

Surveillance Radar Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> ****Industry:**** Missiles, Defense Systems & Radars (Aerospace & Defense)
> ****Source:**** https://www.mordorintelligence.com/industry-reports/surveillance-radar-market(https://www.mordorintelligence.com/industry-reports/surveillance-radar-market)
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Executive Market Summary

Market Metric	Details
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Base Market Size	USD 14.04 billion
Projected Forecast (2031)	USD 14.04 billion
Growth Rate (CAGR)	10.29 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

![Major players in Surveillance Radar industry](images/chart_2.png)

![Surveillance Radar Market Size](images/chart_3.png)

![Surveillance Radar Market Share by Platform, 2025](images/chart_4.png)

![Surveillance Radar Market Share by Frequency Band, 2025](images/chart_5.png)

![Surveillance Radar Market CAGR (%), Growth Rate by Region](images/chart_6.png)

![Surveillance Radar Market Concentration](images/chart_7.png)

![Icon](images/chart_8.png)

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![GPTW](images/chart_19.png)

Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market OverviewStudy Period | 2020 - 2031 |
Market Size (2026) | USD 14.04 Billion |
Market Size (2031) | USD 22.90 Billion |
Growth Rate (2026 - 2031) | 10.29 % |
Fastest Growing Market | Asia Pacific |
Largest Market | North America |
Market Concentration | Medium |
Major Players*Disclaimer: Major Players sorted in no particular order

Market Overview

Surveillance Radar Market Analysis by Mordor Intelligence
 Surveillance radar market size in 2026 is estimated at USD 14.04 billion, growing from 2025 value of USD 12.73 billion with 2031 projections showing USD 22.9 billion, growing at 10.29% CAGR over 2026-2031. Heightened defense-modernization programs, rising border-security imperatives, and rapid progress in active electronically scanned array (AESA) technology are the primary forces behind this expansion. Nations are retiring legacy mechanically steered radars in favor of software-defined architectures that adapt to new threat signatures within milliseconds. Adopting AI-enabled autonomous target-recognition systems reduces operator workload and supports multi-domain operations. At the same time, gallium-nitride semiconductors are improving power density, range, and reliability while lowering size, weight, and cooling penalties.

Key Report Takeaways* By platform, airborne systems led with 36.12% revenue share in 2025; space-based platforms are forecasted to expand at a 9.47% CAGR to 2031.

* By component, antennas represented the largest 24.08% share in 2025, whereas digital-signal processors are projected to grow fastest at an 8.22% CAGR.

* By application, military uses controlled 68.95% of the surveillance radar market share in 2025, while commercial uses are set to grow at an 8.58% CAGR through 2031.

* By frequency band, X-band held 29.21% of the surveillance radar market size in 2025, whereas Ku/K-band systems are projected to rise at a 10.38% CAGR between 2026 and 2031.

* By range, long-range radars held a 41.88% share of the surveillance radar market in 2025; short-range units are poised for the fastest 8.63% CAGR.

* By radar dimension, 2-D systems dominated with a 46.10% share in 2025, while 4-D systems are set to expand at a 7.56% CAGR through 2031.

* By geography, North America commanded 35.12% revenue share in 2025, while Asia-Pacific is anticipated to register the highest 7.41% CAGR to 2031.

Key Market Trends

Market Trends and Insights
 Drivers Impact Analysis of Surveillance Radar Market*
 Driver | % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |
 Escalating defense budgets and fleet modernization | +2.8% | North America and Europe | Medium term (2-4 years) |
 Heightened border-security surveillance needs | +2.1% | APAC and Middle East | Short term (≤ 2 years) |
 Rapid adoption of AESA-based systems | +1.9% | North America and EU; expanding into APAC | Medium term (2-4 years) |
 AI-enabled autonomous target recognition | +1.4% | North America and EU; spill-over to APAC | Long term (≥ 4 years) |
 Proliferation of multi-static and passive radar networks | +1.2% | Europe and North America; selective APAC adoption | Long term (≥ 4 years) |
 UTM-grade lightweight radars for commercial drones | +1.0% | Global, early uptake in North America and Europe | Medium term (2-4 years) |
 Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The surveillance radar market is moderately consolidated. Heavyweights—RTX Corporation, Lockheed Martin Corporation, Northrop Grumman Corporation, Thales Group—hold entrenched positions through vertical control of transmitter-receiver modules, gallium-nitride wafer supply, and algorithm stacks. They invest in organic G

GaN fabrication lines and proprietary AI libraries to buffer against supply shocks and commoditization. Strategic teaming remains central: RTX and Kongsberg's GhostEye collaboration extends a 30-year NASAMS partnership with 360-degree GaN coverage.

New entrants exploit software-defined architectures to bypass hardware fill rates. Anduril's 2025 acquisition of Numerica's Spyglass radar vaults the company from counter-UAS niche to mid-tier tactical-air-defense supplier, leveraging AI to compress kill-chain timelines. Rheinmetall's 60% stake in ICEYE's SAR satellite venture positions the German conglomerate as a cross-domain provider, bundling orbital imaging with land-based effectors. Such moves reshape competitive contours by marrying cloud-processed data services with traditional sensor hardware.

Primes respond through open mission-systems standards that invite external app development while locking customer data rights. Intellectual property protection around AI inference engines becomes the new battleground, with boutique analytics firms commanding high acquisition premiums. Talent scarcity in radar-signal processing amplifies this trend, prompting incumbents to set up university partnerships and in-house academies for next-generation engineer pipelines.

Surveillance Radar Industry Leaders* Lockheed Martin Corporation

* HENSOLDT AG

* RTX Corporation

* Saab AB

* Thales Group

* *Disclaimer: Major Players sorted in no particular order

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Scope Methodology P Space

This market covers spending on surveillance radar systems used to detect, track, and provide early warning across air, land, and maritime domains, including associated embedded software and standard initial spares that ship with new systems.

Scope exclusions: weather radar used mainly for forecasting and fire control radars used directly for weapon guidance are not counted.

Segmentation Container

* By Platform* Airborne

* Land

* Sea

* Space

* By Component* Antennas

* Transmitters

* Duplexers

* Digital Signal Processors

* Other Components

* By Application* Commercial

* Military

* By Frequency Band* VHF and UHF

* L Band

* S Band

- * C Band
- * X Band
- * Ku/K Band
- * Ka-Band and Above
- * By Range* Short-Range (Less than 50 km)
- * Medium-Range (50–200 km)
- * Long-Range (Greater than 200 km)
- * By Radar Dimension* 2-D
- * 3-D
- * 4-D
- * By Geography* North America* United States
- * Canada
- * Europe* United Kingdom
- * Germany
- * France
- * Russia
- * Rest of Europe
- * Asia-Pacific* China
- * Japan
- * India
- * South Korea
- * Rest of Asia-Pacific
- * South America* Brazil
- * Rest of South America
- * Middle East and Africa* Middle East* United Arab Emirates
- * Saudi Arabia
- * Rest of Middle East
- * Africa* Egypt
- * Rest of Africa

Frequently Asked Questions

What is the current size of the surveillance radar market and how fast is it growing?

The surveillance radar market stands at USD 14.04 billion in 2026 and is projected to advance at a 10.29% CAGR to reach USD 22.9 billion by 2031.

Which platform segment holds the largest revenue share?

Airborne systems led in 2025 with a 36.12% share, reflecting sustained investment in multi-mission aircraft and unmanned platforms.

Which platform segment is expanding the fastest?

Space-based radars are projected to post the quickest 9.47% CAGR through 2031 as governments seek persistent global coverage.

What frequency band is expected to grow most rapidly?

Ku/K-band systems are forecast to register a 10.38% CAGR thanks to superior resolution for counter-stealth and space-surveillance missions.

Which geographic region is anticipated to record the highest growth rate?

Asia-Pacific is set to advance at a 7.41% CAGR, driven by maritime security programs and large-scale counter-stealth deployments.

What is the primary restraint weighing on near-term adoption?

High acquisition and life-cycle costs—up to USD 130 million per unit for top-tier systems—remain the biggest short-term drag on procurement.