

Radiotherapy Market worth \$10.01 billion by 2030, growing at a CAGR of 6.02% - Exclusive Report by 360iResearch

The Global Radiotherapy Market to grow from USD 6.27 billion in 2022 to USD 10.01 billion by 2030, at a CAGR of 6.02%.

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-- The "[Radiotherapy Market](#) by Product (Hardware, Software & Service), Type (External Beam Radiotherapy/Teletherapy, Internal Beam Radiotherapy/Brachytherapy, Systemic Radiotherapy), Procedure, Application, End-User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.



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Radiotherapy comprises businesses in the medical and healthcare sectors that harness radiation as a mode of treatment, typically for cancer and some non-malignant conditions. It involves deploying high-energy radiation, such as X-rays, gamma rays, and charged particles, primarily destroying cancerous cells, minimizing their growth, and reducing symptoms in palliative cases. The growing adoption of radiotherapy procedures for cancer treatment and rising preference for minimally invasive procedures influence the development of radiotherapy. In contrast, high treatment costs, limited availability of trained professionals, and risks associated with radiation exposure are restricting the utilization of radiotherapy. However, several vendors are working and investing in R&D to overcome these issues. Furthermore, technological advancements and

improvements in radiotherapy devices and the introduction of robotic radiotherapy systems for cancer treatment are opportunities for businesses to create and market cutting-edge devices.

Type: Consumer preference for external beam radiotherapy/teletherapy as they target tumor from outside and large tumors

External beam radiotherapy (EBRT)/ teletherapy is a common form of radiation treatment where the radiation originates outside the patient and is directed toward the cancer site. Conventional cobalt-60 teletherapy units provide continuously rotating radiation therapy for cancer treatment and are highly efficient with deeper penetration capabilities. Linear accelerators (LINACs) deliver high-energy X-rays to the patient's tumor region, damaging the cancerous cells' genetic material and disrupting their growth. Conventional linear accelerators utilize microwave technology to accelerate electrons before colliding them with a heavy metal target, thus generating high-energy X-rays. Cyberknife tomotherapy allows precision treatment through a robotic arm that delivers multiple angles of radiation to a tumor. The system modulates the radiation dose, minimizing the impact on healthy tissue. Gamma knife has exact doses of radiation to the affected area, reducing damage to healthy brain tissues. MRI Linac allows clinicians to visualize the tumor in real-time during treatment and adapt therapy as needed. Stereotactic advanced electron/cobalt-60 linear accelerators deliver high doses of radiation from multiple angles to treat a small area with pinpoint accuracy, minimizing the impact on surrounding healthy tissues. Particle therapy systems use charged particles to target cancer cells precisely, minimizing the radiation dose to nearby healthy tissue and potentially reducing the risk of side effects. Internal beam radiotherapy/Brachytherapy involves radiation delivery directly into and near the cancer site, providing a high radiation dose while sparing surrounding healthy tissues. It's often the top choice for treating localized cancers such as prostate and cervical cancers. Afterloaders aim to reduce exposure to radiation health professionals, enhancing policies for patient safety and increasing treatment precision. Applicators are designed instruments intended to aid in positioning the radiation sources into the treatment site in a patient's body. Intraoperative radiation therapy (IORT) systems are advanced radiotherapeutic devices used during surgeries for localized cancer treatment. Seeds are tiny devices that encase radioactive materials. When carefully implanted into cancerous tissues, these seeds can deliver radiation directly to the tumor, minimizing damage to nearby healthy tissues. Iobenguane (I-131) is a type of molecule that is selectively absorbed by certain types of nervous tissues. This unique characteristic makes it an invaluable tool in diagnosing and treating neuroendocrine tumors. Rhenium-186 isotope takes advanced medical science a step further by the exemplary way its gamma radiation properties enable medical professionals to track its effectiveness in patients with medical imaging technology. Samarium-153 has a dual capacity, its beta particles target and destroy cancer cells, its gamma emissions facilitate imaging and tracking its distribution through the body.

Product: Advancements in hardware manufacturing process as it provide high radiation doses to the tumor site

The hardware encapsulates all the tangible elements employed in administering radiotherapy treatment. These include linear accelerators, brachytherapy devices, proton therapy, and cyber

knife systems. The software and service segment refers to the platforms used to plan treatment protocols, simulate radiation doses, and manage patient data and analytics. Services encompass various support functions, including equipment maintenance, training, technical support, and consulting. In comparison, the hardware provides the physical means to deliver treatment, while software & service ensure precise targeting, dose planning, and seamless operation.

End-User: Significant role of radiotherapy for hospitals service as they provide comprehensive care for cancer patients

Hospitals provide comprehensive care for cancer patients, including diagnostic and therapeutic services. The offering of radiotherapy as an integrated service within the hospital setting allows for better coordination of care, leading to improved patient outcomes. Independent radiotherapy centers are specialized clinics that offer radiation therapy to cancer patients. These centers provide patients with more personalized and convenient care. While these entities may offer a partial range of services, hospitals can often provide radiotherapy treatment more efficiently and patient-centeredly. Hospitals typically have a broader range of services, enabling them to provide holistic care, drawing patients dealing with multiple health issues. On the other hand, independent radiotherapy centers offer a more patient-centric approach, preferred by patients only seeking radiotherapy.

Application: Growing application of radiotherapy for gynecological cancer

Radiotherapy plays a substantial role in breast cancer treatment, substantially reducing the reoccurrence risk within the breast area after surgery. Cervical cancer treatment frequently incorporates radiotherapy either alone or combined with chemotherapy. The need for radiotherapy heavily relies on the cancer stage and localization. Radiotherapy for colorectal cancer treatment is used before surgery to shrink the tumor and after the surgery to kill the remaining cells. Radiation therapy is commonly used to treat various types of gynecological cancers. Depending upon the type and stage of the cancer, radiation is used as primary therapy, adjunctive therapy, or palliative therapy. Radiotherapy is crucial in managing head and neck cancers, often in conjunction with surgery and chemotherapy. Radiotherapy for lung cancer serves as a primary mode of treatment. Penile cancer, although rare, often uses radiation therapy as a primary or supplementary treatment. Radiotherapy is very effective in curative treatment of localized prostate cancer. In comparison, radiotherapy is mostly used for gynecological cancer as it results in local control and survival with few complications.

Procedure: Increasing advancements in external beam radiotherapy to streamline process and improve patient comfort

External Beam Radiotherapy (EBRT) is the most typical radiotherapy used to treat various cancers. 3D conformal radiotherapy effectively treats many types of cancers and is well-regarded for its precision and ability to minimize side effects. Image-guided Radiotherapy (IGRT) is an advanced form of radiotherapy involving imaging techniques during treatment delivery. Intensity-modulated Radiotherapy (IMRT) allows the radiotherapy beam to be optimized to the tumor's shape, allowing differing degrees of radiation intensity to various parts of the cancer. Particle therapy uniquely uses charged atomic particles, providing a low dose to the tissues they

pass through and then depositing their energy at a precise point. Stereotactic therapy allows for high-dose delivery, particularly to small, well-defined tumors in the brain and other sites, while minimizing the radiation to adjacent normal tissues, thus mitigating potential side effects. Instillation radiotherapy involves injecting a radioactive substance directly into a body cavity or the bladder to treat superficial cancers. Brachytherapy is radiotherapy where the radioactive source is placed inside or next to the tumor, ensuring high-dose radiation while sparing healthy tissues. High-dose-rate (HDR) brachytherapy aims to destroy cancer cells while minimizing the exposure and damage to surrounding healthy tissues. LDR brachytherapy has been extensively used for treating numerous types of cancers, including cervical, prostate, and eye cancer. Pulsed-dose-rate (PDR) brachytherapy involves temporally confined radiation delivery cycles where radiation is emitted in pulses, usually once per hour. This technique seeks to maximize the tumor's dose delivery while safeguarding the surrounding healthy tissue. Intravenous Radiotherapy involves administering liquid radioactive substances into the body via a vein. This treatment is typically used for cancers that have spread or metastasized. Oral Radiotherapy involves ingesting radioactive substances through a pill or liquid. Notable for treating conditions such as thyroid cancer. Systemic radiotherapy uses radiopharmaceuticals that circulate throughout the body, ideal for treating cancers that have spread to bones or multiple sites.

Regional Insights:

The adoption of radiotherapy in the Americas is driven by various factors, primarily increasing cancer prevalence rates and a general preference for non-invasive treatment methods. Advanced technologies such as 3D conformal radiotherapy (3D CRT) and intensity-modulated radiotherapy (IMRT) contribute to this market's growth. Simultaneously, government initiatives focusing on cancer prevention and control are a significant factor behind this market's expansion. EMEA region has an increasing need for radiotherapy due to rising cancer incidents. With diverse cancer cases observed across the region, radiotherapy becomes a preferred treatment solution, offering targeted and efficient treatment outcomes. Regulatory approvals for innovative radiotherapy devices, the proliferation of cancer research, and robust healthcare frameworks further bolster the market. The APAC region is witnessing a rapid expansion in the radiotherapy market driven by the escalating burden of cancer. Several countries have high cancer rates, fueling the need for effective treatment modalities, including radiotherapy. The sector's growth is amplified by increasing awareness about early diagnosis, improved access to cancer treatments, and technological advancements within this domain. APAC's emerging economies are also investing heavily in healthcare infrastructure, which further propels the adoption of radiotherapy.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the Radiotherapy Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Radiotherapy Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the Radiotherapy Market, highlighting leading vendors and their innovative profiles. These include Accuray Incorporated, Agilent Technologies Inc., Becton, Dickinson and Company, Cardinal Health, Inc., Charles River Laboratories International, Inc., Elekta AB, F. Hoffmann-La Roche Ltd., GE HealthCare Technologies Inc., IBA Dosimetry GmbH, IntraOp Medical, Inc., Koninklijke Philips N.V., Leo Cancer Care, Mevion Medical Systems, Panacea Medical Technologies Pvt. Ltd., PerkinElmer, Inc., Qfix, Quanterix Corporation, Radiology Oncology Systems, Siemens AG, Varian Medical Systems, Inc., ViewRay Technologies, Inc., and ZEISS Group.

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Market Segmentation & Coverage:

This research report categorizes the Radiotherapy Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Product, market is studied across Hardware and Software & Service. The Software & Service is projected to witness significant market share during forecast period.

Based on Type, market is studied across External Beam Radiotherapy/Teletherapy, Internal Beam Radiotherapy/Brachytherapy, and Systemic Radiotherapy. The External Beam Radiotherapy/Teletherapy is further studied across Conventional Cobalt-60 Teletherapy Units, Linear Accelerators, and Particle Therapy Systems. The Linear Accelerators is further studied across Conventional Linear Accelerators, CyberKnife TomoTherapy, Gamma Knife, MRI LINAC, and Stereotactic Advanced Electron/Cobalt-60 Linear Accelerators. The Particle Therapy Systems is further studied across Cyclotrons, Synchrocyclotron, and Synchrotrons. The Internal Beam Radiotherapy/Brachytherapy is further studied across Afterloaders, Applicators, IORT Systems, and Seeds. The Systemic Radiotherapy is further studied across Iobenguane (I-131), Rhenium-186, and Samarium-153. The Internal Beam Radiotherapy/Brachytherapy is projected to witness

significant market share during forecast period.

Based on Procedure, market is studied across External Beam Radiotherapy, Instillation Radiotherapy, Internal Beam Radiotherapy or Brachytherapy, Intravenous Radiotherapy, Oral Radiotherapy, and Systemic Radiotherapy. The External Beam Radiotherapy is further studied across 3D Conformal Radiotherapy, Image-Guided Radiotherapy, Intensity-Modulated Radiotherapy, Particle Therapy, and Stereotactic Therapy. The Internal Beam Radiotherapy or Brachytherapy is further studied across High-Dose-Rate Brachytherapy, Low-Dose-Rate Brachytherapy, and Pulsed-Dose-Rate Brachytherapy. The Internal Beam Radiotherapy or Brachytherapy is projected to witness significant market share during forecast period.

Based on Application, market is studied across Breast Cancer, Cervical Cancer, Colorectal Cancer, Gynecological Cancer, Head & Neck Cancer, Lung Cancer, Penile Cancer, and Prostate Cancer. The Head & Neck Cancer is projected to witness significant market share during forecast period.

Based on End-User, market is studied across Hospitals and Independent Radiotherapy Centers. The Independent Radiotherapy Centers is projected to witness significant market share during forecast period.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Americas commanded largest market share of 36.83% in 2022, followed by Europe, Middle East & Africa.

Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. Radiotherapy Market, by Product
7. Radiotherapy Market, by Type
8. Radiotherapy Market, by Procedure
9. Radiotherapy Market, by Application
10. Radiotherapy Market, by End-User

11. Americas Radiotherapy Market
12. Asia-Pacific Radiotherapy Market
13. Europe, Middle East & Africa Radiotherapy Market
14. Competitive Landscape
15. Competitive Portfolio
16. Appendix

The report provides insights on the following pointers:

1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets
3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

1. What is the market size and forecast of the Radiotherapy Market?
2. Which are the products/segments/applications/areas to invest in over the forecast period in the Radiotherapy Market?
3. What is the competitive strategic window for opportunities in the Radiotherapy Market?
4. What are the technology trends and regulatory frameworks in the Radiotherapy Market?
5. What is the market share of the leading vendors in the Radiotherapy Market?
6. What modes and strategic moves are considered suitable for entering the Radiotherapy Market?

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Mr. Ketan Rohom
360iResearch
+1 530-264-8485
ketan@360iresearch.com

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