



VIVONOETICS

Vivonoetics is a physiometrics company offering VivoSense™; the #1 choice for researchers in physiological monitoring and analysis software for body-worn sensor systems.*

* Physiometrics – definite measurement of physiological endpoints

VIVOSENSE™

1. IMPORT: VivoSense™ supports most commercially available sensors and file formats. VivoSense™ also allows customized imports for novel data formats.

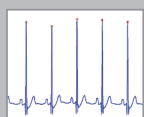
2. INTEGRATE: VivoSense™ provides tools to synchronize and merge data from multiple sensor sources into a single analyzable VivoSense™ file.

3. ANALYZE: VivoSense™ includes built-in algorithms to generate over 100 published and validated algorithms. Users may also include their own analysis or published algorithms in VivoSense™.

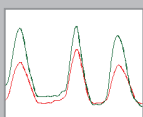
6. SHARE: Researchers use VivoSense™ as a robust commercial platform to share results and tools with their collaborative partners.

5. DISCOVER: The VivoSense™ framework allows users to discover and generate new indices of physiological states.

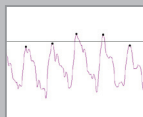
4. VISUALIZE: VivoSense™ provides intuitive visualization of multiple time synchronized data channels.



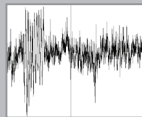
ECG/HRV



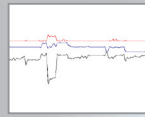
RESPIRATION



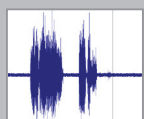
PPG



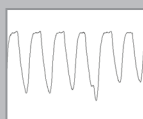
EEG



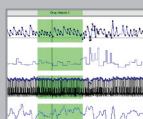
ACTIGRAPHY



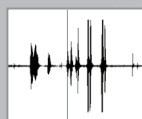
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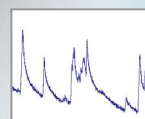
BLOOD
PRESSURE



DIARY
EVENTS



AUDIO



GSR

CASE STUDIES

Vivonoetics provides affordable software customization services to create and implement new algorithms and functionality in VivoSense™.

STUDY 1: IMPORT, SYNCHRONIZATION AND MERGE

A Vivonoetics customer requested **analysis** of respiratory inductance plethysmography data alongside spirometric data, captured simultaneously with separate sensor systems. VivoSense™ was used to **import** this data and intelligently **synchronize and merge** the separate sensor data into a single file. Spirometry data was then used to accurately calibrate the plethysmographic signals to study exercise induced breathlessness in COPD subjects.

STUDY 2: COMPLEX RESPIRATORY ANALYSIS, VISUALIZATION AND DISCOVERY

A Vivonoetics customer investigating non-invasive diagnosis of infant asthma measured respiratory signals and used VivoSense™ Complex Respiratory Analysis

Module to **analyze and visualize** a variety of VivoSense™ generated respiratory metrics. Subsequent statistical analysis was used to **discover** that measures of phase relationship showed promise in objective identification of airway limitation in this population.

STUDY 3: HEART RATE VARIABILITY PHYSIOMETRICS

A Vivonoetics customer developing a “guilty knowledge” test using wearable heart rate monitors implemented the Heart Rate Variability Module in VivoSense™ to reliably remove artifact from the measured data. The data was used to **derive** a series of indices representing autonomic tone.

STUDY 4: DISCOVERY, CLASSIFICATION AND SHARING

A Vivonoetics customer interested in developing a novel **index** of acute stress recorded several

time **synchronized** physiological channels. The VivoSense™ Classification module was used to identify relevant VivoSense™ metrics and intelligently combine these to develop a single new **index**. VivoSense™ was used to **share** this index with research partners to reliably reproduce and test this **discovery** in their own studies.

