

Full-body IMU motion capture that goes where you go

For sports biomechanics, research, Industry 4.0 and animation. Capture in the lab, on the field or on the factory floor, with no cameras and no studio.

18 sensors + prop

Full body, ready to capture

18 IMUs covering the whole body, plus one sensor for a club, bat, racket or tool, calibrated into the same skeleton.

30 sensors + prop

Body and fingers together

16 body sensors and two 7-sensor finger gloves, synchronised in a single recording, plus the prop sensor.

WHY TEAMS CHOOSE IT

Accuracy you can configure

Your skeleton from two photos

AI Skeleton Maker builds the body skeleton from a front and side photo and two height measurements.

Your calibration

Choose the reference sensor, the poses and the axis. Body and fingers calibrate separately.

Capture anywhere

Calibrate and record on an iPhone outdoors, or record onboard and download later.

Map and scale every sensor

Assign any sensor to any segment, scale each axis, add bones to the skeleton.

Fast-motion option

$\pm 4000^\circ/\text{s}$ sensors to order on selected segments, such as a pitching arm.

Position in space

Native HTC Vive tracking, optional GPS, and sync with optical systems.

CAPTURE MODES

Stream live or record on the hub

MODE	CONNECTION	RATE	DROPPED FRAMES
Live, access point	Hub Wi-Fi direct to a PC, laptop or iPhone	60 FPS	Possible
Live, router	Through a Wi-Fi router	Up to 240 FPS	Possible
Live, USB	Cable to the PC	Up to 240 FPS	Zero
Onboard recording	Saved on the hub, downloaded after	Up to 240 FPS (tested to 480)	Zero

Rates for an 18-sensor suit. Fewer sensors can run faster.

Tested at scale: seven suits, 150 sensors, on one PC through one router: two 30-sensor suits and five 18-sensor suits streaming together at 60 FPS with zero dropped frames for over a minute. [Watch the test](#)

SENSORS

IMU

Sensor type	9-axis IMU (accelerometer, gyroscope, magnetometer)
Gyroscope range	±2000 °/s; ±4000 °/s sensors to order on selected segments
Accelerometer range	±8 g
Magnetometer accuracy	1.4 µT
Internal IMU rate	416 Hz
Output	Quaternions; heading, pitch, roll; accelerations; angular rates; timestamps
Sensor board	11 × 16 × 3 mm, under 1 g
Sensor in housing	5 g
Ingress	IP65
Operating temperature	-40 to +55 °C

HUB

Capture and power

Connections	USB, Wi-Fi access point, Wi-Fi router
Live latency	About 50 ms at SDK level
Onboard storage	1 GB, no limit on file count
Recording time	30 FPS: 18-sensor about 40 h, 30-sensor about 24 h
Power	Any 5 V USB power bank; swap to keep going
Battery life	18-sensor suit 2 h 45 min on 5,000 mAh
Size	65 × 65 × 20 mm
Extras	Vibration alert; optional GPS (10 Hz, 11 cm), synchronised

SOFTWARE

Pipeline

Desktop	SynDash for Windows PC
Mobile	iOS app for capture anywhere
Export	CSV (raw and positional), SR, BVH, FBX, MVNX for Visual3D
Plugins	Unreal Engine 5, Unity, MotionBuilder, Siemens Process Simulate, OptiTrack Motive
Sync	Native HTC Vive; UDP start/stop for Vicon and optical systems
Multi-suit	Several suits captured together in SynDash
SDK	Open C++ SDK

SUIT

Fit and build

Sizes	S, M, L, XL
Changing size	One set of electronics moves between cloths
Fabric	80% nylon Lycra, 20% spandex, second-skin fit
Prop sensor	Included; attach to a club, bat, racket or tool

Used for: sports biomechanics and coaching, life-science and rehabilitation research, ergonomics with Siemens Jack and Process Simulate, and full-body animation.

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