

Photoacoustic Imaging - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Photoacoustic Imaging Market size is estimated at USD 108.92 million in 2024, and is expected to reach USD 223.87 million by 2029, growing at a CAGR of 15% during the forecast period (2024-2029).

The COVID-19 pandemic had a substantial impact on the photoacoustic imaging market initially. The pandemic increased the usage of photoacoustic imaging for various research purposes related to COVID-19 infection. For instance, according to an article published by the Journal of Sensors in March 2023, a study was conducted where a photoacoustic imaging method was used for studying the inflammation responses in autoimmune disease patients after COVID-19 vaccine administration. Thus, the COVID-19 outbreak affected the market's growth significantly. However, as the pandemic subsided, the market is expected to experience pre-pandemic growth levels during the study's forecast period.

Factors such as the rising prevalence of chronic diseases and the increasing adoption of photoacoustic imaging in research studies are expected to boost market growth.

The rising prevalence of chronic diseases such as cancer and cardiovascular diseases is a significant factor driving the market growth. It is because photoacoustic imaging is used to diagnose these diseases. For instance, according to the data published by the British Heart Foundation in 2023, an estimated 1.1 million patients were admitted to hospitals in the United Kingdom due to heart and circulatory diseases in 2022. Thus, the high prevalence of such chronic diseases is expected to boost the usage of photoacoustic imaging systems.

Moreover, according to an article published by ACS Publications in July 2023, a study showed that photoacoustic imaging succeeded in imaging microRNA-21 and tumor tissues related to cancer in vivo. Similarly, in another article published by

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Experimental Biology and Medicine in July 2023, a study showed that photoacoustic imaging effectively visualizes physiological and morphological information in biological systems in vivo. Thus, the rising usage rate of photoacoustic systems in various research studies is also a significant factor driving market growth.

In addition, new product launches and strategic activities by major players in the market are positively affecting the growth of the studied market. For instance, in June 2022, Seno Medical's Imagio Breast Imaging System (a photoacoustic imaging system) received supplemental premarket approval (PMA) from the Center for Devices and Radiological Health (CDRH) of the United States Food & Drug Administration (FDA). Thus, owing to such product approvals, the studied market is expected to grow significantly over the forecast period.

Therefore, owing to the factors mentioned above, such as the rising prevalence of cancer, the increasing adoption of photoacoustic imaging systems, and the rising strategic activities by market players, the studied market is anticipated to grow over the analysis period. However, the high cost of imaging systems and the lack of skilled professionals likely impede market growth.

Photoacoustic Imaging Market Trends

Oncology Segment is Expected to Witness Significant Growth Over the Forecast Period

Photoacoustic imaging is widely used to diagnose various tumors, such as breast and prostate. Factors such as the rising prevalence of cancer and the increasing usage of photoacoustic imaging for cancer diagnosis are expected to boost the growth of the studied segment during the forecast period.

For instance, according to an article published by the Indian Journal of Medical Research in November 2022, it was estimated in India, the incidence of cancer cases would likely increase from 1.46 million in 2022 to 1.57 million in 2025. The national average for 2022 crude incidence rate per 100,000 was 100.4 for males and 95.6 for females. Thus, the rising prevalence of cancer is a significant factor driving the segment's growth, as it would increase the adoption of photoacoustic imaging devices for cancer diagnosis.

Moreover, according to an article published by Frontiers in Oncology in March 2022, photoacoustic imaging (PAI) is said to be an emerging modality for molecular imaging of cancer, enabling non-invasive assessment of endogenous tissue chromophores with optical contrast at unprecedented spatiotemporal resolution. The source also stated that preclinical studies in mouse models showed that PAI could be used to assess response to radiotherapy and chemoradiotherapy. It is based on changes in the tumor vascular architecture and blood oxygen saturation, closely linked to tumor hypoxia. Thus, the rising usage of photoacoustic imaging for cancer diagnosis is expected to drive segment growth.

Therefore, the oncology segment is expected to witness significant growth over the forecast period due to the abovementioned factors, such as cancer's rising prevalence and photoacoustic imaging usage for diagnosing cancer.

North America is Expected to Hold a Significant Share in the Market Over the Forecast Period

North America is expected to hold a significant share of the market. It is due to factors such as the easy availability of technologically advanced products and the increase in the adoption of photoacoustic imaging systems. Moreover, the rising prevalence of chronic diseases such as cancer and cardiovascular disorders and the increasing geriatric population in the region are also among the key factors contributing to the growth of the studied market in North America.

For instance, according to the data updated by the Canadian Institute for Health Information in July 2022, it was estimated that

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about 2.4 million Canadians had heart disease in 2022. Thus, with the increasing burden of chronic diseases across the country, the segment is expected to grow strongly. It would lead to increased adoption of photoacoustic imaging devices for diagnosis.

Moreover, as per the National Breast Cancer Foundation Inc., data published in June 2022 mentioned that in 2022 an estimated 287,500 new cases of invasive breast cancer and 51,400 new cases of non-invasive breast cancer were diagnosed in women in the United States in 2022. Moreover, according to the American Cancer Society data published in 2023, colorectal cancer is one of the most common cancers diagnosed in men and women in the United States. It is estimated that approximately 106,970 cases of colon cancer and 46,050 cases of rectal cancer will be diagnosed in the United States in 2023. Thus, the rising prevalence of such diseases is expected to boost the adoption of photoacoustic imaging systems.

Therefore, owing to the factors above, such as the high prevalence of various chronic diseases, the growth of the studied market is anticipated in the North American region.

Photoacoustic Imaging Industry Overview

The photoacoustic market is semi consolidated due to the presence of several companies operating globally as well as regionally. The competitive landscape includes analyzing a few international and local companies that hold market shares and are well known. Some of the key market players include illumiSonics Inc., Seno Medical, InnoLas Laser GmbH, Fujifilm Holdings Corporation (Fujifilm Visualsonics, Inc.), Kibero, and iThera Medical GmbH, among others.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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