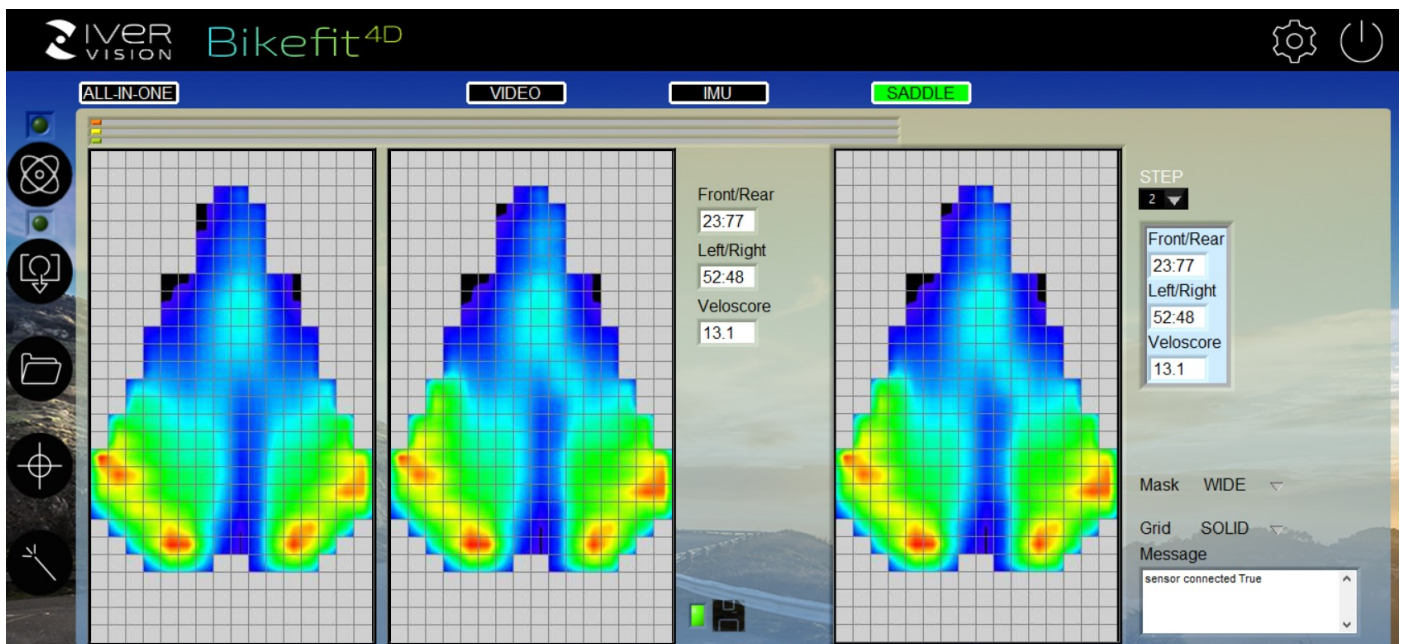# IVER Vision + Velometrik:

Integrated Bikefit Solutions

Through a new partnership, IVER Vision integrates Velometrik's SmartCover into its 2D and 4D software suites.

This collaboration merges high-definition video-analysis and IMU sensing data with pressure mapping, delivering a holistic picture of rider posture and performance.

IVER Vision offers two suites of professional bikefitting systems that share the same DNA: high-definition video analysis, automated marker tracking with sub-millimetre precision, portable hardware, user-friendly software, and fully customisable reporting.

Furthermore, advanced features like *Spine Detection* and *Smart Trainer Link*, take the system well beyond traditional bikefitting tools.
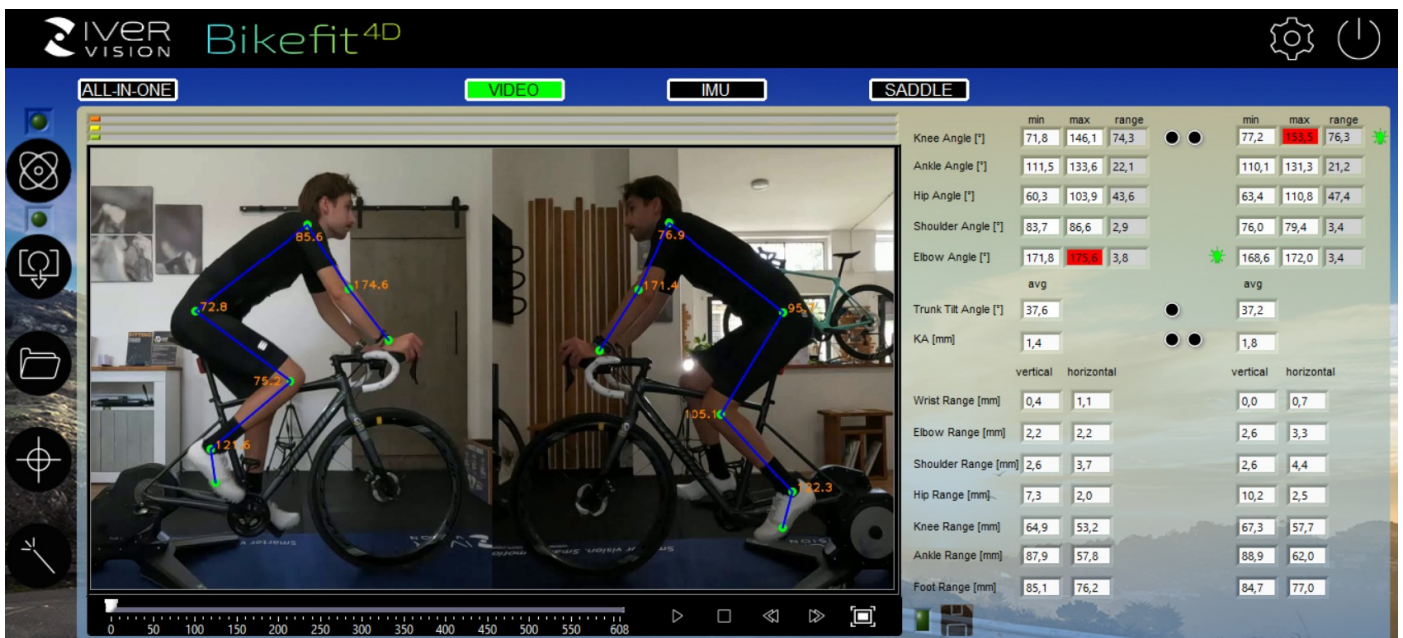
IVER 2D Suite

The *IVER BIKEFIT 2D* suite uses high-definition camera/s to analyze rider biomechanics in two dimensions. Reflective markers placed on key joints are tracked automatically, enabling the software to calculate joint angles, joints displacements and knee advancement. The one-camera version analyses a single lateral plane, providing a cost-effective and portable solution. The two-camera version adds a second lateral camera for simultaneous capture of both sides, allowing you to detect and correct asymmetries.

- High-definition video (Full HD 1920 × 1080)
- Super slow-motion capture up to 120/240 FPS
- Automatic marker tracking with sub-millimetre accuracy
- Measurement of joint angles, joints displacements and knee advancement
- Customisable reports and CSV data export
- Available in <u>one-camera</u> (lateral) and <u>two-camera</u> (dual-lateral) configurations

IVER 4D Suite

The *IVER BIKEFIT 4D* suite combines high-resolution video analysis with inertial measurement units (IMU). A pelvic IMU records obliquity, rotation and tilt at up to 200 Hz while the camera (or cameras) captures Full HD video. The two-camera configuration extends the analysis to both sides of the rider for deeper insight into symmetry and dynamics.

- High-definition video (Full HD 1920 × 1080)
- Super slow-motion capture up to 120/240 FPS
- Automatic marker tracking with sub-millimetre accuracy
- Measurement of joint angles, joint displacements and knee advancement
- Customisable reports and CSV data export
- IMU sampling at up to 200 Hz measuring pelvis obliquity, rotation and tilt
- Synchronous acquisition and unified display of video and IMU data
- Available in <u>one-camera</u> (lateral) and <u>two-camera</u> (dual-lateral) configurations
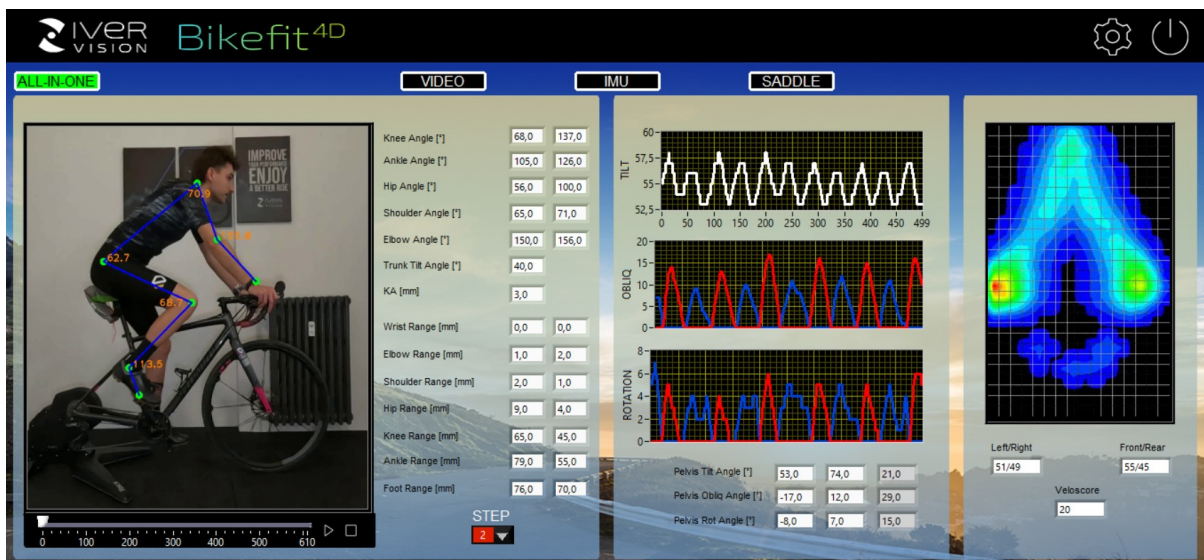
ALL-IN-ONE

One software – Multiple Technologies

The existing standard solutions require the use of separate software tools for video analysis, IMU data and saddle-pressure mapping.

Thanks to the Velometrik SmartCover integration, IVER BIKEFIT 4D is the first system that unifies these three technologies into a single, intuitive platform.
All data streams are captured synchronously and displayed together on the 'ALL-IN-ONE' screen, so you can instantly correlate pelvic motion, joint angles and pressure distribution at every phase of the pedal stroke. No more switching between interfaces: this holistic workflow delivers insights that standalone tools simply can't provide.

Advanced Features

- **Spine Detection:** automatically detects the cyclist's spine and draws a continuous curve from the lumbar region to the head. The overlay makes it easy to spot alignment issues or postural deviations at a glance.

- **Smart Trainer Link:** the software automatically connects via Bluetooth to FTMS-compatible smart trainers, reads cadence and power, and actively changes resistance in real time, allowing you to observe how biomechanical data change under varying resistance loads.