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Singapore

Device that can cut noise pollution by half developed by NTU researchers



PROFESSOR GAN WOON SENG
 Director, Centre for Infocomm Technology

Residents living near busy roads, train tracks or construction sites may get some respite from the noise with a new noise cancelling device being developed by researchers from Nanyang Technological University.

SINGAPORE: Residents living near busy roads, train tracks or construction sites may get some respite from the noise with a new noise cancelling device being developed by researchers from Nanyang Technological University (NTU).

The device, designed to be mounted onto window grilles, can reduce up to 50 per cent of noise from the surrounding environment – even when the windows are wide open, said NTU in a media release on Monday (Apr 30).

While the concept behind the technology is not new, this is the first time such an experiment is being done on a fully opened window, said the varsity. Research carried out in European universities have only ever experimented with bulky devices on partially-opened windows.

The device, which is at the prototype stage, uses technology found in high-end headphones that cancels external noise, and is adapted to work in large open areas.

It uses a special sound emitting mechanism which works like a speaker and is hooked up to a processing unit.

When noise is detected, it quickly emits "anti-noise" soundwaves which counters the invading noise, resulting in a softer ambient sound entering living spaces.

For example, busy traffic which has a decibel level of 75, can be reduced by 10 decibels to 65, said Professor Gan Woon Seng, director for NTU's Centre for Infocomm Technology.

Similar to a small portable Bluetooth speaker, several units of the device are placed together to form a grid-like pattern on a window grille. Prof Gan said researchers are working to improve the technology, making the device smaller and more cost-effective to produce.

The team hopes to roll out further tests in actual commercial or residential areas in the next two to three years.

Said Prof Gan: "Compared to noise cancellation headphones, what we have achieved is far more technically challenging as we needed to control the noise in a large open area, instead of just around the ear."

The project is part of NTU's Smart Campus initiative. It aims to improve quality of life through the development of new technological solutions which are first trialled on campus.

Source: CNA/ad/(gs)