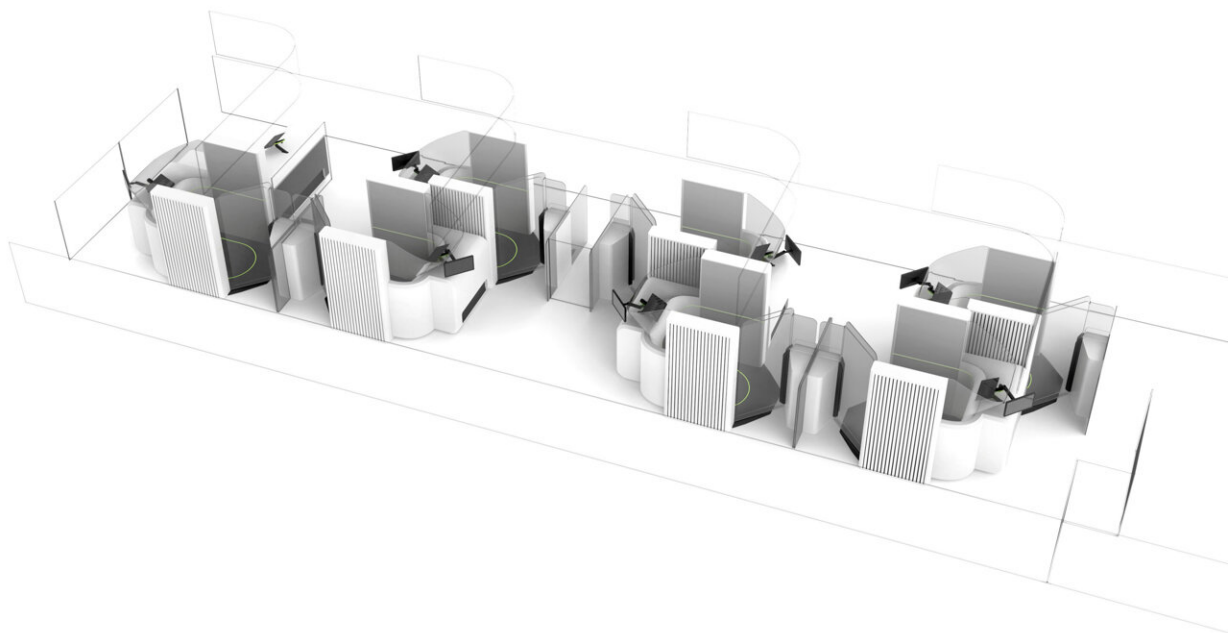# New airport checkpoint cuts queues and improves passenger security

October 24 2022, by Annika Sutter-Smith

Micro-X airport security checkpoint. Credit: Monash University

Monash University's Design Health Collab has partnered with Australian tech company Micro-X to streamline and improve crucial airport security checkpoint processes across the United States, and increase aviation passenger safety.

The U.S. Department of Homeland Security (DHS) Science and

Technology Directorate (S&T) awarded a contract to Micro-X to create and test a compact self-screening concept which streamlines the security processing into a single step.

The integrated system allows the scanning of passengers and their possessions to be conducted simultaneously, while meeting the strict safeguards of travel security.

The design also utilizes a much smaller CT scanning system than those currently used in airports, allowing more checkpoints to operate, reducing queues and frustrating bottlenecks.

Monash lead design researcher Dr. Nyein Chan Aungsaid the implementation of the new imaging technologies could transform the airport security experience for both travelers and staff.

"This new system design reconsiders every element to serve the user, including the industrial design, floor plan layout, lighting, ergonomics, materials and user interfaces," he said.

"The checkpoint aims to maintain effective security while improving the throughput and passenger and operator experience."

The new design will also offer a "pre-warning" prompt that will alert passengers of forgotten objects in their pockets so they can avoid nuisance alarms when the on-person screening is conducted.

Dr. Aung says the Monash Design Health Collab team is working to connect technology and the passengers' experience, which is vital to the design's success in the "real world."

"Undertaking a user-centered design approach is critical to the success of new technologies and ensuring that the workflows allow for optimal

system performance while maintaining ease-of-use, convenience and dignity for passengers from all walks of life," he said.

Dr. Brian Gonzales, chief scientist of Micro-X and the CEO of the company's U.S. subsidiary, agrees. He says world-class scanning technology needs to be combined with great design to be effective.

"The interface between the checkpoint system and the person is what makes the technology work for humans. People need to have a good experience and the design needs to consider people's well-being, movement and flow."

Provided by Monash University