

Multimodal Imaging Market Assessment, By Technology [PET/CT Systems, SPECT/CT Systems, PET/MR Systems, OCT/FMT Systems, Others], By Application [Oncology, Cardiology, Brain and Neurology, Ophthalmology, Research, Others], By End-user [Hospitals, Diagnostic Imaging Centers, Academic and Research Institutes, Others], By Region, Opportunities and Forecast, 2017-2031F

Market Report | 2024-11-27 | 238 pages | Market Xcel - Markets and Data

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## **Report description:**

Global multimodal imaging market is projected to witness a CAGR of 5.79% during the forecast period 2024-2031, growing from USD 4.52 billion in 2023 to USD 7.09 billion in 2031. The market for multimodal imaging systems is rising due to increasing chronic diseases, corporate investments, rising demand for precision diagnosis, increasing government initiatives, technological advancements in medical imaging, and increased adoption of multimodal imaging systems, and it is expected that it will keep growing at the same pace.

Multimodal imaging is a system integrating various imaging techniques into one, hence providing a more detailed and accurate view for diagnosis. It enhances the traditional imaging methodology by combining multiple modalities into one, enabling the visualization of complex biological structures and processes in detail. This leads to more accurate diagnoses, generally improving the quality of medical imaging.

In modern healthcare, multimodal imaging plays a vital role by providing insights into biological structures and their functions. Some of the key factors driving the multimodal imaging market include increasing demand for point-of-care imaging solutions for general medical diagnosis due to an increasing aging population worldwide, and government initiatives toward upgrading healthcare systems and making technology more accessible with supportive reimbursement policies. Additionally, portable multimodal imaging technology is continuously improving, fueling its demand for ambulatory and emergency services and leading to the development of new, cost-effective mobile systems. For instance, in January 2023, Cobalt Health introduced a mobile PET/CT service using the advanced Siemens Healthineers PET/CT technology. This mobile is fully fitted with a reception area,

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waiting room, lab, four uptake rooms, and all other necessary facilities for both patients and staff, just like any full PET/CT department. Its launch can underline the growing demand for mobile and multimodality imaging solutions to enhance access and convenience for healthcare delivery across diverse settings.

Furthermore, companies are also investing in the expansion of their facilities across the globe to promote access to advanced healthcare solutions, thereby driving the growth of the multimodal imaging market. For instance, in March 2024, Wipro GE Healthcare Pvt. Ltd. presented a USD 9,600 million investment in local manufacturing and R&D. With this, the company intends to localize the manufacturing of PET CT, CT, and MR coils in India and increase the country's significance globally in the MedTech sector. This investment reflects the growing demand for mobile and multimodal imaging solutions on account of strengthening local production capabilities to meet ever-growing healthcare needs in the country and worldwide.

Rising Prevalence of Chronic Diseases

With the rising incidences of prostate cancer, Alzheimer's disease, and various neurological disorders, there is an increasing demand for advanced and reliable diagnostic imaging technologies along with effective treatments. As these diseases become more prevalent, there is a growing demand for advanced imaging solutions combining various modalities. Hybrid imaging technologies have the potential to play a significant role in disease diagnosis and treatment. These technologies combine various imaging techniques for more accurate and comprehensive insights necessary for dealing with these health issues. According to the World Health Organization (WHO), there were approximately 1.47 million cases of prostate cancer in 2022 worldwide, and the cases are projected to increase to 2.63 million by 2045. This increase demonstrates, most poignantly, the need for better diagnostic techniques to save more lives. Multimodal imaging integrates two or more imaging techniques into one, thereby overcoming the drawbacks of single-modality imaging with the complementary data it offers. This approach offers a more comprehensive view of the disease and its progression. This enables clinicians to establish a more precise tumor staging, which is essential for selecting appropriate treatments. Therefore, multimodal imaging has become an important tool in cancer management. So, if these health conditions continue to grow, the demand for multimodal imaging is expected to grow. For instance, in June 2023, at the Society of Nuclear Medicine and Molecular Imaging (SNMMI) annual meeting, GE HealthCare unveiled an updated PET/MR system with AIR Technologies. The new SIGNA PET/MR AIR system was highlighted to enhance diagnostic precision, accelerate treatment assessment, and make patients more comfortable. This technology could make giant leaps in the diagnosis and treatment of prostate cancer, probably revolutionizing future medical imaging and treatment approaches.

Technological Advancements in Medical Imaging Drives the Market Growth

Continuous technological advancements within the multimodal imaging system strongly drive the multimodal imaging market growth. Some of the major developments are higher resolution and sensitivity, which together increase the precision and detail of imaging. These technological improvements remarkably enhance diagnostic capabilities and treatment planning. In oncology, for example, such advanced imaging may allow for more accurate visualization of the tumor to thus help in proper localization and the delivery of therapy with precision. Such a level of detail not only helps diagnostic accuracy but also enhances treatment planning for improved patient outcomes. Companies are strategically working on the development of advanced imaging technologies. The integration of the latest developments has helped companies build functionality into their products by enhancing the ability to improve effectiveness.

For instance, in November 2023, The Biograph Vision.X PET/CT from Siemens Healthineers received FDA approval. This represents a significant advancement in multimodal imaging by Siemens Healthineers. Driven by its leading flight time of 178 picoseconds, it uses advanced Optiso Ultra Dynamic Range (UDR) detector technology with 3.2 mm x 3.2 mm high-resolution LSO crystal elements. Its AIDAN platform featuring FlowMotion AI eases operational efficiency to the next level and personalizes the acquisition process for individual patients with AI-driven precision. This improves image clarity significantly, with great help in detecting even the smallest lesions for diagnosis with great accuracy. As these technologies continue to evolve, they are allowing more comprehensive assessments and fostering greater adoption, thus accelerating the growth of the multimodal imaging market. The continuous advancement in medical imaging represents a dynamic and increasingly crucial area for modern diagnostics and therapies.

Dominance of Technology in the Multimodal Imaging Market

The technology segment has a major share in the global multimodal imaging market. Several factors influence market growth,

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including investment in multimodal imaging systems, the growing prevalence of chronic diseases, and the increasing demand for better turnaround times, high-resolution imaging, and greater precision. The new product launch, together with the widespread adoption of the technology, underscores the increasing demand for this technology in the market. With advances in technology, the development of even more advanced imaging systems continues to expand the capabilities for diagnosing and treating patients. The continued efforts to improve precision and effectiveness in imaging diagnostics demonstrate the market expansion. For instance, in June 2024, Siemens Healthineers AG introduced the Biograph Trinion PET/CT scanner. The high-performance scanner is energy-efficient and cost-efficient. It offers a range of clinical capabilities at lower operational costs. Some of its features include scalable, air-cooled digital detectors with enhanced spatial resolution and ultra-fast time-of-flight performance that further enhances small lesion detectability and sensitivity. An integrated platform replaces separate systems to carry out seamless workflows for PET and CT, smoothing the process. Artificial Intelligence and intelligent user interfaces further enhance operational efficiency. Such launches and advancements underline the dominance of PET/CT and drive growth in the multimodal imaging market.

North America Accounts for the Largest Share of the Multimodal Imaging Market

North America is expected to lead the multimodal imaging market in North America, which is driven by high demand from the United States and Canada. Various factors, including a high prevalence of chronic diseases, an aging population, and a well-structured healthcare system with strong reimbursement policies, support this leadership. The advanced healthcare infrastructure in the region encourages the wide use of advanced imaging technologies. Additionally, key players and companies headquartered in North America also contribute to enhancing their imaging solutions. Initiatives taken by organizations like the US FDA towards creating awareness about health, along with frequent new product launches and approvals, are driving demand for multimodal imaging tools in the region. This blend of leading healthcare developments with active market participation represents the leading position of North America in the multimodal imaging market.

For instance, in July 2024, Positron Corporation, a molecular imaging company, introduced the NeuSight PET-CT 3D 64-slice scanner in the United States and North American markets, which is advanced yet economical. NeuSight is manufactured by Neusoft Medical Systems, but Positron Corporation will handle the sales of NeuSight in the region as per its agreement with Shenyang Intelligent Nuclear Medical Technology Co., a subsidiary of Neusoft Medical Systems. This advanced technology has attained milestones in cardiac PET imaging by delivering high-quality imaging and diagnostic accuracy while ensuring patient comfort and ease of operation. Such innovative, pioneering technologies being developed within the region contribute to North America's leading position in the multimodal imaging market.

Future Market Scenario (2024-2031F)

□Portable multi-modality imaging systems are the future of imaging. For instance, in April 2024, CDL Nuclear Technologies launched the new Mobile Cardiac PET/CT Trailer. This mobile unit brings sophisticated cardiac PET/CT imaging capabilities directly onto the doorstep of medical facilities, greatly improving access to quality diagnostic services. These would be very helpful for those facilities that do not have advanced imaging on-site or have had very limited access to advanced technology. The Mobile Cardiac PET/CT Trailer presents a minimal financial and operational risk to any hospital trying to expand cardiovascular imaging services. A module that fits seamlessly into the existing healthcare infrastructure with full conformance to regulatory standards, this product also underlines the growing trend toward flexible, on-demand imaging services. These innovations will be the future of multimodal imaging, offering unparalleled access and speed in diagnosis.

□ Artificial intelligence will continue to transform multimodal imaging. Al-based algorithms are increasingly integrated into the systems to allow for a smoother workflow and increase diagnostic accuracy. For example, in May 2024, Blue Earth Diagnostics announced a data-sharing agreement with Siemens Healthineers to share anonymized clinical data from its Phase 3 LIGHTHOUSE trial with the Company's medical imaging arm. Siemens Healthineers will use all the gathered data to further refine its Al algorithms for imaging prostate cancer. A major point in using Al will be integrating the solutions of multimodal imaging, hence optimizing the process of analysis and preparing essential information for patient care, driving future growth in the market for multimodal imaging.

Key Players Landscape and Outlook

There has been a high level of activity in the market through mergers and collaborations to increase the market shares of the leading companies. Partnerships and acquisitions have been strategic in developing capabilities, product portfolios, and market

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reach. This allows key players to fully utilize combined expertise and resources to drive growth and innovation within the sector. New product launches, regulatory approvals, and collaboration with hospitals are key strategies that leaders have employed in recent years. These moves represent the dynamic nature of the market, where key players build up their positions and meet changing market needs.

In August 2024, Siemens Healthineers agreed to complete the acquisition of the Novartis molecular imaging business for USD 223 million to expand operations for PET radiopharmaceuticals into Europe. This acquisition includes the Advanced Accelerator Applications (AAA), diagnostic manufacturing, and distribution network. Novartis remains with the therapeutic business of AAA. With the said agreement, Siemens cements its position in the European market for PET.

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