

Capture the world digitally in 3D.

We live in a world fueled by creativity, innovation, and competition. When product ideas are born, the world of engineering gives it life. The tools and technologies we use on a daily basis are a critical factor to achieve success.

Capture 3D is a leader in 3D metrology solutions since 1997. From aerospace, automotive, consumer goods, power generation, entertainment, medical, to a variety of other industries, we improve product development through manufacturing and maintenance processes.

- Higher quality with more information
- Increased throughput
- Savings in time and money
- Process integrity and control
- An easy to operate solution
- A single vendor solution

Capture 3D is committed to the support and success of our customers. Our skilled team is experienced in real-world process and application knowledge. Our innovative industrial grade 3D measurement systems are designed incorporating advanced hardware technologies integrated with intelligent software algorithms. Our solutions rapidly produce more information and knowledge about your part, assembly, tooling, and manufacturing processes, so you can optimize your entire engineering cycle.

- Accurate and fast 3D measurements
- Full part definitions with high resolution
- Quicker inspections with easy to interpret reports
- Reduce die, mold, and tool tuning iterations
- Reduce scrap and rework
- Eliminate costly fixturing and setup times
- Customized automated solutions

Contact us for an onsite demo with your parts in your environment today - info@capture3d.com.

CAPTURE 3D
Customer focused. Precision driven.

gom | certified partner



Customer Testimonials

"We have spent a substantial amount of time effectively testing artifacts and comparing the system with traditional methods to build confidence in the entire process. Also, we have certified the ATOS system for select inspection applications. Areas of success for Pratt & Whitney have included Turbine and Compressor Components, Primary Internal & External Component, Production Tooling, and Industrial Gas Turbine Components. With the automation that Capture 3D has integrated, we have increased our scanning throughput significantly for production applications."

**Technical Manager of Advanced Manufacturing Metrology
Pratt & Whitney**

"After an extensive evaluation of competitive systems, we have implemented over a dozen ATOS Scanning systems at 9 of our manufacturing sites. We chose the ATOS systems based on Accuracy, Repeatability, Speed and the Support we received from Capture 3D. A conventional inspection of 500 items including 8 sections and setup would typically take 65 hours. We've been able to reduce that inspection time to under an hour and provide more detail in the process. Typical measurement of 'Trip Strips' has been reduced from 45 hours to 8 hours. Some of our key applications for ATOS have been 1st Article Inspection, In-Process Verifications, Core Inspections and Coating Evaluations."

**Engineering Support Manager
Alcoa Howmet**

"Through our evaluations, we determined that the ATOS system provides better accuracies than Laser Scanners and with the organic shapes of Turbine Blades, CMM's do not provide the required detail. Since our initial acquisition in 1998, we have installed six systems at five locations and have been very impressed with the continual software and hardware updates. GOM is obviously making substantial investments to keep ahead of their competition."

**Director of Design Engineering
Chromalloy**

"We have been using the ATOS system since 2004 and have been extremely impressed with the reliability of the equipment. Often times we have run two shifts, driving the system 20 hours a day with great reliability. Our main applications are Product Definition and Quality Inspection of Industrial Gas Turbine Components. We initially felt that we wouldn't be able to justify the cost of an ATOS system, but after seeing a 30% time savings in our Product Definition applications we acquired a second system after just 9 months."

**Vice President of Engineering
ETS Power Group**

"The driving factors for our group to implement the ATOS System was the powerful, easy to use software, accuracy and the push button measurement process provided by the Automated Motion Control System. Our main applications have been focused around coating thickness. When developing the coating thickness process, we have been able to reduce this 8-12 week cycle down to 3-4 weeks and we end up with a more robust coating. The ATOS system has also become an important tool for 'In Process' checks to validate any new set up. This has become an over utilized tool because of the many applications it has become instrumental in."

**Manufacturing Engineer
U.S. Power Generation Company**



3D Measurement Applications for the
Propulsion and Industrial Gas Turbine Industries

CAPTURE 3D

CAPTURE 3D
Customer focused. Precision driven.

**Headquarters
California**
T: (714) 546-7278

**Northwest
Washington**
T: (206) 317-7778

**Central
Michigan**
T: (248) 426-9001

**East
Connecticut**
T: (860) 640-0661

**Southeast
North Carolina**
T: (980) 888-1050

info@capture3d.com
www.capture3d.com

gom | certified partner



PARTNERING WITH THE PROPULSION AND INDUSTRIAL TURBINE GAS INDUSTRY TO IMPROVE QUALITY PROCESSES

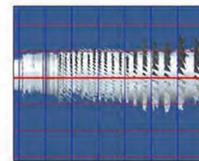
Faster time to market • Reduce development time & costs • Produce higher quality products • Reduce manufacturing costs & processes • Reduce scrap • Accelerated ROI

info@capture3d.com
www.capture3d.com

DESIGN



Design / Re-creation of Components
Quickly scan components and generate an accurate 3D digital definition to support CAD model creation, documentation of design iterations, and archive "as manufactured" condition.



"As Manufactured" Digital Assembly
Shown is a 22 foot rotor assembly scan. Rapidly measure complex assemblies for accurate fitment, dimensional, CFD and FEA analysis.



Rapid Capture of Complex Shaped Components
Scan complex and intricate shaped components quickly and easily without costly fixturing set-ups. Having accurate and high resolution scan data allows for faster downstream processing.

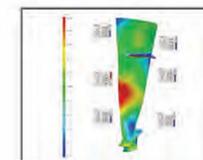


Small Parts Scan
The ATOS 3D scanner's ability to be configured to various size measuring volumes supports the precise scan capture of very small features such as edges, fillets, and rounds.

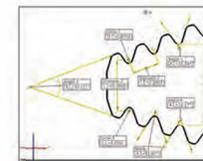


Extra Large Parts Scan
Measure large turbine buckets, casings, to full size airplanes while maintaining a high level of data accuracy. ATOS system flexibility supports extra small to extra large scan projects.

ANALYSIS



3D First Article Inspection
Automatically compare your part's scan data to the CAD model with an easy to interpret visual 3D color inspection map. Instantly see where the problematic areas exist.



Dimensional Analysis (2D)
Compare "as manufactured" part scan data to 2D drawings for inspection analysis.



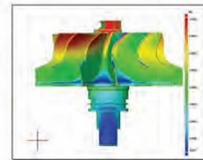
Ceramic Cores Analysis
Inspect core dimensions, shrink rates, trip strips, and blisters to tooling to effectively modify molds/tooling for accurate part manufacturing.



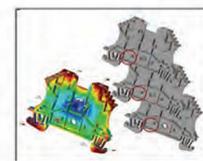
Turbulator Measurements
Receive more thorough information in the fraction of the time compared to a CMM. Scan complex and small turbulator features. Measure tight areas between blades.



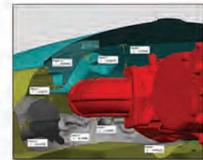
Reduce Tool Tryout
Minimize the number of iterations and tool tuning loops by viewing an ATOS color map inspection report. Identify problem areas and understand the affects of the corrective action on the entire tool.



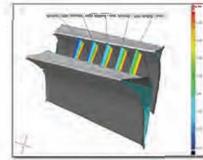
Root Cause Analysis
Find solutions to issues by inspecting parts and tooling in each stage of the manufacturing process. Accurate and easy to interpret color maps support informed corrective action plan.



Trend Analysis
Monitor your manufacturing process in order to depict trends. Applicable to parts, assemblies, fixtures, tooling, etc...



Digital Assembly Analysis
Accurately compare scanned components and assemblies vs. CAD. Interrogate mating components to solve assembly, form, fit and finish issues.

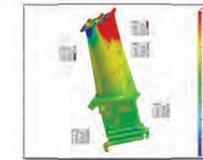


Improve Product Performance
Measure and calculate both individual and total throat areas. Identify the minimum throat distance between the trailing edge of each vane and the face of the adjacent vane.

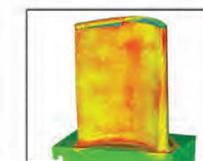


Touch Probe Analysis
Enhance non-contact ATOS 3D scanning by adding on a Touch Probe kit to measure hidden features, discreet points, and deep cavities. Probes and adapters are fully customizable.

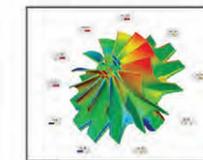
PRODUCTION



Part Verification
Fast measurement of simple and complex parts. Robust dimensional inspection reports including cross sections, complex features, surfaces, holes, and edges.



Coating Thickness Measurements
Quickly measure before and after each coating (i.e. thermal barrier coatings) to determine coating thicknesses without destroying parts.



Production Inspections
Measure quantities of parts fast and accurately without operator variability. Achieve even higher volumes with Capture 3D's automated solutions.



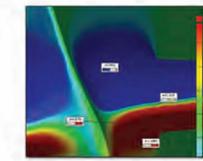
Impeller Wheel Balancing
Scan and calculate center of gravity on castings to position part optimally for "best balanced" machining. Minimize the machining away of material which can be used for future refurbishing and/or balancing.



Combustor Measurements
Rapidly measure entire component and extract feature information such as hole diameters, vectors, and locations automatically.



Overall System Performance Improvement
Create an "as manufactured" digital assembly, instead of CAD nominal. This digital definition can be utilized for overall system performance comparison, analysis and optimization.



Part and Tool Wear Trends
Identify and document part and tool wear trends. Robust color map deliverable highlights potential problematic areas (out of tolerance conditions, part shrinkage, airfoil twist, and tool/mold wear).



Direct Milling from ATOS Data
Directly mill from ATOS point cloud data to accurately duplicate tooling or repair broken tooling without the time consuming task of creating CAD.



Simplified Low Cost Fixturing
Save time and money by eliminating high precision expensive fixturing. Part position in fixture is not critical providing a simple set-up. Shape and position of part are automatically transformed into a pre-defined coordinate position.



Aerospace Certified
Solutions certified within propulsion/aerospace companies per VDI standards.

MAINTENANCE, REPAIR, & OVERHAUL



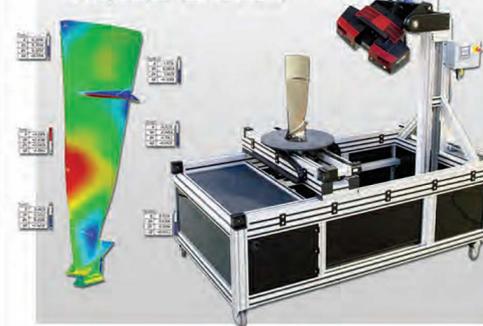
Measure and Inspect Airfoil Blades and Vanes for Repair
Measure damaged blades to determine extent of damage and optimize repair process. Inspect repaired blade to verify part conformance.



Automation - ATOS Power Complete Scan & Inspection Multi-Axis Motion Control Systems

Specifically designed for air and ground power generation companies to rapidly scan and inspect parts for performance and product improvement. Solutions aide manufacturing companies in reducing waste and saving time.

- ✓ Accurate and high resolution measurements
- ✓ Rapid scans and inspections
- ✓ Higher throughput and process integrity
- ✓ Easily record macros
- ✓ Repeatability
- ✓ Virtual Measuring Room (VMR)
- ✓ Plug and play (standard 110V)



FREE GOM Inspect to Analyze + Share Point Cloud and Inspection Software

GOM Inspect allows users to import scan data from various types of measuring systems with a wide array of advanced point cloud and inspection functionalities.

Mesh processing- Polygonize points to meshes, smoothing, thinning, hole filling, data refinement, and extracting curvature lines from meshes.

Inspection- CAD import (IGES, STEP, JT-Open, etc...), alignments, comparisons, CAD based primitive generation, 2D section analysis, GD&T analysis, reporting (screenshots, tables, PDF, etc...), and other inspection features.

Sharing- This software is entirely free to use and results can be shared amongst departments, vendors, and/or with customers for faster communication and improved decision making processes.

Register for GOM support and receive free access to manuals, video tutorials, forums, demo sets, and more...



Download Today!
www.gominspect.com

Sharing knowledge throughout the enterprise reducing duplication of effort and improving collaboration between departments and suppliers.