

Medical Fact Sheet

GOM's 3D coordinate and deformation measurement systems are widely used in medical applications. They are used not only in research laboratories but also to guarantee smooth dental treatment and provide evidence in forensic pathology and crime scene investigations.

Scan-Xpress offers its sales and service experience and support in the biomechanics, forensics and dental sectors.

- **Biomechanics**

Strain Measurement on Soft Tissue

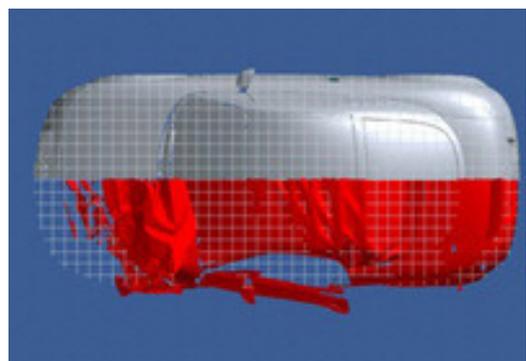
Biomechanics place huge challenges on existing measurement technologies for determining the mechanical properties of these materials, as well as just measuring the full-field displacement and strain of these materials. GOM's advanced full-field imaging method using 3D image correlation photogrammetry is being used for measuring the tremendous variations in real biological mechanical systems such as bones, tendons, ligaments, and even tissues such as blood vessels. This measurement method has far greater dynamic range than other full-field imaging technologies, making these measurements possible.



- **Forensics**

Securing Evidence

Whenever a crime has been committed or an accident occurs, the first priority is to collect as much evidence as possible. The circumstantial evidence is documented scientifically so that it can be used to reconstruct, analyse and evaluate the crime or a sequence of events for judicial purposes. GOM's ATOS 3D digitizer precisely records the actual size and shape of persons or



objects and, at the same time, detects deformations of any kind. It then visualizes analyses and documents the results. In addition to the precise 3D image, ATOS also records high-resolution colour textures. The technology from GOM can help investigators determine what kind of weapon was used in a crime, how injuries were caused, what shoe matches footprints at the scene, or how specific damage was caused in an accident.

- **Dental**

- **Orthodontics**

Dense and precise 3D scan data from GOM's ATOS 3D digitizer provide the perfect database for planning successful orthodontic treatment. Dental braces can be designed with a perfect fit, and the progress of treatment can be measured objectively. ATOS scan data is precise and can be down streamed accurately to enable smooth and seamless integration in CAD software packages and rapid prototyping processes.



- **Implants**

GOM's ATOS 3D digitizing system provides sound and reliable input when it comes to scanning plaster models for dental CAD/CAM process chains. In addition to scanning dental casts in 3D, GOM software can be used to calculate alignments, measurements and comparisons of shapes and dimensions for dental implants. CAD operations are designed on the basis of high-quality data, so that the implants themselves can be machined and set up with the necessary precision.

