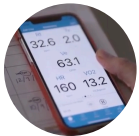


Sensor Testing & Validation

Exos' Human Performance Lab is the trusted research and innovation partner for developers to provide ground truth validation for sensors and sensor algorithms.

At Exos, we integrate our expertise in human performance with our cutting-edge facilities, including our biomechanics labs, recovery zones, and world-class performance training centers, to support sensor developers in testing, refining and validating their products for professional and consumer use.

What does Exos validate for sensor developers?



Accuracy & Reliability

Ensure the sensor provides trustworthy and consistent data.



Safety

Validate that the sensor functions safely in its intended operating environment.



Non-Medical Compliance

Ensure the sensor meets required non-medical compliance standards.



Market Differentiation

Establish the sensor as a high-quality product in the market, backed by third-party data.



Stakeholder Confidence

Build confidence among stakeholders in the sensor's quality and performance.

Heart Rate Algorithm and Sensor Accuracy

The development of wearable technology that provides accurate data for all consumers is an ongoing challenge, with variability in demographic characteristics like skin tone and body size impacting the measurement of important metrics such as heart rate. Exos' Human Performance Lab partnered with a wearable sensor company to execute a series of 2-3 week data collection sprints in a diverse group of participants, to develop algorithms to improve heart rate sensor accuracy during high intensity activities.

- 500+ study participants
- 20-35% of participants self-assessed as 6-10 on the Monk Skin Tone scale
- 49% of participants categorized as overweight or obese

3D Athlete Tracking

In a game where every second counts, peeling back the layers of intricate movement patterns invisible to the naked eye can be the key to unlocking more effective coaching at scale. We designed and executed a three-phased research initiative using markerless motion capture to pilot 3D Athlete Tracking technology to maximize performance, including technology validation, use-case validation, and real-world demonstration.

The result? The validated 3DAT technology debuted at the 2022 NFL Combine.

- 3 movement profiles: rotational sport, rehab, and sprint
- 3 phases of data collection
- 20+ elite male and female athletes