

## triTOS THE 3<sup>rd</sup> DIMENSION IN ART AND CULTURAL HERITAGE

Optical measurement techniques for precise 3-dimensional digitization of objects have been successfully used in almost all technical areas for 15 years. Based on our know-how in these HighEnd applications we have developed a system, which is designed for the special requirements in art and cultural heritage.

### application areas

Fast, reliable, easy to use, with high resolution and in colour, digitization and 3-dimensional visualization of objects for

- ❑ documentation and archiving
- ❑ reconstruction and restoration
- ❑ art and cultural heritage, preservation of historical monuments, archaeology

### high accuracy

- ❑ a color digital camera with 1384 x 1036 pixel and digital zoom guarantees highest resolution and accuracy
- ❑ the system is available as mono or stereo system

### fast

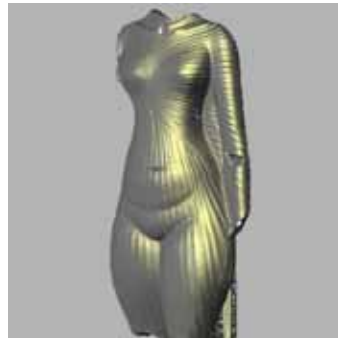
- ❑ the patented MPT-projection unit allows an extremely fast data acquisition of just about 1 sec. per view

### easy to use

- ❑ the reduced operating distance and small sensor sizes allow data acquisition even at complex objects



„The Thinking Man“ (Auguste Rodin)



Nofretete



Golden Madonna (Domschatz Essen)



Cathedral Entry (Salzburg, Austria)

### flexible

The triTOS system with its low sensor weight convinces by flexibility and modularity.

- ❑ based on the basic components of the system, measuring areas between 90 mm and 600 mm image diagonal can be realised
- ❑ the re-calibration of the sensor after changing the measurement range can be executed simply within a matter of minutes
- ❑ pre-treatment of the object surface is not necessary, especially no index marks must be applied
- ❑ the coarse alignment of the single views is realised interactively by means of the object geometry; the precise alignment is realised by an automatic best fit approach
- ❑ data output in several formats for point clouds and triangular meshes

## triTOS THE 3<sup>rd</sup> DIMENSION IN ART AND CULTURAL HERITAGE

Our 3D-digitisation system triTOS consists of the 3D sensor (MPT projector, high resolution digital camera and control unit) and a PC or laptop.

The system takes advantage of one or two high resolution color digital cameras which are directly connected with the host computer via IEEE-1394-interface (FireWire®). This allows the use of any arbitrary PC - especially a laptop.

The new control unit of the sensor may be driven independently from the main power supply system; thus the complete system is suited for mobile application.

### Technical data

#### Image Processing

Host computer	Core™2 Duo, ≥ 2 GHz, ≥ 2 GB RAM, ≥ 60 GB, Open-GL-Graphic adapter
Image data interface.....	IEEE 1394 (FireWire®)
Operating system.....	Windows XP
Measurement software .....	OPTOCAT for Windows with object orientated matching
Data interface.....	ASCII, DXF, STL*, VRML*, PLY*

\* detailed specification on inquiry

#### Sensor

Principle of operation .....	Miniaturised Projection Technique
Light source .....	100 W halogen
Sensor weight .....	1.5 - 2.5 kg
Camera .....	High resolution digital
Digitisation .....	1384 x 1036 pixel
Operating distance .....	from approx. 300 mm
Min. depth resolution .....	from 10 µm
Acquisition time .....	< 1 s

#### Standard Measuring Fields

We offer the following standard measuring fields:

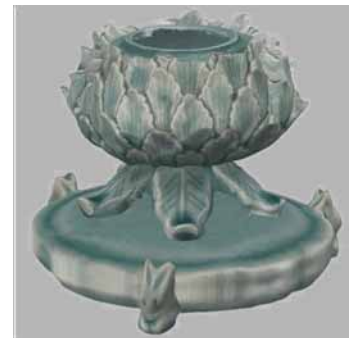
standard measuring fields: ..... 90 mm to 600 mm image diagonal  
 measuring fields for large objects: ... on inquiry

#### Options

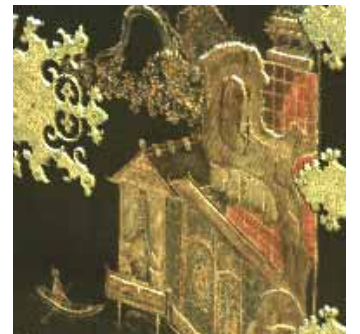
Host computer .....	notebook or laptop
Software .....	different function groups, e. g. matching on index marks, basic editing functions etc.
Tripods .....	different variations available
Special transport boxes .....	on inquiry



Stone of Rosetta (Brit. Museum London)



Burner (National Museum of Korea)



Cupboard (Nat. Museum Copenhagen)



Denture UR501 (Senckenberg-Institute)

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