

**CAPTURE 3D**  
a ZEISS company



# Digital Transformation

## Innovative 3D Measurement Technology



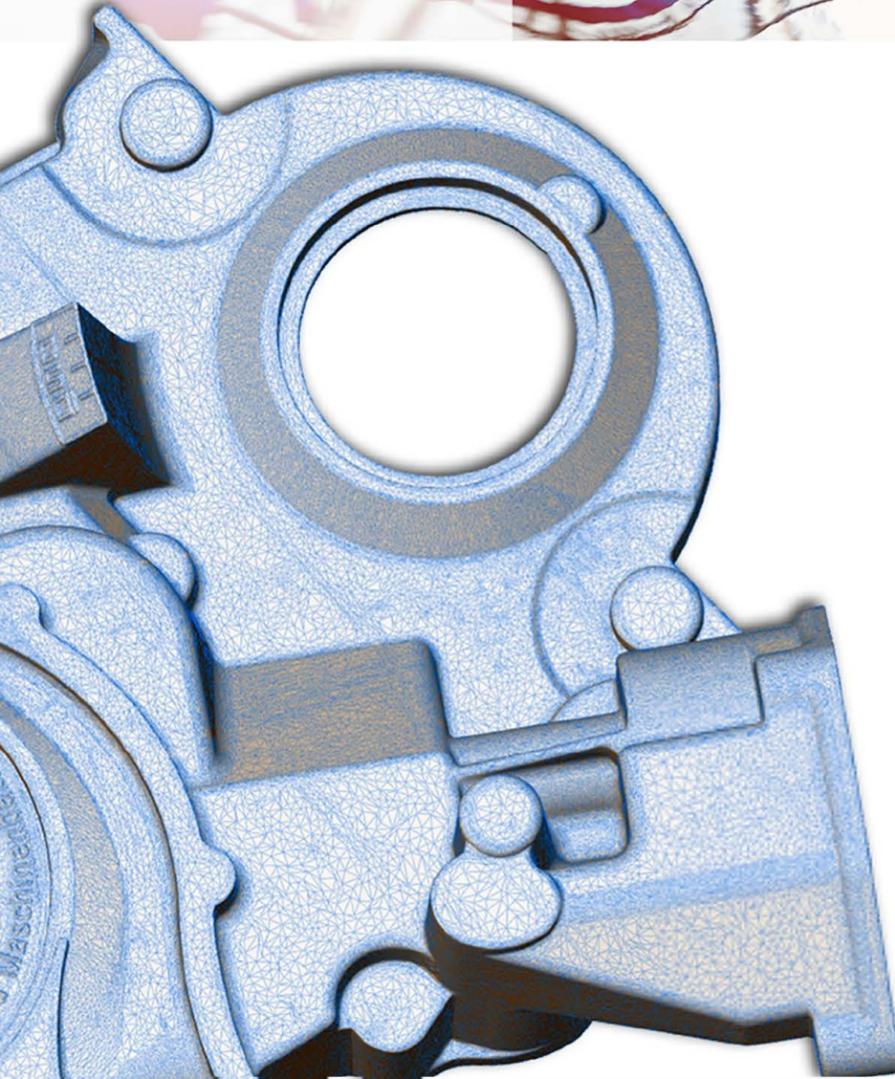
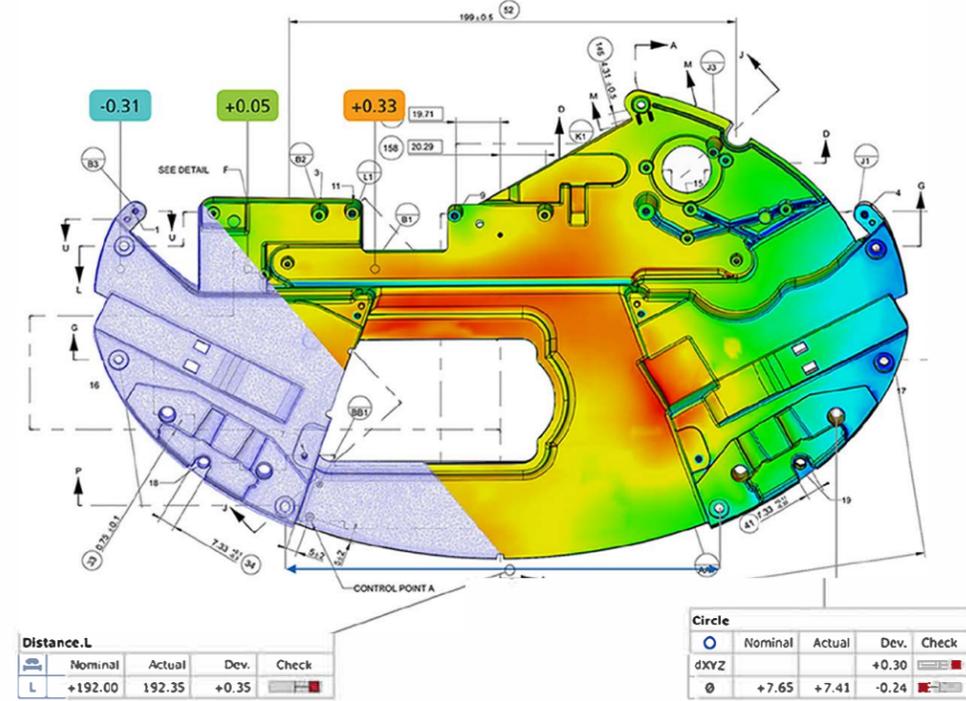
These solutions have improved our concept through manufacturing processes by reducing both time and costs, and improving product quality.

**Ford Motor Company**

Accurate **digital twin** technology with powerful **data intelligence** for improved decision-making



**Level-up** product development, engineering, and manufacturing strategies



**Solve quality issues**

Immediately derive the optimal corrective action to quickly resolve issues

**Lean manufacturing**

Eliminate unnecessary repetitive processes, rework, and iterations

**Process optimization**

Improve cycle times, productivity, and/or capacity

**Improve product quality**

Meet tighter part quality standards

**Cost avoidance**

Resolve unforeseen issues to eliminate making bad parts

**Faster time to market**

Increase profits and improve competitive advantage

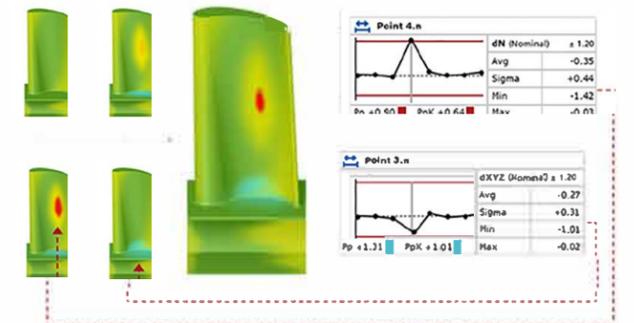


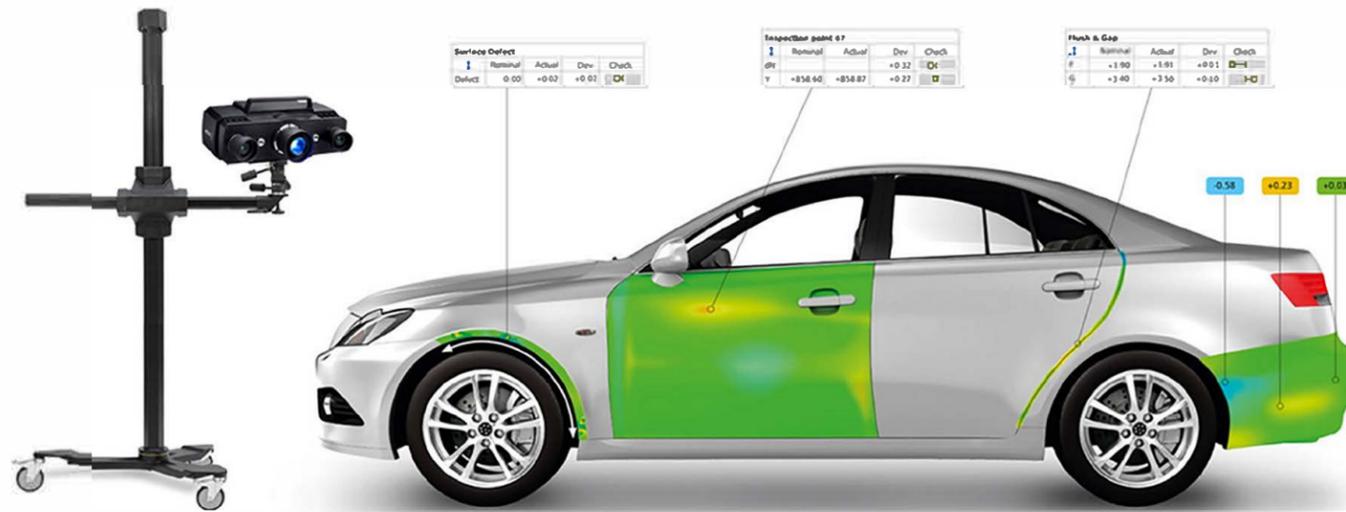
Data collected previously with a traditional CMM was misleading and didn't highlight the issue with the parts. 3D scanning has really opened our minds to leveraging the power of digital data. ATOS systems are more than just a stand-in for the traditional CMM. ATOS is a powerful engineering tool. In addition, the adoption has contributed to the growth of the innovation culture at GEA.

**GE Appliances**

We have spent a substantial amount of time effectively testing artifacts and comparing with traditional methods to build confidence in the entire inspection process. We have certified the ATOS system for our inspection applications. With the automation that CAPTURE 3D has integrated, we have increased our scanning throughput significantly for production applications.

**Pratt & Whitney**





The biggest reason we looked into 3D metrology systems was to gain the ability to see the entire part. The scanner has evolved from being a tool used to help in certain situations to being used every day. The numbers prove it. In 2014, we scanned 378 parts. In 2017, that number jumped to over 8,000 parts.

**ADAC Automotive**

### Certified Aerospace Accuracy

High-quality metrology systems tested for accuracy, repeatability, and reproducibility. Smaller volumes can achieve single digit micron accuracy.

### High Speed Measurements

Capture millions of accurate, high-resolution X-Y-Z points as fast as 0.2 seconds.

### Measure Small to Extra Large

Solutions can be quickly configured to measure small to extra large parts and/or assemblies (i.e. grooves of a human finger to a full size aircraft).

### Mobile and Portable

Scan at the part's location, and even check it in as luggage. Compact and advanced designs available in various configurations to suit your engineering needs.

### Complete Industrial Solution

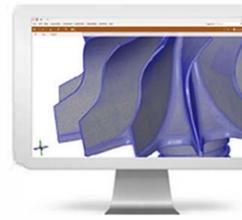
Innovative turnkey solution with intelligent software and ruggedized hardware engineered to operate in industrial conditions and prolonged operational hours.



**Advanced Metrology-Grade Solutions**  
Starting at \$25.1K USD

## ZEISS Quality Suite

Intelligent data analysis for better collaboration



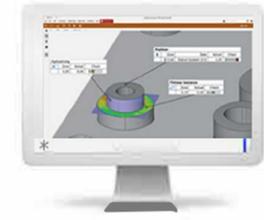
High-Quality 3D Mesh Data



Parametric Inspection, MBD/PMI, Measurement Principles, etc.



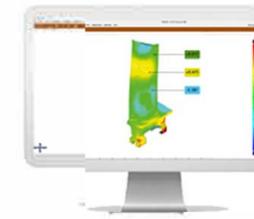
Alignments



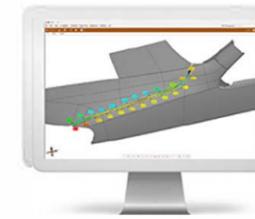
GD&T Analysis



I-Inspect, Teaching by Doing, Fast Inspect, Templates, etc.



Industry Specific Features (Airfoil, Plastics, Castings, and Metalforming)



Curves (Flush & Gap, Hemmed Edges, Character Lines, etc.)



Airfoil Inspection



Surface Defect Analysis



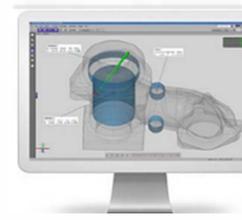
Digital Assembly Analysis



Trend Analysis



Sharable File Exports, Plus Manufacturing Systems Integration



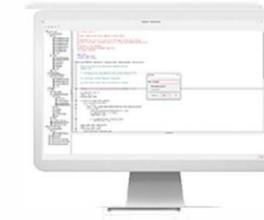
Touch Probe Compatible



Reverse/Back Projection



Optical Tracking



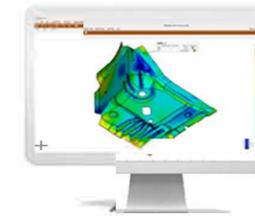
Customizable with Python Interface



Add-on Module: VMR (Virtual Measuring Room)



Add-on Module: Photogrammetry



Add-on Module: Virtual Clamping



Add-on Module: CT Inspection Pro

# Smart Manufacturing Tech Specs

**Studies:** Aerospace customers measuring airfoil jet engine components are experiencing .0001" to .0002" accuracy. Approximately 4' diameter stators are measured to an accuracy of .001". Aerospace structural component approximately 23'x3'x3' was within .003" accuracy verified against a laser tracker. This customer selected ATOS for the throughput and full-field data for more informative inspection. Benchmark your part/tooling with our technology today!

## Industrial 3D Scanners

Quickly capture an accurate digital twin using advanced non-contact structured blue light fringe projection technology

|  | Scan 1   | ATOS CORE 5M         | ATOS COMPACT SCAN 8M | ATOS COMPACT SCAN 12M | ATOS Q 8M            | ATOS Q 12M           | ATOS CAPSULE 8M      | ATOS CAPSULE 12M     | ATOS S 8M            | ATOS S 12M           | ATOS S AIRFOIL 12M   | ATOS SX 12M            |
|--|--|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|
| <b>FEATURES</b>                            | Scan 1   | ATOS CORE 5M         | ATOS COMPACT SCAN 8M | ATOS COMPACT SCAN 12M | ATOS Q 8M            | ATOS Q 12M           | ATOS CAPSULE 8M      | ATOS CAPSULE 12M     | ATOS S 8M            | ATOS S 12M           | ATOS S AIRFOIL 12M   | ATOS SX 12M            |
| <b>Structured Light Technology</b>         | Blue LED   | Blue LED Triple Scan | Blue LED             | Blue LED              | Blue LED Triple Scan | Blue Laser Triple Scan |
| <b>Part Size</b>                           |  |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      |                        |
| <b># of Measuring Volumes</b>              | 3  | 7                    | 7                    | 7                     | 5                    | 5                    | 5                    | 5                    | 5                    | 5                    | 4                    | 4                      |
| <b>Interchangeable Measuring Volumes</b>   | No   | No                   | Yes                  | Yes                   | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                    |
| <b>Measuring Volume Range</b>              | 100mm to 400mm   | 45mm to 500mm        | 45mm to 1,200mm      | 45mm to 1,200mm       | 100mm to 500mm       | 100mm to 500mm       | 40mm to 320mm        | 40mm to 320mm        | 170mm to 1,000mm     | 170mm to 1,000mm     | 100mm to 400mm       | 320mm to 1,000mm       |
| <b>Accuracy</b>                            | Depends on the measuring volume size, your part, and application. ATOS can achieve single digit micron accuracy with smaller measuring volumes. All measuring volumes are VDI/VDE part 3 2634 certified. |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      |                        |
| <b>Camera Resolution (Points per scan)</b> | 6 million  | 5 million            | 8 million            | 12 million            | 8 million            | 12 million           | 8 million            | 12 million           | 8 million            | 12 million           | 12 million           | 12 million             |
| <b>Semi-Automation w/ Rotary Stage(s)</b>  | Yes  | Yes                  | Yes                  | Yes                   | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                    |
| <b>Complete Robotic Automation</b>         | No   | Yes                  | No                   | No                    | Yes                    |
| <b>Touch Probe</b>                         | No   | Yes                  | Yes                  | Yes                   | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                    |
| <b>Back Projection</b>                     | No   | Yes                  | No                   | No                    | Yes                    |
| <b>Software</b>                            | ZEISS Inspect  | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect         | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect        | ZEISS Inspect          |
| <b>*Price</b>                              |  |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      |                        |

\*Price: Starts at \$25.1K USD. Includes shipping, customs, duties, delivery, and support. Software configurations include first year hardware and software support, installation, and training. Pricing varies based on configuration, PC, and software. Some models include a semi-automation option into the pricing. Complete robotic automation is not included in the price as it depends on the model, configuration, and options.

Contact [info@capture3d.com](mailto:info@capture3d.com) for a quote!

## Automation & Robotics

50% to 80% faster than traditional measuring methods. Increase productivity, throughput, and repeatability



## Digital Photogrammetry

Use as a standalone solution for quick dimensional verification, or an add-on with ATOS for increased accuracy.



TRITOP Hand-Held Photogrammetry

Plus Automated Photogrammetry

## ZEISS Software Ecosystem

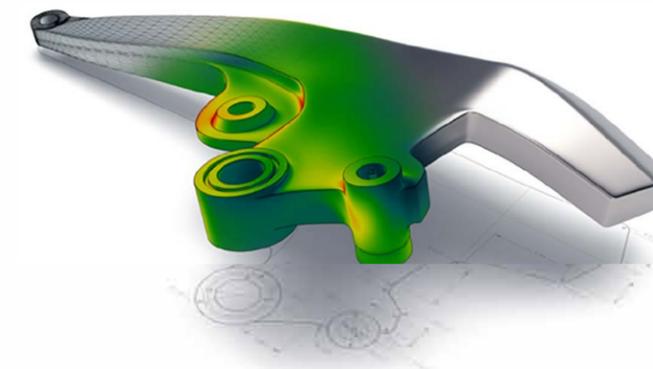
Innovative 3D metrology software architected to solve complex engineering tasks accurately and rapidly with comprehensive reporting and intelligent data visualization for improved collaboration and quick problem solving.

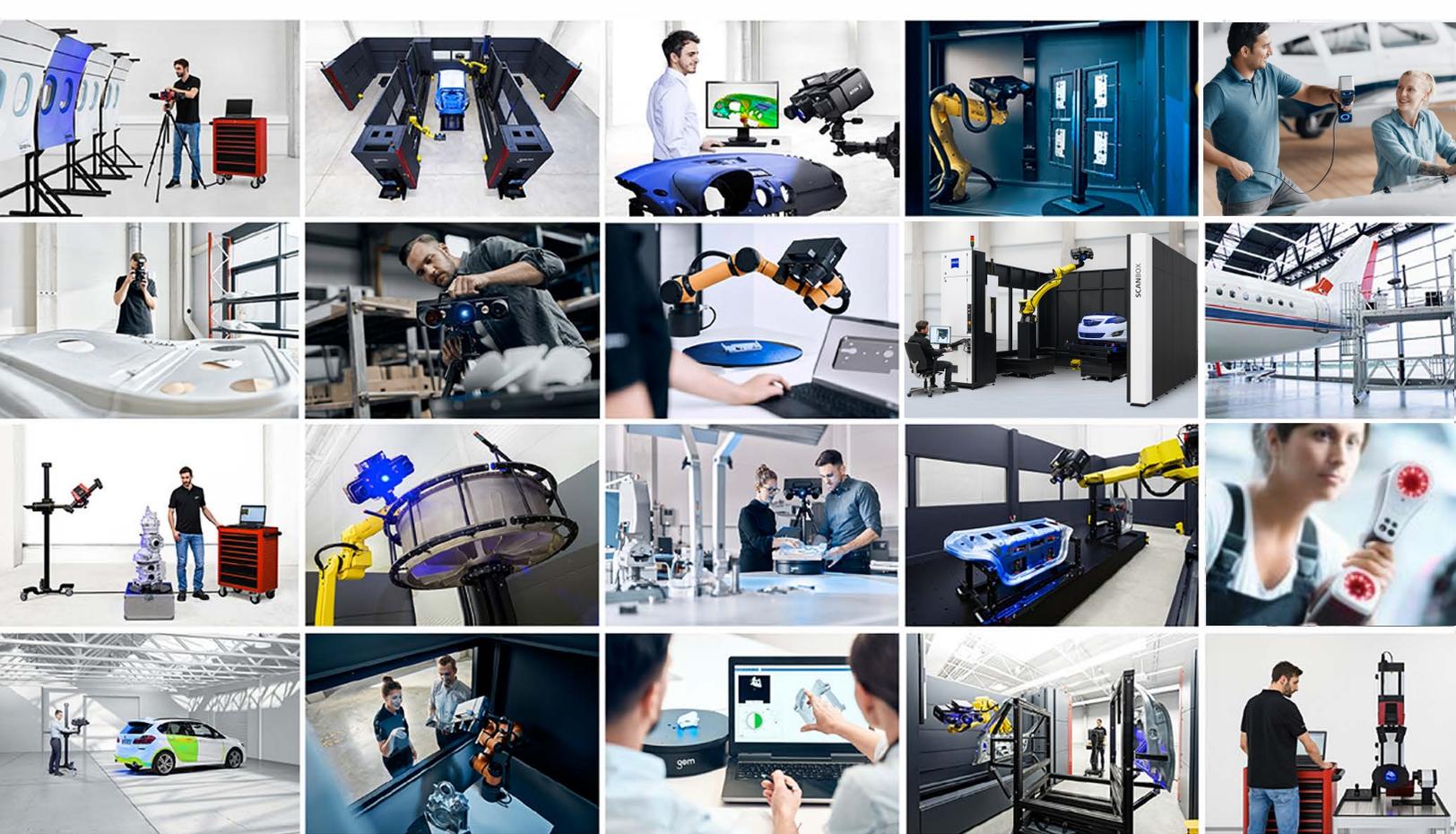
| Overview Features              | Free ZEISS Inspect | ZEISS Inspect Optical 3D Pro |
|--------------------------------|--------------------|------------------------------|
| CAD Import Basic Formats       | ✓                  | ✓                            |
| Mesh Editing                   | ✓                  | ✓                            |
| Creating projects              | ✓                  | ✓                            |
| Alignments                     | ✓                  | ✓                            |
| Nominal-Actual Comparison      | ✓                  | ✓                            |
| GD&T Analysis                  | ✓                  | ✓                            |
| Blade Inspection               | ✓                  | ✓                            |
| Volume Inspection              | ✓                  | ✓                            |
| Surface Defect Map             | ✓                  | ✓                            |
| Curve-Based Inspection         | ✓                  | ✓                            |
| Traceability                   | ✓                  | ✓                            |
| Reporting                      | ✓                  | ✓                            |
| CAD Import Native Formats      | ✗                  | ✓                            |
| Parametric Inspection          | ✗                  | ✓                            |
| Teaching by Doing              | ✗                  | ✓                            |
| Creating Trend Analysis        | ✗                  | ✓                            |
| Creating and Editing Templates | ✗                  | ✓                            |
| Python Interface               | ✗                  | ✓                            |
| Macro Recorder                 | ✗                  | ✓                            |



Free Download  
**ZEISS Inspect Software**

3D viewer, mesh editing, inspection, and reporting!





Through our evaluations, we determined that the ATOS system provides better accuracies than laser scanners and, with the organic shape of turbine blades, CMMs do not provide the required detail.

### Chromalloy Gas Turbine

We were tasked by management with an aggressive goal to transform our Design to Tool Building process to all digital. Our research led us to choose ATOS as the system most likely to provide the success we were looking for in such a short period of time. This decision created a significant savings in time and money while shortening our product time-to-market.

### Fisher Price

When comparing an ATOS with a laser scanner mounted on a CMM, we have found the ATOS system to have far more repeatable results. One project alone justified the cost of the ATOS. Through our experiences we have come to be more confident in our ATOS measurement than those from the CMM.

### Mann + Hummel

The driving factor for our group to implement the ATOS system was the powerful, easy-to-use software, accuracy and the push button automated measurement process. This has become an over utilized tool because of the many applications it has become instrumental in.

### U.S Power Generation Company



**See our technology.**  
 Schedule an application discussion,  
 virtual demo, onsite demo, or visit  
 to a CAPTURE 3D Solutions Center  
 through our app today!