Surface Radars Market by Platform (Critical Infrastructure, Vehicle-Mounted, Shipborne, Unmanned Surface Vehicles), Application (Surveillance, Air-Defense, Perimeter Security, Battlefield ISR), Frequency Band, Dimension - Global Forecast to 2029

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Report description:

The surface radars market is projected to reach USD 22.49 billion by 2029, from USD 17.26 billion in 2024, at a CAGR of 5.4%. The volume of surface radars is projected to grow from 4690 (in Units) in 2024 to 6113 (in Units) by 2029. The market is driven by key factors, including US defense programs to counter threats, a surge in demand due to ongoing conflicts, and global defense expenditure. The development of missile defense systems and the nature of warfare further fuel market growth. However, the market faces challenges from regulations on arms transfers, operational complexities requiring maintenance, and the development costs of missile systems, which can hinder expansion.

"Based on frequency band, X-Band segment is estimated to capture the largest share in the market during the forecast period"

The X-Band frequency segment is likely to capture the largest share in the surface radar market within the forecast period with higher application in both military and commercial domains. X-Band radars are highly accurate and are more sensitive, hence used for missile defense systems, airborne surveillance, and naval radar systems. These are highly used for low-observable objects such as drones, aircraft, and missiles especially in areas with high clutter conditions like urban or coastal regions. The growing geopolitical tensions and the increase in interests in border security also contribute to high demand for X-Band radars in military applications. However, it is pushed further by the latest radar technologies in the offering, such as Active Electronically Scanned Array that, in turn provides greater power of detection along with tracking capabilities of X-Band radars. Civil application is on the rise in weather monitoring and air traffic control, pushing the market share even higher than the present rate.

"Based on waveform, the Frequency Modulated Continous Wave (FMCW) segment forecasted to grow at highest CAGR during forecast period "

The FMCW radar segment is likely to achieve the highest CAGR in the forecast period. Advances made in FMCW radars support real-time target identification with high-resolution imaging, hence igniting their adoption. Consequently, such a type of radar technology is critical for applications where continuous detection and ranging without any interruptions is sought after, including surveillance systems, autonomous vehicles, and air traffic control. FMCW radars are also increasingly used in unmanned systems and anti-drone technology, and for this reason, the role they play is key to modern warfare and counter-terrorist operations. Current interest in more precise tracking and target identification in defense applications gives the demand for FMCW radars a strong boost due to its accuracy advantage and longer range than traditional pulsed radars. Other reasons for this growth relate to the greater incorporation of these products into industrial applications, such as commercial automation and monitoring of safety conditions.

" The Europe region is estimated to be the largest market during the forecast period"

The Europe region is likely to dominate the surface radar market for the forecast period, driven by several key factors. There are several leading defense contractors such as Thales, BAE Systems, and Leonardo S.p.A located in Europe, which has been investing heavily in the development of the radar system for military and civil applications. This is now compelling European countries to improve their air and missile defense systems as rising geopolitical tensions in the region, including border security concerns, get on their nerves due to NATO-Russia relations. France, Germany, and the UK are among the countries increasing defense spending, and demand for such advanced radar technologies that can offer early warning and real-time surveillance will now be seen increasing. Furthermore, increased concern for the development of smart cities and civil infrastructure in Europe is driving the adoption of radar systems in smart city infrastructure, including applications in road traffic management and weather forecasting, for the protection of critical infrastructure. The collaborative defense programs that are ongoing, such as NATO defense initiatives, also promote market growth by expanding the deployment of radar systems across various NATO member countries.

In-depth interviews have been conducted with chief executive officers (CEOs), Directors, and other executives from various key organizations operating in the surface radars marketplace.

-□By Company Type: Tier 1 - 35%, Tier 2 - 45%, and Tier 3 - 20%
-□By Designation: C-level - 35%, Director Level - 25%, and Others - 40%
-□By Region: North America- 35%, Europe - 20%, Asia Pacific- 30%, Middle East - 10% and Rest of the World - 5%

include Lockheed Martin Corporation (US), RTX (US), BAE Systems (UK), Northrop Grumman (US), L3Harris Corporation (US), Leonardo S.p.A (Italy), Israel Aerospace Industries (Israel), Thales (France), Saab AB (Sweden), Elbit Systems Ltd. (Israel), and are some of the leading players operating in the surface radars market.

Research Coverage

This research report categorizes the surface radars market by platform, application, range, frequency, dimension, component, waveform, and by Region. The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the surface radars market. A detailed analysis of the key industry players has been done to provide insights into their business overview, products, and services; key strategies; Contracts, partnerships, agreements, new product launches, and recent developments associated with the surface radars market. Competitive analysis of upcoming startups in surface radars market ecosystem is covered in this report.

Key benefits of buying this report: This report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall surface radars market and its subsegments. The report covers the entire ecosystem of the surface radars market. It 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 on the following pointers:

- Analysis of key Drivers (Focus on enhancing homeland security and border surveillance capabilities, advancements in radar

technologies, emergence of modern warfare , requirement for drone detection systems at airports), restrains (Need for substantial R&D funding), opportunities (Increased advancements in Hardware & Software Integration in Radar Technology, increased Compact Radars for Anti-drones application , increasing preference for phased array solid-state radars, development of low-cost and miniaturized radars) and challenges (Extreme weather conditions, Vulnerability of radars to new jamming techniques) influencing the growth of the market.
- Product Development/Innovation: Detailed Insights on upcoming technologies, R&D activities, and new products/solutions launched in the market.
- Market Development: Comprehensive information about lucrative markets - the report analyses the surface radars market across varied regions
- Market Diversification: Exhaustive information about new solutions, recent developments, and investments in the surface radars market
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players including Lockheed Martin Corporation (US), RTX (US), BAE Systems (UK), Northrop Grumman (US), L3Harris Corporation (US), Leonardo S.p.A (Italy) and among others in the surface radars market.

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