

Biophotonics Market Report by Technique (Surface Imaging, Molecular Spectroscopy, Microscopy, Light Therapy, Biosensors, Inside Imaging, See-through Imaging, and Others), Technology (In-Vitro, In-Vivo), Application (Medical Diagnostics, Medical Therapeutics, Material Testing, and Others), and Region 2024-2032

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Abstracts

The global biophotonics market size reached US\$ 54.7 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 120.0 Billion by 2032, exhibiting a growth rate (CAGR) of 8.9% during 2024-2032.

Biophotonics refers to a multidisciplinary research field that uses light-based technologies to study life sciences and medicine. It involves the production and utilization of a light source to detect and manipulate biological materials. Techniques such as spectroscopy, photo-mechanics and fiber optic sensors, which are based on see-through imaging, inside imaging, molecular Spectroscopy, microscopy, analytical sensing and biosensing solutions, are used to study biological tissues, cells and molecules. These techniques aid in emission, detection, absorption, reflection and modification of radiations from biomolecules and biomaterials. As a result, biophotonics finds extensive applications in the fields of life sciences, agriculture, environmental science, dentistry and medicine.

The increasing prevalence of chronic medical ailments, along with the widespread adoption of biophotonics for disease diagnostics, is one of the key factors driving the growth of the market. The rising geriatric population, which is more susceptible to such ailments, is also driving the market growth. Furthermore, the widespread adoption of

Biophotonics from the non-medical sector is creating a positive outlook for the market. It is being used for testing chemicals, toxins and microbial materials for environmental monitoring and defense applications. Additionally, various technological advancements, such as the advent of nanotechnology and novel photoacoustic tomography (PAT) systems, are acting as other growth-inducing factors. These systems use gold and silica nanoparticles for biomedical imaging and accurate sensing of cancer cells in the patients. Other factors, including increasing investments in the development of diagnostic and testing facilities for proteins, nucleic acids and viruses, along with extensive research and development (R&D) activities, are anticipated to drive the market further.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global biophotonics market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on technique, technology, and application.

Breakup by Technique:

Surface Imaging

Molecular Spectroscopy

Microscopy

Light Therapy

Biosensors

Inside Imaging

See-through Imaging

Others

Breakup by Technology:

In-Vitro

In-Vivo

Breakup by Application:

Medical Diagnostics

Medical Therapeutics

Material Testing

Others

Breakup by Region:

North America

United States

Canada

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

Competitive Landscape:

The report has also analysed the competitive landscape of the market with some of the key players being Andor Technology Ltd. (Oxford Instruments Plc), BD (Becton, Dickinson and Company), Carl Zeiss AG (Carl-Zeiss-Stiftung), Glenbrook Technologies Inc., Hamamatsu Photonics K.K, Lumenis Ltd., Olympus Corporation, Perkinelmer Inc., Thermo Fisher Scientific Inc. and Zecotek Photonics Inc.

Key Questions Answered in This Report:

How has the global biophotonics market performed so far and how will it perform

in the coming years?

What has been the impact of COVID-19 on the global biophotonics market?

What are the key regional markets?

What is the breakup of the market based on the technique?

What is the breakup of the market based on the technology?

What is the breakup of the market based on the application?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global biophotonics market and who are the key players?

What is the degree of competition in the industry?

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