



## SERVICES X-RAY INSPECTION / METROLOGY

KEEPING YOU AHEAD



### ABOUT US

From our demo lab in Eindhoven (NL) our experienced Application Engineers are able to offer X-Ray /CT Inspection and Metrology Services.

Technical advise, flexibility, quality, fast delivery and a good and long term relation with our clients are the keywords for a successful cooperation.

- ▲ X-Ray Inspection
- ▲ Computed Tomography Measurements
- ▲ Non Contact 2D / 3D Surface Measurements
- ▲ Thermal Warpage and Strain Measurements

With our network of equipment manufacturers and local partners we are able to offer a solution for many Inspection or measurement challenges.

For more information please feel free to contact us.

### X-RAY / COMPUTED TOMOGRAPHY

**Non-destructive testing of (micro)electronic and electro-mechanical products.**

*Applications : Wafer, SMD, PCB, IGBT, many more...*

- ▲ 3D integrated circuits (IC)
- ▲ Solder Joints, Wire Bond Inspection
- ▲ Analysis of discrete components
- ▲ Visualisation of individual layers

**High Precision computed tomography (CT) for 3D measurement of complex outer and inner structures.**

*Applications : 3D Printed Parts, Molded Plastics, Metal Castings, Turbine blades, many more...*

- ▲ Validation and 3D measurements (GD&T)
- ▲ Comparison with CAD model
- ▲ Reverse engineering

### SURFACE METROLOGY

High Resolution Non-Contact 2D/3D Surface Measurements

*Solar Panels, Thickfilm, Wafers, Microelectronics, SMD, PCBA, many more*

- ▲ Thickness & Thickfilm
- ▲ Surface Roughness
- ▲ Coplanarity
- ▲ Total Thickness variation
- ▲ Flatness measurement
- ▲ Transparent Films and Coatings

THICKNESS & THICKFILM

SURFACE ROUGHNESS

COPLANARITY MEASUREMENT

TOTAL THICKNESS VARIATION (TTV)

FLATNESS MEASUREMENT

TRANSPARENT FILMS AND COATINGS

*Many surfaces/materials:*

- ▲ Solid, powder, or liquid
- ▲ Opaque, translucent, transparent
- ▲ Black and high reflective surfaces

### THERMAL WARPAGE METROLOGY

Measure warpage and strain over a temperature profile for:

- ▲ Individual Die
- ▲ Component
- ▲ PCB's
- ▲ Fully populated boards
- ▲ Virtually any substrate

*Always you to understand/measure:*

- ▲ How substrates warp over temperature
- ▲ Understand the "mating/interface" between 2 substrates
- ▲ Measure how temperature affects strain on material

