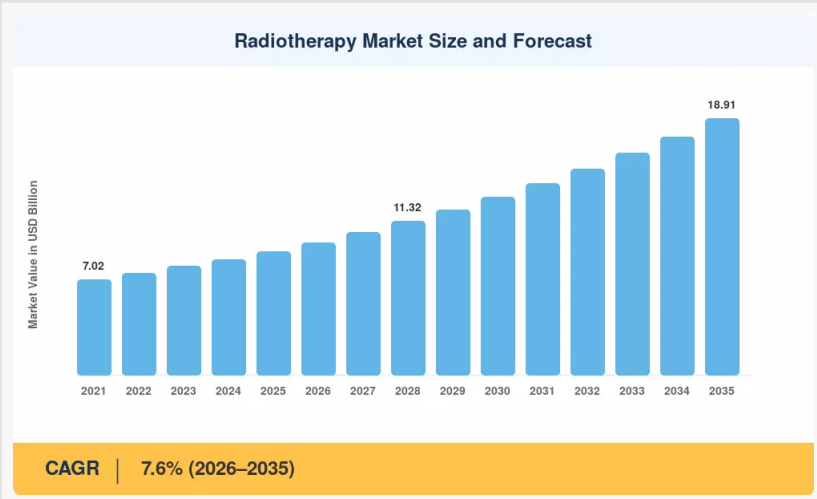
Radiotherapy Market to reach USD 18.91 Billion by 2035 at 7.6% CAGR

Radiotherapy Market to Expand from USD 9.09 Billion in 2025 to USD 18.91 Billion by 2035- Rising Cancer Incidence, Technological Advancements in Delivery System



Radiotherapy Market (2026 - 2035)

NY, CA, UNITED STATES, September 7, 2026 /EINPresswire.com/ -- As per Market Research Future, the global Radiotherapy Market size is projected to reach USD 18.91 Billion by 2035 from USD 9.09 Billion in 2025, at a CAGR of 7.6% during the forecast period 2026–2035.

The 7.6% CAGR—anchored by structural shifts in oncology care delivery—is propelled by three converging forces: the rising global cancer burden, with an estimated 20 million new cancer cases and 9.7 million deaths reported worldwide in 2022, driving healthcare providers to increasingly adopt advanced radiotherapy modalities for curative and palliative intent; advancements in radiation delivery technologies, particularly image-guided radiotherapy (IGRT), intensity-modulated radiotherapy (IMRT), and proton beam systems, which significantly improve treatment precision and patient outcomes; and the integration of artificial intelligence into treatment planning, including auto-segmentation and adaptive re-planning, that enhances workflow efficiency and expands departmental throughput.

Global healthcare organizations and leading equipment vendors are amplifying this momentum. Siemens Healthineers (Varian) continues advancing adaptive therapy portfolios with faster on-couch re-planning capabilities targeting throughput gains without new vaults. Elekta launched a next-generation CT-linac aimed at high-volume public tenders in September 2024, emphasising installation speed and service uptime. According to IARC data, approximately 20 million new cancer cases were diagnosed globally in 2022, while the IAEA's Rays of Hope initiative has mobilised more than USD 100 million toward treatment capacity in under-served countries since 2022. These forces are creating the clinical infrastructure and patient demand on which the Radiotherapy Market depends.

Request A Free Sample:
https://www.marketresearchfuture.com/sample_request/1526

Key Market Trends & Growth Drivers

Rising Global Cancer Burden and Screening Expansion
The market is witnessing increasing demand for radiation oncology services as cancer incidence continues to rise globally. Expanding national screening programmes are surfacing larger treatable populations, while aging demographics across OECD and emerging economies are enlarging the addressable patient pool. This trend indicates a structural shift toward precision radiation therapy as a cornerstone of multidisciplinary cancer care, with radiotherapy recognised for its curative potential in early-stage disease and its essential role in palliative management.

Advancements in Radiation Delivery Technologies
Innovations in radiation delivery are becoming a hallmark of the industry. Equipment fleets are turning over faster than at any point since the cobalt-to-linac transition, with Cobalt-60 units and first-generation 3D conformal platforms giving way to image-guided, ring-gantry accelerators paired with adaptive planning software. Intensity-modulated radiotherapy held 33.9% of market share in 2025, driven by its standard-of-care status across most solid tumours. Proton beam therapy is projected to advance at a 9.0% CAGR through 2035, the fastest technology trajectory tracked.

Integration of Artificial Intelligence in Treatment Planning
The incorporation of AI-powered tools into radiotherapy workflows is gaining significant traction. Auto-segmentation systems have reduced contouring time for head-and-neck plans from approximately 90 minutes to less than 15 minutes, freeing up physician hours that hospitals may use to increase throughput. Adaptive re-planning is now included in over one-third of new Western European tender specifications. These software modules are priced as recurring licenses, increasing vendor gross margins and extending the deployed fleet's revenue life.

Shift Toward Outpatient and Hypofractionated Protocols
The migration of radiation cancer treatment from inpatient wards to reimbursed outpatient settings is accelerating across OECD health systems. Centers for Medicare & Medicaid Services payment policy has progressively favoured shorter courses, and ASTRO guidelines now endorse five-fraction regimens for selected breast and prostate presentations. Shorter courses free vault hours, letting a single accelerator serve 15–20% more patients per year. Providers respond by upgrading precision platforms rather than expanding physical capacity, channelling spending toward high-precision systems and imaging subsystems.

Ask for Customization:
https://www.marketresearchfuture.com/ask_for_customize/1526

Market Segment Insights

BY PRODUCT

Radiotherapy Equipment: Largest segment with 72.4% share in 2025, driven by fleet replacement and new-room installations. Equipment still carries the revenue base across linear accelerators, treatment planning systems, and quality assurance platforms.

Radiotherapy Software: Fastest-growing segment at 8.9% CAGR, propelled by adaptive planning and auto-segmentation licence attach rates. Software and service together now exceed a quarter of turnover and are far less exposed to hospital capital cycles.

Radiotherapy Services: Generated USD 1.66 billion in 2025 revenue, supported by multi-year uptime guarantees and applications support contracts that convert capital expenditure into operating budget.

BY TECHNOLOGY

Intensity-Modulated Radiotherapy (IMRT): Largest segment with 33.9% share in 2025, driven by its standard-of-care status across most solid tumours and its balance of conformality against throughput on hardware most departments already own.

Image-Guided Radiotherapy (IGRT): Contributed USD 1.77 billion in 2025 revenue, supporting margin reduction and inter-fraction motion control.

Proton Beam Therapy: Fastest-growing technology at 9.0% CAGR, positioned as a novel entry catering to paediatric and organ-sparing cases. Compact single-room superconducting designs are cutting facility footprints by more than half against multi-room installations of the 2010s.

BY THERAPY TYPE

External Beam Radiation Therapy: Dominant segment with 76.4% share in 2025, offering broad indication coverage and established preference among healthcare providers through integrated treatment-planning and imaging workflows.

Systemic Radiotherapy: Fastest-growing therapy type at 8.4% CAGR, supported by radioligand approvals in prostate and neuroendocrine disease that extend treatment into metastatic settings external beam cannot reach.

Brachytherapy: Generated USD 1.08 billion in 2025 revenue, maintaining a significant role in cervical and prostate protocols in high-volume centres where high radiation doses can be delivered directly to or near the tumour.

BY APPLICATION

Breast Cancer: Largest segment with 26.2% share in 2025, due to screening-driven early detection and short-course regimens that make breast cases the throughput backbone of most departments.

Prostate Cancer: Significant share at 19.4% in 2025, driven by aging male demographics and widespread adoption of hypofractionated protocols.

Lung Cancer: Fastest-growing application at 7.4% CAGR, as stereotactic delivery has opened curative-intent treatment to patients previously offered only supportive care, and screening programmes are surfacing exactly that population.

BY END USER
Hospitals and Clinics: Largest segment with 65.5% share in 2025, benefiting from integrated multidisciplinary oncology pathways and direct access to patients requiring specialised treatment.
Independent Radiotherapy Centres: Significant share at 21.9% in 2025, due to focused-factory efficiency and shorter wait times.
Ambulatory Surgery Centres: Fastest-growing end-user segment at 10.9% CAGR, gaining traction where payers reimburse identical codes regardless of site of service, removing the structural penalty independent operators once faced.

Read Detailed Insights:
https://www.marketresearchfuture.com/reports/radiotherapy-market-1526

Regional Outlook

North America — Market Leader in Innovation
North America leads with 44.4% of global revenue in 2025, generating around USD 4.04 Billion. The region's growth is driven by dense accelerator coverage—roughly 12 accelerators per million people in the United States—and mature payer codes that reward precision delivery. According to the American Cancer Society, approximately 2.0 million new cancer cases are expected in the United States annually, while CMS payment policy has progressively favoured shorter hypofractionated courses. The competitive landscape is characterised by continuous innovation and strategic software refreshes among leading equipment vendors.

Europe — Second Largest Market
Europe was valued at USD 2.44 billion in 2025, representing the second-largest regional market with a 26.8% share. The region benefits from statutory insurance funding, university hospital renewal cycles, and the NHS radiotherapy equipment replacement programme in the UK. Regulatory bodies like the EMA are actively facilitating the approval of new therapies and AI-enabled planning tools. Leading countries include Germany, the UK, and France, where major vendors such as Elekta and Siemens Healthineers are heavily invested. European procurement is consolidating into framework agreements that bundle equipment, service, and software across multi-hospital trusts.

Asia-Pacific — Rapidly Growing Market Segment
The Asia-Pacific region accounts for about 21.5% of the global share. The growth is driven by rising cancer rates, urbanisation, and increasing healthcare access, expanding at a 9.6% CAGR through 2035. Countries like China and India are experiencing a surge in demand, supported by government initiatives such as China's Healthy China 2030 framework and India's Ayushman Bharat scheme extending radiation coverage to roughly 500 million beneficiaries. The competitive landscape is evolving with domestic manufacturers increasingly contesting procurement on price alongside international players.

South America — Emerging Potential
The South America region holds around 4.0% of the global share, driven by structured public health expansion programmes and increasing awareness of cancer care. Brazil's SUS national radiotherapy expansion plan has run for over a decade, with tender specifications now routinely including service-level guarantees rather than equipment alone. Currency volatility complicates multi-year contracts across the region, pushing buyers toward local-currency service agreements and refurbished units where capital is scarce.

Middle East and Africa — Untapped Potential
The MEA region holds around 3.3% of the global share, driven by sovereign health funds, medical tourism ambitions, and increasing healthcare investments. Countries like Saudi Arabia and the UAE are leading the way with flagship oncology centres, including particle therapy projects tied to broader medical-tourism strategies. Sub-Saharan coverage remains the widest gap in global oncology infrastructure, with several countries still operating no accelerator at all. The IAEA's Rays of Hope initiative is beginning to close bankability gaps through blended finance and training partnerships bundled into procurement contracts.

Competitive Landscape and Recent Developments

The Radiotherapy Market is characterised by intense competition and steady growth, driven by increasing prevalence of cancer worldwide and the ongoing cobalt-to-linac fleet transition. The global industry appears moderately fragmented, with the top five suppliers holding roughly 68–72% of global revenue and an estimated HHI near 1,780.

KEY COMPANIES AND RECENT MILESTONES

Siemens Healthineers (Varian) (DE/US): Holds an estimated 28–32% revenue share range as the scale leader integrating imaging and delivery. In March 2024, expanded its adaptive therapy portfolio with faster on-couch re-planning, targeting departments seeking throughput gains without new vaults.

Elekta AB (SE): Holds an estimated 22–26% revenue share range as the closest challenger with strong Europe and Asia footprint. In September 2024, launched a next-generation CT-linac aimed at high-volume public tenders, emphasising installation speed and service uptime.

Accuray Incorporated (US): Holds an estimated 5–7% revenue share range as a niche precision specialist. In June 2023, obtained regulatory clearance for its robotic radiosurgery platform in China through its joint venture, opening provincial tender access.

Ion Beam Applications SA (BE): Holds an estimated 4–6% revenue share range as the pure-play particle therapy leader. In November 2024, booked multiple compact proton system orders across Asia and the Middle East, reflecting the shift toward single-room economics.

Hitachi Ltd. (JP): Holds an estimated 3–5% revenue share range, engineering-led and strongest in Japan with proton and carbon-ion systems.

Novartis (CH) (March 2025): Secured a broadened label for its prostate radioligand therapy in pre-taxane metastatic disease, materially enlarging the addressable systemic patient pool and reflecting the growing pharmaceutical cohort participating through radioligand therapies rather than capital equipment.

Other Key Players: Brainlab AG (DE), Mevion Medical Systems (US), Sumitomo Heavy Industries (JP), Curium Pharma (FR), ViewRay Inc. (US).

Future Outlook: 2026–2035

The Radiotherapy Market is projected to reach USD 18.91 billion by 2035, growing at a CAGR of 7.6%, driven by rising global cancer incidence, continued fleet modernisation, and advancements in AI-enabled treatment planning.

New opportunities lie in:

Expansion into emerging markets with refurbished-plus-service bundles and blended finance

Development of compact particle systems achieving price parity with two-vault photon builds before 2032

Investment in software-defined capacity expansion through adaptive planning, auto-contouring, and outcomes analytics

Convergence with nuclear medicine through radioligand therapy commercialisation and shared dosimetry expertise

Outcomes data monetisation through de-identified registries licensed to pharmaceutical sponsors and payers

By 2035, the Radiotherapy Market is expected to achieve substantial growth and innovation, with service contracts, software subscriptions, and physics staffing adding 55–70% to initial capital outlay across a ten-year horizon. Vendors increasingly resemble subscription businesses, with multi-year uptime guarantees, software refreshes, and remote diagnostics generating recurring revenue that exceeds equipment margin over a ten-year fleet life.

More Related Research Insights:

https://www.marketresearchfuture.com/ja/reports/medical-second-opinion-market-9701

https://www.marketresearchfuture.com/de/reports/medical-second-opinion-market-9701

https://www.marketresearchfuture.com/es/reports/medical-second-opinion-market-9701

https://www.marketresearchfuture.com/zh-cn/reports/medical-second-opinion-market-9701

https://www.marketresearchfuture.com/ko/reports/medical-second-opinion-market-9701

https://www.marketresearchfuture.com/fr/reports/in-vitro-diagnostics-market-1165

https://www.marketresearchfuture.com/ja/reports/in-vitro-diagnostics-market-1165

https://www.marketresearchfuture.com/de/reports/in-vitro-diagnostics-market-1165

https://www.marketresearchfuture.com/es/reports/in-vitro-diagnostics-market-1165

https://www.marketresearchfuture.com/zh-cn/reports/in-vitro-diagnostics-market-1165

Market Research Future
Market Research Future
+1 855-661-4441
email us here

This press release can be viewed online at: https://www.einpresswire.com/article/940319617

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.
© 1995-2026 Newsmatics Inc. All Right Reserved.