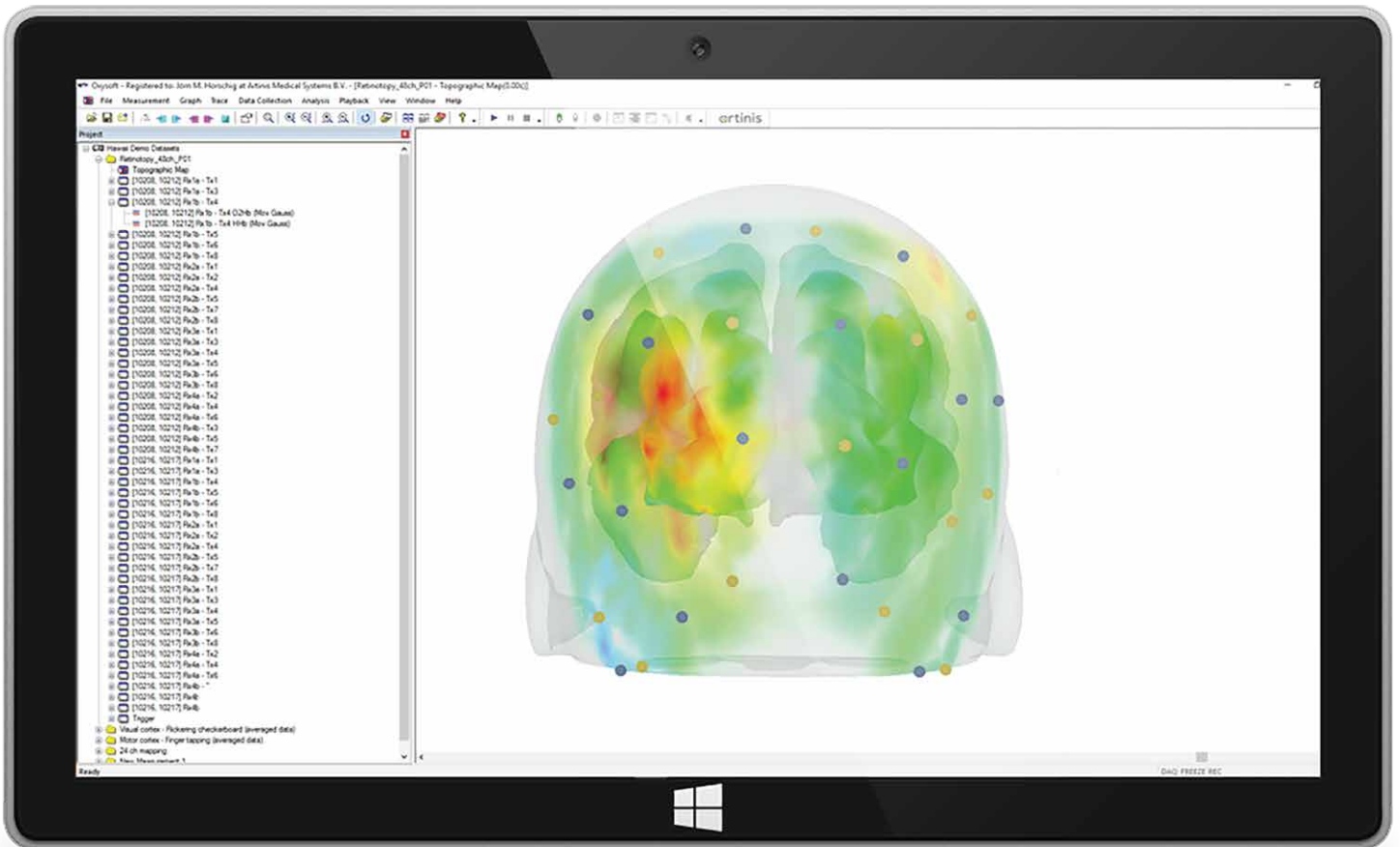# OxySoft

Our proprietary NIRS recording and analysis software

Provides real-time calculation and visualization/display of oxy-, deoxy-, total hemoglobin and tissue saturation index (TSI).

Data collection, processing, analysis, and statistics, in one package.

Make movies of 2D or 3D graphs for temporal and spatial representations of brain acitivity.

Generate events from external inputs and optional analog input channels.

Offline data export to Matlab and online available software packages (SPM, NIRStorm, and Homer2).

Realtime import and export of data and events using the Lab streaming layer.
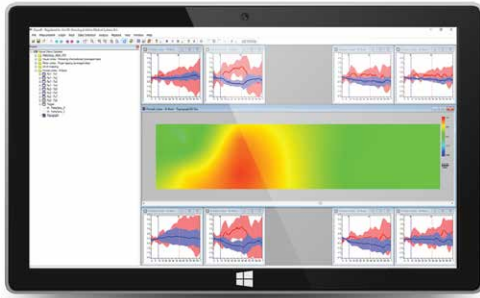
About OxySoft

OxySoft is our proprietary, and dedicated, NIRS software used to collect, store, view, and analyze all necessary data. It provides robust, and parallel, recording of multiple devices, which allows for synchronized, single-file, recordings of any imaginable combination of OxyMon, Brite, and other Artinis NIRS devices; all within a single piece of software. OxySoft is user-friendly, highly customizable to individual requirements, and offers both real-time and offline data visualization and analysis.

Data Analysis

Data from OxySoft can be analyzed in a several ways. First, you can analyze data from within OxySoft itself. OxySoft offers a variety of standard analysis techniques, such as filtering, averaging, and statistical analysis. Secondly, data can also be exported to standard data formats, such as txt, xls,or edf file formats. Thirdly, we provide the MATLAB function oxysoft2matlab, which lets you import your OxySoft data directly into several MATLAB toolboxes, such as Homer2, NIRStorm, NIRS-SPM, and FieldTrip. Oxysoft2matlab also allows importing raw data, so that you are free to do any preferred analysis from within MATLAB.

Features

The main features include:

- Data recording and collecting
- Importing and exporting data files
- Exporting to Mircosoft Excel, XML, EDF, or a text file
- Importing and scaling data acquired via optional analog input channels
- Importing data files collected with other instruments
- Re-sampling of data
- Filtering of data using various types of filters
- Calculating average, mean, standard deviation, and regression
- Calculating differences between selected time-frames
- Calculating oxygenconsumption, bloow flow, venous and arterial saturation
- Calculating averages of (block) stimuli (for functional NIR studies), including detrend function

- Generating events from external inputs, very useful for functional NIRS studies
- Preparing two-dimensional plots
- Preparing videos of the 2-D plots, e.g. for presentations. Very useful for brain mapping!
- Comparing traces
- Collecting files within one project - analysis can be setup for all files simultaneously
- Adding new files is easy
- Original data sets are always unaffected
- Realtime data export to Matlab and other software
- Offline data export to Matlab and Matlab based (SPM) software packages
- Synchronization with other software and devices

OxySoft 3D: We offer the opportunity to access extended visualization options, designed to optimize your measurement protocol, better review your results, and to optimally support your high impact neuroscience publication.

- Visualize your data on 3D models of the brain
- Built-in, intuitive user-interface for the Polhemus fasttrack device
- Automatically stores the digitized positions of the optodes

About the 3D Extension

We have partnered with Polhemus Inc, which creates instruments such as the Patriot and Fastrak devices for digitizing objects. Using these devices you can precisely measure the position of the optodes on the subject's head. OxySoft 3D guides you through this process with a built-in, intuitive user-interface, without the need for third-party software. OxySoft automatically stores the digitized positions of the optodes, then transforms and visualize the positions on the integrated 3D model.
This not only allows you to better review your data and results, but additionally allows to report back the optode positions in MNI coordinate space. Contact us to get a quote for the 3D extension.

Get a quote for OxySoft & data analysis software:

askforinfo@artinis.com

www.artinis.com