

# **Neuromodulation Devices Market Forecasts to 2032 – Global Analysis By Product Type (Spinal Cord Stimulators, Deep Brain Stimulators, Sacral Nerve Stimulators, Vagus Nerve Stimulators, Transcranial Magnetic Stimulators, and Other Product Types), Indication, MRI Compatibility, Biomaterial, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Neuromodulation Devices Market is accounted for \$2.2 billion in 2025 and is expected to reach \$12.0 billion by 2032 growing at a CAGR of 5.0% during the forecast period. Neuromodulation devices are medical technologies designed to alter nerve activity by delivering targeted stimuli, such as electrical impulses or chemical agents, to specific nerves or neurological sites. These devices modify abnormal nerve signals to restore or normalize nervous system functions, often used to relieve symptoms like chronic pain, movement disorders, or neurological dysfunctions. The stimulation can adjust nerve excitability or pathways, providing therapeutic effects by influencing nerve communication directly.

According to the Epilepsy Foundation of America and World Health Organization (WHO), an estimated 50 million people globally were suffering from epilepsy.

Market Dynamics:

Driver:

Increasing prevalence of chronic neurological diseases

The growing incidence of neurological disorders such as Parkinson's disease, epilepsy, Alzheimer's, and chronic pain syndromes is a key driver for the neuromodulation devices market. With aging populations and lifestyle-related complications on the rise, demand for minimally invasive, long-term therapeutic solutions is increasing. Neuromodulation devices offer targeted, reversible, and programmable therapy, making them attractive alternatives to pharmaceuticals. The rising burden of neurological conditions is pushing healthcare systems and practitioners to adopt these innovative treatment modalities.

#### Restraint:

##### High cost of neuromodulation devices

The significant cost associated with neuromodulation devices, including implantation, maintenance, and programming, poses a major barrier to widespread adoption. High initial investment, coupled with limited reimbursement coverage in several regions, restricts access, especially in low- and middle-income countries. Additionally, follow-up visits, battery replacements, and device-related services further inflate long-term treatment costs. These economic limitations discourage adoption in non-critical cases and delay therapy for patients without sufficient insurance or government support.

#### Opportunity:

##### Growing awareness and acceptance of neuromodulation therapies

Increased awareness of non-pharmacological pain and neurological treatments has led to rising acceptance of neuromodulation therapies across both patients and healthcare providers. Educational campaigns, clinical success stories, and expanding clinical evidence are building trust in device-based therapies. Furthermore, the shift toward personalized and precision medicine supports neuromodulation's appeal. As stigma around implantable devices decreases and technology becomes more accessible, new patient demographics are entering the market, especially in regions previously underserved by advanced neuro-interventions.

#### Threat:

##### Risk of device-associated complications and side effects

Potential risks such as infections, lead migration, hardware malfunction, and stimulation-

related side effects remain concerns that threaten the market's expansion. These complications may lead to device revision or explantation, increasing patient discomfort and treatment costs. Moreover, apprehensions about surgical implantation, long-term dependence, and possible interference with other bodily systems can deter both patients and physicians. Negative outcomes or high-profile product recalls could also impact public confidence in neuromodulation technologies.

#### Covid-19 Impact:

The COVID-19 pandemic initially disrupted elective neuromodulation procedures due to lockdowns and resource reallocation toward critical care. Many patients delayed surgeries, leading to short-term declines in sales and implant volumes. However, post-pandemic recovery has been fueled by a renewed focus on chronic condition management and growing demand for outpatient-based treatments. Telehealth and remote device programming solutions also emerged as valuable tools, ensuring continuity of care and reshaping service delivery models in the neuromodulation sector.

The spinal cord stimulators segment is expected to be the largest during the forecast period

The spinal cord stimulators segment is expected to account for the largest market share during the forecast period propelled by the high prevalence of chronic back and leg pain disorders. These devices are widely used in treating failed back surgery syndrome and complex regional pain syndrome, with proven long-term efficacy. Continuous product innovations, such as closed-loop systems and wireless programming, enhance treatment outcomes and patient compliance. Moreover, favorable reimbursement policies in key markets further support the large-scale adoption of spinal cord stimulators.

The deep brain stimulators segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the deep brain stimulators segment is predicted to witness the highest growth rate, influenced by increasing demand for advanced therapies in managing Parkinson's disease, dystonia, and essential tremor. Technological advancements in targeting precision and programming flexibility are improving patient outcomes. Furthermore, growing research in psychiatric and neuropsychiatric applications, including depression and OCD, is expanding the scope of deep brain stimulation. As clinical indications widen, the segment is positioned for accelerated

global growth.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, fuelled by, rising neurological disorder prevalence, growing healthcare expenditure, and increasing adoption of advanced medical technologies. Countries like China, Japan, and India are investing heavily in neurology infrastructure and device-based therapies. Moreover, growing patient awareness, expanding private healthcare networks, and supportive government initiatives in neurorehabilitation drive regional demand. The large population base and ongoing urbanization further strengthen Asia Pacific's dominance in the neuromodulation devices market.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, driven by, rising neurological disorder prevalence, growing healthcare expenditure, and increasing adoption of advanced medical technologies. Countries like China, Japan, and India are investing heavily in neurology infrastructure and device-based therapies. Moreover, growing patient awareness, expanding private healthcare networks, and supportive government initiatives in neurorehabilitation drive regional demand. The large population base and ongoing urbanization further strengthen Asia Pacific's dominance in the neuromodulation devices market.

Key players in the market

Some of the key players in Neuromodulation Devices Market include Medtronic, Boston Scientific Corporation, Stryker, Abbott, B. Braun Melsungen AG, NEVRO CORP., NeuroSigma, Inc, NeuroPace, Inc., Soterix Medical Inc, Synapse Biomedical Inc, ReShape Lifesciences, Inc, Bioness Inc., ALEVA NEUROTHERAPEUTICS SA, LivaNova PLC, Neuronetics, Cyberonics, Inc., Neuromod, and Axonics, Inc.

Key Developments:

In July 2025, Boston Scientific received FDA approval for two new SCS leads—Linear 3-4 and Linear 3-6—for its Precision Plus SCS System, expanding percutaneous lead configuration options in the market.

In April 2025, Abbott introduced a next-generation delivery system for its Proclaim™

DRG neurostimulation—the first FDA-approved DRG technology for treating complex regional pain syndrome (CRPS) types 1 & 2—designed to streamline electrode placement to the dorsal root ganglion.

In January 2025, Medtronic achieved CE mark approval for its BrainSense Adaptive Deep Brain Stimulation (aDBS) and Electrode Identifier systems—a significant milestone enabling personalized, sensing-enabled care for Parkinson’s patients in Europe.

#### Product Types Covered:

- Spinal Cord Stimulators
- Deep Brain Stimulators
- Sacral Nerve Stimulators
- Vagus Nerve Stimulators
- Transcranial Magnetic Stimulators
- Other Product Types

#### Indications Covered:

- Chronic Pain
- Dystonia
- Epilepsy
- Essential Tremor
- Heart Failure
- Major Depressive Disorder
- Parkinson’s Disease

Obsessive-Compulsive Disorder

Overactive Bladder

Sleep Apnea

**MRI Compatibilities Covered:**

MRI Compatible

MRI Non-Compatible

**Biomaterials Covered:**

Metallic Biomaterials

Polymeric Biomaterials

Ceramic Biomaterials

**End Users Covered:**

Hospital

Neurological Clinics

Home Healthcare

**Regions Covered:**

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

## Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

## Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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