

Wearable sensors for clinical research

CLINICAL RESEARCH CHALLENGE

Wearable sensors have the potential to revolutionize clinical trials and clinical research in general by replacing sporadic and often subjective measures with continuous, objective measures. To achieve this potential, researchers need a system that provides continuous raw sensor data, with minimum participant and site burden and a scalable architecture.









OUR SOLUTION

Verisense is a flexible platform designed from the ground up specifically to meet the challenges of clinical research.

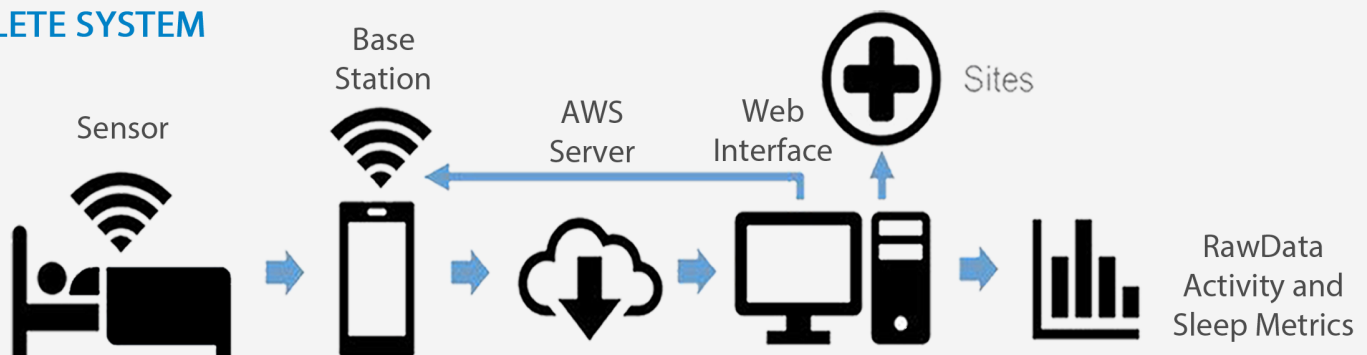
The Verisense IMU provides continuous collection of raw 3-axis accelerometer and/or gyroscope data within a complete system that places absolute minimum burden on participants and clinical sites. The progress of the data collection is monitored continually with easy to read dashboards and automatic email notifications.

Raw data is transmitted from Verisense sensors via a base station to a secure AWS server where it can be downloaded at any point. Integrated open source algorithms provide validated endpoints for use in clinical trials.

KEY BENEFITS

-  Up to 6-months battery life
-  Continuous raw data
-  Water resistant
-  24x7 data coverage
-  Lightweight
-  Remote management features
-  Guaranteed data integrity
-  Flexible styling options

A COMPLETE SYSTEM



SENSOR

- 24x7 no touch operation
- No charging
- Replacable battery with up to 6 months life
- Water resistant
- Impact resistant
- Automatic data encryption and upload
- Interchangeable bands for flexible styling

BASE STATION

- Collects data whenever sensor is in range
- Automatic data upload, via cellular or Wi-Fi
- Alerts participant and web server to issues
- 5-minute setup
- No touch for participants
- Can link up to seven sensors to single base station

WEB SERVER

- Monitors all sites at a glance
- Able to drill down to individual participants
- Generates automatic status emails
- Generates activity and sleep metrics from peer-reviewed algorithms

VERISENSE IMU TEST REPORTS

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| IEC 60601-1: 2005 + CORR.1:2006 + CORR.2:2007 + AM1:2012 |
| IEC 60601-2-10:2015 + A1:2016 |
| EN 60601-1-11:2015 |
| EN 60601-1:2006+A11:2011+A1:2013 |
| EN 60601-1-2: 2014 (4th Edition) |
| EN 55011: 2009 + A1: 2010 |
| AAMI ES 60601-1:2005/(R)2012 and A1:2012, C1:2009(R)2012 and A2:2010/(R)2012 |
| ETSI EN 300 328 V2.1.1 (2016-11) |



TECHNICAL SPECIFICATIONS

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|----------------------------|---|
| Accelerometer | Sample Rate: 12.5Hz, 25Hz, 50Hz, 100Hz, 200Hz, 400Hz, 800Hz, 1600Hz Range: $\pm 2g$, $\pm 4g$, $\pm 8g$, $\pm 16g$ |
| Gyroscope | Sample Rate: 12.5Hz, 26Hz, 52Hz, 104Hz, 208Hz, 416Hz, 833Hz, 1666Hz, 3332Hz Range: $\pm 125/\pm 250/\pm 500/\pm 1000/\pm 2000$ dps |
| Storage | Up to 44 days at 25Hz |
| Water resistant | IP55 |
| Size | 35mm x 43mm x 12mm |
| Weight | 29.6 grams (1 ounce) |
| Connectivity | Bluetooth 5, Configurable upload interval |
| Compliance | ISO13485:2016, ISO60601, FCC, CE |
| Future sensor capabilities | PPG, GSR, ECG, EMG, Bioimpedance and more |

ABOUT SHIMMER

Shimmer Research is a leading provider of wearable sensing systems for the clinical assessment, remote patient monitoring, and clinical trials market. Serving over 75 countries worldwide, Shimmer Research is headquartered in Dublin, Ireland, with offices in Boston, USA and Malaysia.