

Global Electronically Scanned Array Market Size study & Forecast, by Type, Platform, Installation, Frequency Band, Component, Range, Dimension, Array Geometry and Regional Forecasts 2025-2035

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Abstracts

Global Electronically Scanned Array (ESA) Market is valued approximately at USD 9.09 billion in 2024 and is projected to expand with a robust CAGR of 7.10% during the forecast period 2025-2035. Electronically Scanned Arrays, encompassing both Active (AESA) and Passive (PESA) configurations, represent a monumental leap in radar system technology, offering agile beam steering without mechanical movement. These advanced systems are leveraged across military and commercial applications for target detection, surveillance, missile tracking, and communications. Their superior scanning speed, enhanced reliability, and ability to detect stealth aircraft have propelled their adoption across defense platforms. The ESA market is being fueled by an escalating demand for sophisticated radar capabilities driven by emerging threats, increasing modernization of defense assets, and the strategic imperative to maintain air superiority.

As geopolitical tensions and regional conflicts continue to intensify, major defense powers are doubling down on investment in early-warning and threat-detection systems. ESA radars, particularly those utilizing AESA technology, have emerged as the gold standard due to their multi-target tracking abilities, electronic counter-countermeasures, and high-resolution imaging. With militaries increasingly pivoting towards network-centric warfare, these radars enable seamless integration into digital battlefield environments. Furthermore, technological breakthroughs in GaN (Gallium Nitride) semiconductor materials, miniaturization, and thermal management have significantly elevated the performance benchmarks of ESA systems. The convergence of these innovations is not only expanding the footprint of ESA radars across aerial platforms, ships, and ground vehicles but also bolstering their use in satellite payloads, UAVs, and

next-gen fighter jets.

Regionally, North America holds a commanding position in the global ESA market, underpinned by large-scale procurement programs led by the U.S. Department of Defense and continuous investment in R&D. The United States remains a frontrunner in AESA deployment across F-35, F/A-18, and future NGAD platforms. In contrast, the Asia Pacific region is poised to experience the fastest growth owing to rising military expenditure, rapid modernization of air defense infrastructure, and strategic programs in nations like India, China, Japan, and South Korea. These countries are investing heavily in indigenous ESA radar development and regional missile shield programs. Meanwhile, Europe is gradually amplifying its focus on electronic warfare and radar upgrades, largely aligned with NATO initiatives and joint defense procurement policies.

Major market player included in this report are:

Northrop Grumman Corporation

Leonardo S.p.A

Lockheed Martin Corporation

Raytheon Technologies Corporation

Saab AB

Thales Group

BAE Systems plc

Israel Aerospace Industries

Hensoldt AG

General Dynamics Corporation

Mitsubishi Electric Corporation

Airbus Defense and Space

Rohde & Schwarz GmbH & Co KG

L3Harris Technologies Inc.

Elbit Systems Ltd.

Global Electronically Scanned Array Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025-2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained below:

By Type:

Active Electronically Scanned Array (AESA)

Passive Electronically Scanned Array (PESA)

By Platform:

Air

Marine

Land

By Installation:

Fixed Installation

Portable Installation

By Frequency Band:

C Band

L Band

S Band

X Band

Ku Band

Ka Band

Multi-Band

By Component:

Transmitter

Receiver

Power Supply

Signal Processor

Others

By Range:

Short Range

Medium Range

Long Range

By Dimension:

2D

3D

By Array Geometry:

Linear Array

Planar Array

Circular Array

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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