

Radiology Procedures Market Size, Share & Trends Analysis Report By Modality (X-Ray, Mammography, Computed Tomography), By End Use (Hospitals, Diagnostic Imaging Centers), By Region (International, U.S.), And Segment Forecasts, 2026 - 2033

<https://marketpublishers.com/r/RF3468C7E3EBEN.html>

Date: February 2026

Pages: 110

Price: US\$ 5,950.00 (Single User License)

ID: RF3468C7E3EBEN

Abstracts

The global radiology procedures market size was estimated at USD 266.7 billion in 2025 and is estimated to reach at USD 356.5 billion by 2033, growing at a CAGR of 3.6% from 2026 to 2033. This robust growth is driven by increasing demand for early and accurate diagnosis, rising prevalence of chronic and lifestyle-related diseases, and rapid technological advancements in imaging modalities such as CT, and digital X-ray systems.

In addition, the expansion of healthcare infrastructure, growing awareness of preventive healthcare, and rising investments by key market players are expected to propel the market. Conditions such as cancer, cardiovascular diseases, neurological disorders, and diabetes require early, accurate, and non-invasive diagnosis, positioning radiology at the core of modern clinical decision-making. As healthcare systems prioritize early detection, precision medicine, and outcome-based care, reliance on imaging procedures continues to intensify across screening, diagnosis, treatment planning, and long-term monitoring.

Cancer remains one of the strongest demand generators for radiological procedures. According to the U.S. National Center for Health Statistics, approximately 1,958,310 new cancer cases and 609,820 cancer-related deaths were reported in the U.S. in 2023. Imaging modalities such as CT, X-ray, and mammography are indispensable throughout the oncology care pathway, supporting population screening, tumor detection, staging, surgical planning, treatment response assessment, and post-therapy

surveillance. Surgeons increasingly depend on preoperative CT and MRI to accurately delineate tumor size, margins, and anatomical relationships, directly improving surgical precision and patient outcomes. As cancer incidence continues to rise globally, imaging volumes are expected to grow proportionally.

Moreover, the rapidly aging global population accelerating demand for radiology procedures worldwide. Older adults face a significantly higher risk of chronic illnesses, disabilities, and degenerative conditions, making diagnostic imaging essential for early detection, disease monitoring, and clinical decision-making. Multiple NCBI studies confirm that individuals aged 65 years and above are more susceptible to neurological disorders, Parkinson's disease, cardiovascular conditions, and musculoskeletal degeneration, all of which rely heavily on radiological evaluation. Demographic trends reinforce this demand surge. According to the World Health Organization (WHO), the global population aged 60 years and above increased from approximately 1 billion in 2020 to around 1.4 billion by 2030 and is expected to nearly double to 2.1 billion by 2050. This expansion is accompanied by a sharp rise in elderly patients with multiple comorbidities, including stroke, depression, dementia, and frailty. Age-related changes in muscle mass, bone density, and body composition increase the risk of falls, fractures, and injuries, directly driving demand for X-ray and CT-based diagnostic procedures in both emergency and routine care settings.

Rapid technological innovation is a powerful driver accelerating growth in the radiological procedures market, as advances in materials science, detector design, and artificial intelligence are transforming imaging performance, cost structures, and clinical workflows. Continuous improvements in X-ray detection technologies and AI-enabled imaging systems are expanding clinical applications, improving diagnostic accuracy, and increasing procedure volumes across hospitals and diagnostic imaging centers.

A notable example of next-generation innovation emerged in February 2026, when researchers at Florida State University (FSU) announced the development of new hybrid materials for advanced X-ray technologies. Led by Professor Biwu Ma, the research introduced organic metal halide complexes (OMHCs) and organic metal halide hybrids (OMHHs) a new class of materials that address longstanding limitations of conventional inorganic X-ray detectors. Traditional materials such as cadmium telluride (CdTe) and cadmium zinc telluride (CdZnTe) are rigid, expensive, energy-intensive to manufacture, and rely on toxic elements, which constrain scalability and sustainability.

Global Radiology Procedures Market Report Segmentation

This report forecasts revenue growth at global levels and provides an analysis of the latest industry trends in each of the sub-segments from 2021 to 2033. For this study, Grand View Research has segmented the global radiology procedures market report based on modality, end use, and region:

Modality Outlook (Revenue, USD Million, 2021 - 2033)

X-Ray

Chest

Other Body Parts

Mammography

Computed Tomography

Head & Neck CT

Chest CT

Abdominal CT

Pelvic CT

Musculoskeletal CT

Vascular CT

End Use Outlook (Revenue, USD Million, 2021 - 2033)

Hospitals

Diagnostic Imaging Centers

Others

Region Outlook (Revenue, USD Million, 2021 - 2033)

International

U.S.

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