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Optical Coherence Tomography Market Assessment, By Type [Handheld OCT Devices, Catheter-based OCT Devices, Tabletop OCT Devices, Doppler OCT Devices], By Technology [Spatial Encoded Frequency Domain OCT, Time Domain OCT, Fourier Domain OCT, Frequency Domain OCT, Others], By Applications [Cardiovascular, Ophthalmology, Oncology, Dermatology, Others], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global optical coherence tomography market size was valued at USD 1.51 billion in 2023, which is expected to reach USD 3.29 billion in 2031, with a CAGR of 10.23% for the forecast period between 2024 and 2031F. Various elements impact global optical coherence tomography market, encompassing technological progress, heightened occurrences of eye ailments (such as glaucoma and age-related macular degeneration), a growing need for non-invasive diagnostic methods, and its increasing application in diverse medical fields beyond ophthalmology, like cardiology and dermatology. Furthermore, the expansion of the global optical coherence tomography market is bolstered by expanding research initiatives and an upsurge in healthcare spending.

The global optical coherence tomography market is influenced by various factors that fuel its growth. Technological advancements are pivotal, consistently improving OCT's precision, speed, and resolution. It enhances diagnostic capabilities and encourages its use across various medical fields. Increasing eye-related conditions, such as glaucoma and age-related macular degeneration, significantly contribute to the market's growth. OCT's non-invasive nature meets the rising demand for safer and more effective

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diagnostic tools, driving its application in identifying and tracking these ailments. OCT's expansion beyond ophthalmology into areas like cardiology and dermatology widens the potential of global optical coherence tomography market. Its high-quality imaging facilitates the analysis of cardiac tissues and skin, creating new opportunities in unconventional medical domains.

Furthermore, the growth of global optical coherence tomography market is propelled by ongoing research initiatives that aim to discover new applications and refine existing OCT technologies. Simultaneously, the surge in global healthcare expenditure acts as a catalyst, enabling wider accessibility and adoption of OCT technologies within healthcare facilities. The combination of elements supports the expansion of global optical coherence tomography market, promoting innovation, diversifying its applications, and improving healthcare diagnostics and treatment monitoring across a spectrum of medical fields.

Increased Occurrences of Eye Ailments

The increasing occurrence of diverse eye conditions, especially ailments like glaucoma and age-related macular degeneration, significantly propels the thriving global optical coherence tomography market. As these ocular disorders continue their global rise, there's a growing need for advanced and non-invasive diagnostic solutions. OCT's non-intrusive features and exceptional high-resolution imaging play a pivotal role in detecting, tracking, and managing these eye-related issues. Its capacity to offer intricate, layered images of the eye's structure enables early identification and precise monitoring of disease advancement. This amplified requirement for precise and effective diagnostic techniques perfectly matches OCT's capabilities, firmly establishing it as a crucial instrument in the ophthalmic domain and substantially contributing to the market's upward growth trajectory.

Increased focus on Research and Innovation

Research and innovation investments are the driving forces behind the expansion of global optical coherence tomography market. Ongoing funding for improving OCT technologies refines its precision, speed, and adaptability across various medical disciplines. The financial support stimulates the creation of state-of-the-art functionalities, enhancing diagnostic capacities and broadening its utilization in medical specialties beyond ophthalmology. These investments encourage exploration into new applications, propelling OCT into uncharted territories within medical imaging. Ultimately, this commitment to advancing research and innovation solidifies OCT's

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growth, establishing its pivotal role as a crucial diagnostic tool across diverse medical sectors and propelling the market's continual expansion. The Centre for Ophthalmic Artificial Intelligence and Human Health was established in July 2023 by The Icahn School of Medicine at Mount Sinai. It was the first center of its sort in New York and among the first in the country. By developing high-resolution optical coherence tomography, the Centre is committed to improving artificial intelligence (AI) in ophthalmology and solidifying the Mount Sinai Health System's position as a frontrunner in patient care via innovative ideas and technologies.

Government Initiatives

Governments worldwide actively engage in initiatives to strengthen the global optical coherence tomography market. These endeavors involve supporting funding, establishing regulatory frameworks, and fostering collaborations to promote research, innovation, and accessibility. Financial grants and incentives propel technological advancements, refining OCT's precision and expanding its applicability in various medical domains. Regulatory measures ensure adherence to safety standards, instilling trust in its utilization. Partnerships between governments, research entities, and industry stakeholders facilitate the exchange of knowledge, propelling OCT's progress and adoption.

These coordinated efforts demonstrate a collective dedication to fortify OCT's pivotal role in diagnostics, advancing its growth and widespread integration in global healthcare systems. A Tamil Nadu health minister unveiled the Optical Coherence Tomography equipment for cardiac catheterization, valued at INR 1.5 crore, at the Coimbatore Medical College Hospital (CMCH) in November 2023 as part of the Chief Minister's Comprehensive Health Insurance Scheme. Additional facilities were unveiled at the government hospitals in Mettupalayam and Somanur.

Use of OCT in Ophthalmology

The increasing necessity for optical coherence tomography (OCT) within ophthalmology significantly drives the growth of the global optical coherence tomography market. The growing demand arises from OCT's capacity for non-invasive imaging, delivering detailed cross-sectional views of eye structures. Its capabilities enable early identification, precise monitoring, and customized treatment approaches for conditions such as macular degeneration and glaucoma. Ophthalmologists value OCT for its provision of high-resolution, real-time imagery, elevating diagnostic precision and patient care. With OCT's mounting reliance on ophthalmic practices worldwide, its

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foundational role strengthens, propelling the market expansion and cementing its status as a fundamental technology in eye healthcare. Visionix USA introduced their new multimodal, high-speed Optovue FullRange OCT system to the North American market in February 2023. The Optovue Solix FullRange OCT has integrated cameras for fundus, external photography, and external infrared imaging, in addition to enhanced scans and new posterior high-density scan patterns that provide greater detail and accuracy.

Growing Demand for Catheter-Based OCT Devices

The increasing desire for catheter-based optical coherence tomography (OCT) tools shapes the growth of optical coherence tomography market. These specialized devices enable high-resolution internal imaging within blood vessels and organs, aiding precise real-time visualization during minimally invasive procedures, particularly in cardiology for intravascular imaging. They guide interventions and bolster diagnostic precision. With a shift in medical practices toward less invasive methods, the amplified need for catheter-based OCT devices arises from their capacity to provide intricate, detailed images. The pivotal role in various medical fields accentuates their importance, substantially driving the expansion of global optical coherence tomography market. The Tiger-eye ST next generation image-guided chronic total occlusion (CTO) crossing system was introduced by Avinger Inc. in September 2023. For the diagnosis and treatment of vascular disease, it is the first and only intravascular image-guided catheter device. Using optical coherence tomography as an imaging modality, clinicians may look inside the artery during an atherectomy or CTO-crossing treatment due to Avinger's Lumivascular technology, which includes an onboard image-guidance system.

Outlook of Global Optical Coherence Tomography Market

The global market for optical coherence tomography (OCT) shows promises due to various factors. OCT, an imaging technique without invasiveness, has extensive uses in fields like ophthalmology, cardiology, and dermatology, enabling detailed cross-sectional imaging of tissues. Technological advancements consistently enhance its abilities, boosting the quality, depth, and speed of scans. Rising rates of chronic diseases such as diabetes and cardiovascular conditions fuel the demand for OCT, particularly in early detection and monitoring. Furthermore, the increasing elderly population is more susceptible to age-related illnesses, contributing significantly to market expansion. Ongoing research and development initiatives aim to broaden OCT's applications and reduce costs, facilitating its wider adoption in healthcare facilities. Combining these aspects, the global optical coherence tomography market is on a

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trajectory for growth, offering innovative solutions for diagnosing, treating, and monitoring various medical conditions across diverse specialties.

Key Players Landscape and Outlook

Major players in the global optical coherence tomography market are proactively engaging in collaborative efforts. These partnerships entail the convergence of industry leaders with research entities, healthcare providers, or technology enterprises. The union allows these significant corporations to combine their knowledge, resources, and technological prowess to propel the progress of OCT. Collaborations serve as catalysts for pioneering applications, refining device accuracy, and venturing into novel medical territories outside ophthalmology. Such strategic partnerships propel technological progress and stimulate market expansion by enriching product portfolios, diversifying applications, and ensuring the continual evolution of OCT technologies across a spectrum of medical fields.

The vendor agreement for eyeMO (Patient Based Ophthalmology Suite), a portable, affordable, home-based, remote, and in-office ophthalmic OCT*1 device for retinal disease monitoring, was executed by Kubota Vision Inc., a clinical-stage specialty ophthalmology company and a wholly-owned subsidiary of Kubota Pharmaceutical Holdings Co., Ltd., on December 6, 2023. The compact handheld gadget fills a demand in mobile health applications by enabling patients to self-monitor their retinal health from home or from distant field sites.

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