

## 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 with no compromise on mobility

**Connect** SMI Eye Tracking Glasses 2w with BIOPAC physiological data loggers

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

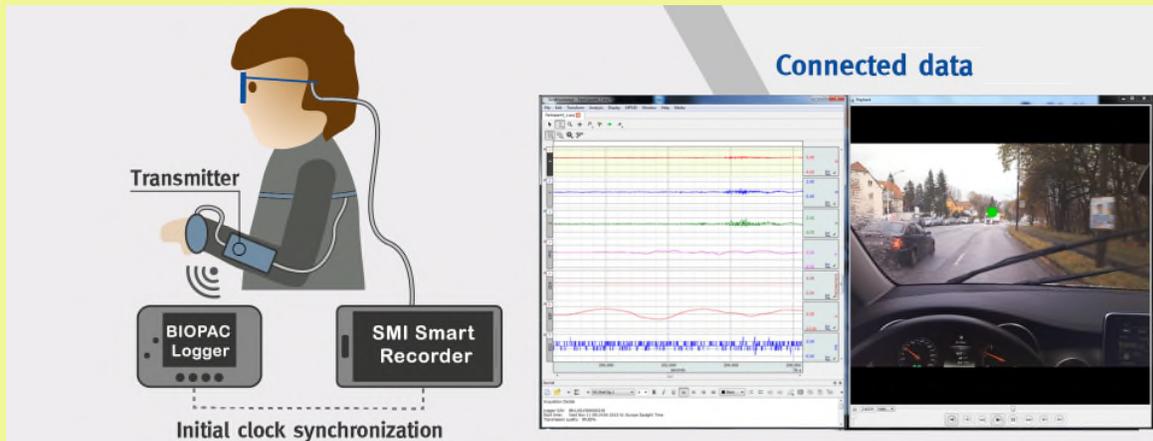
Combining eye tracking data with physiological signals while performing mobile tasks offers detailed insights into the correlation of gaze behavior and physiological response in interactive scenarios. The mobile SMI integration with BIOPAC readily enables research which seeks to:

- Measure stress levels during visually complex real-world tasks, e.g., at the workplace
- Understand how visual elements evoke emotional engagement, e.g., at the POS
- Study the interactions of gaze behavior and muscle activation in complex reaching tasks

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 with no compromise on mobility



The mobile SMI integration for BIOPAC combines the data output of SMI Eye Tracking Glasses 2w (EYE-GLASSES) and BIOPAC’s physiological data analysis software *AcqKnowledge*.

Synchronized direct gaze videos, raw eye tracking data 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.

Real-time clocks are utilized by the integration to accurately synchronize the data streams visually 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

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

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

Wearable SMI Eye Tracking Glasses 2w (EYE-GLASSES) 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 BioNomadix wireless data logger for real-life scenarios records signals such as EMG, heart rate, skin conductance and many more, and operates plug-and-play with *AcqKnowledge*.

#### 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>
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> <li><i>Optional tools</i>: Virtual Reality module with VRPN server. The integration is fully compatible with iView ETG software.</li> </ul>

**Contact BIOPAC to learn more or request a quotation!**

***BIOPAC - Inspiring people and enabling discovery about life.***

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