Graid Technology Inc.

Advancing Micro-CT Imaging at the University of Southampton's µ-VIS Centre

CUSTOMER SUCCESS STORY | NOVEMBER 2025

University of Southampton

EXECUTIVE SUMMARY

The µ-VIS X-Ray Imaging Centre at the University of Southampton, home to the UK's National Research Facility for lab-based X-ray CT (NXCT), required a breakthrough in performance to power their advanced microfocus Computed Tomography workflows. Facing bottlenecks in visualization and 3D modeling, the Centre turned to Novatech and Graid SupremeRAID™ for a non-traditional high-speed storage solution that could deliver speed, data redundancy, and future scalability beyond the limitations of standard RAID cards.

THE CHALLENGE

Workflow Delays and Bottlenecks:
Conventional servers couldn't keep up with the massive data streams required for high-resolution, non-destructive imaging and 3D model generation.

Performance Demands:
Micro-CT imaging required ultra-high throughput and low latency to process data, render results quickly, and streamline research for scientists and clinicians.

Data Protection:
Research data needed robust redundancy and secure storage to safeguard irreplaceable project results.

THE SOLUTION

Collaborative Approach:
Novatech and the µ-VIS team engaged in a detailed requirements-gathering and solution-definition process tailor the infrastructure to meet their demanding imaging needs.

SupremeRAID™ Implementation:
Deploying SupremeRAID™ enabled a dramatic leap forward—offloading storage management to the GPU, maximizing I/O, and minimizing the bottlenecks of legacy RAID architectures.

Unmatched Performance:
The new server achieved up to 20GB/s local sequential write speeds, four times faster than typical enterprise SSDs, leveling up research productivity and enabling real-time processing of large datasets.

Intelligent Data Redundancy:
SupremeRAID™'s data redundancy safeguards research results, ensuring secure, uninterrupted workflow even when physical component failures occur.

CHALLENGE

Focused on Discovery

The µ-VIS X-Ray Imaging Centre at the University of Southampton required a breakthrough in performance to power their advanced microfocus Computed Tomography workflows.

SOLUTION

Framing the Future

Offloading storage management to the GPU, maximizing I/O, and minimizing the bottlenecks of legacy RAID architectures enabled a dramatic leap forward.

RESULT

Picture Perfect Performance

The Centre eliminated their core workflow bottleneck, unlocking new possibilities in cross-disciplinary imaging, virtual 3D modeling, and scientific discovery.

RESULTS AND IMPACT

Visualization, Fourfold Faster

With a 4X performance boost, the Centre unlocked new possibilities for imaging, 3D modeling, and scientific discovery.

Efficiency and Scalability

Researchers now operate at vastly improved speeds, with storage infrastructure that can scale as project volumes and data sizes grow.

Future-Proof Research

With high-speed, highly redundant, and easily managed storage, the µ-VIS Centre is positioned to remain at the forefront of micro-CT imaging innovation.

CUSTOMER CONFIDENCE

The University of Southampton's µ-VIS X-ray Imaging Centre now enjoys state-of-the-art imaging velocity and reliability. By choosing SupremeRAID™, the Centre has ensured that its scientists can keep pace with new imaging demands, converting X-ray and ultrasound tomography data into breakthrough insights—securely, confidently, and without delay.

Learn more about the µ-VIS Centre and SupremeRAID™: Novatech Solution

Contact Novatech at saleseng@novatech.co.uk or Graid Technology at info@graidtech.com to learn more.

About University of Southampton

The µ-VIS X-Ray Imaging Centre is University of Southampton's dedicated centre for CT and founding partner of the National Research Facility for lab-based X-ray CT (NXCT). The centre combines state-of-the-art equipment and 25 years of experience, plus the expertise of 40+ academic staff from across the University, offering a unique integrated resource for advanced 3D imaging. The centre constitutes a strategic multimillion pound investment (>£5M) in high resolution X-Ray tomographic imaging, offering a unique user experience for advanced 3D imaging. It specifically aims to provide a holistic approach to advanced 3D (volume) imaging, supporting all steps between original domain problem/query, through to verified, publishable conclusions. You can learn more at muvis.org

About Graid Technology

Graid Technology is led by a dedicated team of experts with decades of experience in the SDS, ASIC, and storage industries, and continues to push boundaries in data storage innovation by protecting NVMe-based data from the desktop to the cloud. Cutting-edge SupremeRAID™ GPU-based RAID removes the traditional RAID bottleneck to deliver maximum SSD performance without consuming CPU cycles or creating throughput bottlenecks, delivering unmatched flexibility, performance, and value. With headquarters in Silicon Valley supported by a robust R&D center in Taiwan, we are globally committed to spearheading advancements in storage solutions. For detailed product information, visit our website, or connect with us on LinkedIn.

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