CAPTURE MOTION
GAIN KNOWLEDGE
To truly excel in today’s competitive sports environment, you need access to detailed knowledge of how the human body moves while performing the sport in question. Based on that knowledge, the performance of the individual athlete can be truly understood and optimized. Our sports modules are perfect tools that allow sports researchers to go from data capture to finished report in a matter of minutes.

The foundation of the analysis modules for sports is Qualisys’ leading marker-based motion capture technology. Its unparalleled precision and resolution is the result of 25 years of constant development in close cooperation with the global research and healthcare communities.

Project Automation Framework (PAF) is a fully automated motion-capture system, featuring sports modules for running, cycling, golf and baseball.

The framework uses Oqus or Miqus cameras and automates the process from data collection to the finished report. It allows you to increase your productivity and generate a return on your investment.

AUTOMATION FRAMEWORK
Streamlined tools for sports performance

The sports modules are add-ons to our Qualisys Track Manager (QTM) software and they allow you to streamline your workflow by automating repetitive tasks. Just create a session and perform the measurements you want, using the simple and intuitive graphic interface. Then, once the session is finished, creating a report based on the collected data is simply a matter of clicking a button.

Our sports modules provide optimised marker sets and analysis workflows, catering for the unique reporting demands of each sport.
The sports modules currently available cover running, cycling, golf and baseball, with more modules to follow. Outside the field of sports there are also equine and gait analysis modules.

Researchers with specific requirements also have the option of developing custom modules for their specific requirements.
Running modules

**Running analysis** has a long history at Qualisys. Since 2012, our running module has been proven both in research, performance optimization as well as in commercial use all over the world. Our systems are equally at home in academic research labs, as they are in running stores and athletic centers. With the Running module, a recognised scientific method is made available to you in an efficient and easy-to-use manner.

The module is available in two versions: One version measures lower-body movement and requires a minimum of five cameras tracking 22 markers. The other version measures full body performance utilizing eight or more cameras and a full-body marker set.

The workflow is easy and seamless. A guide helps you to correctly place markers and you use a dedicated control panel in QTM to record your data. The resultant report displays a range of relevant parameters, such as pelvic rotation, knee angle and more.

**FEATURES**
- Proven track record
- Full 3D movement tracking
- Lower and full-body version
- Scalable setup
- Web based booking and web reports
Cycling module

This module is designed to develop a deep understanding of the biomechanics of the rider’s movements to a sport that has traditionally focused on the mechanics and performance of the bike itself.

In fact, the cycling module combines the two approaches: How? The cameras accurately track the movement of markers on both the bike and the cyclist, providing both a biomechanical assessment of the cyclist, as well as detailed data on how the rider and bike move as a unit. Adjustments made to the bike are then recorded, making performance comparisons easy.

The module measures bi-lateral movement using six or more cameras including lower body, lower body plus trunk as well as full-body analysis are supported.

Also setting up the session is easy and a full report is just a click away. The report can also feature relevant additional information, like the make and model of bike. It also displays a 3D - 360° view, viewable from any angle, as well as information on the minute details of the rider’s movements. Each report may contain up to four different setup conditions, i.e. different loads, body positions etc.

FEATURES

- Full 3D movement tracking
- Lower body, trunk and full-body tracking
- Accurate measurements of bike dimensions
- Up to four conditions per report
Golf modules

The complexity and sheer speed of the movements that make up a golf swing means that it can only be accurately measured and analyzed with high-resolution 3D, motion capture technology. Qualisys is the leader in this field.

In the golf module, we have packaged our mocap technology into a single comprehensive, easy-to-use solution. Several years of continuous development in cooperation with some of the foremost golf research labs in the world ensures that it offers true state-of-the-art performance.

Available in three versions, the module is designed to be an off-the-shelf analysis tool with little or no customization required. It’s capable of providing useful information even using even a partial marker set if time is limited.

Flexible recording, including using sound triggers, ensures that the system captures all the relevant data. Moreover with the performance version of the module, force plates may be used to capture ground reaction forces and measure centre of pressure. A single click then generates a report including relevant parameters, such as stance metrics, swing plane and kinematic sequence.

FEATURES
- Covers all relevant biomechanical parameters
- Full or reduced marker set options
- Force plate integration available
- Filters adapted for golf
- Putting-only version available
Baseball modules

A baseball pitch is a fast and complex action, where small nuances make all the difference to performance. It’s also a high-stress movement, where the risk of injury is always present. The baseball modules allows you to analyze pitches in uncompromising detail, using Qualisys’ state-of-the-art mocap technology.

The body model has been specially adapted to capture every minute detail of the pitching motion, tracking all relevant full-body biomechanics. The output data includes not only performance indicators, but also identifies injury risks.

As with all analysis modules, setting up and conducting a session is very stright-forward. The system automatically identifies all pitch events and performs the biomechanical calculations. A single click then generates a report containing information on variables such as stride length, shoulder rotation in different planes, shoulder angular velocities and much more. It also includes 3D model snapshots of each key event.

FEATURES

- Tracks all relevant biomechanics
- Full-body analysis
- Body model customised for pitching
- Right- and left-handed options