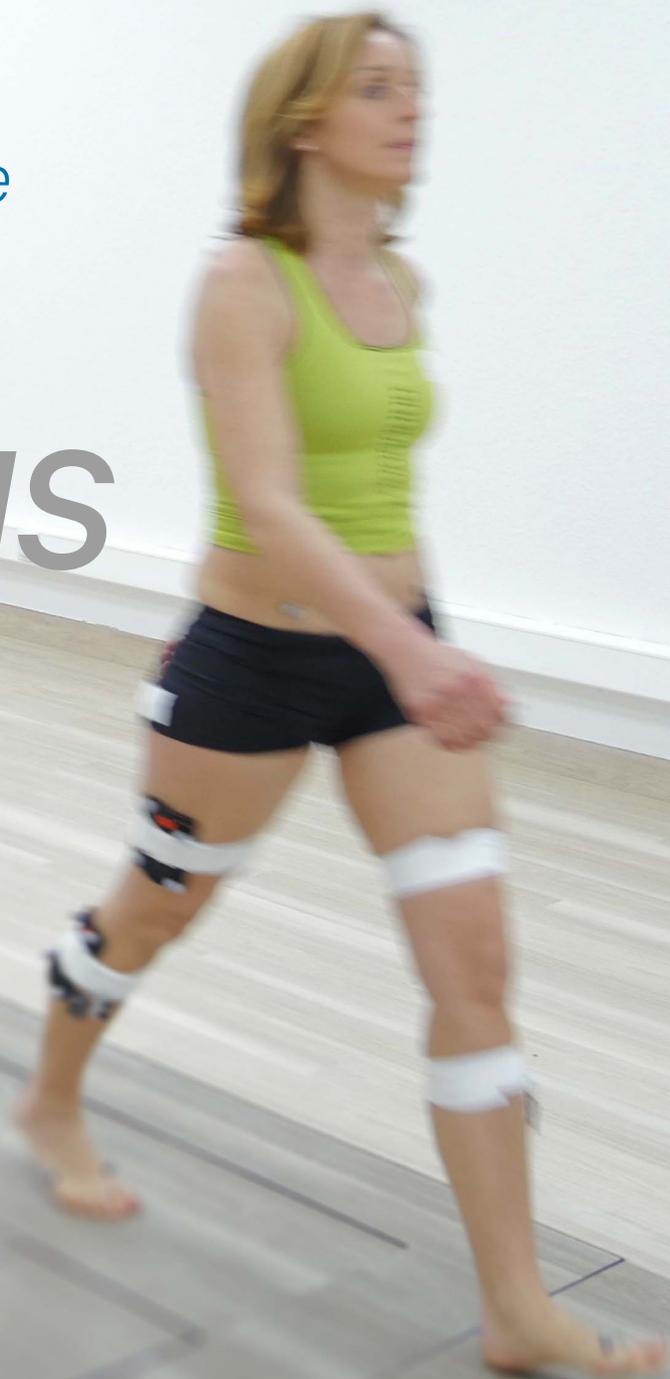


Objective and effective

GAIT ANALYSIS



GAIT ANALYSIS –AN OBJECTIVE METHOD FOR THE ANALYSIS OF HUMAN WALKING

Instrumented gait analysis is an objective method to assess and study human gait. Gait analysis has been found to be an efficient clinical tool used in the diagnostics and treatment of pathological gait [1]. It provides an objective and quantifiable assessment before and after treatments that aim to improve a patient's gait ability^[2].

The biomechanical and neurological aspects of human gait are still not fully understood, therefore gait research is another important area where instrumented gait analysis is used.

Qualisys offers solutions tailored to be used routinely as a clinical tool, as well as solutions for gait research.

THE QUALISYS MOTION CAPTURE SYSTEM

Our motion capture cameras are the core of our line of products, developed and produced in Sweden for more than 30 years. Combined with specialized software modules, the system offers a complete gait solution that can be used for clinical investigations and research studies, from data capture to analysis and report as well as rehabilitation and recovery assessments.

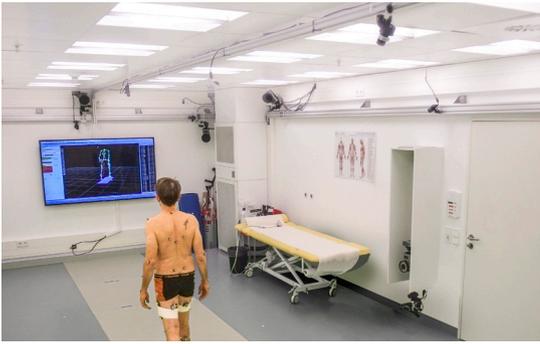


FEATURES

- Scalable solution from 8 to 12+ cameras
- Work flow optimized for seamless preparation, recording and gait report generation
- Synchronized recording of 3D data, video, ground reaction forces and EMG¹
- Supports overlay of video and force/marker data
- Solutions for academic and clinical purposes
- Ready-to-use reports in Microsoft Word and HTML (browser)
- Several biomechanical models implemented
- Markerless option using Theia Markerless software



¹ Visit www.qualisys.com/integrations for all compatible external hardware



Contact Qualisys or your local distributor for planning advice for your lab.



Video overlay helps visualizing the position and direction of the ground reaction force vector.

GAIT ANALYSIS WORK FLOW

Whether you are working a standard work flow or custom project the Qualisys Gait Modules guide you through all steps from preparation to data processing. Alternatively, research users can easily define their own marker sets and protocols.

BIOMECHANICAL MODEL

In a gait lab, it is critical to maintain repeatable procedures while being flexible enough to cater the needs of all your clients. This is why our software works seamlessly with Visual3D by C-Motion, a software being used in hundreds of biomechanics labs worldwide. Alternatively, use pyCGM2, an open-source tool for gait analysis that is also fully embedded into the Qualisys Gait Modules.

MONITORING CLIENTS

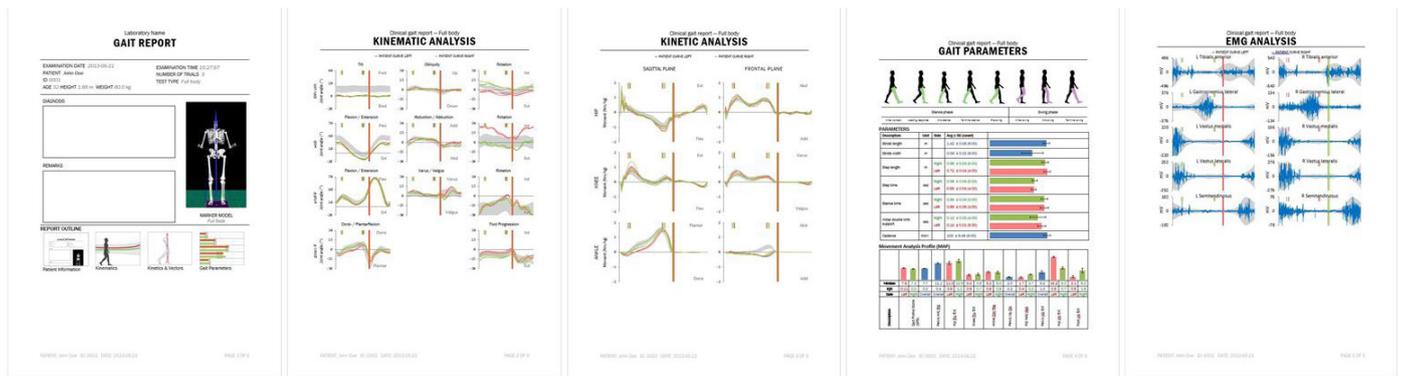
Gait analysis is used in diagnosis and for pre-/post treatment assessments in conditions such as cerebral palsy, stroke, traumatic injuries, spina bifida and Parkinson's disease.

INTEGRATIONS

Force and EMG data can be recorded and processed together with the motion capture data, and all results can be included within a single report. For compatible external hardware see qualisys.com/integrations.

REPORT AND FEEDBACK

All Gait Modules come with comprehensive reports. For academic applications, you may opt to set up a custom report for your project. Report templates include joint angles, moments and power as well as other gait parameters such as speed, stride length, cadence and timing information. Alternatively, you can set up the system to provide visual biofeedback in real-time.



Word report example



AVAILABLE SOLUTIONS

Qualisys offers gait solutions for research and clinical applications. If you are measuring on patients for the purpose of diagnosis, treatment assessments, or monitoring, the Clinical Gait Module is the right choice. If you are a research user, the other modules presented below are most suitable.

Area	PAF module	Class 1m CE marking	Compatible external hardware	Included markersets	Processing	Report
Clinical	Clinical Gait Module	Yes	Selected hardware only	CAST, IOR, CGM, CGM2, Markerless ²	Visual3D, CGM2	Visual3D, HTML, Word
Research	Gait Module	No	Any hardware ¹	CAST, IOR, CGM, CGM2, Markerless ²	Visual3D, CGM2	Visual3D, HTML, Word
	PAF open license	No	Any hardware ¹	User-defined	Visual3D, MATLAB, custom software	User-defined

¹ Any hardware compatible with our cameras & QTM

² Requires Theia Markerless software and suitable cameras.

REFERENCES

[1] Wren et al. (2011): Efficacy of clinical gait analysis: A systematic review. *Gait & Posture* 34, 149-153.

[2] Thelgis et al. (2010): The Use of Gait Analysis in the Treatment of Pediatric Foot and Ankle Disorders. *Foot and Ankle Clinics* 15, 365-382.

FURTHER INFORMATION

Clinical gait:

www.qualisys.com/applications/clinical-gait/

Gait research:

www.qualisys.com/applications/gait-rehab/