

# AI in Medical Imaging Market Forecasts to 2032 – Global Analysis By Component (Software and Services), Imaging Modality, Deployment Mode, Technology, Application, End User and By Geography

<https://marketpublishers.com/r/AC093F72D8EEEN.html>

Date: October 2025

Pages: 200

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

ID: AC093F72D8EEEN

## Abstracts

According to Statistics MRC, the Global AI in Medical Imaging Market is accounted for \$1.85 billion in 2025 and is expected to reach \$16.48 billion by 2032 growing at a CAGR of 36.6% during the forecast period. Artificial Intelligence (AI) in medical imaging refers to the application of advanced computational algorithms and machine learning techniques to analyze, interpret, and enhance medical images such as X-rays, CT scans, MRIs, and ultrasounds. AI systems can automatically detect patterns, quantify abnormalities, and assist radiologists in diagnosing diseases with higher accuracy and efficiency. By leveraging deep learning models, AI can improve image quality, reduce human error, and enable predictive analytics for patient outcomes. It also facilitates workflow optimization, personalized treatment planning, and early detection of conditions, transforming medical imaging into a more precise, data-driven, and patient-centric practice.

### Market Dynamics:

Driver:

Advancements in AI algorithms and computing power

Deep learning models support automated detection, segmentation, and classification of anomalies across CT, MRI, X-ray, and ultrasound modalities. GPU acceleration and cloud-based processing enable real-time analysis and scalable deployment across hospitals and imaging centers. Integration with PACS and RIS systems improves

workflow efficiency and diagnostic throughput. Demand for AI-assisted interpretation is rising across high-volume and resource-constrained environments. These capabilities are propelling platform innovation and clinical adoption across global healthcare systems.

Restraint:

Integration challenges with existing systems

AI imaging tools must interface with legacy PACS, EMR, and hospital IT systems that vary in architecture and data standards. Custom integration projects increase cost, delay implementation, and degrade workflow continuity. Lack of standardized APIs and data formats hampers cross-platform compatibility and vendor collaboration. IT teams face challenges in maintaining data integrity, auditability, and compliance across hybrid deployments. These constraints continue to hinder adoption across multi-site and infrastructure-heavy healthcare networks.

Opportunity:

Rising demand for early and accurate diagnosis

AI models improve sensitivity and specificity in detecting tumors, lesions, and abnormalities across complex imaging datasets. Platforms support triage, prioritization, and second-read workflows that enhance clinical decision-making and reduce diagnostic delays. Integration with electronic health records and clinical decision support tools enables longitudinal analysis and personalized care. Demand for scalable and reproducible diagnostic tools is rising across screening programs and value-based care models. These dynamics are fostering growth across AI-enabled imaging and precision diagnostics.

Threat:

Lack of standardization and regulatory frameworks

Regulatory bodies vary in their approach to AI model approval, post-market surveillance, and clinical trial requirements. Absence of harmonized performance benchmarks and audit protocols complicates vendor comparison and procurement decisions. Hospitals and imaging centers face challenges in assessing model reliability, bias, and generalizability across diverse patient populations. Reimbursement policies

for AI-assisted diagnostics remain underdeveloped across public and private payers. These risks continue to constrain platform maturity and clinical integration across regulated healthcare environments.

### **Covid-19 Impact:**

The pandemic accelerated AI adoption in medical imaging as healthcare systems faced diagnostic backlogs, staff shortages, and infection control mandates. AI tools supported triage and severity scoring for COVID-19 pneumonia across chest CT and X-ray scans. Remote interpretation and cloud-based deployment enabled continuity of care across quarantined and resource-limited settings. Demand for scalable and automated imaging workflows surged across emergency and outpatient departments. Post-pandemic strategies now include AI imaging as a core pillar of diagnostic resilience and digital health infrastructure. These shifts are reinforcing long-term investment in intelligent imaging platforms and clinical AI governance.

The deep learning segment is expected to be the largest during the forecast period

The deep learning segment is expected to account for the largest market share during the forecast period due to its superior performance in image classification, segmentation, and anomaly detection across medical modalities. Convolutional neural networks and transformer-based architectures support high-accuracy interpretation of radiological and pathological images. Platforms use pretrained models and transfer learning to accelerate deployment across diverse clinical settings. Integration with annotation tools and data lakes enables continuous model refinement and validation. Demand for scalable and explainable deep learning solutions is rising across hospitals, research institutions, and imaging vendors.

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

Over the forecast period, the oncology segment is predicted to witness the highest growth rate as AI platforms scale across cancer screening, staging, and treatment planning. Models detect tumours, measure progression, and assess treatment response across breast, lung, prostate, and colorectal cancers. Integration with radiomics and genomics platforms supports multi-modal analysis and personalized oncology workflows. Demand for early detection and precision diagnostics is rising across public health programs and oncology centres. Investment in AI-enabled cancer imaging is increasing across clinical trials, academic research, and commercial deployments.

### **Region with largest share:**

During the forecast period, the North America region is expected to hold the largest market share due to its advanced healthcare infrastructure, regulatory engagement, and enterprise adoption across hospitals and imaging networks. U.S. and Canadian institutions deploy AI imaging platforms across radiology, pathology, and oncology departments to improve diagnostic accuracy and workflow efficiency. Investment in cloud infrastructure, data governance, and clinical validation supports platform scalability and compliance. Presence of leading vendors, academic centres, and regulatory bodies drives innovation and standardization.

### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR as healthcare modernization, cancer screening programs, and AI policy reform converge across regional economies. Countries like China, India, Japan, and South Korea scale AI imaging platforms across public hospitals, diagnostic labs, and telemedicine networks. Government-backed initiatives support infrastructure investment, startup incubation, and clinical AI validation across urban and rural regions. Local vendors offer multilingual and cost-effective solutions tailored to regional disease profiles and compliance needs. Demand for scalable and accessible diagnostic tools is rising across underserved populations and high-volume imaging centres. These trends are accelerating regional growth across AI medical imaging ecosystems.

### **Key players in the market**

Some of the key players in AI in Medical Imaging Market include Aidoc, Zebra Medical Vision, Arterys, Viz.ai, Qure.ai, Siemens Healthineers, GE HealthCare, Philips Healthcare, IBM Watson Health, NVIDIA, Microsoft, RadNet, Lunit, HeartFlow and Enlitic.

### **Key Developments:**

In July 2025, Aidoc unveiled its CARE1™ model, a foundational AI engine integrated into its aiOS™ platform. CARE1™ supports multi-specialty diagnostic workflows, enabling real-time triage, prioritization, and clinical decision support across radiology, cardiology, and neurology. The launch builds on Aidoc's portfolio of 20+ FDA-cleared algorithms, positioning it as a leader in enterprise-grade clinical AI.

In June 2025, Zebra Medical Vision enhanced its AI1™ bundle, integrating multiple FDA-cleared algorithms into a unified diagnostic platform. The solution automates detection of conditions like coronary artery disease, osteoporosis, and breast cancer, embedding seamlessly into radiologists' native workflows. The update improves diagnostic throughput and supports population health initiatives across large hospital networks.

#### Components Covered:

Software

Services

#### Imaging Modalities Covered:

X-Ray

Computed Tomography (CT)

Magnetic Resonance Imaging (MRI)

Ultrasound

Positron Emission Tomography (PET)

Single-Photon Emission Computed Tomography (SPECT)

Other Imaging Modalities

#### Deployment Modes Covered:

Cloud-Based

On-Premise

#### Technologies Covered:

Deep Learning

Machine Learning

Natural Language Processing (NLP)

Computer Vision

Explainable AI (XAI) in Imaging

#### Applications Covered:

Radiology

Oncology

Cardiology

Neurology

Orthopedics

Pulmonology

Other Applications

#### End Users Covered:

Hospitals

Diagnostic Imaging Centers

Specialty Clinics

Research & Academic Institutions

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 2024, 2025, 2026, 2028, and 2032
- 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:**

*AI in Medical Imaging Market Forecasts to 2032 – Global Analysis By Component (Software and Services), Imaging...*

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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