

Edge AI For Video Surveillance Market Forecasts to 2034– Global Analysis By Component (Hardware, Software and Services), Deployment Mode, Enterprise Size, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Edge AI For Video Surveillance Market is accounted for \$4.61 billion in 2026 and is expected to reach \$16.43 billion by 2034 growing at a CAGR of 17.2% during the forecast period. Edge AI for Video Surveillance refers to the integration of artificial intelligence directly within on-site camera systems or local devices, enabling real time analysis of video data without relying on cloud processing. This approach allows instant detection of anomalies, threats, or specific events, enhancing security responsiveness and operational efficiency. By processing data at the edge, it reduces latency, conserves bandwidth, and strengthens privacy. Widely adopted in smart cities, transportation hubs, and critical infrastructure, Edge AI driven surveillance optimizes decision-making, ensures proactive threat management, and supports scalable, intelligent monitoring solutions.

Market Dynamics:

Driver:

Growing Security Needs

The increasing demand for enhanced security across public and private sectors is a major driver for the Edge AI for Video Surveillance market. Rising concerns over terrorism, cyber threats, and criminal activities are pushing organizations to adopt intelligent surveillance systems capable of real-time threat detection. Edge AI enables immediate analysis of video data locally, allowing proactive incident management, faster

response times, and improved operational efficiency. This growing focus on safety and risk mitigation fuels the adoption of AI enabled edge surveillance solutions globally.

Restraint:

High Deployment Costs

Despite its advantages, the adoption of Edge AI for Video Surveillance faces limitations due to high deployment costs. Integrating AI enabled cameras and an edge device requires substantial investment in hardware, software, and training. Additionally, upgrading existing infrastructure to support on-site AI processing can be capital intensive. These financial barriers particularly impact small and medium enterprises and emerging markets, slowing large-scale adoption. Consequently, cost concerns remain a key restraint in the widespread deployment of edge AI surveillance solutions.

Opportunity:

Bandwidth & Latency Reduction

Edge AI offers significant opportunities by reducing bandwidth usage and latency in video surveillance systems. By processing data locally on cameras or edge devices, the need for continuous cloud transmission is minimized. This not only decreases network congestion but also ensures faster decision-making and real time threat detection. Industries such as transportation, critical infrastructure, and smart cities can leverage this capability to enhance operational efficiency, making edge AI an attractive solution for bandwidth intensive and latency sensitive surveillance applications.

Threat:

Complexity of Integration

A key threat to the market is the complexity involved in integrating Edge AI solutions with existing video surveillance infrastructure. Organizations may face technical challenges in combining legacy systems with modern AI enabled devices. Ensuring seamless interoperability, configuring analytics algorithms, and managing data privacy require specialized expertise. This integration complexity can lead to prolonged deployment timelines, higher costs, and potential operational disruptions, making organizations cautious in adopting edge AI solutions despite their clear benefits.

Covid-19 Impact:

The COVID-19 pandemic accelerated the adoption of Edge AI for Video Surveillance, particularly in healthcare and public spaces. Contactless monitoring, social distancing compliance, and occupancy management became crucial for safety. Edge AI-enabled cameras allowed real-time analysis without relying on cloud connectivity, reducing latency and enhancing privacy. However, supply chain disruptions and budget constraints temporarily slowed large scale deployment. Post-pandemic, the demand for intelligent, autonomous, and scalable surveillance solutions continues to grow as organizations prioritize public safety and operational resilience.

The healthcare segment is expected to be the largest during the forecast period

The healthcare segment is expected to account for the largest market share during the forecast period, as hospitals, clinics, and research facilities increasingly adopt Edge AI for patient monitoring, asset tracking, and facility security. Real time video analysis allows immediate detection of safety incidents, unauthorized access, or hygiene non-compliance. Additionally, AI-driven monitoring ensures regulatory compliance and enhances operational efficiency. The critical need for patient safety, combined with sensitive data privacy requirements, positions healthcare as a leading adopter of edge based intelligent surveillance systems.

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

Over the forecast period, the facial recognition segment is predicted to witness the highest growth rate, due to advancements in AI algorithms enable accurate identification of individuals in real time, enhancing security across airports, banking, and public spaces. Edge processing ensures instant alerts while maintaining data privacy by limiting cloud dependency. Increasing demand for automated access control, fraud prevention, and personalized services further drives growth. As organizations seek faster, intelligent, and secure monitoring solutions, facial recognition technology integrated with edge AI becomes a focal point of market expansion.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to rapid urbanization, smart city initiatives, and infrastructure development in

countries like China, India, and Japan drive high adoption of edge AI surveillance. Rising concerns over public safety, transport security, and industrial monitoring further contribute to growth. Additionally, government investments in AI and IoT integration bolster deployment. The region's combination of large scale infrastructure projects and proactive regulatory frameworks positions it as a dominant market for intelligent edge based video surveillance solutions.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, owing to growing awareness about security threats, coupled with increasing adoption of AI-driven smart solutions, fuels rapid market expansion. Technological advancements, cost effective manufacturing of edge devices and government support for AI-enabled smart infrastructure accelerate deployment. Industries such as healthcare and critical infrastructure are increasingly investing in real time, intelligent monitoring solutions. This dynamic growth trajectory highlights Asia Pacific as a hub for innovation and adoption in the market.

Key players in the market

Some of the key players in Edge AI For Video Surveillance Market include Hangzhou Hikvision Digital Technology Co., Ltd., Zhejiang Dahua Technology Co., Ltd., Axis Communications AB, Hanwha Vision Co., Ltd., Bosch Security Systems GmbH, Motorola Solutions, Inc., Honeywell International Inc., Sony Corporation, Mobotix AG, Vivotek Inc., Pelco, Inc., Genetec Inc., FLIR Systems, Inc., Verkada Inc. and IDIS Co., Ltd.

Key Developments:

In October 2025, Acron Aviation has purchased Honeywell's Thermal Switches product line, taking over manufacturing, global sales, and distribution of these high-reliability temperature-responsive safety components to strengthen its aerospace portfolio and support OEM, military, and civil aircraft needs.

In June 2025, Honeywell expanded its existing licensing pact with AFG Combustion and Greens Combustion to include Callidus flares, broadening hydrogen-friendly, low-carbon combustion tech and boosting global support to help industries cut emissions and accelerate the energy transition.

Components Covered:

Hardware

Software

Services

Deployment Modes Covered:

On-Premises

Cloud-Based

Hybrid

Enterprise Sizes Covered:

Small & Medium Enterprises (SMEs)

Large Enterprises

Applications Covered:

Intrusion Detection

Facial Recognition

Object Detection & Tracking

License Plate Recognition (LPR/ANPR)

Crowd Management & People Counting

Behavior Analysis

Traffic Monitoring

Smart Retail Analytics

Industrial Safety Monitoring

End Users Covered:

Commercial

Industrial

Transportation & Logistics

Healthcare

Residential

Smart Cities

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

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