CT Scanning

The UK's complete CT scanning partner

- From CT scanning to system installation
- Official RX Solutions partner
- UK's only authorised VGSTUDIO MAX® trainer
- Installed, trained and supported in the UK.

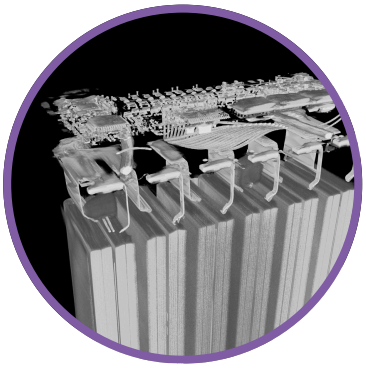
OR3DCT

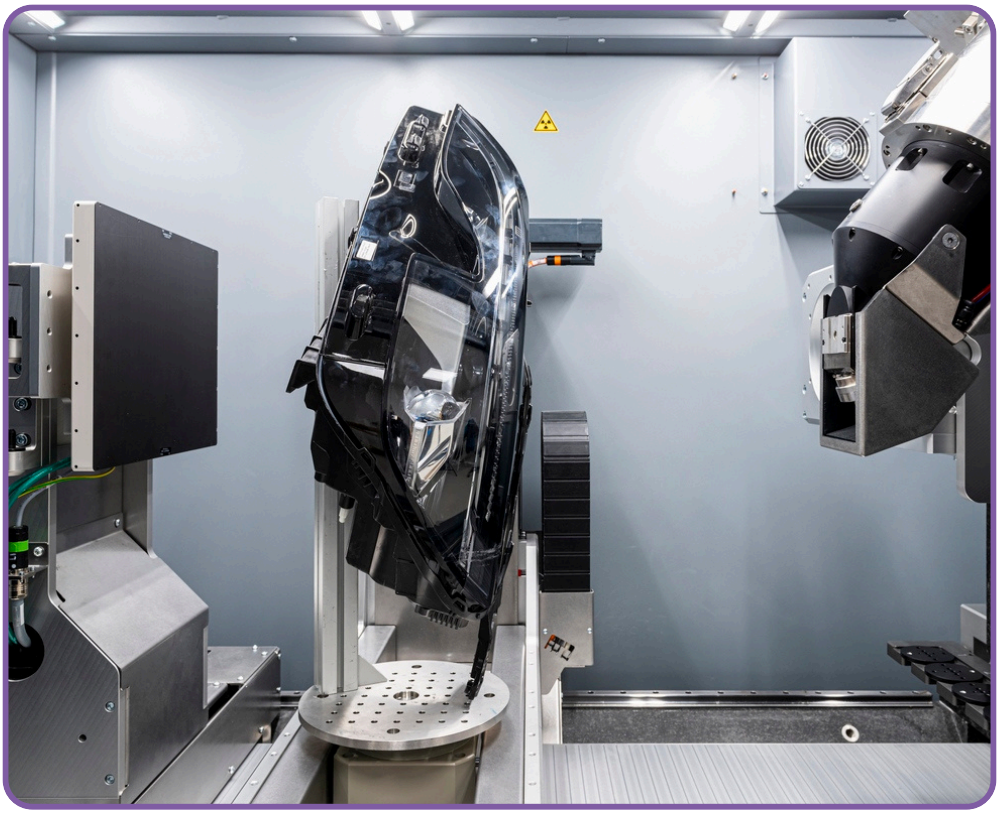
Our CT Centre

Welcome

At OR3D CT, we are the UK's authorised RX Solutions partner for industrial Computed Tomography. From our centre in Wrexham, North Wales, we sell, install, train and support the full RX range - and run a busy in-house CT scanning service alongside it, on the same machines our customers go on to buy.

That combination is rare, and it matters. Every scan we deliver, every training course we run and every system we install runs through the same facility and the same team. It means faster turnaround times, including same-day results, a clearer route from your first service scan to your own installed CT system, and data you can trust from a partner who genuinely lives with the technology every day.

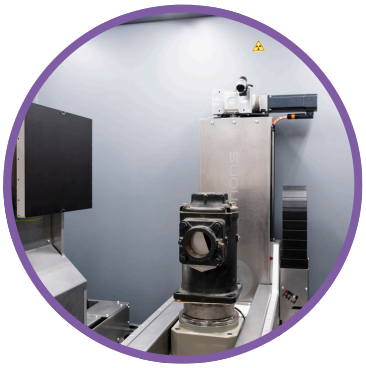


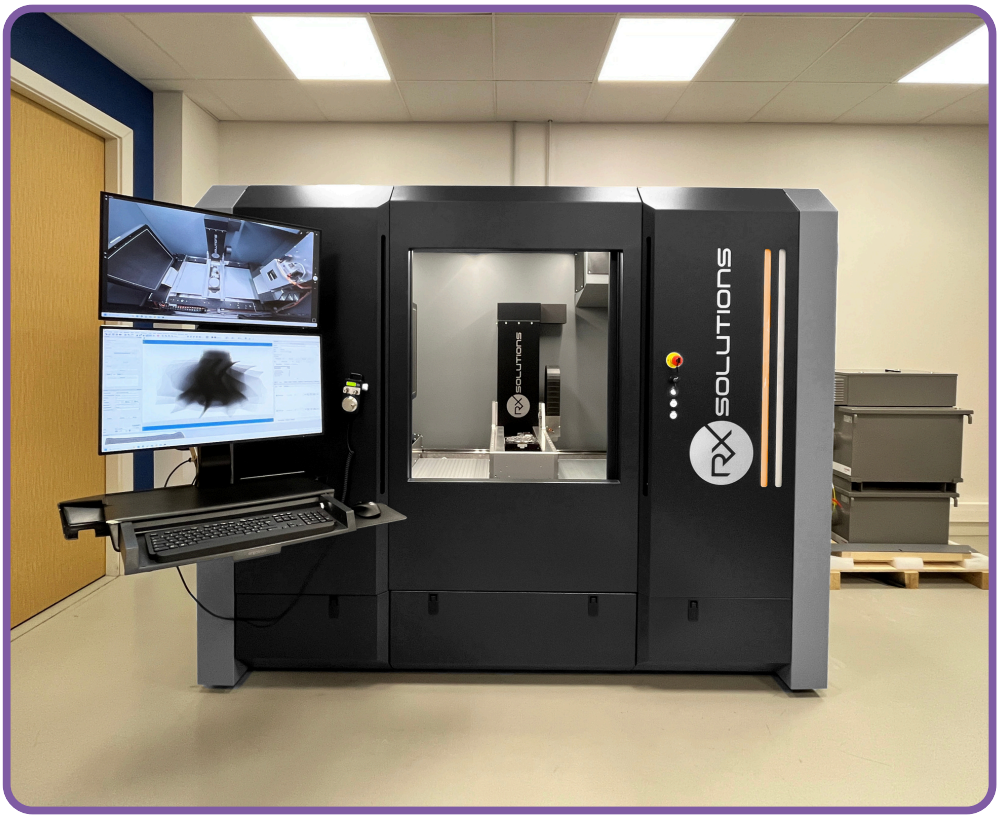


CT Scanning

OR3D's CT scanning technology enables high-resolution, non-destructive testing for a wide range of applications. Our systems utilise X-ray computed tomography to generate detailed volumetric data, allowing for the visualisation of internal structures, voids, inclusions and defects with micron-level accuracy. With advanced image reconstruction algorithms, we provide highly detailed 3D models that facilitate precise measurements and comprehensive analysis of assemblies - models that can be easily distributed throughout the team and delivered to stakeholders.

We offer a full spectrum of energy levels, from nano-focus systems for sub-micron resolution to high-energy 9 MeV accelerators for dense and advanced materials. Our systems support multi-material scanning, automated defect detection, and quantitative material analysis for components from one mm to several metres in size, making them ideal for all industries requiring stringent quality control and validation. With integrated metrology capabilities, our CT solutions enable dimensional inspection, geometric analysis and reverse engineering with unmatched precision.





CT Scanners

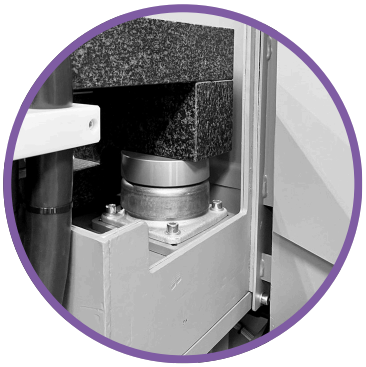
At OR3D CT, we supply and support the full RX Solutions range - one of the most respected names in industrial Computed Tomography, designed and built in France with over 20 years of CT engineering behind it and 300+ systems installed worldwide.

The RX range is built around a simple architecture: three Lines define the imaging technology, five Platforms define the physical cabinet, and two Series define how the system is configured for its end use. Between them, that combination produces a CT solution tailored to exactly what each customer needs to do.

The three lines are Explorer, the versatile high-performance micro-CT line (down to 2 µm resolution, up to 300 kV); Nano, for sub-micron nano-focus imaging down to 400 nm; and Force, the high-energy line capable of up to 450 kV for thick metals and dense composites.

The five Platforms - EasyTom S, L, XL, the new bunker-class EasyTom B, and the research-grade UltraTom - covering everything from small material science samples requiring in-situ experiment cells through to large automotive and aerospace components over a metre in diameter. Every Platform can be configured as a standard Inspection system, upgraded to the VDI/VDE-certified Metrology Series for traceable dimensional measurement, or specified as the FAB Series for production environments.

As the UK's authorised RX Solutions partner, we can scope, supply, install, train and service the full range from our centre in Wrexham. The next two pages introduce the Metrology Series and FAB Series - the two configurations most relevant to the UK market in 2026.



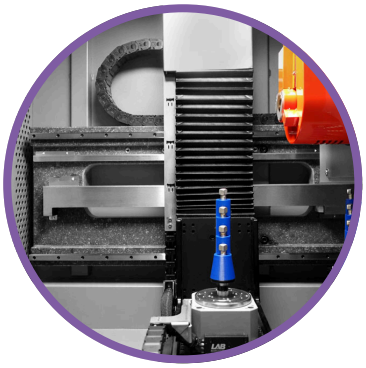
Metrology Series

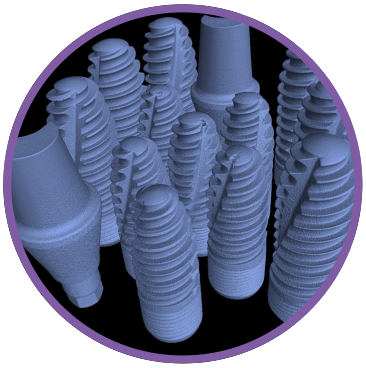
Any CT system can produce impressive 3D images. Only a Metrology Series system delivers traceable, auditable dimensional measurement - the kind that stands up in an AS9100 audit, supports an FDA submission, or replaces a coordinate measuring machine on the shopfloor.

Engineered to **VDI/VDE 2630-1.3** and ASME B89.4.23, the Metrology Series represents a range of true CT coordinate measuring machines. Granite-based mechanics, linear encoders, internal **thermal regulation** to ±0.5 °C, factory calibration, and a stated **MPE_SD** performance on every configuration - the components that separate a base CT system from a reliable inspection tool producing results you can defend.

One Metrology Series scan replaces multiple probe-based measurements. A single acquisition enables multiple inspections (utilising 100% surface coverage) including full 3D dimensional measurement with GD&T, wall-thickness analysis, scan-to-CAD deviation mapping, internal defect detection and multi-material assembly inspection. For complex internal geometries that CMMs can't reach and optical scanners can't see, it's the only route to a certified answer.

The Metrology Series is available on Explorer, Nano and Force Lines, across compatible Platforms. As the UK's authorised RX Solutions partner, we can specify, install and build a certified Metrology Series installation and provide benchmark scans on your own parts before you commit.





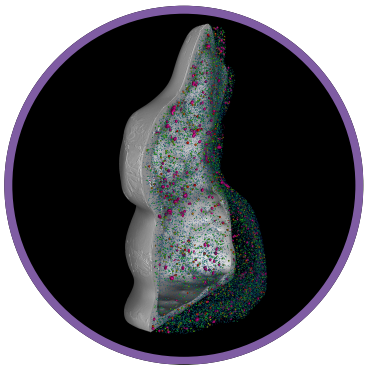
FAB Series

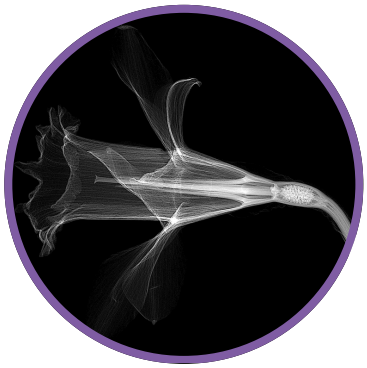
Traditional industrial CT was built for laboratories - climate-controlled rooms, trained specialists, one careful sample at a time. But the industries driving CT demand in 2026 look nothing like a lab: EV battery gigafactories, aerospace foundries under AS9100 pressure to inspect every cast sample, serial production device lines, production-scale additive manufacturing bureauxs.

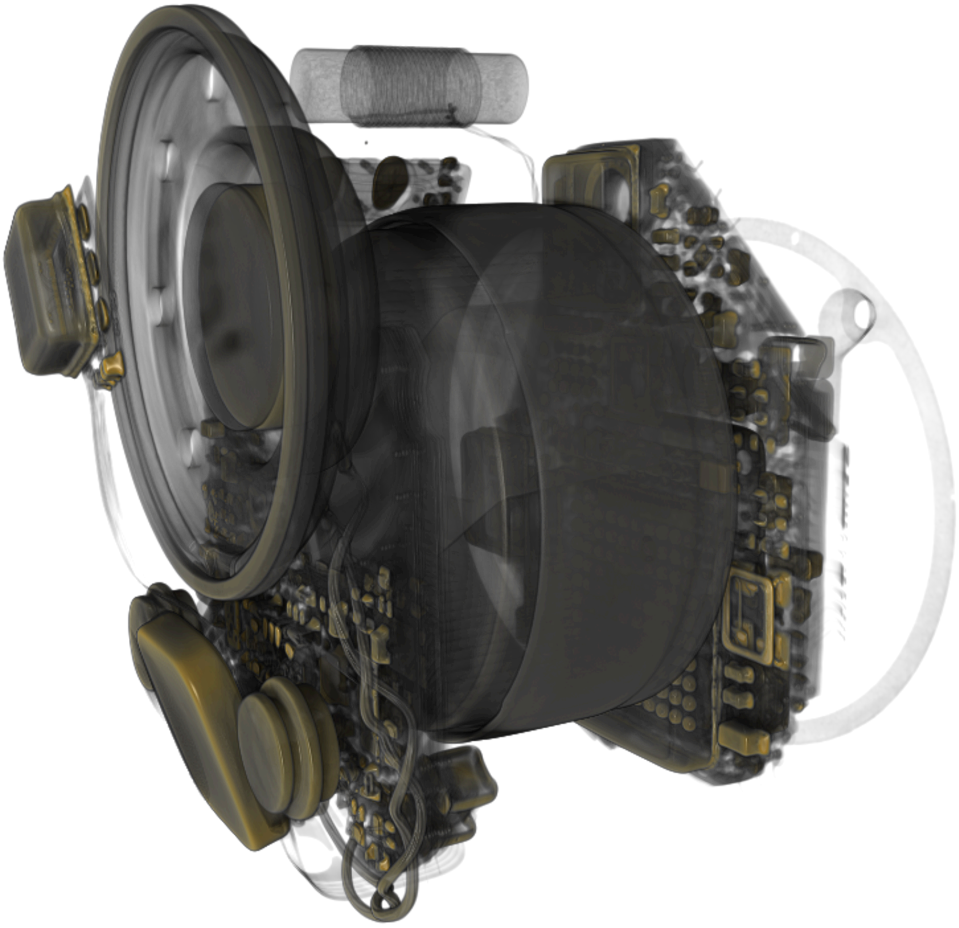
The FAB Series is RX Solutions' answer - industrial CT engineered for the shopfloor, not the metrology lab. IP54 protection against dust and vibration, sealed industrial tubes, automated internal and external sample loading, OPC-UA factory communication, 24/7 operation and customer specific, bespoke user interfaces that non-specialists can run safely and consistently across all platforms, covering sample sizes from compact medical through to large aerospace parts.

Four principles sit behind every FAB Series system: **robust hardware** for harsh environments, end-to-end workflow **automation**, operator-friendly **design**, and native **Industry 4.0 integration** with MES, robotics and quality systems. Together they deliver higher uptime, lower total cost of ownership, faster return on investment and a consistent, traceable audit trail on every inspected part.

The FAB Series is available on the Explorer Line across the EasyTom S, L, XL and B Platforms - covering sample volumes from compact medical components through to large aerospace castings. As RX Solutions' UK partner, we can help you scope, specify, pilot and integrate a FAB system into your production environment, with full UK training and support behind it.





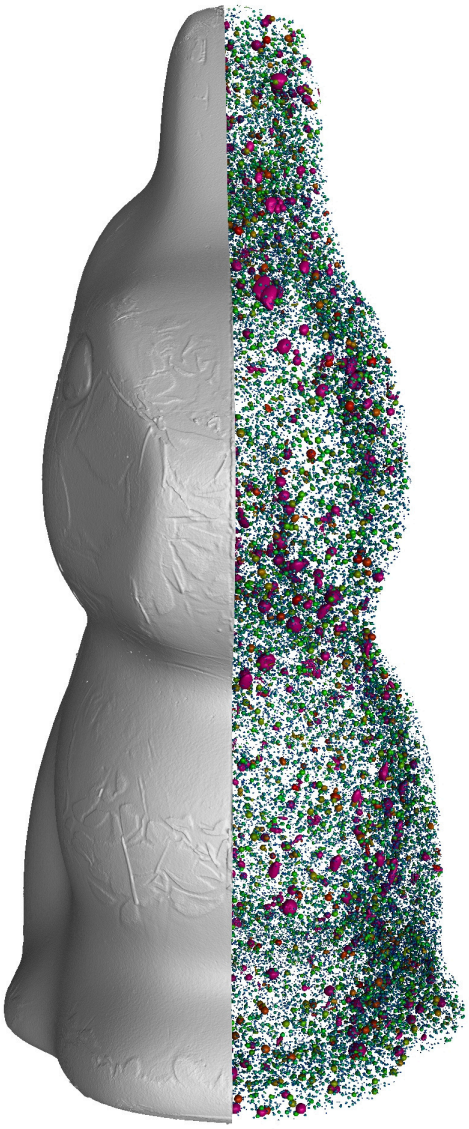


CT Services

OR3D CT offers a complete suite of CT scanning services designed to provide in-depth insights into material integrity, dimensional accuracy and internal structures, with full GD&T analysis and reverse engineering. Our expertise includes porosity analysis, which allows for the precise identification and quantification of voids, inclusions and material inconsistencies that could affect component performance. Through nominal-to-actual comparison, we ensure that manufactured parts conform to design specifications by mapping deviations between scanned components and CAD models as well as full GD&T inspection.

Our advanced systems provide seamless interconnectivity with manufacturing workflows, enabling real-time quality control and comprehensive documentation such as creating ‘as is’ models suitable for FEA & CFD.

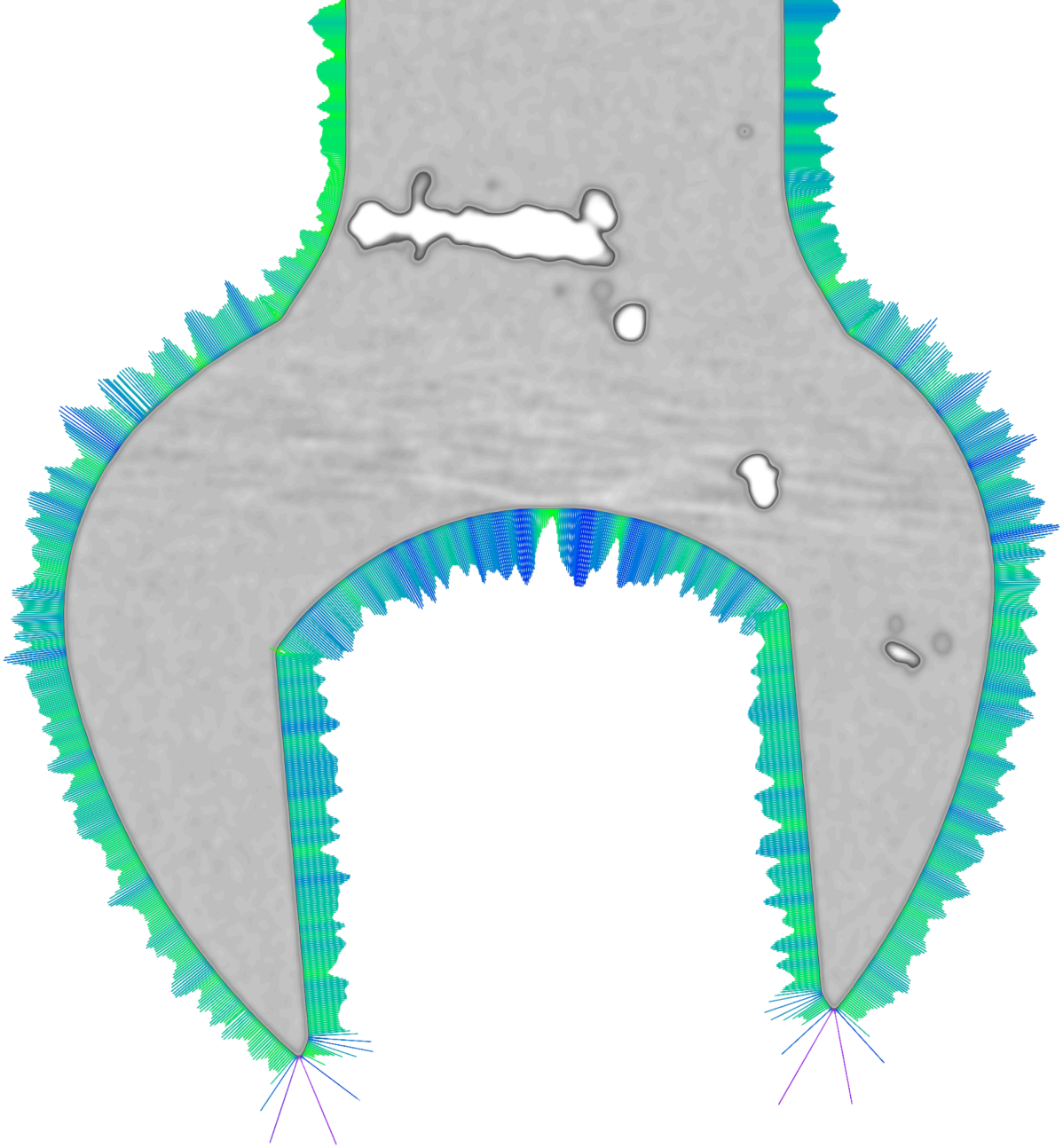
Additionally, CT segmentation enables us to isolate specific materials or structural features within a scan, facilitating advanced multi-material analysis, defect detection and reverse engineering. Fibre analysis is also available, allowing for the characterisation of fibre orientation, distribution and volume fraction, which is essential for evaluating composite materials and structural integrity.



Porosity Analysis

Porosity analysis is a critical tool in evaluating the structural integrity and performance of materials, particularly in industries such as aerospace, automotive, and additive manufacturing. OR3D CT utilises high-resolution CT scanning to assess porosity distribution, pore morphology and sample density with exceptional accuracy. Our advanced analysis techniques allow for the detection and quantification of voids, inclusions, and material inconsistencies that could impact component reliability.

Using voxel-based analysis and threshold segmentation, we can create precise 3D representations of porous structures, enabling engineers to assess the size, shape, and connectivity of voids with exports suitable for FEA (finite element analysis). Our CT systems also support statistical porosity evaluations, providing comprehensive reports that include pore size distribution, location mapping and defect classification. This non-destructive approach ensures that critical components maintain optimal mechanical properties while meeting stringent industry standards.



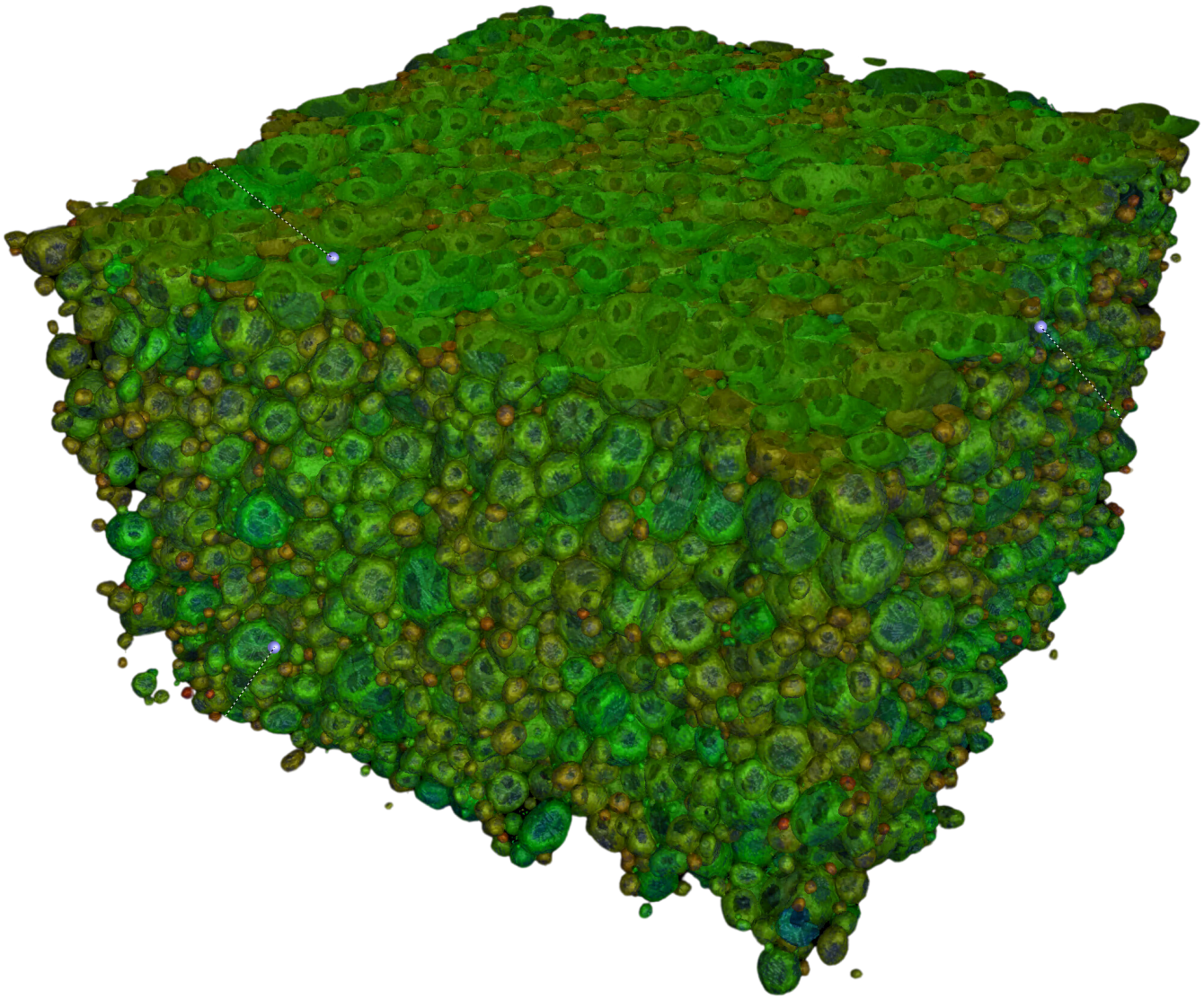
GD&T Inspection

OR3D's industrial CT scanning service delivers full geometric dimensioning and tolerancing (GD&T) analysis directly from scan data — no surface contact, no fixturing distortion, and no compromise to the component.

GD&T - Geometric Dimensioning and Tolerancing - is the engineering language that defines not just basic dimensions, but the geometric relationships between features: how straight, flat, round, or centered parts need to be relative to specific reference points. With over a decade of GD&T reporting across aerospace, automotive, medical, and defence sectors, our engineers can work directly with your engineering or quality teams to deliver actionable inspection reports.

CT-derived GD&T eliminates the line-of-sight limitations of CMM probing, giving complete access to internal bores, undercuts, and complex geometries that traditional inspection cannot reach. Every feature - internal or external - is evaluated within a single unified dataset, utilising 100% surface measurement.

Our reports are structured to your drawing views, working to ASME or ISO as required. Whether supporting first article inspection, in-process validation, or root cause investigation, OR3D gives you measurement confidence grounded in years of GD&T expertise.



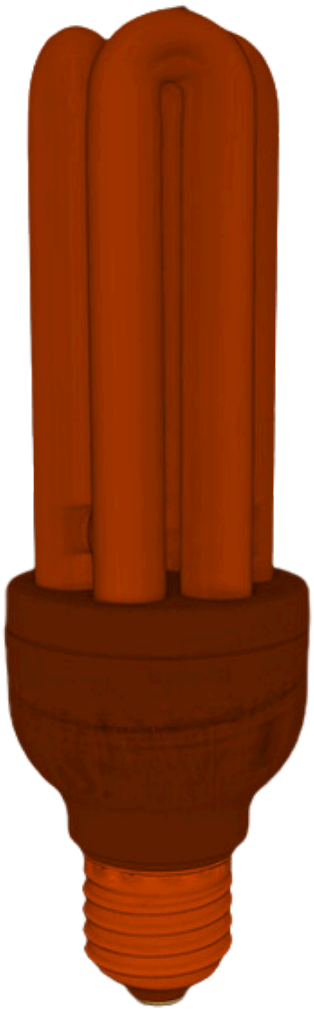
Foam Structure

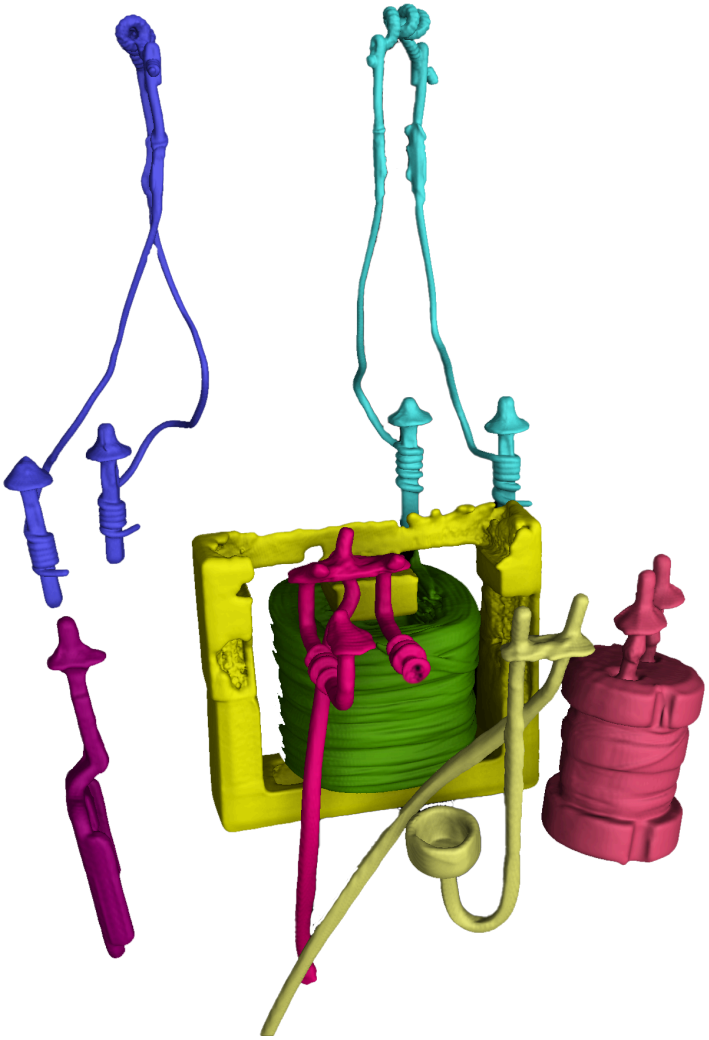
Foam structures are widely used in industries such as aerospace, automotive, biomedical and packaging due to their lightweight properties and energy absorption capabilities. OR3D's CT scanning technology enables in-depth analysis of foam microstructures, providing critical insights into pore size distribution, cell connectivity and density variations.

Our high-resolution CT systems capture the intricate cellular architecture of foams, allowing for detailed assessments of structural integrity, homogeneity and potential defects such as voids or irregularities in cell formation.

By utilising precise volumetric analysis and material differentiation techniques, we generate quantitative data on cell size distribution, anisotropy and strut thickness, ensuring precise characterisation of foam materials with analytical results.

Through non-destructive 3D visualisation, our foam analysis supports research and development efforts, process optimisation and quality control in industries that rely on engineered porous materials.





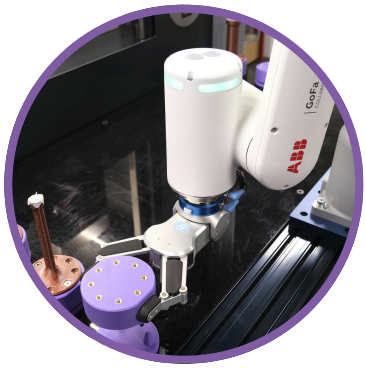
CT Segmentation

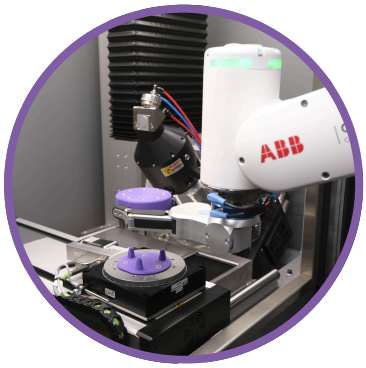
OR3D CT utilises advanced segmentation techniques to isolate specific materials, components, or defects within a scanned object, allowing for targeted inspection and enhanced visualisation. The OR3D CT team are highly skilled at delivering segmentation solutions that set us apart as a unique service provider in the UK market.

In addition to traditional image manipulation techniques, our workflows incorporate novel AI approaches to segmentation, confidently identifying different structures and features. This process involves voxel-based classification and thresholding to distinguish different materials or structural features with high accuracy. This enables applications such as multi-material analysis, defect isolation and anatomical segmentation in biomedical research.

The segmented data can be converted into high-fidelity 3D models for further analysis, reverse engineering or computational simulations.

By leveraging automated and semi-automated segmentation workflows, OR3D CT ensures fast and reliable identification of key features within complex assemblies. Whether analysing composite structures, biomedical implants, or intricate mechanical components, our segmentation capabilities provide a deeper understanding of internal geometries and material distributions, enhancing both R&D and quality assurance processes.



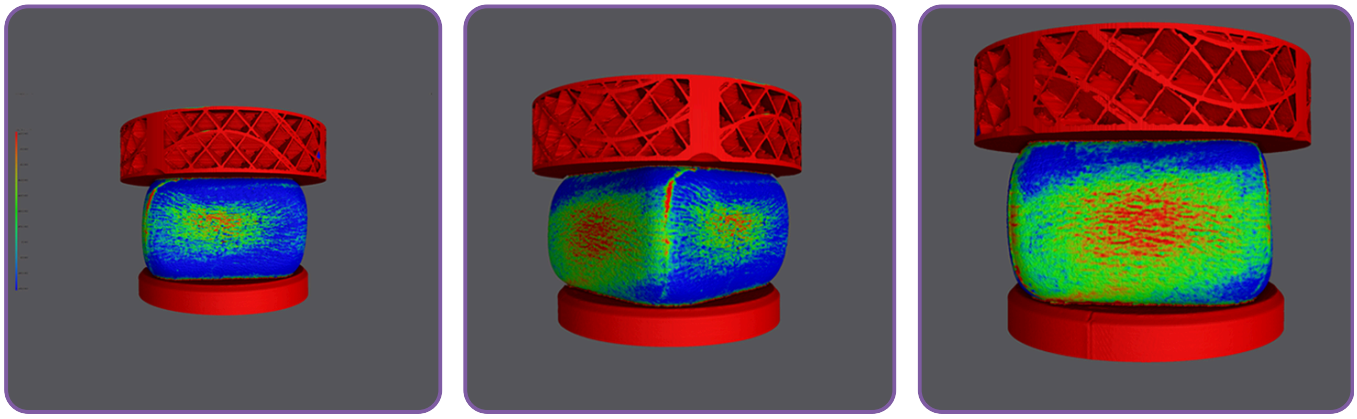


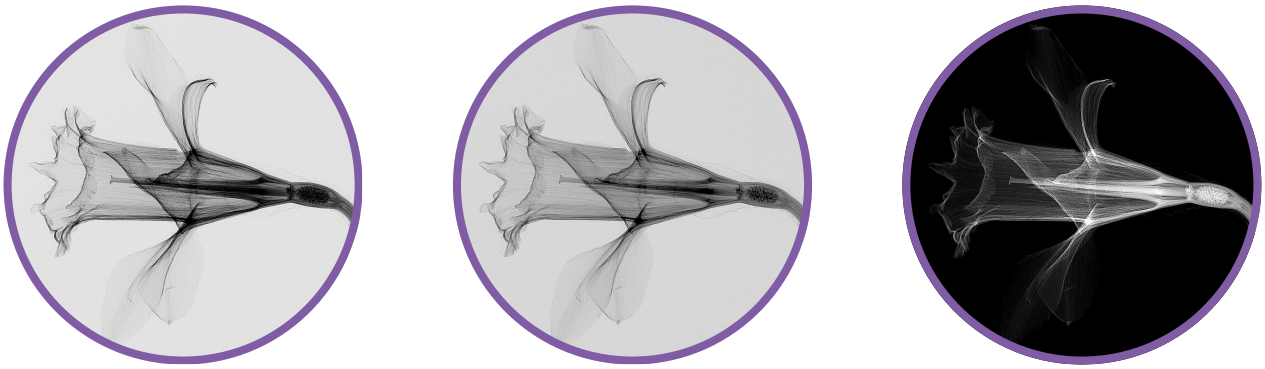
Lights-Out CT

OR3D CT offers fully automated overnight CT scanning using our ABB robotic arm. This lights-out automation system ensures continuous, high-precision scanning without the need for human intervention, maximising productivity and reducing lead times. The robotic arm seamlessly loads and unloads parts into our CT scanners, allowing for an uninterrupted workflow that accelerates data acquisition while maintaining exceptional accuracy and repeatability.

By utilising the ABB robotic arm for automated handling, OR3D CT provides a scalable solution for high-volume inspections, batch scanning, and complex component analysis. This system is ideal for industries requiring rapid throughput without compromising on quality, such as aerospace, automotive, and additive manufacturing.

With the ability to run overnight, clients can expect fully processed scan data ready for analysis at the start of the next working day, significantly improving efficiency and reducing downtime.



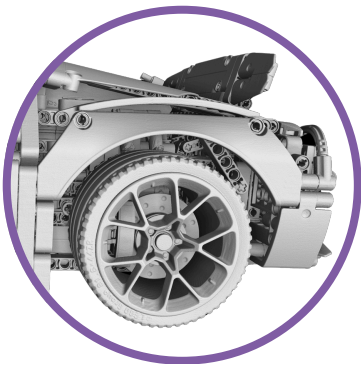


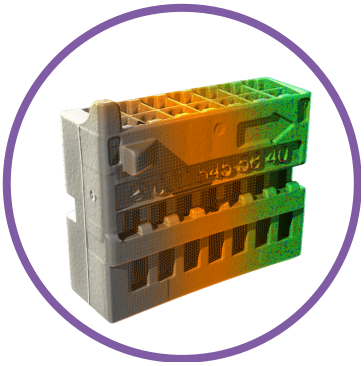
Beyond CT

CT is the centre of what we do, but it's not the whole story. Alongside our CT Centre, OR3D runs a full metrology and inspection service using a range of optical 3D scanners, structured-light systems and precision measurement tools - the right technology for each job.

Our additional capabilities include dimensional metrology, advanced defect-detection software, and reverse engineering to generate accurate CAD models from physical components. We also offer 4D CT scanning - time-resolved acquisitions that capture how a component changes under load, temperature or environmental stress. For R&D teams, failure investigators and engineering programmes pushing the limits of what CT can show, 4D opens up a new dimension of insight.

The same team that scans and trains on our RX Solutions systems supports this wider work. That's the practical value of a single CT-and-metrology provider: one point of contact, one lab, one consistent quality bar, whatever the scan technology behind the answer.





HEXAGON

Authorised trainer

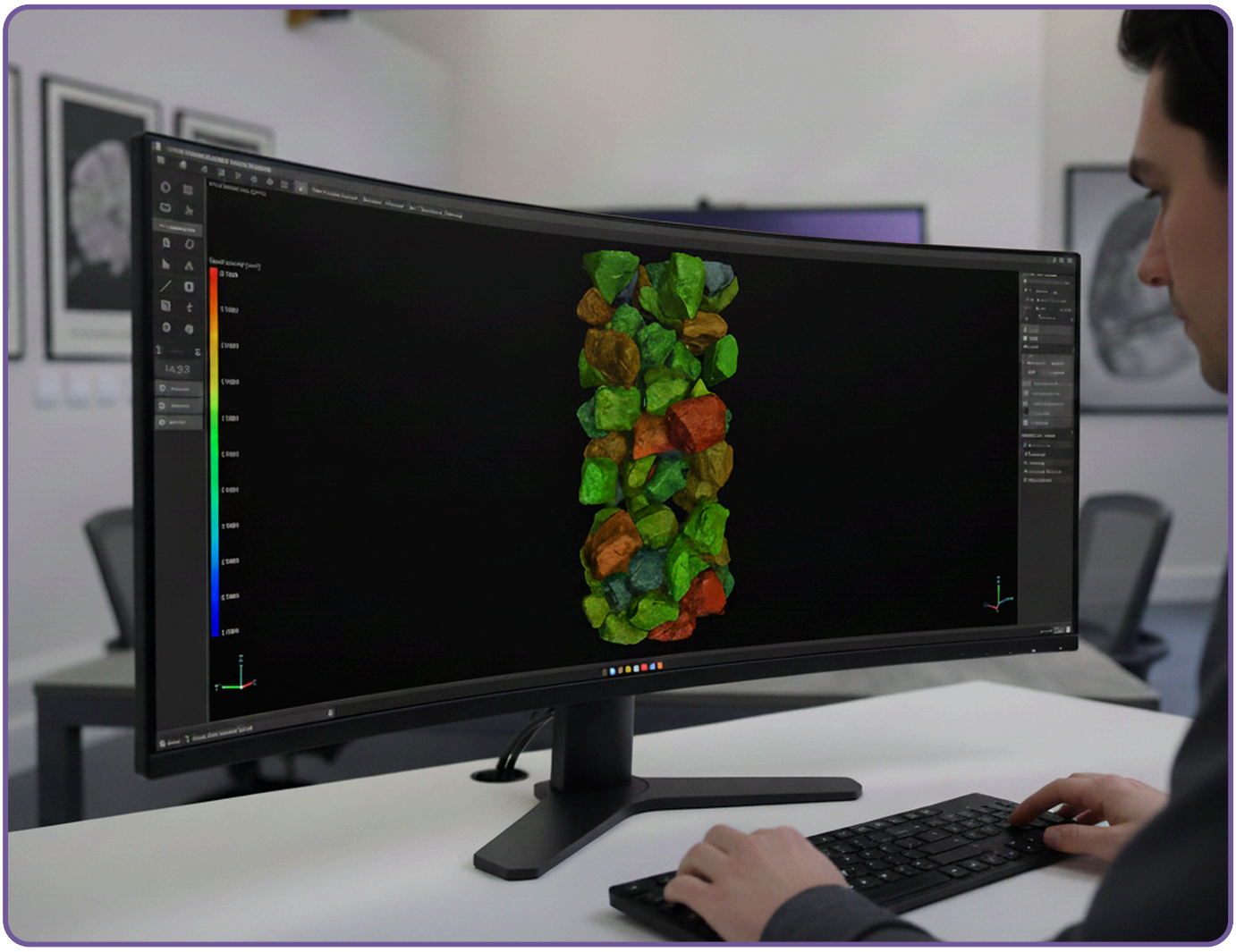
CT Training

As the sole training provider for Volume Graphics (VG) software in the UK and Ireland, OR3D CT delivers industry-leading training courses designed to maximise the potential of VGSTUDIO MAX® Max and associated modules. Our expert-led training ensures users gain a comprehensive understanding of the software's powerful analysis and visualisation capabilities, enabling them to conduct precise CT data analysis, defect detection and metrology with confidence.

Not a VG user? We also provide introductory CT training, helping users get the most out of their scanners and inspection workflows. Additionally, training for Dragonfly software can be arranged upon request.

OR3D CT ensures the highest level of precision and reliability in every scan.

With a hands-on approach, we guide participants through real-world applications, covering key functionalities such as porosity analysis, nominal-to-actual comparison, wall thickness evaluation, and reverse engineering. Whether delivered on-site or remotely, OR3D CT's VG training empowers professionals across aerospace, automotive, medical, and manufacturing industries to optimise their CT analysis processes and enhance their inspection capabilities and efficiency.



CT Software

The software used for processing and analysing CT data plays a crucial role in extracting meaningful insights from raw scan data, ensuring precision and reliability.

CT software enables the visualisation, measurement, and analysis of complex geometries in 3D space, enhancing product development, quality assurance and failure analysis. To optimise the capabilities of our CT scanning systems, we partner with industry leaders in CT analysis software - Volume Graphics by Hexagon and DragonFly.

These partnerships enhance our solutions by integrating specialised software tools that maximise the value and efficiency of CT scans, providing unparalleled insights for industries ranging from pharmaceuticals to aerospace to academia.

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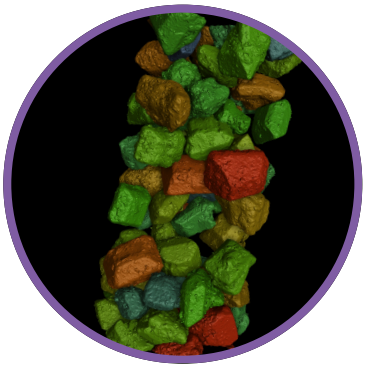
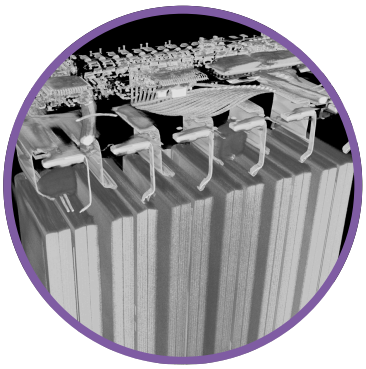
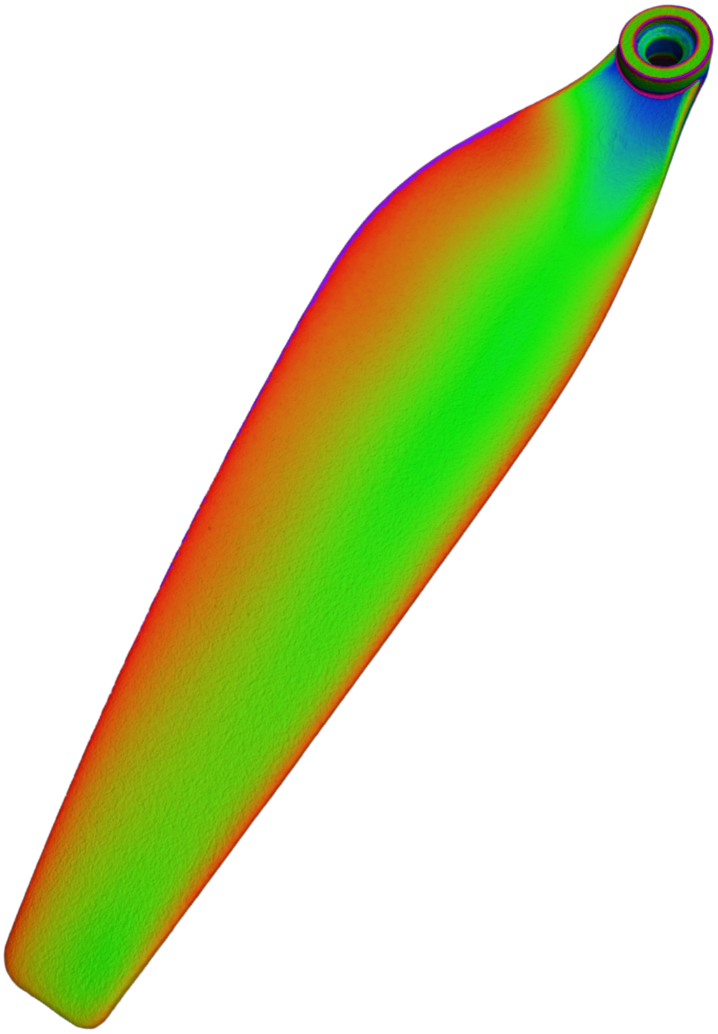
dragonfly







Volume Graphics

Volume Graphics by Hexagon is the world's leading CT analysis software. Its flagship product, VGSTUDIO MAX® MAX, is the tool the aerospace, automotive, medical and additive manufacturing industries trust to turn raw CT data into decisions - defect detection, porosity analysis, wall thickness, dimensional metrology, first-article inspection and CAD comparison.

What makes VG the industry standard is the depth and reliability of its measurement engine. Every analysis module - porosity, metrology, foam, fibre composites, coordinate measurement - is built on Volume Graphics' proven algorithms, validated to international standards, and trusted by OEMs across regulated industries. Certified reports generated in VGSTUDIO MAX® stand up in the most stringent audit environments.

OR3D CT is the UK and Ireland's sole authorised Volume Graphics training provider. Our certified trainer delivers VGSTUDIO MAX® MAX courses at our Wrexham facility, on-site at customer premises, or remotely - covering everything from introductory 3D visualisation through to advanced metrology and the specialist add-on modules. For UK CT users, it's the only route to Hexagon-certified VG training.

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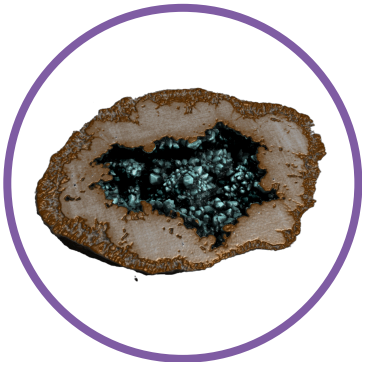


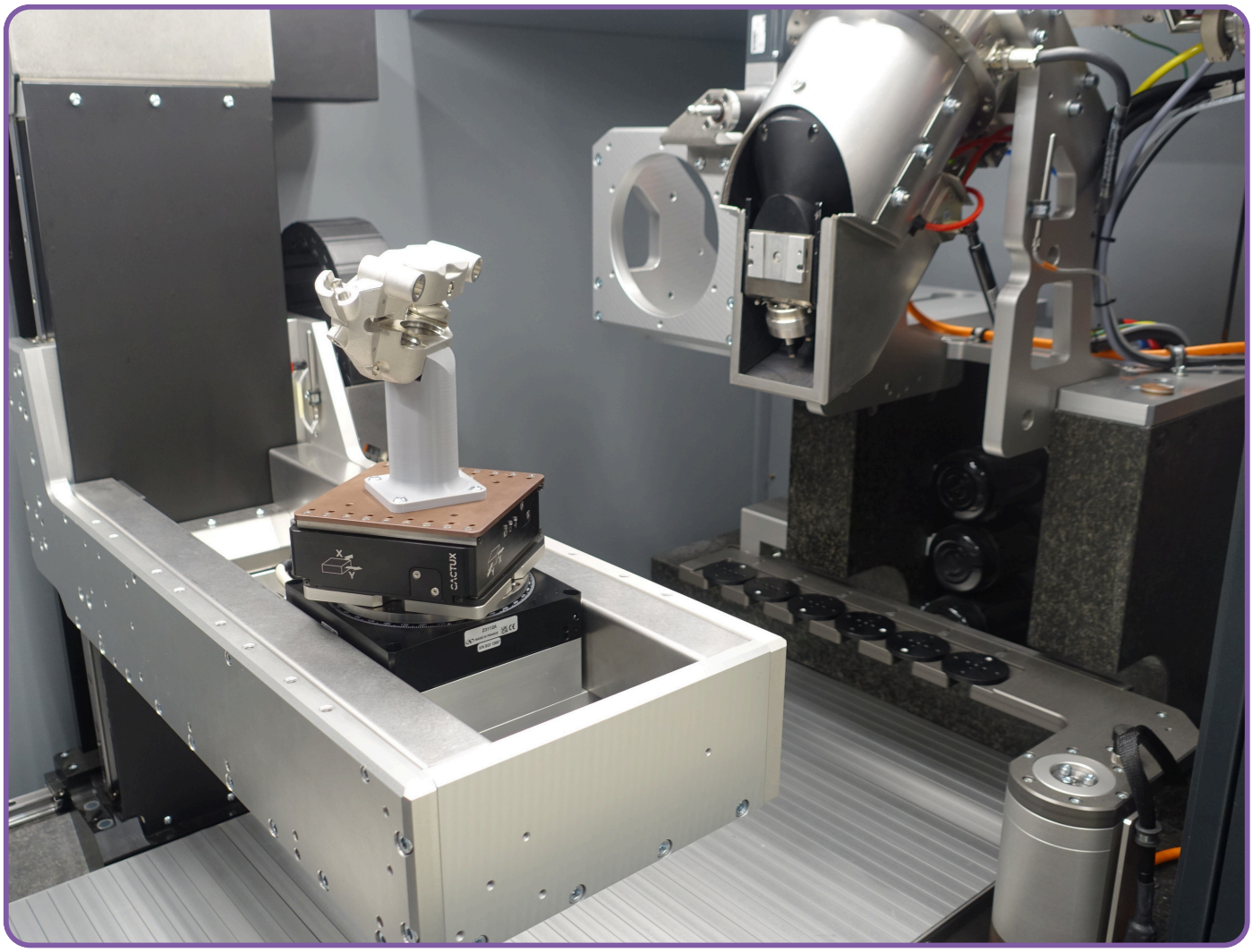
Dragonfly

Dragonfly is another critical partner that enhances our CT scanning offerings. Dragonfly's powerful software platform excels in visualising and analysing CT scan data with advanced AI segmentation and 3D rendering techniques. It is particularly valued for its robust capabilities in handling large datasets, making it an ideal solution for industries dealing with intricate, high-resolution scans such as aerospace and all those working in academia.

A standout feature of Dragonfly is its integration of artificial intelligence (AI) capabilities, which significantly enhance its data processing and analysis capability.

AI driven segmentation allows you to segment things that are not possible using other traditional tools. Machine learning models can be trained to identify specific features or anomalies, even in low contrast datasets, ensuring that critical patterns or issues that might be difficult to detect manually are highlighted efficiently. These AI features reduce human error, accelerate workflow and enable more complex analyses, allowing users to focus on actionable insights rather than spending time on manual processing tasks.

dragonfly



CT Hardware

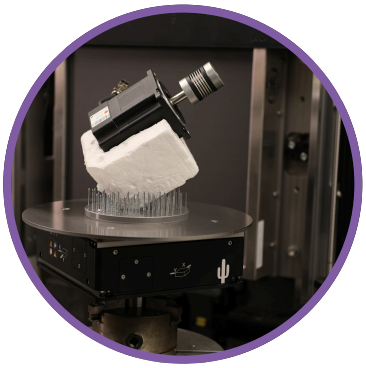
The hardware that supports a CT scanner shapes what it can do. Specialist CT accessories extend a scanner's capability beyond static inspection - improving sample positioning and calibration for repeatable, high-precision results, and enabling in-situ testing where parts are scanned while under mechanical load, thermal cycling, or other controlled environmental conditions. The right hardware turns a CT scanner from a snapshot tool into a platform for understanding how parts behave in real-world use.

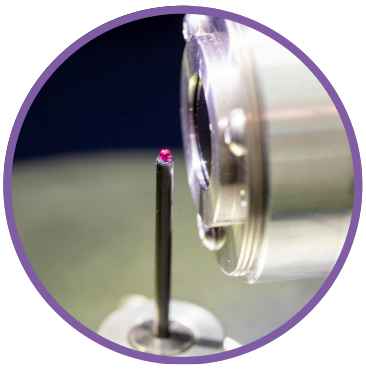
To extend the capabilities of our CT scanning systems, we partner with industry leaders in CT hardware - CactuX and DEBEN. CactuX provides precision sample positioning stages, calibration phantoms for nano and micro-CT, and in-situ environmental boxes for thermal and battery testing.

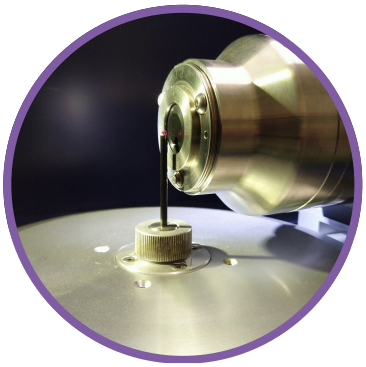
DEBEN designs in-situ loading rigs that allow tensile, compression and bending tests to run inside the scanner, capturing material behaviour under load in real time. These systems seamlessly integrate with RX Solutions' open software architecture, complementing the CT hardware ecosystem for streamlined workflow and data analysis. Together, these partnerships give our customers access to a complete CT hardware ecosystem - supporting everything from routine inspection and metrology to advanced materials research across aerospace, automotive, electronics and medical device industries.

CACTUX

DEBEN







CactuX

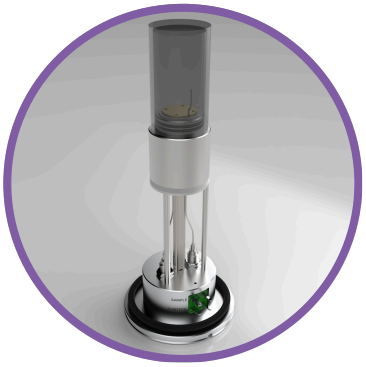
CactuX is a Czech CT accessory specialist developing the precision hardware that compliments the scanner - the stages, phantoms and in-situ devices that determine whether a scan is repeatable, calibrated and capturing the conditions a part actually faces in use. Spun out of CEITEC at the Brno University of Technology, CactuX has built a reputation among nano and micro-CT users for solving the practical problems metrology and research teams encounter every day: sample centring, geometric calibration, and scanning under controlled conditions.

What sets CactuX apart is the precision and breadth of their accessory range. The SaguaroX wireless motorised stage gives technicians fast, in-cabinet sample positioning - cutting setup time on every scan and making accurate centring repeatable across operators.

The Spirit and Shadow phantom series provide a metrologically traceable route to characterising and correcting CT system geometry, with calibration capability down to sub-millimetre fields of view and the In-Situ BOX brings controlled thermal cycling and battery cycling into the scan environment, opening up real-time studies of how cells and materials evolve under stress - work that's increasingly critical to the EV, energy storage and aerospace sectors.

OR3D CT works with CactuX to deliver advanced sample-positioning, calibration and in-situ scanning capability to UK customers running RX Solutions and other industrial CT systems.

CACTUX



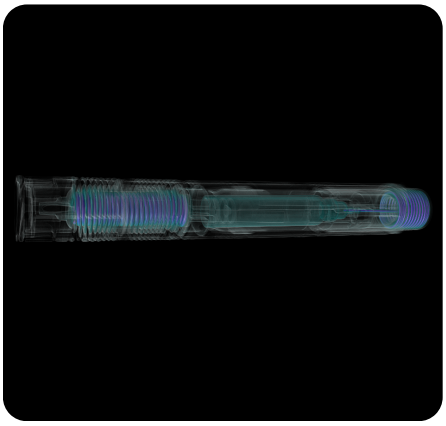
Deben

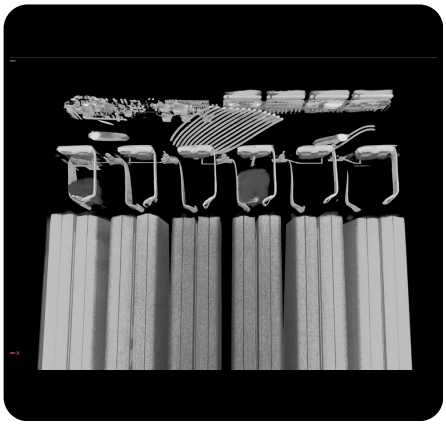
Deben is a UK manufacturer that has spent more than three decades designing precision in-situ testing equipment for electron microscopy and X-ray CT. The company has become the go-to name for CT users who need to test materials during a scan, capturing how they deform, fracture or expand in real time, rather than inferring it from before-and-after snapshots.

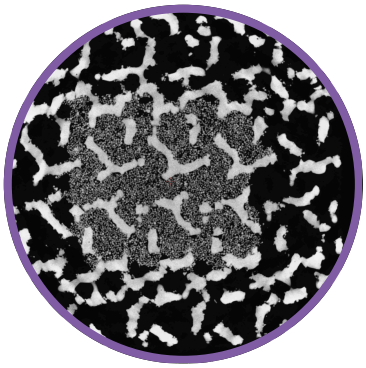
What makes Deben distinctive is the breadth of their in-situ range. Their stages cover everything from cooling samples to -20°C through to heating them to 350°C, plus mechanical loading systems that can apply up to 5 kN of force for tensile, compression and bending tests - all while the sample is being scanned.

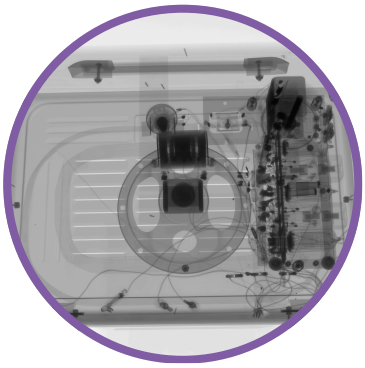
OR3D CT partners with Deben to bring 4D and in-situ CT capability to UK industrial and research customers — work that suits aerospace composites, polymers and foams, biomedical scaffolds, geomaterials and battery research. From specifying the right stage for your sample loading requirements and testing conditions, through integration with your RX Solutions or other CT system, to ongoing applications support, we work alongside Deben's UK team whether you're an RX Solutions customer or not. This means customers get British-built hardware backed by British-based scanning expertise.

DEBEN









Industries We Serve

CT scanning crosses all industries. From aerospace to medical devices, battery development to motorsport - different sectors, same technology, different questions. At OR3D, we've built over a decade of experience helping customers across all of them.

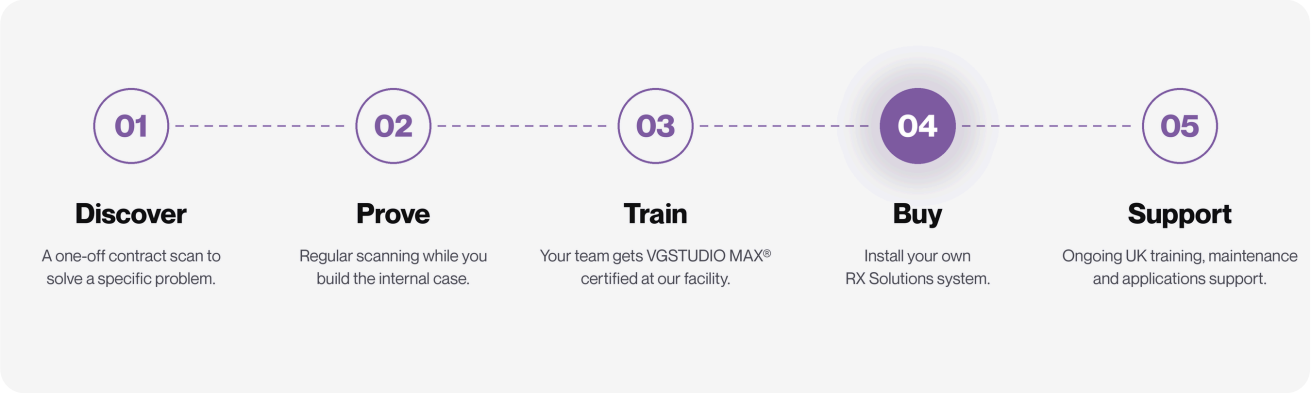
Medical and pharmaceutical customers work with us on implant and device validation and delivery-system inspection, combination-product verification and traceable measurement for regulatory submission. Automotive and EV manufacturers rely on CT for powertrain component validation, battery cell and pack inspection, busbar weld verification and 100% volumetric inspection on safety-critical production parts - the shift to EV has made CT central to production QA.

The same applications experience extends into additive manufacturing and energy. For AM, CT is the inspection workflow the sector has been missing - porosity mapping, density evaluation, first-article inspection and dimensional verification of as-printed parts, now accessible at production volume.

Beyond production, CT is transforming research and academic programmes. Universities and R&D groups use our systems for materials science, in-situ experiments under load or environmental conditions, and advanced work across biomedical, physics and engineering research. Whatever the sector, the question CT answers is the same - what's actually happening inside this sample - and OR3D helps customers across every one of them get to a trustworthy answer.

Our Journey

Most of our CT customers didn't start by buying a machine. The journey began by sending us a part.



Computed tomography is a significant capital commitment, and building the internal case for a system of your own takes time. At OR3D, we've built a deliberate five-stage journey that lets you adopt CT at your own pace - from a single exploratory scan, through regular contract work while you build the business case, to VGSTUDIO MAX® certified training for your team, the installation of your own RX Solutions system, and the ongoing UK-based support that keeps it running for the decade that follows.

Most CT suppliers step in at stage four and disappear by stage five. We're there for all of it. The same team that runs a single weekend scan is the team that trains your engineers, specifies your first system, commissions it on your shopfloor and keeps it maintained for years afterwards. Wherever you are on the journey, we can pick it up - whether that's a single scan next week or installing a new Metrology Series system next quarter.

Where most CT suppliers stop — and where OR3D keeps going

Bar length shows where each provider engages across the customer journey.

	01 Discover	02 Prove	03 Train	04 Buy	05 Support
Most CT suppliers Sale & basic handover	✗	✗	✗	✓	✗
OR3D Scanning, training, sales, installation, ongoing UK support	✓	✓	✓	✓	✓

Contact

3 Cedar Court, Brynkinalt Business Centre,

Wrexham, Wrexham. LL14 5NS.

T: 01691 777 774

E: info@OR3D.co.uk