

Air Traffic Surveillance Market Forecasts to 2034 – Global Analysis By Surveillance Technology (Primary Radar, Secondary Radar, ADS-B, Multilateration and Other Surveillance Technologies), Component, Installation, Application, End User and Geography

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Abstracts

According to Statistics MRC, the Global Air Traffic Surveillance Market is accounted for \$8.8 billion in 2026 and is expected to reach \$18.5 billion by 2034 growing at a CAGR of 9.7% during the forecast period. Air traffic surveillance refers to the continuous monitoring and tracking of aircraft within controlled and uncontrolled airspace to ensure safe, efficient, and orderly air traffic operations. It utilizes technologies such as primary and secondary radar, ADS-B, multilateration, satellite surveillance, and sensor networks to provide real-time information on aircraft location, altitude, speed, and flight paths. Air traffic surveillance enables air traffic controllers to maintain aircraft separation, manage traffic flow, and respond effectively to operational situations. Growing air traffic volumes and investments in next-generation air navigation systems are driving the adoption of advanced air traffic surveillance technologies globally.

Market Dynamics:

Driver:

Growing global air traffic

Higher flight volumes are increasing the need for advanced surveillance technologies that deliver accurate aircraft tracking, efficient airspace management, and enhanced operational safety. Aviation authorities are modernizing surveillance infrastructure to accommodate rising passenger and cargo traffic. Integration of digital surveillance

systems improves situational awareness for air traffic controllers. Investments in next-generation air navigation technologies continue to strengthen surveillance capabilities. Expanding aviation networks are supporting sustained market growth.

Restraint:

High infrastructure deployment costs

Large-scale surveillance networks require substantial capital investment for radar installations, communication systems, software integration, and long-term maintenance. Modernization programs often involve replacing legacy infrastructure while ensuring uninterrupted air traffic operations. Budget limitations can delay implementation across developing aviation markets. Long project timelines also increase financial commitments for airport operators and aviation authorities. Cost-intensive infrastructure continues to limit rapid market expansion.

Opportunity:

AI-driven traffic monitoring systems

Artificial intelligence enhances traffic prediction, aircraft routing, anomaly detection, and controller decision support through continuous analysis of real-time operational data. Intelligent surveillance platforms improve airspace efficiency while reducing controller workload. Predictive analytics enable proactive management of air traffic congestion and potential conflicts. Continuous advances in AI technologies are expanding automation across surveillance operations. Digital transformation is creating strong growth prospects for intelligent air traffic management solutions.

Threat:

Communication network disruptions

Interruptions in data exchange between aircraft, surveillance systems, and control centers can reduce operational visibility and affect airspace coordination. Network failures may delay flight tracking and increase workload for air traffic controllers. Dependence on highly reliable communication infrastructure makes uninterrupted connectivity essential for safe operations. Technical failures and external disruptions can negatively affect surveillance performance. Maintaining resilient communication networks remains a critical industry priority.

Covid-19 Impact:

The COVID-19 pandemic temporarily reduced demand for air traffic surveillance systems due to the sharp decline in global flight operations. Lower aircraft movements delayed airport modernization projects and reduced investments in surveillance infrastructure during the peak of travel restrictions. Several aviation authorities postponed capital expenditure while prioritizing operational continuity. Market recovery gained momentum as passenger traffic returned and airport expansion programs resumed. Governments renewed investments in digital air traffic management to strengthen aviation resilience. Long-term growth prospects remain positive with the recovery of global aviation.

The secondary radar segment is expected to be the largest during the forecast period

The secondary radar segment is expected to account for the largest market share during the forecast period as its ability to provide precise aircraft identification, altitude information, and reliable surveillance coverage makes it indispensable for modern air traffic management operations. Secondary radar supports efficient aircraft separation while improving overall airspace safety. Widespread deployment across commercial airports reinforces its dominant market position. Compatibility with transponder-equipped aircraft further strengthens operational efficiency. Continuous upgrades are sustaining demand across established aviation infrastructures.

The conflict detection segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the conflict detection segment is predicted to witness the highest growth rate due to advanced predictive algorithms enabling early identification of potential flight path conflicts before they develop into operational hazards. Automated conflict detection improves controller response times and supports safer airspace utilization. Integration with next-generation surveillance platforms enhances decision-making during high traffic conditions. Increasing emphasis on automation is accelerating deployment across air navigation service providers. Rising air traffic complexity is expected to fuel rapid segment growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest

market share owing to its mature aviation infrastructure, continuous investments in air traffic modernization, and widespread adoption of advanced surveillance technologies across commercial and defense aviation. The region maintains extensive radar coverage and highly developed air navigation systems. Strong regulatory support encourages continuous technology upgrades. Ongoing investments in digital airspace management reinforce regional leadership.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rapid airport development, expanding commercial aviation fleets, and increasing investments in modern air traffic management infrastructure across emerging economies. Rising passenger demand is encouraging governments to strengthen surveillance capabilities and improve airspace efficiency. New airport construction projects are accelerating deployment of advanced surveillance systems. Continuous aviation sector expansion is supporting technology adoption throughout the region.

Key players in the market

Some of the key players in Air Traffic Surveillance Market include Thales S.A., Indra Sistemas, S.A., RTX Corporation, Leonardo S.p.A., HENSOLDT AG, Northrop Grumman Corporation, BAE Systems plc, Frequentis AG, L3Harris Technologies, Inc., Saab AB, Honeywell International Inc., Airbus SE, Lockheed Martin Corporation, Adacel Technologies Limited and Terma A/S.

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 February 2026, Lockheed Martin expanded its automated 'Gateway Center' satellite production facility to scale up assembly of its standard LM 400 small-sat bus platform. The digital factory relies on modular software integration to rapidly deliver customized payloads for military tracking and communication pipelines.

Surveillance Technologies Covered:

Primary Radar

Secondary Radar

ADS-B

Multilateration

Other Surveillance Technologies

Components Covered:

Radar Systems

Ground Stations

Communication Networks

Surveillance Software

Other Components

Installations Covered:

Airport Surveillance

En-Route Surveillance

Terminal Surveillance

Remote Surveillance

Other Installations

Applications Covered:

Air Traffic Monitoring

Runway Monitoring

Airspace Management

Conflict Detection

Other Applications

End Users Covered:

Air Navigation Service Providers

Airport Authorities

Defense Organizations

Government Aviation 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

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY SURVEILLANCE TECHNOLOGY

- 5.1 Primary Radar
- 5.2 Secondary Radar
- 5.3 ADS-B
- 5.4 Multilateration
- 5.5 Other Surveillance Technologies

6 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY COMPONENT

- 6.1 Radar Systems
- 6.2 Ground Stations
- 6.3 Communication Networks
- 6.4 Surveillance Software
- 6.5 Other Components

7 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY INSTALLATION

- 7.1 Airport Surveillance
- 7.2 En-Route Surveillance
- 7.3 Terminal Surveillance
- 7.4 Remote Surveillance
- 7.5 Other Installations

8 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY APPLICATION

- 8.1 Air Traffic Monitoring
- 8.2 Runway Monitoring
- 8.3 Airspace Management
- 8.4 Conflict Detection
- 8.5 Other Applications

9 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY END USER

- 9.1 Air Navigation Service Providers
- 9.2 Airport Authorities
- 9.3 Defense Organizations
- 9.4 Government Aviation Agencies
- 9.5 Other End Users

10 GLOBAL AIR TRAFFIC SURVEILLANCE MARKET, BY GEOGRAPHY

- 10.1 North America
 - 10.1.1 United States
 - 10.1.2 Canada
 - 10.1.3 Mexico
- 10.2 Europe
 - 10.2.1 United Kingdom
 - 10.2.2 Germany
 - 10.2.3 France
 - 10.2.4 Italy
 - 10.2.5 Spain
 - 10.2.6 Netherlands
 - 10.2.7 Belgium
 - 10.2.8 Sweden
 - 10.2.9 Switzerland
 - 10.2.10 Poland
 - 10.2.11 Rest of Europe
- 10.3 Asia Pacific
 - 10.3.1 China
 - 10.3.2 Japan
 - 10.3.3 India
 - 10.3.4 South Korea
 - 10.3.5 Australia
 - 10.3.6 Indonesia
 - 10.3.7 Thailand
 - 10.3.8 Malaysia
 - 10.3.9 Singapore
 - 10.3.10 Vietnam
 - 10.3.11 Rest of Asia Pacific
- 10.4 South America
 - 10.4.1 Brazil
 - 10.4.2 Argentina

- 10.4.3 Colombia
- 10.4.4 Chile
- 10.4.5 Peru
- 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
 - 10.5.1 Middle East
 - 10.5.1.1 Saudi Arabia
 - 10.5.1.2 United Arab Emirates
 - 10.5.1.3 Qatar
 - 10.5.1.4 Israel
 - 10.5.1.5 Rest of Middle East
 - 10.5.2 Africa
 - 10.5.2.1 South Africa
 - 10.5.2.2 Egypt
 - 10.5.2.3 Morocco
 - 10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

13 COMPANY PROFILES

- 13.1 Thales S.A.
- 13.2 Indra Sistemas, S.A.
- 13.3 RTX Corporation
- 13.4 Leonardo S.p.A.
- 13.5 HENSOLDT AG

- 13.6 Northrop Grumman Corporation
- 13.7 BAE Systems plc
- 13.8 Frequentis AG
- 13.9 L3Harris Technologies, Inc.
- 13.10 Saab AB
- 13.11 Honeywell International Inc.
- 13.12 Airbus SE
- 13.13 Lockheed Martin Corporation
- 13.14 Adacel Technologies Limited
- 13.15 Terma A/S

List Of Tables

LIST OF TABLES

Table 1 Global Air Traffic Surveillance Market Outlook, By Region (2023-2034) (\$MN)
Table 2 Global Air Traffic Surveillance Market, By Surveillance Technology (2023–2034) (\$MN)
Table 3 Global Air Traffic Surveillance Market, By Primary Radar (2023–2034) (\$MN)
Table 4 Global Air Traffic Surveillance Market, By Secondary Radar (2023–2034) (\$MN)
Table 5 Global Air Traffic Surveillance Market, By ADS-B (2023–2034) (\$MN)
Table 6 Global Air Traffic Surveillance Market, By Multilateration (2023–2034) (\$MN)
Table 7 Global Air Traffic Surveillance Market, By Other Surveillance Technologies (2023–2034) (\$MN)
Table 8 Global Air Traffic Surveillance Market, By Component (2023–2034) (\$MN)
Table 9 Global Air Traffic Surveillance Market, By Radar Systems (2023–2034) (\$MN)
Table 10 Global Air Traffic Surveillance Market, By Ground Stations (2023–2034) (\$MN)
Table 11 Global Air Traffic Surveillance Market, By Communication Networks (2023–2034) (\$MN)
Table 12 Global Air Traffic Surveillance Market, By Surveillance Software (2023–2034) (\$MN)
Table 13 Global Air Traffic Surveillance Market, By Other Components (2023–2034) (\$MN)
Table 14 Global Air Traffic Surveillance Market, By Installation (2023–2034) (\$MN)
Table 15 Global Air Traffic Surveillance Market, By Airport Surveillance (2023–2034) (\$MN)
Table 16 Global Air Traffic Surveillance Market, By En-Route Surveillance (2023–2034) (\$MN)
Table 17 Global Air Traffic Surveillance Market, By Terminal Surveillance (2023–2034) (\$MN)
Table 18 Global Air Traffic Surveillance Market, By Remote Surveillance (2023–2034) (\$MN)
Table 19 Global Air Traffic Surveillance Market, By Other Installations (2023–2034) (\$MN)
Table 20 Global Air Traffic Surveillance Market, By Application (2023–2034) (\$MN)
Table 21 Global Air Traffic Surveillance Market, By Air Traffic Monitoring (2023–2034) (\$MN)
Table 22 Global Air Traffic Surveillance Market, By Runway Monitoring (2023–2034) (\$MN)
Table 23 Global Air Traffic Surveillance Market, By Airspace Management (2023–2034)

(\$MN)

Table 24 Global Air Traffic Surveillance Market, By Conflict Detection (2023–2034)

(\$MN)

Table 25 Global Air Traffic Surveillance Market, By Other Applications (2023–2034)

(\$MN)

Table 26 Global Air Traffic Surveillance Market, By End User (2023–2034) (\$MN)

Table 27 Global Air Traffic Surveillance Market, By Air Navigation Service Providers
(2023–2034) (\$MN)

Table 28 Global Air Traffic Surveillance Market, By Airport Authorities (2023–2034)
(\$MN)

Table 29 Global Air Traffic Surveillance Market, By Defense Organizations (2023–2034)
(\$MN)

Table 30 Global Air Traffic Surveillance Market, By Government Aviation Agencies
(2023–2034) (\$MN)

Table 31 Global Air Traffic Surveillance Market, By Other End Users (2023–2034)
(\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World
(RoW) are also represented in the same manner as above.

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