SUCCESSFUL TESTING OF NEW X-RAY TUBE AND GENERATOR FOR ROVER MK II

First images from Micro-X second generation Rover – incorporating in-house high-power generator and new X-ray tube

Adelaide, Australia, 21st July 2021: Australian hi-tech company Micro-X Ltd (ASX:MX1) (**Micro-X** or the **Company**), a leader in cold cathode x-ray technology for health and security markets globally, is pleased to announce the successful first testing of the new x-ray tube and high voltage generator designs which will power the second generation of Micro-X's Mobile DR range of bedside imaging products, delivering four times the x-ray energy of the current products.

Key Points

- **Micro-X's new x-ray tube tested with new generator at the full output performance**
- **Four times increase in x-ray energy will become the standard for Rover MkII**
- **Generator design commenced in May 2020 now successfully proven to target performance and cost**
- **A new lightweight insulation system maintains overall weight despite fourfold performance increase**
- **New design provides a modular high-voltage platform for all future products**
- **Major cost savings from in-house generator manufacture compared to currently imported generators**

One of the three strategic imperatives announced in April 2020 when Micro-X raised capital, was to develop an extension of the Rover's x-ray performance into what would become a second generation of the Micro-X Mobile DR product range. At the core of this project was a new, in-house designed and manufactured high voltage generator which, using new electronic components and insulation technologies, would deliver four times the x-ray output while maintaining system size and weight. This second generation of Rover, based on the early work performed for the Australian Department of Defence in deployable radiology, will now take the Rover's capability beyond the imaging requirements of ICUs and open wards into the more specialised and demanding environment of trauma imaging in Emergency Departments and Operating Rooms.

There are few companies in the world producing high voltage generators for x-ray systems today and none offer such high performance in such a compact and lightweight package as this new design. Micro-X sees the technology of miniaturisation of high voltage power supplies as a critical competitive advantage in the design of its new products and thus developing this capability in-house is highly strategic for the Company's future. Also, removing the long supply chain associated with importing generators from overseas became a priority for the Company during the logistics challenges of 2020. The generator is the single largest cost component in an x-ray system and, by the use of new, standardised voltage modules and an innovative solid-state insulation methodology, this new generator will cost less than half of the current imported unit, despite the fourfold increase in performance.

Commenced in May 2020 following the $3.5 million allocation of funding, the Micro-X in-house generator design programme has now completed full functional performance testing with the new, up-rated x-ray tube which also retains the same form, fit and weight as its predecessor. The work has been undertaken in Adelaide by a team of electrical and high voltage engineers at Micro-X collaborating with partner company Regenersys' design specialists in Melbourne. In parallel with this programme, a new high-performance X-ray tube using Micro-X's proprietary cold cathode technology has also been developed with matching performance.

Current (left) and future (right) Generators for the Rover range of Mobile DR x-ray products

The new generator and tube have now been successfully operated together over the full performance range which now extends to a maximum voltage of 120kV (previously 110kV) and a maximum dose of 80mAs (previously 20mAs). Test images have confirmed achievement of the design targets in resolution and quality. The next steps in coming weeks are to integrate the new units to a production Rover cart and then perform verification and validation testing of the overall system. This will be followed by the full range of ISO 60601 safety tests which will yield the test data required for regulatory filings in October this year.

A new production area for assembly and test of the new generators is being prepared at Tonsley adjacent to the current x-ray clean rooms. Product launch for the MkII Rover is, subject to an updated FDA clearance, planned for December 2021 to coincide with the annual RSNA meeting. Once launched, the Rover Mark II will provide far greater capability which is especially relevant in the military market and which will also allow Rover to compete directly with the largest of mobile x-ray units. The in-house production of the generator will also de-risk supply chain logistics as well as greatly improving the product's gross margins.

Micro-X's Managing Director, Peter Rowland, commented:

"This was our first venture into a high voltage electronics design programme and so was not without risk. We set out to create a platform technology in a design which could be used across all our products. Once again, our technical team has done a fantastic job in providing us with a world leading design for this sub-system which boosts our competitive advantage with a much higher power density than anything else available.

This new x-ray tube and generator really takes the Rover's performance to the next level with the ability now to address all exams required in the Emergency Department or in Operating Rooms with the same small footprint and weight. We look forward launching the unit as the Rover Mark II in a few months at the Radiological Society of North America's annual meeting in Chicago, the world's largest, where Micro-X will have its own booth for the first time. It also goes without saying that a far cheaper, in-house manufactured generator provides us with a win-win outcome."

This ASX Announcement is authorised by the Board of Micro-X

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About Micro-X

Micro-X Limited (the **Company**) is an ASX listed hi-tech company developing and commercialising a range of innovative products for global health and security markets, based on proprietary cold cathode, carbon nanotube (CNT) emitter technology. The electronic control of emitters with this technology enables x-ray products with significant reduction in size, weight and power requirements, enabling greater mobility and ease of use in existing x-ray markets and a range of new and unique security and defence applications. Micro-X has a fully vertically integrated design and production facility in Adelaide, Australia. A growing technical and commercial team based in Seattle is rapidly expanding Micro-X's US business.

Micro-X's product portfolio is built in four, high margin, product lines in health and security. The first commercial mobile digital radiology products are currently sold for diagnostic imaging in global healthcare, military and veterinary applications. An X-ray Camera for security imaging of Improvised Explosive Devices is in advanced development. The US Department of Homeland Security has selected Micro-X to design a next-generation Airport Checkpoint Portal with self-service x-ray. A miniature brain CT imager for pre-hospital stroke diagnosis in ambulances, is being developed with funding from the Australian Government's Medical Research Future Fund.

For more information visit: **www.micro-x.com**

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