Confidence Delivered.
Providing X-ray inspection tools and services to enable leading edge breakthroughs in science, technology and manufacturing.

VJ INSPECTION SERVICES
A Leader in Digital Radioscopy Testing
3D COMPUTED TOMOGRAPHY | 2D DIGITAL RADIOGRAPHY
Energy Levels from 40 kV to 9 MeV
VJ Inspection Services

About Us

32+ years ago, VJT pioneered industrial digital radiography, and has been developing and deploying the most cutting-edge solutions ever since. VJ Inspection Services (VIJS) leverages those 1,000+ man-years of experience and expertise, and harnesses that knowledge to provide high quality services to our current and future clients.

For over 20 years, VJ Technologies (VJT) has been delivering exceptional specialized inspection services that meet and surpass the needs and requirements of every one of our customers. Companies and organizations ranging from the US DoE and DoD to NASA to Siemens and Con Edison trust VJ with their parts, their processes, and their brand.

Whether you send parts to us or we send equipment and trained operators to you, VIJS is the trusted service partner you need to give you the confidence in the quality of your parts and processes. That’s **Confidence Delivered.**

Digital Radiography

Our Capabilities

- **Microfocus**
  - Power: 80 kV
  - Range: 40kV - 300 kV

- **Standard**
  - Power: 450 kV
  - Range: 80kV - 450 kV

- **High Energy**
  - Power: 9 MeV
  - Range: 450 kV - 9 MeV

**Industries Served**

- Electronics
- Military
- Security
- Medical
- Aerospace
- Auto
- Nuclear
- Energy

**Quick Turnaround**

Typically, application studies will be completed within 2-3 days on receipt of your parts. Priority expedited turn-around of 24 hours is available. (Exceptions may apply in certain cases)

**Wide Range of Parts**

VIJS has the capability of inspecting a part as light and thin as a leaf to a part as big as a 20’ shipping container or a section of steel up to 15 inches thick. Depending on the imaging parameters and the material, image resolution can be down to 1 µm.

**See Like Never Before**

VJT’s proprietary Advanced Defect Enhancement (ADE) and Noise Reduction (ADE-N) filters highlight anomalies and features in X-ray images simplifying part disposition and characterization.
DIGITAL RADIOGRAPHY

Images

Before and After Shot at 450kV

Industry: Automotive

Before and After, Shot at 6 MeV

Industry: Power Generation

Before and After, shot at 6 MeV

Industry: Fine Arts

Confidence Delivered - Through Technology
COMPUTED TOMOGRAPHY
Our Capabilities

- **Microfocus**: 40kV - 300 kV
- **Standard**: 80kV - 450 kV
- **High Energy**: 450 kV - 9 MeV

**Quick Turnaround**
Typically, part scans will be completed within 7 days upon receipt of parts. Priority expedited turn-around is available. (Some exceptions may apply)

**Broad Range of Parts**
Whether it's a small medical device, a large rocket motor or even an automobile, VJIS' CT services can cover a broad range of part sizes, materials, and geometries.

**Advanced 3D Image Processing**
VJT's unique Iterative Artefact Reduction (IAR) tool helps you make sense of the data, highlighting defects and anomalous areas in 2D and 3D.

QUALIFICATIONS
People and Certifications

We deliver customer confidence in all our inspection operations via our qualified professionals and the certified management systems that we use.

- NAS 410 Qualified Level 3 and Level 2 DR & CT Inspection Specialists
- ASNT Qualified Level 3 and Level 2 DR & CT Inspection Specialists
- FAA Qualified DR Inspection Specialists
- IRRSP Qualified DR & CT Inspection Specialists for Field Inspection Services
- NQA-1 Compliant Quality Management System for Nuclear Applications
- AS9100/ISO9001 (Pending) Quality Management System
- Inspection Quality System Aerospace Industry Certified for DR & CT Applications
- ITAR Compliant Program
COMPUTED TOMOGRAPHY

Images

MicroFocus shot at 70 kV, 500 µA, 39 µm detail

Industry: Additive

Standard shot at 120 kV, 2.5mA, 160 µm detail

Industry: Aerospace, Additively manufactured Al alloy

High Energy shot at 6 MeV, 360 µm detail

Industry: Medical Device

Confidence Delivered - Through Technology
Product Development

Inspection and analysis of products during development and testing via our inspection service is your most cost and time effective investment.

• Compare part scans to CAD models to find deviations and diagnose potential flaws in your parts and process.
• Compare scans before and after various processes (such as hipping, or mechanical, electrical or environmental stressing, etc.) to learn what’s going to happen to your part in the real-world.
• Metrology of internal and external features and services; wall thickness and porosity analyses; Composite and fiber orientation analyses; and any more

Benchmarking & Reverse Engineering

VJIS can convert 3D CT scans of the part into high-fidelity CAD models. Our partner Caresoft can fully disassemble these CAD drawings down to their individual components for a unique one-of-a-kind service.

Nondestructive Failure Analysis

• Field Failure Evaluation
• MTBF and Reliability Analysis
• Root Cause Detection
• Third Party Dispute Resolution
• Physics of Failure Analysis
• Metallurgical and Materials
• Evaluation Mechanical Crack Propagation

Validation & Assurance of Production Parts

Whether it's 1 part or 10,000; whether it's an AM part for aerospace or a casting for automotive or a new biomedical device or a part from any other industry - VJIS' inspection services will give you unrivaled quality imaging for you to confidently diagnose your part and process.

Confidence Delivered.

“I have never brought a problem to them that they did not know how to solve.
- Fusion EMS

“They are the best in class, and by far, the best in their industry”
- Naprotek
VJIS CASE STUDIES
In-House and In-the-Field

VJIS conducted an In-the-Field case study for ConEdison and the solution is still being used today. The goal was to develop a transportable field solution combining high-energy X-ray generation, and specialized imaging software to detect discontinuities and possible flaws.

1 Problem: Underground access points to transmission feeder joints do not have sufficient space to allow for 360° rotation by the high-energy X-ray equipment and digital detector.

2 Solution: VJIS developed a modular prototype gantry system of a pipe. Study showed that X-ray energies of 7.5 MeV and a digital detector array would reveal discontinuities using limited angle CT.

3 Result: VJIS technology revealed defects in the power transmission feeders that would have caused explosions, power outages, or worse.

The Additive Manufacturing Industry is becoming increasingly popular, especially among the Aerospace Industry, and is projected to grow 23% by 2021, and should reach a market size of 906.7 million USD by 2023.

1 Problem: The Additive Manufacturing Industry produces many complex parts made of exotic metals including Inconel, Ti and Ai alloys, etc that are difficult to inspect.

2 Solution: VJIS has established a DR and CT Inspection Center that has a full range of X-ray sources up to 9 MeV, along with the latest LDA + DDA detectors, rotary stages, high precision manipulators, and best in class Vi3 vision software.

3 Result: VJIS is able to support product development of new space hardware, rocket propulsion and aircraft engines. Certified inspection performance and timely execution has made VJ inspection services the supplier of choice. Confidence Delivered.
Where to find us

VJIS provides world-class X-ray inspection at any of our Service Centers, mobile/modular inspection units, or portable X-ray inspection solutions. Our qualified, certified and experienced teams can provide the inspection service in-house, or at your facility if bringing or shipping us the part(s) is not an option.

Contact any of our global locations

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