

# Device to reduce noise from outside



Professor Gan Woon Seng, director of NTU's Centre for Infocomm Technology and the lead researcher of the team that developed the device that can reduce noise pollution entering buildings even while windows are wide open.

## WHAT IT IS

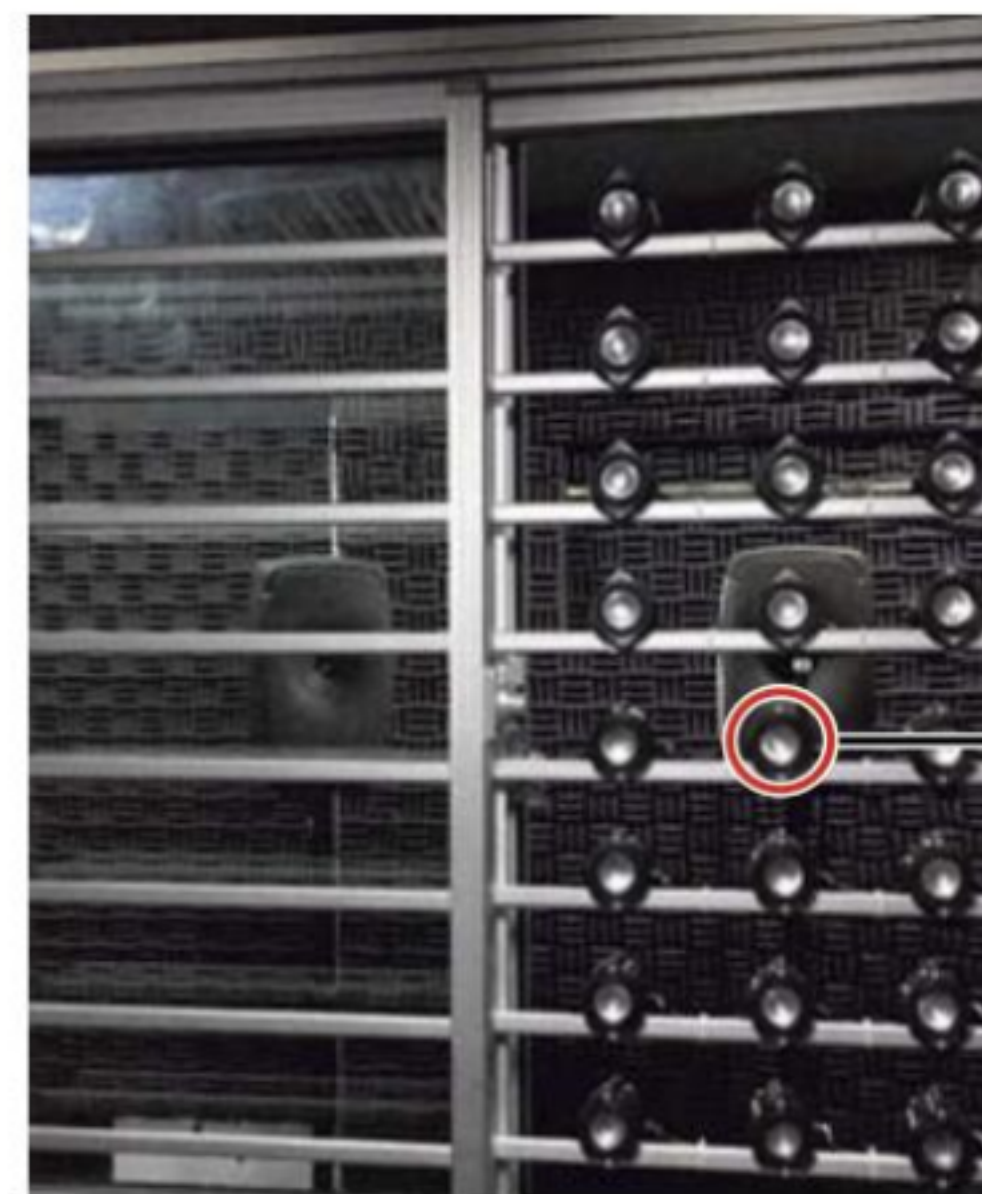
- Designed to be mounted onto window grilles, the device could reduce up to 50 per cent of perceived noise coming from the nearby environment, such as busy roads, train tracks or construction activities.
- The device uses 'active noise control' technology – found in many high-end headphones that cancels external noise – that is adapted to work in a large open area.
- The benefits are two-fold: windows can be left open for fresh air without disturbance from external noise, and the need for air-conditioning to keep the interiors of buildings and homes cool can be reduced.

## HOW IT WORKS



Device

- Microphone picks up external noise. A Central Processing Unit (CPU) connected to the device processes external noise signals in real-time and generates anti-noise signals.
- The noise-cancelling signal is generated into the room interior. Speakers can also play songs or natural sounds to "mask" noise that goes through.
- Researchers hope to reduce the number of devices attached to the window grilles, and integrate the CPU and devices into the design of window grilles after further testing in the next two to three years.



Devices mounted on window grilles

