexts. This wide range of velocities challenges the waveform design, chirp configuration, and frame size, impacting the radar functioning.

Radar Systems Market Trends

Automotive Application to Witness Significant Growth During the Forecast Period

- As Automobile players adapt to IoT, autonomous driving will revolutionize how consumers experience mobility. A study by Mckinsey predicted that the growing adoption of advanced driver-assistance systems (ADAS) in Europe could reduce the number of accidents by about 15% by 2030. The total value of the autonomous driving hardware market is expected to reach USD 80 billion by 2030. This will create a robust market for hardware products like domain control units, cameras, radars, and safety sensors.
- MMWave radars used in automotive, industrial, civil, and meteorological systems provide accurate sensing of location, velocity, and angle without any obstacle. These radars are gaining attention among automotive players for their advanced driving assistant systems (ADAS), as these can detect a collision, multi-lane, multi-object tracking and parking aids.
- Automobile companies are investing heavily in autonomous driving solutions. Hyundai announced an investment of USD 10 billion for electrification and autonomous vehicle technology. Volkswagen planned to spend USD 2.35 billion in China to stay competitive in the age of smart electric vehicles.

North America to Witness Highest Growth During the Forecast Period

- In 2022, the global spending on defense services was USD 1.981 trillion. The US military spending was approximately USD 754 billion in 2022, making it the most paying nation in the world. The region has a significant need for radar systems for aviation and maritime applications due to its strongest military base in the world.
- In August 2022, the US Northern Command's Operations Directorate confirmed the trials of Long Range Discrimination Radar (LRDR) in missile defense operational architecture. This USD 1.5 billion radar system can provide constant coverage to detect intercontinental ballistic missile (ICBM) launches by adversarial nations toward the United States.
- In April 2022, to improve continental security in conjunction with the US, the Canadian Govt. announced an investment plan of USD 1 billion for a new radar system to protect major population centers in North America. The radar system would provide long-range surveillance of northern approaches on Arctic airspace to detect threats against major United States or Canadian cities

Radar Systems Industry Overview

Due to a few dominant players like Airbus SE and BAE Systems plc, the market for radar systems is trending toward consolidation. Companies like Infineon Technologies AG and NXP Semiconductors N.V. have entered the automotive radar system solutions market due to the expanding opportunities presented by automotive sector applications.

- January 2022 - Google has been working with Ford to develop an open and standardized API interface for the radar system. For general-purpose radar, standardized API calls promote interoperability and speed up the rollout of new applications. If the project

remains successful, this development will lead to new consumer products and services.
- March 2022 - Uhnder launched the first 4D digital imaging radar for next-gen ADAS (advanced driver assistance systems), autonomous vehicles (AVs), and automated mobility applications. It will provide precision while minimizing interference from other radars, regardless of weather and lighting conditions. Its 4D precision will provide accuracy and an enhanced sense of standing or moving objects at short or long distances.
- January 2023 - Mobileye partnered with Wistron NeWeb Corp. (WNC) to produce software-defined imaging radars. With an integrated system-on-chip design, these radars from Mobileye provide a thorough, four-dimensional image of the environment up to and beyond 1,000 feet distant. Mobileye's prominent camera-based perception systems and the latest radar technology from the company let autonomous vehicles see and comprehend their surroundings regardless of the weather, lighting, or types of roads.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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