BIOMECHANICS

BACKGROUND

Biomechanics is the application of mechanical principles on living organisms. Examples of biomechanics research include gait analysis, sports science, aerodynamics of birds, insect flight and hydrodynamics of swimming in fish. In sport science, it applies the laws of mechanics and physics to human performance, in order to gain a greater understanding of performance in athletic events through modeling, simulation, and measurement.

SOLUTION

TEMA Motion+3D and a set of cameras makes a powerful and highly cost-effective biomechanical 3D measurement system, suitable for applications like human motion analysis, etc. The cameras are set to capture synchronized images from different angles, and TEMA is used to perform the full 3D analysis based on the images.

For the highest degree of automation and accuracy the test subject should be equipped with markers. However, a major benefit of TEMA is that it also can handle test subjects without markers, making it robust and suitable for a wider range of applications.

All the results are automatically synchronized with the images. It is also possible to import external data from EMG-sensors, force plates, etc, using the data import option, and have it synchronized for a multisensor analysis.

DATA PRESENTATION

The acquired data can be exported to an image sequence, as well as tables and graphs of all kinds, for easy-to-use presentation possibilities. It can also be exported to a wide range of data formats for post-analysis.
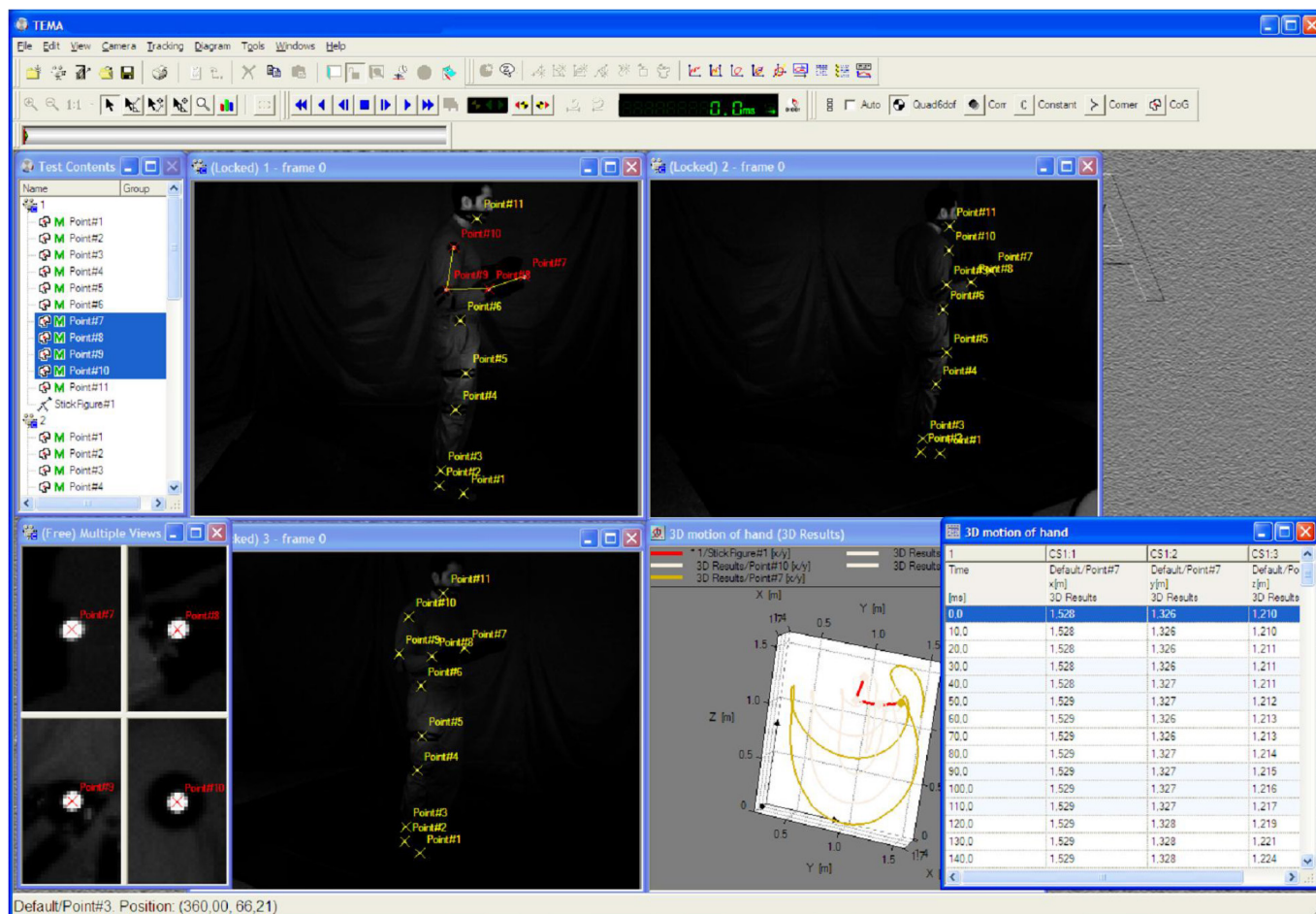
CONFIGURATION NEEDED

VERSION

- TEMA Motion 2D

OPTIONS

- 3D
- Data import
- Stick figures