

# gscan

## Optical 3D measuring system for scanning of face and human body

### Conceptual design

- Fast and automated non-contact recording of shape and colour
- Designed for digitizing all parts of the human body, especially face and breast
- MULTView technology by a 5-camera system enables complete measuring results without use of reference markers or matching procedures
- Rotating central mirror for fast switching between five available directions of illumination
- Adaptation of sensor head position to the situation of the particular patient
- Easily to taken apart and transportable, e.g. with estate car
- Very robust against environmental influences (long term shifts) because of self-calibration

### Fields of application

#### Medicine

- Reverse Engineering for manufacturing of prosthesis and implants for plastic surgical reconstruction
- CAD/CAM of face models for making of facial- and breathing masks
- Functional analysis in oral and maxillofacial surgery
- Documentation of surgery and aetiopathology
- Combination of surface and CT data

#### 3D-visualization and virtual reality

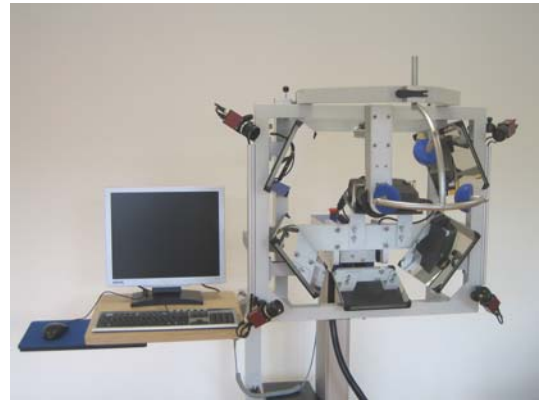
### Measuring principle

- Triangulation with the help of digital fringe projection in combination with photogrammetric methods  
→ Phasogrammetry

### Technical parameter

- Measurement volume:  $\varnothing$  400 mm, depth 300mm
- Data record: <1sec/scan (5s by 5 views)
- Complete measuring time up to 3D-point cloud: 15 sec.
- Measuring uncertainty  $\sigma$ :  $\leq 70 \mu\text{m}$
- Number of views: 5
- Required space: 2.0 x 1.5 m<sup>2</sup>

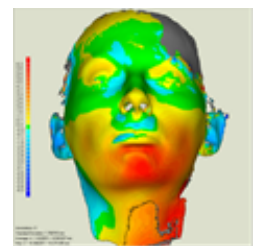
### Competence in optical measuring technology



3D shape and colour scanner gscan



Fringe pattern on face contours



Coloured surface of a face scan, morphing analysis



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