QUALISYS
Motion Capture Systems

Measuring Athletic Performance

Within the area of sports performance, motion capture is used to learn more about injury mechanisms and prevention and how to improve a player's technique for better performance. The Qualisys system will allow your facility to expand understanding of performance, safety, health and long-term well-being that benefits student-athletes.

The unique flexibility and portability of the system makes it easy to set up the equipment and transport it to different arenas or other sporting venues, both indoors and outdoors. Fully objective, quantitative data can be obtained for the calculation of joint angles, acceleration, moments, force, elasticity, deformations, body posture, balance and other parameters.

Motion capture cameras synchronize with the native video camera - the Miqus video, for added visualization and overlay of 3D data. It can be synchronized with other measurement systems such as force plates, EMG accelerometers, eye-tracking devices, among others.

FEATURES

- Reduce operating costs with full body 3D tracking integrated with external systems
- Site license and report sharing makes data available for player/team success
- Daisy-chained system for portability and a clean lab setup
- Indoor and outdoor tracking
- Real-time biofeedback for instant biomechanical coaching adjustments
- Comprehensive web reporting for higher training engagement
- Set clear goals with data-driven measurements
- Athletes benefit from personalized training aids
- 3D video overlay

ATHLETIC PERFORMANCE

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ROBUST AND RELIABLE TRACKING

Motion capture systems for sport analysis need to be fast. Consider clubhead speeds well beyond 100 mph and contact times between golf club and ball of less than 0.5 ms, such as measurements performed at Sanford Sports Science Institute on German golf pro, Bernhard Langer (pictured left). Luckily, Qualisys supplies world's fastest mocap camera, offering frame rates of up to 1400 hz at full field of view.

The Qualisys Track Manager (QTM) software uses a proven and robust inverse kinematics solver that is capable of dealing with occluded markers in challenging, capture spaces. By combining skeleton solving with our Automatic Identification of Markers (AIM), you can capture advanced setups in a simplified work flow. The calibrated skeleton will track and stream even when some markers are unseen. Calculate and plot data in real-time as a biofeedback tool or get advanced reports using our modules.

WEATHERPROOF MOTION CAPTURE

Weatherproof your motion capture experience with active filtering - a software-based feature which minimized intense exposure, and sun filter attachments for outdoor capture. Our weatherproof, IP67 classified hardware provides your space with a permanent outdoor solution with water resistant technology.

For instance, University of Waikato houses New Zealand's cutting edge, sport facility (pictured right) provides a world class environment for the nation's top athletes.


TECHNICAL SPECIFICATIONS

		Arqus A5
Normal mode (full FOV)	Pixels	5 MP
	Resolution	2560 × 1920
	Frame rate	700 fps
High-speed mode (full FOV)	Pixels	1 MP
	Resolution	1280 × 960
	Frame rate	1400 fps
Field of View (FOV)	Standard	56° × 44°
	Wide angle	77° × 62°
	Narrow angle	29° × 22°
Measurement distances with 16 mm markers		25 m
Active filtering (improved outdoor support)		Yes
High-speed video option		Yes
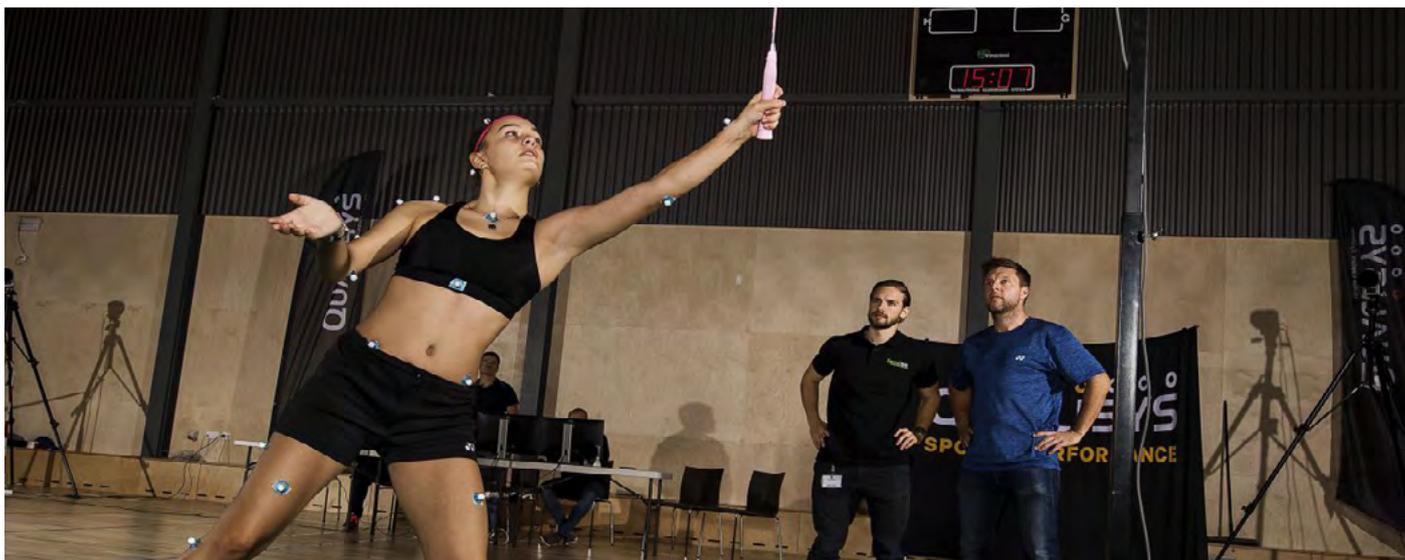
In badminton, as in many other sports, there is focus about understanding minute details of technique and training to improve performance.
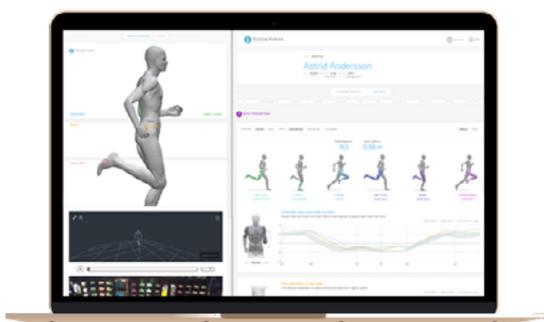
SPORTS MODULES

Analysis modules are developed as a customizable infrastructure that lets you automate repetitive tasks in your work flow. Pre-defined modules exist for a number of applications, such as running, cycling, golf, baseball, and functional assessment.

Interactive web reports provide coachs and athletes with sharable and compresensive content. Create your own analysis module and perform biomechanical calculations using applications such as Matlab or Visual3D.

In a 20' x 20' space, 12 cameras can be used to capture a variety of different full body athletic movements, such as a golf swing, baseball pitch, or cutting and jumping functional movements.
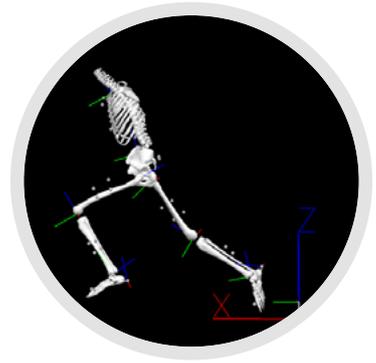
Baseball Analysis

Used for improved treatment techniques to help pitchers return to prior level of competition and beyond.

Cycling Analysis & Fitting

Assess cycling on a trainer, stationary bike, or cycling fitting machinery for objective biomechanical analysis.

Running Kinematics in Soccer

Players in the upper division of the amateur soccer series were recruited for musculoskeletal rehabilitation analysis.

Winter Sports Research

A Winter Olympic training center for winter sports support strong research in sports, performance, and health.

Olympic Training

Top athletes and candidates for the 2014 Olympics, underwent advanced testing for a variety of sports.

Golf Teaching and Research

Penn State University's GTRC provides a unique learning environment for PGA Golf Management program students.

Click the images above to read each customer story. Additional case studies are available at www.qualisys.com/stories

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KU MEDICAL CENTER — The University of Kansas

UNLV

MAVIC

N (Nebraska)

WAKE FOREST UNIVERSITY

PENN STATE 1855

JISS — Japan Institute of Sports Sciences

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Reebok

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new balance

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