

AI in Medical Imaging to Surge to \$11.25B by 2033 | 24.6% CAGR Driven by Precision Diagnostics & Digital Healthcare

Deep learning, rising imaging volumes, and digital hospital integration accelerate AI adoption, with North America leading and Asia-Pacific growing fastest.

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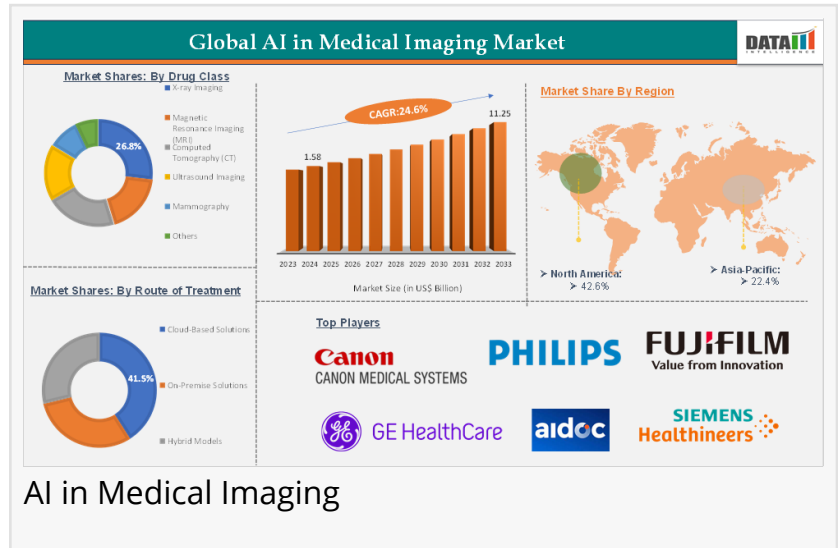
According to DataM Intelligence, the global [AI in medical imaging market](#) was valued at US\$ 1.29 Billion in 2023. The market size reached US\$ 1.58 Billion in 2024 and is expected to reach US\$ 11.25 Billion by 2033, growing at a

CAGR of 24.6% during the forecast period 2025-2033. Major growth drivers include rising healthcare digitization, high prevalence of chronic diseases, increasing adoption of AI diagnostics, heavy imaging workload, and growing demand for faster and error-free reports. Technological advancements in deep learning models, rising cloud deployment, and government

investment in healthcare AI further propel growth. X-ray imaging currently dominates the market due to widespread accessibility and cost-effectiveness, while North America leads the global market, driven by advanced healthcare infrastructure, high digital adoption, and presence of leading AI developers. Asia-Pacific, however, is the fastest-growing region, supported by expanding hospital networks and increasing AI integration.

“AI is revolutionizing imaging by shifting from reactive diagnosis to proactive intelligence, enabling faster, more accurate insights as scan complexity increases and advancing precision healthcare.”

DataM Intelligence



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<https://www.datamintelligence.com/download-sample/ai-in-medical-imaging-market>

The growing complexity of imaging data and shortage of radiologists globally are accelerating AI-

assisted diagnosis adoption. Integration of AI with PACS systems, cloud-based platforms, and hospital imaging networks has improved report speed and quality. Additionally, AI helps reduce costs by automating workflow management and enabling preventive diagnosis, which reduces the need for invasive procedures. AI is also gaining traction in healthcare reimbursement models, supporting long-term adoption across hospitals, diagnostic imaging centers, and teleradiology services.

Key Highlights from the Report

- Global market expected to grow from USD 1.58 Bn (2024) to USD 11.25 Bn by 2033 at 24.6% CAGR.
- X-ray imaging holds the largest market share due to high usage in primary diagnostics.
- North America leads with over 42% market share, while Asia-Pacific is the fastest-growing region.
- Deep learning is the dominant AI technology used in image detection and classification.
- Oncology and cardiovascular disease diagnostics are among the top clinical applications.
- Cloud-based deployment is rapidly expanding owing to scalability and remote access benefits.

Market Segmentation

By Technology

AI in medical imaging includes deep learning, traditional machine learning, computer vision, and convolutional neural networks. Deep learning accounts for the largest market share due to its high accuracy in anomaly detection and predictive assessment. Its use in radiology aids segmentation, classification, and pattern recognition in complex imaging.

By Imaging Modality

the market is segmented into X-ray, CT scan, MRI, ultrasound, PET, and mammography. X-ray imaging is the leading segment due to affordability and high versatility in bone, chest, and acute diagnostics. CT and MRI follow, showing rapid AI adoption for complex diagnoses in neurology, oncology, and cardiovascular assessment.

By Application

Major areas include oncology, cardiology, pulmonology, neurology, musculoskeletal disorders, and general radiology. Oncology dominates the application segment as AI aids early tumor identification and helps stage cancer more accurately. AI-powered cardiology tools are increasing due to rising heart disease prevalence.

By Deployment

Solutions are categorized as cloud-based and on-premise. While on-premise systems are preferred by major hospitals due to data security, cloud-based AI platforms are rapidly gaining traction among diagnostics facilities and teleradiology providers for faster access, lower setup costs, and higher scalability.

By End-User, AI medical imaging solutions are widely used in hospitals, diagnostic imaging centers, ambulatory care units, and teleradiology networks. Hospitals are the dominant users due to higher imaging patient volume and availability of integrated PACS and EHR systems.

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Regional Insights

North America leads the global AI in medical imaging market, supported by high healthcare spending, fast AI integration into radiology, and widespread adoption of EHRs and PACS. The U.S. generates major revenue, driven by strong research and development, AI-enabled screening initiatives, and government backing through healthcare modernization programs.

Europe holds the second-largest market share, with significant adoption in Germany, the UK, and France. Stringent regulatory frameworks ensure high accuracy in medical tools, supporting AI adoption in hospitals and research institutions. European advances in digital radiology and specialty imaging support steady growth.

Asia-Pacific is the fastest-growing regional market, due to expanding medical infrastructure, increasing healthcare AI investments, and large patient populations requiring imaging diagnostics. China and India are leading the AI-based diagnostics revolution, driven by government-backed digital health initiatives.

Latin America and the Middle East & Africa are emerging markets. Growth is moderate but accelerating due to gradual AI awareness, partnerships with global tech providers, and rising demand for cost-efficient imaging technologies.

Market Dynamics

Market Drivers

Growing imaging volume and radiologist workload are primary growth drivers. AI helps reduce diagnostic errors and aids early detection of conditions such as cancer and heart disease. Surge in chronic disorders, aging populations, and need for preventive healthcare further fuel market demand. Availability of AI-enabled imaging hardware, along with government and private funding for healthcare digitalization, supports adoption.

Market Restraints

Barriers include high initial implementation cost, regulatory challenges, integration complexities with existing hospital systems, and concerns regarding data privacy. Shortage of skilled AI specialists and interoperability issues with legacy imaging systems can hinder quick adoption. Some clinicians show resistance due to concerns about AI replacing human expertise.

Market Opportunities

AI-driven precision medicine, radiomics, and predictive analytics offer significant opportunities

for personalized care. Growth of teleradiology, cloud-based platforms, and AI decision support tools open new revenue streams. The integration of AI with robotics for image-guided surgeries, and use of AI in portable medical scanners, represent future expansion areas.

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Reasons to Buy the Report

- Detailed market forecasts, including high-growth segments
- Comprehensive competitive landscape analysis
- Clinical, technological, and regulatory insights for strategic planning
- Trends analysis for AI integration into radiology workflows
- Growth opportunities across regions, applications, and deployment models

Frequently Asked Questions (FAQs)

- How big is the global AI in medical imaging market in 2024?
- What is the projected CAGR for the AI in medical imaging market through 2032–2033?
- Which imaging modality leads the market for AI adoption?
- What are the key growth drivers behind AI in medical imaging?
- Which region is expected to dominate the AI in medical imaging industry during the forecast period?

Company Insights

Key Players Operating in the Market Include:

- GE HealthCare
- Siemens Healthineers
- Philips Healthcare
- IBM Watson Health
- Canon Medical Systems
- Fujifilm Holdings
- Agfa HealthCare
- Aidoc
- Zebra Medical Vision
- Enlitic
- Qure.ai
- Butterfly Network
- Tempus
- Vuno

Recent Developments

In October 2025, Subtle Medical reported 2.5 year over year revenue growth, driven by strong adoption of its AI solutions such as SubtleHD and Subtle-ELIT , now installed in over 1,000 diagnostic imaging devices worldwide, enhancing scanning speed and image clarity for MR, PET,

and CT modalities.

In September 2025, researchers introduced a breakthrough AI model for high-quality MRI reconstruction from partial scan data, enabling significant reduction in scanning time while maintaining superior image resolution. The model, known as DA-INR, has strong potential for expanding MRI accessibility in resource-limited healthcare settings.

In July 2025, GE HealthCare achieved a major milestone after being recognized for holding the highest number of FDA-approved AI-enabled medical devices, crossing 100 authorized solutions in radiology and clinical imaging, marking four consecutive years of leadership in AI healthcare innovations.

In March 2025, Deep Health unveiled an AI-powered radiology informatics platform at the European Congress of Radiology (ECR 2025). The Diagnostic Suite integrates PACS, RIS, AI analysis, and reporting, while their Smart Mammo tool improves breast cancer screening accuracy and workflow efficiency.

In January 2025, Siemens Healthineers launched an advanced AI-powered MRI platform featuring automated imaging recommendations. The system enables up to 30% faster scan interpretation and improves detection accuracy for neurological disorders, enhancing diagnostic productivity.

Conclusion

The AI in medical imaging market is redefining diagnostic healthcare by enhancing accuracy, increasing speed, and supporting proactive clinical decision-making. With the global market projected to grow at a CAGR of over 24.6% through 2033, AI technologies are poised to play a crucial role in the future of radiology, oncology, cardiology, and hospital digitalization. North America currently dominates, but Asia-Pacific presents strong growth potential due to healthcare modernization and increasing AI adoption.

Deep learning remains the most significant technological category, powering innovation in image analysis and disease prediction. While implementation challenges persist particularly concerning data privacy and system interoperability long-term opportunities in radiomics, remote diagnostics, and precision healthcare are substantial.

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