ZEISS Xradia 520 Versa
Submicron X-ray Imaging:
Extending the Limits of Your Exploration
Unlock new degrees of versatility for your scientific discovery and industrial research with the ZEISS Xradia 520 Versa 3D X-ray microscope; the most advanced model in the Xradia Versa family. Building on industry-best resolution and contrast, Xradia 520 Versa expands the boundaries of non-destructive imaging for breakthrough flexibility and discernment critical to your research. Innovative contrast and acquisition techniques free you to seek – and find – what you have never seen before. Move beyond exploration and achieve discovery.
100 µm
200 µm


Achieve New Degrees of Freedom

Use the industry’s most comprehensive submicron X-ray imaging solution for advanced scientific and industrial research. Xradia 520 Versa offers many industry-firsts: Compositional contrast provides unprecedented discernment of the materials you study and their characteristics. Diffraction contrast tomography unlocks 3D crystallographic information in your lab. The name says it all: LabDCT is the first laboratory-based analytical modality for computed tomography. Extended field of view tomography acquisition techniques, including the optional Flat Panel Extension (FPX), further enhance the speed and accuracy with which you can image samples of distinctive proportions. Building on Xradia synchrotron-caliber optics and architecture, the advanced Dual Scan Contrast Visualizer (DSCoVer) and High Aspect Ratio Tomography (HART) capabilities provide you with features that deliver unrivaled versatility for your research and exploration.

Experience Performance Beyond Traditional Micro-CT

ZEISS Xradia 520 Versa enables unprecedented lab-based exploration for a diverse array of applications, sample types and sizes. Xradia Versa solutions help you extend your research beyond the limits of basic projection-based micro- and nano-CT systems. Where traditional tomography relies on a single stage of geometric magnification, Xradia 520 Versa features a unique two-stage process based on high resolution optics. Our breakthrough Resolution at a Distance (RaaD) provides true spatial resolution of 0.7 µm with a minimum achievable voxel size of 70 nm. Additionally, the optional FPX enables rapid macroscopic scans of very large samples, providing a roadmap to high resolution scans of interior regions of interest.

Support Your Research with the Premier 4D / In Situ Solution

Nondestructive 3D X-ray microscopes uniquely characterize the microstructure of materials in native-like environments— in situ—as well as the evolution of properties over time (4D). Leverage RaaD with Xradia 520 Versa to maintain the highest resolution across large working distances, accommodating samples contained within environmental chambers and high-precision in situ rigs. Additionally, the in situ Interface Kit for Xradia Versa will optimize your set-up and operation, providing you with the results you’re looking for faster and more easily.

LabDCT 3D imaging of grain orientations in aluminum alloy (IPF (inverse pole figure) colored). Image Courtesy of: TU Denmark

FPX: Extend field of view over multiple length scales when imaging intact lithium batteries

Accommodate a variety of stages with your in situ kit.
Your Insight into the Technology Behind It

**Benefit from Non-destructive, High Resolution 3D Imaging**

Today’s premier research and technology development requires three-dimensional insight into subjects in their native states and as they evolve over time. World-leading research and development facilities, universities, synchrotrons, national and private labs have deployed X-ray microscopy (XRM) to meet the growing need for flexible, 3D/4D imaging at high resolution.

X-ray microscopy plays a vital role in your imaging workflow, delivering high resolution and contrast without destroying valuable samples, preserving them for future use. Adding a non-destructive stage to the traditional workflow complements electron and optical techniques, enabling you to quickly identify regions of interest for further study at higher resolution but ultimately destructive techniques.

Select your objective to adjust resolution and field of view (FOV) without repositioning your sample.

ZEISS Xradia Versa dual stage magnification technology uniquely enables you to maintain high resolution across large working distances (known as Resolution at a Distance, or RaaD). This capability is rooted in the system’s synchrotron heritage, using a patented detector system with scintillator-coupled visible light optics.
Your Insight into the Technology Behind It

**ZEISS XRM: Architected for Your Advantage**

Xradia Versa architecture natively uses a two-stage magnification technique to uniquely provide you with submicron resolution at large working distances, known as resolution at a distance (RaaD), for a large range of sample sizes. Sample images are initially enlarged through geometric magnification as they are in conventional micro-CTs.

The projected image impinges on a scintillator, which converts X-rays to visible light, and is subsequently magnified by an optical objective before reaching the detector. Add the optional flat panel extension (FPX) to your system to further increase its versatility. This combination of detector designs allows the widest range of sample sizes and types to be studied efficiently and accurately.

![Conventional Micro-CT Architecture](image1)

![ZEISS XRM Two-stage Magnification Architecture](image2)

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**In Brief**

- The Advantages
- The Applications
- The System
- Technology and Details
- Service

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High resolution is maintained for large samples.
Your Insight into the Technology Behind It

 Achieve True Spatial Resolution
Xradia Versa solutions deliver powerful 3D X-ray imaging for your research requirements, maintaining true submicron spatial resolution across varying distances, sample sizes, and environments. ZEISS specifies XRM on true spatial resolution, which is the most meaningful measurement of a microscope’s performance.

Spatial resolution refers to the minimum separation at which a feature pair can be resolved by an imaging system. It is typically measured by imaging a standardized resolution target with progressively smaller line-space pairs. Spatial resolution accounts for critical characteristics such as X-ray source spot size, detector resolution, magnification geometry, and vibrational, electrical and thermal stability. You will hear other terms, such as “voxel”, “spot size”, “detail detectability”, and “nominal resolution”, but they do not convey an imaging system’s full performance capabilities.

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True spatial resolution of 0.7 μm and a minimum achievable voxel size of 70 nm.
Your Insight into the Technology Behind It

Gain An Edge In Contrast
Your imaging requires superior contrast capabilities to reveal details necessary to accurately visualize and quantify features. Xradia Versa delivers flexible, high contrast imaging for even your most challenging materials—low atomic number (low Z) materials, soft tissue, polymers, fossilized organisms encased in amber, and other materials of low contrast.

ZEISS’s comprehensive approach employs proprietary enhanced absorption contrast detectors that achieve superior contrast by maximizing collection of low energy photons while minimizing collection of contrast-reducing high energy photons.

In addition, the tunable propagation phase contrast measures the refraction of X-ray photons at material transitions to allow you to visualize features displaying little or no contrast during absorption imaging. Now, diffraction contrast tomography (LabDCT) reveals 3D crystallographic information directly from polycrystalline materials such as metals and alloys. This enables you to combine crystallographic information with absorption or phase contrast tomography where precipitates or defects are revealed.

Pear imaged with absorption contrast – no visibility of cell walls (left), and pear imaged with phase contrast, showing details of cell walls in normal cells and stone cells (right).

LabDCT provides non-destructive 3D grain imaging for mapping orientation and microstructure (Sample: Armco Fe, diameter 1 mm. Reconstructed volume (color image), diffraction pattern (black and white image). Sample courtesy of: University of Florida; Burton R. Patterson
Your Insight into the Technology Behind It

Optimize Contrast for Maximum Discernibility

The innovative Dual Scan Contrast Visualizer (DSCoVer) provides flexible side-by-side tuning of two distinct tomographies. This enables compositional probing for features normally indistinguishable in a single scan, allowing you to seamlessly and easily collect the data required for dual energy analysis. Imaging a sample at two different X-ray operating source voltages, such as low energy (LE) or high energy (HE) or in two different states, aligning then combining the resulting datasets, assures you will achieve optimum contrast for the material of interest and enable you to define repeatable research parameters. DSCoVer takes advantage of how X-rays interact with matter based on effective atomic number and density. This provides you with a unique capability for distinguishing, for example, mineralogical differences within rocks as well as among difficult-to-discern materials such as silicon and aluminum.
Achieve Higher Throughput — Get a Faster Time to Results

The innovative High Aspect Ratio Tomography (HART) mode on Xradia 520 Versa provides you with higher throughput imaging for your flat samples such as those found with semiconductor packages and boards. HART enables you to variably space projections so that you collect fewer projections along the broad side of a flat sample and more along the thin side. A wealth of 3D data is provided by these closely-spaced long views versus less densely-spaced short views, maximizing the information density during acquisition.

You can also tune HART to emphasize higher throughput or better image quality, thereby potentially accelerating image acquisition speed by 2X.

This faster acquisition mode is in addition to a powerful dual GPU workstation that accelerates image reconstruction time by up to 40%.

Add the optional flat panel extension (FPX) to achieve higher throughput (2-5X) on very large samples (up to 10X).

HART vs without-HART 64 Gb Flash Chip. Same or better quality image in half the scan time.
Your Insight into the Technology Behind It

Now It’s Even Easier to Image Challenging Samples

The Automated Filter Changer (AFC) is easy to use and facilitates features such as DSCoVer and *in situ* applications on the Xradia 520 Versa instrument. Researchers commonly use source filters to tune the X-ray energy spectrum and every Xradia 520 Versa comes with a standard set of 12 filters. In addition to the standard range of filters, you will find 12 additional filter slots on the AFC to allow you to use custom source filters, such as filters composed of different materials or thicknesses.

The AFC houses these filters and allows your selection to be programmed and recorded for each recipe with the Scout-and-Scan Control System. When you don’t need a source filter at all, there is a convenient cut-out on the AFC to allow your samples to move even closer to the source for higher throughput.
Your Insight into the Technology Behind It

**Flexibly Image Larger Samples**

Wide Field Mode (WFM) provides you with either an extended lateral field of view for imaging large sample types or higher resolution using the standard field of view, both in a single tomography. For larger samples, the lateral field of view is approximately twice as wide as the standard mode for the same voxel size providing you with 3D volume more than three times larger. Using standard field of view, WFM provides you with nearly twice the number of voxels.

This additional imaging flexibility is available on Xradia 520 Versa 0.4X and 4X objectives.

Combining WFM with the existing Vertical Stitching feature, which joins separate tomographies vertically into a taller single tomography, enables you to image large samples that are both wider and taller than the standard field of view.

![Image large samples such as this 6 inch stereo speaker.](image.png)
Your Insight into the Technology Behind It

Use Our Super Simple Control System to Create Efficient Workflows
All of the features introduced by Xradia 520 Versa are seamlessly integrated within the Scout-and-Scan Control System, an efficient workflow environment that allows you to easily scout a region of interest and specify scanning parameters. The easy-to-use system is ideal for a central lab-type setting where your users may have a wide variety of experience levels. The interface maintains the flexibility for which Xradia Versa systems are known, enabling you to set-up scans even more easily. Scout-and-Scan software also offers recipe-based repeatability, which is especially useful for your in situ and 4D research, and enables you to have greater control and efficiency for future work.

Scout-and-Scan Advantages
- Internal camera for sample viewing
- Recipe control (set, save, recall)
- Parameter flexibility and feedback
- Multiple samples with Autoloader option
- Stitch multiple volumes easily with vertical stitch
- Micropositioning capability with a simple mouse click
Expand Your Possibilities

LabDCT – Unlocking Crystallographic Information in your Lab

With LabDCT, ZEISS brings you the first-ever laboratory-based diffraction contrast tomography imaging module. This unique grain imaging analytical technology enables non-destructive mapping of orientation and microstructure in 3D. No longer confined to conventional 2D metallography investigations, direct visualization of 3D crystallographic grain orientation opens up a new dimension in the characterization of metal alloys and polycrystalline materials.

- Combine 3D grain orientation with 3D microstructural features such as defects or precipitates you have observed in tomography: Where absorption or phase contrast tomography lack information on grain orientation or other details of your material’s microstructure, you can combine them with LabDCT. You will see new possibilities for characterizing damage, deformation and growth mechanisms—or even to couple with modeling.

- Investigate microstructure evolution with 4D imaging experiments: LabDCT extends metals research to 3D—and on to 4D with routine tool access for longitudinal studies such as corrosion. Compared to the synchrotron, being able to expose your samples to environments in the microscope across days, weeks or even months is a unique strength of laboratory-based XRM experiments.

- Complement your grain imaging with 3D grain morphology: Routinely acquire grain statistics on larger volumes at faster acquisition times. Crystallographic information provided by LabDCT lets you supplement other analyses like EBSD or synchrotron methods.

![Direct visualization of an aluminum-copper (Al – Cu) alloy, acquired with LabDCT. The 3D crystallographic information of the Al – Cu grain boundaries (a) is combined with the information of the grain shape (b) in an overlay: (c) a virtual cross-section through the center of the 3D XRM image data stack is a combination of both (a) and (b).](image)
Expand Your Possibilities

LabDCT – How it works
LabDCT is a fully integrated analytical module. The sample is illuminated through an aperture in front of the X-ray source. Both the sample absorption and diffraction information are recorded with a high resolution detection system. A beamstop is added to the set-up to block out the direct beam and to enhance the contrast of the diffraction signal. 3D crystallographic information (e.g. grain size, shape, position and orientation) are reconstructed using GrainMapper3D software.

LabDCT Advanced Imaging Module
- Dedicated hardware: apertures, beamstop
- Integrated acquisition with Scout and Scan
- GrainMapper3D advanced and interactive crystallographic reconstruction software
- Dedicated high performance workstation

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Sodium chloride embedded in epoxy (energetic material proxy): LabDCT orientation match {100} cleave planes

Schematic of the LabDCT setup.
Expand Your Possibilities

Increase Your Sample Handling Efficiency
Maximize your instrument’s utilization by minimizing user intervention with the optional Autoloader, available for all instruments in the ZEISS Xradia Versa series of submicron 3D X-ray microscopes. Reduce the frequency of user interaction and increase productivity by enabling multiple jobs to run. Load up to 14 samples, queue, and allow to run all day, or off-shift. The software provides you with the flexibility to re-order, cancel and stop the queue to insert a high priority sample at any time. An e-mail notification feature in the Scout-and-Scan user interface provides timely updates on queue progress. Autoloader also enables a workflow solution for high volume repetitive scanning of like samples.
Expand Your Possibilities

Image Even Larger Samples and with High Throughput
Optional FPX™ flat panel extension delivers large-sample, high throughput scanning with ZEISS best-in-class image quality. Versa FPX enhances imaging flexibility and creates work-flow efficiencies with an all-in-one system for industrial and academic research.

Scout large samples to identify a region of interest (ROI), and then zoom to image targeted volumes at high resolution with the exclusive Versa dual magnification microscope objectives that enable Resolution at a Distance (RaAD).

FPX extends the Xradia 520 Versa Scout-and-Zoom workflow by achieving full field of view, whole-sample imaging, i.e., a geological core or an intact smartphone, with higher throughput.

FPX Specifications
- Flat Panel Detector Array: 3072 x 1944
- Single FOV: 140 mm width, 93 mm height
- Maximum field of view with automated stitching: 140 mm width, 165 mm height

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Scout-and-Zoom a large sample at high throughput with high resolution sub-sampling.
Expand Your Possibilities

Scout-and-Zoom Workflows

A) FPX scout scan (board side view of level 2 interconnect); B) FPX scout of processor module, XY virtual plane of package-on-package construction. C) Zoom at high resolution to XZ-virtual cross-section. D) High resolution XY plane showing interconnect quality.

Three-stage Scout-and-Zoom workflow. Rapidly scan large field of view with FPX and then zoom to regions of interest with RaazD objectives. Sample set: bear jaw, 15 cm long.
Expand Your Possibilities

Make Room for the Science You’ve Only Dreamed of Until Now
Continuing to push the limits for scientific advancement, Xradia Versa solutions have evolved to provide you with the industry’s premier 3D imaging solution for the widest variety of in situ rigs, from high pressure flow cells to tension, compression and thermal stages. You can add the optional In Situ Interface Kit to all Xradia Versa instruments. Contents include a mechanical integration kit, a robust cabling guide and other facilities (feed-throughs) along with recipe-based software that simplifies your operation from within the Scout-and-Scan user interface. Experience the highest level of stability, flexibility and controlled integration of such in situ devices on the Xradia Versa, which benefit from an optical architecture that doesn’t compromise resolution in variable environmental conditions.

In situ kit tracking with Deben thermomechanical stage.

Tensile testing of a steel laser weld under increasing load. The data reveal a crack initiating and propagating from a rough surface imperfection, as well as the elongation of internal voids. Sample courtesy of Sandia National Laboratories.
Expand Your Possibilities

**Dragonfly Pro Your Visual Pathway to Quantitative Answers**

Dragonfly Pro is advanced 3D visualization and analysis software in a configurable package from Object Research Systems (ORS). It is offered exclusively by ZEISS for processing SEM, FIB-SEM, Helium-ion, and XRM data. Using advanced visualization techniques and state-of-the-art volume rendering, Visual SI Advanced enables high definition exploration into the details and properties of your sample. Align multiple datasets within the same workspace, and easily manipulate your 2D and 3D data with an extensive image processing feature set.

Segment your data automatically or manually in order to distinguish and visualize different materials. Dragonfly Pro is equipped with powerful object analysis functions to measure properties, including areas, volumes, counts, distributions, and orientations. The interface is designed to intuitively interact with statistical results, allowing you to precisely isolate and analyze specific regions of interest within your data.

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Tailor the tools that are optimal to your workflow: choose plug-ins that allow you to control registration, map differences, and customize appearance. Micro-govia-oviformis images on a ZEISS Xradia 520 Versa. Sample courtesy of Harvard University.

Compute morphometric properties to visualize quantitative answers. Sandstone imaged by SEM showing volume distribution of grains in sandstone. Courtesy of Imperial College.

## Precisely Tailored to Your Applications

### Typical Applications

<table>
<thead>
<tr>
<th>Materials Research</th>
<th>Characterize materials</th>
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<tr>
<td>Observe fracture mechanics</td>
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<tr>
<td>Investigate properties at multiple length scales</td>
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<tr>
<td>Quantify and characterize microstructural evolution</td>
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<tr>
<td>Perform in situ and 4D (time dependent studies) to understand the impact of heating, cooling, dessication, wetting, tension, tensile compression, imbibition, drainage and other simulated environmental studies</td>
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<tr>
<td>Life Sciences</td>
<td>Perform histologies virtually</td>
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<tr>
<td>Visualize cellular and subcellular features</td>
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<tr>
<td>Characterize centimeter to submicron structures</td>
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<tr>
<td>Expand your views in developmental biology with high resolution, high contrast images of cellular and subcellular structure</td>
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<tr>
<td>Image large intact samples such as brains or large bones</td>
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<tr>
<td>Raw Materials</td>
<td>Characterize heterogeneity at core plug scale and quantify pore structures</td>
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<tr>
<td>Measure fluid flow, analyze texture, understand dimensional classification</td>
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<tr>
<td>Study carbon sequestration efforts</td>
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<tr>
<td>Advance mining processes; analyze tailings to maximize mining efforts; conduct thermodynamic leaching studies; perform QA/QC analysis of mining products such as iron ore pellets</td>
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<tr>
<td>Understand grain orientations in steel and other metals</td>
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<tr>
<td>Manufacturing and Assembly</td>
<td>Optimized process development for the Electronics, Automotive and Medical Device industries</td>
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<tr>
<td>Study package reliability</td>
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<tr>
<td>Perform failure analysis</td>
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<tr>
<td>Analyze package construction</td>
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- Non-destructive views into deeply buried microstructures that may be unobservable with 2D surface imaging such as optical microscopy, SEM, and AFM; compositional contrast for studying low Z or “near Z” elements and other difficult-to-discrim materials
- Ability to maintain resolution at a distance for non-destructive in situ imaging experiments in varying conditions or native-like environments. Fast, efficient Scout-and-Zoom technology further enhanced with Versa FPX to look at very large samples on a macro scale to determine regions of interest for high resolution imaging.
- The most accurate 3D submicron support for digital rock simulations, in situ multiphase fluid flow studies, 3D mineralogy, and laboratory based diffraction contrast tomography.
- Multiscale imaging, characterization and modeling of large (4” core) samples at high throughput
- LabDCT for your R&D lab
- Single tool workflow with high throughput macro-scanning of an intact device. Non-destructively scout-and-zoom from module to package to interconnect for submicron imaging of defect re-localization and characterization with a fast time to results that complement or replaces physical cross-sectioning.
ZEISS Xradia 520 Versa at Work

Materials Research
3D quantification of fiber reinforced polymer composite materials

Life Sciences
Mammalian brain tissue showing individual neuron cells, dendrites and single labeled neuron

Raw Materials
Shale showing highly absorbing materials (orange), matrix materials (yellow), and low-absorbing materials (blue)

Electronics
Non-destructive imaging of open TSV failure

FPX
4" whole core sample classified into rock lithologies, used for mechanical sampling, upscaling and downscaling

FPX
High speed survey of camera lens assembly combined with high resolution imaging, measurement and analysis
Your Flexible Imaging Solution

1 X-ray Microscope
- ZEISS Xradia 520 Versa with Resolution at a Distance
- Dual Scan Contrast Visualizer (DSCoVer) for materials discernment and dual energy analyses
- High Aspect Ratio Tomography (HART) for accelerated imaging and better image quality
- Diffraction Contrast Tomography (LabDCT) option for visualization of 3D crystallographic grain information

2 X-ray Source
- High performance, sealed transmission source (30 – 160 kV, Maximum 10 W)

3 Detector System
- Innovative dual-stage detector system offers turret of multiple objectives with different magnifications and optimized scintillators for highest contrast
- 2k x 2k pixel, noise suppressed charge-coupled detector
- FPX flat panel extension for larger field of view, high throughput macroscopic imaging (optional)

4 System Stability for Highest Resolution
- Granite base vibrational isolation
- Thermal environment stabilization
- Low noise detector
- Advanced proprietary stabilization mechanisms

5 System Flexibility for a Diverse Range of Sample Sizes
- Variable scanning geometry
- Tunable voxel sizes
- Absorption contrast mode
- Phase contrast mode
- Wide Field Mode (WFM) for increased lateral tomography volume with 0.4X and 4X objectives
- Vertical stitching for joining multiple tomographies vertically
- Optional LabDCT for crystallographic information

6 Autoloader Option
- Maximize productivity by reducing user intervention
- Programmable handling of up to 14 samples
- Automated workflows for high volume, repetitive scanning

7 Sample Stage
- Ultra-high precision 4-degrees of freedom of sample stage
- 25 kg sample mass capacity

8 X-ray Filters
- Automated Filter Changer (AFC) with 24 filter capacity and cutout for highest throughput ‘no filter’ imaging
- Set of 12 filters included
- Custom filters available by special order

9 In Situ and 4D Solutions
- Resolution at a Distance (RaD) enables superior in situ imaging
- Integrated in situ recipe control for Deben stages
- In situ interface kit option
- Custom in situ flow interface kit by special order

10 Instrument Workstation
- Power workstation with fast reconstruction
- Dual CUDA-based GPU
- Multi-core CPU
- 24” display monitor

11 Software
- Acquisition: Scout-and-Scan Control System
- Reconstruction: XMReconstructor
- Viewer: XM3DViewer
- Compatible with wide breadth of 3D viewers and analysis software programs
- ORS Dragonfly Pro for 3D visualization and analysis (optional)
Technical Specifications

Imaging

<table>
<thead>
<tr>
<th>Spatial Resolution</th>
<th>0.7 μm</th>
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<tbody>
<tr>
<td>Resolution at a Distance (RaaD*) at 50 mm working distance</td>
<td>1.0 μm</td>
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<tr>
<td>Minimum Achievable Voxel** (Voxel size at sample at maximum magnification)</td>
<td>70 nm</td>
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</tbody>
</table>

* RaaD working distance defined as clearance around axis of rotation
** Voxel (sometimes referred to as “nominal resolution” or “detail detectability”) is a geometric term that contributes to but does not determine resolution, and is provided here only for comparison.

ZEISS specifies on spatial resolution, the most meaningful measurement of instrument resolution.

X-ray Source for Xradia 510 Versa & Xradia 520 Versa

<table>
<thead>
<tr>
<th>Type</th>
<th>Sealed transmission</th>
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<tbody>
<tr>
<td>Tube Voltage Range</td>
<td>30 – 160 kV</td>
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<tr>
<td>Maximum Output</td>
<td>10 W</td>
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<tr>
<td>Radiation Safety (measured 25 mm above surface of enclosure)</td>
<td>&lt; 1 μS/hr (equivalent to 0.10 mRem/hr)</td>
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</tbody>
</table>

Detector System

ZEISS X-ray microscopes feature an innovative detector turret with multiple objectives at different magnifications. Each objective features optimized scintillators that deliver the highest absorption contrast details.

<table>
<thead>
<tr>
<th>Standard Objectives</th>
<th>0.4X, 4X, 20X</th>
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<tr>
<td>Optional Objectives</td>
<td>40X</td>
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<tr>
<td>Optional Detector Flat Panel Extension (FPX)</td>
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</table>

Stages

| Sample Stage (load capacity) | 25 kg |
| Sample Stage Travel (x, y, z) | 45, 100, 50 mm |
| Stage Travel (rotation) | 360° |
| Source Travel (z) | 190 mm |
| Detector Travel (z) | 290 mm |
| Sample Size Limit | 300 mm |

Feature Comparison

<table>
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<tr>
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<th>ZEISS Xradia 510 Versa</th>
<th>ZEISS Xradia 410 Versa</th>
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<tr>
<td>Scout-and-Scan Control System</td>
<td>●</td>
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<tr>
<td>Automated Filter Changer</td>
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<td>High Aspect Ratio Tomography</td>
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<td>DSCoVer Dual Scan Contrast Visualizer</td>
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<td>●</td>
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<td>Absorption Contrast</td>
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<td>Phase Contrast</td>
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<tr>
<td>FPX Flat Panel Extension</td>
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<tr>
<td>LabDCT Diffraction Contrast Tomography</td>
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<td>Autoloader</td>
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<td>Wide Field Mode</td>
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<td>Vertical Stitching</td>
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<td>GPU CUDA-based Reconstruction</td>
<td>Dual</td>
<td>Single</td>
<td>Single</td>
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<tr>
<td>In Situ Interface Kit</td>
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● standard
○ option
Count on Service in the True Sense of the Word

Because the ZEISS microscope system is one of your most important tools, we make sure it is always ready to perform. What’s more, we’ll see to it that you are employing all the options that get the best from your microscope. You can choose from a range of service products, each delivered by highly qualified ZEISS specialists who will support you long beyond the purchase of your system. Our aim is to enable you to experience those special moments that inspire your work.

Attain maximum uptime with your microscope. A ZEISS Protect Service Agreement lets you budget for operating costs, all while reducing costly downtime and achieving the best results through the improved performance of your system. Choose from service agreements designed to give you a range of options and control levels. We’ll work with you to select the service program that addresses your system needs and usage requirements, in line with your organization’s standard practices.

Our service on-demand also brings you distinct advantages. ZEISS service staff will analyze issues at hand and resolve them – whether using remote maintenance software or working on site.

Enhance Your Microscope System.
Your ZEISS microscope system is designed for a variety of updates: open interfaces allow you to maintain a high technological level at all times. As a result you’ll work more efficiently now, while extending the productive lifetime of your microscope as new update possibilities come on stream.

Profit from the optimized performance of your microscope system with a Carl Zeiss service contract – now and for years to come.

>> www.zeiss.com/microservice