

## SMI Mobile Integration with BIOPAC

Connect physiological and eye tracking data in interactive mobile scenarios



Prof. Thierry Baccino, Université de Paris VIII, Lutin Userlab:



“... Being able to combine SMI Eye Tracking Glasses and Biopac physiological data measurements provides access to complete subject response data. In my research we recorded pupil diameter and electrodermal activity during a simulated driving task, and the study shows that pupil diameter signal has good discriminating power for stress detection ...”

- Study the interplay of gaze behavior and physiological response in mobile tasks
- Synchronize easily and accurately in one common platform
- Connect SMI Eye Tracking Glasses 2w with BIOPAC physiological data loggers

## Study the interplay of gaze behavior and physiological response in mobile tasks

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

- Combine information about physiological state, perception and performance to understand and improve human interfaces, e.g. at the workplace
- Add arousal information to perception in human-to-human interaction
- Understand how visual elements evoke physiological reactions, e.g. during decision-making at public places

Mobile co-registration studies are supported by automated synchronization, lightweight wearable hardware as well as tools for integrated eye tracking and physiological data analysis.

## Synchronize easily in one common platform

The mobile SMI integration for BIOPAC combines the data output of SMI Eye Tracking Glasses 2 (ETG2) and of BIOPAC's physiological data loggers in the *AcqKnowledge* analysis software. Synchronized direct gaze videos, raw eye tracking data exported from SMI BeGaze software and physiological data streams can be analyzed with supporting visualizations.

Real-time clocks are utilized to accurately synchronize the data streams through the video of the ETG scene camera. Integrated data acquisition is made simple: The wearable hardware can be easily connected, analysis does not require programming skills.

## Connect SMI Eye Tracking Glasses with BIOPAC physiological data loggers

SMI's and BIOPAC's lightweight, wearable hardware solutions are the foundation for accurate synchronization and powerful analysis of mobile interaction.

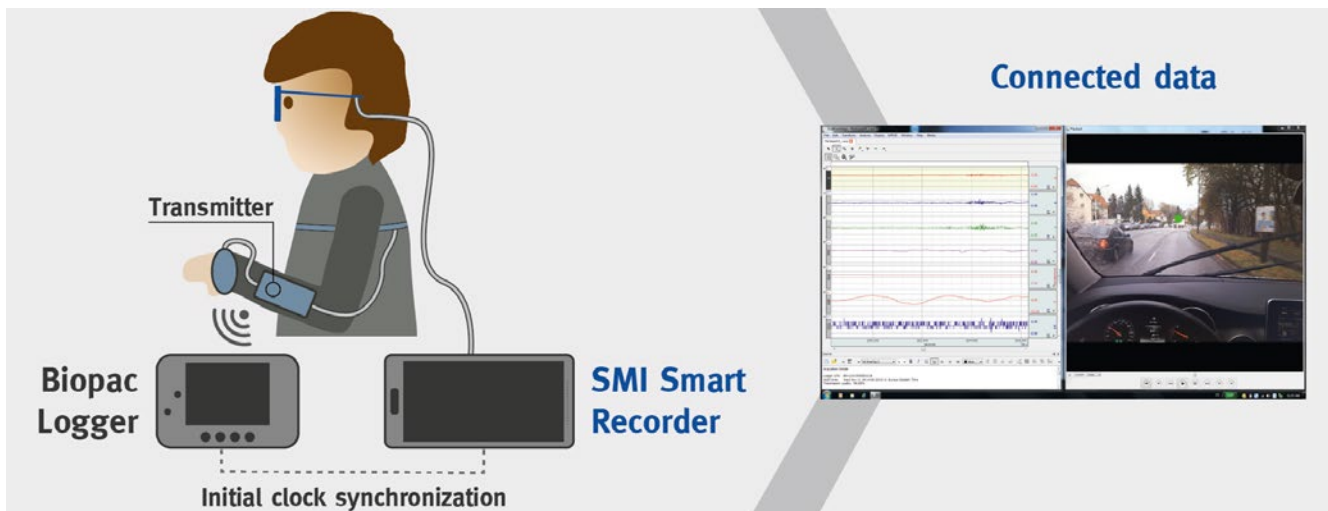
Wearable SMI Eye Tracking Glasses 2 (ETG2) come with a smart recorder based on a Samsung Galaxy Note 4. The lightweight recorder allows participants to move naturally while performing interactive tasks, and it supports wireless data access for fully mobile co-registration. With dedicated modules, the ETG2w also enables synchronization in VR environments.

BIOPAC's wireless data loggers for real-life scenarios records signals such as EMG, heart rate, skin conductance and many more, and 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's BioNomadix wireless transmitter and logger for interactive scenarios to record PPG, ECG, EDA, Respiration and many other physiological signals</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 Wearable Eye Tracking solutions	<ul style="list-style-type: none"> <li>• SMI Eye Tracking Glasses 2 Wireless with smart recorder for interactive scenarios</li> </ul> <p>Optional tools: Virtual Reality module with VRPN server</p> <p>The integration is fully compatible with iView ETG software.</p>

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