

3D Bioprinting Market by Component (3D bioprinters (Microextrusion, Inkjet, Laser), Bioinks, Software, Consumable), Material (Hydrogels, ECM), Application(Research (Regenerative Medicine, 3D cell Culture), Clinical (Skin, Bone)) - Global Forecast to 2029

Market Report | 2024-05-17 | 454 pages | MarketsandMarkets

## **AVAILABLE LICENSES:**

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

## Report description:

The 3D bioprinting market is projected to reach USD 2.4 Billion by 2029 from USD 1.3 Billion in 2024, at a CAGR of 12.7% during the forecast period. The 3D bioprinting market is driven by several key factors, including increasing collaborations between public and private entities and significant investments in research and development and growing interest in regenerative medicine and stem cell research.

"The 3D bioprinters segment held the dominant share in the 3D bioprinting market."

Based on technology, the global 3D bioprinting market is segmented into 3D bioprinters, bioinks, software, and consumable. The 3D bioprinters is segmented into Microextrusion bioprinters, inkjet 3D bioprinters, laser-assisted bioprinters, magnetic 3D bioprinters, stereolithography-based bioprinters, and other 3D bioprinters. The 3D bioprinters segment dominated the 3D bioprinting market in 2023. Advancements in 3D bioprinting technology and rising demand for organ transplants serves as driving factor in the 3D bioprinting market.

"Research application accounted for the largest share of the application in 2023."

Based on application, the 3D bioprinting market is segmented into research application and clinical application. The research application is further segmented into regenerative medicine, 3D cell culture and drug research Also, the clinical application is segmented into bone & cartilage, blood vessels, skin and other clinical applications. In 2023, Research segment dominated the 3D bioprinting market. Research segment is anticipated to grow at significant CAGR during the forecast period of 2024-2028 owing to various factors such as biopharmaceuticals firms ramping up their utilization of 3D bioprinting technology.

**Scotts International. EU Vat number: PL 6772247784** tel. 0048 603 394 346 e-mail: support@scotts-international.com www.scotts-international.com

"Asia Pacific region is likely to grow at a faster pace in the 3D bioprinting market."

The 3D bioprinting market region is segmented into North America, Europe, Asia Pacific, Latin America, Middle East and the Africa. The Asia-Pacific region is poised to experience significant growth in the 3D bioprinting market due to several key factors such as increasing healthcare expenditure in countries like China, India, and Southeast Asian nations region benefits from a significant population base and domestic system manufacturing, driving increased partnerships and collaborations aimed at healthcare improvement. With a high level of R&D intensity, market players are actively expanding their presence in the region, complemented by a surge in stem cell research, further stimulate market growth.

The primary interviews conducted for this report can be categorized as follows:

- -∏By Respondent: Supply Side- 70%, and Demand Side 30%
- -¬By Designation (Supply Side): Managers 45%, CXOs & Directors 30%, Executives- 25%
- By Region: North America -40%, Europe -25%, Asia-Pacific -20%, Latin America -10%, Middle East-and Africa -5% List of Companies Profiled in the Report:
- -□BICO Group AB (Sweden)
- -□3D Systems Inc. (US)
- Merck KGaA (Germany)
- -□Organovo Holdings Inc (US)
- -□Collplant Biotechnologies Ltd. (Israel)
- -□ regenHU (Switzerland)
- Aspect Biosystem Ltd. (Canada)
- Advanced Solutions Life Sciences, IIc (US)
- -□Cyfuse Biomedical K.K (Japan)
- -□Rokit Healthcare Inc (South Korea)
- Hangzhou Genofei Biotechnology Co., Ltd. (China)
- -□Foldink (Armenia)
- -□Brinter (US)
- -□3D bioprinting solution (Russia).
- -□REGEMAT 3D, SL (Spain)
- -□??ietis (France)
- Sunp Biotech (US)
- -□GeSim Gesellschaft Fur Silizium-Mikrosysteme Mbh (Germany)
- -□Medprin (China)
- Voxcell Bioinnovation Inc. (Canada)
- -□Prodways (France)
- Inventia Life Science Pty Ltd (Australia)
- Upnano Gmbh (Austria)
- -□UPM (Finland)
- Tissuelabs (Switzerland)

## Research Coverage:

This report provides a detailed picture of the vaccine market. It aims at estimating the size and future growth potential of the market across different segments such as the components, material, application, end-user and region. The report also includes an in-depth competitive analysis of the key market players along with their company profiles recent developments and key market strategies.

Key Benefits of Buying the Report:

The report will help market leaders/new entrants by providing them with the closest approximations of the revenue numbers for

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

the overall 3D bioprinting market and its subsegments. It will also help stakeholders better understand the competitive landscape and gain more insights to better position their business and make suitable go-to-market strategies. This report will enable stakeholders to understand the market's pulse and provide them with information on the key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

- Analysis of key drivers (growing adoption of 3D bioprinting technology in the pharmaceutical and cosmetic industries, technological advancement in the 3D bioprinting, increasing number of public-private partnerships, rising investments in R&D and medical devices), opportunities (Rising demand for organ transplants and growing demand for regenerative medicine and stem cell research) and challenges (biocompatibility issues and rigorous sterilization protocols and ethical concerns related to the use of 3D bioprinted products) are influencing the growth of 3D bioprinting market.
- Product Development/Innovation: Detailed insights on newly launched products of the 3D bioprinting market.
- Market Development: Comprehensive information about lucrative markets the report analyses the 3D bioprinting market across varied regions.
- Market Diversification: Exhaustive information about new services, untapped geographies, recent developments, and investments in the 3D bioprinting market..
- Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players include BICO Group AB (Sweden), 3D Systems Inc. (US), Merck KGaA (Germany), Organovo Holdings Inc (US), Collplant Biotechnologies Ltd (Israel), regenHU (Switzerland), Aspect Biosystem (Canada), Advanced Solutions Life Sciences, Ilc (US), Cyfuse Biomedical K.K (Japan), Rokit Healthcare (South Korea), Hangzhou Genofei Biotechnology Co., Ltd. (China), Foldink (Armenia), Brinter (US) and 3D bioprinting solution (Russia).

## **Table of Contents:**

1□INTRODUCTION□37

- 1.1 STUDY OBJECTIVES 37
- 1.2 MARKET DEFINITION 37
- 1.2.1 □INCLUSIONS AND EXCLUSIONS □ 38
- 1.3□STUDY SCOPE□38
- 1.3.1 SEGMENTS COVERED 38

FIGURE 1[3D BIOPRINTING MARKET: SEGMENTS COVERED[38

1.3.2 REGIONS COVERED 39

FIGURE 2[]3D BIOPRINTING MARKET: REGIONS COVERED[]39

- 1.3.3 | YEARS CONSIDERED | 39
- 1.3.4 CURRENCY CONSIDERED 140
- 1.4 RESEARCH LIMITATIONS 40
- 1.5□STAKEHOLDERS□40
- 1.6 SUMMARY OF CHANGES 41
- 1.6.1 RECESSION IMPACT 41

2 RESEARCH METHODOLOGY 42

2.1□RESEARCH DATA□42

FIGURE 3∏RESEARCH DESIGN∏42

- 2.1.1 SECONDARY DATA 43
- 2.1.2 PRIMARY DATA 44
- 2.1.2.1 Breakdown of primaries 44

FIGURE 4 BREAKDOWN OF PRIMARIES: 3D BIOPRINTING MARKET 44

2.2 MARKET SIZE ESTIMATION 45

FIGURE 5[]3D BIOPRINTING MARKET SIZE ESTIMATION (SUPPLY SIDE ANALYSIS), 2023[]45

FIGURE 6 MARKET SIZE ESTIMATION: COMPANY REVENUE ANALYSIS-BASED ESTIMATION, 2023 46

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

FIGURE 7 ILLUSTRATIVE EXAMPLE OF BICO GROUP AB: REVENUE SHARE ANALYSIS (2023) | 146

2.2.1 INSIGHTS FROM PRIMARY EXPERTS 48

FIGURE 8∏MARKET VALIDATION FROM PRIMARY SOURCES∏48

2.2.2 MARKET SIZE ESTIMATION, BY SEGMENT 49

FIGURE 9 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH 49

2.3 GROWTH RATE ASSUMPTIONS 50

2.3.1 CAGR PROJECTIONS 50

FIGURE 10∏3D BIOPRINTING MARKET: CAGR PROJECTIONS, 2024-2029∏50

2.3.2 IMPACT OF SUPPLY-SIDE AND DEMAND-SIDE FACTORS 51

TABLE 1 | IMPACT ANALYSIS OF SUPPLY-SIDE AND DEMAND-SIDE FACTORS | 51

2.4 STUDY ASSUMPTIONS 51

2.5 MARKET BREAKDOWN AND DATA TRIANGULATION ☐ 52

FIGURE 11 DATA TRIANGULATION METHODOLOGY 52

2.6 RISK ANALYSIS 53

2.7 IMPACT OF ECONOMIC RECESSION ON 3D BIOPRINTING MARKET 53

3∏EXECUTIVE SUMMARY∏54

FIGURE 12||3D BIOPRINTING MARKET, BY COMPONENT 2024 VS. 2029 (USD MILLION)||54

FIGURE 13 T3D BIOPRINTING MARKET, BY APPLICATION, BY TYPE, 2024 VS. 2029 (USD MILLION) T55

FIGURE 14[3D BIOPRINTING MARKET, BY MATERIAL, 2024 VS. 2029 (USD MILLION)[56]

FIGURE 15 | 3D BIOPRINTING MARKET, BY END USER, 2024 VS. 2029 (USD MILLION) | 57

FIGURE 16 GEOGRAPHICAL SNAPSHOT OF 3D BIOPRINTING MARKET 58

4 PREMIUM INSIGHTS 59

4.1∏3D BIOPRINTING MARKET OVERVIEW∏59

FIGURE 17 RISING DEMAND FOR ORGAN TRANSPLANTS TO DRIVE MARKET 59

4.2∏NORTH AMERICA: 3D BIOPRINTING MARKET, BY COMPONENT AND COUNTRY (2023)∏60

FIGURE 18∏US AND 3D BIOPRINTERS ACCOUNTED FOR LARGEST MARKET SHARE IN 2023∏60

4.3 BIOPRINTING MARKET, BY COMPONENT, 2024 VS. 2029 61

FIGURE 19[]3D BIOPRINTERS TO DOMINATE MARKET DURING STUDY PERIOD[]61

4.4[]3D BIOPRINTING MARKET: GEOGRAPHIC GROWTH OPPORTUNITIES[]62

FIGURE 20 ASIA PACIFIC COUNTRIES TO REGISTER HIGHEST GROWTH RATE DURING FORECAST PERIOD 62

5□MARKET OVERVIEW□63

5.1∏INTRODUCTION∏63

5.2□MARKET DYNAMICS□63

FIGURE 21 3D BIOPRINTING MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES 63

5.2.1 DRIVERS 64

5.2.1.1 Growing adoption of 3D bioprinting in pharmaceutical and cosmetic industries 64

5.2.1.2 Technological advancements in 3D bioprinting 65

5.2.1.3 Increasing number of public-private partnerships 65

5.2.1.4 Rising investments in medical device R&D 66

5.2.2 RESTRAINTS 67

5.2.2.1 Risk of 3D bioprinting failures 67

5.2.2.2 High cost of 3D bioprinters and bioinks 68

5.2.3 OPPORTUNITIES 68

5.2.3.1 Rising demand for organ transplants 68

FIGURE 22 NUMBER OF ORGAN TRANSPLANTS IN US (2024) 69

 $5.2.3.2 \square Growing$  demand for regenerative medicine and stem cell research  $\square 69$ 

5.2.4 CHALLENGES 70

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 5.2.4.1 Biocompatibility issues and rigorous sterilization protocols 70
- 5.2.4.2 Ethical concerns related to use of 3D-bioprinted products 71
- 5.3 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 72

FIGURE 23 REVENUE SHIFT TOWARDS 3D BIOPRINTING COMPANIES 72

- 5.4 TECHNOLOGY ANALYSIS 72
- 5.4.1 TKEY TECHNOLOGIES 172
- 5.4.1.1 Extrusion-based bioprinting 72
- 5.4.1.2 Inkjet-based bioprinting 73
- 5.4.1.3 Stereolithography bioprinting 73
- 5.4.2 COMPLEMENTARY TECHNOLOGIES 73
- 5.4.2.1 Microfluidics and microfabrication 73
- 5.4.2.2 Nanotechnology and nanomaterials 73
- 5.4.3 □ ADIACENT TECHNOLOGIES □ 74
- 5.4.3.1

  ☐ 3D scanning and imaging

  ☐ 74
- 5.4.3.2 Organ-on-a-chip 74
- 5.4.3.3∏Organoids technology∏74
- 5.5 PRICING ANALYSIS 74
- 5.5.1 AVERAGE SELLING PRICE OF COMPONENTS, BY REGION 75

TABLE 2[3D BIOPRINTING MARKET: AVERAGE SELLING PRICE OF COMPONENTS, BY REGION, 2021-2023[75]

5.6 VALUE CHAIN ANALYSIS 76

FIGURE 24[]3D BIOPRINTING MARKET: VALUE CHAIN ANALYSIS[]76

5.7 SUPPLY CHAIN ANALYSIS 77

FIGURE 25∏3D BIOPRINTING MARKET: SUPPLY CHAIN ANALYSIS∏77 TABLE 3□3D BIOPRINTING MARKET: ROLE IN SUPPLY CHAIN□79

5.8 ECOSYSTEM ANALYSIS 80

FIGURE 26 3D BIOPRINTING MARKET: ECOSYSTEM MAP 80

5.8.1 □ 3D BIOPRINTER VENDORS □ 81

TABLE 4□3D BIOPRINTER VENDORS: ROLE IN ECOSYSTEM□81

5.8.2 BIOINK VENDORS 81

TABLE 5∏BIOINK VENDORS: ROLE IN ECOSYSTEM∏81

5.8.3∏END USERS∏82

TABLE 6∏END USERS: ROLE IN ECOSYSTEM∏82

5.8.4⊓REGULATORY BODIES⊓82

TABLE 7∏REGULATORY BODIES: ROLE IN ECOSYSTEM∏82

5.9 PATENT ANALYSIS 83

5.9.1 METHODOLOGY 83

5.9.2 NUMBER OF PATENTS APPLIED AND GRANTED, BY DOCUMENT TYPE, 2014-2024 183

TABLE 8 NUMBER OF PATENTS APPLIED AND GRANTED, 2014-2024 83

5.9.3 INNOVATION AND PATENT APPLICATION 83

FIGURE 27 NUMBER OF PATENTS GRANTED ANNUALLY, 2014-2024 84

5.9.4 TOP TEN PLAYERS WITH HIGHEST NUMBER OF PATENT APPLICATIONS 184

FIGURE 28 TOP TEN PLAYERS WITH HIGHEST NUMBER OF PATENT APPLICATIONS, 2014-2024 84

FIGURE 29 REGIONAL ANALYSIS OF PATENTS GRANTED, 2014-2024 85

TABLE 9∏3D BIOPRINTING MARKET: TOP 12 PATENT OWNERS IN US, 2014-2024∏85

TABLE 10 PATENTS IN 3D BIOPRINTING MARKET, 2023 86

5.10 TRADE ANALYSIS 89

5.10.1 IMPORT DATA FOR INK-JET PRINTING MACHINES (HS CODE: 844351) 189

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

TABLE 11 IMPORT VOLUME FOR INK-JET PRINTING MACHINES (HS CODE: 844351), 2019-2023 (TONS) 89

5.10.2 EXPORT DATA FOR INK-JET PRINTING MACHINES (HS CODE: 844351) 89

TABLE 12∏EXPORT VOLUME FOR INK-JET PRINTING MACHINES (HS CODE: 844351), 2019-2023 (TONS)∏89

5.10.3 IMPORT DATA FOR PRINTERS, COPYING MACHINES, AND FACSIMILE MACHINES, WHETHER OR NOT COMBINED (HS CODE: 844339) 190

TABLE 13 IMPORT VOLUME FOR PRINTERS, COPYING MACHINES, AND FACSIMILE MACHINES, WHETHER OR NOT COMBINED (HS CODE: 844339), 2019-2023 (USD) 90

5.10.4□EXPORT DATA FOR PRINTERS, COPYING MACHINES, AND FACSIMILE MACHINES, WHETHER OR NOT COMBINED (HS CODE: 844339)□90

TABLE 14□EXPORT VOLUME FOR PRINTERS, COPYING MACHINES, AND FACSIMILE MACHINES, WHETHER OR NOT COMBINED (HS CODE-844339), 2019-2023 (USD)□90

5.11 KEY CONFERENCES AND EVENTS, 2024-2025 191

TABLE 15 3D BIOPRINTING MARKET: KEY CONFERENCES AND EVENTS 91

5.12 REGULATORY LANDSCAPE 92

5.12.1 CDRH REGULATIONS ON 3D BIOPRINTING 92

5.12.2 LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 192

TABLE 16∏NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS∏92

TABLE 17 EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 193

TABLE 18[]ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS[]94

TABLE 19 REST OF THE WORLD: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 195

5.13 INVESTMENT AND FUNDING SCENARIO ☐ 96

5.14 PORTER'S FIVE FORCES ANALYSIS 97

FIGURE 30 3D BIOPRINTING MARKET: PORTER'S FIVE FORCES ANALYSIS 97

TABLE 20[3D BIOPRINTING MARKET: PORTER'S FIVE FORCES ANALYSIS[]97

5.14.1 THREAT OF NEW ENTRANTS 98

5.14.2 THREAT OF SUBSTITUTES 98

5.14.3 BARGAINING POWER OF BUYERS □98

5.14.4 BARGAINING POWER OF SUPPLIERS 98

5.14.5 INTENSITY OF COMPETITIVE RIVALRY 98

5.15 KEY STAKEHOLDERS AND BUYING CRITERIA 198

5.15.1 KEY STAKEHOLDERS IN BUYING PROCESS 99

TABLE 21 | INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE END USERS | 199

5.15.2 KEY BUYING CRITERIA 100

5.15.2.1 Key buying criteria for top three end users 100

TABLE 22 TKEY BUYING CRITERIA FOR TOP THREE END USERS IN 3D BIOPRINTERS MARKET 100

6 ☐ 3D BIOPRINTING MARKET, BY COMPONENT ☐ 102

6.1 INTRODUCTION 103

TABLE 23 BIOPRINTING MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 103

6.2□3D BIOPRINTERS□103

TABLE 24 AD BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY TYPE, 2022-2029 (USD MILLION) 104

TABLE 25∏3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY REGION, 2022-2029 (USD MILLION)∏104

TABLE 26 NORTH AMERICA: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION) 105

TABLE 27 EUROPE: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION) 105

TABLE 28∏ASIA PACIFIC: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION)∏106

TABLE 29 LATIN AMERICA: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION) 106

TABLE 30 MIDDLE EAST: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION) 107

TABLE 31 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR 3D BIOPRINTERS, BY COUNTRY, 2022-2029 (USD MILLION) 107

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

```
6.2.1 | MICRO EXTRUSION BIOPRINTERS | 107
6.2.1.1 Adaptability to different biomaterial types to fuel segment growth 107
TABLE 32∏MICRO EXTRUSION BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION)∏108
TABLE 33∏NORTH AMERICA: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏109
TABLE 34∏EUROPE: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏109
TABLE 35∏ASIA PACIFIC: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏110
TABLE 36∏LATIN AMERICA: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏110
TABLE 37 MIDDLE EAST: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 111
TABLE 38 GCC COUNTRIES: MICRO EXTRUSION BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 111
6.2.2∏INKJET 3D BIOPRINTERS∏111
6.2.2.1 High cell viability and low cost to propel market growth 111
TABLE 39∏INKJET 3D BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION)∏112
TABLE 40∏NORTH AMERICA: INKIET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏112
TABLE 41∏EUROPE: INKJET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏113
TABLE 42∏ASIA PACIFIC: INKJET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏113
TABLE 43 LATIN AMERICA: INKIET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 114
TABLE 44∏MIDDLE EAST: INKJET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏114
TABLE 45 GCC COUNTRIES: INKJET 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 115
6.2.3□LASER-ASSISTED BIOPRINTERS□115
6.2.3.1∏Higher resolution and better formation of 3D structures to augment segment growth∏115
TABLE 46 LASER-ASSISTED BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION) 116
TABLE 47 NORTH AMERICA: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 116
TABLE 48 TEUROPE: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) T117
TABLE 49∏ASIA PACIFIC: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏117
TABLE 50∏LATIN AMERICA: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏118
TABLE 51∏MIDDLE EAST: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏118
TABLE 52∏GCC COUNTRIES: LASER-ASSISTED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏119
6.2.4 STEREOLITHOGRAPHY-BASED BIOPRINTERS 119
6.2.4.1 Better printing quality, speed, and cell viability to aid growth 119
TABLE 53 STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION) 120
TABLE 54∏NORTH AMERICA: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏120
TABLE 55∏EUROPE: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏121
TABLE 56NASIA PACIFIC: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)N121
TABLE 57 LATIN AMERICA: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) ☐ 122
TABLE 58 MIDDLE EAST: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 122
TABLE 59∏GCC COUNTRIES: STEREOLITHOGRAPHY-BASED BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏123
6.2.5 | MAGNETIC 3D BIOPRINTERS | 123
```

6.2.5.1 | Improved accuracy and speed in cultured tissue formation and processing to fuel segment growth | 123 TABLE 60 | MAGNETIC 3D BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION) | 124 TABLE 61 | NORTH AMERICA: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 125 TABLE 62 | EUROPE: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 125 TABLE 63 | ASIA PACIFIC: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 125 TABLE 64 | LATIN AMERICA: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 126 TABLE 65 | MIDDLE EAST: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 126 TABLE 66 | GCC COUNTRIES: MAGNETIC 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 127 6.2.6 | OTHER 3D BIOPRINTERS | 127

TABLE 67[OTHER 3D BIOPRINTERS MARKET, BY REGION, 2022-2029 (USD MILLION)[128]

Scotts International. EU Vat number: PL 6772247784

TABLE 68 NORTH AMERICA: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 128 TABLE 69 EUROPE: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 129 TABLE 70 ASIA PACIFIC: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 129 TABLE 71 AMERICA: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 130 TABLE 72 MIDDLE EAST: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 130 TABLE 73 GCC COUNTRIES: OTHER 3D BIOPRINTERS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 131 6.3 BIOINKS 131

TABLE 74 BIOPRINTERS MARKET FOR BIOINKS, BY TYPE, 2022-2029 (USD MILLION) 132

TABLE 75 BIOPRINTING MARKET FOR BIOINKS, BY REGION, 2022-2029 (USD MILLION) 132

TABLE 76 NORTH AMERICA: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 133

TABLE 77 EUROPE: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 133

TABLE 78 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 134

TABLE 79 LATIN AMERICA: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 134

TABLE 80 MIDDLE EAST: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 135

TABLE 81 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR BIOINKS, BY COUNTRY, 2022-2029 (USD MILLION) 135

6.3.1 NATURAL BIOINKS 136

6.3.1.1 | Increasing investment in R&D and product developments to drive market | 136 TABLE 82 | NATURAL BIOINKS MARKET, BY REGION, 2022-2029 (USD MILLION) | 136 TABLE 83 | NORTH AMERICA: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 137 TABLE 84 | EUROPE: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 137 TABLE 85 | ASIA PACIFIC: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 138 TABLE 86 | LATIN AMERICA: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 139 TABLE 87 | MIDDLE EAST: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 139 TABLE 88 | GCC COUNTRIES: NATURAL BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) | 139 6.3.2 | HYBRID BIOINKS | 139

6.3.2.1 Higher mechanical strength and greater biocompatibility to boost segment growth 139 TABLE 89 HYBRID BIOINKS MARKET, BY REGION, 2022-2029 (USD MILLION) 140 TABLE 90 NORTH AMERICA: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 141 TABLE 91 EUROPE: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 141 TABLE 92 ASIA PACIFIC: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 141 TABLE 93 LATIN AMERICA: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 142 TABLE 94 MIDDLE EAST: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 142 TABLE 95 GCC COUNTRIES: HYBRID BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 143 6.3.3 SYNTHETIC BIOINKS 143

6.3.3.1 [] Flexibility, control, and consistency to aid segment growth [] 143

TABLE 96 [] SYNTHETIC BIOINKS MARKET, BY REGION, 2022-2029 (USD MILLION) [] 144

TABLE 97 [] NORTH AMERICA: SYNTHETIC BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) [] 145

TABLE 98 [] EUROPE: SYNTHETIC BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) [] 145

TABLE 99 [] ASIA PACIFIC: SYNTHETIC BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) [] 145

TABLE 100 [] LATIN AMERICA: SYNTHETIC BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) [] 146

TABLE 101 [] MIDDLE EAST: SYNTHETIC BIOINKS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) [] 147

6.4 [] SOFTWARE [] 147

6.4.1 INCREASING INNOVATIONS AND ADVANCEMENTS TO PROPEL SEGMENT GROWTH 147

TABLE 103 BIOPRINTING MARKET FOR SOFTWARE, BY REGION, 2022-2029 (USD MILLION) 148

TABLE 104 NORTH AMERICA: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 148

TABLE 105 EUROPE: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 149

TABLE 106 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 149
TABLE 107 AMERICA: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 150
TABLE 108 MIDDLE EAST: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 150
TABLE 109 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR SOFTWARE, BY COUNTRY, 2022-2029 (USD MILLION) 151
6.5 CONSUMABLES 151

6.5.1 NEED FOR PRECISE BIOINK DEPOSITION FOR INTRICATE TISSUE STRUCTURES TO DRIVE MARKET 151

TABLE 110 BIOPRINTING MARKET FOR CONSUMABLES, BY REGION, 2022-2029 (USD MILLION) 152

TABLE 111 NORTH AMERICA: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 152

TABLE 112 EUROPE: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 153

TABLE 113 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 153

TABLE 114 ATIN AMERICA: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 154

TABLE 115 MIDDLE EAST: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 154

TABLE 116 CC COUNTRIES: 3D BIOPRINTING MARKET FOR CONSUMABLES, BY COUNTRY, 2022-2029 (USD MILLION) 155

7 3D BIOPRINTING MARKET, BY MATERIAL 156

7.1 INTRODUCTION 157

TABLE 117 $\square$ 3D BIOPRINTING MARKET, BY MATERIAL, 2022-2029 (USD MILLION) $\square$ 157 7.2 $\square$ LIVING CELLS $\square$ 157

7.2.1 INCREASED VIABILITY AND TECHNOLOGICAL ADVANCEMENTS TO AUGMENT MARKET GROWTH 157
TABLE 118 BIOPRINTING MARKET FOR LIVING CELLS, BY REGION, 2022-2029 (USD MILLION) 158
TABLE 119 NORTH AMERICA: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 159
TABLE 120 EUROPE: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 169
TABLE 121 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 160
TABLE 122 ATIN AMERICA: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 161
TABLE 123 MIDDLE EAST: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 161
TABLE 124 COUNTRIES: 3D BIOPRINTING MARKET FOR LIVING CELLS, BY COUNTRY, 2022-2029 (USD MILLION) 161
7.3 HYDROGELS 161

7.3.1 INCREASING INVESTMENTS AND FUNDING TO BOOST MARKET GROWTH 161

TABLE 125 3D BIOPRINTING MARKET FOR HYDROGELS, BY REGION, 2022-2029 (USD MILLION) 162

TABLE 126 NORTH AMERICA: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 163

TABLE 127 EUROPE: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 163

TABLE 128 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 164

TABLE 129 ATIN AMERICA: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 165

TABLE 130 MIDDLE EAST: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 165

TABLE 131 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR HYDROGELS, BY COUNTRY, 2022-2029 (USD MILLION) 165

7.4 EXTRACELLULAR MATRICES 165

7.4.1 INCREASED FOCUS ON R&D AND ADVANCEMENTS IN TISSUE ENGINEERING TO SUPPORT MARKET GROWTH 165
TABLE 132 BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY REGION, 2022-2029 (USD MILLION) 166
TABLE 133 NORTH AMERICA: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 167

TABLE 134 EUROPE: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 167
TABLE 135 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 168
TABLE 136 AMERICA: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 168

TABLE 137 MIDDLE EAST: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 169 TABLE 138 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR EXTRACELLULAR MATRICES, BY COUNTRY, 2022-2029 (USD MILLION) 169

7.5 OTHER MATERIALS 170

Scotts International, EU Vat number: PL 6772247784

TABLE 139[3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY REGION, 2022-2029 (USD MILLION)[171 TABLE 140 NORTH AMERICA: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION) 171 TABLE 141∏EUROPE: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION)∏172 TABLE 142∏ASIA PACIFIC: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION)∏172 TABLE 143 LATIN AMERICA: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION) 173 TABLE 144 MIDDLE EAST: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION) 173 TABLE 145∏GCC COUNTRIES: 3D BIOPRINTING MARKET FOR OTHER MATERIALS, BY COUNTRY, 2022-2029 (USD MILLION)∏174 8∏3D BIOPRINTING MARKET, BY APPLICATION∏175 8.1∏INTRODUCTION∏176 TABLE 146 TABLE 3D BIOPRINTING MARKET, BY APPLICATION, 2022-2029 (USD MILLION) TABLE 146 TABLE 3D BIOPRINTING MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 8.2 RESEARCH APPLICATIONS 176 TABLE 147 TABLE TABLE 148∏3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY REGION, 2022-2029 (USD MILLION)∏177 TABLE 149 NORTH AMERICA: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 178 TABLE 150 TEUROPE: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) T178 TABLE 151∏ASIA PACIFIC: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION)∏179 TABLE 152 LATIN AMERICA: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 179 TABLE 153∏MIDDLE EAST: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION)∏180 TABLE 154 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR RESEARCH APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 180 8.2.1 □ DRUG RESEARCH □ 180 8.2.1.1 Better precision and greater customization facilities in pharmaceutical sector to drive segment 180 TABLE 155 DRUG RESEARCH MARKET, BY REGION, 2022-2029 (USD MILLION) 182 TABLE 156 NORTH AMERICA: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 182 TABLE 157∏EUROPE: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏183 TABLE 158 ASIA PACIFIC: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 183 TABLE 159∏LATIN AMERICA: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏184 TABLE 160∏MIDDLE EAST: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏184 TABLE 161∏GCC COUNTRIES: DRUG RESEARCH MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏184 8.2.2 REGENERATIVE MEDICINE 185 8.2.2.1 Growing demand for organ transplants to support segment growth 185 TABLE 162 REGENERATIVE MEDICINE MARKET, BY REGION, 2022-2029 (USD MILLION) 186 TABLE 163∏NORTH AMERICA: REGENERATIVE MEDICINE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏186 TABLE 164⊓EUROPE: REGENERATIVE MEDICINE MARKET. BY COUNTRY, 2022-2029 (USD MILLION)⊓187 TABLE 165∏ASIA PACIFIC: REGENERATIVE MEDICINE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏187 TABLE 166∏LATIN AMERICA: REGENERATIVE MEDICINE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏188 TABLE 167∏MIDDLE EAST: REGENERATIVE MEDICINE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏188

TABLE 168⊓GCC COUNTRIES: REGENERATIVE MEDICINE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏189 8.2.3 B CELL CULTURE 189

8.2.3.1 Rising investments in cell culture development to augment segment growth 189

TABLE 169[3D CELL CULTURE MARKET, BY REGION, 2022-2029 (USD MILLION)[190

TABLE 170 NORTH AMERICA: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 190

TABLE 171 EUROPE: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 191

TABLE 172∏ASIA PACIFIC: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏191

TABLE 173∏LATIN AMERICA: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏192

TABLE 174∏MIDDLE EAST: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏192

TABLE 175∏GCC COUNTRIES: 3D CELL CULTURE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏192

8.3 CLINICAL APPLICATIONS 193

Scotts International, EU Vat number: PL 6772247784

TABLE 176[]3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY TYPE, 2022-2029 (USD MILLION)[]193 TABLE 177[3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY REGION, 2022-2029 (USD MILLION)[194 TABLE 178 NORTH AMERICA: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 194 TABLE 179 TEUROPE: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 195 TABLE 180∏ASIA PACIFIC: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION)∏195 TABLE 181⊓LATIN AMERICA: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION)∏196 TABLE 182∏MIDDLE EAST: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION)∏196 TABLE 183 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR CLINICAL APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 197 8.3.1 | SKIN | 197 8.3.1.1 Rising applications in skincare and cosmetics to propel segment growth 197 TABLE 185 NORTH AMERICA: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 198 TABLE 186 TEUROPE: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION) T199 TABLE 187∏ASIA PACIFIC: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏199 TABLE 188 LATIN AMERICA: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 200 TABLE 189 MIDDLE EAST: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 200 TABLE 190 GCC COUNTRIES: SKIN MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 200 8.3.2 BONE & CARTILAGE 201 8.3.2.1 Increasing incidence of musculoskeletal conditions to support segment growth 201 TABLE 191☐BONE & CARTILAGE MARKET, BY REGION, 2022-2029 (USD MILLION)☐202 TABLE 192 NORTH AMERICA: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 202 TABLE 193 EUROPE: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 203 TABLE 194 ASIA PACIFIC: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 203 TABLE 195∏LATIN AMERICA: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏204 TABLE 196∏MIDDLE EAST: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏204 TABLE 197∏GCC COUNTRIES: BONE & CARTILAGE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏204 8.3.3∏BLOOD VESSELS∏205 8.3.3.1 Growing focus on research activities to aid segment growth 205 TABLE 198 BLOOD VESSELS MARKET, BY REGION, 2022-2029 (USD MILLION) 205 TABLE 199 NORTH AMERICA: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 206 TABLE 200∏EUROPE: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏206 TABLE 201∏ASIA PACIFIC: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏207 TABLE 2020LATIN AMERICA: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)0207 TABLE 203∏MIDDLE EAST: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏208 TABLE 204 GCC COUNTRIES: BLOOD VESSELS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 208 8.3.4 OTHER CLINICAL APPLICATIONS 208 TABLE 205∏OTHER CLINICAL APPLICATIONS MARKET, BY REGION, 2022-2029 (USD MILLION)∏209 TABLE 206 NORTH AMERICA: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) ☐210 TABLE 207 TEUROPE: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) T110 TABLE 208∏ASIA PACIFIC: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏211 TABLE 209⊓LATIN AMERICA: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)□211 TABLE 210 MIDDLE EAST: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 212 TABLE 211∏GCC COUNTRIES: OTHER CLINICAL APPLICATIONS MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏212

9.1 INTRODUCTION 214

TABLE 212 $\square$ 3D BIOPRINTING MARKET, BY END USER, 2022-2029 (USD MILLION) $\square$ 214 9.2 $\square$ ACADEMIC & RESEARCH INSTITUTES $\square$ 214

Scotts International, EU Vat number: PL 6772247784

9∏3D BIOPRINTING MARKET, BY END USER∏213

9.2.1□RISING GOVERNMENT FUNDING AND INCREASING NUMBER OF INDUSTRY-ACADEMIA COLLABORATIONS TO DRIVE MARKET□214

TABLE 213[]3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY REGION, 2022-2029 (USD MILLION)[]215
TABLE 214[]NORTH AMERICA: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION)[]216

TABLE 215 EUROPE: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION) 1216

TABLE 216 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION) 1217

TABLE 217 LATIN AMERICA: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION) 1217

TABLE 218 MIDDLE EAST: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION) 1218

TABLE 219 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR ACADEMIC & RESEARCH INSTITUTES, BY COUNTRY, 2022-2029 (USD MILLION) 1218

9.3  $\square$  PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES  $\square$  219

9.3.1 □INCREASING PREVALENCE OF CHRONIC DISEASES TO PROPEL MARKET GROWTH □219

TABLE 220[]3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY REGION, 2022-2029 (USD MILLION)[]220

TABLE 221 NORTH AMERICA: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION) 200

TABLE 222□EUROPE: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION)□221

TABLE 223□ASIA PACIFIC: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION)□221

TABLE 224□LATIN AMERICA: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION)□222

TABLE 225☐MIDDLE EAST: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION)☐222

TABLE 226 GCC COUNTRIES: 3D BIOPRINTING MARKET FOR PHARMACEUTICAL & BIOTECHNOLOGY COMPANIES, BY COUNTRY, 2022-2029 (USD MILLION) 23

9.4∏HOSPITALS∏223

9.4.1 RISING NUMBER OF STRATEGIC PARTNERSHIPS WITH BIOTECHNOLOGY COMPANIES TO AID MARKET GROWTH 223 TABLE 227 BIOPRINTING MARKET FOR HOSPITALS, BY REGION, 2022-2029 (USD MILLION) 224

TABLE 228  $\square$ NORTH AMERICA: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION)  $\square$ 224

TABLE 229 EUROPE: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION) 225

TABLE 230 ASIA PACIFIC: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION) 225

TABLE 231 □ LATIN AMERICA: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION) □ 226

TABLE 232  $\square$  MIDDLE EAST: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION)  $\square$  226

TABLE 233□GCC COUNTRIES: 3D BIOPRINTING MARKET FOR HOSPITALS, BY COUNTRY, 2022-2029 (USD MILLION)□227



To place an Order with Scotts International:

 $\hfill \Box$  - Complete the relevant blank fields and sign

**Scotts International. EU Vat number: PL 6772247784** tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

☐ - Print this form

3D Bioprinting Market by Component (3D bioprinters (Microextrusion, Inkjet, Laser), Bioinks, Software, Consumable), Material (Hydrogels, ECM), Application(Research (Regenerative Medicine, 3D cell Culture), Clinical (Skin, Bone)) - Global Forecast to 2029

Market Report | 2024-05-17 | 454 pages | MarketsandMarkets

<ul> <li>Send as a scanned email to support@scotts-international.com</li> </ul>						
ORDER FORM:						
Select license	License		Price			
	Single User		\$4950.00			
	Multi User		\$6650.00			
	Corporate License		\$8150.00			
	Enterprise Site License		\$10000.00			
			VAT			
		Т	otal			
		ease contact support@scotts-international.com or 0048 6 riduals and EU based companies who are unable to provid				
Email*		Phone*				
First Name*		Last Name*				
Job title*						
Company Name*		EU Vat / Tax ID / NIP number*				
Address*		City*				

Zip Code*	Country*	
	Date	2025-05-04
	Signature	