Bitbrain

Textile EEG Ikon

Wearable EEG based on smart textiles for real-world neuroscience research

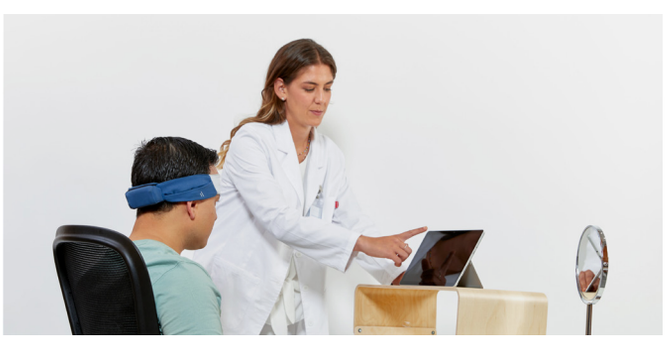
Ikon

Wearable textile-EEG device with frontal sensors, that allows brain monitoring for research applications anytime, anywhere by anyone.

- **Self-Managed Technology**
  Effortlessly conduct EEG research anywhere with self-administered technology that requires no expert supervision.
- **Comfortable dry textile sensors**
  The first device on the market with textile sensors—no need for electrolytic substances like gels, saline, or water.
- **Tested in clinical populations**
  Demonstrated a 90% success rate in clinical studies involving over 250 patients.

- **Medical Standard**
  Designed in accordance with ISO 13485, with medical CE and FDA clearance anticipated for 2025.
- **Connectivity and storage**
  Bluetooth Low Energy (BLE) real-time EEG streaming compatible with LSL and other softwares.
- **Battery**
  9+ hours in BLE streaming with local SD.
- **Reliable**
  Active shielding with optimized DRL to improve SNR and

Some applications



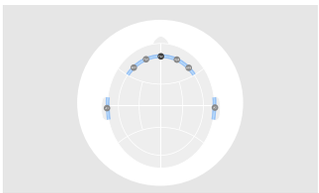
Ideal for **large-scale data collection** in everyday environments, paving the way for breakthrough insights and faster EEG biomarker discovery.

A solution for **advancing research in precision medicine** and creating customized treatments, enabling tailored interventions based on individual needs.

Conduct research in **real-world scenarios** such as education, business or automotive technology.

Combined with other biosensors, it enables **seamless multimodal research** across various settings, from e-sports and psychology to pharmacological studies.

Technical overview



Layout designed with sensors over prefrontal areas.

Wearable and ultralight (~100g) EEG headset. Quick and easy set up for real-life scenarios.

Reliable textile-EEG monitoring with 24 bits at 256 Hz for 9+ hours. Bluetooth streaming and/or on-board SD storage.

Washable technology that is easy to clean, transport, store, and reuse.

Hardware specifications

Sensors and headset	
EEG channels	Fp1, Fp2, Af7, Af8, A1, A2. Ground in Fpz. Amplifier REF is in FP1; A1 and A2 used for linked ear re-referencing.
Type of sensors/ electronics	EEG dry sensors with active shielding and optimized DRL
Head perimeter	52-72 cm
Wireless Amplifier	
Sampling rate/resolution	256 SPS at 24 bits
Bandwidth	DC – 40Hz
Online/real-time impedance check	Yes
Integrated sensors	Integrated IMU (9 axis): accelerometer, gyroscope and magnetometer
Input range and noise	±100 mV, < 1 µVRMS (0.5 - 30 Hz) @ 256Hz
CMRR / Input impedance	> 100 dB @ 50Hx, >50 GΩ
Data streaming and store	
Data transmission and range	Low energy Bluetooth 4.2 + EDR with 10 meters in direct sight
Data backup/files	Direct transfer to tablet/phone + data backup on internal SD card.
Power	
Battery	Rechargable lipo battery. Charging time <3h
Autonomy	> 9 h
General	
Weight	~100g
Warranty	2 years for amplifier
Certifications	CE (Directive 2014/53) and FCC (part 15)

Software specifications

Bitbrain software kit (included with equipment)	
Bitbrain real-time SDK	In C/C++ for Windows and Linux.
Bitbrain data acquisition and visualization suite	Live visualization, streaming or SD recording, data export in CSV, EDF, and raw data visualization.
Third parties and real-time I/O	LabStreamingLayer LSL compatibility (Matlab, Python, BCI2000, OpenVibe, NeuroPype, etc).
Third parties data processing	Matlab (EEGLAB, FieldTrip, BCILAB,etc), Python (MNE, etc) and more.

Bitbrain software platforms (optional)	
SennsLite	Software for data visualization and recording, with large compatibility with real-time I/O and data processing third parties.
Bitbrain Software Development Kit	Software kit consisting of different scripts that allow communication and control of the hardware used. It is a starting point for the development of brain-computer interface applications.

Bundle includes

- EEG headset and amplifier
- Power supply
- Storage base
- Instructions
- Bitbrain Software Kit
- Skin prep wet wipes samples

Support

Basic support is included during the lifetime of the product.

- Email support
- Technical assistance
- Knowledge base

Real-world research and applications

Bitbrain

Europe

Zaragoza, Spain
Calle. Sta. Teresa de Jesús, 32,
50006 Zaragoza
+34 931 444 823

America

New York, United States
228 E 45th Street. Suite 9E
New York, NY 10017

Email
info@bitbrain.com

Website
www.bitbrain.com