

Brain Computer Interface (BCI) Market Size & Share to Surpass \$7.2 Billion by 2030 | Vantage Market Research

Promising Potential to Revolutionize Personal Computing and Communication Systems by Seamlessly Integrating Human Brain with Computers Enhance Market

WASHINGTON, D.C, DISTRICT OF COLUMBIA, UNITED STATES, January 29, 2024 /EINPresswire.com/ --According to Vantage Market Research, the Global <u>Brain Computer Interface</u> <u>Market Size</u> is estimated to be valued at USD 7.2 Billion by 2030 at an exponential growth of 18.2% in the next seven years.



Major factors fuelling the Brain Computer Interface (BCI) market comprise the rising elderly population base worldwide, the increasing prevalence of neuroprosthetic disorders, and rapid technological advancements that enable paralyzed people to communicate and move. In addition, the market's growth is driven by the application of this technology in military communication, home control systems, and virtual gaming.

1. Market Penetration: Provides comprehensive information on the market offered by the key players.

2. Market Development: Provides in-depth information about lucrative emerging markets and analyses penetration across mature segments of the markets.

- 3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments.
- 4. Market Trends: Provides comprehensive understanding of the Cumulative Impact of COVID-19, the Russia-Ukraine Conflict, and the High Inflation.
- 5. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares,

strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players.

6. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments.

The necessity for BCI is expected to surge over the projected period because of the growing occurrence of neurodegenerative diseases, Parkinson's, Alzheimer's, and epilepsy. The elderly population base is probably to surge vulnerability to long-term health issues like heart disease, diabetes, and insomnia, necessitating the use of Brain Computer Interface (BCI) technology to enhance the quality of life.

• As technology advances, Brain Computer Interface devices produced are more compact, portable, and easy to use, opening up this technology to a broader audience. This is driving the market growth.

• Adequate funding and investments play a major part in the growth of the BCI industry. The rise in financial support from government agencies, venture capitalists, and private investors allows for broader research, product development, and commercialization of BCI devices.

• Integrating BCI devices with prevailing technologies and platforms like gaming, virtual reality, assistive technologies, and healthcare systems significantly boosts the growth potential of the BCI market.

• The price of BCI devices and associated infrastructure is an essential factor determining the adoption and expansion of the industry. As the production cost lessens due to economies of scale and advancements in manufacturing processes, BCI devices become affordable and accessible to an extensive range of users.

• Education and raising awareness regarding BCI technology among the general public, healthcare professionals, and potential users are vital to industry growth.

• Continuous R&D in the neuroscience and computer science fields is crucial for the BCI industry's growth. Developments in understanding brain functions, neural pathways, and signal-processing techniques enable the growth of more effective and efficient BCI devices.

• Based on the segmentation of Product, the Non-Invasive BCI segment is expected to mention the most extensive market growth in the forecast period.

• Furthermore, based on the Application segmentation, the Healthcare segment is expected to lead the market over the projected period.

• The market was ruled by North America in 2022, with revenue growth of 39.1%.

• The Asia Pacific region is anticipated to observe maximum market growth over the forecast period.

• One of the top <u>market trends in the Brain Computer Interface</u> market is the integration of BCIs with artificial intelligence (AI). AI algorithms improve the accuracy and performance of BCI systems, allowing real-time analysis and brain signal interpretation.

• The increasing adoption in the gaming and entertainment industry is another noteworthy trend. The gaming and entertainment industry is adopting BCI technology to improve the gaming experience, offering an immersive virtual reality experience.

- Natus Medical Inc. (U.S.)
- G.TEC Medical Engineering GmbH (Austria)
- Medtronic PLC (Ireland)
- Compumedics Neuroscan (Australia)
- Brain Products GmbH (Germany)
- Integra Lifesciences Corporation (U.S.)
- Advanced Brain Monitoring Inc. (U.S.)
- EMOTIV (U.S.)
- NeuroSky (U.S.)
- Interaxon Inc. (Canada)
- ANT Neuro (Netherlands)
- Neuroelectrics (Spain)
- Ripple Neuro (U.S.)
- NIRx Medical Technologies LLC (U.S.)
- Open BCI (U.S.)
- CGX (Canada)

The Brain Computer Interface (BCI) market is experiencing major growth and is projected to continue expanding. Companies are actively investing in research & development to advance the functionality and usability of BCI technologies. They also explore new applications and partnerships in various industries to expand their market presence. Here are crucial insights into key competitors and success strategies in the industry:

- Companies develop advanced and reliable brain-computer interface technology to enhance the effectiveness and accuracy of BCI systems.
- Companies make cost-effective solutions like affordable BCI devices, software, and services, which enable more comprehensive access to BCI technology.
- Companies invest in R&D to make BCI systems easier to use, i.e., comfortable and userfriendly.
- Companies explore and expand into new application areas, such as gaming, entertainment, virtual reality, and human-machine interfaces.
- Companies in the BCI market collaborate with industry partners, such as technology companies, medical device manufacturers, and research institutions.
- Companies are educating and creating awareness among healthcare professionals, potential users, and the general public regarding the benefits, capabilities, and limitations of BCI technology.

• In August 2022, this is the first time in the country that a Brain Computer Interface (BCI) has been employed in clinical trials on human patients. One might expect that the much-discussed Neuralink would be the source of this innovation. Synchron, a lesser-known leader in brain interface technology, receives praise for its Stentrode product.

• In August 2022, the goal of a research partnership led by the UMC Utrecht Brain Center (the Netherlands) is to develop a specific, fully implanted Brain Computer Interface (BCI) device for patients with locked-in syndrome (LIS), a disease in which paralysis severely limits communication.

• In February 2023, Employees at Synchron, a brain interface business in Brooklyn with 3D printers and a makeshift pickleball court, are working on technology that will improve daily living for people with paralysis.

By Product

- Invasive BCI
- Partially Invasive BCI
- Non-invasive BCI

By Application

- Healthcare
- Disabilities Restoration
- Brain Function Repair
- Smart Home Control

- Communication & Control
- Entertainment & Gaming

By End Use

- Medical
- Military
- Other End Uses

By Region

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East & Africa

Product Analysis

• The non-invasive BCI segment accounted for the most significant market growth in 2022.

• It provides users a more convenient and comfortable way to interact with BCI devices without invasive procedures. With advancements in technology, non-invasive BCIs are becoming accurate and efficient, catering to an extensive range of healthcare, gaming, and communication applications.

Application Analysis

• The healthcare segment in the global brain-computer interface market is experiencing significant growth.

• This is because of the high adoption of BCI technology in diagnosing and treating several neurological disorders. Direct communication between the brain and external equipment is made possible by Brain Computer Interfaces, leading to assistive technology, prosthetics, and neurorehabilitation developments.

End Use Analysis

• The medical segment is anticipated to have extreme market growth during the projected timeframe.

• This is primarily due to its use in helping patients with disabilities. Using BCI technology, patients with conditions like epilepsy, paralysis, Parkinsonism, and Alzheimer's can perform tasks independently, like operating wheelchairs, prosthetics, and many other devices.

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• North America's BCI market is contributing to significant market growth owing to growth factors such as advancements in medical technology, increased research activities in neuroscience, and the growing incidence of neurological disorders like brain injuries, paralysis, and stroke.

• Additionally, North America is technologically advanced and has a well-established healthcare infrastructure, supporting the growth and adoption of BCI technology. The United States is a major market within North America, with high research initiatives, academic institutions, and companies working on BCI technology.

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