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Global Augmented Reality in Healthcare Market Assessment, By Component [Hardware, Software], By Product [AR Displays, AR Sensors, AR Input Devices, AR Semiconductor Components and Others], By Technology [Head Mounted Devices, Handheld Devices and Others], By Application [Medical Training, Surgery Virtualization, Medical Imaging, Diagnosis & Treatment, Drug Information, Vein Visualization, Patient Self-Care, Others], By End-user [Hospitals & Clinics, Research Laboratories and Others], Opportunities and Forecast, 2016-2030F

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Abstracts

Global augmented reality (AR) in healthcare market size was valued at USD 3.15 billion in 2022 which is expected to reach USD 19.37 billion in 2030 with a CAGR of 25.49% for the forecast period between 2023 and 2030. The key factors that are accelerating growth and adoption of augmented reality (AR) technologies in the healthcare industry are continuous technological advancements, increasing use of AR for medical training purposes, digitalization in healthcare, growing robotic-assisted surgeries, increasing expenditures on R&D for AR in healthcare and rise in awareness about the benefits of AR technology. AR in healthcare is being implemented for various applications such as surgeries, diagnosis, rehabilitation, training, education and is widely being used by hospitals, clinics, research centers and academic institutes. The major driver propelling the market expansion over the recent years has been the increasing use of augmented reality (AR) technology in surgical operations to optimize surgical processes and boost the efficiency of treatment. Due to this reason, key players are adding new features to

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their existing products to establish a technical foundation for future developments.

In March 2023, Augmedics, Inc. launched new FDA approved features and indications to its Xvision Spine AR guiding system for spine surgery in the United States. Further enhancing xvision's powerful visualization and customization capabilities are new customizable views and artificial intelligence (AI) image augmentation technology.

Growing Popularity of AR Integrated Robotic Assisted Surgery

Robotic-assisted surgery (RAS) systems have grown in popularity in recent years due to their improved surgical precision and ease in handling, as well as their improved access to minimally invasive treatments. Combining robotic-assisted surgery with augmented reality creates a sophisticated interface that improves user perception. AR's capacity to boost situational awareness vastly improves the surgeon's ability to make better judgements in real time. Robotic hepatic surgery, intraoperative reconstructions and tracking systems, preoperative imaging and 3D rendering, intra-operative robotic ultrasound application, and robotic liver resections are some of the segments of robotic assisted surgeries that will see a robust growth and improved alterations in coming years.

Taurean Surgical, a startup focused on advanced medical device technologies based in Hyderabad, announced its pre-seed fundraising round for its robotically assisted 3D surgical microscope driven by AI and AR based technology. The microscope offers benefits such as real time guidance to surgeons during complex surgeries and integrates computer vision, machine learning and augmented reality.

Augmented Reality is Reshaping Telemedicine

The integration of augmented reality (AR) and telemedicine has the potential to transform the way doctors and healthcare professionals diagnose and prescribe the treatment. Augmented reality is a burgeoning trend in telemedicine. This technology is reshaping telemedicine by providing an immersive and interactive experience, allowing healthcare professionals to visualize patient data, medical images and diagnostic information in real time during virtual consultations. Through AR, the physicians can overlay relevant medical data onto the patient's physical environment, enhancing their ability to explain complex concepts and treatment plans effectively. Patients can receive a more comprehensive understanding of their health conditions through interactive 3D models and visualizations.

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Connect2MyDoctor is a telehealth platform by a Melbourne-based startup that launched a 3D/AR module for patient education in January 2022. Its AR module ‘cARE’ has a list of 3D models for doctors to choose from during online consultations and also helps in getting a deeper understanding of the medical processes.

Head-Mounted Devices Segment Accounted for Highest Share

Head mounted devices held 59.54% share of the total market. Head-mounted displays (HMDs) have the potential to revolutionize medical education in resource-limited settings. HMDs offer several advantages, including the ability to practice various medical disciplines repeatedly without risking patient health. The introduction of innovative approaches for learning complex medical content, and the moderation of financial, ethical, and supervisory limitations associated with traditional learning materials such as cadavers and skills lab equipment. The extensive applications of HMDs compared to traditional methods are expected to drive the adoption of head-mounted devices in the upcoming years. Moreover, the anticipated launch of Project Iris, (Google's undisclosed augmented reality head-mounted display project), is expected to introduce innovative HMD products in the market by 2024.

Microsoft’s Hololens, which is a holographic headset capable of enhancing patient treatment and allows healthcare professionals to connected with remote experts and go beyond X-rays to consult MRI images in 3D. Hololens has been proven to reduce training time by 30% and an average saving of USD 63 per labor hour.

Growing Utilization of AR in Physical Therapy & Rehabilitation

AR has enormous potential in physical therapy by enhancing patient engagement and physical outcomes and making it easier, interactive, and more efficient. AR's significant benefits in physiotherapy and behavioral treatment are progressively becoming evident in healthcare companies as it results in improved pain management and long-term adherence. The data collected from each session enables the physiotherapist to better analyze the outcomes. By providing a secure environment for patients to practice motions and orient their workouts, AR paves the path for a novel approach of intervention in motor and cognitive rehabilitation.

North America Dominates the Global AR Healthcare Market

North America accounted for 46.64% share of the global market. North America stands

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as the most dominant region in the global augmented reality healthcare market, showcasing dominance in driving innovation and adoption. The region's leadership is highlighted by the widespread integration of augmented reality technologies across various healthcare applications. With a robust infrastructure, advanced technological capabilities and a progressive regulatory environment. From medical training and surgical planning to patient education and remote consultations, the region has harnessed the potential of augmented reality to enhance healthcare outcomes. The presence of multi-billion-dollar tech and medical device companies coupled with a receptive healthcare ecosystem, positions North America at the forefront of shaping the future of augmented reality.

Impact of COVID-19

The COVID-19 pandemic had a positive impact on the implementation of augmented reality (AR) in healthcare. Augmented reality has the potential to support surgeons in intricate procedures by providing up-to-date patient data, imaging scans, or guidance information. This integration has strengthened surgical accuracy, minimized errors, and ultimately enhanced patient results. AR technology gained significant traction as it offers innovative solutions to address the challenges brought by the pandemic. Healthcare professionals have leveraged AR to enhance telemedicine experiences, allowing for remote consultations, diagnostics, and monitoring of patients. AR has also facilitated medical training and education by providing immersive simulations and virtual learning experiences. Additionally, AR-powered tools and applications have assisted in surgical procedures, enabling surgeons to visualize patient anatomy in real-time and improve precision. The post-COVID landscape has accelerated the adoption of AR in healthcare, revolutionizing patient care and medical practices.

Key Players Landscape and Outlook

The key players landscape for Augmented Reality (AR) in healthcare showcases a promising outlook with several key players leading the way. Companies such as Microsoft Corporation, Qualcomm Technologies Inc and Siemens Healthineers AG are actively developing and implementing AR solutions in healthcare. Microsoft's HoloLens has been utilized in medical training and surgery, providing real-time guidance and visual overlays. Google's ARCore technology has been applied in healthcare apps for patient education and virtual anatomy exploration. Philips is focusing on AR for surgical navigation, enabling precise guidance during procedures. The future of AR in healthcare looks bright with these industry leaders driving innovation and advancements.

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In May 2022, the University of Findlay's College of Health Professions became an early adopter of MediView XR, Inc.'s groundbreaking augmented reality technology. They integrated this innovative technology into their sonography program curriculum, making them one of the pioneering academic programs in the United States.

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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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