

# **Optical Imaging Market (2013-2018) – Technology Trends And Applications Of Optical Coherence Tomography (OCT), Hyper Spectral Imaging (HSI), Near Infrared Spectroscopy (NIRS) And Photo-Acoustic Tomography (PAT) In Clinical Diagnostics, Clinical Research And Life Sciences With Market Landscape Analysis - Estimates Up To 2018**

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## **Abstracts**

Optical Imaging is an emerging imaging technology that uses light to assess optical properties of tissues, and has a great potential for improving disease prevention, clinical research, medical diagnosis and treatment. The basic principle of optical imaging involves - the detection of emitted photons at pre-defined wavelength ranges when the fluorescent probes in the optical imaging system can be excited by NIR light. Further advancements and breakthroughs in the field of fiber optics and photonics resulted in the emergence of innovative optics based technologies such as Optical Coherence Tomography (OCT), Photo-acoustic Optical imaging, Hyperspectral Imaging and Near-Infrared Spectroscopy (NIRS) that have a potential to redefine the fields of medical diagnostics and clinical research. These technologies have an ability distinguish the diverse soft tissues based on photon absorption and scattering differences among the soft tissues enhancing the accuracy of clinical research and pathological diagnosis. Though optical imaging is still in the early phase of development, it offers a number of important advantages over existing radiological imaging techniques. These optical imaging modalities use no radiation and are non-invasive, offering a promising future for medical diagnostics and clinical research in the coming five years.

The research service on 'Advances in Optical Imaging (Medical Diagnostics & Clinical Research) - Technology Trends and Market Landscape Analysis' is an attempt to

showcase the technology and market impact of existing and emerging optical imaging technologies having a huge growth potential in clinical medicine for the coming five years. This technology based research report categorizes optical imaging technologies based on applications, based on geography and on the basis of technicalities of various optical imaging modalities.

**Source:** MarketsandMarkets Analysis

Global optical imaging market can be estimated to be approximately around \$1.9 billion by end of 2018, growing at a CAGR of 11.37%. Among the modalities, OCT occupies a major share contributing over 70% of the total optical imaging market. America is the major market for optical imaging equipments followed by Europe, and they have been driving the market significantly owing to the growth of aging population across the developed economies. Other than the mature markets, emerging economies such as Asia-pacific and Middle-East are the future drivers of optical imaging market.

This report is further divided into segments and sub-segments providing exhaustive market analysis with respect to each technology from the years 2010 and 2011, as well as forecast up to 2018. Each technology is comprehensively analyzed at a granular level by geography (North America, EU, Asia and rest of the world) to provide in-depth information on the global scenario. Investment opportunity evaluation and emerging initial public offerings (IPOs) can be assessed within the optical imaging sector. Strategic recommendations for technology developers are elaborately discussed in this research service.

Multi-modality imaging using optical imaging principles boosts the development of novel therapeutics and altering the course of patient management and disease care. The combination of spectral and photonics phenomenon has enabled new optical imaging capabilities, providing clinicians with unique views of the structure and functioning, both at the molecular and cellular levels.

### **Drivers:**

A key driving force of Optical imaging techniques is the technology's immense application scope for easy access to visualize and image in-depth structures of eye, surface tissues, mucosal membranes, the gastrointestinal tract, and vascular systems. They also enhance the drug discovery process by enabling better imaging of tissues and other biological entities at the molecular level. A major advantage of using optical imaging includes operator safety, patient comfort and patient safety. In the future, most

of these technologies will gain widespread clinical acceptance and find specific roles in the clinical medicine.

### **Challenges:**

Inadequate clinical data validation for optical methods restricts adoption.

### **Lack of reimbursement facilities.**

The key players profiled in the report are Michelson Diagnostics, Heidelberg Engineering GmbH, Carl Zeiss Meditec, Volcano Corporation, Topcon Medical Systems Inc., St. Jude Medical Inc., Headwall Photonics, Cytoviva Inc., ChemImage Corporation, Bioptigen Inc., Raytheon ELCAN Optical Technologies, Somanetics Corporation and ASE Optics Inc.

### **Scope of the Report:**

The research service on 'Advances in Optical Imaging in Clinical Diagnostics & Clinical Research - Technology Trends and Market Landscape Analysis' is an attempt to showcase the technology and market impact of existing and emerging optical imaging technologies having a huge growth potential in clinical medicine for the coming five years. This technology based research report categorizes optical imaging technologies based on applications, based on geography and on the basis of technicalities of various optical imaging modalities.

**Based on Technology:** For simplified and effective research, we categorized the entire breast imaging modalities into Ionizing breast imaging technologies and Non-ionizing breast imaging modalities based on the type of technicalities used in diverse breast screening modalities. This report will cover the technological aspects of Optical Coherence Tomography (OCT), Photo - Acoustic Tomography (PAT), Near Infrared Spectroscopy (NIRS) and Hyper spectral Imaging (HSI) that are of huge interest to investors with high estimation time for investment opportunity outcomes. We have recognized several application areas for the emerging optical imaging technologies in the areas of ophthalmology, dentistry, neurology, cardiology, dermatology etc. Quantitative data analysis and growth rates provided for the North America and European market, potential addressable market for other technology segments mentioned in the report.

**Based on Geography:** The technologies in the report were thoroughly analyzed for the

future adoption and development potential based on geographic locations such as the Americas, Europe, Asia, and Rest of the World (ROW) to provide in-depth information on market size, market share and market segmentation of global breast imaging modalities.

### **Reasons to buy the Report**

This report service on Optical Imaging devices in clinical medicine is one of its kinds with 75% of its focus on technological understanding and advancement and a 25% of market engineering standards. There is only one recent available technology report on Optical Imaging Devices and it does not include market numbers. So this report would be the first holistic report which analyses in depth about technology as well as market landscape of optical imaging technologies.

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