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AI Medical Imaging Market Forecasts to 2034 – Global Analysis By Modality (X-ray Imaging, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound Imaging, Nuclear Imaging, Mammography, and Other Modalities), Deployment Mode, Technology, Application, End User and Geography

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Abstracts

According to Stratistics MRC, the Global AI Medical Imaging Market is accounted for $5.6 billion in 2026 and is expected to reach $28.9 billion by 2034 growing at a CAGR of 22.7% during the forecast period. AI medical imaging refers to the application of machine learning algorithms, deep neural networks, and computer vision systems to the automated analysis, interpretation, and enhancement of medical diagnostic images including X-rays, computed tomography scans, magnetic resonance imaging, ultrasound, nuclear medicine, and mammography outputs. These systems detect anatomical anomalies, segment pathological regions, prioritize radiologist worklists, reduce scan acquisition times, and generate structured diagnostic reports. They are deployed in oncology, cardiology, neurology, pulmonology, and orthopedic imaging workflows across hospital and outpatient imaging settings.

Market Dynamics:

Driver:

Radiologist Shortage and Workload Pressure

Radiologist shortage and escalating imaging study volumes are creating acute workflow

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pressure that AI medical imaging solutions address by automating routine image triage, anomaly flagging, and report generation. Diagnostic imaging volumes are growing faster than radiologist workforce expansion in most major healthcare systems, generating backlogs that AI prioritization tools can materially compress. Health system administrators are actively procuring AI imaging solutions as workforce productivity tools, establishing recurring software subscription revenue streams for medical imaging AI platform vendors.

Restraint:

Algorithm Bias and Generalizability Concerns

Algorithm bias and generalizability limitations present clinical adoption barriers as AI medical imaging models trained on demographically narrow datasets demonstrate performance degradation when applied to patient populations underrepresented in training cohorts. Radiology department administrators are increasingly demanding external validation evidence across diverse patient demographics before procurement commitment. Regulatory scrutiny of AI model performance across racial, age, and gender subgroups is intensifying, requiring extensive validation study investment from imaging AI developers beyond standard clinical performance benchmarks.

Opportunity:

Emerging Market Radiology Infrastructure

Emerging market radiology infrastructure gaps present a transformative growth opportunity for AI medical imaging platforms that can extend diagnostic coverage beyond specialist-concentrated urban centers. AI-powered reading tools enable non-specialist clinicians in rural health facilities to access radiologist-equivalent diagnostic interpretation for common conditions. Government telemedicine and digital health infrastructure programs in India, Southeast Asia, and Sub-Saharan Africa are integrating AI imaging capabilities into primary care expansion initiatives, creating substantial new addressable market volumes.

Threat:

Liability and Clinical Responsibility Ambiguity

Liability and clinical responsibility ambiguity for AI-generated medical imaging

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interpretations represents a systemic threat to adoption, as regulatory and legal frameworks have not definitively established accountability when AI diagnostic errors contribute to adverse patient outcomes. Radiologists and hospital risk managers express institutional reluctance to fully rely on AI outputs without independent clinical verification, limiting autonomous AI deployment beyond assistive functions. Medical malpractice insurance policy gaps for AI-assisted diagnostics further compound institutional risk calculus against accelerated adoption.

Covid-19 Impact:

COVID-19 catalyzed AI medical imaging adoption as chest CT and X-ray AI tools for COVID-19 pneumonia detection received emergency regulatory approvals, demonstrating rapid value in overwhelmed radiology departments. Pandemic-era workflow automation precedents normalized AI imaging assistant integration in hospital protocols. Post-pandemic, AI imaging platform procurement has accelerated as health systems permanently incorporate AI triage tools for respiratory pathology, oncology screening, and cardiovascular imaging.

The nuclear imaging segment is expected to be the largest during the forecast period

The nuclear imaging segment is expected to account for the largest market share during the forecast period, due to increasing clinical adoption of PET-CT and SPECT imaging for oncology staging, cardiac perfusion assessment, and neurodegenerative disease diagnosis. AI integration with nuclear imaging enables automated lesion quantification, attenuation correction optimization, and reduced tracer dosing protocols. Growing clinical evidence supporting AI-enhanced nuclear imaging accuracy in early cancer detection is expanding referring physician utilization and driving imaging center equipment upgrade cycles.

The cloud-based segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the cloud-based segment is predicted to witness the highest growth rate, driven by health system demand for scalable AI inference capacity without capital-intensive on-premise GPU infrastructure investment. Cloud-hosted AI medical imaging platforms enable multi-site deployment, continuous model update delivery, and cross-institutional data aggregation for ongoing model improvement. Major cloud providers are building dedicated medical imaging AI infrastructure and marketplace ecosystems that reduce integration barriers for hospital IT departments adopting AI

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diagnostic tools.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to leading AI medical imaging research infrastructure, high diagnostic imaging utilization rates, and substantial FDA-cleared AI imaging product portfolios. The U.S. hosts the largest installed base of medical imaging AI-cleared devices globally. Strong reimbursement frameworks for advanced diagnostic procedures and active hospital AI adoption programs supported by companies including GE Healthcare and Siemens Healthineers sustain dominant regional positioning.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to rapidly expanding diagnostic imaging infrastructure investment, government AI healthcare development programs, and large underserved patient populations benefiting from AI-driven teleradiology. China's NMPA has established expedited review tracks for AI medical device approvals, accelerating domestic and international imaging AI product launches. Japan and South Korea's advanced imaging equipment manufacturing ecosystems are integrating AI capabilities across product lines.

Key players in the market

Some of the key players in AI Medical Imaging Market include GE Healthcare, Siemens Healthineers, Philips Healthcare, Canon Medical Systems Corporation, IBM Watson Health, Aidoc Medical Ltd., Zebra Medical Vision, Arterys Inc., Viz.ai, Inc., Enlitic, Inc., Qure.ai, Lunit Inc., Butterfly Network, Inc., Tempus Labs, NVIDIA Corporation, Fujifilm Holdings Corporation, Samsung Medison, and Agfa-Gevaert Group.

Key Developments:

In March 2026, NVIDIA Corporation introduced a purpose-built medical imaging AI inference hardware platform optimized for hospital on-premise deployment with HIPAA-compliant data processing.

In February 2026, GE Healthcare launched its Edison AI imaging platform expansion with new oncology CT lesion detection algorithms cleared by FDA for lung nodule

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screening workflows.

In January 2026, Aidoc Medical Ltd. secured a major multi-site hospital system contract deploying its AI radiology triage platform across 40 imaging centers for emergency pathology detection.

In October 2025, Qure.ai announced expansion into Latin American markets through a regional telemedicine partnership integrating AI chest X-ray reading into primary care networks.

Modalities Covered:

- X-ray Imaging
- Computed Tomography (CT)
- Magnetic Resonance Imaging (MRI)
- Ultrasound Imaging
- Nuclear Imaging
- Mammography
- Other Modalities

Deployment Modes Covered:

- Cloud-based
- On-premise
- Hybrid
- Web-based Platforms
- SaaS Models

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- Integrated Systems

Technologies Covered:

- Deep Learning
- Machine Learning
- Natural Language Processing
- Computer Vision
- Cloud-based AI
- Edge AI

Applications Covered:

- Oncology Imaging
- Cardiology Imaging
- Neurology Imaging
- Pulmonology Imaging
- Orthopedic Imaging
- Gastroenterology Imaging
- Other Applications

End Users Covered:

- Hospitals

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- Diagnostic Imaging Centers
- Research Institutes
- Ambulatory Surgical Centers
- Tele-radiology Providers
- Academic Medical Centers
- Other End Users

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - United Kingdom
  - Germany
  - France
  - Italy
  - Spain
  - Netherlands
  - Belgium

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- 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

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- 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,

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2030, 3032 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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13 COMPANY PROFILES

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

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