

Next-Gen CT Systems for High-Stakes Challenges

Cutting-Edge CT Technology & Data Analysis Across Industries

Exponent has expanded its advanced imaging capabilities with the acquisition of a new, cutting-edge CT scanner in our Menlo Park laboratory. Building on our existing foundation in non-destructive analysis, the new Phoenix V|tome|x M Neo enables us to pair state-of-the-art technology with decades of industry and engineering experience. The Phoenix V|tome|x M Neo enhances Exponent's global CT capabilities, which include five CT scanners on two continents and our robust partner network.

With nearly 20 years of experience using X-ray computed tomography (CT) technology to solve some of our clients' most important questions, Exponent has a proven record of leveraging non-destructive analysis to address your most complex technical challenges for batteries, consumer electronics, medical devices, transportation, industrial manufacturing, and more. With our advanced, in-house technologies and unmatched engineering expertise, we go beyond test results to provide data-backed insights that help you mitigate risk, identify root causes, and unlock decisions that empower innovation.

About the Waygate Phoenix V|tome|x M Neo

Waygate's flagship Phoenix V|tome|x M Neo in Menlo Park helps you quickly see inside products without cutting them open or risking damage to limited samples. Its dual tube design and high accelerating voltage — up to a rare 300 kV for a microCT — offer high-resolution 3D imaging of small, intricate components like medical devices and fine electronics, including the ability to visualize features in thick metal parts that would typically cause severe shadow artifacts.

This flexibility means you can use a single, non-destructive imaging platform to validate designs, compare suppliers, investigate failures, and preserve critical evidence for litigation across a wide range of complex parts and materials.

RELATED INVESTIGATIONS

- Risk assessments
- Failure analysis
- Root cause analysis
- Accident reconstruction
- Litigation support



QUESTIONS CLIENTS ASK

Q: What is the maximum sample size your CT device can handle?

A: Up to 500 mm (19.68 in) in diameter and 700 mm (27.55 in) in height. In many cases, we can accommodate larger samples through different imaging strategies. Please get in touch to discuss.

Q: What is the maximum sample weight that can be analyzed?

A: Up to 75 kg (165 lbs). Our CT system in Phoenix — Waygate's Phoenix V|tome|x C450 CT — features a larger weight capacity.

Q: What resolution can I expect?

A: The M Neo's 300 kV microfocus tube delivers a minimum voxel size of 2 μm , and when configured with its nanofocus tube, we can give you access to submicron detectability, enabling detailed visualization of small and intricate features. These values represent best-case capabilities; the actual resolution for a given scan depends on factors such as part size, geometry, material(s), and inspection requirements.

Q: Can Exponent help me analyze the CT data?

A: Exponent's multidisciplinary teams have decades of experience analyzing and interpreting CT scan data from both our own instruments as well as data provided by clients and other labs. With deep expertise using commercially available advanced analysis modules, as well as internally developed custom solutions, we deliver insights and analysis clients count on to evaluate and safeguard their supply chains, materials, and manufacturing processes — and to bring scientific clarity to complex litigation.

Q: How quickly can I get CT results?

A: As quickly as a few days, depending on the sample, scan, and complexity.

Q: How does Exponent's non-destructive analysis support failure analysis and high-stakes litigation?

A: Our scientists and engineers use advanced CT scanners — along with optical microscopy, metrology, and Fourier transform infrared spectroscopy (FTIR) — to answer critical questions when you can't afford to cut parts open, destroy limited samples, or risk altering evidence. High-resolution 3D imaging reveals internal structures, interfaces, and defects that traditional surface inspection and 2D X-ray may miss — all while keeping components and assemblies intact.

What Can We Help You Solve?

NORTH AMERICA | EUROPE | ASIA

