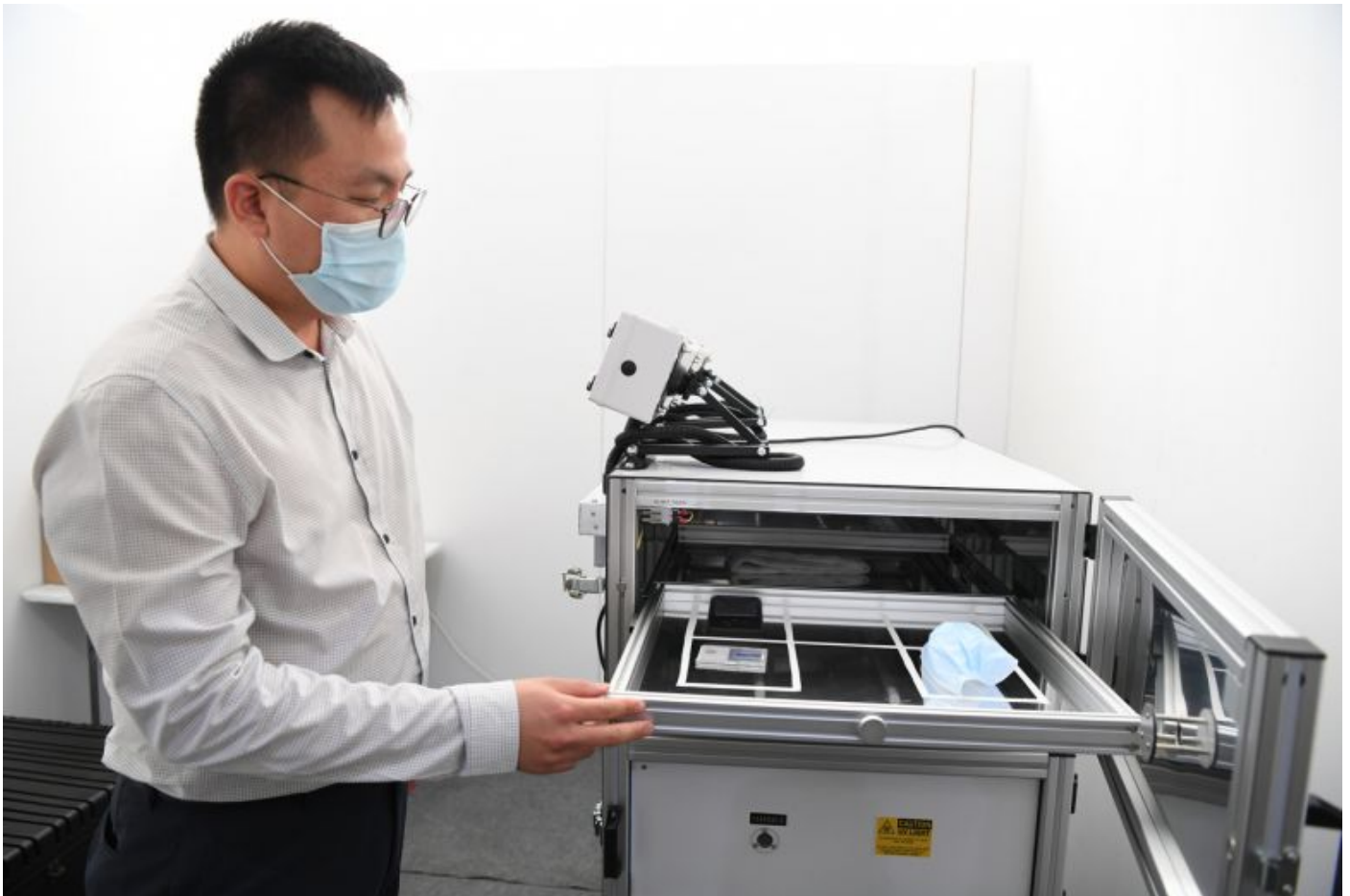


Coronavirus: Singapore-made disinfecting cabinets kill viruses in 15 minutes



Users place their items into the cabinet, and in 15 minutes, it kills bacteria and viruses using ultraviolet light. PHOTO: DSO NATIONAL LABORATORIES

🕒 PUBLISHED 9 HOURS AGO

Staff at Changi facility housing Covid-19 patients can use them to disinfect belongings

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Those working at the Changi Exhibition Centre (CEC) facility housing Covid-19 patients can now ensure their personal belongings are free of viruses with the use of a locally developed disinfecting cabinet.

Users place their items, such as mobile phones and laptops, into the cabinet, and in 15 minutes, it kills bacteria and viruses using ultraviolet (UV) light. Masks disinfected this way can be reused.

Developed by DSO National Laboratories, the first cabinet, measuring 1.2m by 0.6m by 1.1m, was deployed at the CEC integrated community care and recovery facility last month.

Five cabinets have been manufactured locally so far in a joint effort by the Defence Science and Technology Agency and ST Engineering. Besides the CEC, the cabinets are also deployed at the National Service Resort & Country Club in Kranji.

Each cabinet has three main compartments, with each compartment holding two trays - for masks, mobile phones, laptops and other personal items. Masks do not have to be flipped over as the UV lamps are powerful enough to penetrate them.

There are also safety switches that automatically turn off the UV lamps when the compartments are open.

The cabinets are able to kill more than 99.99 per cent of bacteria and viruses tested, including the H1N1 virus and Staphylococcus aureus bacteria, which is more resistant than the virus that causes Covid-19.

Dr Loke Weng Keong, director of the Chemical, Toxins, Radiological and Nuclear Programme at DSO, said tests done by DSO concluded that short wave UV light irradiation was good at inactivating bacteria, virus and microorganisms present on surfaces of surgical masks, while retaining their filtration functions.

This allowed each mask to be sterilised and reused up to 10 times.

With some materials unavailable during the two-month circuit breaker period that started from April 7, the DSO team had to be creative by using aluminium foil to construct a highly reflective interior to ensure better UV exposure throughout the chamber, said Dr Loke.

He told The Straits Times yesterday that other than ensuring filtration properties are not affected, the mask fabric integrity also had to be checked to ensure its shape and fit are retained. "The disinfection testing is also repeated to determine that maximum cycles of disinfection that can take place," he added.

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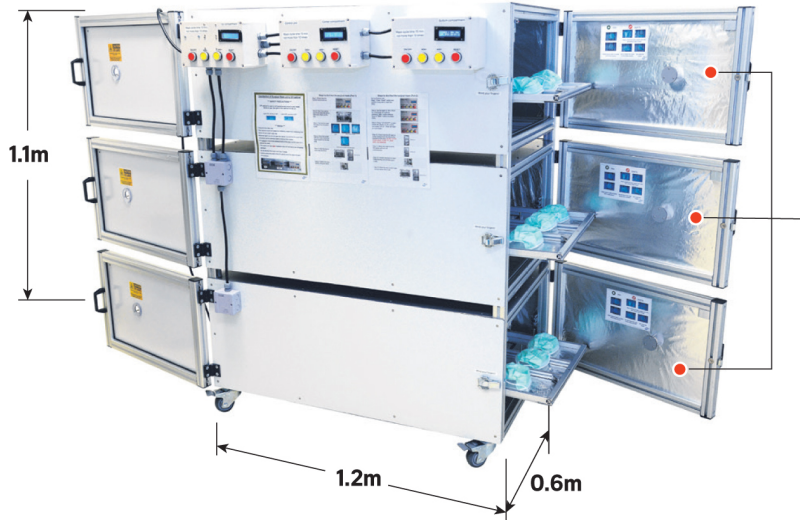
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Highlighting the project in a Facebook post on Monday, Defence Minister Ng Eng Hen wrote: "This gives (front-line healthcare workers) peace of mind that they do not bring back any virus to their homes."

Killing the virus

DSO National Laboratories has come up with a cabinet that uses ultraviolet (UV) rays to eliminate the virus that causes Covid-19 on personal items.

DSO UV CABINET



Kills more than

99.99%

 of viruses and bacteria tested

COMPARTMENTS

The cabinet has three main compartments.

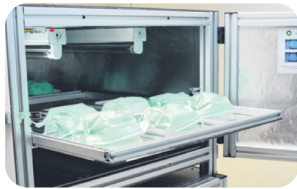


The doors have safety switches that automatically turn off the UV lamp when opened.



Each door has a peephole to inform the users that the compartment is currently being used.

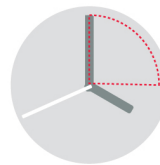
HOW IT WORKS



1 Masks and other personal belongings, such as mobile phones and laptops, are placed on the trays in each compartment. Each compartment can be operated separately.



2 No flipping of masks is required, as the lamp is powerful enough to penetrate and disinfect them.



3 Disinfecting is done in **15 minutes**



4 **Up to 30 items** can be disinfected at any one time.

Source: DSO NATIONAL LABORATORIES PHOTOS: DSO NATIONAL LABORATORIES STRAITS TIMES GRAPHICS

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