

Global Cancer Diagnostics Market - Technologies, Applications and End-Use Facilities

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Abstracts

Global Cancer Diagnostics Market Trends and Outlook

Cancer diagnostics involves the detection and confirmation of cancer through a range of technologies that enable early intervention, accurate staging, and effective treatment planning. These methods include identifying biomarkers, proteins, and genetic mutations associated with malignancies, as well as employing advanced tools such as in vitro diagnostics (IVD), imaging modalities like CT, MRI, PET, and ultrasound, tumor biomarker tests, biopsy procedures, laboratory-developed tests (LDTs), and emerging approaches such as liquid biopsy and genomic testing. Biopsies remain the gold standard for histological confirmation, while innovations including AI-powered imaging, next-generation sequencing, and multi-cancer early detection platforms have improved diagnostic precision, reduced invasiveness, and supported the growing adoption of personalized treatment strategies. Early diagnosis is a critical factor in modern oncology, significantly improving survival rates, lowering treatment costs, and enhancing patients' quality of life.

The global cancer diagnostics market is valued at US\$95.3 billion in 2025 and is projected to reach US\$153 billion by 2032, growing at a CAGR of 7%. Market expansion is being driven by rising cancer incidence linked to aging populations, lifestyle shifts, and environmental factors, alongside the growing need for early and accurate detection. Significant investments by governments and healthcare providers in screening programs, diagnostic infrastructure, and awareness campaigns are boosting adoption, while precision medicine is accelerating demand for molecular tests and LDTs that guide targeted therapies. Emerging technologies such as nanotechnology and multi-cancer detection platforms are enabling earlier and more sensitive diagnosis, while AI integration is improving data interpretation and clinical decision-making. Additionally,

healthcare expansion in developing economies, coupled with collaborations between diagnostic companies, research institutes, and providers, is propelling innovation and commercialization, sustaining strong global demand for cancer diagnostics.

Cancer Diagnostics Regional Market Analysis

North America leads the global cancer diagnostics market, holding the largest share of 39.8% in 2025 due to its advanced healthcare infrastructure, high prevalence of cancer, robust R&D investments, and early adoption of innovative technologies such as AI imaging and liquid biopsy. Supportive government initiatives, extensive reimbursement coverage, frequent FDA approvals, and the presence of key market players further strengthen its position. The U.S. dominates within the region, driven by high screening rates, established cancer research networks, and robust payer systems. Conversely, Asia-Pacific is projected to record the fastest CAGR of 7.9% during the forecast period 2025-2032. This growth is fueled by a rapidly aging population, rising cancer incidence, expanding healthcare infrastructure, and increasing awareness of early detection. Countries such as China, India, and Japan are emerging as key growth hubs, driven by government cancer screening programs, foreign investment, medical tourism, and the adoption of advanced diagnostics. Public-private partnerships, fast-track regulatory approvals, and expanded access to molecular and imaging technologies are accelerating market penetration across the region.

Cancer Diagnostics Market Analysis by Technology

In vitro diagnostic (IVD) testing technology dominates the cancer diagnostics market in 2025. This dominance is driven by its accuracy, reliability, and growing role in early detection, particularly for high-incidence cancers such as breast and lung cancer. The use of advanced technologies, including PCR, NGS, immunohistochemistry, immunoassays, and liquid biopsy, has significantly improved sensitivity, specificity, and throughput. Additionally, automated IVD systems have enhanced efficiency and reduced errors in hospitals and laboratories. The increasing preference for non-invasive, cost-effective, and rapid testing, along with regulatory approvals and greater availability of reagents and consumables, further boosts growth. In contrast, Laboratory Developed Tests (LDTs) are projected to record the fastest CAGR of 9% from 2025 to 2032, driven by rising demand for personalized medicine and their ability to develop customized assays for rare or complex cancers rapidly. LDTs enable targeted therapy selection by identifying genetic mutations and biomarkers, offering flexibility and speed where commercial tests may fall short. Their in-house development and use without

FDA approval allow rapid integration of new clinical insights, making them pivotal in precision oncology.

Cancer Diagnostics Market Analysis by Application

Breast cancer represents the largest segment in the cancer diagnostics market by application in 2025. This leadership is driven by its high global prevalence, increased awareness, and a strong emphasis on early detection and personalized treatment. The widespread use of mammography, breast ultrasound, MRI, and biopsy techniques, along with advances such as 3D mammography, molecular imaging, liquid biopsy, and biomarker testing, has improved diagnostic accuracy. AI integration in imaging tools further improves interpretation speed and precision, while government screening programs and targeted awareness campaigns expand testing volumes. On the other hand, colorectal cancer is expected to grow at the fastest CAGR of 8.3% during 2025-2032, fueled by rising incidence, expanded screening programs, and adoption of non-invasive tests like stool-based DNA analysis, AI-enabled colonoscopy, and liquid biopsy. Supportive government policies, improved treatment outcomes, and increased research activity continue to drive demand for accurate and accessible diagnostics in both segments.

Cancer Diagnostics Market Analysis by End User

The hospital segment held the largest share of 49% in the cancer diagnostics market based on end users in 2025. This dominance is attributed to a growing patient population, the implementation of integrated care pathways, and improved access to advanced imaging and molecular diagnostic technologies. Hospital-associated laboratories dominate due to their comprehensive infrastructure, multidisciplinary expertise, and ability to provide a full range of cancer diagnostics, from imaging and biopsy to molecular and blood-based tests, ensuring accurate and timely diagnoses. Investments in next-generation sequencing, automated imaging, and digital pathology further strengthen their market position. Meanwhile, diagnostic laboratories are projected to grow at a CAGR of 7.6% from 2025 to 2032, supported by rising demand for high-volume, precise, and cost-effective testing, including consumables such as antibodies, probes, and test kits. These facilities benefit from the growing reliance on hospitals, government initiatives, and advancements in technology. Diagnostic imaging centers provide high-quality MRI, CT, and PET scans, along with skilled personnel, playing an increasingly important role in the early detection and screening of cancer.

Cancer Diagnostics Market Report Scope

This global report on Cancer Diagnostics analyzes the market based on technology, application, and end user for the period 2022-2032 with projections from 2025 to 2032 in terms of value in US\$. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

Key Metrics

Analysis Period: 2022-2032

Base Year: 2025

Forecast Period: 2025-2032

Units: Value market in US\$

Companies Mentioned: 15+

Cancer Diagnostics Market by Geographic Region

North America (The United States, Canada, and Mexico)

Europe (Germany, France, the United Kingdom, Italy, Spain, and Rest of Europe)

Asia-Pacific (Japan, China, India, South Korea, and Rest of Asia-Pacific)

South America (Brazil, Argentina, and Rest of South America)

Rest of World

Cancer Diagnostics Market by Technology

In Vitro Diagnostics (IVD)

Diagnostic Imaging

Tumor Biomarker Tests

Biopsy Techniques

Laboratory-Developed Tests (LDTs)

Other Technologies (Liquid Biopsy, Genetic/Genomic Testing, and other Emerging Technologies)

Cancer Diagnostics Market by Application

Breast Cancer

Lung Cancer

Colorectal Cancer

Prostate Cancer

Liver Cancer

Blood Cancer

Kidney Cancer

Pancreatic Cancer

Ovarian Cancer

Melanoma

Others (Including Head & Neck, Bladder, Brain/CNS, Gastric/Stomach, Thyroid, Cervical, Uterine/Endometrial, Esophageal, Gallbladder, and rare cancers)

Cancer Diagnostics Market by End User

Hospitals

Diagnostic Laboratories

Academic & Research Institutes

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Biopsy Techniques

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Other Technologies

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Lung Cancer

Colorectal Cancer

Prostate Cancer

Liver Cancer

Blood Cancer

Kidney Cancer

Pancreatic Cancer

Ovarian Cancer

Melanoma

Others

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Hospitals

Diagnostic Laboratories

Academic & Research Institutes

Other End Users

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Abbott Laboratories, Inc.

Agilent Technologies, Inc.

Becton, Dickinson and Company
bioMerieux SA
Bio-Rad Laboratories, Inc.
Danaher Corporation
F. Hoffmann-La Roche Ltd
GE Healthcare
Hologic Inc.
Illumina, Inc.
Koninklijke Philips N.V.
Myriad Genetics, Inc.
QIAGEN N.V.
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Diagnostic Imaging

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Biopsy Techniques

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Cancer Diagnostics Application Market Overview by Global Region

Breast Cancer

Lung Cancer

Colorectal Cancer

Prostate Cancer

Liver Cancer

Blood Cancer

Kidney Cancer

Pancreatic Cancer

Ovarian Cancer

Melanoma

Others

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REGIONAL MARKET OVERVIEW

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FEEDBACK

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