

Asia-Pacific Optical Imaging Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Asia-Pacific optical imaging market is expected to register a CAGR of 12.3% during the forecast period (2023 - 2028). The market is expected to grow due to increased demand for non-invasive procedures and non-ionizing imaging modalities, particularly among the elderly.

According to the World Health Organization (WHO), while the proportion of people aged 60 or above in Southeast Asia was 9.8% in 2017, it will increase to 13.7% and 20.3% by 2030 and by 2050, respectively. Further, according to the United Nations, in 2040, the forecasted percentage of the population of Singapore above the age of 65 will be more than 29%. Ionizing radiation, such as X-rays, can cause various health problems, including deterioration of cell functioning and oncogenic mutations. Optical imaging techniques use non-ionizing radiation to reduce the harmful effects of radiation, resulting in increased utilization in hospitals and clinics, driving market expansion.

The increased use of optical imaging modalities for therapeutic and diagnostic purposes like disease diagnosis, preclinical research, and discrete molecular and cellular process imaging is likely to boost the market growth.

Diffuse optical tomography (DOT) and imaging (DOI) are witnessing robust growth in the region. They are non-invasive procedures that evaluate tissue parameters such as total hemoglobin concentration and blood oxygen saturation using light in the near-infrared region. The techniques are frequently utilized for breast cancer imaging, functional brain imaging, stroke detection, photodynamic therapy, and radiation therapy monitoring because they perform effectively in soft tissue.

The region is also featuring an increasing trend of collaborations and partnerships between companies to leverage their technical capabilities and manufacturing infrastructure to innovate advanced products and processes to cater to the evolving and complex

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needs of the aging consumer base. For instance, OmniVision Technologies Inc., a manufacturer of advanced digital imaging solutions, and Diaspective Vision GmbH, a high-quality hyperspectral and multispectral camera systems developer for medical applications, teamed up in November 2021 to develop the Malyna system, an advanced endoscopic camera based on proprietary multispectral imaging technology. Malyna provides indocyanine green (ICG)-based perfusion imaging and serves as a framework for the adaptation of additional algorithms for measured perfusion and tissue categorization without using a color agent. The device combines physiological data with a 4K live video stream to provide surgeons with objective decision-making support.

However, high instrument costs, strict regulatory approval procedures, a scarcity of qualified operators, and inadequate reimbursements for optical imaging operations limit the market's growth. Several imaging and diagnostic departments have seen a quick drop in optical imaging case volumes as a result of COVID-19, owing to the increasing requirement for social distancing among patients, physicians, and other healthcare professionals.

APAC Optical Imaging Market Trends

The Rising Prevalence of Chronic Diseases is Expected to Drive the Market

The Asia-Pacific region is witnessing a surge in the prevalence of chronic diseases like cancer, heart diseases, arthritis, etc. According to the National Bureau of Statistics of China, in 2020, malignant neoplasms, commonly called cancer, were responsible for 25.43% of deaths caused by significant diseases in urban China. Its mortality rate stood at 161.4 deaths per 100,000 population in 2020. Cerebrovascular diseases and heart diseases were among the top three death causes.

Further, according to the Center for Cancer Control and Information Services Japan, the number of breast cancer cases among women in Japan was estimated to be the highest, at approximately 92 thousand in 2020, followed by colon cancer at 69 thousand.

Advances in optical instruments enable the detection of endogenous tissue differences between normal and malignant tissues, while optical contrast agents improve the sensitivity and specificity of cancer cell detection. A surgeon can see cancer margins and resect malignant gliomas and bladder cancer more efficiently using optical imaging of contrast chemicals. Near-infrared optical imaging allows for greater tissue depth penetration and has become very important for breast cancer screening. The benefits offered by optical imaging techniques would propel the market growth.

Moreover, cancers of the head and neck have become a serious concern to human health in recent years. While surgery remains the first-line treatment for head and neck cancer patients, the limited resectable tissue mass and complex anatomy structures in the head and neck region force surgeons to choose between extensive resection and better quality of life for patients. If too much is removed, the patient's quality of life will suffer, and if too little is removed, cancer will most likely recur.

To reduce the resection of normal tissues, early detection and treatment of pre-malignancies, and real-time in vivo detection of surgical margins during en bloc resection, could be used. Recent advances in optical hardware and reagents have opened up new possibilities for real-time pre-malignancy and cancer imaging in clinics and operating rooms. Autofluorescence imaging, targeted fluorescence imaging, high-resolution microendoscopy, narrow-band imaging, and Raman spectroscopy are effective for optical imaging in the head and neck.

The Ophthalmology Segment is Expected to Hold a Major Market Share

The Asia-Pacific region is a prominent market for ophthalmology. According to the statistics published by the National Institute of Health 2020, in Japan, the leading causes of visual impairment are glaucoma, diabetic retinopathy, degenerative myopia, age-related macular degeneration, and cataract.

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The increasing popularity of optical coherence tomography, a non-invasive imaging technology used to obtain high-resolution cross-sectional images of the retina, and the rising prevalence of eye disorders as a result of the growing global geriatric population are expected to boost the market's growth.

Optical coherence tomography testing has become a standard of care for inspecting and treating most retinal conditions. OCT employs rays of light to measure retinal thickness. In this test, no radiation or X-rays are used.

In addition, AI is increasingly being integrated into diagnostic techniques in the Asia-Pacific region's ophthalmology industry. Artificial intelligence (AI) has shown considerable advances in various visual and aural identification tasks, inspired by the human multilayered neural system. AI can study digital data thoroughly, rapidly, and non-invasive for various activities.

APAC Optical Imaging Market Competitor Analysis

The Asia-Pacific optical imaging market is moderately fragmented, with prominent players like Carl Zeiss Meditec AG, ASE Optics Inc., Cytoviva Inc., Heidelberg Engineering Inc., etc. The companies must leverage their technological capabilities and industry experience to innovate advanced products that cater to complex issues to diversify their customer base and capture a wider geographic area.

July 2021 - Topcon Corporation acquired VISIA Imaging S.r.l, an ophthalmic device manufacturer. The acquisition strengthens Topcon's anterior segment device and software development and manufacturing capabilities, complementing the company's robust portfolio of fundus imaging technologies, including fundus cameras and optical coherence tomography (OCT).

February 2021 - Heidelberg Engineering Academy launched CET Course Room, a free virtual platform that would enable optometrists and dispensing opticians to earn CET points through engaging with recorded webinars.

Additional Benefits:

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

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