

# **UAE Augmented Reality in Healthcare Market By Component (Hardware, Software), By Application (Medical Training, Surgery Virtualization, Medical Imaging, Diagnosis and Treatment, Drug Information, Vein Visualization, Patient Self-Care, Others), By Region and Competition, Forecast & Opportunities, 2020-2030F**

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## **Abstracts**

UAE Augmented Reality in Healthcare Market was valued at USD 40.25 Million in 2024 and is expected to reach USD 49.65 Million by 2030 with a CAGR of 3.76% during the forecast period. The augmented reality (AR) market in healthcare in the UAE is experiencing significant growth, fueled by the country's ambitious vision to become a global leader in technological innovation and healthcare services. The UAE's healthcare sector has been undergoing rapid transformation, with AR technologies playing a crucial role in enhancing medical education, diagnostics, and patient care. AR is revolutionizing healthcare in the UAE by providing more immersive, efficient, and accurate methods for both practitioners and patients.

One of the primary drivers of the AR in healthcare market is the government's focus on incorporating cutting-edge technologies to improve the quality of healthcare services. As part of its Vision 2021 initiative, the UAE aims to build a world-class healthcare system by adopting advanced digital technologies, including AR, to streamline medical processes and enhance patient outcomes. Hospitals and healthcare providers in the country are increasingly adopting AR-based solutions to aid in surgeries, medical training, and remote consultations, further driving the demand for these technologies.

In medical education, AR is enabling students and practitioners to interact with 3D

visualizations of human anatomy, allowing them to gain a deeper understanding of complex medical concepts and procedures. This hands-on learning approach enhances training, making it more interactive and engaging compared to traditional methods. By simulating real-life scenarios, AR can prepare healthcare professionals for a variety of medical situations, ultimately improving the quality of care provided to patients.

## Key Market Drivers

### Growth in Healthcare Industry

The growth of the healthcare industry in the United Arab Emirates (UAE) is a key driver of the augmented reality (AR) technology market in healthcare. With the UAE's commitment to becoming a leader in medical innovation and technology, augmented reality is increasingly being integrated into healthcare applications to improve patient outcomes, enhance medical education, and optimize clinical procedures. As the healthcare sector continues to expand in response to a growing population, rising demand for high-quality healthcare services, and government initiatives, the need for advanced technologies such as AR is more pronounced.

The UAE's Vision 2021 and Vision 2030 plans emphasize healthcare sector development, positioning technology-driven solutions as central to the future of medical services. Augmented reality in healthcare is revolutionizing various aspects of patient care, from surgical planning and diagnostics to rehabilitation and patient engagement. As one of the most advanced and rapidly evolving markets in the Middle East, the UAE boasts a robust healthcare infrastructure and is rapidly expanding its clinical research and manufacturing capabilities. The 2022 federal budget allocated a total of USD 17.18 billion (AED 63.066 billion) for public spending, with 7.6% earmarked for healthcare. Additionally, dedicated healthcare budgets are managed by the Dubai Health Authority and the Abu Dhabi Department of Health. Surgeons, for example, can use AR for enhanced precision in surgeries by overlaying critical patient information or 3D models during procedures, improving both safety and effectiveness. Furthermore, AR is being utilized for medical training, allowing healthcare professionals to simulate complex medical procedures in a risk-free virtual environment, significantly improving their skillsets and reducing the training costs.

The UAE's healthcare market is also witnessing a surge in the use of AR for patient education. Virtual simulations are helping patients better understand their diagnoses, treatment options, and post-operative care, thus improving patient compliance and

satisfaction. With healthcare providers increasingly adopting AR tools to offer more personalized and efficient services, the demand for AR solutions within the UAE healthcare sector continues to grow.

### Surge in Technological Advancements

The surge in technological advancements is a significant driver of the UAE augmented reality (AR) in healthcare market, positioning the country at the forefront of innovative healthcare solutions in the region. In the United Arab Emirates (UAE), health experts are leveraging virtual reality (VR) and augmented reality (AR) to enhance the healthcare experience. The Thumbay Group is set to launch the world's first metaverse hospital, pushing the boundaries of global healthcare access. Additionally, patients can engage in immersive remote consultations with healthcare providers via avatars, all from the comfort of their homes. This innovative approach addresses challenges such as long wait times and geographical barriers, allowing patients to interact with their doctors in a fully immersive virtual environment. As the UAE continues to focus on becoming a global leader in healthcare technology and innovation, AR is playing an increasingly pivotal role in transforming medical training, patient care, and diagnostic procedures.

One of the key factors behind this growth is the rapid evolution of AR technology, which has made it more accessible and effective for a wide range of healthcare applications. The adoption of AI, virtual reality, and robotics in healthcare is rapidly accelerating across the Middle East, with the UAE emerging as a leader in integrating emerging technologies into its healthcare infrastructure. The American Hospital in Dubai has implemented robotic systems developed by U.S.-based Intuitive Surgical for surgical procedures. Similarly, Mediclinic City Hospital has begun utilizing robotic-assisted technology for knee surgeries, with a current focus on orthopedic procedures. AR allows for the overlay of digital information onto real-world environments, enabling healthcare professionals to visualize complex medical data in real time. This is particularly valuable in surgical procedures, where AR can guide surgeons by providing real-time 3D imaging of organs, blood vessels, and other critical structures, improving precision and reducing the risk of complications. This has made AR an indispensable tool in the operating room, driving demand for AR solutions in UAE hospitals and clinics.

Additionally, the UAE's commitment to enhancing medical education and training is fueling the adoption of AR in healthcare. Traditional methods of training, such as textbooks and cadavers, are being augmented with AR-based simulations that allow medical students and professionals to interact with 3D models of human anatomy, practice surgeries, and explore complex medical scenarios in a virtual environment.

This technology is improving the quality of medical education by providing more immersive and hands-on learning experiences, thus equipping healthcare providers with better skills and knowledge.

## Key Market Challenges

### Limited Integration with Existing Systems

One of the significant challenges facing the augmented reality (AR) healthcare market in the UAE is the limited integration of AR technologies with existing healthcare systems. While AR offers substantial benefits in terms of medical education, diagnostics, and surgery, the seamless integration of these advanced tools with current healthcare infrastructures remains a complex and often costly endeavor.

Healthcare institutions in the UAE are increasingly adopting AR solutions, but many of these technologies are not yet fully compatible with the existing electronic health record (EHR) systems, hospital management software, and medical imaging tools. The lack of interoperability between AR platforms and legacy systems can hinder the effective use of AR in clinical environments. For example, if an AR solution cannot easily access or share patient data from an EHR system, the technology's potential to enhance clinical decision-making and improve patient outcomes is significantly reduced.

Moreover, healthcare providers may need to invest in additional software and hardware to enable AR integration, which increases implementation costs and extends deployment timelines. Many hospitals and clinics are already operating on tight budgets and may face challenges justifying the financial outlay required to upgrade their systems for AR compatibility. Smaller healthcare providers, in particular, may struggle with the high capital expenditures needed to ensure smooth integration.

## Key Market Trends

### Enhanced Medical Training and Education

Enhanced medical training and education is emerging as a prominent trend in the UAE augmented reality (AR) in healthcare market. The rapid integration of AR technologies is transforming how healthcare professionals are trained, providing a more interactive, immersive, and effective learning environment. Aspen Medical Healthcare Training Solutions provides individuals with comprehensive, current courses that enable them to refine their skills and remain informed on the latest medical practices in the UAE,

ensuring superior care across diverse settings. Additionally, their training team works closely with participants and their organizations to design and develop customized training solutions that align with their ongoing professional development needs for both individuals and teams. As the UAE strives to elevate its healthcare sector through innovation, augmented reality is playing a pivotal role in shaping the future of medical education and training.

AR offers healthcare institutions the ability to create realistic, three-dimensional simulations of complex medical procedures, anatomy, and patient conditions. This allows students, doctors, and other medical professionals to engage in hands-on, practical experiences without the need for live patients or expensive cadavers. By visualizing organs, tissues, and systems in real-time, medical trainees can better understand the intricacies of human anatomy and practice surgical techniques with precision and confidence before performing them in clinical settings.

One of the key advantages of AR in medical education is its ability to provide personalized learning experiences. Augmented reality can adapt to the individual needs of each trainee, offering them tailored simulations and assessments to ensure competency at their own pace. This personalized approach enhances knowledge retention, accelerates learning, and improves overall skill development.

## Segmental Insights

### Component Insights

Based on Component, Hardware have emerged as the fastest growing segment in the UAE Augmented Reality in Healthcare Market in 2024. One of the key factors driving the growth of AR hardware in the healthcare sector is the growing adoption of AR in surgical and clinical environments. Devices such as Microsoft HoloLens and Magic Leap are increasingly being used by surgeons to visualize 3D images of patient anatomy during procedures, allowing for greater precision and reduced risk. The ability to overlay digital information directly onto a surgeon's field of view enhances real-time decision-making, improving patient outcomes. This increased reliance on AR hardware in operating rooms is significantly boosting the demand for high-performance, reliable hardware solutions in the UAE healthcare market.

Furthermore, the use of AR hardware in medical training and education is accelerating the growth of this segment. Medical institutions in the UAE are incorporating AR into their curricula, utilizing AR devices to create immersive, interactive learning

experiences. By providing students with 3D holographic models of human anatomy and surgical procedures, AR hardware enables more effective hands-on training without the need for cadavers or traditional methods. This trend has led to a surge in the demand for AR hardware to meet the needs of educational institutions, hospitals, and healthcare professionals.

### Application Insights

Based on Application, Medical Imaging have emerged as the fastest growing segment in the UAE Augmented Reality in Healthcare Market during the forecast period. AR technology in medical imaging allows healthcare professionals to visualize 3D representations of patient anatomy, overlaying diagnostic images (such as CT scans or MRIs) onto real-world views. This enhanced visualization significantly improves diagnostic accuracy, enabling more precise detection of abnormalities and better-informed decision-making.

AR tools can be used to guide surgeons during procedures by overlaying critical imaging data directly onto the patient's body. This integration of medical imaging with AR enhances surgical precision, reduces risks, and allows for better planning, especially in complex surgeries. As a result, there is a growing demand for AR solutions in surgical environments.

### Regional Insights

Based on Region, Dubai have emerged as the dominating region in the UAE Augmented Reality in Healthcare Market in 2024. Dubai's government has consistently prioritized technological innovation as a cornerstone of its economic development. Through initiatives like the Dubai Health Strategy 2021 and the Dubai Future Foundation, Dubai has fostered an environment conducive to the adoption of advanced technologies such as AR in healthcare. The government's commitment to integrating smart technologies into healthcare services has driven demand for AR-based applications, positioning the city as a leader in the healthcare tech space.

Dubai boasts some of the most advanced healthcare facilities in the UAE, including state-of-the-art hospitals, clinics, and research centers. The high concentration of cutting-edge medical institutions has created a fertile ground for the adoption of AR technologies in training, surgical procedures, and patient care. With world-class medical professionals and an international patient base, Dubai is uniquely positioned to implement and scale AR applications, ensuring that the technology is used to its full



potential.

### Key Market Players

Thumbay Group

Proximie Limited

CUBIX IT SOLUTIONS LLC

Proven Solution

AUGMENTED COGNIZANCE INNOVATION PRIVATE LIMITED

### Report Scope

In this report, the UAE Augmented Reality in Healthcare Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

UAE Augmented Reality in Healthcare Market, By Component:

Hardware

Software

UAE Augmented Reality in Healthcare Market, By Application:

Medical Training

Surgery Virtualization

Medical Imaging

Diagnosis and Treatment

Drug Information

Vein Visualization

Patient Self-Care

Others

UAE Augmented Reality in Healthcare Market, By Region:

Dubai

Abu Dhabi

Sharjah

Rest of UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the UAE Augmented Reality in Healthcare Market.

Available Customizations:

UAE Augmented Reality in Healthcare Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).



## Contents

### 1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
  - 1.2.3. Key Market Segmentations

### 2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

### 3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

### 4. UAE AUGMENTED REALITY IN HEALTHCARE MARKET OUTLOOK

- 4.1. Market Size & Forecast
  - 4.1.1. By Value
- 4.2. Market Share & Forecast
  - 4.2.1. By Component (Hardware, Software)
  - 4.2.2. By Application (Medical Training, Surgery Virtualization, Medical Imaging, Diagnosis and Treatment, Drug Information, Vein Visualization, Patient Self-Care, Others)
  - 4.2.3. By Region
  - 4.2.4. By Company (2024)

#### 4.3. Market Map

- 4.3.1. By Component
- 4.3.2. By Application
- 4.3.3. By Region

### **5. DUBAI AUGMENTED REALITY IN HEALTHCARE MARKET OUTLOOK**

#### 5.1. Market Size & Forecast

- 5.1.1. By Value

#### 5.2. Market Share & Forecast

- 5.2.1. By Component
- 5.2.2. By Application

### **6. ABU DHABI AUGMENTED REALITY IN HEALTHCARE MARKET OUTLOOK**

#### 6.1. Market Size & Forecast

- 6.1.1. By Value

#### 6.2. Market Share & Forecast

- 6.2.1. By Component
- 6.2.2. By Application

### **7. SHARJAH AUGMENTED REALITY IN HEALTHCARE MARKET OUTLOOK**

#### 7.1. Market Size & Forecast

- 7.1.1. By Value

#### 7.2. Market Share & Forecast

- 7.2.1. By Component
- 7.2.2. By Application

### **8. MARKET DYNAMICS**

#### 8.1. Drivers

#### 8.2. Challenges

### **9. MARKET TRENDS & DEVELOPMENTS**

#### 9.1. Recent Developments

#### 9.2. Product Launches

#### 9.3. Mergers & Acquisitions

## **10. POLICY & REGULATORY LANDSCAPE**

## **11. UAE ECONOMIC PROFILE**

## **12. COMPETITIVE LANDSCAPE**

### **12.1. Thumbay Group**

#### **12.1.1. Business Overview**

#### **12.1.2. Company Snapshot**

#### **12.1.3. Products & Services**

#### **12.1.4. Financials (In case of listed)**

#### **12.1.5. Recent Developments**

#### **12.1.6. SWOT Analysis**

### **12.2. Proximie Limited**

### **12.3. CUBIX IT SOLUTIONS LLC**

### **12.4. Proven Solution**

### **12.5. AUGMENTED COGNIZANCE INNOVATION PRIVATE LIMITED**

## **13. STRATEGIC RECOMMENDATIONS**

## **14. ABOUT US & DISCLAIMER**

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