

North America Wearable EEG Devices Market Size and Forecast (2021 - 2031)

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Abstracts

The North America Wearable EEG Devices Market is projected to grow significantly, reaching an estimated US\$ 278.5 million by 2031, up from US\$ 163.2 million in 2024. This growth represents a compound annual growth rate (CAGR) of 8.2% from 2025 to 2031, indicating a robust demand for these innovative devices.

Executive Summary and Market Analysis

The wearable EEG devices market in North America is witnessing substantial growth, driven primarily by the increasing prevalence of neurological disorders such as epilepsy, Alzheimer's disease, and Parkinson's disease. The Alzheimer's Association's report for 2025 highlights that over 7 million Americans are currently living with Alzheimer's, a figure expected to rise to approximately 13 million by 2050. Furthermore, Alzheimer's disease was the sixth-leading cause of death among individuals aged 65 and older in 2022. This alarming trend underscores the urgent need for effective, non-invasive brain monitoring solutions.

Technological advancements, including wireless connectivity, miniaturized sensors, and the integration of artificial intelligence (AI), are enhancing the portability, comfort, and diagnostic accuracy of wearable EEG devices. These innovations make the devices appealing for both clinical and home use. Notable examples include Emotiv's EEG-integrated earphones and X-trodes wireless systems, which exemplify the trend towards more user-friendly and effective monitoring solutions.

Strategic Insights

Market Segmentation Analysis

The North America Wearable EEG Devices Market is segmented by product and application. In terms of product, the market includes 32-Channel EEG, 14-Channel EEG, 5-Channel EEG, and others. The 32-Channel EEG segment is expected to dominate the market in 2024 due to its comprehensive data collection capabilities.

By application, the market is divided into Health and Wellness, Human Machine Adaptive Interaction, Automotive, Aviation, Industrial, and others. The Health and Wellness segment is anticipated to lead the market in 2024, reflecting the growing consumer interest in personal health monitoring and wellness optimization.

Market Outlook

The rise in neurological disorders such as epilepsy, Alzheimer's disease, Parkinson's disease, and sleep disorders is largely attributed to an aging population, lifestyle changes, and enhanced diagnostic capabilities. A study published in *The Lancet Neurology* indicates that over 3 billion people worldwide were living with a neurological condition as of 2021. The World Health Organization (WHO) has also reported that approximately 50 million individuals globally are affected by epilepsy, making it one of the most prevalent neurological disorders. This increasing incidence of neurological conditions is driving the demand for non-invasive, real-time brain monitoring solutions, positioning wearable EEG devices as essential tools in healthcare and research.

Wearable EEG devices provide portability, ease of use, and continuous monitoring, making them ideal for early diagnosis, disease management, and personalized treatment plans. These devices allow healthcare providers to monitor brain activity in real-world settings, which can lead to improved patient outcomes and reduced pressure on clinical facilities.

Advancements in sensor technology, wireless connectivity, and data analytics have significantly improved the accuracy and functionality of these devices. The miniaturization of sensor technologies has resulted in the development of compact, user-friendly devices that offer enhanced signal accuracy and wireless capabilities. These advancements facilitate integration with AI and cloud-based analytics, which further enhance diagnostic precision and personalized treatment planning. Additionally, the growing awareness of neurological health and the increasing adoption of digital health solutions are contributing to the rising demand for wearable EEG devices.

Country Insights

The North America Wearable EEG Devices Market is segmented by country into the United States, Canada, and Mexico, with the United States holding the largest market share in 2024. The US market is characterized by dynamic competition and continuous innovation, driven by both established medical device companies and emerging tech startups. Key players such as NeuroSky, EMOTIV, and Cognionics are leveraging their technological expertise to develop next-generation wearable EEG solutions that are more accurate, user-friendly, and accessible across clinical, research, and consumer health segments.

For instance, in January 2025, Emotiv launched its next-generation EEG Active Noise-Cancelling Earphones, designed to enhance personal wellness through advanced neurotechnology and superior audio performance.

Key Highlights

Dual-Channel EEG Sensors: These sensors enable advanced, real-time wellness monitoring, providing deeper insights into brain activity.

EEG+AI Technology: This technology tracks 15 cognitive performance metrics and offers personalized activity recommendations to optimize mental well-being.

Brain-Computer Interface (BCI) Capabilities: These capabilities facilitate intuitive, hands-free interaction with both physical and digital environments.

Qualcomm QCC5181 Chipset: This chipset powers the devices, featuring hybrid active noise cancellation for an immersive audio experience.

Emotiv's latest earphones represent a significant advancement in wearable EEG technology, combining neuroscience with audio innovation to offer users a smarter, more connected approach to cognitive health. These innovations collectively enhance the sophistication and reach of wearable EEG technology, solidifying the US's position as a global leader in this market.

Company Profiles

Key players in the North America Wearable EEG Devices Market include Magstim, Cadwell Industries Inc, Brain Products GmbH, g.tec medical engineering GmbH,

Wearable Sensing, Neuroelectrics Barcelona S.L.U., ANT Neuro, EMOTIV, NeuroSky Inc, and BrainBit Inc. These companies are employing various strategies such as expansion, product innovation, and mergers and acquisitions to deliver innovative products and increase their market share.

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