Healthcare Robotics: Global Market Analysis and Forecasts

Description: Surgical Robots, Hospital Logistics Robots, Rehabilitation Robots, Robot Nurses, Telepresence Robots, and Diagnostics Robots

As the world's population ages, and with an increasing shortage of physicians and other healthcare personnel, robots will be a growing presence in the healthcare system. At the same time, healthcare providers are attracted to robots due to their ability to reduce the cost of care, offload menial tasks from human personnel, improve the accuracy of repetitive tasks, and enable enhanced forms of therapy and rehabilitation, among other types of use cases. Healthcare robots include surgical robots, hospital logistics robots, disinfectant robots, nursing robots, exoskeleton robots used for rehabilitation, robotic prosthetic limbs, and many other potential robot types. More than 200 companies are already active in various aspects of the healthcare robotics market, creating highly specialized devices for a wide range of applications.

The report forecasts that healthcare robot shipments will increase from approximately 3,400 units annually in 2016 to more than 10,500 units per year by 2021, with more than 38,400 cumulative units shipped during that period. Surgical robots are currently the largest application market and will lead in terms of unit shipments during the forecast period, however the author anticipates that they will be eclipsed by exoskeletons and prosthetics by the end of the period. The market for healthcare robots, including surgical robots, hospital robots, and rehabilitation robots, will grow in revenue from $1.7 billion in 2016 to $2.8 billion by 2021 at a compound annual growth rate (CAGR) of 9.7%.

This report analyzes and forecasts the global market for healthcare robotics, including surgical, rehabilitation, and hospital robots. These are further segmented into 11 specific robot application markets including surgical robots, surgical robot training, exoskeletons, smart prostheses and bionics, therapy robots, assistive robots, logistics robots, cleaning robots, telepresence robots, pill robots, and robotic nurses. Market sizing and forecasts include unit shipments and revenue, segmented by world region, application market, and enabling technologies. The report includes more than 80 profiles of key players in the healthcare robotics sector. The forecast period for this report extends from 2016 through 2021.

Key Questions Addressed:

- What are the key business and technology drivers for the growth of healthcare robotics?
- What are the key types of robots that are being utilized for healthcare applications?
- Which companies are active in the healthcare robotics market, and where do they fit into the industry ecosystem?
- What are the key enabling technologies for healthcare robotics?
- What is the scale of the market opportunity for healthcare robotics, and how does it vary by world region?

Key Market Forecasts

- Healthcare Robotics Shipments and Revenue by Region, World Markets: 2016-2021
- Healthcare Robotics Shipments and Revenue by Application Market, World Markets: 2016-2021
- Healthcare Robotics Technology Attach Rates, World Markets: 2016-2021
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Robot Categories

- Assistive Robots
- Cleaning Robots
- Exoskeletons
- Logistics Robots
- Pill Robots
- Robotic Nurses
- Smart Prostheses and Bionics
- Surgical Robot Training
- Surgical Robots
- Telepresence Robots
- Therapy Robots

Enabling Technologies

- Gesture Control
- Machine Vision
- Speech/Voice Recognition
- Tactile Sensors

Who Needs This Report?

- Robotics manufacturers and component suppliers
- Medical device, appliance, and equipment companies
- Semiconductor and component companies
- Health systems, payers, and provider networks
- Pharmaceutical and life sciences companies
- Remote patient monitoring companies
- Government agencies
- Investor community

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- Executive Summary
- Introduction
- Surgical Robotics
- Rehabilitation Robotics
- Hospital Robotics
- Market and Trends
- Market Forecast
- Market Issues
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- Preventing Medical Errors
- Market Barriers
- Automation Cost and Acceptance
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- Patent Searches
- Healthcare Business Models
- Regulatory and Policy Issues
- Key Applications
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- Surgical Robots
- Surgical Robot Training/Simulators
- Rehabilitation Robotics
- Exoskeletons
- Smart Prostheses and Bionics
- Therapy Robots
- Assistive Robots
- Hospital Robotics
- Logistics Robots

- Cleaning Robots
- Telepresence Robots
- Smart Pills
- Robotic Nurses

- Key Industries/Vertical Markets
- Regional Comparisons

- Technology Issues

- Healthcare Robotic Devices
- Surgical Robotics

- Surgical Robots and Issues
- Surgical Robot Training/Simulators and Issues

- Rehabilitation Robotics

- Exoskeletons and Issues
- Smart Prostheses and Bionics and Issues
- Therapy Robots and Issues
- Assistive Robots (Rehabilitation Robots in Physical Therapy) and Issues

- Hospital Robotics

- Logistics Robots and Issues
- Cleaning Robots and Issues
- Telepresence Robots and Issues
- Pill Robots and Issues
- Robot Nurses and Issues

- Robotic Technologies

- Teleoperation
- Haptics
- Manipulation
- Mobility
- Autonomous Navigation
- Obstacle Avoidance
- Automation
- Computer Vision
- Human-Robot Interface
- Controls
- Artificial IntelligenceAutonomy

- Technological Issues
- Announced Products
- Conclusion

- Key Industry Players

- Surgical Robot Key Players

- Intuitive Surgical
- Accuray Incorporated
- AVRA Surgical Robotics, Inc.
- Corindus Vascular Robotics
- Elekta Company
- FreeHand 2010 Ltd
Hansen Medical, Inc.
Hyundai Heavy Industries
Stryker
Mazor Robotics, Ltd.
Medrobotics Corporation
Medtronic
Renishaw
Restoration Robotics
Think Surgical
Titan Medical Inc.
TransEnterix
Varian Medical Systems
Virtual Incision Corporation
Immersion Corporation

Surgical Robot Trainers Key Players

Surgical Science
Simulab Corporation
Mentice AB
3-Dmed
Simulated Surgical Systems, LLC
Mimic Technologies

Exoskeleton Robot Key Players

Ekso Bionics
Cyberdyne
REX Bionics Plc
ReWalk Robotics
US Bionics Inc.
RB3D
Honda
Panasonic

Bionics and Smart Prosthesis Key Players

Bioparx Health Technology
HDT Global
SynTouch, LLC
Össur
DEKA Research & Development Corporation
Steeper
Ottobock
iWalkFree
Touch Bionics
Open Bionics
Motion Control, Inc.
Cyberkinetics

Therapy Robot Key Players

Hocoma
BeatBots LLC
Interbots
Intelligent System Co.
Robyn Robotics AB
Tyromotion GmbH

Assistive Robot Key Players

Barrett Medical
Yaskawa Electric
- HDT Global
- Kinova Robotics
- Matia Robotics
- Noonee
- GaitTronics Inc.
- Toyota Motor Corporation
- AlterG

- Hospital Robotics Logistics Robot Key Players

- Aethon Inc.
- SwissLog
- Panasonic
- Vecna
- BlueBotics SA
- Savoike
- Mobile Industrial Robots ApS
- Five Elements Robotics
- IAM Robotics

- Cleaning Robot Key Players

- Xenex Disinfection Services, LLC
- CleanFix

- Telepresence Robot Key Players

- VGo Communications
- InTouch Health
- Suitable Technologies
- Other Notable Telepresence Players

- Pill Robot Key Players

- Olympus
- RF System Lab
- Given Imaging
- Rani Therapeutics, LLC

- Nursing Robot Key Players

- RIKEN and Tokai Rubber Industries
- Honda
- Panasonic
- Toyota Motor Corporation
- SoftBank Robotics Corporation
- Fraunhofer Institute for Manufacturing and Automation IPA

- Market Forecasts

- Market Forecasts
- Conclusions and Recommendations

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Robotic Technologies Required to Support Various Healthcare Robotic Devices
da Vinci Surgical System
AVRA Surgical Robotic System
CorPath 200
Versa HD
FreeHand System
Magellan Robotic System
RoboDoc
Mako Robotic-Arm Assisted Surgery
Renaissance Guidance System
Flex Robotic System
Medtronic StealthStation S7
NeuroMate
ARTAS
TSolution One
SPORT Surgical System
ALF-X
Calypso
Miniaturized Surgical Robots
CathLabVR and SmartCapture Tool
LapSim
LapTrainer
VIST-LAB
Minimally Invasive Training System T3 Series
RoSS II
dV-Trainer
Ekso GT
REX
ReWalker
SuitX
Hercule
Walking Assist Device
Power Loader Light
Bionic Arm
HDT Prosthetics
BioTac
PROPRIO FOOT
DEKA Arm System
Bebionic 3
Michelangelo Prosthetic Hand
iWalk2.0
iLimb
Bionic Hands
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BrainGate
Armeo Therapy
Keepon Pro
Popchilla's World
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JustoCat
MYRO
Proficio
Ankle-Assist Walking Device
HDT KineAssist-MX
JACO Robot Arm
Tek RMD
Chairless Chair
SoloWalk
Walk Assist Robot
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QC Bot
Oppent-Evo
SaviOne
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