



# 3D DIGITIZATION

## OUR PROPOSAL

**Alsace metrology** offers different services in our laboratory or on-site, concerning 3D Digitization of mechanical parts. Using optical methods or others 'without contact' technologies, we may digitize complex or miniaturized products.

Others optical means are available to analyse vibration behaviours of a body, to measure displacements on a surface, to acquire the displacements of a part submitted to a dynamic strain (tracking).

We can also develop systems for end-line control (serial control in production). We can compare different methods or technologies to define the most convenient one for your application.

## TECHNICAL MEANS

We make use of :

- Structured light system
- HOLOMAP® for reflexive objects
- 3D system for body's measurements
- Romer 3D Measuring Arm with laser head
- Interference Microscope VEECO
- Laser Tracker FARO
- Confocal profilometer ALTIMET
- X ray Tomoscope HV500 WERTH

## APPLICATIONS

- Quick controls for complex geometries : 3D digitization of every part, comparison with a reference product, or a CAD file...
- Reverse engineering : study of competitors products, construction of a CAD file of a part based on its actual geometry ...
- Production : ageing of a production tool (mould, ...), end line controls, process validation, ...
- Expertise on defective parts – Thickness – Bubble in a plastic injected piece.
- Microelectronic : components characteristics, showing up production defects
- Human bodies digitization : clothes, biometric recognition...
- Art : ageing, preservation of cultural heritage, reproduction of works of art...
- Communication : creation of 3D products, 3D animations, applications for design.

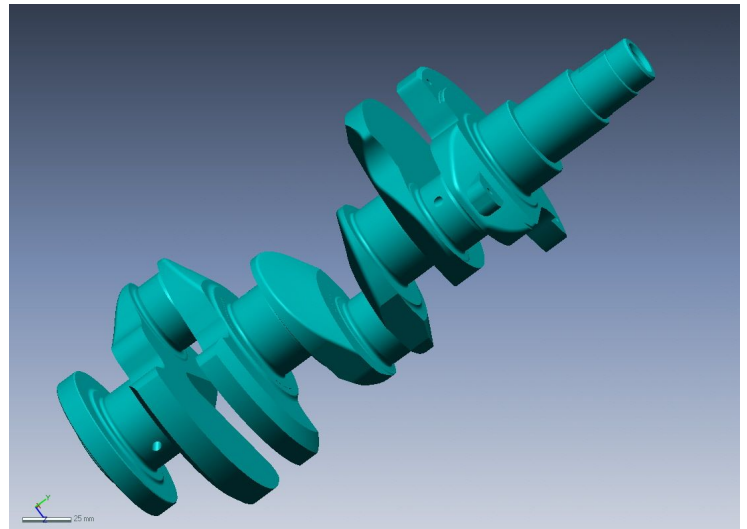
# HOLO 3 SENSOR : STRUCTURED LIGHT SYSTEM

This system enables to determine in a few seconds a point cloud of a surface.

The main features are :

- **Optical measurement, without contact**
- **Size range analyzed : from 30x40x10mm to 300x400x250mm**
- **Accuracy : 15 to 120  $\mu\text{m}$  (according to the sensor L - M or S models)**

The control report may be a point cloud (IGES file or compatible CATIA file), or a space cartography (JPEG images), or a 3D handled animation.



## 3D MEASURING ARM ROMER



This device allows making measurements without contact, thanks to a laser head

The main features are :

- **Measurements in our laboratory or on-site**
- **30 laser lines /sec, about 25 000 dots/sec**
- **Accuracy : +/- 120 $\mu\text{m}$**
- **Maximum size measured : no limited**

The control report may be a point cloud (IGES file or ASCII file), or a deviation cartography (JPEG images)

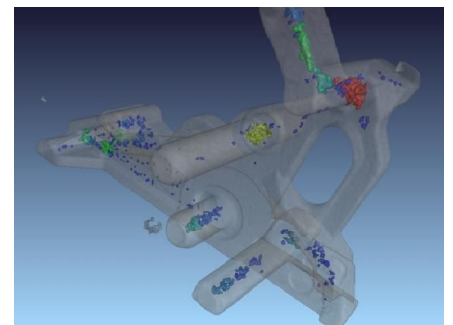
## OTHERS DEVICES

**X ray Tomography** : for complex plastic injected pièces-NDC-Inside measurement – Accuracy : from 8 up to 120  $\mu\text{m}$  according to the size.

**Holomap** is enabled to achieve 3D cartography of a reflexive object (mirrors, windows) which surface is  $<1\text{m}^2$ , with an accuracy of 100 $\mu\text{m}$

**Symcad cabine** digitize human bodies with an accuracy better than 4mm  
Our **Altimet profilometer** and our **interference microscope Veeco** are designed to give a topography of microscopic surfaces (the accuracy can reach a few nm)

The **atomic power microscope** is designed to analyse microspheres.



## COMPLEMENTARY OFFER

**Alsace Metrologie** makes studies to compare different technologies, to develop a control process. We are able to create specific measurement systems (hardware, software) fitted to your needs, in Quality control or for Production tests.



**'Measuring Differently'**

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