

Inspection and Monitoring Unmanned Systems Market Forecasts to 2030 – Global Analysis By Type (Unmanned Aerial Vehicles, Unmanned Ground Vehicles and Unmanned Marine Vehicles), Component, Mode of Operation, End User and By Geography

<https://marketpublishers.com/r/I9D324A6BCE7EN.html>

Date: April 2025

Pages: 150

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

ID: I9D324A6BCE7EN

Abstracts

According to Statistics MRC, the Global Inspection and Monitoring Unmanned Systems Market is growing at a CAGR of 15.2% during the forecast period. Examination and Observation Unmanned systems are remotely operated or self-driving cars that are outfitted with sensors, cameras, and data-gathering equipment to evaluate industrial facilities, infrastructure, and natural areas. These technologies, which include drones, underwater robots, and ground-based units, improve data accuracy, safety, and operational efficiency by reaching difficult-to-reach places. Utilized extensively in sectors including defense, energy, and agriculture, they allow for little human intervention in real-time monitoring, predictive maintenance, and regulatory compliance.

According to a report by the Federal Aviation Administration (FAA), the use of unmanned aerial systems (UAS) for inspection and monitoring has significantly increased, with over 1.7 million drones registered in the United States as of 2024.

Market Dynamics:

Driver:

Increased demand for efficiency and cost-effectiveness

Unmanned systems significantly reduce operational costs by eliminating the need for human labor and expensive equipment like scaffolding and cranes for inspection tasks. These systems can access hard-to-reach or hazardous locations such as high-rise structures, wind turbines, and remote pipelines, making inspections safer and more efficient. By automating and streamlining inspection processes, unmanned systems can significantly reduce the time required for inspections, leading to substantial cost savings and increased productivity. Companies across various industries are increasingly adopting these systems to optimize their operations and improve their bottom line.

Restraint:

Lack of skilled personnel

Design, development, and operation of unmanned monitoring systems require specialized skills, creating a significant barrier to market growth. The complex assembly of components, including cameras, batteries, remote controls, propellers, and GPS antennas, demands technical expertise that is not widely available. This shortage of qualified operators and technicians limits the adoption and effective implementation of unmanned inspection systems across industries. Training programs are not keeping pace with technological advancements, further exacerbating the skills gap and potentially slowing market expansion.

Opportunity:

Integration with AI and data analytics

AI-powered drones can analyze data in real-time, allowing for immediate identification of defects or potential hazards and enabling prompt action. These systems can generate valuable insights through high-resolution cameras and advanced sensors, enhancing decision-making processes. The combination of unmanned systems with machine learning capabilities enables more sophisticated autonomous operations, predictive maintenance, and better decision-making in complex scenarios. This technological convergence is transforming inspections across various industries by improving efficiency, safety, and data quality.

Threat:

Adverse weather conditions

Unmanned systems, particularly aerial drones, face significant operational limitations in challenging weather conditions such as high winds, heavy rain, snow, or extreme temperatures. These environmental factors can compromise flight stability, sensor accuracy, and overall mission success. Limited flight endurance and payload capacity further exacerbate these challenges, restricting the operational window for inspection activities. Weather-related disruptions can lead to inspection delays, increased operational costs, and potential safety risks. As unmanned systems are increasingly deployed for critical infrastructure monitoring, their vulnerability to weather conditions represents a persistent threat to reliable service delivery and market growth.

Covid-19 Impact:

The COVID-19 pandemic accelerated the adoption of unmanned systems for inspection and monitoring as industries sought to maintain operations while reducing human contact. With travel restrictions and social distancing requirements, companies turned to drones and other unmanned technologies to remotely inspect assets and infrastructure. This shift highlighted the value of autonomous and remote inspection capabilities, particularly in sectors deemed essential, such as energy, utilities, and infrastructure. The pandemic essentially served as a catalyst for digital transformation in inspection methodologies, creating lasting changes in how industries approach monitoring activities.

The unmanned aerial vehicles (UAVs) segment is expected to be the largest during the forecast period

The unmanned aerial vehicles (UAVs) segment is expected to account for the largest market share during the forecast period due to their versatility and wide-ranging applications across industries. Fixed-wing UAVs are expected to dominate preferred for their superior capabilities in carrying heavier payloads over longer distances while consuming less power. These drones can typically stay airborne for over 16 hours, making them ideal for long-distance missions such as mapping, surveillance, and defense operations. Additionally, the segment is driven by increasing defense budgets worldwide and growing adoption for both combat and non-combat operations.

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

Over the forecast period, the autonomous segment is predicted to witness the highest

growth rate as industries increasingly seek to reduce labor costs and improve efficiency in repetitive tasks. Autonomous unmanned systems can operate without direct human control, utilizing advanced AI, machine learning, and sensor technologies to navigate environments and perform complex inspection tasks independently. The demand for these systems is rising across sectors, including construction, energy, agriculture, and oil & gas, where they provide consistent, reliable monitoring while minimizing human intervention. Additionally, technological advancements in collision avoidance, path planning, and decision-making capabilities are further accelerating the adoption of fully autonomous inspection systems.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share attributed to the region's advanced technological infrastructure, widespread adoption of unmanned systems across industries, and favorable regulatory environment. In North America, the US is expected to be the largest contributor due to its extensive use of drones in sectors like defense, public safety, oil & gas, and construction. The region's leadership is further strengthened by the presence of major market players, substantial investment in research and development, and increasing government initiatives supporting drone technology adoption.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. This rapid growth is driven by high investment in construction and infrastructure sectors, an expanding industrial base, and rising adoption of advanced technologies. Countries like China and India are emerging as significant markets due to their growing economies and increasing focus on technological innovation. The region's growth is further supported by government initiatives promoting drone technology adoption. Additionally, the expanding application of drones in agriculture, mining, and energy sectors is contributing to the region's accelerated market expansion.

Key players in the market

Some of the key players in Inspection and Monitoring Unmanned Systems Market include Axon Enterprise, CACI International, AeroVironment, Leonardo DRS, DJI Innovations, Parrot SA, Lockheed Martin Corporation, Northrop Grumman Corporation, Boeing Insitu, Teledyne FLIR, Textron Systems, Thales Group, General Atomics Aeronautical Systems, PrecisionHawk, Schiebel Group, SenseFly (AgEagle Aerial

Systems), BlueHalo and Elistair.

Key Developments:

In February 2025, Thales, a global technology leader in the defence, aerospace, cybersecurity and digital solutions markets, and Qatar Airways, voted the World's Best Airline by Skytrax in 2024, had signed a memorandum of understanding (MOU) to establish a dedicated Inflight Entertainment (IFE) service and maintenance center based in Doha, Qatar. The mission of a local Thales facility is to provide rapid access to comprehensive services such as repair, spare distribution, technical assistance and line maintenance for the full range of Thales IFE products.

In December 2024, CACI International Inc announced that it is an awardee of a five-year contract valued at up to \$290 million to provide artificial intelligence (AI) and geospatial expertise to the National Geospatial-Intelligence Agency (NGA) under the Luno-A multi-award indefinite delivery, indefinite quantity vehicle.

In November 2024, Axon the global public safety technology leader announced that, following a competitive procurement process, it has been awarded a Public Services and Procurement Canada-led contract to supply the Royal Canadian Mounted Police (RCMP) with Axon Body 4 body-worn cameras and digital evidence management system Axon Evidence.

Types Covered:

Unmanned Aerial Vehicles (UAVs)

Unmanned Ground Vehicles (UGVs)

Unmanned Marine Vehicles

Components Covered:

Hardware

Software

Services

Mode of Operations Covered:

Autonomous

Semi-Autonomous

Remotely Controlled

End Users Covered:

Infrastructure & Construction

Energy & Utilities

Agriculture & Forestry

Defense & Security

Environmental & Safety Monitoring

Industrial Operations

Mining & Resource Exploration

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & 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 2022, 2023, 2024, 2026, and 2030
- 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

2 PREFACE

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
 - 2.4.1 Data Mining
 - 2.4.2 Data Analysis
 - 2.4.3 Data Validation
 - 2.4.4 Research Approach
- 2.5 Research Sources
 - 2.5.1 Primary Research Sources
 - 2.5.2 Secondary Research Sources
 - 2.5.3 Assumptions

3 MARKET TREND ANALYSIS

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 End User Analysis
- 3.7 Emerging Markets
- 3.8 Impact of Covid-19

4 PORTERS FIVE FORCE ANALYSIS

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants
- 4.5 Competitive rivalry

5 GLOBAL INSPECTION AND MONITORING UNMANNED SYSTEMS MARKET, BY

Inspection and Monitoring Unmanned Systems Market Forecasts to 2030 – Global Analysis By Type (Unmanned Aerial...

TYPE

- 5.1 Introduction
- 5.2 Unmanned Aerial Vehicles (UAVs)
 - 5.2.1 Fixed-Wing
 - 5.2.2 Multi-Rotor
 - 5.2.3 Single Rotor
 - 5.2.4 Hybrid
- 5.3 Unmanned Ground Vehicles (UGVs)
- 5.4 Unmanned Marine Vehicles
 - 5.4.1 Surface Vessels
 - 5.4.2 Underwater Vehicles

6 GLOBAL INSPECTION AND MONITORING UNMANNED SYSTEMS MARKET, BY COMPONENT

- 6.1 Introduction
- 6.2 Hardware
 - 6.2.1 Sensors & Cameras
 - 6.2.2 Navigation & Control Systems
 - 6.2.3 Propulsion Systems
 - 6.2.4 Communication Systems
 - 6.2.5 Payload Systems
- 6.3 Software
 - 6.3.1 AI & Machine Learning Solutions
 - 6.3.2 Data Management & Analytics
 - 6.3.3 Flight Control Software
 - 6.3.4 Mission Planning Software
- 6.4 Services
 - 6.4.1 Maintenance & Support
 - 6.4.2 Training & Consulting
 - 6.4.3 Integration & Deployment

7 GLOBAL INSPECTION AND MONITORING UNMANNED SYSTEMS MARKET, BY MODE OF OPERATION

- 7.1 Introduction
- 7.2 Autonomous
- 7.3 Semi-Autonomous

7.4 Remotely Controlled

8 GLOBAL INSPECTION AND MONITORING UNMANNED SYSTEMS MARKET, BY END USER

8.1 Introduction

8.2 Infrastructure & Construction

8.3 Energy & Utilities

8.4 Agriculture & Forestry

8.5 Defense & Security

8.6 Environmental & Safety Monitoring

8.6.1 Wildfire Monitoring

8.6.2 Pollution Monitoring

8.6.3 Disaster Response

8.7 Industrial Operations

8.7.1 Plant Inspection

8.7.2 Transportation & Logistics

8.8 Mining & Resource Exploration

8.9 Other End Users

9 GLOBAL INSPECTION AND MONITORING UNMANNED SYSTEMS MARKET, BY GEOGRAPHY

9.1 Introduction

9.2 North America

9.2.1 US

9.2.2 Canada

9.2.3 Mexico

9.3 Europe

9.3.1 Germany

9.3.2 UK

9.3.3 Italy

9.3.4 France

9.3.5 Spain

9.3.6 Rest of Europe

9.4 Asia Pacific

9.4.1 Japan

9.4.2 China

9.4.3 India

- 9.4.4 Australia
- 9.4.5 New Zealand
- 9.4.6 South Korea
- 9.4.7 Rest of Asia Pacific
- 9.5 South America
 - 9.5.1 Argentina
 - 9.5.2 Brazil
 - 9.5.3 Chile
 - 9.5.4 Rest of South America
- 9.6 Middle East & Africa
 - 9.6.1 Saudi Arabia
 - 9.6.2 UAE
 - 9.6.3 Qatar
 - 9.6.4 South Africa
 - 9.6.5 Rest of Middle East & Africa

10 KEY DEVELOPMENTS

- 10.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 10.2 Acquisitions & Mergers
- 10.3 New Product Launch
- 10.4 Expansions
- 10.5 Other Key Strategies

11 COMPANY PROFILING

- 11.1 Axon Enterprise
- 11.2 CACI International
- 11.3 AeroVironment
- 11.4 Leonardo DRS
- 11.5 DJI Innovations
- 11.6 Parrot SA
- 11.7 Lockheed Martin Corporation
- 11.8 Northrop Grumman Corporation
- 11.9 Boeing Insitu
- 11.10 Teledyne FLIR
- 11.11 Textron Systems
- 11.12 Thales Group
- 11.13 General Atomics Aeronautical Systems

- 11.14 PrecisionHawk
- 11.15 Schiebel Group
- 11.16 SenseFly (AgEagle Aerial Systems)
- 11.17 BlueHalo
- 11.18 Elistair

List Of Tables

LIST OF TABLES

Table 1 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Region (2022-2030) (\$MN)

Table 2 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Type (2022-2030) (\$MN)

Table 3 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Unmanned Aerial Vehicles (UAVs) (2022-2030) (\$MN)

Table 4 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Fixed-Wing (2022-2030) (\$MN)

Table 5 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Multi-Rotor (2022-2030) (\$MN)

Table 6 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Single Rotor (2022-2030) (\$MN)

Table 7 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Hybrid (2022-2030) (\$MN)

Table 8 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Unmanned Ground Vehicles (UGVs) (2022-2030) (\$MN)

Table 9 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Unmanned Marine Vehicles (2022-2030) (\$MN)

Table 10 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Surface Vessels (2022-2030) (\$MN)

Table 11 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Underwater Vehicles (2022-2030) (\$MN)

Table 12 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Component (2022-2030) (\$MN)

Table 13 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Hardware (2022-2030) (\$MN)

Table 14 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Sensors & Cameras (2022-2030) (\$MN)

Table 15 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Navigation & Control Systems (2022-2030) (\$MN)

Table 16 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Propulsion Systems (2022-2030) (\$MN)

Table 17 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Communication Systems (2022-2030) (\$MN)

Table 18 Global Inspection and Monitoring Unmanned Systems Market Outlook, By

Payload Systems (2022-2030) (\$MN)

Table 19 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Software (2022-2030) (\$MN)

Table 20 Global Inspection and Monitoring Unmanned Systems Market Outlook, By AI & Machine Learning Solutions (2022-2030) (\$MN)

Table 21 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Data Management & Analytics (2022-2030) (\$MN)

Table 22 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Flight Control Software (2022-2030) (\$MN)

Table 23 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Mission Planning Software (2022-2030) (\$MN)

Table 24 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Services (2022-2030) (\$MN)

Table 25 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Maintenance & Support (2022-2030) (\$MN)

Table 26 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Training & Consulting (2022-2030) (\$MN)

Table 27 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Integration & Deployment (2022-2030) (\$MN)

Table 28 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Mode of Operation (2022-2030) (\$MN)

Table 29 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Autonomous (2022-2030) (\$MN)

Table 30 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Semi-Autonomous (2022-2030) (\$MN)

Table 31 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Remotely Controlled (2022-2030) (\$MN)

Table 32 Global Inspection and Monitoring Unmanned Systems Market Outlook, By End User (2022-2030) (\$MN)

Table 33 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Infrastructure & Construction (2022-2030) (\$MN)

Table 34 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Energy & Utilities (2022-2030) (\$MN)

Table 35 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Agriculture & Forestry (2022-2030) (\$MN)

Table 36 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Defense & Security (2022-2030) (\$MN)

Table 37 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Environmental & Safety Monitoring (2022-2030) (\$MN)

Table 38 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Wildfire Monitoring (2022-2030) (\$MN)

Table 39 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Pollution Monitoring (2022-2030) (\$MN)

Table 40 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Disaster Response (2022-2030) (\$MN)

Table 41 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Industrial Operations (2022-2030) (\$MN)

Table 42 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Plant Inspection (2022-2030) (\$MN)

Table 43 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Transportation & Logistics (2022-2030) (\$MN)

Table 44 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Mining & Resource Exploration (2022-2030) (\$MN)

Table 45 Global Inspection and Monitoring Unmanned Systems Market Outlook, By Other End Users (2022-2030) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

I would like to order

Product name: Inspection and Monitoring Unmanned Systems Market Forecasts to 2030 – Global Analysis By Type (Unmanned Aerial Vehicles, Unmanned Ground Vehicles and Unmanned Marine Vehicles), Component, Mode of Operation, End User and By Geography

Product link: <https://marketpublishers.com/r/I9D324A6BCE7EN.html>

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

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/I9D324A6BCE7EN.html>