

Global Photoacoustic Imaging Market Size Study & Forecast, By Type (Pre-Clinical, Clinical), By Product (Photoacoustic Tomography (PAT), Photoacoustic Microscopy (PAM)), By Application (Oncology, Cardiology, Angiology, Histology, Interventional radiology), and Regional Analysis, 2023-2030

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Abstracts

Global Photoacoustic Imaging Market is valued at approximately USD 83.04 million in 2022 and is anticipated to grow with a healthy growth rate of more than 19.27% over the forecast period 2023-2030. Photoacoustic imaging (PAI) is a cutting-edge medical imaging technique that merges laser light and ultrasound technology to create high-resolution images of tissues deep inside the body. It works by using laser pulses to generate heat in tissues, causing them to emit ultrasound waves that are then detected and converted into images. PAI offers exceptional contrast between tissues, penetrates deeply, and provides functional and molecular information without using ionizing radiation. Its applications range from cancer detection and vascular imaging to monitoring tissue oxygenation, making it a valuable tool in biomedical research and clinical diagnostics. The Photoacoustic Imaging (PAI) market is propelled by various factors, including the surge in several research activities & studies for non-ionizing imaging modalities, rising initiatives for the development of the healthcare infrastructure, and growing awareness for photoacoustic imaging.

In addition, the increase in incidences of cancer, particularly breast cancer is acting as a catalyzing factor for the demand for sophisticated imaging technologies like Photoacoustic Imaging (PAI), which may accurately diagnose patients, detect tumors early, and efficiently track treatment responses. According to the World Health Organization, in 2022, it was estimated that around 2.30 million new cases of breast

cancer were recorded globally, which is projected to rise to 3.36 million new cases by 2045. PAI is a recommended option for oncology due to its high-resolution imaging, non-ionizing radiation, and capacity for functional and molecular imaging. Additionally, as PAI techniques continue to be researched and developed, they are becoming more diagnostically capable, which is propelling their use in cancer imaging and improving patient outcomes. Moreover, the growing research and development activities, as well as expanding applications across various medical specialties present various lucrative opportunities over the forecast years. PAI stands out as a superior diagnostic imaging system due to its utilization of non-ionizing radiation, enabling real-time examination of tissues with exceptional resolution, contrast, and deep penetration capabilities. This allows for comprehensive morphological, functional, and molecular imaging of living subjects, further fueling market expansion. Thus, these aforementioned factors are propelling the growth of the Photoacoustic Imaging Market during the estimated period. However, the high cost of photoacoustic imaging systems and limited bandwidth to capture tomographic data are challenging the market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Photoacoustic Imaging Market study include Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the presence of numerous market competitors and the rising incidence of cancer cases. According to the National Library of Medicine, in 2023, it is estimated that there will be 1,958,310 new cases of cancer and 609,820 cancer-related deaths in the United States. Additionally, increased funding has spurred research activities in the region. The rising per capita healthcare expenditure and benefits from substantial funds and grants for research from government bodies like the National Institutes of Health (NIH) are further prompting regional market growth. Whereas Asia Pacific is expected to grow at the highest CAGR over the forecast years. This growth is attributed to the growing demand for advanced imaging devices and the increasing frequency of research initiatives. For instance, in September 2021, researchers from South Korea's Pohang University of Science and Technology (POSTECH) introduced a handheld photoacoustic detector capable of assessing lymph node status without subjecting patients to radiation exposure.

Major market players included in this report are:

Advantest Corp.

TomoWave Laboratories, Inc.

Kibero GmbH

FUJIFILM VisualSonics Inc.

Seno Medical Instruments

iThera Medical GmbH

Aspectus GmbH

Vibronix Inc.

Opotek LLC

Prexion Corporation

Recent Developments in the Market:

In August 2023, TomoWave introduced LOIS-3D, a cutting-edge three-dimensional quantitative optoacoustic tomography (qOAT) system. This innovative technology combines the strengths of light and sound to produce highly detailed and contrast-rich three-dimensional visualizations of small animal models mimicking human diseases. This strategic initiative assists in driving technological innovation, increasing demand, and contributing to the growth and development of the field.

Global Photoacoustic Imaging Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Type, Product, Application, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters to detailed information about the crucial aspects such as driving factors & challenges that will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Type:

Pre-Clinical

Clinical

By Product:

Photoacoustic Tomography (PAT)

Photoacoustic Microscopy (PAM)

By Application:

Oncology

Cardiology

Angiology

Histology

Interventional radiology

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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