

# Bionics: Technologies and Global Markets

<https://marketpublishers.com/r/B8FBB74761BEN.html>

Date: October 2019

Pages: 108

Price: US\$ 1,250.00 (Single User License)

ID: B8FBB74761BEN

## Abstracts

### REPORT SCOPE:

This report covers all types of bionic devices as defined above, but focuses on the following -

Exoskeletons.

Limbs and appendages (e.g., hands, feet, fingers).

Hearts.

Ears.

Eyes.

Certain other types of devices, which fit this report's definition of bionic, such as bionic penises, are excluded because they are experimental and the potential commercial market for them over the next 10 years is small or non-existent.

Neural implants are covered only to the extent that they form part of an electromechanical system such as a bionic arm, but are excluded if they are purely electronic/electrical in nature (e.g., spinal cord stimulators). Purely mechanical prosthetic devices such as hip implants and assistive devices that are not worn such as wheelchairs are also not covered.

The market projections do not include the cost of surgical procedures used to insert the devices, or rehabilitation or training of wearers in the use of their bionic device.

While some bionic devices are commercially available at present, the real market for bionics is long-term. The report therefore will focus mainly on identifying bionic technologies that are under development and the conditions that will determine which ones reach the market and the quantities that could potentially be sold. Given the long-term nature of the market, the report has a 10-year time frame (i.e., 2019 to 2029).

## **REPORT INCLUDES:**

47 data tables

An overview of the global market for bionic devices within the medical and healthcare industry

Analyses of global market trends with data from 2018, estimates for 2019, and projections for 2024, potentials for 2029, and compound annual growth rates (CAGRs) through 2029

Elaboration on the influence of government regulations, technological updates, and the economic factors that affect the growth of the market

Assessment of the competitive landscape of major vendor companies, their market analysis share, and marketed and pipeline products

Patent analysis covering all types of bionic devices and their allotments across various categories

Detailed profiles of market leading players, including Abbott Laboratories, Envoy Medical, Honda Motor Co., Ltd., Mitsubishi Heavy Industries, ReWalk Robotics, Toyota Motor Corp., and U.S. Bionics Inc.

## Contents

### **CHAPTER 1 INTRODUCTION**

Study Goals and Objectives  
Reasons for Doing This Study  
Scope of Report  
Information Sources  
Methodology  
Geographic Breakdown  
Analyst's Credentials  
BCC Custom Research  
Related BCC Research Reports

### **CHAPTER 2 SUMMARY AND HIGHLIGHTS**

### **CHAPTER 3 MARKET AND TECHNOLOGY BACKGROUND**

Definition of Bionics  
History of Bionics  
Historical Roots of Bionics  
Other Milestones in the Development of Bionics  
Early Bionic Devices  
Enabling Technologies  
Miniaturization  
Materials  
Sensors  
Energy Sources  
Artificial Intelligence  
Applications and Conditions Addressed  
Conditions and Needs Addressed by Bionics  
Prevalence

### **CHAPTER 4 MARKET SUMMARY**

### **CHAPTER 5 BIONIC LIMBS**

Description  
Applications

Technologies  
Attachment  
Power Sources  
Controls and Sensors  
Recent Developments  
Brain-Controlled Bionic Limbs  
Neural Interfacing  
“Intelligent” Limbs  
Sensing  
Cosmetic Improvements  
Limb Transplantation  
Low Cost 3D Printed Hands  
Providers  
Patent Analysis  
Markets  
Global Market for Bionic Limbs  
Global Market by Type of Limb  
Major Geographical Market Segments

## **CHAPTER 6 BIONIC HEARTS**

Description  
Applications  
Technologies  
Total Artificial Hearts  
Implantable Heart Assist Devices  
Recent Developments  
Bioprosthetic Artificial Heart  
Continuous-Flow Total Artificial Heart  
3D Printed Artificial Heart  
Other Technical Developments  
Providers  
Patent Analysis  
Markets  
Global Market for Bionic Hearts  
Global Market by Type of Cardiac Device  
Major Geographical Segments

## **CHAPTER 7 BIONIC EARS**

Description  
Applications  
Technologies  
Cochlear Implants  
Middle Ear Implants  
Providers  
Patent Analysis  
Market Analysis  
Global Market for Bionic Ears  
Global Market by Type of Hearing Device  
Major Geographical Market Segments

## **CHAPTER 8 BIONIC EYES**

Description  
Applications  
Technologies  
Cortical Implants  
Retinal Implants  
Providers  
Patents  
Markets  
Global Market for Bionic Eyes  
Global Market by Type of Bionic Eye  
Major Geographical Market Segments

## **CHAPTER 9 EXOSKELETONS**

Description  
Applications  
Healthcare  
Industrial/Commercial  
Military  
Technologies  
Motion Data Acquisition and Analysis  
Control Strategies  
Other Issues in Exoskeleton Technology  
Providers

Patent Analysis

Markets

Global Market for Exoskeletons

Global Market by Type of Exoskeleton

Major Geographical Market Segments

## **CHAPTER 10 REGULATORY AND LEGAL ISSUES**

United States

Canada

European Union

Japan

Australia

## **CHAPTER 11 COMPANY PROFILES**

ABBOTT LABORATORIES

ABIOMED INC.

ADVANCED BIONICS CORP.

ALTERG

ATOUN INC.

AXOSUITS SRL

BAE SYSTEMS PLC

BIONX MEDICAL TECHNOLOGIES INC.

B-TEMIA INC.

BANA TEKNOLOJI

BIONIK LABORATORIES

BIOSERVO TECHNOLOGIES AB

CARMAT S.A.

CLEVELAND FES CENTER

COAPT LLC

COCHLEAR LTD.

CYBERDYNE INC.

DAEWOO SHIPBUILDING AND MARINE ENGINEERING CO. LTD.

DEKA RESEARCH AND DEVELOPMENT

EKSO BIONICS

ENDOLITE

ENVOY MEDICAL

EXOATLET

EXIII INC.  
FILLAUER COMPANIES INC.  
GOGO MOBILITY ROBOTS  
HDT GLOBAL  
HEARTWARE  
HONDA MOTOR CO., LTD.  
HOSMER DORRANCE CORP.  
HYUNDAI MOTOR CO.  
INTELLIGENT MEDICAL IMPLANTS AG  
JAPET MEDICAL DEVICES  
JARVIK HEART INC.  
KINETEK WEARABLE ROBOTICS  
LIBERATING TECHNOLOGIES INC.  
LOCKHEED MARTIN CORP.  
MED-EL  
MITIHEART CORP.  
MITSUBISHI HEAVY INDUSTRIES  
MOTION CONTROL INC.  
MOTORIKA  
MYOMO INC.  
NABTESCO CORP.  
OPEN BIONICS LTD.  
OPTOBIONICS  
OSSUR HF  
OTOLOGICS LLC  
OTOTRONIX LLC  
OTTO BOCK HEALTHCARE GMBH  
P&S MECHANICS CO., LTD.  
PARKER HANNIFIN CORP.  
PHASEX AB  
PIXIUM VISION  
RB3D  
REHAB-ROBOTICS CO., TD.  
RELIANTHEART INC.  
RETINA IMPLANT AG  
REWALK ROBOTICS  
REX BIONICS LTD.  
ROAM ROBOTICS  
ROKI ROBOTICS

SARCOS CORP.  
SECOND SIGHT MEDICAL PRODUCTS INC.  
SOUNDTEC INC.  
STEEPER GROUP  
SYNCARDIA SYSTEMS LLC  
TOUCH BIONICS  
TOYOTA MOTOR CORP.  
U.S. BIONICS INC.  
VISIONCARE INC.  
WANDERCRAFT SAS



## List Of Tables

### LIST OF TABLES

Summary Table: Global Market for Bionic Devices, by Type, Through 2029

Table 1: Percentage of Disabled Population in the U.S. over 18 Years Old, by Age Group, 2017

Table 2: Number of Disabled People in the U.S., Through 2029

Table 3: Percentage of Disabled Population in Canada over 15 Years Old, by Age Group, 2017\*

Table 4: Number of Disabled People in Canada, Through 2029

Table 5: Prevalence of Disabilities Among EU Population 15-64 Years Old, 2012

Table 6: Number of Disabled People in the EU, Through 2029

Table 7: Percentage of Disabled Population in Japan over 18 Years Old, by Age Group, 2011\*

Table 8: Number of Limb Amputees Living in the U.S., Through 2029

Table 9: Number of Limb Amputees Living in Canada, Through 2029

Table 10: Number of Limb Amputees Living in EU Countries, Through 2029

Table 11: Number of Limb Amputees Living in Japan, Through 2029

Table 12: Number of Limb Amputees Living in Australia, Through 2029

Table 13: Number of Candidates for a Bionic Heart Living in Japan, Through 2029

Table 14: Number of Candidates for a Bionic Heart Living in Australia, Through 2029

Table 15: Number of Candidates for a Bionic Ear Living in the U.S., by Type of Hearing Loss, Through 2029

Table 16: Number of Candidates for a Bionic Ear Living in Canada, by Type of Hearing Loss, Through 2029

Table 17: Number of Candidates for a Bionic Ear Living in Europe, by Type of Hearing Loss, Through 2029

Table 18: Number of Candidates for a Bionic Ear Living in Japan, by Type of Hearing Loss, Through 2029

Table 19: Number of Candidates for a Bionic Ear Living in Australia, by Type of Hearing Loss, Through 2029

Table 20: Number of Candidates for a Bionic Eye Living in the U.S., Through 2029

Table 21: Number of Candidates for a Bionic Eye Living in Canada, Through 2029

Table 22: Number of Candidates for a Bionic Eye Living in the EU, Through 2029

Table 23: Number of Candidates for a Bionic Eye Living in Japan, Through 2029

Table 24: Number of Candidates for a Bionic Eye Living in Australia, Through 2029

Table 25: Global Market for Bionic Devices, by Type of Device, Through 2029

Table 26: Trends in Market Shares of Bionic Devices, by Type of Device, 2018-2029

- Table 27: Global Market for Bionic Devices, by Country/Region, Through 2029
- Table 28: Trends in Market Shares of Bionic Devices, by Country/Region, 2018-2029
- Table 29: Providers of Bionic Limbs, by Company
- Table 30: Global Market for Bionic Limbs, Through 2029
- Table 31: Global Market for Bionic Limbs, by Type of Limb Replaced, Through 2029
- Table 32: Global Market for Bionic Limbs, by Country/Region, Through 2029
- Table 33: Implantable Heart Assist Devices, by Manufacturer
- Table 34: Cardiac Assist/Replacement Device Providers, by Company
- Table 35: Company Shares of U.S. Cardiac Assist/Replacement Device Patents Issued, Through June 30, 2018
- Table 36: Global Market for Bionic Hearts, Through 2029
- Table 37: Global Market for Bionic Hearts, by Type of Device, Through 2029
- Table 38: Global Market for Bionic Hearts, by Country/Region, Through 2029
- Table 39: Bionic Ear Providers, by Company
- Table 40: Global Market for Bionic Ears, Through 2029
- Table 41: Global Market for Bionic Ears, by Type of Device, Through 2029
- Table 42: Global Market for Cochlear Implants, Through 2029
- Table 43: Global Market for Ear Implants, Through 2029
- Table 44: Global Market for Bionic Ears, by Country/Region, Through 2029
- Table 45: Companies Providing or Developing Bionic Eye Products, by Company
- Table 46: Global Market for Bionic Eyes, Through 2029
- Table 47: Global Market for Bionic Eyes, by Type of Device, Through 2029
- Table 48: Global Market for Bionic Eyes, by Country/Region, Through 2029
- Table 49: Exoskeleton Providers, by Company
- Table 50: Global Market for Exoskeletons, Through 2029
- Table 51: Global Market for Exoskeletons, by Type of Device, Through 2029
- Table 52: Global Market for Exoskeletons, by Country/Region, Through 2029

## List Of Figures

### LIST OF FIGURES

Summary Figure: Global Market for Bionic Devices, by Type, 2018-2029

Figure 1: Percentage of Disabled Population in the U.S. over 18 Years Old, by Age Group, 2017

Figure 2: Number of Disabled People in the U.S., 2018-2029

Figure 3: Number of Disabled People in Canada, 2018-2029

Figure 4: Percentage of Disabled People over 15 Years old in the EU, by Age Group

Figure 5: Number of Disabled People in the EU, 2018-2029

Figure 6: Percentage of Disabled Population in Japan over 18 years Old, by Age Group, 2011\*

Figure 7: Trends in Global Market for Bionic Devices, 2018-2029

Figure 8: Trends in Market Shares of Bionic Devices, 2018-2029

Figure 9: Trends in Market Shares of Bionic Devices, by Country/Region, 2018-2029

Figure 10: Global Market Shares of Bionic Limbs, by Company, 2018

Figure 11: Share of Patents Issued for U.S. Exoprostheses, by Type of Limb, 1976-2019

Figure 12: Global Sales Share of Bionic Lower vs. Upper Limbs, 2018

Figure 13: Global Market Share for Bionic Limbs, by Country/Region, 2018

Figure 14: Global Market Shares of Bionic Hearts, by Company, 2018

Figure 15: Global Market Shares of Bionic Hearts, by Type of Device, 2018

Figure 16: Global Market for Bionic Hearts, by Country/Region, 2019

Figure 17: Company Shares of Cochlear Implant Sales, 2018

Figure 18: Company Shares of Middle Ear Implant Market, 2018

Figure 19: U.S. Bionic Ear Patents Share, by Type of Technology Issued, 2018

Figure 20: Share of U.S. Bionic Ear Patents Issued, by Assignee, 2018

Figure 21: Global Market Share of Bionic Ears, by Type of Device, 2018

Figure 22: Cochlear Implant Market Penetration, 2018

Figure 23: Global Market Share of Bionic Ears, by Country/Region, 2018

Figure 24: Global Market Share of Bionic Eyes, by Company, 2018

Figure 25: Share of U.S. Retinal Implant Patents Issued, by Assignee, June 2019

Figure 26: Global Market Share of Bionic Eyes, by Type of Device, 2018

Figure 27: Global Market Share of Bionic Eyes, by Country/Region, 2018

Figure 28: Company Market Shares of Exoskeletons, 2018

Figure 29: Share of U.S. Exoskeleton Patents Issued, by Assignee, June 2019

Figure 30: Sales Share of Orthotic vs. Performance-Enhancing Exoskeletons, 2018

Figure 31: Global Market Share for Exoskeletons, by Country/Region, 2018

## I would like to order

Product name: Bionics: Technologies and Global Markets

Product link: <https://marketpublishers.com/r/B8FBB74761BEN.html>

Price: US\$ 1,250.00 (Single User License / Electronic Delivery)

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

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/B8FBB74761BEN.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