

## SMI Integration with BIOPAC

Connect physiological and eye tracking data



Frazer Findlay, CEO, BIOPAC Systems:



“... The plug and play integration of BIOPAC and SMI measurement solutions reveals how visual information evokes physiological reactions. The integrative approach allows researchers to easily access complete participant response data for their analysis ...”

- Study the interplay of gaze behavior and physiological response
- Synchronize easily and accurately with the fully integrated solution
- Connect SMI Eye Tracking devices with BIOPAC physiological data loggers

## Study the interplay of gaze behavior and physiological response

Combining eye tracking data with physiological signals offers detailed insights into the correlation of gaze behavior and physiological response. The SMI integration with BIOPAC readily enables research which seeks to:

- Measure stress levels during an eye tracking experiment.
- Understand how visual elements evoke emotional engagement.
- Study the interactions of gaze behavior and muscle activation.

Co-registration studies are supported by automated synchronization, matching hardware as well as tools for integrated eye tracking and physiological data analysis.

## Synchronize easily and accurately

The SMI integration for BIOPAC combines SMI's eye tracking analysis software BeGaze as well as BIOPAC's physiological data analysis software *AcqKnowledge*. Synchronized eye tracking and physiological data streams can be analyzed comprehensively with supporting visualizations. Based on eye tracking and physiological data, interest periods can be defined and selectively evaluated.

Application-tailored signals are utilized by the integration to accurately synchronize the data streams via TTL trigger and UDP software messages.

Integrated data acquisition is made simple: Hardware can be easily connected, experiment design and analysis do not require programming skills.

## Connect SMI Eye Tracking with BIOPAC physiological data loggers

SMI's and BIOPAC's versatile hardware solutions are the foundation for accurate synchronization and powerful analysis.

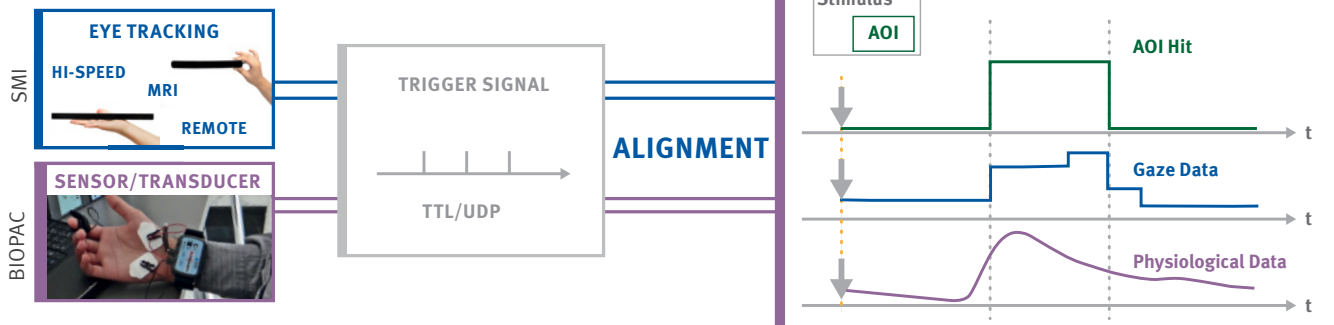
SMI's Scientific Eye Tracking provides reliable eye movement, gaze and pupil information for laboratory and everyday research. Screen-based devices include portable systems which run from a laptop, ideal for scientific-grade studies at schools and other real-life locations. Specialized devices are available, e.g. for MRI applications and primate studies.

BIOPAC's physiological data loggers record signals such as EMG, heart rate, skin conductance, fNIR optical brain imaging and many more. Solutions for MRI and wireless loggers for real-life scenarios are available. The loggers are complementary to the BIOPAC MP data acquisition systems that operate plug-and-play with *AcqKnowledge*.

## SMI Eye Tracking Connected

The SMI Eye Tracking Connected program helps you integrate eye tracking with leading partners solutions in fields ranging from multimodal cognition research to virtual reality.

Learn more: [www.smivision.com/smieyetracking-connected](http://www.smivision.com/smieyetracking-connected)



## Technical specifications

Product	Specifications
BIOPAC physiological data acquisition solutions	<ul style="list-style-type: none"> <li>• BIOPAC MP 150 high resolution data acquisition system with <i>AcqKnowledge</i> software and STP100C for trigger signal support.</li> <li>• BIOPAC's loggers, incl. the BioNomadix wireless logger for interactive scenarios</li> <li>• <i>AcqKnowledge</i> software for data recording, transformation and analysis, including optional fully automated routines for physiological signals evaluation</li> </ul> <p>More information at: <a href="http://www.biopac.com">www.biopac.com</a></p>
SMI Scientific Eye Tracking solutions	<p>SMI's Scientific Eye Tracking devices include:</p> <ul style="list-style-type: none"> <li>• Portable Remote systems (REDn Scientific, RED250mobile, ...) for research use in laboratories and at real-life locations</li> <li>• Stationary systems (RED500, Hi-Speed, ...) for dedicated laboratory setups</li> <li>• Specialized eye tracking, e.g. for MRI applications and primate studies</li> </ul> <p>The integration is fully compatible with SMI Experiment Suite Scientific software Supported Trigger: TTL signals, UDP messages</p>

## Contact information

SensoMotoric Instruments GmbH  
 Warthestr. 21  
 14513 Teltow  
 Germany  
 Phone: +49 (0) 3328 - 3955 - 10  
 Fax: +49 (0) 3328 - 3955 - 99  
 E-mail: [sales@smi.de](mailto:sales@smi.de)

SensoMotoric Instruments Inc.  
 236 Lewis Wharf  
 Boston, MA 02110  
 USA  
 Phone: +1 - 617 - 557 - 0010  
 Fax: +1 - 617 - 507 - 8319  
 E-mail: [sales@smivision.com](mailto:sales@smivision.com)

SensoMotoric Instruments Inc.  
 5 3<sup>rd</sup> Street  
 San Francisco, CA 94103  
 USA  
 Phone: +1 - 617 - 557 - 0010  
 Fax: +1 - 617 - 507 - 8319  
 E-mail: [sales@smivision.com](mailto:sales@smivision.com)



Scan QR code for case study videos!  
[www.youtube.com/smieyetracking](http://www.youtube.com/smieyetracking)

Subject to change without prior notice

© Copyright 2015 SensoMotoric Instruments GmbH • SMI\_Integration\_Biopac • 14.10.15

[www.smivision.com/egts](http://www.smivision.com/egts)