

Aircraft Surveillance Systems Market Forecasts to 2034 – Global Analysis By System Type (Dependent Surveillance Systems, Independent Surveillance Systems, Hybrid Surveillance Systems, Surface Surveillance Systems and Other System Types), Component, Platform, Application, End User and Geography

<https://marketpublishers.com/r/A340E86C8281EN.html>

Date: July 2026

Pages: 0

Price: US\$ 4,150.00 (Single User License)

ID: A340E86C8281EN

Abstracts

According to Statistics MRC, the Global Aircraft Surveillance Systems Market is accounted for \$9.5 billion in 2026 and is expected to reach \$19.8 billion by 2034 growing at a CAGR of 9.6% during the forecast period. Aircraft surveillance systems are advanced technologies used to continuously monitor, identify, and track aircraft during flight to enhance airspace safety, operational efficiency, and situational awareness. These systems integrate radar, Automatic Dependent Surveillance–Broadcast (ADS-B), multilateration, satellite-based surveillance, and onboard sensors to provide accurate real-time aircraft position, altitude, speed, and trajectory information. Aircraft surveillance systems support air traffic management, collision avoidance, search and rescue operations, and regulatory compliance. Their ability to improve flight safety and optimize airspace utilization makes them essential to modern aviation. Increasing global air traffic and the modernization of aviation infrastructure are driving the adoption of advanced aircraft surveillance systems worldwide.

Market Dynamics:

Driver:

Rising aviation safety requirements

Surveillance systems provide real-time monitoring of aircraft positions, enhancing situational awareness for pilots and controllers. Rising passenger traffic and expanding air routes are increasing the need for reliable surveillance infrastructure. Enterprises benefit from reduced risks of mid-air collisions and improved operational efficiency. Governments are mandating stricter safety standards, driving adoption of advanced systems. Vendors are investing in technologies that integrate seamlessly with modern avionics. As safety requirements intensify, surveillance systems are becoming indispensable in global aviation.

Restraint:

Complex avionics integration requirements

Aircraft often require customized solutions to ensure compatibility with navigation and communication systems. Enterprises face high costs and technical hurdles during installation and certification. Smaller operators struggle to afford advanced integration processes. Vendors must design flexible systems that minimize disruption while maintaining performance. Governments are encouraging standardization, but progress is uneven across regions. These complexities continue to slow down widespread adoption of surveillance technologies.

Opportunity:

AI-powered surveillance analytics

Artificial intelligence can process vast amounts of flight data to predict risks and optimize air traffic management. Enterprises benefit from enhanced decision-making and reduced operational delays. Vendors are developing AI-driven platforms that provide predictive insights for controllers and pilots. Governments are funding initiatives to strengthen aviation safety through digital innovation. Academic institutions are researching AI applications in surveillance to improve accuracy and resilience. As AI matures, it is expected to transform the way surveillance systems operate.

Threat:

Stringent regulatory certification standards

Surveillance systems must undergo rigorous testing to meet aviation safety regulations.

Enterprises face delays and increased costs due to lengthy approval processes. Smaller firms are particularly vulnerable, as compliance expenses can be prohibitive. Vendors must balance innovation with adherence to strict standards. Governments are working to harmonize regulations, but inconsistencies remain across jurisdictions. Certification challenges continue to be a barrier to faster commercialization of surveillance systems.

Covid-19 Impact:

The Covid-19 pandemic initially reduced demand for surveillance systems as air travel declined sharply. Airlines delayed investments in new technologies due to financial constraints. However, the crisis also highlighted the importance of resilient and efficient surveillance infrastructure. Enterprises began exploring digital solutions to maintain safety despite reduced flight activity. Governments included aviation modernization in recovery strategies, boosting funding for surveillance upgrades. Vendors leveraged the opportunity to expand into remote monitoring and predictive analytics. Overall, Covid-19 acted as a catalyst, accelerating long-term interest in advanced surveillance systems.

The dependent surveillance systems segment is expected to be the largest during the forecast period

The dependent surveillance systems segment is expected to account for the largest market share during the forecast period as these systems rely on aircraft broadcasting position data, enabling efficient tracking by air traffic control. Enterprises benefit from improved accuracy and reduced reliance on ground-based radar. Vendors are investing in scalable dependent surveillance solutions to meet rising demand. Governments are mandating adoption to strengthen aviation safety. Academic institutions are researching enhancements to dependent surveillance technologies. This segment is anchoring overall market revenue growth.

The flight tracking segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the flight tracking segment is predicted to witness the highest growth rate due to rising demand for real-time tracking of aircraft is fueling interest in advanced solutions. Enterprises benefit from improved operational efficiency and enhanced passenger safety. Governments are funding initiatives to strengthen global flight tracking infrastructure. Vendors are developing innovative platforms tailored for airlines and regulators. Awareness campaigns highlight the importance of flight tracking

in preventing incidents.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to the region benefits from advanced aviation infrastructure and strong investment capacity. early adoption of surveillance technologies has positioned the us and canada as leaders in aviation safety innovation. enterprises are increasingly deploying dependent surveillance and flight tracking systems. policy frameworks encourage modernization across airlines and defense aviation. academic institutions are actively researching surveillance applications.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rapid air travel growth and expanding aviation networks are key drivers. Countries such as China, India, Japan, and Singapore are investing heavily in surveillance infrastructure. Affordable solutions are gaining traction among mid-sized airlines, expanding market reach. Governments are supporting innovation through subsidies and regulatory reforms. Younger demographics are increasingly drawn to aviation careers, boosting demand for safety systems.

Key players in the market

Some of the key players in Aircraft Surveillance Systems Market include RTX Corporation, Thales S.A., Honeywell International Inc., BAE Systems plc, Northrop Grumman Corporation, Leonardo S.p.A., Indra Sistemas, S.A., L3Harris Technologies, Inc., Safran S.A., Airbus SE, The Boeing Company, Elbit Systems Ltd., Saab AB, Garmin Ltd. and HENSOLDT AG.

Key Developments:

In March 2026, Northrop Grumman successfully delivered a set of specialized secure communications payloads to the U.S. Space Force for integration into highly elliptical orbit (HEO) systems. The payload architecture provides continuous, jam-resistant tactical communication links across the critical, hard-to-reach Arctic theater.

In January 2026, L3Harris significantly expanded its production capacity for high-repetition missile tracking and laser communication space vehicles. The specialized

manufacturing line feeds the U.S. Space Development Agency's (SDA) Proliferated Warfighter Space Architecture, building out a dense LEO mesh layer designed to track hypersonic threats.

In November 2025, Honeywell introduced its next-generation ultra-compact optical laser communication terminal designed for small satellites and LEO-to-GEO cross-links. The optical assembly strips up to 30% of the weight of legacy radio-frequency (RF) systems while providing secure, gigabit-per-second inter-satellite data relays.

System Types Covered:

- Dependent Surveillance Systems

- Independent Surveillance Systems

- Hybrid Surveillance Systems

- Surface Surveillance Systems

- Other System Types

Components Covered:

- Transponders

- Antennas

- Surveillance Processors

- Display Systems

- Other Components

Platforms Covered:

- Commercial Aircraft

Military Aircraft

Business Jets

Helicopters

Other Platforms

Applications Covered:

Airborne Surveillance

Traffic Monitoring

Collision Avoidance

Flight Tracking

Other Applications

End Users Covered:

Commercial Airlines

Defense Organizations

Business Aviation Operators

Government Agencies

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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