

Brain Computer Interface Market by Product (Non-invasive, Invasive, Partial invasive), Technology (EEG, MEG, ECoG, fMRI), Application (Disability/Rehabilitation, Assistive technologies, Mental health, Research), End User - Global Forecast to 2029

Market Report | 2024-05-15 | 242 pages | MarketsandMarkets

AVAILABLE LICENSES:

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

Report description:

The brain computer interface market is projected to reach USD 506 million by 2029 from USD 262 million in 2024, at a CAGR 14.1% during the forecast period. The growing incidence & prevalence of neurological disorders, increasing demand for non-invasive and wearable BCI devices, and rising investments in research and development, along with the increasing demand for non-invasive and wearable BCI devices are the factors that will drive the growth of this market. On the other hand, stringent regulatory requirements and high cost associated BCI systems may impede the adoption of brain computer interface solutions to a certain extent over the forecast period.

"Hardware segment is expected to register highest growth in the forecast period, by component."

Based on component, the brain computer interface market is segmented into hardware and software. The hardware segment is projected to witness the highest growth rate during the forecast period. Growth in this market can be attributed to the growing focus on adopting wearable BCI products such as headsets, headphones and others in response to the significant investment in hardware development by companies and research institutions.

"Non-invasive brain computer interface segment is expected to register highest growth in the forecast period of brain computer interface market, by product type."

Based on product type, the brain computer interface market is segmented into non-invasive brain computer interface, partially invasive brain computer interface, and invasive brain computer interface. The non-invasive brain computer interface segment is projected to witness the highest growth rate during the forecast period. This segment is expected to witness significant growth due to eliminating the need for surgical implantation, and growing adoption of this segment among end users.

"The electroencephalography (EEG) segment is expected to register highest growth in the forecast period, by end user."

Based on technology, the brain computer interface market is segmented into Electroencephalography (EEG), Functional Magnetic Resonance Imaging (fMRI), Magnetoencephalography (MEG), Electrocorticography (ECoG), and Functional Near-Infrared Spectroscopy (fNIRS). The electroencephalography (EEG) segment is projected to witness the highest growth rate during the forecast period. The adoption of EEG is expected to increase due to the large number of players involved in developing EEG hardware, and growing EEG based neuroscience research.

"The disabilities restoration/ rehabilitation accounted for the largest share of the application segment of the brain computer interface market"

Based on application, the brain computer interface market is segmented into disabilities restoration/ rehabilitation, assistive technologies, and other applications. The increasing prevalence of neurological conditions like stroke, spinal cord injury, and amyotrophic lateral sclerosis (ALS) along with the growing healthcare spending and rising research and development initiatives is expected to fuel the demand for disabilities restoration/ rehabilitation solutions among end users.

"The rehabilitation centers segment is expected to register highest growth in the forecast period, by end user."

Based on end user, the brain computer interface market is segmented into hospitals & clinics, rehabilitation centers, homecare settings, and other end users. The rehabilitation centers segment is projected to witness the highest growth rate during the forecast period. The growth of brain computer interface adoption among rehabilitation centers is driven by their commitment to leveraging technological advancements, lower costs, easy accessibility, and lower waiting times as compared to hospitals to improve patient outcomes.

"Asia Pacific to register the highest growth in the brain computer interface market in the forecast period."

The global brain computer interface market is segmented into five major regions, namely, North America, Europe, APAC, Latin America, and Middle East & Africa. In 2023, Asia Pacific was expected to register the highest growth for brain computer interface solutions in the forecast period. Factors such as the affordable labor and a skilled workforce, rising disposable incomes, increasing incidence of neurodegenerative disorders, and a growing governmental focus on healthcare reforms within the region are expected to drive the growth of the brain computer interface market in the Asia Pacific.

Breakdown of the supply-side, demand side, primary interviews by company type, designation, and region:

- By Supply Side: Tier 1 (25%), Tier 2 (5%), and Tier 3 (70%)
- By Designation: C-level Executives (27%), Director-level (18%), and Others (55%)
- By Region: North America (40%), Europe (30%), Asia Pacific (20%), Latin America (5%), and Middle East and Africa (5%)

The prominent players in this market are Advanced Brain Monitoring, Inc. (US), Neurosky (US), Brain Products GmbH (Germany), CGX (US), Ripple Neuro (US), Neurable (US), InteraXon (US), Open BCI (US), Neurolutions, Inc. (US), ANT Neuro (Netherlands), Bitbrain (Spain), Kernel (US), Paradromics (US), BrainCo (US), Blackrock Neurotech (US), G.Tech Medical Engineering GmbH (Austria), Emotiv (US), BirgerMind (Latvia), Cognixion (US), Artinis Medical Systems (Netherlands), MindMaze (Switzerland), Cortec GmbH (Germany), AAVAA Inc. (Canada), Nexstem (India), and Conscious Labs (France). Players adopted organic as well as inorganic growth strategies such as new product launches, agreements, collaborations, and expansions to increase their offerings, cater to the unmet needs of customers, increase their profitability, and expand their presence in the global market.

Research Coverage

The report studies the brain computer interface market based on component, product type, technology, application, end user, and region. The report analyzes factors (such as drivers, restraints, opportunities, and challenges) affecting the market growth. The report evaluates the opportunities and challenges in the market for stakeholders and provides details of the competitive

Scotts International. EU Vat number: PL 6772247784

landscape for market leaders. The report studies micro-markets with respect to their growth trends, prospects, and contributions to the total brain computer interface market. The report forecasts the revenue of market segments with respect to five major regions.

Reasons to Buy the Report

The report can help established firms as well as new entrants/smaller firms to gauge the pulse of the market, which, in turn, would help them garner a greater share. Firms purchasing the report could use one or a combination of the below-mentioned five strategies.

This report provides insights into the following pointers:

- Analysis of key drivers (growing incidence & prevalence of neurological disorders, increasing demand for non-invasive and wearable BCI devices, rising investments in research and development), restraints (high cost of BCI devices, and stringent regulatory requirements), opportunities (growth opportunities in emerging markets, and growing applications of BCI technology) and challenge (shortage of trained medical professionals, and data security and privacy concerns)
- Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and product launches in the brain computer interface market.
- Market Development: Comprehensive information about lucrative emerging markets. The report analyzes the markets for various types of brain computer interface solutions across regions.
- Market Diversification: Exhaustive information about solutions, untapped regions, recent developments, and investments in the brain computer interface market.
- Competitive Assessment: In-depth assessment of market shares, strategies, products, distribution networks, and manufacturing capabilities of the leading players in the brain computer interface market.

Table of Contents:

1 INTRODUCTION 34

- 1.1 STUDY OBJECTIVES 34
- 1.2 MARKET DEFINITION 34
- 1.2.1 INCLUSIONS & EXCLUSIONS 34
- 1.3 MARKET SCOPE 35
- 1.3.1 MARKETS COVERED 35

FIGURE 1 BRAIN-COMPUTER INTERFACE MARKET SEGMENTATION 35

1.3.2 REGIONS COVERED 35

FIGURE 2 BRAIN-COMPUTER INTERFACE MARKET: REGIONAL SEGMENTATION 35

- 1.3.3∏YEARS CONSIDERED∏36
- 1.3.4 CURRENCY CONSIDERED 36
- 1.4□STAKEHOLDERS□36
- 1.5 RECESSION IMPACT: BRAIN-COMPUTER INTERFACE MARKET 37

2 RESEARCH METHODOLOGY 38

- 2.1 RESEARCH DATA 38
- 2.2 RESEARCH APPROACH 38

FIGURE 3□RESEARCH APPROACH□38

- 2.2.1 SECONDARY DATA 38
- 2.2.1.1 Key data from secondary sources 39
- 2.2.2 PRIMARY DATA 40

FIGURE 4∏BREAKDOWN OF PRIMARY INTERVIEWS: BY COMPANY TYPE, DESIGNATION, AND REGION∏41

FIGURE 5 PRIMARY SOURCES 41

2.2.2.1 Key data from primary sources 42

Scotts International, EU Vat number: PL 6772247784

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

 $2.3 \square MARKET$ SIZE ESTIMATION METHODOLOGY $\square 42$

FIGURE 6 MARKET SIZE ESTIMATION: REVENUE SHARE ANALYSIS 43

FIGURE 7 TOP-DOWN APPROACH 43

FIGURE 8∏BOTTOM-UP APPROACH∏44

FIGURE 9 CAGR PROJECTIONS FROM ANALYSIS OF DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES IN BRAIN-COMPUTER

INTERFACE MARKET (2024-2029) ☐45

FIGURE 10 CAGR PROJECTIONS 45

2.4 MARKET DATA ESTIMATION AND TRIANGULATION 146

FIGURE 11 DATA TRIANGULATION METHODOLOGY 46

2.5∏ASSUMPTIONS FOR THE STUDY∏47

2.6 ☐ LIMITATIONS ☐ 47

2.6.1 | METHODOLOGY-RELATED LIMITATIONS | 47

2.6.2 ☐ SCOPE-RELATED LIMITATIONS ☐ 47

2.7∏RISK ASSESSMENT∏48

TABLE 1 RISK ASSESSMENT: BRAIN-COMPUTER INTERFACE MARKET 48

2.8 RECESSION IMPACT ANALYSIS 48

3 EXECUTIVE SUMMARY 49

FIGURE 12 BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2024 VS. 2029 (USD MILLION) 49

FIGURE 13[BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2024 VS. 2029 (USD MILLION)[50]

FIGURE 14∏BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2024 VS. 2027 (USD MILLION)∏50

FIGURE 15[BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2024 VS. 2027 (USD MILLION)[51]

FIGURE 16 BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2024 VS. 2027 (USD MILLION) 52

FIGURE 17 GEOGRAPHICAL SNAPSHOT OF BRAIN-COMPUTER INTERFACE MARKET 53

4□PREMIUM INSIGHTS□54

4.1 BRAIN-COMPUTER INTERFACE MARKET OVERVIEW 54

FIGURE 18 GROWING PREVALENCE OF NEUROLOGICAL DISORDERS TO DRIVE MARKET GROWTH 54

4.2∏ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE AND COUNTRY (2023)∏55

FIGURE 19∏NON-INVASIVE BCI ACCOUNTED FOR LARGEST MARKET SHARE IN 2023∏55

4.3 BRAIN-COMPUTER INTERFACE MARKET: GEOGRAPHIC GROWTH OPPORTUNITIES 56

FIGURE 20 CHINA TO REGISTER HIGHEST GROWTH RATE DURING FORECAST PERIOD 56

4.4 BRAIN-COMPUTER INTERFACE MARKET, BY REGION 2023?2029 57

FIGURE 21 NORTH AMERICA TO DOMINATE MARKET DURING FORECAST PERIOD ☐ 57

4.5 BRAIN-COMPUTER INTERFACE MARKET: DEVELOPED MARKETS VS. EMERGING ECONOMIES 57

FIGURE 22 EMERGING ECONOMIES TO REGISTER HIGHER GROWTH RATES DURING FORECAST PERIOD 57

5∏MARKET OVERVIEW∏58

5.1□INTRODUCTION□58

5.2∏MARKET DYNAMICS∏58

FIGURE 23 BRAIN-COMPUTER INTERFACE MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES 58

5.2.1 DRIVERS 59

5.2.1.1 Growing incidence & prevalence of neurological disorders 59

5.2.1.2 Increasing demand for non-invasive & wearable BCI devices ☐ 59

5.2.1.3 Rising investment in R&D 60

5.2.2∏RESTRAINTS∏60

5.2.2.1 High cost of BCI systems 60

5.2.3 OPPORTUNITIES 61

5.2.3.1 Growth opportunities in emerging economies 61

FIGURE 24 GLOBAL HEALTHCARE EXPENDITURE SHARE, 1995 VS 2022 61

Scotts International, EU Vat number: PL 6772247784

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

- 5.2.3.2 Growing applications of BCI technology 62
- 5.2.4 CHALLENGES 62
- 5.2.4.1 Shortage of trained medical professionals 62
- 5.2.4.2 Data security & privacy concerns 62
- 5.3□INDUSTRY TRENDS□63
- 5.3.1 FOCUS ON NON-INVASIVE BCIS 63
- 5.3.2 INTEGRATION WITH WEARABLE TECHNOLOGY 63
- 5.4 PRICING ANALYSIS 63
- 5.4.1 AVERAGE SELLING PRICE TREND, BY HARDWARE 63

TABLE 2 AVERAGE SELLING PRICE OF BRAIN-COMPUTER INTERFACE, BY HARDWARE 63

5.4.2∏AVERAGE SELLING PRICE TREND OF BRAIN-COMPUTER INTERFACE, BY PRODUCT TYPE∏64

TABLE 3∏AVERAGE SELLING PRICE OF BRAIN-COMPUTER INTERFACE, BY PRODUCT TYPE∏64

5.5 VALUE CHAIN ANALYSIS 64

FIGURE 25 VALUE CHAIN ANALYSIS: BRAIN-COMPUTER INTERFACE MARKET 64

5.6 ECOSYSTEM ANALYSIS 65

FIGURE 26 ECOSYSTEM ANALYSIS: KEY PLAYERS IN BRAIN-COMPUTER INTERFACE MARKET 65

5.7 PORTER'S FIVE FORCES ANALYSIS 65

TABLE 4 BRAIN-COMPUTER INTERFACE MARKET: PORTER'S FIVE FORCES 65

- 5.7.1 BARGAINING POWER OF BUYERS 66
- 5.7.2 BARGAINING POWER OF SUPPLIERS 66
- 5.7.3 THREAT OF NEW ENTRANTS 66
- 5.7.4 THREAT OF SUBSTITUTES 66
- 5.7.5 INTENSITY OF COMPETITIVE RIVALRY 67
- 5.8 KEY STAKEHOLDERS & BUYING CRITERIA 67
- 5.8.1 KEY STAKEHOLDERS IN BUYING PROCESS 67

TABLE 5□LIST OF KEY STAKEHOLDERS AND THEIR ROLE□67

TABLE 6 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS, BY COMPONENT 68

5.8.2 BUYING CRITERIA 68

FIGURE 27 KEY BUYING CRITERIA FOR BRAIN-COMPUTER INTERFACE, BY COMPONENT 68

TABLE 7 KEY BUYING CRITERIA FOR BRAIN-COMPUTER INTERFACE, BY COMPONENT 68

5.9 REGULATORY LANDSCAPE 69

5.9.1 ⊓REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS ∏69

TABLE 8∏NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS∏69

TABLE 9 TEUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 169

TABLE 10 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 69

5.9.2 REGULATORY ANALYSIS 70

5.9.2.1 North America 70

5.9.2.1.1 US 70

TABLE 11 US FDA: CLASSIFICATION OF MEDICAL DEVICES 70

TABLE 12 US: MEDICAL DEVICE REGULATORY APPROVAL PROCESS 71

5.9.2.2 | Europe | 71

5.9.2.3 Asia Pacific 72

5.9.2.3.1 China 72

TABLE 13 CHINA: CLASSIFICATION OF MEDICAL DEVICES 72

5.9.2.3.2 | India | 72

TABLE 14 INDIA: CLASSIFICATION OF NON-NOTIFIED MEDICAL DEVICES 73

5.9.2.4 Latin America 73

Scotts International. EU Vat number: PL 6772247784

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

- 5.9.2.4.1 Brazil 73
- 5.9.2.5 Middle East & Africa 73
- 5.9.2.5.1 UAE 73
- 5.10 TECHNOLOGY ANALYSIS 74
- 5.10.1 KEY TECHNOLOGIES 74
- 5.10.1.1 Artificial Intelligence (AI) and Machine Learning (ML) 74
- 5.10.1.2 Signal Processing 74
- 5.10.2 COMPLEMENTARY TECHNOLOGIES 75
- 5.10.2.1 Neuroimaging 75
- 5.10.2.2 | Wearable Technology | | 76
- 5.10.3 ☐ ADJACENT TECHNOLOGIES ☐ 76
- 5.10.3.1 Robotics & Prosthetics 76
- 5.10.3.2 Virtual Reality (VR) & Augmented Reality (AR) 77
- 5.11 PATENT ANALYSIS 77
- 5.11.1 PATENT PUBLICATION TRENDS 77
- 5.11.2 URISDICTION ANALYSIS: TOP APPLICANT COUNTRIES FOR BRAIN-COMPUTER INTERFACE 78

 $FIGURE\ 28 \\ \square JURISDICTION\ ANALYSIS:\ TOP\ APPLICANT\ COUNTRIES\ FOR\ BRAIN-COMPUTER\ INTERFACE\ PATENTS,\ 2013-2023 \\ \square 78$

TABLE 15 NUMBER OF DOCUMENTS FOR BRAIN-COMPUTER INTERFACE PATENTS, 2013-2023 78

5.11.3 PATENT APPLICATIONS AND OWNERS 79

FIGURE 29 MAJOR PATENTS FOR BRAIN-COMPUTER INTERFACE (2013-2023) 79

5.11.4 LIST OF PATENTS/PATENT APPLICATIONS 80

TABLE 16 LIST OF PATENTS/PATENT APPLICATIONS IN BRIAN COMPUTER INTERFACE MARKET, JANUARY 2021-MAY 2024 80

- 5.12 REIMBURSEMENT SCENARIO ANALYSIS 82
- 5.13 BUSINESS MODEL ANALYSIS 82
- 5.14 TRADE ANALYSIS 83
- 5.14.1 TRADE ANALYSIS FOR BRAIN-COMPUTER INTERFACE MARKET 83

FIGURE 30□IMPORT DATA FOR BRAIN-COMPUTER INTERFACE MARKET (HS CODE 852692), BY COUNTRY, 2021-2023 (USD THOUSAND)□83

FIGURE 31□EXPORT DATA FOR BRAIN-COMPUTER INTERFACE MARKET (HS CODE 852692), BY COUNTRY, 2021-2023 (USD THOUSAND) | 84

5.15 CASE STUDY ANALYSIS 84

TABLE 17 CASE STUDY 1: EXPLORING USER-CENTERED DESIGN PERSPECTIVES IN BRAIN-COMPUTER INTERFACE RESEARCH 84 TABLE 18 CASE STUDY 2: ASSESSING THE INTEGRATION OF BRAIN-COMPUTER INTERFACE AND INTERNET OF THINGS FOR HEALTHCARE APPLICATIONS 85

5.16 KEY CONFERENCES & EVENTS, 2024-2025 85

TABLE 19 LIST OF KEY CONFERENCES & EVENTS IN BRAIN-COMPUTER INTERFACE MARKET, JANUARY 2024-DECEMBER 2025 85 5.17 UNMET NEEDS AND END-USER EXPECTATIONS 86

5.17.1 UNMET NEEDS 186

TABLE 20 UNMET NEEDS IN BRAIN-COMPUTER INTERFACE MARKET 86

5.17.2 END-USER EXPECTATIONS 87

TABLE 21 END-USER EXPECTATIONS IN BRAIN-COMPUTER INTERFACE MARKET 87

5.18 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 88

5.19∏INVESTMENT AND FUNDING LANDSCAPE∏89

FIGURE 32 FUNDING IN BRAIN-COMPUTER INTERFACE MARKET, BY PLAYER 89

6□BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT□90

6.1□INTRODUCTION□91

TABLE 22 BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 91

Scotts International, EU Vat number: PL 6772247784

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

6.2 HARDWARE 91

6.2.1□ADVANCEMENTS IN HARDWARE AND INCREASING DEMAND FOR NON-INVASIVE BCI SOLUTIONS TO DRIVE MARKET GROWTH□91

TABLE 23[BRAIN-COMPUTER INTERFACE HARDWARE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)[]92 6.3[]SOFTWARE[]92

6.3.1 INCREASING ADOPTION OF TECHNOLOGICALLY ADVANCED BCI SOFTWARE SOLUTIONS TO FUEL MARKET GROWTH P22 TABLE 24 BRAIN-COMPUTER INTERFACE SOFTWARE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 75 BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE 94

7.1 INTRODUCTION 95

TABLE 25 BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 95

7.2 NON-INVASIVE BRAIN-COMPUTER INTERFACES 195

7.2.1 □ DEVELOPMENT OF ADVANCED EEG HEADSETS TO DRIVE ADOPTION □ 95

TABLE 26∏NON-INVASIVE BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)∏96

7.3 PARTIALLY INVASIVE BRAIN-COMPUTER INTERFACES 96

7.3.1 TECHNOLOGICAL ADVANCEMENTS AND RISING NEUROLOGICAL DISORDER INCIDENCE TO DRIVE DEMAND 96
TABLE 27 PARTIALLY INVASIVE BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 7.4 INVASIVE BRAIN-COMPUTER INTERFACES 8

7.4.1 GROWING R&D AND RISING INVESTMENTS TO FUEL MARKET GROWTH 98

TABLE 28□INVASIVE BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)□99 8□BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY□100

8.1 INTRODUCTION 101

TABLE 29[BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION)[]101 8.2||ELECTROENCEPHALOGRAPHY||101

8.2.1 TECHNOLOGICAL ADVANCEMENTS TO BOOST MARKET GROWTH 101

TABLE 30 EEG-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 102 8.3 MAGNETOENCEPHALOGRAPHY 103

8.3.1 HIGH COST OF MEG-BASED BCI SOLUTIONS TO LIMIT MARKET GROWTH 103

TABLE 31 MEG-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 104 8.4 ELECTROCORTICOGRAPHY 104

8.4.1 FOCUS ON ESTABLISHING FEASIBILITY & EFFICACY OF ECOG-BASED BCIS TO DRIVE MARKET 104
TABLE 32 ECOG-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 105
8.5 FUNCTIONAL MAGNETIC RESONANCE IMAGING 105

8.5.1 LARGE SIZE AND HIGH PRICE OF FMRI SCANNERS TO LIMIT APPLICATIONS IN HOME CARE SETTINGS 105 TABLE 33 FMRI-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 106 8.6 FUNCTIONAL NEAR-INFRARED SPECTROSCOPY 106

8.6.1 PORTABILITY, SAFETY, AND REAL-TIME BRAIN ACTIVITY MONITORING TO FUEL DEMAND 106
TABLE 34 FNIRS-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 107
8.7 DIRECT DATA INTERFACE 107

8.7.1 ☐ HIGH COST AND LIMITED REIMBURSEMENT OPTIONS TO RESTRAIN GROWTH ☐ 107

TABLE 35 DDI-BASED BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 108 9 BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION 109

9.1∏INTRODUCTION∏110

TABLE 36 BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 110 9.2 ASSISTIVE TECHNOLOGIES 110

9.2.1 Development of innovative solutions and growing R&D to Boost adoption of BCI in assistive Technologies 110

TABLE 37 BRAIN-COMPUTER INTERFACE MARKET FOR ASSISTIVE TECHNOLOGIES, BY COUNTRY, 2022-2029 (USD MILLION) 111

Scotts International, EU Vat number: PL 6772247784

9.3 DISABILITIES & REHABILITATION 112

9.3.1□RISING DEMAND FOR ADVANCED SOLUTIONS AND INCREASING PREVALENCE OF NEUROLOGICAL DISORDERS TO DRIVE MARKET□112

TABLE 38□BRAIN-COMPUTER INTERFACE MARKET FOR DISABILITIES & REHABILITATION, BY COUNTRY, 2022-2029 (USD MILLION)□113 9.4□OTHER APPLICATIONS□113

TABLE 39 BRAIN-COMPUTER INTERFACE MARKET FOR OTHER APPLICATIONS, BY COUNTRY, 2022-2029 (USD MILLION) 114 10 BRAIN-COMPUTER INTERFACE MARKET, BY END USER 115

10.1∏INTRODUCTION∏116

TABLE 40 BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 116

10.2 HOSPITALS & CLINICS 116

10.2.1∏EARLY ADOPTION, WIDE APPLICATIONS, AND GROWING R&D TO SUPPORT MARKET GROWTH∏116

TABLE 41 BRAIN-COMPUTER INTERFACE MARKET FOR HOSPITALS & CLINICS, BY COUNTRY, 2022-2029 (USD MILLION) 118 10.3 REHABILITATION CENTERS 118

10.3.1 SHORTAGE OF TRAINED PROFESSIONALS TO CHALLENGE MARKET GROWTH 118

TABLE 42 BRAIN-COMPUTER INTERFACE MARKET FOR REHABILITATION CENTERS, BY COUNTRY, 2022-2029 (USD MILLION) 10.4 HOME CARE SETTINGS 120

10.4.1∏PREFERENCE FOR IN-HOME CARE AND GROWING AGING POPULATION TO DRIVE DEMAND∏120

TABLE 43 BRAIN-COMPUTER INTERFACE MARKET FOR HOME CARE SETTINGS, BY COUNTRY, 2022-2029 (USD MILLION) 121 10.5 OTHER END USERS 121

TABLE 44□BRAIN-COMPUTER INTERFACE MARKET FOR OTHER END USERS, BY COUNTRY, 2022-2029 (USD MILLION)□122 11□BRAIN-COMPUTER INTERFACE MARKET, BY REGION□123

11.1∏INTRODUCTION∏124

TABLE 45∏BRAIN-COMPUTER INTERFACE MARKET, BY REGION, 2022-2029 (USD MILLION)∏124

11.2 NORTH AMERICA 124

11.2.1 NORTH AMERICA: RECESSION IMPACT 124

FIGURE 33 NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET SNAPSHOT 125

TABLE 46 NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 126

TABLE 47∏NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION)∏126

TABLE 48 NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 126

TABLE 49 NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 127

TABLE 50 \square NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) \square 127

TABLE 51☐NORTH AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION)☐128 11.2.2☐US☐128

11.2.2.1 □US to dominate North American market □128

TABLE 52∏US: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION)∏129

TABLE 53 TUS: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) T130

TABLE 54 US: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 130

TABLE 55∏US: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION)∏130

TABLE $56\square$ US: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) \square 131

11.2.3 CANADA 131

11.2.3.1 Growing adoption and government support to propel market growth 131

TABLE 57 CANADA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 132

TABLE 58 CANADA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 132

TABLE 59∏CANADA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION)∏133

TABLE 60 CANADA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 133

TABLE 61 CANADA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 134

11.3 EUROPE 134

Scotts International, EU Vat number: PL 6772247784

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

11.3.1 EUROPE: RECESSION IMPACT 134

TABLE 62 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 135
TABLE 63 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 135
TABLE 64 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 135
TABLE 65 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 136
TABLE 66 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 136
TABLE 67 EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 137
11.3.2 GERMANY 137

11.3.2.1 Government support and demand for neurorehabilitation solutions to fuel market growth 137 TABLE 68 GERMANY: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 138 TABLE 69 GERMANY: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 138 TABLE 70 GERMANY: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 139 TABLE 71 GERMANY: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 139 TABLE 72 GERMANY: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 140 11.3.3 UK 140

11.3.3.1 Rising prevalence of neurological disorders to drive market 140

TABLE 73 UK: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 141 TABLE 74 UK: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 141 TABLE 75 UK: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 141 TABLE 76 UK: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 142 TABLE 77 UK: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 142 11.3.4 FRANCE 142

11.3.4.1 Rising geriatric population to increase demand for BCI solutions 142

TABLE 78 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 143
TABLE 79 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 143
TABLE 80 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 144
TABLE 81 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 144
TABLE 82 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 145
11.3.5 TABLE 82 FRANCE: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 145

11.3.5.1 | Increasing initiatives to propel market growth | 145

TABLE 83 | ITALY: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) | 146 TABLE 84 | ITALY: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) | 146 TABLE 85 | ITALY: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) | 147 TABLE 87 | ITALY: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) | 147 TABLE 87 | ITALY: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) | 147 11.3.6 | SPAIN | 147

11.3.6.1 Rising R&D and improving health spending to drive market 147

TABLE 88 SPAIN: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 148
TABLE 89 SPAIN: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 148
TABLE 90 SPAIN: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 149
TABLE 91 SPAIN: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 149
TABLE 92 SPAIN: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 150
11.3.7 REST OF EUROPE 150

TABLE 93 REST OF EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 150 TABLE 94 REST OF EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 151 TABLE 95 REST OF EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 151 TABLE 96 REST OF EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 151

Scotts International. EU Vat number: PL 6772247784

TABLE 97 REST OF EUROPE: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 152 11.4 ASIA PACIFIC 152

11.4.1 ASIA PACIFIC: RECESSION IMPACT 152

FIGURE 34 ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET SNAPSHOT 153

TABLE 98

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION)

TABLE 99

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION)

TABLE 100

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION)

TABLE 101

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION)

TABLE 102

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION)

TABLE 103

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION)

11.4.2

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION)

11.4.2

ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION)

11.4.2.1 Growing demand for assistive technologies to fuel market growth 156

TABLE 104 APAN: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 157
TABLE 105 APAN: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 157
TABLE 106 APAN: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 158
TABLE 107 APAN: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 158
TABLE 108 APAN: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 159
11.4.3 CHINA 159

11.4.3.1 Technological innovations to increase demand 159

TABLE 100 CHINA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 160 TABLE 110 CHINA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 160 TABLE 111 CHINA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 161 TABLE 112 CHINA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 161 TABLE 113 CHINA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 162 11.4.4 NDIA 162

11.4.4.1 ☐ Increasing government initiatives to boost demand for BCI ☐ 162

TABLE 114 INDIA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 163
TABLE 115 INDIA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 163
TABLE 116 INDIA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 163
TABLE 117 INDIA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 164
TABLE 118 INDIA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 164
11.4.5 REST OF ASIA PACIFIC 164

TABLE 119 REST OF ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 165
TABLE 120 REST OF ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 165
TABLE 121 REST OF ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 165
TABLE 122 REST OF ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 166
TABLE 123 REST OF ASIA PACIFIC: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 166
11.5 LATIN AMERICA 167

11.5.1 LATIN AMERICA: RECESSION IMPACT 167

TABLE 124 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY COUNTRY, 2022-2029 (USD MILLION) 167
TABLE 125 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 168
TABLE 126 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 168
TABLE 127 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 169
TABLE 129 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 169
TABLE 129 LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 169
11.5.2 BRAZIL 169

11.5.2.1 High cost of BCI solutions to hamper market growth 169

Scotts International. EU Vat number: PL 6772247784

TABLE 130 BRAZIL: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 170 TABLE 131 BRAZIL: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 170 TABLE 132 BRAZIL: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 171 TABLE 133 BRAZIL: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 171 TABLE 134 BRAZIL: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 172 11.5.3 MEXICO 172

11.5.3.1∏Initiatives for healthcare infrastructure development to support market growth∏172

TABLE 135 MEXICO: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 172

TABLE 136 \square MEXICO: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) \square 173

TABLE 137 \square MEXICO: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) \square 173

TABLE 138 MEXICO: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 173

TABLE 139 MEXICO: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 174

11.5.4 REST OF LATIN AMERICA 174

TABLE 140 REST OF LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 174
TABLE 141 REST OF LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 175
TABLE 142 REST OF LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 175
TABLE 143 REST OF LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 175
TABLE 144 REST OF LATIN AMERICA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 176
11.6 MIDDLE EAST & AFRICA 176

11.6.1 MIDDLE EAST & AFRICA: RECESSION IMPACT 176

TABLE 145 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY REGION, 2022-2029 (USD MILLION) 177
TABLE 146 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 177
TABLE 147 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 177
TABLE 148 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 178
TABLE 149 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 178
TABLE 150 MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 179
11.6.2 GCC COUNTRIES 179

11.6.2.1 ☐ Healthcare infrastructural development to drive demand for BCI solutions ☐ 179

TABLE 151 GCC COUNTRIES: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 179
TABLE 152 GCC COUNTRIES: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 180
TABLE 153 GCC COUNTRIES: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) 180
TABLE 154 GCC COUNTRIES: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 180
TABLE 155 GCC COUNTRIES: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 181
11.6.3 REST OF MIDDLE EAST & AFRICA 181

TABLE 156 REST OF MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY COMPONENT, 2022-2029 (USD MILLION) 181

TABLE 157 REST OF MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY PRODUCT TYPE, 2022-2029 (USD MILLION) 182

TABLE 158 \square REST OF MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY TECHNOLOGY, 2022-2029 (USD MILLION) \square 182

TABLE 159 REST OF MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY APPLICATION, 2022-2029 (USD MILLION) 182

TABLE 160 REST OF MIDDLE EAST & AFRICA: BRAIN-COMPUTER INTERFACE MARKET, BY END USER, 2022-2029 (USD MILLION) 12 COMPETITIVE LANDSCAPE 184

12.1□OVERVIEW□184

12.2 KEY PLAYER STRATEGIES/RIGHT TO WIN 184

12.2.1 OVERVIEW OF STRATEGIES ADOPTED BY PLAYERS IN BRAIN-COMPUTER INTERFACE MARKET 185

Scotts International. EU Vat number: PL 6772247784

FIGURE 35 OVERVIEW OF STRATEGIES DEPLOYED BY KEY MANUFACTURING COMPANIES 185

12.3 MARKET SHARE ANALYSIS 186

FIGURE 36∏MARKET SHARE ANALYSIS OF KEY PLAYERS IN BRAIN-COMPUTER INTERFACE MARKET (2023)∏186

TABLE 161□BRAIN-COMPUTER INTERFACE MARKET: DEGREE OF COMPETITION□186

12.4 COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023 187

12.4.1 | STARS | 187

12.4.2 PERVASIVE PLAYERS 188

12.4.3 EMERGING LEADERS 188

12.4.4 PARTICIPANTS 188

FIGURE 37 BRAIN-COMPUTER INTERFACE MARKET: COMPANY EVALUATION MATRIX (KEY PLAYERS), 2023 189

12.4.5 COMPANY FOOTPRINT: KEY PLAYERS, 2023 190

12.4.5.1 Company footprint 190

FIGURE 38 BRAIN-COMPUTER INTERFACE MARKET: COMPANY FOOTPRINT 190

12.4.5.2 Component footprint 190

TABLE 162 BRAIN-COMPUTER INTERFACE MARKET: COMPONENT FOOTPRINT 190

12.4.5.3 Product type footprint 191

TABLE 163 BRAIN-COMPUTER INTERFACE MARKET: PRODUCT TYPE FOOTPRINT 191

12.4.5.4 Technology footprint 192

TABLE 164[BRAIN-COMPUTER INTERFACE MARKET: TECHNOLOGY FOOTPRINT[]192

12.4.5.5 □ Application footprint □ 192

TABLE 165 BRAIN-COMPUTER INTERFACE MARKET: APPLICATION FOOTPRINT 192

12.5 COMPANY EVALUATION MATRIX: STARTUPS/SMES, 2023 193

12.5.1 PROGRESSIVE COMPANIES 193

12.5.2 DYNAMIC COMPANIES 193

12.5.3 STARTING BLOCKS 193

12.5.4 RESPONSIVE COMPANIES 193

FIGURE 39 BRAIN-COMPUTER INTERFACE MARKET: COMPANY EVALUATION MATRIX (SMES/ STARTUPS), 2023 194

12.5.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2023 195

TABLE 166 BRAIN-COMPUTER INTERFACE MARKET: DETAILED LIST OF KEY STARTUP/SME PLAYERS 195

TABLE 167 BRAIN-COMPUTER INTERFACE MARKET: COMPETITIVE BENCHMARKING OF KEY EMERGING PLAYERS/STARTUPS 195

12.6 VALUATION AND FINANCIAL METRICS 196

FIGURE 40∏EV/EBITDA OF KEY VENDORS∏196

FIGURE 41∏YEAR-TO-DATE (YTD) PRICE TOTAL RETURN AND 5-YEAR STOCK BETA OF KEY VENDORS∏196

12.7 BRAND/PRODUCT COMPARISON 197

FIGURE 42 BRAIN-COMPUTER INTERFACE MARKET: BRAND/PRODUCT COMPARATIVE ANALYSIS 197

12.8 COMPETITIVE SCENARIO 198

12.8.1 PRODUCT LAUNCHES & APPROVALS 198

TABLE 168∏BRAIN-COMPUTER INTERFACE MARKET: PRODUCT LAUNCHES & APPROVALS, JANUARY 2021-MAY 2024∏198

 $12.8.2 \square \mathsf{DEALS} \square 198$

TABLE 169 BRAIN-COMPUTER INTERFACE MARKET: DEALS, JANUARY 2021-MAY 2024 198

12.8.3 EXPANSIONS 199

TABLE 170 BRAIN-COMPUTER INTERFACE MARKET: EXPANSIONS, JANUARY 2021-MAY 2024 199

?

13 COMPANY PROFILES 200

13.1 KEY PLAYERS 200

(Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made,

Weaknesses and Competitive Threats, Recent Developments)*

Scotts International, EU Vat number: PL 6772247784

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

13.1.1 NEUROSKY 200

TABLE 171 NEUROSKY: COMPANY OVERVIEW 200 TABLE 172 NEUROSKY: PRODUCTS OFFERED 200

13.1.2 EMOTIV 202

TABLE 173 EMOTIV: COMPANY OVERVIEW 202 TABLE 174 EMOTIV: PRODUCTS OFFERED 202

13.1.3 ANT NEURO 204

TABLE 175

ANT NEURO: COMPANY OVERVIEW

204

TABLE 176

ANT NEURO: PRODUCTS OFFERED

204

TABLE 177∏ANT NEURO: PRODUCT LAUNCHES & APPROVALS (JANUARY 2021-MAY 2024)∏205

TABLE 178 ANT NEURO: EXPANSIONS (JANUARY 2021-MAY 2024) ☐ 205

13.1.4 G.TEC MEDICAL ENGINEERING GMBH 207

TABLE 179 G.TEC MEDICAL ENGINEERING GMBH: COMPANY OVERVIEW 207 TABLE 180 G.TEC MEDICAL ENGINEERING GMBH: PRODUCTS OFFERED 207

13.1.5 | NEURABLE | 210

TABLE 181 NEURABLE: COMPANY OVERVIEW 210 TABLE 182 NEURABLE: PRODUCTS OFFERED 210

TABLE 183 NEURABLE: DEALS (JANUARY 2021-MAY 2024) 211

13.1.6 ADVANCED BRAIN MONITORING, INC. 212

TABLE 184 ADVANCED BRAIN MONITORING, INC.: COMPANY OVERVIEW 212 TABLE 185 ADVANCED BRAIN MONITORING, INC.: PRODUCTS OFFERED 212

13.1.7 BRAIN PRODUCTS GMBH 214

TABLE 186 BRAIN PRODUCTS GMBH: COMPANY OVERVIEW 214 TABLE 187 BRAIN PRODUCTS GMBH: PRODUCTS OFFERED 214

13.1.8□CGX□216

TABLE 188 CGX: COMPANY OVERVIEW 216
TABLE 189 CGX: PRODUCTS OFFERED 216

TABLE 190 CGX: EXPANSIONS (JANUARY 2021-MAY 2024) 217

13.1.9 RIPPLE NEURO 218

TABLE 191 RIPPLE NEURO: COMPANY OVERVIEW 218
TABLE 192 RIPPLE NEURO: PRODUCTS OFFERED 218

13.1.10 BITBRAIN TECHNOLOGIES 219

TABLE 193 BITBRAIN TECHNOLOGIES: COMPANY OVERVIEW 219
TABLE 194 BITBRAIN TECHNOLOGIES: PRODUCTS OFFERED 219

13.1.11 OPEN BCI 221

TABLE 195\(OPENBCI: COMPANY OVERVIEW\(\) 221 TABLE 196\(OPENBCI: PRODUCTS OFFERED\(\) 221 13.1.12\(ARTINIS MEDICAL SYSTEMS\(\) 223

TABLE 197

[ARTINIS MEDICAL SYSTEMS: COMPANY OVERVIEW]

1223

TABLE 198

[ARTINIS MEDICAL SYSTEMS: PRODUCTS OFFERD]

223

13.1.13 PARADROMICS 225

TABLE 199 PARADROMICS: COMPANY OVERVIEW 225
TABLE 200 PARADROMICS: PRODUCTS OFFERD 225

TABLE 201 PARADROMICS: PRODUCT APPROVALS (JANUARY 2021-MAY 2024) 226

13.1.14 BRAINCO, INC. 227

TABLE 202 BRAINCO, INC.: COMPANY OVERVIEW 227 TABLE 203 BRAINCO, INC.: PRODUCTS OFFERED 227

Scotts International, EU Vat number: PL 6772247784

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

www.scotts-international.com

13.1.15 | MINDMAZE | 228

TABLE 204 MINDMAZE: COMPANY OVERVIEW 228
TABLE 205 MINDMAZE: PRODUCTS OFFERED 228

TABLE 206 MINDMAZE: PRODUCT LAUNCHES & APPROVALS (JANUARY 2021-MAY 2024) 228

TABLE 207 MINDMAZE: DEALS (JANUARY 2021-MAY 2024) 229

13.1.16 COGNIXION 230

TABLE 208 COGNIXION: COMPANY OVERVIEW 230 TABLE 209 COGNIXION: PRODUCTS OFFERED 230

TABLE 210 COGNIXION: PRODUCT APPROVALS (JANUARY 2021-MAY 2024) 231

13.1.17 BLACKROCK NEUROTECH 232

TABLE 211 BLACKROCK NEUROTECH: COMPANY OVERVIEW 232 TABLE 212 BLACKROCK NEUROTECH: PRODUCTS OFFERED 232

TABLE 213∏BLACKROCK NEUROTECH: PRODUCT LAUNCHES (JANUARY 2021-MAY 2024)∏232

13.1.18 CORTEC GMBH 233

TABLE 214 CORTEC GMBH: COMPANY OVERVIEW 233
TABLE 215 CORTEC GMBH: PRODUCTS OFFERED 233

13.1.19 INTERAXON, INC. 234

TABLE 216 INTERAXON, INC.: COMPANY OVERVIEW 234 TABLE 217 INTERAXON, INC.: PRODUCTS OFFERED 234

13.1.20 NEUROLUTIONS, INC. 235

TABLE 218 NEUROLUTIONS, INC.: COMPANY OVERVIEW 235 TABLE 219 NEUROLUTIONS, INC.: PRODUCTS OFFERED 235

TABLE 220 | NEUROLUTIONS: PRODUCT APPROVALS (JANUARY 2021-MAY 2024) | 235

13.2 OTHER PLAYERS 236
13.2.1 CONSCIOUS LABS 236

TABLE 221 CONSCIOUS LABS: COMPANY OVERVIEW 236 TABLE 222 CONSCIOUS LABS: PRODUCTS OFFERED 236

13.2.2 KERNEL 237

TABLE 223 KERNEL: COMPANY OVERVIEW 237 TABLE 224 KERNEL: PRODUCTS OFFERED 237

TABLE 225 KERNEL: PRODUCT LAUNCHES (JANUARY 2021-MAY 2024) 238

13.2.3 | AAVAA INC. | 239

TABLE 226 AAVAA INC.: COMPANY OVERVIEW 239 TABLE 227 AAVAA INC.: PRODUCTS OFFERED 239

TABLE 228 AAVAA: PRODUCT LAUNCHES (JANUARY 2021-MAY 2024) 240

13.2.4 NEXSTEM 241

TABLE 229 NEXSTEM: COMPANY OVERVIEW 241 TABLE 230 NEXSTEM: PRODUCTS OFFERED 241

 $13.2.5 \verb||BIRGERMIND||| 242$

TABLE 231 BIRGERMIND: COMPANY OVERVIEW 242 TABLE 232 BIRGERMIND: PRODUCTS OFFERED 242

*Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made,

Weaknesses and Competitive Threats, Recent Developments might not be captured in case of unlisted companies.

14∏APPENDIX∏243

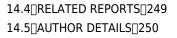
14.1 DISCUSSION GUIDE 243

 $14.2 \verb|||KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL|||247$

14.3 CUSTOMIZATION OPTIONS 249

Scotts International, EU Vat number: PL 6772247784

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





To place an Order with Scotts International:

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

Brain Computer Interface Market by Product (Non-invasive, Invasive, Partial invasive), Technology (EEG, MEG, ECoG, fMRI), Application (Disability/Rehabilitation, Assistive technologies, Mental health, Research), End User - Global Forecast to 2029

Market Report | 2024-05-15 | 242 pages | MarketsandMarkets

☐ - Complete the re	levant blank fields and sign		
Send as a scann	ned email to support@scotts-internat	ional.com	
ORDER FORM:			
Select license	License		Price
	Single User		\$4950.00
	Multi User		\$6650.00
	Corporate License		\$8150.00
	Enterprise Site License		\$10000.00
		VAT	
		Total	
		sse contact support@scotts-international.com or 0048 603 3 duals and EU based companies who are unable to provide a Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	

Date	2025-06-26
Signature	