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## Precision prototyping advances x-ray technology

**Award-winning ASX-listed X-ray technology company, Micro-X has teamed up with precision machining experts at the South Australian Node of the Australian National Fabrication Facility (ANFF-SA) to achieve the rapid prototyping of tungsten x-ray optics used in their unrivalled stand-off x-ray device, Argus.**

Transforming imaging capabilities for improvised explosive device detection, Argus is a remote-controlled mobile backscatter imaging device consisting of a 160kV x-ray source utilising Micro-X's proprietary carbon nanotube (CNT) technology, a solid-state generator, and a camera assembly.

During the x-ray optics development, Micro-X discovered machining challenges associated with the tungsten plates within Argus' camera assembly. These plates are essential for ensuring the camera device delivers a dependable and safe stand-off x-ray capability.

Seeking an innovative solution, Micro-X's mechanical engineering manager, Brendan Smith, approached the world-class micromachining experts at ANFF-SA's Precision Engineering Centre, located at the University of South Australia's Mawson Lakes campus. The results exceeded his expectations.

"ANFF-SA played a crucial role in developing a quick turnaround prototyping process," said Brendan.

"The high accuracy and quality precision machining of the tungsten plates was excellent with the precision apertures working perfectly for our prototypes."

Brendan says the ANFF-SA team provided Micro-X with first-class service – seamlessly combining a genuine passion for problem-solving with a structured solutions-focused approach.

"ANFF-SA played a crucial role in developing a quick turnaround prototyping process."

**Brendan Smith,  
Mechanical Engineering  
Manager, Micro-X**

"Machining tungsten presents unique challenges but ANFF-SA's profound knowledge and expertise in micro-machining empowered us to explore alternative methods to produce top quality parts," said Brendan.

"Additionally, using their own initiative, ANFF-SA conducted laser-cutting trials on the tungsten plates which has provided us with a tremendous boost of confidence in the machining process and material selection, as both will be invaluable for future Micro-X

prototyping work."

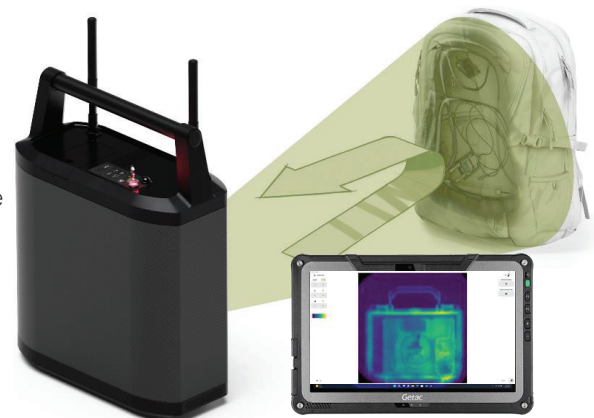
ANFF-SA Director, Professor Craig Priest said Micro-X's collaboration with ANFF-SA exemplifies the power of interdisciplinary partnerships in advancing technological innovation.

"The integration of expertise and dedication underscores the transformative potential of collaborative research in tackling intricate and complex engineering challenges," said Professor Priest.

"We are extremely proud to be supporting Micro-X – a true South Australian success story – in delivering their life-saving x-ray imaging solutions to the world."

Located at the University of South Australia and Flinders University, ANFF-SA is a world-class micro and nanofabrication facility providing open access to cutting-edge equipment housed in state-of-the-art facilities with support from world-leading experts.

For further information please phone 08 8302 5226 or visit [anff-sa.com](http://anff-sa.com).



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