

quote request

To request a quote for a **MOTEK Medical** solution configured to your needs, please complete the web form at our site:

www.motekmedical.com/cf.html

the company

MOTEK Medical - founded in 1998 in the Netherlands - offers revolutionary technology for the healthcare sector. By means of unique software, **MOTEK Medical** integrates both existing and new technologies into research and medical solutions for a.o. orthopedic, neurological and rehabilitation use.

our clients

Our clients are hospitals, medical centers, research facilities and universities.

some references

- Brooke Army Medical Center
San Antonio, Texas, USA
- Military Rehabilitation Center
Doorn, The Netherlands
- SHEBA Medical Center
Tel Aviv, Israel
- John Moores University
Liverpool, UK
- McGill University
Montreal, Canada

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CAREN Software

Real Time Hardware Integration, Virtual Reality and Control

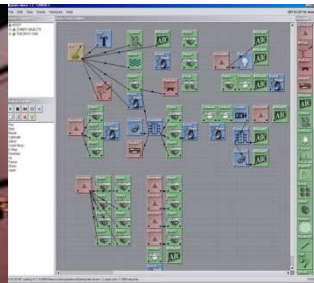
The CAREN® Software suite integrates real-time data streams between many types of hardware devices and combines it with Virtual Reality. The modular setup of the CAREN® Software allows easy integration, making your complete system act as a single and easy to use system.

benefits

- **Hardware configurations are adapted to customers needs**
The CAREN Software is flexible in hardware control, therefore systems can be configured to the customers specific needs.
- **System can remain up to date**
Due to the modular setup, additional hardware devices can be added in the future easily .
- **Short application development time**
Due to the intuitive user interface anyone can integrate hardware and define their Virtual Reality applications without programming.
- **Exchangeability**
Applications made in CAREN Software can easily be exchanged with other CAREN users.
- **Using real-time feedback**
The CAREN Software makes all integrated hardware devices act together in real-time, allowing direct feedback applications.

applications

- **Rehabilitation**
CAREN Software is compatible with typical balance and locomotion hardware and makes it easy to develop and run applications for rehabilitation exercises and measurements. Both in and outside the gait lab.
- **Research**
Due to the unique integration of many different hardware types in combination with the user friendly controlling interface, CAREN Software allows the development of advanced research programs within a very short time.
- **Training**
CAREN Software allows easy adaption to subjects and situations. In combination with the repeatability of the situations and the direct feedback to trainer and subject it enables targeted training in both sports and rehabilitation.
- **Simulations**
The unique real-time hardware integration combined with Virtual Reality creates a mixed reality environment that enables a wide range of simulation options.
- **Virtual Reality applications**
The compatibility with many 3D programs, the real-time feedback loop and the user friendly application editor makes the CAREN Software remarkably suitable for Virtual Reality applications.



compatible

MOTEK Medical offers CAREN® Software, making it possible to configure and integrate various devices to client specific needs.

easy to use

The CAREN® Software graphical user interface allows system operation and application development with limited technical skills.

customized

MOTEK Medical integrates many different hardware components and virtual reality in real time, to suit the client's needs as close as possible.

MOTEK Medical products

Based on CAREN® Software

CAREN system

Integrated reality system allowing enhanced research and rehabilitation for human balance and locomotion.

V-Gait system

Interactive instrumented treadmill for gait research and rehabilitation.

Human Body Model

Real-time software module for biomechanical analysis of human movement.

Mobility center of the future

All future techniques for improving balance and locomotion under one roof, where research and clinical use complement each other.

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product

The CAREN Software suite integrates real-time data streams between many types of hardware devices in combination with Virtual Reality.

In addition to its unique capabilities to merge various hardware components into one device, the software also provides the ability to integrate real-time Virtual Reality.

The set-up of the software allows numerous configurations starting with single channel flat screen projection up to multi-channel (stereo) cylindrical and dome projections.

Hardware that is typically integrated and controlled using the CAREN Software:

- motion capture systems
- motion platforms
- visual projection systems, from flat screen to multi-channel dome projection
- data gloves
- instrumented treadmills
- force plates
- EMG devices

In addition, the intuitive interface of the software allows novices to integrate hardware and define their Virtual Reality applications without requiring programming skills. The short application development time enables researchers and clinicians to quickly setup and adjust their applications. This enables them to focus on their own expertise and - when desired - to work in an iterative way.

The CAREN Software is designed in such a way that an operator has full control of the data coming from the devices as well as the signals going to the devices.

configurations

CAREN software is available as stand-alone package for custom integration of hardware and virtual reality, as well as part of complete research, rehabilitation and training systems.

The most common Motek Medical configurations based on CAREN software are:

- CAREN Extended system

Mixed reality system focused on human balance, movement and motor learning. Includes a 6 DOF motion platform, 3D instrumented treadmill, optical motion capture and 180° cylindrical screen visual projection.

- CAREN Base system

Mixed reality system focused on human balance and motor learning. Includes a 6 DOF motion platform, 3D force plates, optical motion capture and large flat screen (stereo) projection.

- CAREN High-end system

Fully immersive mixed reality system focused on human balance, movement and motor learning. Includes a 6 DOF motion platform, 3D instrumented treadmill, optical motion capture and 300° dome surround projection.

- V-Gait system

Mixed reality system focused on human gait and motor learning. Includes 3D instrumented treadmill, up to 3 DOF motion frame, optical motion capture and flat screen projection.