



ELEPHANT BRAIN LAB

Rome, Italy | Founded 2025 | Innovative Startup

E1 — MULTIMODAL NEUROTECHNOLOGY PLATFORM

Research-grade brain monitoring, outside the laboratory.

A wearable headset combining 32-channel dry EEG with autonomic sensing and real-time artifact correction.



THE TECHNOLOGY

E1 integrates 32 dry EEG channels with dedicated periocular electrodes for ocular artifact capture, together with PPG, EDA and skin temperature sensing. Our proprietary EL-RAC pipeline corrects motion and physiological artifacts in real time, delivering clean electrophysiology during natural movement and in unshielded environments — the barrier that has kept quantitative EEG confined to the laboratory.

AT A GLANCE

- **32-channel dry EEG**
Ag/AgCl-coated polymer electrodes, no gel, no preparation
- **Periocular sensing**
8 dedicated electrodes for ocular and facial artifact capture
- **Autonomic channels**
PPG, electrodermal activity and skin temperature
- **Real-time correction**
EL-RAC pipeline running on-board, embedded edge computing
- **AI clinical assistant**
Support for qEEG interpretation, reporting and protocol design
- **Normative database**
Harmonised multi-site qEEG reference data, in development

APPLICATIONS

Neurofeedback & clinical assessment Cognitive and mental workload monitoring Remote patient follow-up
Sport & high performance Occupational wellbeing

INTELLECTUAL PROPERTY & PARTNERS

Integrated device architecture protected by Italian patent IT102025000015982, with international PCT filing (2026). Developed with TU Ilmenau (dry electrode technology), University of Naples Federico II (CIRMIS / ARHeMLab), VTT Technical Research Centre of Finland, and OT Bioelettronica (biomedical amplifiers).

Regulatory status: E1 is currently supplied for research and non-medical applications. A separate CE MDR pathway is under development for the clinical configuration.

WHAT WE ARE LOOKING FOR AT MIT4LS

- Clinical partners for validation studies and pilot projects
- Distributors & commercial partners in medtech and digital health
- Research organisations for EU consortia (Horizon Europe, EIC, Eurostars)
- Investors active in neurotechnology and medtech