QUALISYS
Motion Capture Systems

Science in motion

Everything moves

However, the movements of humans and the technology we use are often too quick and complex to be easily detected and understood with the eye of simple/basic technology.

Qualisys provides tools that reveal the secrets of motion in minute detail. The resulting data can be analysed and used by professionals in research, healthcare, sports, engineering and other fields. The end result is deeper knowledge, improved quality of life, better performance, higher profits or more efficient technology, depending on the application.

Our core technology is marker-based motion capture, a method of recording fast and subtle motion with high accuracy. It utilises specialised cameras that record the three-dimensional movements of optical markers placed on the person, animal or machine being analysed. The data is then processed to provide the results, analysis and information display required by the user.

Since our technology can provide objective information about anything that moves, it's constantly finding new uses. We're continuously developing specialized products and systems for new customers and business segments.

Qualisys is driven by innovation. Since we began creating our core technology in 1989, we've consistently worked to achieve new levels of excellence, while working closely with global academia and other professionals. This ensures that our innovations translate into useful tools, able to solve real-world problems. Initially focused on per-client custom solutions, we're increasingly offering scalable off-the-shelf systems for specific uses.

As a global company, Qualisys has its Headquarters in Gothenburg, Sweden with additional offices in the USA and Asia overseeing a network of global distribution partners.
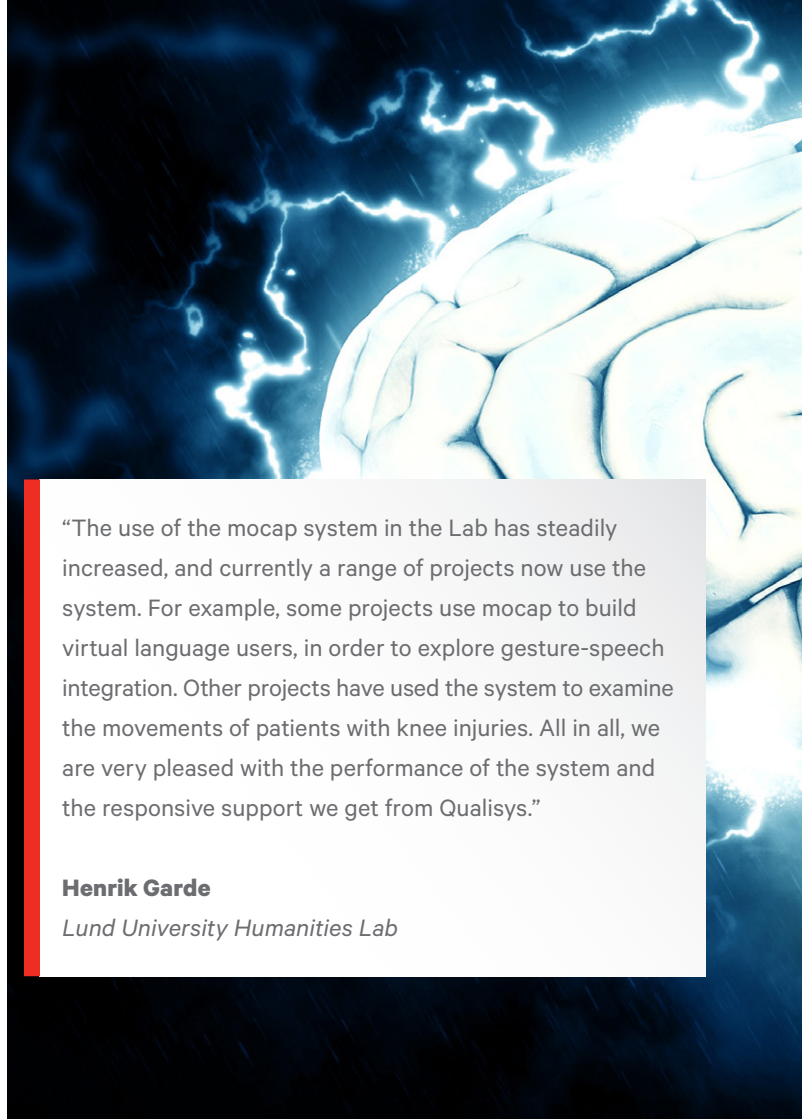
PSYCHOLOGY & NEUROLOGY

Whatever your project – Qualisys provides the tools that are needed to quantify motion in psychology studies. The core of our technology consists of motion capture cameras and tracking software.

Use a stand-alone system for marker tracking, or extend with analog, EMG or eye-tracking integrations. Export data into common file formats such as C3D, Matlab or plain text files. You can also stream data in real-time into other applications.

www.qualisys.com/applications/medical/psychology

"The use of the mocap system in the Lab has steadily increased, and currently a range of projects now use the system. For example, some projects use mocap to build virtual language users, in order to explore gesture-speech integration. Other projects have used the system to examine the movements of patients with knee injuries. All in all, we are very pleased with the performance of the system and the responsive support we get from Qualisys."

Henrik Garde
Lund University Humanities Lab

MRI

Qualisys motion capture systems can be used inside an MRI scanner room. Equipment used with an MRI scanner must not cause any electromagnetic interference that can affect MRI image quality.

The Qualisys MRI camera is completely shielded with a Faraday cage and utilises specialised shielded cables. The equipment does not emit noise that can interfere with the scanner. The system can also be synchronised to other MRI-compatible equipment such as eye-trackers or EMG-systems. In addition to motion capture inside the MRI room, the system is also capable of providing streamed color HD video and video with 3D data overlaid. The video system alone is useful for monitoring patients from one or several angles during the scan.

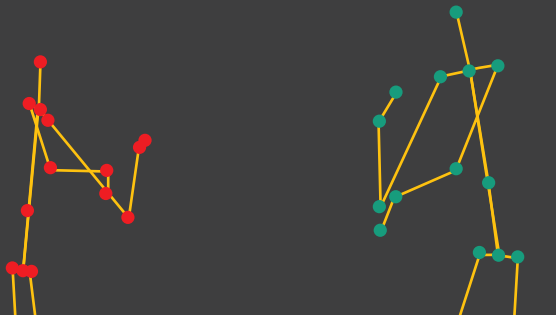**www.qualisys.com/applications/medical/mri**

SOUND AND MOTION

Create original sound from motion, invent new musical instruments and discover how sound and music influence the human body. Qualisys motion capture systems provide a full integration of sound and motion for a wide range of applications.

We offer motion capture technology for researchers in high-end sound applications where sound and kinematics can be synchronized. The technology is based on the QTM software and our mocap cameras with integrated support for Open Sound Control, a protocol commonly used to communicate with multimedia devices.

www.qualisys.com/applications/medical/sound-motion

"We have been investigating how people spontaneously react to and engage with music when they are asked to listen and move. We have learned that they not only embody various features of the music and musical structure itself, but that factors such as emotions, mood, and personality play a role in shaping people's movements to music. Furthermore, synchronization – or beat attuning – abilities differ among people.

Recently, we have started to explore how people may entrain their movements to each other while dancing to different types of music. We will look at the effects of shared musical preferences, musical genre, personality, and trait empathy on these interactions.

Birgitta Burger
Finnish Centre for Interdisciplinary Music Research

VIRTUAL REALITY

Qualisys delivers one of the world's most accurate and easy to use VR tracking systems, with extremely low latency and the smoothest tracking on the market, as well as the most intuitive software.
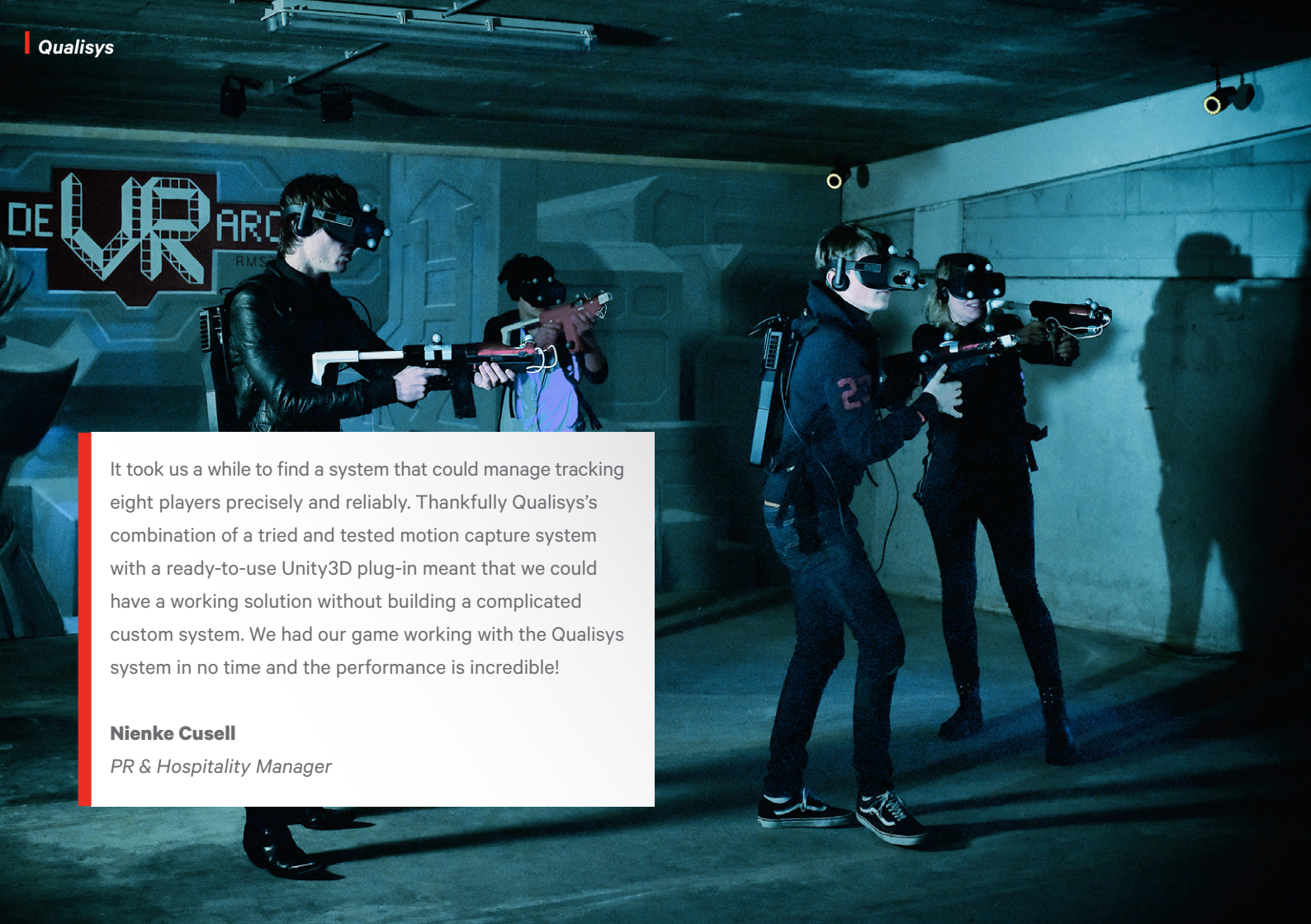
Through our tried and tested motion capture system that seamlessly integrates with Unity and other frameworks, we offer a plug-and-play VR solution that does not require complicated customisations, suitable for any head mounted display or cave environments.

Unlimited possibilities in object tracking!
Track any object, with passive or active markers. We offer the only system on the market that can track both passive and active markers with the same system. Our system can track multiple headsets, controllers, weapons, or scene elements precisely and reliably, without drift or latency. A few headsets in a small room, or a dozen gamers battling out in a large VR arcade – we are the right choice.

www.qualisys.com/applications/engineering/virtual-reality

It took us a while to find a system that could manage tracking eight players precisely and reliably. Thankfully Qualisys's combination of a tried and tested motion capture system with a ready-to-use Unity3D plug-in meant that we could have a working solution without building a complicated custom system. We had our game working with the Qualisys system in no time and the performance is incredible!

Nienke Cusell
PR & Hospitality Manager

QUALISYS
Motion Capture Systems

Capturing motion everywhere, for example at these fine companies & universities

SALMING. running analysis — RunLAB POWERED BY QUALISYS

swissbiomechanics

salomon

SKYROS

VCU

Reebok

NTNU

N

University of the Sunshine Coast

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