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NZ develops method to disinfect PPE for potential reuse

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The project received $1.3M in funding from the Ministry of Business, Innovation and Employment (MBIE) through the COVID-19 Innovation Acceleration Fund, and a $46K grant from the Medical Assurance Society Foundation



Scientists at the University of Auckland, New Zealand (NZ) have developed a shipping container-based unit to disinfect N95 masks and other personal protective equipment (PPE), so it can be potentially reused and safely recycled.

The team tested UV light and dry heat for disinfecting clinical PPE. In January 2022, their initial findings were published in Pathogens.

The study showed UV disinfection was not reliable on the irregular surfaces of PPE, but dry heat was effective. The researchers also found replication-competent virus remained on face masks for up to five weeks at room temperature.

The most recent stage of the research project has been to build and test a prototype mobile disinfection unit in a shipping container at the Port of Taranaki.

The next steps for the prototype disinfection unit is to demobilise and transfer it to the University of Auckland Faculty of Engineering.

“We aim to close the loop on single-use PPE by completely deconstructing and converting unusable PPE waste into safe, inert, and potentially valuable products. The combination of disinfection and hydrothermal valorisation is a circular solution,” researchers said.