

bodySCAN DIGITIZATION OF THE HUMAN BODY

Fast and accurate digitization

The bodySCAN system is the consequential enhancements of our in-vivo metrology series. Based on our long lasting experience in the area of skin and face measurements, we developed a system for the fast digitization of the whole human body.

The interaction between our patented projection technology and an especially designed electronics, enables the system to finish the whole scan procedure in less than 2.5 seconds. In this way the test person can be scanned in a natural and relaxed posture.

The bodySCAN sensor system consists of four measurement pillars, each equipped with a projector and two digital cameras. The eight datasets which are captured within each scan, are processed and finally combined with the powerful OPTOCAT software.

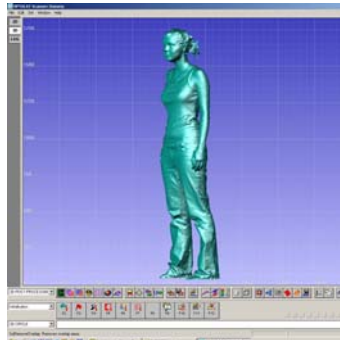
Application areas

The ability to capture the complete geometry of the body, even in dynamic positions, creates manifold possibilities of using the data:

- Tailor-made clothes for extreme sports
- Computer animation and computer games
- Gifts and souvenirs, such as sculptures or sub-surface engraving
- Medical technology and prosthetics
- Individually fitted seats, in car manufacturing and aircraft construction
- Fashion and design, mass customization



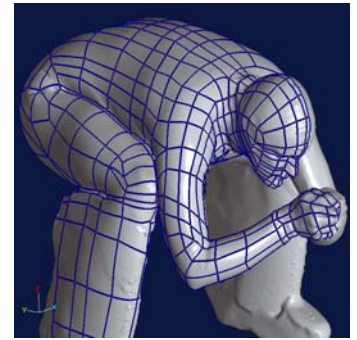
Data acquisition



STL data



Data acquisition



Speed-Ski, Wireframe

Performance features of the bodySCAN systems

- Sequence of digitization is completed in 2.5 seconds
- High resolution due to eight single scans
- Automatic creation of the common dataset due to the fine-alignment functionality in the OPTOCAT software
- Easy-to-use graphical user interface
- Data export in several formats: ASCII, BRE, STL

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Technical Data

Sensor:

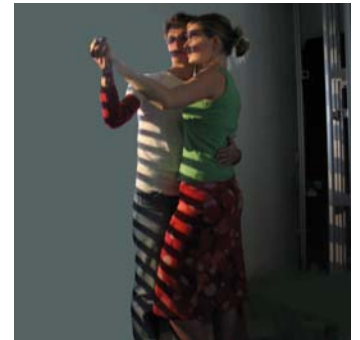
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Projection unit	Miniaturized projection technique
Light source	100 W halogen
Data acquisition	2 FireWire® digital cameras per pillar
Digitizing	1392 x 1040 pixels
Acquisition time	5,5 seconds
Measurement volume	approx. 1200 x 800 x 2000 mm (B x T x H)
Lateral resolution	1,4 mm / pixel
Feature accuracy	+/- 250µm
Floorspace	2 x 3 m

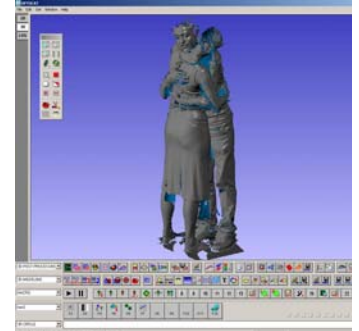
Image processing

Host PC	Core™2 Duo, with at least 2 GHz, 2GB RAM, 60 GB hard disk, IEEE-1394-Interface (FireWire®)
Operating system	Windows XP
Measurement software	OPTOCAT for Windows Modus bodySCAN
Data interface	Several formats for point clouds and triangular meshes

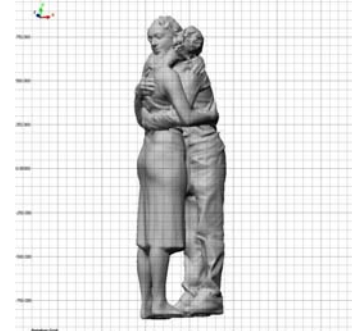
All sensors of the bodySCAN systems use our proven miniaturized projection technique. This allows a very fast recording of the measured data in only 2.5 seconds. Our bodySCAN systems are therefore largely insensitive to slight movements of the test person. This enables a natural and relaxed scanning procedure.



Imaging



Calculation of 3D data



3D Modelling



data for sub-surface engraving in glass

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