ELITE SPORTS MOTION ANALYSIS

CONTEMPLAS VIDEO-BASED SYSTEMS SUPPORT COACHES AND ATHLETES IN TRAINING AND COMPETITION

For more than 17 years, we have been perfecting the movement sequences of top athletes with our video-based analysis systems according to the motto PERFORM. ANALYSIS. IMPROVE.

Yannick Huber, Product Manager CONTEMPLAS

Stijn Corten, Performance Analyst , The National Team of the Flemish Swimming Federation

Whether in the daily training process, in performance diagnostics, for competition monitoring or even in science our products are multi-talented and are used in a wide variety of sports, whether on land or on water. Coaches and athletes benefit from the unlimited flexibility of the systems - from simple video analysis to high-end 3D analysis, everything is possible!

According to Stijn Corten, performance analyst of the national team of the Flemish Swimming Federation, the motion analysis systems offer analysts, coaches and athletes "completely new possibilities for the performance assessment of high-performance athletes and their training control".

VIDEO-BASED ANALYSIS SYSTEMS SUPPORT TRAINING

In daily training, we help coaches and athletes to improve movement techniques and thus increase their performance. By integrating video-based analysis systems into existing training processes, we provide coaches with a wide range of video and movement data to analyze their athletes. From technique analysis to feedback training and supportive movement corrections, our systems allow coaches to communicate clearly - without spending additional time.

All movement data is captured with one or more cameras in real time.

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Large monitors directly next to the field or at the poolside enable the coach to give his athletes immediate feedback and visual correction assistance after the movement has been executed.

For self-directed video feedback training, athletes can start the video recordings themselves by integrating a buzzer and subsequently view their movement sequences in detail from different perspectives and at different playback speeds. Through continuous time reflection, athletes achieve a rapid improvement of the movement. This method therefore also makes it possible to do without a coach, as the athlete can see and assess him/herself.

MORE QUALITY IN PERFORMANCE DIAGNOSTICS

Performance diagnostic tests have become the methodological standard in athletic training in all sports. Established test procedures include standard jumping strength tests such as Drop Jump, Squat Jump and Counter Movement Jump.

In football, renowned top clubs such as FC Bayern München, use our video-based jumping strength measurements by using high-speed cameras and force plates to record objectively comparable performance values for the differentiated recording of high-speed strength behavior.

Coaches and therapists evaluate the quality of the executed movements by using strength curves, angles and synchronous video recordings. An analysis creates an overview, transparency and a basis for decision-making.

MAKE DECISIONS IN COMPETITION

In order to make quick and safe decisions in competition, our TEMPLO® software is used as a referee system, such as at the Taekwondo Championships in Paris, France. Based on high-resolution video images, selected competition scenes are viewed more precisely in slow motion, freeze frame and endless loop from different perspectives synchronously in order to make or revise referee decisions.

3D TECHNOLOGY FOR RESEARCH IN ELITE SPORT

Under the scientific direction of the University of Stuttgart and the Stuttgart Olympic Training Centre, the BMX starting performances and techniques of international top athletes are being studied on Germany's only BMX Supercross track using video-based 3D movement analysis. At the start, in addition to the first pedal stroke, the correct starting and acceleration position is also decisive. The athletes' jumping behavior is recorded in training with several cameras from different perspectives on a supercross ramp. Various kinetic and kinematic parameters are analyzed to optimize the position on the BMX: In the video image, the body position is additionally displayed with a superimposed 3D body model, with which the movement can be mapped in detail and independently of the plane of movement.

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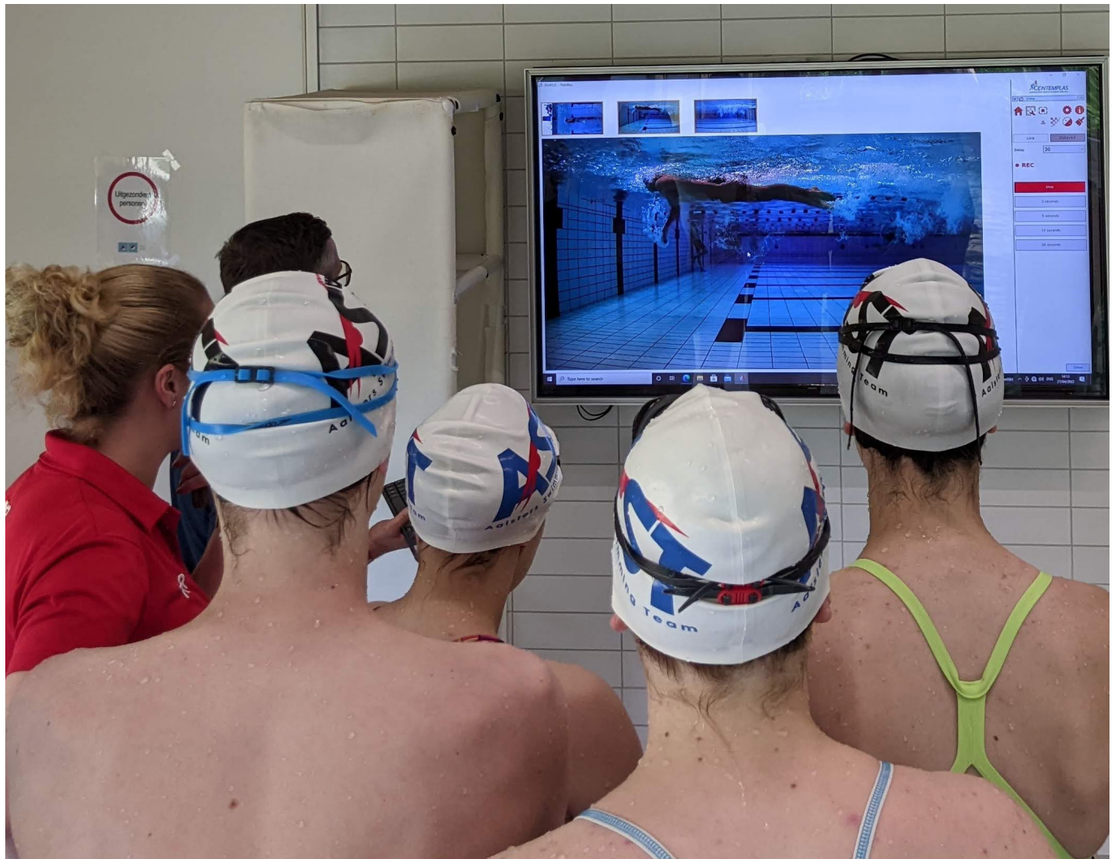
CONTEMPLAS is not only known for its system solutions, but also for its all-round service, which accompanies the customer from the initial idea through planning and implementation to the first analysis.

In this way, numerous projects with renowned customers have been successfully carried out over the past decades.

This also includes the Aquatopia project for professional swimming analyses in Aalst, Belgium.

In the three-year project, CONTEMPLAS already supported the architectural planning and the construction phase of the "analysis pools". A professional aquasport movement analysis system was installed in two swimming pools, which is used intensively by coaches and athletes in Belgium to document training progress and improve performance.