

Brite Ultra

Big group brain research made easy.



Perform hyperscanning experiments with up to 30 Brite Ultra devices simultaneously in the same environment



Receive a whole hyperscanning overview of synchronized NIRS data on one platform

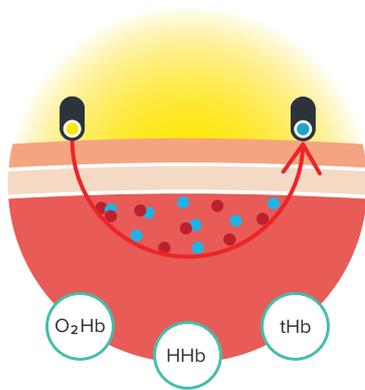


Benefit from an innovative workflow making large-scale hyperscanning efficient and practical



The ideal system for mass hyperscanning in naturalistic settings

Ask for info



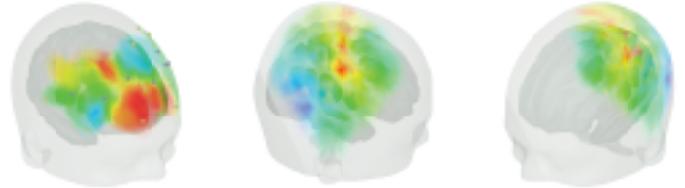
Near Infrared Spectroscopy

Near Infrared Spectroscopy (NIRS), the technique which our devices are based on, relies mainly on two characteristics of the human tissue. The first is the relative transparency of human tissue for light in the NIR range. The second one is the oxygen-dependent absorbance of hemoglobin. Based on these principles, the Brite Ultra devices used within the Brite Ultra system can monitor brain activity of your participants. This can be done:

- Non-invasively;
- Continuously, including recording and feedback;
- Affordably and without disposables needed;
- Wireless with almost no setup time;
- In easy setup and in a vast range of environments.

WHAT CAN NIRS DO FOR ME?

- NIRS is used in many fields of research. NIRS measures the relative changes in the concentration of oxyhemoglobin (O₂Hb), deoxyhemoglobin (HHb) and total hemoglobin (tHb) in biological tissue.
- Assuming the concentration of hemoglobin in blood is constant (during your measurement), the tHb can be used as a marker for blood volume.



Group sessions with the Brite Ultra

The Brite Ultra is the only system world-wide enabling large scale fNIRS hyperscanning of up to 30 participants. The system uses the most advanced wearable & user-friendly fNIRS device to measure brain oxygenation from any cortical brain region with up to 27 channels. It offers maximum flexibility for researchers and participants due to the multipower gain control feature.

Weighing only 300 grams in total, this device is truly lightweight and comfortable to wear even for a long measurement.

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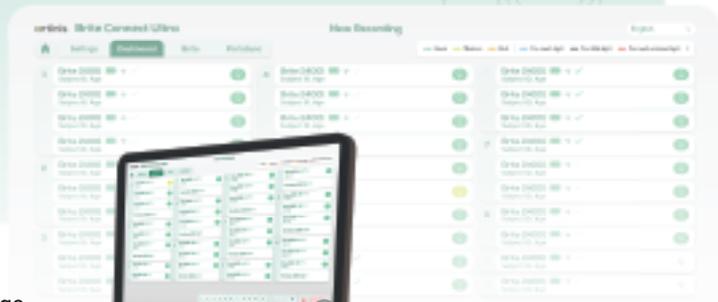
Weighing only 300 grams in total, this device is truly lightweight and comfortable to wear even for a long measurement. You have the freedom to choose from various



Brite Connect Ultra

With our Brite Connect Ultra software you can measure a large group of participants simultaneously. You can connect up to 30 Brite Ultra devices and 10 PortaSync devices. The data is perfectly synchronized, displayed, and stored within one measurement file. This custom-developed software enables you to: start and record measurements, view the NIRS signal quality of all connected devices simultaneously, insert events during data collection, and export the measurement data.

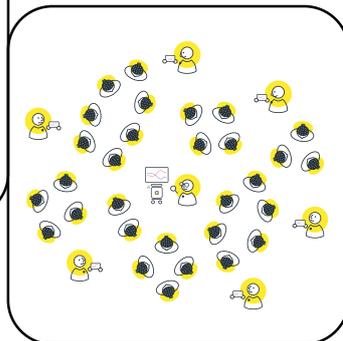
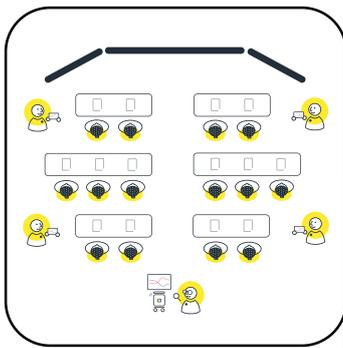
The Brite Ultra system comes with a cart containing a large touch screen, which functions as an overview screen. From this screen, the main software control will take place (start/stop measurement, export data).



You can connect up to five extra laptops/tablets to the Brite Ultra system to get a more detailed view on a subset of devices. This feature allows you to have an overview of and to control subgroups in big group measurements, thereby facilitating the study set up and monitoring of the data.



Example of a NASA control room scenario



Example of a big group scenario

fNIRS hyperscanning

Social interactions are a crucial part of human life and understanding the neural underpinnings of it is a challenging task. Thus, measuring brain activity and interconnectivity in multiple participants at the same time becomes increasingly significant, albeit challenging. Our Brite Ultra, integrating advanced fNIRS technology, provides a straightforward and efficient solution for conducting large group hyperscanning measurements. It is well-suited for various environments, including classrooms, control rooms, sports fields, cockpits, and any setting where investigations involving multiple individuals as a group are conducted.

Area of applications

- Cognitive Neuroscience
- Psychology
- Developmental studies
- Education
- Sports Science
- Clinical studies
- Social studies

What's in the package?

Brite Ultra system

- Brite Connect Ultra, fNIRS hyperscanning monitoring software
- Connection hub with pre-installed software and touchscreen display
- Brite Ultra devices (12, 24 or 30 included depending on package)
- System accessories
- PortaSync synchronizer instrument (6, 8 or 10 included depending on package)
- Neoprene headbands/headcaps
- User manual & quick start guide
- Support in setting up your research

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Optical imaging made easy.

Artinis Medical Systems is an innovative Dutch company active in the field of medical research equipment and quality assurance equipment. For more than two decades, we have been providing user-friendly, high-tech solutions for fNIRS measurements and radiological quality management. 2021 remarks our company as **ISO 13485:2016 certified** for our quality management system, following review by the notified body Dekra.

Coming from the research field ourselves, we have a lot of experience in optical oximetry, especially near infrared spectroscopy. Our highly portable and multichannel NIRS devices can be used to monitor oxygen supply non-invasively in both brain and muscle tissue. We participate in various scientific projects and work closely together with numerous universities, companies, and institutions around the globe. With extensive knowledge of the field, we develop top-quality products and go above and beyond to support you.

At Artinis, we make optical imaging easy.