Comprehensive Delineation of Physical Objects

Whether you need to compare a CAD model to a manufactured part, reverse engineer a critical piece of equipment or perform detailed analysis on damaged equipment, Intertek has the solution for you.

With sub millimeter accuracies we service companies involved in a variety of industries including aerospace, automotive, casting and forging as well as oil and gas, medical, chemical, nuclear and power generation.

Regardless of the size, shape or complexity of an object or component, we have the instruments, software and expertise to meet your needs.

3D Scanning Services

In the lab or on site, our state-of-the-art equipment consists of the latest 3D optical scanners with accuracies of 0.007 mm. The accuracy, resolution and measuring area are completely adaptable to your application requirements.

This allows for the highest resolution of detailed small parts with measuring volumes down to 38mm or for extremely fast digitizing of large objects with measuring volumes up to 10m.

We use the highest quality industrial non-contact 3D scanners to provide you with precision scans and detailed resolution at high speeds. Scanning of large objects is also within our tool kit. All of our instruments are portable, which allows us to work on-site at your facility should the objects of interest be too large to transport.

Point Cloud Meshing

Regardless of the instrument used to gather your scan data we can assist with post processing the point cloud into a functional mesh. With 35+ file types accepted we have a solution for all of your needs. The mesh data can be used to better visualize your scan data when the need occurs. Deliverable types for mesh include: .asc, .dxf, .g3d, .jt, .mdl, .msh, .obj, .off, .poly, .ply, .stl and .pbi.

Precise and accurate measurement information can mean the difference between success and failure when it comes to your products and services.

FACT SHEET

3D METROLOGY SERVICES

Our cutting-edge metrology technology provides precise 3D measurement data
Scan-to-CAD Analysis
Intertek’s scan to CAD deviation analysis is a proven method for assessing the accuracy and quality of diverse physical objects. This method can be used to analyze a newly manufactured part or to determine the rate of wear and deterioration on existing parts.
This process highlights deviations between the 3D scan and the CAD model to identify surface features and other geometry when out of tolerance.
Neutral CAD formats such as IGES, JT Open and STEP as well as native formats like CATIA, NX, Solidworks and Pro/E can be utilized with our tools sets. In addition, measurement plans in CSV, DMI, ASCII, IPP and FTA data formats can be imported as the basis for dimensioning and inspection.
The deliverable provided with this type of analysis is a color deviation map that can also serve as the technical report to meet your inspection needs.
Reverse Engineering / 3D Modeling
By utilizing the best hardware and software to convert 3D scan data into high quality feature-based CAD models, our reverse engineering services in manufacturing and engineering can help improve both your product and competitive edge in the market.
Part-to-Part
Our part-to-part analysis is used to precisely compare two parts and report any deviations between them when a CAD model is not available.
We scan a part that is functioning properly and then scan the faulty part and digitally compare them to pinpoint the issue. This method is used to identify compatibility, potential issues or wear analysis.
First Article Inspection
We assist with first article inspections to ensure that the production process of your items results in the desired deliverables.
Our first article inspections check for a variety of different variation in products including distances between edges, positions of holes, diameters and shapes of holes.
Geometric Dimensioning & Tolerance
Geometric Dimensioning & Tolerance (GD&T) analysis focuses on the functional aspect of a component.
Our methods conform to ASME and ISO standards and allow for extensive GD&T scrutiny including planarity, parallelism and cylindricality, two-point distances and maximum material conditions as well as position tolerance in local and global coordinate systems.
Investigative
We combine precision metrology, laser scanning and dimensional control techniques to define failures during installation.
After processing the captured data with specialized software we provide you with the critical dimensional information necessary to better understand the event.
Customized Reporting
We provide you with custom reporting solutions containing detailed information in the specific format you require. These deliverables can contain snapshots, images, tables, diagrams, text and graphics.
Our reporting formats include MSOffice, PDF and CAD drawings. We can also provide you with free software that can assist you with analyzing your data.

FOR MORE INFORMATION
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