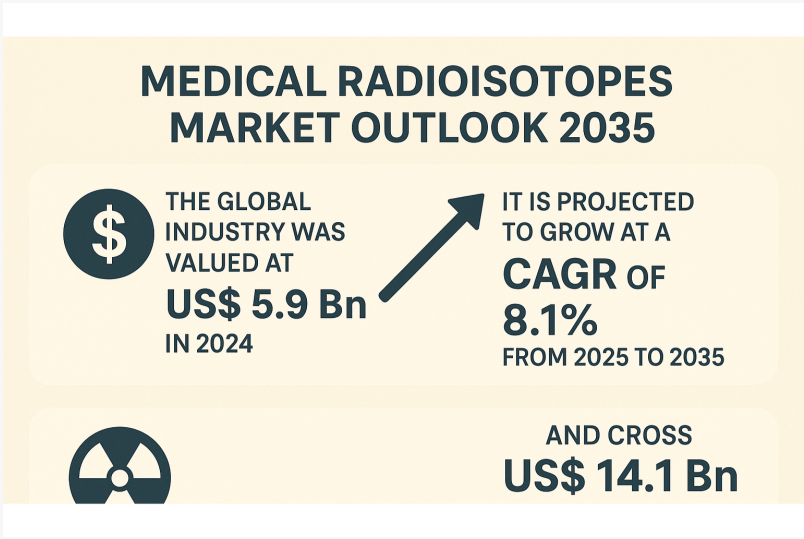
Medical Radioisotopes Market to Reach USD 14.1 Bn by 2035, Fueled by Rising Demand in Diagnostic | TMR

Rising demand for advanced diagnostics and targeted therapies drives growth of the global medical radioisotopes market across healthcare sectors.



Medical Radioisotope

WILMINGTON, DE, UNITED STATES, August 18, 2025 /EINPresswire.com/ -- The global medical radioisotopes market was valued at US$ 5.9 Bn in 2024 and is projected to grow at a CAGR of 8.1% from 2025 to 2035, surpassing US$ 14.1 Bn by 2035. Rising demand for diagnostic imaging in oncology and cardiology, expanding use of nuclear medicine in personalized therapies, and growing investments in radiopharmaceutical R&D are key factors fueling market expansion. Increasing incidences of chronic diseases such as cancer and cardiovascular disorders are further augmenting the demand for advanced imaging modalities such as PET and SPECT, both of which rely heavily on medical radioisotopes such as technetium-99m and fluorine-18.

Analysts' Viewpoint

The medical radioisotopes market is undergoing significant transformation, propelled by the dual drivers of diagnostic imaging and therapeutic use. The rising prevalence of cancer, cardiovascular, and neurological conditions is amplifying the need for precise, non-invasive diagnostic tools. Nuclear imaging using PET and SPECT has emerged as a vital modality, with technetium-99m, iodine-131, and thallium-201 among the most widely used isotopes.

Simultaneously, radiopharmaceutical development is improving targeted cancer therapies by delivering precise doses of radiation directly to tumor cells while sparing surrounding healthy tissue. This trend toward personalized medicine is expected to create new opportunities for innovation and partnerships across the industry. Increased R&D spending and collaborations

between pharmaceutical companies, nuclear agencies, and research institutes will likely drive advancements in isotope production and broaden clinical applications.

Market Introduction

Medical radioisotopes are radioactive substances used extensively in diagnosis and treatment. These isotopes emit radiation that can be captured by imaging devices, enabling clinicians to visualize organ function and disease progression. Widely adopted isotopes include technetium-99m (diagnostic imaging) and iodine-131 (thyroid therapy).

Applications extend beyond imaging to targeted therapies, particularly in oncology, where radioisotopes deliver radiation selectively to diseased cells. Growing disease prevalence, technological advances in radiopharmaceuticals, and heightened awareness of nuclear medicine are expanding their role in modern healthcare.

Market Drivers

Growing Awareness of Nuclear Medicine

Increasing physician and patient awareness of nuclear medicine is accelerating adoption of PET and SPECT imaging. Education campaigns, better training, and technological advancements are fostering confidence in radioisotope-based diagnostics. These non-invasive modalities provide critical insights for disease progression and treatment planning, further driving demand.

Rising Demand for Personalized Medicine

Personalized medicine trends are boosting radioisotope demand, particularly in oncology. By tailoring therapies to genetic and molecular tumor profiles, radioisotopes enable targeted treatment with minimal side effects. This compatibility with precision healthcare strengthens their role in future treatment paradigms.

Application Insights

Cardiology Segment Leads Market Growth

The cardiology segment dominates the global medical radioisotopes market due to the high prevalence of cardiovascular diseases. Isotopes such as technetium-99m and thallium-201 are central to myocardial perfusion imaging and stress testing, which aid in early diagnosis and timely interventions. Technological advancements in nuclear imaging continue to improve diagnostic accuracy and patient outcomes, cementing cardiology as a leading application area.

Regional Outlook

North America accounted for the largest share of the medical radioisotopes market in 2024. The region’s advanced healthcare infrastructure, high prevalence of chronic diseases, and strong reimbursement frameworks support widespread adoption of nuclear medicine. Favorable regulations and investments in isotope production also underpin market leadership.

Europe is experiencing steady growth driven by increased use of nuclear imaging in oncology and cardiology, supported by strong research networks. Meanwhile, Asia Pacific is expected to witness rapid expansion due to rising healthcare investments, aging populations, and growing awareness of advanced diagnostic and therapeutic options.

Analysis of Key Players in Medical Radioisotopes Market

Prominent players operating in the global market include:

Siemens Healthineers

Lantheus Holdings

Abbott Laboratories

Eli Lilly

Sanofi

Orano

Rosatom

Cardinal Health

Curium

IBA Radiopharma Solutions

NorthStar Medical Radioisotopes

BWX Technologies

Shine Medical Technologies

NECSA Ltd

These companies focus on expanding isotope production capacity, advancing therapeutic radiopharmaceuticals, and entering strategic partnerships to strengthen their global footprint.

Key Developments

January 2023 — NorthStar Medical Radioisotopes LLC advanced its proprietary electron accelerator technology for non-uranium-based production of Mo-99 at its new facility in Wisconsin, U.S.

March 2022 — Bracco Imaging launched Blue Earth Therapeutics, a subsidiary focused on developing next-generation therapeutic radiopharmaceuticals for oncology.

Market Segmentations

By Type

Technetium-99m

Gallium-67

Iodine-131

Copper-67

Cobalt-60

Strontium-82

Germanium-68

Rubidium-82

Thallium-201

Others

By Application

Cardiology

Oncology

Neurology

Nephrology

Thyroid

Others

By End-user

Hospitals

Diagnostic Centers

Others

By Region

North America

Europe

Asia Pacific

Latin America

Middle East & Africa

Future Trends in the Medical Radioisotopes Market

Non-Uranium Based Production: Transition toward sustainable, non-reactor isotope production methods.

Targeted Radiopharmaceuticals: Expansion of precision therapies in oncology and neurology.

Digital Integration: Combining imaging data with AI for improved diagnosis and personalized therapy planning.

Expanding Access in Emerging Markets: Affordable isotope production and expanded nuclear medicine facilities.

Conclusion

The medical radioisotopes market is evolving into a cornerstone of modern medicine. As diagnostic imaging and therapeutic applications expand, and with strong momentum from personalized medicine, the market is projected to more than double by 2035. Vendors that innovate in isotope production, ensure regulatory compliance, and expand into emerging markets will capture significant value in this growing industry.

More Trending Research Reports:

Technetium-99m Market – https://www.transparencymarketresearch.com/global-technetium-99m-market.html

Radiopharmaceutical Theranostics Market – https://www.transparencymarketresearch.com/radiopharmaceutical-theranostics-market.html

Gallium-68 Market – https://www.transparencymarketresearch.com/gallium68-market.html

Cyclotron Market – https://www.transparencymarketresearch.com/cyclotron-market.html

Medical Cyclotrons Market – https://www.transparencymarketresearch.com/medical-cyclotrons-market.html

Medical Isotopes Market – https://www.transparencymarketresearch.com/medical-isotopes-market.html

Molecular Oncology Market – https://www.transparencymarketresearch.com/molecular-oncology-market.html

Oncology Information System Market – https://www.transparencymarketresearch.com/oncology-information-system-market.html

AI in Oncology Market – https://www.transparencymarketresearch.com/ai-in-oncology-market.html

Radiation Oncology Market – https://www.transparencymarketresearch.com/radiation-oncology-market.html

Cardiology Information System Market – https://www.transparencymarketresearch.com/cardiology-information-system-market.html

Interventional Cardiology Devices Market – https://www.transparencymarketresearch.com/interventional-cardiology-devices.html

Cardiovascular Monitoring & Diagnostic Devices Market – https://www.transparencymarketresearch.com/cardiovascular-monitoring-diagnostic-devices-market.html

Cardiac Mapping Market – https://www.transparencymarketresearch.com/cardiac-mapping-market.html

PET Radiotracer Market – https://www.transparencymarketresearch.com/pet-radiotracer-market.html

Medical Imaging Equipment Services Market – https://www.transparencymarketresearch.com/medical-imaging-equipment-services-market.html

AI in Medical Imaging Market – https://www.transparencymarketresearch.com/ai-in-medical-imaging-market.html

Radiopharmaceuticals Market – https://www.transparencymarketresearch.com/radiopharmaceuticals-market.html

Nuclear Imaging Devices Market – https://www.transparencymarketresearch.com/nuclear-imaging-devices-market.html

Diagnostic Imaging Services Market – https://www.transparencymarketresearch.com/diagnostic-imaging-services-market.html

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