

Delphi Industrial Computertomography Service Solutions (ICSS)

Delphi Industrial Computertomography Service Solutions (ICSS) is an innovative digital geometry processing service. It can be used to generate a three-dimensional image of the inside of virtually any object from a series of two-dimensional x-ray images taken around a single rotational axis. The resultant data can help customers identify product design flaws or optimization potential within their production process in order to take corrective action, which in effect, 'makes quality visible'.

Our non-destructive, low-cost product testing methods provide:

- **X-ray analysis** to identify and locate problematic structures invisible to the naked eye
- **Geometry analysis** including:
 - 2D and 3D dimensioning
 - Wall thickness analysis
 - Digital actual/nominal comparison
 - STL models and point clouds
- **Material analysis** to detect defects, porosity, inclusions, and cracks, as well as to check that the position within composite materials is perfect, enabling timely corrections if needed
- **Assembly analysis** to visualize the fit of built-in components

As one of the first companies to offer this innovative, modern digitalization tool and technology for automotive applications, Delphi possesses an excellent equipment infrastructure operated by skilled technicians with extensive experience.

► Benefits

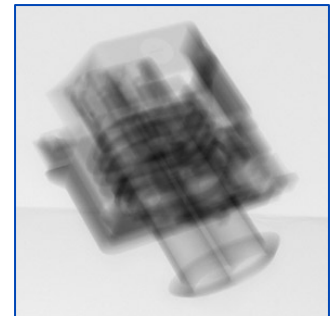
- Exact, non-destructive, and cost-effective calibration of a broad range of products
- Professional evaluation of data
- Enables engineering and production process optimization
- Helps optimize quality control management by ensuring products meet customer standards

► Typical Applications

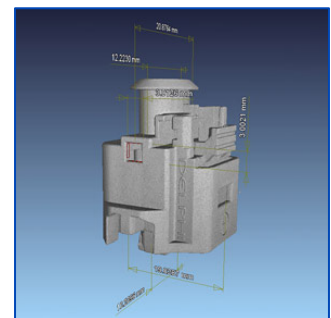
Delphi's Industrial Computertomography Services are attractive for companies engaged in challenging, technology-driven markets in demand of high-quality products. Low-density products such as plastics and aluminum are particularly suitable for our scanning tools to achieve outstanding test results.



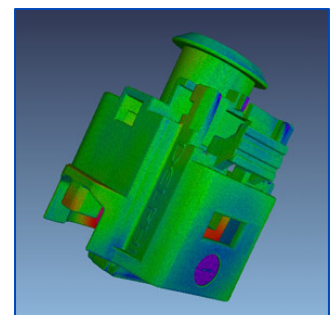
2-way receptacle housing used in the analysis



X-ray analysis showing structure within a product



3D measurement



Geometry analysis showing actual/nominal comparison

▶ Performance Advantages

After generating multiple views and digital models of a product, Delphi can evaluate the data to help customers:

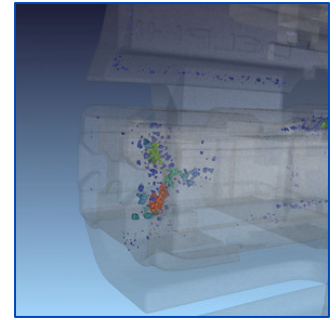
- Optimize engineering processes
- Amend production processes
- Detect quality risks
- Ensure quality standards
- Improve reputation

ICSS enables technology-oriented companies to profit from Delphi engineers' expertise acquired from years of experience in ambitious, quality-sensitive markets.

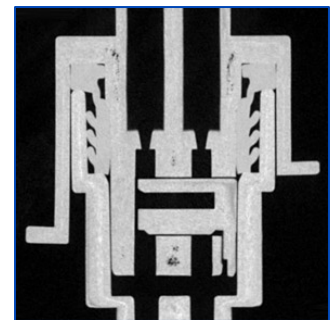
▶ Test Location

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Material analysis showing defects, porosity, inclusions and cracks



Assembly analysis showing fit of built-in components



Delphi technicians have the skills and experience to effectively utilize highly specialized equipment to provide customers with testing services that provide precise data and analysis.