

Virtual Reality Market by Segment, Equipment, Applications and Solutions 2022 – 2027

<https://marketpublishers.com/r/V6A80159DCD6EN.html>

Date: March 2022

Pages: 149

Price: US\$ 2,500.00 (Single User License)

ID: V6A80159DCD6EN

Abstracts

Overview:

This report assesses the virtual reality market including analysis of VR ecosystem and role of value chain partners, evaluation of VR intellectual property, and analysis of VR devices, apps, and content. The report also provides an assessment of key VR companies and solutions, analysis of emerging business models and more. In terms of virtual reality market hardware, this VR market report covers fully immersive headgear, semi-immersive large screens, and non-immersive desktops and other smaller screens.

Select Report Findings:

Carriers must build-out 5G and edge computing to support consumer VR

Enterprise virtual reality applications USA market will surpass \$8.1B by 2027

Cloud-based VR solutions will be dominate compared to premise-based solutions

Government use of virtual reality in support of USA smart cities will reach \$639M by 2027

Largest VR verticals will be automation, aerospace, construction, education, and healthcare

The purpose of VR technology is to provide a near-real experience using reality

emulation in a virtual environment. The VR market is poised to experience a massive transformation over the next three to five years driven by advances in devices, apps, components, content, and broadband communication.

Mind Commerce sees fully immersive virtual reality systems gaining substantial market momentum in consumer and enterprise markets within the next few years. These VR systems will provide an unprecedented digital experience for humans, often including multiple senses as well as interaction with virtual objects and/or interaction between the real and virtual worlds.

Virtual Reality in Consumer Market

For the consumer virtual reality market, we see entertainment and lifestyle enhancements leading the way with the former including VR enhanced gaming and the latter including a plethora of new apps such as virtual location experiences in which groups of people get together virtually in the cyber-world.

Examples include everything from virtual alumni events to watching your favorite football team play in a virtual stadium with ultra-real sights, sounds, and even feelings and smells of game day. The advancement of AI embedded within the VR market will add to realism by introducing random events that happen within a given experience.

Virtual Reality in Enterprise and Industrial Verticals

For enterprise and industrial virtual reality market segments, Mind Commerce sees simulations and training leading the way. We see everything from situational training (such as Verizon using Striver to train its employees how to better deal with robberies) to more traditional expectations such as VR enhanced simulations for flight and vehicle training.

Businesses will also seek to use VR as a means to destress employees by offering them a virtual experience of their everyday work with random events thrown into the mix, both to add interest/amusement as well as to test and train them to see how they might react given a real-world experience such as how to best deal with a senile shoplifter.

Virtual Reality and the Importance of 5G and Edge Computing

Mind Commerce sees the virtual reality market gaining ground once 5G is more firmly in

place commercially, but not entirely due to wireless broadband. Instead, we see a massive build-out of broadband as a whole (due to competition from the 5G market) as one of the fundamental drivers for VR adoption. This will be driven in part by substantially greater availability of FTTX and HFC as well as greater bandwidth overall at lower costs.

We see 5G acting as a launch pad for enhanced consumer wireless services such as augmented reality, virtual reality, and cloud gaming. Previously encumbered by a combination of technology gaps and consumer readiness issues, the virtual reality market is poised for substantive global growth, providing abundant opportunities for service providers, content developers, and ecosystem component providers. While today many apps and services within the XR universe are very device dependent and network constrained, convergence is on the horizon from a device perspective as well as substantial opportunities through untethering via 5G and Mobile Edge Computing (MEC).

MEC will be particularly important in support of latency-sensitive apps and services for various consumer, enterprise, and industrial use cases. This will be particularly the case for VR portability, and to some extent, mobility to the extent that there is good 5G coverage. Substantially lower latency facilitated by the combination of 5G and MEC will lead to many new and enhanced applications. For example, VR based telepresence will ultimately become the norm, starting with private enterprise solutions and the SMB markets through the likes of Zoom.

Through Voice over 5G (Vo5G), there will also be support for Ultra High Definition (UHD) audio communications, streaming video and ultra-clear voice communication for next generation virtual reality applications and services. Vo5G will benefit VR for consumer and enterprise applications in many respects such as UHD becoming the norm in immersive experiences. Mind Commerce sees Vo5G ultimately replacing VoLTE as a preferred method for voice communication as well as acting as the input medium for a wide variety of user interfaces, many of which currently rely upon WiFi.

Companies in Report:

3D Systems Symbionix

Analog Devices Inc.

Avegant Corp.

BARCO

Cyberglove Systems

Cypress Semiconductor Corp

EON Reality Inc.

Facebook

FOVE Inc.

Google Inc.

HTC Corporation

Huawei Technologies

Integrated Device Technology Inc

Intel Corporation

Leap Motion Inc.

LG Corporation

Magic Leap

Maxim Integrated

Microsoft Corporation

NextVR

NGRAIN Corporation (mCloud)

Niantic Inc.

Nokia

NVidia Corporation

NXP

Qualcomm Inc.

Rohm Semiconductor

Samsung Electronics Co. Ltd.

Semtech Corporation

Sixense Entertainment Inc.

SK Telecom

Sony Corporation

StreamVR

Texas Instruments

Unity Technologies

V-REAL

VIRTALIS

Virtual Reality Company

Vuzix Corporation

Wevr

WorldViz

Zeiss VR One

ZTE Corporation

Contents

1.0 EXECUTIVE SUMMARY

2.0 INTRODUCTION

2.1 Defining Virtual Reality

2.1.1 Virtual Reality Systems

2.1.2 Virtual Reality System Architecture

2.2 Virtual Reality Market Drivers

2.2.1 Increasing Popularity of Immersive Vision

2.2.2 Usability to Increase Adoption of VR Devices

2.2.3 VR Functions Embedded in Devices

2.2.4 Application in Training and Simulation

2.2.5 Increasing Affordability of Devices and Components

2.2.5.1 HMD Device Pricing

2.2.5.2 VR Content Pricing

2.2.6 VR in Enterprise and Industrial Settings

2.3 Virtual Reality Market Challenges

2.3.1 Adverse Impact on User Health

2.3.2 Fully Immersive VR is Costly

2.3.3 Ensuring Usability in Design and Tracking

2.3.4 High Energy Consumption

2.4 Virtual Reality Market Opportunities

2.4.1 VR Investment Trends

2.4.2 VR Mergers and Acquisitions

2.4.3 VR Complements Mixed Reality

2.4.4 VR in Defense and Homeland Security

2.4.5 VR and Telepresence Apps

2.4.6 VR meets Immersive Social Platforms

2.4.7 VR in Drone Operation and Telerobotics

2.4.8 VR in Pornography Industry

2.4.9 VR Accelerates 3D TV and Printing

2.4.10 VR in Life Saving Applications

2.4.11 VR Opportunities for Network Operators

2.4.12 5G to take Haptic VR Experience Mainstream

2.5 Virtual Reality Patent Analysis

2.6 Virtual Reality Market Ecosystem

2.7 Virtual Reality Business Models

- 2.7.1 Subscription Services
- 2.7.2 Pay-Per-Experience Model
- 2.8 Value Chain Analysis
 - 2.8.1 Device Manufacturers
 - 2.8.2 Component Manufacturers
 - 2.8.3 Software Solution Providers
 - 2.8.4 VR Service Suit Providers
 - 2.8.5 VR Content Providers
 - 2.8.6 End Users

3.0 VIRTUAL REALITY TECHNOLOGY AND APPLICATION ANALYSIS

- 3.1 VR Technology
 - 3.1.1 Non-Immersive Technology
 - 3.1.2 Semi-Immersive Technology
 - 3.1.3 Fully Immersive Technology
- 3.2 Virtual Reality Devices
 - 3.2.1 Head Mounted Displays
 - 3.2.2 Gesture Tracking Devices
 - 3.2.2.1 Haptic Gloves
 - 3.2.2.2 Haptic Suits
 - 3.2.2.3 Other VR Devices
 - 3.2.3 Projectors and Display Walls
 - 3.2.4 Heads-Up Displays
- 3.3 Virtual Reality Hardware Components
 - 3.3.1 Sensors
 - 3.3.1.1 Accelerometers
 - 3.3.1.2 Proximity Sensor
 - 3.3.1.3 Magnetometers
 - 3.3.1.4 GPS System
 - 3.3.1.5 Gyroscopes
 - 3.3.1.6 3D Image Sensor
 - 3.3.2 Semiconductor Component
 - 3.3.2.1 Haptic Controller and Integrated Circuits
 - 3.3.2.2 Graphic Processing Units
 - 3.3.2.3 VR Displays
 - 3.3.2.4 Central Processing Units
 - 3.3.2.5 Memory
 - 3.3.2.6 Tracking System

- 3.3.2.7 Process Acceleration Cards
- 3.3.2.8 Input Devices
- 3.3.2.9 USB Connector
- 3.3.3 Audio Hardware
- 3.4 Virtual Reality Software Market
 - 3.4.1 Virtual Reality Applications
 - 3.4.2 Software Component
 - 3.4.2.1 Reality Engine
 - 3.4.2.2 Software Development Kits
 - 3.4.2.3 3D Modeling
 - 3.4.2.4 2D Graphics
 - 3.4.2.5 Digital Sound Editing
- 3.5 Virtual Reality Services Market
 - 3.5.1 Simulation Services
 - 3.5.2 Application Store Services
 - 3.5.3 Deployment and Management Services
- 3.6 Virtual Reality Content Marketing
 - 3.6.1 Games and Entertainment
 - 3.6.2 Virtual Reality, Video, and an Emphasis on Instructional Content
 - 3.6.3 Virtual Reality Theme Parks: An Immersive Experience
 - 3.6.4 Virtual Reality Content Developer Engagement
- 3.7 Virtual Reality Platforms
- 3.8 Virtual Reality Market Applications
 - 3.8.1 VR Consumer Applications
 - 3.8.2 VR Enterprise Applications
 - 3.8.3 VR Industrial Applications
- 3.9 Regional Virtual Reality Markets
- 3.10 Virtual Reality and 5G
- 3.11 Virtual Reality Revenue Expectations

4.0 VIRTUAL REALITY COMPANY ANALYSIS

- 4.1 Oculus VR, LLC (Meta)
- 4.2 Sony Corporation
- 4.3 Samsung Electronics Co. Ltd.
- 4.4 HTC Corporation
- 4.5 EON Reality Inc.
- 4.6 Google Inc.
- 4.7 Microsoft Corporation

- 4.8 Vuzix Corporation
- 4.9 Cyber Glove Systems
- 4.10 Sensics Inc.
- 4.11 Leap Motion Inc.
- 4.12 Sixense Entertainment Inc.
- 4.13 Avegant Corp.
- 4.14 FOVE Inc.
- 4.15 Open Source Virtual Reality
- 4.16 Zeiss VR One
- 4.17 Intel Corporation
- 4.18 Alcatel Mobile
- 4.19 ZTE Corporation
- 4.20 Unity Technologies
- 4.21 Magic Leap
- 4.22 NVidia Corporation
- 4.23 BARCO
- 4.24 MYO
- 4.25 NGRain Corporation
- 4.26 WorldViz
- 4.27 Wevr
- 4.28 NextVR
- 4.29 Osterhout Design Group
- 4.30 Niantic Inc.
- 4.31 Virtual Reality Company
- 4.32 VIRTUALIS
- 4.33 Meta (previously Facebook)
- 4.34 Huawei Technologies
- 4.35 Qualcomm Inc.
- 4.36 SK Telecom
- 4.37 LG Corporation
- 4.38 Nokia StarGazing VR Application
- 4.39 VREAL
- 4.40 StreamVR
- 4.41 Analog Devices Inc.
- 4.42 Atmel Corporation
- 4.43 Cypress Semiconductor Corp
- 4.44 NXP
- 4.45 Integrated Device Technology Inc
- 4.46 Maxim Integrated

- 4.47 NKK Switches
- 4.48 Rohm Semiconductor
- 4.49 Semtech Corporation
- 4.50 Texas Instruments

5.0 VIRTUAL REALITY MARKET ANALYSIS AND FORECAST 2022 – 2027

5.1 Global Virtual Reality Market 2022 – 2027

- 5.1.1 Global Virtual Reality Market by Technology
 - 5.1.2 Global Virtual Reality Market by Segment
 - 5.1.2.1 Global Virtual Reality Market by Device
 - 5.1.2.1.1 Global Virtual Reality Market by Gesture Tracking Device
 - 5.1.2.2 Global Virtual Reality Market by Hardware Component
 - 5.1.2.2.1 Global Virtual Reality Market by Sensor Type
 - 5.1.2.2.2 Global Virtual Reality Market by Semiconductor Component
 - 5.1.2.3 Global Virtual Reality Market by VR Software
 - 5.1.2.3.1 Global Virtual Reality Market by Software Component
 - 5.1.2.4 Global Virtual Reality Market by Service
 - 5.1.2.5 Global Virtual Reality Market by VR Content
 - 5.1.3 Global Virtual Reality Market by Business Model
 - 5.1.4 Global Virtual Reality Market by Consumer, Enterprise, Industrial and Government Segments
 - 5.1.4.1 Global Virtual Reality Market by Consumer Application
 - 5.1.4.2 Global Virtual Reality Market by Enterprise Application
 - 5.1.4.3 Global Virtual Reality Market by Industrial Application
 - 5.1.4.4 Global Virtual Reality Market by Government Application
 - 5.1.5 Global Virtual Reality Market by Deployment Type
 - 5.1.6 Global MEC Enabled Virtual Reality Infrastructure Market
 - 5.1.7 Global Edge Computing Enabled Virtual Reality Hardware Market
 - 5.1.8 Global Virtual Reality Market by Region
 - 5.1.8.1 North America Virtual Reality Market by Country
 - 5.1.8.2 APAC Virtual Reality Market by Country
 - 5.1.8.3 Europe Virtual Reality Market by Country
 - 5.1.8.4 MEA Virtual Reality Market by Country
 - 5.1.8.5 Latin America Virtual Reality Market by Country
- ### 5.2 Global VR Unit Deployment 2022 – 2027
- 5.2.1 Global VR Unit Deployment by Segment
 - 5.2.1.1 Global VR Unit Deployment by VR Device
 - 5.2.1.1.1 Global VR Unit Deployment by Gesture Tracking Device

- 5.2.1.2 Global VR Unit Deployment by VR Component
 - 5.2.1.2.1 Global VR Unit Deployment by Hardware Component
 - 5.2.1.2.1.1 Global VR Unit Deployment by Sensor
 - 5.2.1.2.1.2 Global VR Unit Deployment by Semiconductor Component
 - 5.2.1.2.2 Global VR Unit Deployment by Software Component
- 5.2.1.3 Global VR Unit Deployment by VR App
- 5.2.2 Global VR Unit Deployment by Application
 - 5.2.2.1 Global VR Unit Deployment by Consumer Application
 - 5.2.2.2 Global VR Unit Deployment by Enterprise Application
 - 5.2.2.3 Global VR Unit Deployment by Industrial Application
 - 5.2.2.4 Global VR Unit Deployment by Government Application
- 5.2.3 Global VR Unit Deployment by Region
 - 5.2.3.1 North America VR Unit Deployment by Country
 - 5.2.3.2 APAC VR Unit Deployment by Country
 - 5.2.3.3 Europe VR Unit Deployment by Country
 - 5.2.3.4 MEA VR Unit Deployment by Country
 - 5.2.3.5 Latin America VR Unit Deployment by Country
- 5.3 Global Virtual Reality User Forecasts 2022 – 2027
 - 5.3.1 Global Virtual Reality Users by Devices and Applications
 - 5.3.2 Global Virtual Reality Users by Technology
 - 5.3.3 Global Virtual Reality by Consumer, Enterprise, Industrial and Government Users
 - 5.3.4 Global Virtual Reality Users by Region
 - 5.3.4.1 North America Virtual Reality Users by Country
 - 5.3.4.2 APAC Virtual Reality Users by Country
 - 5.3.4.3 Europe Virtual Reality Users by Country
 - 5.3.4.4 Middle East and Africa Virtual Reality Users by Country
 - 5.3.4.5 Latin America Virtual Reality Users by Country

6.0 CONCLUSIONS AND RECOMMENDATIONS

Figures

FIGURES

- Figure 1: VR System Development Costs
- Figure 2: VR System Architecture
- Figure 3: VR Investment by Use Cases by 2025
- Figure 4: VR Investment by Investor Type
- Figure 5: VR Market Segments
- Figure 6: VR Technology Platform
- Figure 7: Virtual Reality Sensory Displays
- Figure 8: VR Content Developer Engagement Ratio
- Figure 9: 5G Deployment
- Figure 10: IMT 2020 URLLC Requirement
- Figure 11: Virtual Reality and 5G
- Figure 12: Virtual Reality ARPU
- Figure 13: Global Virtual Reality Market 2022 – 2027
- Figure 14: Global VR Unit Deployment 2022 – 2027
- Figure 15: Global VR User 2022 – 2027

Tables

TABLES

- Table 1: HMD Pricing Lists
- Table 2: VR Content Pricing Lists
- Table 3: VR Mergers and Acquisitions
- Table 4: Head Mounted Display Manufacturers
- Table 5: VR Gloves Manufacturers
- Table 6: VR Haptic Suit Manufacturers
- Table 7: GTD Product Manufacturers
- Table 8: Projectors and Display Wall Manufacturers
- Table 9: HUD Manufacturers
- Table 10: MEMS Accelerometers Manufacturers
- Table 11: Proximity Sensor Manufacturers
- Table 12: Magnetometers Manufactures
- Table 13: GPS System Manufactures
- Table 14: MEMS Gyroscopes Manufactures
- Table 15: 3D Image Sensor Manufactures
- Table 16: Capacitive Sensing Controller and ICs Manufacturers
- Table 17: Virtual Reality GPU Manufacturers
- Table 18: Virtual Reality Display Manufacturers
- Table 19: Virtual Reality CPU Manufacturers
- Table 20: Memory Chip Manufacturers
- Table 21: Virtual Reality Tracking System Manufacturers
- Table 22: Process Acceleration Cards Manufacturers
- Table 23: Virtual Reality Input Device Manufacturers
- Table 24: USB Connector Manufacturers
- Table 25: Virtual Reality 3D Audio Device Manufacturers
- Table 26: Virtual Reality Software and Component Provider
- Table 27: Global Virtual Reality Market by Technology 2022 – 2027
- Table 28: Global Virtual Reality Market by Segment 2022 – 2027
- Table 29: Global Virtual Reality Market by Device 2022 – 2027
- Table 30: Global Virtual Reality Market by Gesture Tracking Device 2022 – 2027
- Table 31: Global Virtual Reality Market by Hardware Component 2022 – 2027
- Table 32: Global Virtual Reality Market by Sensor 2022 – 2027
- Table 33: Global Virtual Reality Market by Semiconductor Component 2022 – 2027
- Table 34: Global Virtual Reality Market by VR Software 2022 – 2027
- Table 35: Global Virtual Reality Market by Software Component 2022 – 2027

- Table 36: Global Virtual Reality Market by Service 2022 – 2027
- Table 37: Global Virtual Reality Market by VR Content 2022 – 2027
- Table 38: Global Virtual Reality Market by Business Model 2022 – 2027
- Table 39: Global Virtual Reality Market by Application 2022 – 2027
- Table 40: Global Virtual Reality Market by Consumer Application 2022 – 2027
- Table 41: Global Virtual Reality Market by Enterprise Application 2022 – 2027
- Table 42: Global Virtual Reality Market by Industrial Application 2022 – 2027
- Table 43: Global Virtual Reality Market by Government Application 2022 – 2027
- Table 44: Global Virtual Reality Market by Deployment 2022 – 2027
- Table 45: Global MEC Enabled Virtual Reality Infrastructure Market 2022 – 2027
- Table 46: Global MEC Enabled Virtual Reality Hardware Market 2022 – 2027
- Table 47: Global Virtual Reality Market by Region 2022 – 2027
- Table 48: North America Virtual Reality Market by Country 2022 – 2027
- Table 49: APAC Virtual Reality Market by Country 2022 – 2027
- Table 50: Europe Virtual Reality Market by Country 2022 – 2027
- Table 51: MEA Virtual Reality Market by Country 2022 – 2027
- Table 52: Latin America Virtual Reality Market by Country 2022 – 2027
- Table 53: Global VR Unit Deployment by Segment 2022 – 2027
- Table 54: Global VR Unit Deployment by VR Device 2022 – 2027
- Table 55: Global VR Unit Deployment by Gesture Tracking Device 2022 – 2027
- Table 56: Global VR Unit Deployment by VR Component 2022 – 2027
- Table 57: Global VR Unit Deployment by Hardware Component 2022 – 2027
- Table 58: Global VR Unit Deployment by Sensor 2022 – 2027
- Table 59: Global VR Unit Deployment by Semiconductor Component 2022 – 2027
- Table 60: Global VR Unit Deployment by Software Component 2022 – 2027
- Table 61: Global VR Unit Deployment by VR App 2022 – 2027
- Table 62: Global VR Unit Deployment by Application 2022 – 2027
- Table 63: Global VR Unit Deployment by Consumer Application 2022 – 2027
- Table 64: Global VR Unit Deployment by Enterprise Application 2022 – 2027
- Table 65: Global VR Unit Deployment by Industrial Application 2022 – 2027
- Table 66: Global VR Unit Deployment by Government Application 2022 – 2027
- Table 67: Global VR Unit Deployment by Region 2022 – 2027
- Table 68: North America VR Unit Deployment by Country 2022 – 2027
- Table 69: APAC VR Unit Deployment by Country 2022 – 2027
- Table 70: Europe VR Unit Deployment by Country 2022 – 2027
- Table 71: MEA VR Unit Deployment by Country 2022 – 2027
- Table 72: Latin America VR Unit Deployment by Country 2022 – 2027
- Table 73: Global VR User by Segment 2022 – 2027
- Table 74: Global VR User by Technology 2022 – 2027

Table 75: Global VR User by Application 2022 – 2027

Table 76: Global VR User by Region 2022 – 2027

Table 77: North America VR User by Country 2022 – 2027

Table 78: APAC VR User by Country 2022 – 2027

Table 79: Europe VR User by Country 2022 – 2027

Table 80: MEA VR User by Country 2022 – 2027

Table 81: Latin America VR User by Country 2022 – 2027

I would like to order

Product name: Virtual Reality Market by Segment, Equipment, Applications and Solutions 2022 – 2027

Product link: <https://marketpublishers.com/r/V6A80159DCD6EN.html>

Price: US\$ 2,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/V6A80159DCD6EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970