



Clinical Trials & Biomarker Discovery

EEG + TMS Solutions



Four neurotechnology brands.
One shared mission.



magstim.com



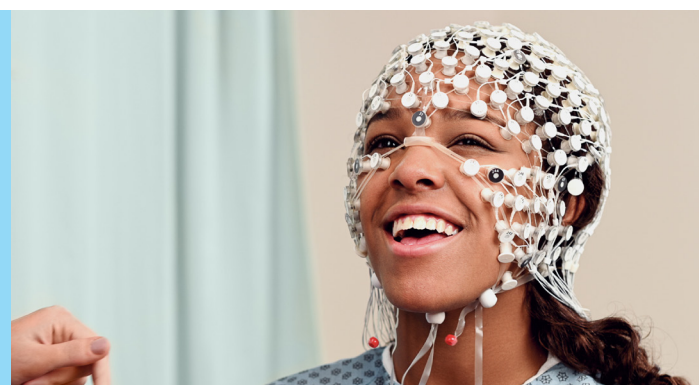
Faster, Friendlier hi-Fidelity EEG

Shorten and simplify data collection with rapid application (3-10 minutes) sensor nets.

A range of channels (32, 64, 128 or 256) provides the resolution you need for your data collection and analysis plans.

Over 4,000 scientific publications demonstrating usability of EGI sensor nets and the Geodesic EEG System in a range of populations and application areas.

Include more people (exclude fewer people) thanks to sensor nets working with nearly all hair types.



Training, Support and Service

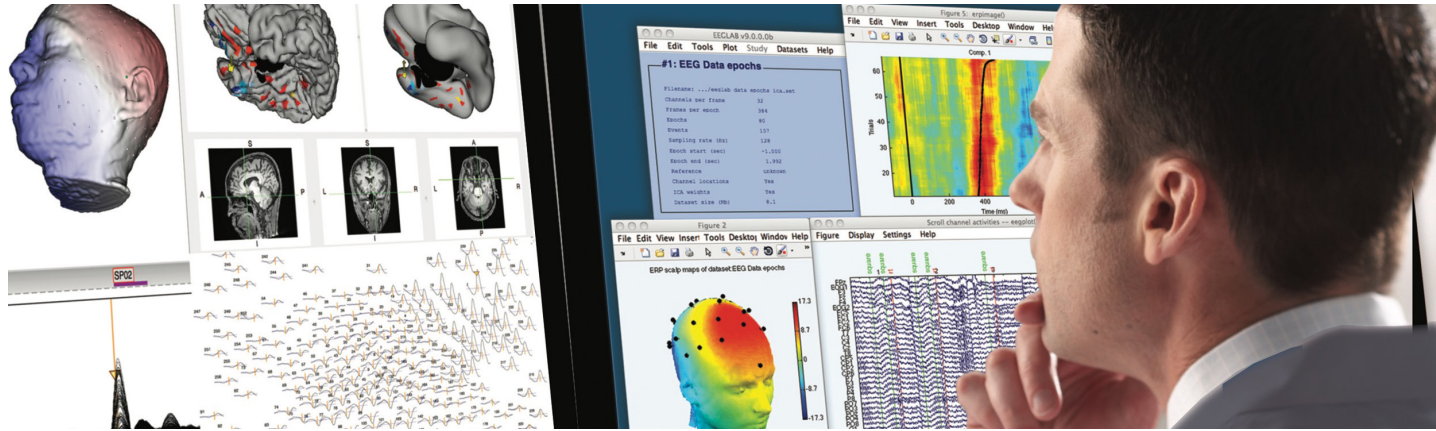
EGI provides worldwide in-person setup and training to teach novice to advanced users how to collect high quality HD-EEG in a range of:

- Sensitive populations such as infants, sensitive developmental populations, and a wide array of patient populations.
- Environments such as single or multi-room setups, in conjunction with other equipment, on a cart, in school, on the playing field, in clinic and hospital environments.



After initial setup and training, EGI offers ongoing technical support and service for sites worldwide.





Flexible Software and Service Options for Advanced Analysis of EEG

Software

- Licensed software for users to do their own advanced analysis.
- Source Localization, Connectivity and Time Frequency analysis.
- Software for statistical analysis.
- Combine with MRI, MEG and other data.

- Net Station allows for traditional Event Related Potential Analysis.
- Upgrade for source localization and advanced electrical stimulation.
- Data natively imports into leading Open Source Matlab and Python tools.



Service Partners

From Discovery to Clinical Trials: End-to-End Neuroscience Platform.

LucerumKey neuroanalytics platform de-fragments, simplifies and accelerates neuroscience-focused research in a secure and collaborative ecosystem fit for life sciences, pharmaceutical, academia, clinical research, and AI developers.

- Cross-species translational pharmaco-EEG.
- Multimodal Tomography.
- Brain connectomics with pipeline automation.
- Multiple neuroimaging modalities – EEGt, MEG, fNIRS and more.
- Integrated Biosignals.
- Bioinformatics and statistics.



From conception to data collection to advanced analysis

- Offers end-to-end R&D support.
- Provides advanced EEG signal analysis services using ML and computational neuroscience.
- Develops normative models and brain biomarkers for neurological and psychiatric conditions.
- Collaborates with clinicians, researchers, and industry for clinical trials and brain health innovation.
- Delivers custom training, tools, and cloud-based platforms for EEG data exploration.
- Specializes in high-density EEG applications and brain network connectivity analysis.



From Raw EEG to Publication-Ready Results In 1 Day

- Cloud based, speed-optimized toolboxes used by neuroscience researchers.
- Consultative support for data quality and analysis.
- TMS-EEG data cleaning.
- qEEG analysis.



Objective, AI-driven brain health assessments

- Compare patients' EEG to FDA cleared normalized database – Brain Network Analysis (BNA).
- Data hosting, data quality assessment, statistical analysis and clinical trial support.



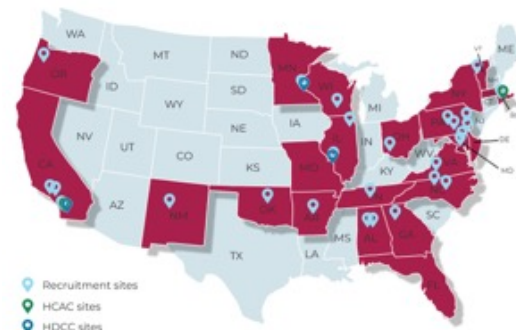


Experienced in Multi-Site, Longitudinal Trials and Studies



Alto Neuroscience Presents New Data Leveraging EEG and Machine Learning to Predict Individual Response to Antidepressants at the 61st Annual Meeting of the American College of Neuropsychopharmacology

– Results demonstrate that individual response to antidepressants can be robustly predicted by using EEG and machine learning –



Baby's First Years

The first study in the United States to assess the impact of poverty reduction on family life and infant and toddlers' cognitive, emotional, and brain development



Seamless, Integrated HD-EEG & TMS for Clinical Trials and Advanced Biomarker Research

- Combining TMS with EEG allows to assess further functions and dynamics of specific brain circuitries, enabling biomarker discoveries.
- Magstim TMS and EGI EEG seamlessly integrate hardware and software making your work more efficient.
- Purchase, receive training and support from one combined company.





Unique Features of HD-EEG for Biomarkers and Clinical Trials

Enhanced Sensitivity for Detecting Drug Effects

In clinical trials, especially for early-phase or exploratory studies, the effects of a drug may be subtle. HD-EEG is more sensitive to these small changes in brain activity. For instance, drugs might not cause dramatic changes in overall brain wave patterns but could affect local brain regions, which could be detected using the fine-grained spatial resolution of HD-EEG.

Objective Biomarkers of Drug Action

Using HD-EEG, pharmaceutical companies can develop more objective biomarkers of drug action. Changes in brain wave patterns, connectivity, and network dynamics could serve as early indicators of treatment efficacy, safety, and pharmacodynamics (how the drug affects the brain). This could be particularly useful for drugs targeting neurological and psychiatric disorders, where clinical outcomes may be slow to manifest.

Improved Sensitivity in Subpopulations

Some populations, such as those with mild cognitive impairment, early-stage psychiatric disorders, or neurological conditions, may show subtle brain activity changes that are difficult to detect with traditional EEG. HD-EEG's ability to capture finer details of neural oscillations and connectivity may make it easier to observe how these subgroups respond to treatment, which is valuable in personalized medicine approaches.

Quantitative and Predictive Data

HD-EEG allows for the extraction of numerous quantitative features (e.g., power spectral densities, coherence, phase-amplitude coupling), which can be used to track changes over time. This can be particularly useful in longitudinal clinical trials, where understanding the time course of drug effects is essential.

Regulatory Interest in Objective Metrics

Regulatory agencies like the FDA are increasingly interested in objective, quantifiable measures of treatment effects. Since HD-EEG can provide such metrics, it offers an appealing tool for pharmaceutical companies to demonstrate the efficacy and safety of their drugs.

Potential for Early Detection of Side Effects

HD-EEG can also be sensitive to side effects of a drug, particularly those affecting brain function. By monitoring changes in brain activity patterns, pharmaceutical companies can identify adverse effects earlier in the trial process, potentially reducing risks and improving patient safety.

Customization for Specific Trials

Depending on the specific drug being tested and the disorder being targeted, HD-EEG can be tailored to focus on the neural networks or brain regions most relevant to the drug's intended effects. This flexibility can improve the relevance of the data collected, making the trial results more directly applicable to the drug's mechanisms.



Added Value of EEG + TMS for Biomarkers and Clinical Trials

Enhanced Sensitivity for Detecting Drug Effects

In clinical trials, many drugs are used which affect corticospinal excitability, synaptic plasticity, cortical inhibition and facilitation. TMS allows a direct measure to quantify these changes which can help elucidate the mechanisms of action of the drug and screen for potential side effects.

Monitoring of Disease Progression

Using TMS, disease progression and changes in disease severity can be detected during early-phase pharmaceutical studies. TMS is an easy way to track changes over time allowing the time course of drug effects to be monitored for longitudinal clinical trials.

Monitoring of Progress in Recovery

Due to its high temporal resolution, TMS can be used to monitor motor recovery in stroke patients with interventions such as neuromodulation or physical therapies.



Launch Your Trial or Study in a Month or Less

Customized Quote

Planning

- Equipment tailored for specific study & trial aims.
- Manufacturing and shipment of equipment.

Roll Out

2-4 Weeks

- Equipment delivery in 2-4 weeks.
- Strategic rollout for onsite install & training.
- Customization for study protocols & site environment.

Study / Trial Launch

Ongoing

- Continuing training, piloting & data quality assessment.
- Ongoing consultative and technical support.
- Addition of sites as needed.



40+Years

Industry Experience

>20,000

Clinical Citations

100+

Regions
Covered

Statistics for both Magstim TMS
and EGI EEG products.



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