Military Radars Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 166 pages | Mordor Intelligence

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Report description:

The military radars market was valued at USD 14.37 billion in 2021, and it is expected to register a CAGR of over 4.5% during the forecast period (2022 - 2031).

The global aerospace and defense (A&D) manufacturing sector has been undergoing an unprecedented disruption due to the COVID-19 pandemic. However, the defense sector is expected to remain stable and grow as most countries have not reduced their defense budgets and remain committed to sustaining their military capabilities. Supply-side disruptions are some of the most visible effects of the pandemic's impact on the defense sector. Firms located in countries badly affected by COVID-19 or those dependent on supply chains located in affected countries have been the immediate victims of the pandemic. Thus, due to the widespread disruption in the supply chain, some of the defense programs could face minor cost escalations and delays in the short term.

Radar is an essential component of the surveillance systems of the global militaries. The growing territorial disputes and threats from adversaries are propelling several countries to invest heavily in their surveillance systems to reduce dependency and detect intrusion and respond quickly.

The increasing use of unmanned aerial vehicles (UAVs), stealth aircraft, hypersonic missiles, and electronic warfare systems have forced several countries to enhance their radar capabilities. The market is driven by the advancements in range, detection, identification, and integration with other sensors and adaptability to new missions, platforms, and environments that are driving the demand for new military radars on a global scale.

Military Radars Market Trends

Airborne Segment Expected to Register the Highest CAGR During the Forecast Period

A modern military aircraft is designed to perform distinct mission profiles; hence, the onboard radar systems must be capable of performing specifically as per the designated mission profiles. For instance, radar is used in combat aircraft to find hostile aircraft and control air-to-air missiles, rockets, and other onboard weapons. Similarly, in a bomber aircraft, radar is used to find surface targets, fix or move, and navigate and avoid obstacles. An increase in the global aerial fleet has led to a rise in the demand for airborne radar. It has fostered significant investments toward developing advanced radar systems that can effectively be used against stealth technology-enabled combat aircraft.

Moreover, the cost-effectiveness and ease of operations of unmanned platforms, compared to manned platforms, have aided the rapid adoption of UAVs in defense applications (for both surveillance and attack operations). Military organizations are largely deploying unmanned platforms in conflict regions across the world. The US Army is planning to integrate ground-penetrating radar onboard small UAS to deliver a digital map that shows the shapes, sizes, and features of objects in the environment. Ground-penetrating radar technology has not proliferated into UAS due to size, weight, and power (SWaP) constraints. Hence, the US Army plans to test the system's feasibility by collecting data on inert unexploded ordnance (UXO), synthetic tracer material, and flora and fauna using radar on a chip operating between 100MHz and 5GHz attached to an unmanned system. Additionally, the tethered aerostat radar systems are being used as a low-level airborne ground surveillance system in a few countries. These factors render a positive outlook for the airborne radar segment of the market during the forecast period.

Asia-Pacific Expected to Witness the Highest Growth During the Forecast Period

Countries in the Asia-Pacific region, such as China and India, are investing heavily toward strengthening their defense capabilities. They are expected to continue the same during the forecast period. China is progressing with the development of KJ-600 surveillance aircraft that is widely speculated to be capable of detecting stealth aircraft such as the F-22 and the F-35. The aircraft is envisioned to be commissioned as the People Liberation Army's (PLA's) carrier-based early warning system. The Indian Air Force is emphasizing a large-scale fleet expansion and modernization at a time when its fighter aircraft squadron's strength is depleting. As of March 2021, the Indian Air Force had a fighter aircraft squadron strength of 31 against a sanctioned strength of 42 squadrons. In January 2021, India signed an order for 83 Hindustan Aeronautics' (HAL) Tejas Mk-1A Light Combat Aircraft. The order covers 73 single-seat Tejas Mk-1As and 10 two-seat trainers. It is worth USD 6.4 billion. Since 2017, South Korea has been operating the Terminal High Altitude Area Defense (THAAD), a transportable, ground-based missile defense system. In May 2020, South Korea announced the adoption of new, advanced interceptor missiles for the fielded THAAD systems. In the THAAD system, the radar intercepts an incoming missile, and the threat is identified by those manning the system, who then fires a projectile from a truck called the interceptor at the missiles. On the other hand, Japan is reportedly seeking to devise a new National Defense Program to develop new missile defense systems and replace the currently fielded Aegis systems. Such developments are likely to foster the rapid growth of the market in Asia-Pacific during the forecast period.

Military Radars Market Competitor Analysis

The military radars market is highly competitive and is marked by the presence of many prominent players competing for a larger market share. Lockheed Martin Corporation, Northrop Grumman Corporation, Israel Aerospace Industries, Leonardo SpA, and Raytheon Technologies Corporation are some of the major players in the market. The stringent safety and regulatory policies in the defense segment are expected to restrict the entry of new players. With the growing implementation of stealth technologies in adversary aerial platforms and weapons, market players are focusing on the development of sophisticated radar systems that can effectively detect targets with lower radar cross-sections. Also, players are investing in the development of several newer generation radars like the Active Electronically Scanned Array (AESA) Radars, Passive Radars, 3D Radars, Dual Band Radars, etc., which offer several advantages as compared to their conventional counterparts. With the growing focus on indigenization, several

countries are investing in the development of Radar systems locally, which is expected to make the market more competitive in the years to come.

Additional Benefits:

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

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