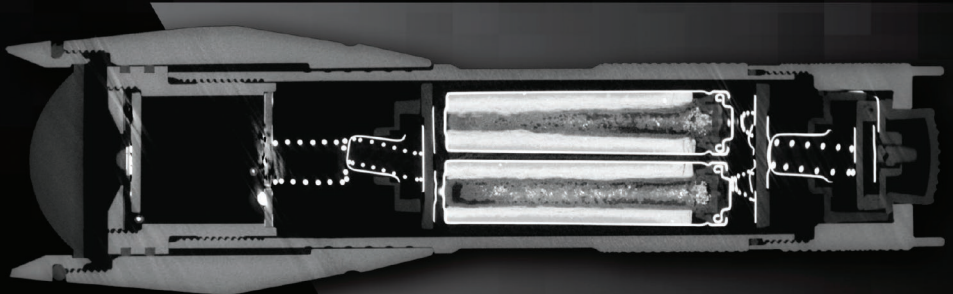
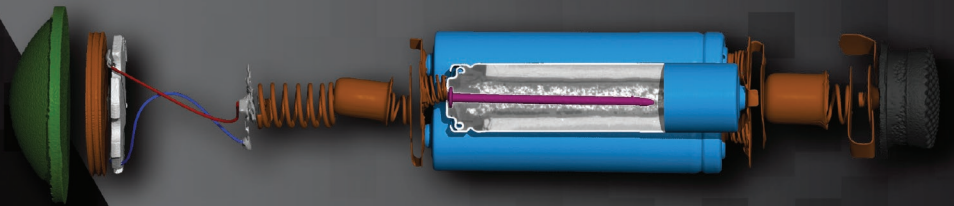
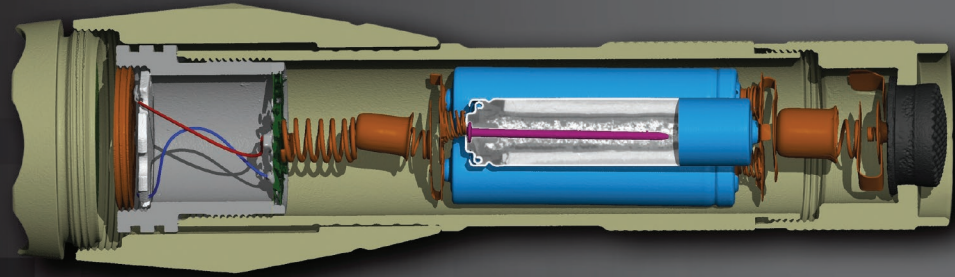
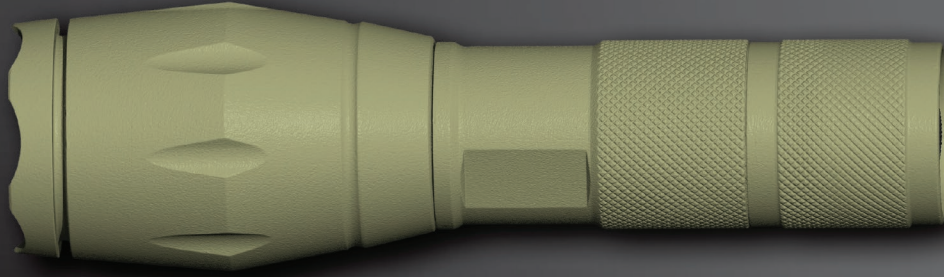




X-ray and CT Scanning

CONTRACT INSPECTION SERVICES



INSIGHT INTO THE INSIDE

NIKON METROLOGY | VISION BEYOND PRECISION

X-RAY TECHNOLOGY CENTER

Nikon Metrology is a world-renowned, innovative imaging and optical leader with a state-of-the-art X-ray Technology Center located in Brighton, Michigan. We offer the broadest range of X-ray and CT solutions. With over 30 years expertise in X-ray/CT, our fully equipped laboratory features an energy range from 160-450 kV microCT and walk-in-room capabilities. Nikon's industrial X-ray and CT technology yields unmatched accuracy and insight with every scan. The 3D analysis process is fast, accurate, and non-destructive, from small one-off projects to large batch projects we can handle your contract inspection requirements. We also have many Nikon-equipped laboratories throughout North America that can handle the most simple to complicated X-ray/CT inspection needs.



STREAMLINED INSPECTION PROCESS



STEP 1

CONTACT US - DISCUSS PROJECT REQUIREMENTS

- Contact our experienced X-ray team
- Discuss and understand your project requirements
- Provide a quote customized to your project while keeping in mind a cost effective solution for you



STEP 2

SEND NIKON YOUR SAMPLE

- Our Nikon-equipped inspection labs nearest you can handle projects from one to multiple samples
- Once your sample is received, we will notify you immediately
- Your project is then placed in our job queue for scanning



STEP 3

SCAN AND ANALYSIS

- Each project is handled by one of our experienced X-ray Applications Engineers
- Standard turnaround time is 5-7 business days
- Expedited delivery available. How fast do you need results?



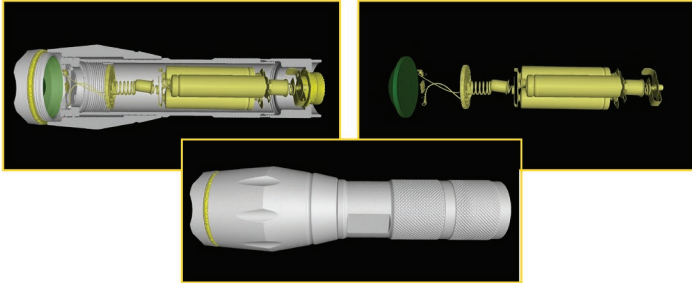
STEP 4

RESULTS AND SAMPLE RETURN

- Upon completion, you will be contacted by the Application Engineer that worked on your project
- Freeware viewing software will be provided with CT project
- A web conference can be scheduled at your convenience to review the results
- Data can be delivered via our secure Nikon File Store, USB Drive or your own secure company File Transfer Protocol (FTP) Site

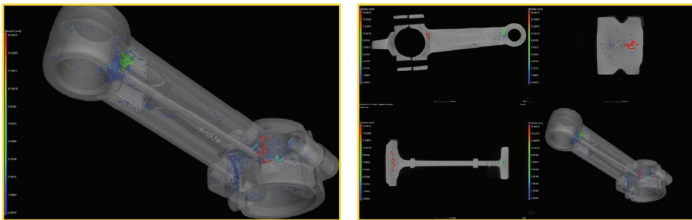


3-DIMENSIONAL X-RAY & CT SCANNING INSPECTION AND ANALYSIS



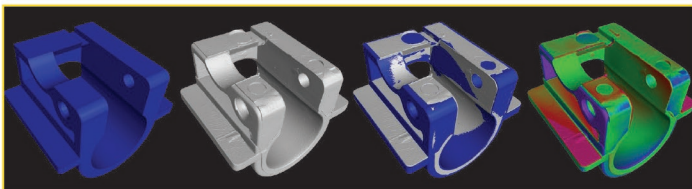
FAILURE/ASSEMBLY

Non-destructively investigate the root cause of failure of a complex part or of an assembly. Cross-sectional views can be taken to measure internal features, inspect for cracks or defects, identify leak paths or missing parts.



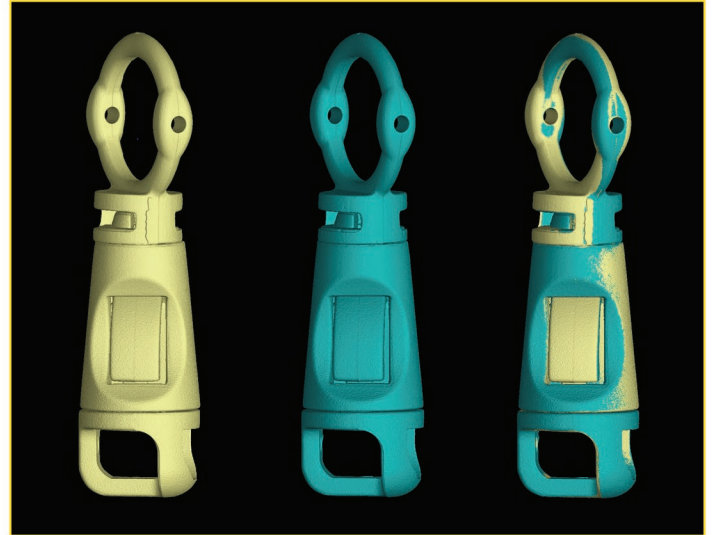
POROSITY/INCLUSION

Identify internal defects such as voids and inclusions within a sample. Pores can be identified by location, volume and individual size. A color scale map is provided.



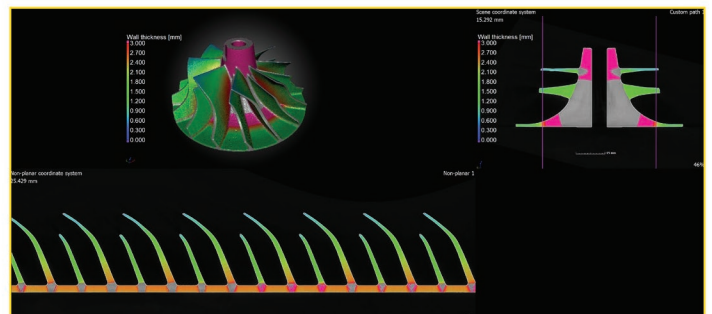
PART-TO-CAD COMPARISON

Accurately detect internal and external differences between the actual part and its intended CAD design. Results are provided in a color-coded model showing any deviations.



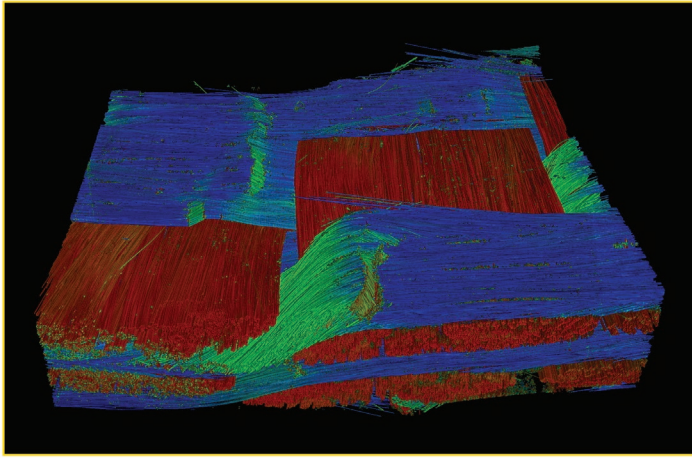
PART-TO-PART COMPARISON

Accurately detect internal and external geometry differences between two seemingly identical parts. Results are provided in a color-coded model showing deviations between the parts.



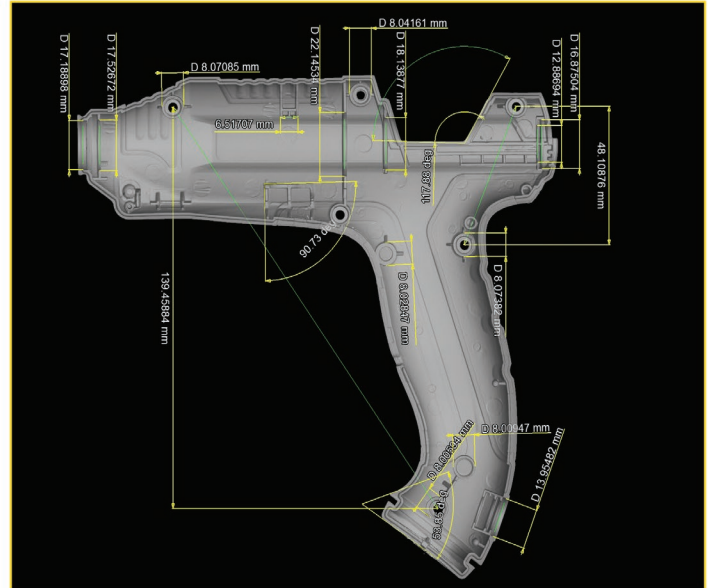
WALL THICKNESS

Evaluate thin walls or excessive material within a sample. Non-destructively take cross-sectional views to identify any deviations. Ideal for additive manufactured parts with complex internal geometry.



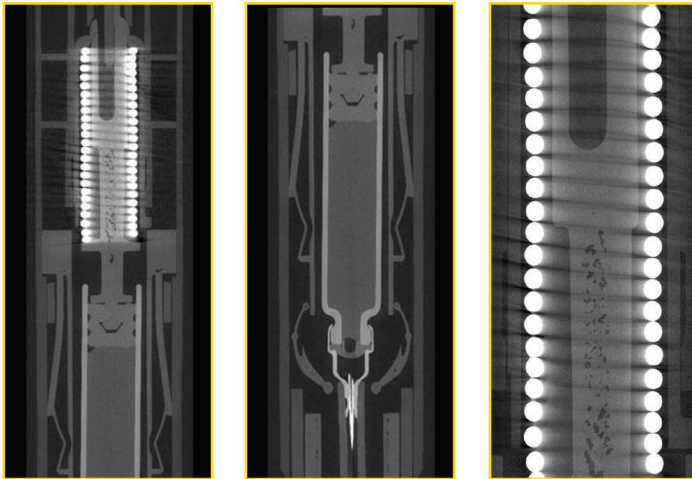
FIBER COMPOSITE MATERIAL

Gain insights into materials such as carbon-fiber-reinforced plastic (CFRP) or glass-reinforced plastic (GRP). Calculate, e.g., local fiber orientations, local fiber volume fractions, global fiber orientation distributions, and global volume fractions.



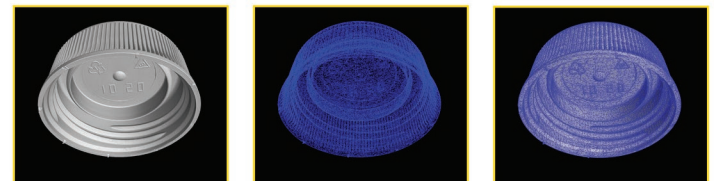
DIMENSIONAL (First Article Inspection/GD&T):

Develop a measurement program from a provided CAD model and a complex GD&T drawing of a part. Allows for a quick and accurate inspection of multiple dimensions. Identify specified part tolerances without destroying the part.



HELICAL CT SCANNING CAPABILITIES

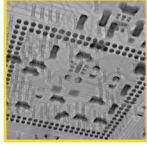
Scanning tall parts often causes a dilemma. Nikon Metrology offers a revolutionary Helical CT Scanning ability that mounts and moves parts vertically through the X-ray beam. The result is a drastic reduction in processing time and an overall improvement in image quality.



REVERSE ENGINEERING

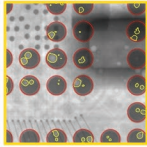
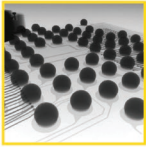
Generate part data in a point cloud/polygon format. Data can be exported as an STL, WRL, TXT, PLY or OBJ file. Any of these file formats can be imported into various CAD software packages.

2-DIMENSIONAL X-RAY INSPECTION



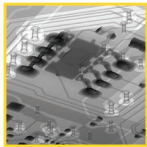
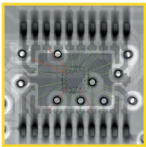
ELECTRONICS

Get insight into printed circuit board assemblies, components, or electrical devices in an intuitive, non-destructive inspection process.



BGA DEVICE INSPECTION

Voiding (single and total ball percentage), ball circularity, ball count, bridging, pass/fail detection.



BOND WIRE ANALYSIS

Automatically identify and detect broken bond wires, wire sweep with pass/fail status.



REAL TIME X-RAY INSPECTION

From small one-off projects to large lot projects, samples can be accurately inspected instantly. Locate missing parts, broken wires, cracks/defects and cause of part failure.

SCHEDULE YOUR INSPECTION WITH
NIKON METROLOGY TODAY:

Email: x-rayinspection.nm-us@nikon.com

Telephone: (810) 220-4360

www.nikonmetrology.com

INDUSTRIES

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Plastic Injection Molding
Research

MATERIALS

Ceramics
Composites
Glass Fiber
Metal & Alloys
Mixed Material
Plastics
Silicone/Rubber

DATA RESULTS

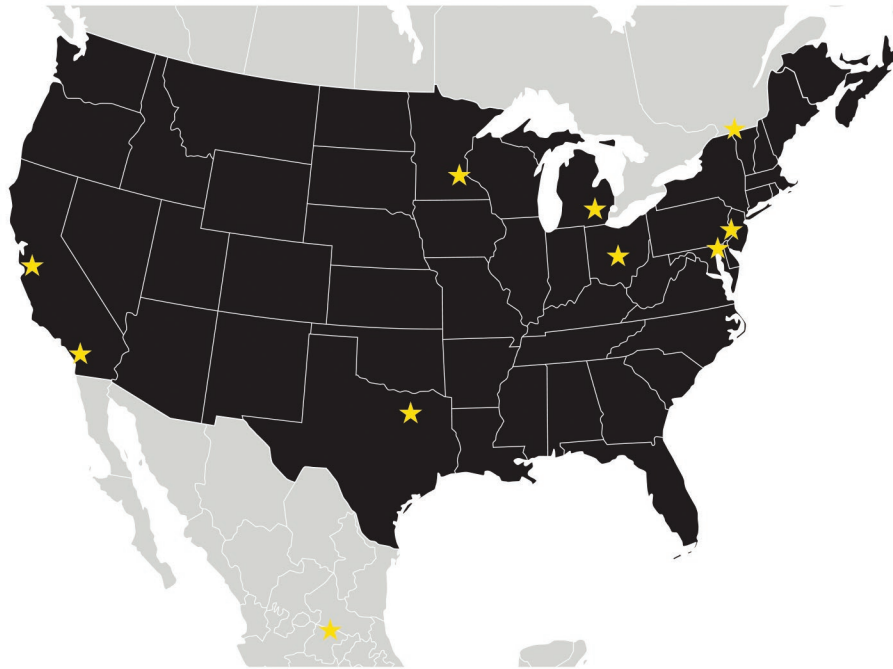
A Volume Graphics shared viewing software is provided with every CT scanning project. The software allows you to visualize the 3D reconstructed volume of a part scanned, along with the analysis performed. This allows for internal cross sectional views and full 360 degree rotational views. Data can be transferred via our secure Nikon file store, a customer's provided Hard Drive/USB drive or your company secured FTP site.

Turnaround Times: Our standard turnaround time to complete projects is 5-7 business days. We also offer expedited services. Please inquire.

RESULT OPTIONS

- Volume Graphics shared viewing software with CT scans
- JPEG Image Stacks, 2D X-ray Images
- Point cloud data or STL file
- PDF Presentation
- Metrology Reports - First Article Inspection (FAI) Reports/Excel charts
- Transfer data to our secure Nikon File Store
- A provided Hard Drive/USB drive
- Your company's own secure FTP site
- Webinar Conference - Hosted by one of our experienced Applications Engineers

CONTACT US FOR A QUOTE



WHAT'S IN OUR LAB



- XT V 160 kV high-quality PCB/electronics inspection system
- XT H 225 kV for all-purpose X-ray and CT inspection
- XT H 320 kV for X-ray and CT inspection of larger samples
- XT H 450 kV - Unique micro-focus X-ray and CT system for turbine blade and casting inspection
- WALK-IN ROOM - M2 high-precision X-ray and CT inspection system with multiple sources - 450 kV micro/450 kV mini/225 kV



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