

Dental Digital X-Ray Market Assessment, By Product [Digital Radiography, Computed Radiography, Cone Beam CT], By Application [Diagnostic, Therapeutic, Cosmetic, Others], By Imaging [Intraoral Imaging, Extraoral Imaging], By End-users [Dental Hospitals, Dental Clinics, Dental and Forensic Laboratories, Dental Academic and Research Centers], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global dental digital X-ray market size was valued at USD 4.51 billion in 2023, expected to reach USD 9.74 billion in 2031, with a CAGR of 10.1% for the forecast period between 2024 and 2031. Global dental digital X-ray market is driven by several factors which include growing aging population, increasing number of dental disorders, technological advancements and increasing adoption of digital radiography and cone-beam computed tomography. One of the primary drivers is the rapidly growing aging population. The demographic shift has increased demand for dental imaging technologies, such as digital X-rays, to diagnose and treat age-related oral health issues.

Another significant factor driving the global dental digital X-ray market is the increasing number of dental disorders. Dental problems are widespread across all age groups and can range from common issues like cavities and gum disease to more complex conditions requiring precise diagnosis and treatment. Digital X-ray technology offers a reliable and efficient means of capturing detailed images for accurate diagnosis and treatment planning. Unlike traditional film-based radiographs, digital X-ray images are processed instantly and can be viewed on a computer screen within seconds.

The quick loading time accelerates the diagnostic process, allowing dental professionals to make faster and more informed decisions about patient care. Furthermore, the increased accessibility and data management capabilities of digital X-rays have played a significant role in boosting global dental digital X-ray market. Digital images can be easily stored, shared, and accessed electronically, enhancing dental practices' efficiency. It facilitates remote consultations, second opinions, and long-term patient record management. Adopting cone-beam computed tomography (CBCT) has contributed to the market's growth. CBCT technology provides three-dimensional images of dental structures, offering a comprehensive view for more complex dental procedures, such as implant placement and orthodontic treatment planning. Additionally, the rising demand for cosmetic dentistry has boosted the global dental digital X-ray market. Patients seeking cosmetic dental treatments like teeth whitening, veneers, and orthodontic interventions rely on digital X-rays to plan and monitor their procedures precisely, ensuring the best possible outcomes.

Increasing Prevalence of Dental Disorders

The increasing prevalence of dental disorders worldwide has significantly impacted the global dental X-ray market. As oral health issues, such as cavities, periodontal diseases, and oral cancers, continue to rise, the demand for diagnostic tools such as digital X-rays and CBCT (Cone Beam Computed Tomography) is expected to increase. These imaging technologies are crucial in early detection and precise diagnosis, facilitating timely and effective treatment. Early detection of oral diseases helps in planning preventive measures, which can stop the development of misalignment and other deformities. Oral disorders are the most common non-communicable diseases, impacting 3.5 billion people globally, or about half of the world's population, across all age groups.

Numerous Benefits Offered by Digital Radiography

The global dental digital X-ray market has witnessed substantial growth, primarily attributed to its numerous advantages to dental imaging. Digital X-ray technology deviates from traditional film-based radiographs by employing sensors for capturing image, followed by instant processing and display on a computer screen. The immediate response expedites the diagnostic process, facilitating faster treatment decisions.

Furthermore, digital imaging permits advanced image manipulation, encompassing

functions such as zooming, contrast adjustments, and precise measurements, thus significantly enhancing the accuracy of diagnosis. In contrast to conventional film-based X-rays, digital X-rays reduce patient exposure to radiation, rendering them a safer alternative. Additionally, they contribute to environmental sustainability by eliminating the need for chemical processing. In conclusion, reduced loading time, precision, safety, and environmental friendliness have been instrumental in the remarkable growth of the global dental digital X-ray market, reshaping dental imaging and patient care.

Integration of Artificial Intelligence

The global dental digital X-Ray market is experiencing dynamic growth driven by the integration of cutting-edge technologies, especially artificial intelligence (AI). AI is transforming dental imaging by enhancing diagnostic accuracy and workflow efficiency. AI algorithms can rapidly analyze digital X-ray images, highlighting potential issues and assisting dental professionals in identifying abnormalities and diseases. Furthermore, AI enables predictive analytics, allowing for proactive treatment planning. The technology streamlines the diagnostic process and improves patient care by enabling early intervention.

As a result, AI is a pivotal force behind the growth of global dental digital X-ray market, shaping the future of dental healthcare with its innovative capabilities. At the 2023 Chicago Midwinter Meeting, Owandy Radiology Inc., a renowned global dental radiology equipment and imaging software manufacturer, unveiled its AI-driven Ceph Analysis Orthodontic Software. The orthodontic software, offered as an optional module for Owandy's I-Max Ceph panoramic digital radiography unit, comes in two versions: a standard package and an advanced feature package.

Growing Demand for Intraoral Digital Sensor

The global dental digital X-ray market has witnessed a sharp increase in the demand for intraoral digital sensors and compact devices that play a crucial role in modern dental imaging. These sensors capture high detailed, high-resolution X-ray images of a patient's teeth and oral structures. It offers advantages such as reduced radiation exposure, rapid image acquisition, and eliminating chemical processing associated with traditional film-based X-rays.

Dentists benefit from instant, clear visuals that enable precise diagnoses and treatment planning, while patients enjoy a safer and more comfortable imaging experience. The growing demand for intraoral digital sensors reflects an expanding trend toward

advanced, patient-focused, and efficient dental care. In May 2023, Midmark Corp., a prominent dental solutions provider dedicated to optimizing the clinical environment for better care delivery, introduced its latest innovation, the Midmark Intraoral Digital Sensor System. The newly unveiled digital sensor system from Midmark features improved triggering mechanisms for dependable image capture and claims the highest line pairs per millimetre available on the market, with an impressive 35.7 lp/mm, ensuring superior image quality.

Increasing Popularity of Imaging Software

Imaging software has experienced a significant upswing in the global dental digital X-ray market. The surge in adoption can be attributed to its central role in improving diagnostic precision and simplifying operational workflows in dental practices. These software solutions facilitate the effective storage, retrieval, and examination of digital X-ray images, ensuring their availability to dental professionals. Moreover, they often integrate advanced functionalities like image enhancement and measurement tools, which further enhance the accuracy of diagnoses and the planning of treatments.

The increasing prominence of imaging software mirrors the industry's shift towards digitalization and the growing demand for technologies that enhance diagnostic processes and provide a more patient-focused and efficient dental care experience. As an illustration, in September 2022, 3D Diagnostix, a provider specializing in US-guided surgery, announced its collaboration with Morita, a prominent dental and medical equipment manufacturer. The goal of the partnership is to establish a direct integration of their 3D imaging software, i-Dixel. The strategic alliance is driven by a shared mission to offer dentists cutting-edge technological advancements, enhancing patient outcomes. The collaboration seeks to empower users with innovative imaging solutions that enhance precision and accuracy and streamline digital workflows, ultimately leading to improved clinical results.

Future Market Scenario

The future of the global dental digital X-ray market is promising, holding significant potential for transformation and growth. Advancements in technology, particularly in artificial intelligence (AI) and machine learning, are expected to play a pivotal role in enhancing the capabilities of digital X-ray systems. AI can assist in image analysis, diagnosis, and treatment planning, ultimately improving the overall efficiency and accuracy of dental practices. Also, the growing awareness of the benefits of digital X-rays, including reduced radiation exposure, faster image acquisition, and enhanced

diagnostic capabilities, is expanding the market's reach.

Patients are increasingly seeking safer and more convenient imaging solutions, which is driving the demand. Moreover, the dental industry is witnessing a shift towards comprehensive digital record-keeping, further promoting the adoption of digital X-ray systems. Electronic health records and data integration enable better patient management, treatment coordination, and research opportunities.

Key Players Landscape and Outlook

In global dental digital X-ray market, major industry players are actively pursuing acquisitions as a strategic move to expand their market presence and diversify their product offerings. These acquisitions allow companies to access new technologies, talent, and customer bases while consolidating their position in the highly competitive market. By integrating complementary businesses or innovative startups, market leaders can strengthen their portfolios and better meet the evolving needs of dental professionals.

The acquisitions help companies adapt to emerging trends, such as the increasing integration of artificial intelligence and software solutions, ensuring they remain at the forefront of the industry's rapid advancements and continue to deliver cutting-edge solutions to their customers. In April 2022, Envista Holdings Corporation finalized the purchase of Carestream Dental's Intraoral Scanner division. The division will be rebranded as DEXIS and become an integral part of the Envista Equipment and Consumables segment. Through the acquisition, Envista has enriched its product range by incorporating a top-tier suite of intraoral scanners and accompanying software into its portfolio.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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