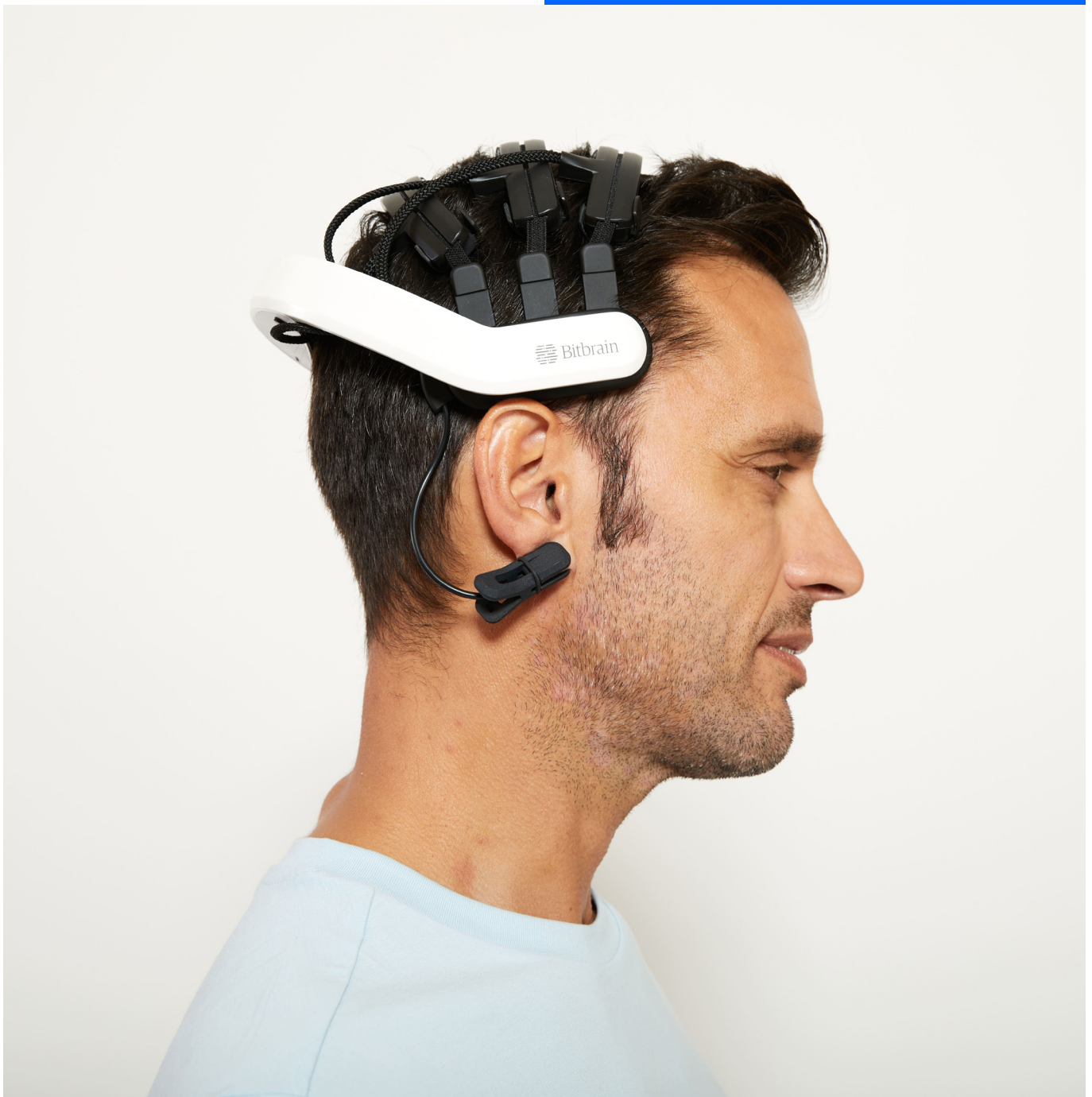


# Minimal EEG Hero

Wearable dry-EEG headset optimised to monitor cognitive and sensorimotor states in real-world applications with outstanding ease, comfort and reliability.



# Minimal EEG Hero

Wearable dry-EEG device with sensors over central brain areas, optimized for cognitive and sensory-motor state estimation.

- **Wearable and comfortable**  
Fast and simple to set up.
- **Dry EEG sensors**  
No need to apply electrolytic substances or saline solutions.
- **Advanced electronics**  
Active shielding with optimized DRL to improve SNR and reduce artifacts.



- **Mechanical support**  
Flexible arcs and sensor adjustments that adapt to head morphology and hair volume.
- **Connectivity and storage**  
Bluetooth real-time EEG streaming and local SD storage.
- **Battery**  
Swappable batteries for 3+ hours in streaming and local SD storage.

## Some applications



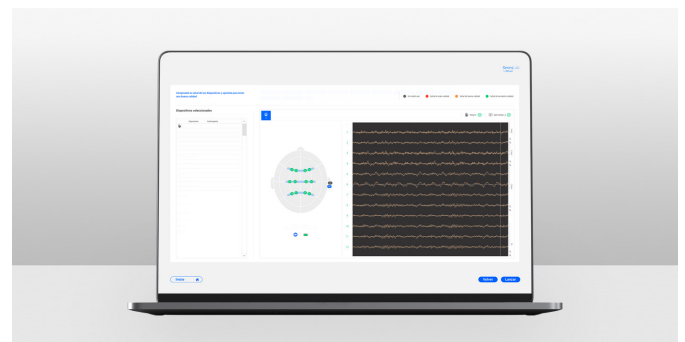
**New health interventions** based on brain-computer interfaces for cognitive or motor neurorehabilitation.



Capture natural human behaviour to **evaluate interfaces or physical products** to build optimal user experiences.

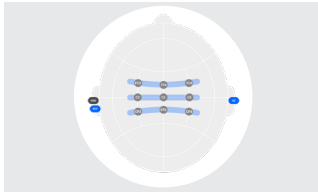


**Improve educational workspaces** by measuring cognitive or sensory-motor states, individually or in groups.



Learn about the **brain patterns of human behaviour** during reactions and interactions, combined with other monitoring technologies.

## Technical overview



Layout optimized for mu/alpha ERD/ERS, ERPs (P300, N400), MRCPs, and CVN, among others.



Wearable and ultralight (250g) EEG headset. Quick and easy set up anywhere, and under any circumstances.



Reliable dry-EEG monitoring with 24 bits at 256Hz for 3+ hours. Bluetooth streaming and/or on-board SD storage.



Clean technology that is easy to transport.

## Hardware specifications

Sensors and headset	
EEG channels	10 x EEG (FC3, FCz, FC4, C3, Cz, C4, CP3, CPz, CP4, A2), REF and GND (A1)
Type of sensors/electronics	EEG dry sensors, active shielding and optimized DRL
Head breadth	13,5 - 16,5cm
Wireless Amplifier	
Sampling rate/resolution	256 SPS at 24 bits
Bandwidth	DC – 40Hz (3 <sup>rd</sup> order LPF)
Online/real-time impedance check	Yes (relative contact impedance)
Integrated sensors	Integrated IMU (9 axis): accelerometer, gyroscope and magnetometer
Input range and noise	± 100 mV, < 1 µVRMS (0.5 – 30Hz) @256Hz
CMRR / Input impedance	> 100 dB @50Hz, > 50 GΩ
Data streaming and store	
Data transmission and range	Bluetooth 2.1 + EDR with 10 meters in direct sight.
Data backup / files	Yes (removable micro SD card) / CSV (max 8GB. Class ≥ 10)
Power	
Battery	Swappable lipo battery. Charging time <3h
Autonomy	>3h per battery
General	
Weight	250g
Maintenance	Wipes moistened in tap water.
Warranty	2 years
Certifications	CE and CB, with EN 60950, EN 55032, EN 55024

## Software specifications

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

## Bitbrain software platforms (optional)

Bitbrain Viewer Software	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.
Bitbrain Human Behaviour Research Lab	Practical research platform for experiment design and data acquisition with 30+ sensor modalities seamlessly synchronized and analyzed with a wide range of emotional and cognitive biometrics available.

## Bundle includes

- EEG headset
- Power supply
- Cable USB-micro USB
- 2 rechargeable batteries 700mAh
- 3 sizes lateral extensions
- Instructions
- Suitcase
- Bitbrain Software Kit

## Additional services

### Installation and Initial Training

Our team provides a training course that includes the installation of your EEG headset and software.

# Real-world research and applications



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