DIABETIC INSOLES — SINGAPORE'S BEST FOOT FORWARD

SCAN THE IMAGE AND MOVE YOUR PHONE AROUND TO VIEW A **3D MODEL OF THE DIABETIC INSOLE**

Singapore has one of the highest rates of diabetic amputations in the world. A new pressure-sensitive insole developed by the National University of Singapore (NUS) will help diabetic patients reduce the risk of foot ulcers and amputation.

In 2016, NUS' E6Nano research team developed a customisable shoe insole with flexible sensors that can detect excessive foot pressure for diabetics who suffer from numbness. These patients are at risk of developing recurring foot ulcers if they unknowingly put too much pressure on sensitive areas.

The sensors transmit pressure data wirelessly to a smartphone app which provides colour-coded stress point readings in real time as patients walk around. This allows them to adjust the amount of pressure they place on affected areas.

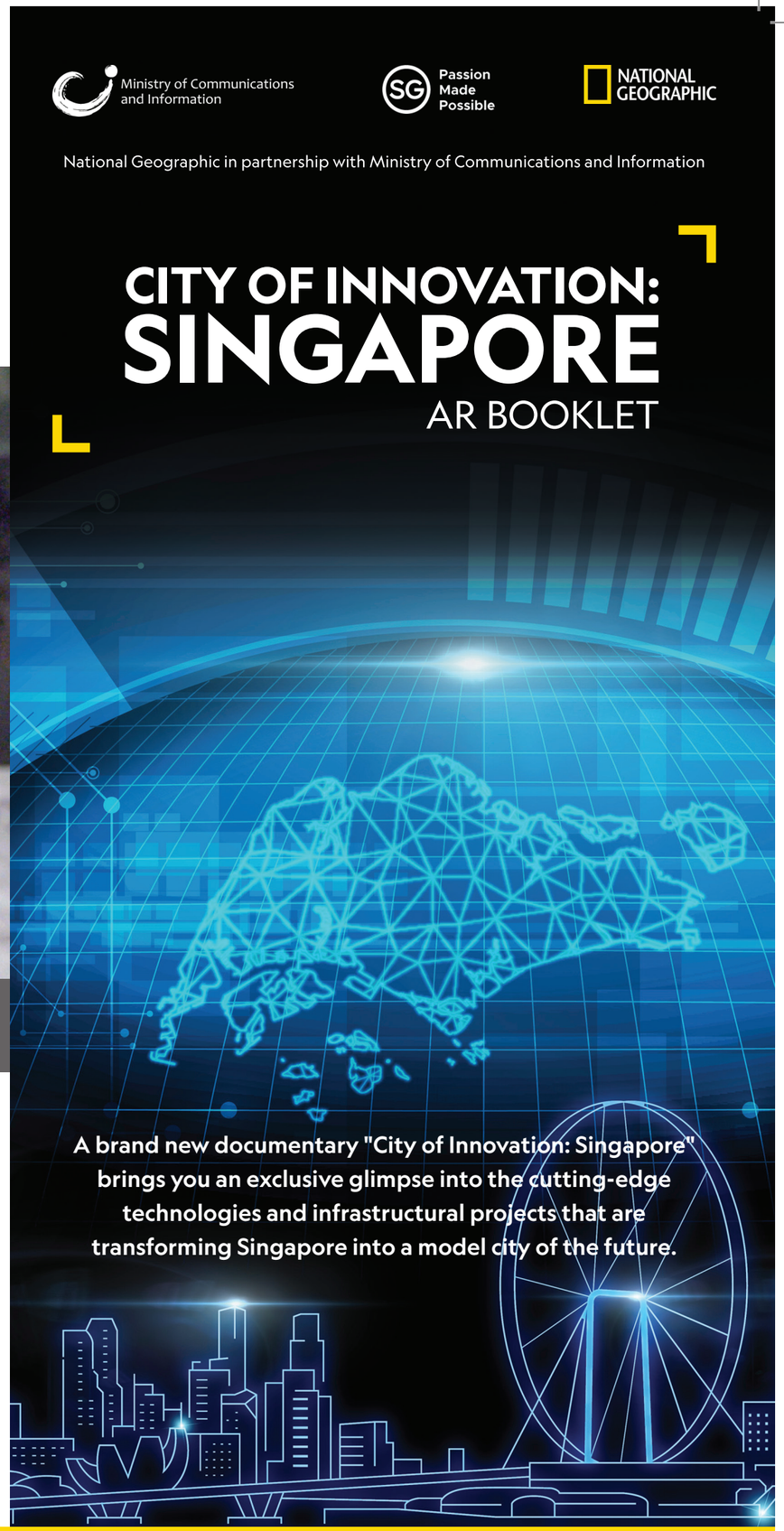
GROWING SINGAPORE'S DENGUE WARRIORS

SCAN THE IMAGE TO WATCH **SCHOOL CHILDREN RELEASE WOLBACHIA-CARRYING MOSQUITOS**

The National Environment Agency (NEA) is gathering an army of male Aedes mosquitos carrying the Wolbachia bacteria in the battle against dengue.

When male Wolbachia-carrying mosquitos mate with wild females, they produce eggs that do not hatch, resulting in suppression of the Aedes mosquito population over time and reducing the transmission of the dengue virus.

NEA pioneered technologies that help produce up to 400,000 Wolbachia mosquitos a week, 10 times more than before. They also invented the world's first mosquito launcher to release these Wolbachia warriors faster and more efficiently. As part of NEA's community outreach efforts, kindergarten children are roped in to release male Wolbachia-carrying Aedes which do not bite humans nor transmit diseases.



TAKE A SNEAK PEEK WITH OUR AUGMENTED REALITY (AR) BOOKLET

STEP 1
Scan QR code or go to
https://whatmakessg.com/arbooklet/

STEP 2
Tap on one of the four images to launch AR

STEP 3
Grant permission to launch camera

STEP 4
Hold your camera over the same image on the booklet and press scan to view AR

STEP 5
To view other AR effects, go back to Step 1

PROTECTING ORCHARD ROAD FROM FLOODS

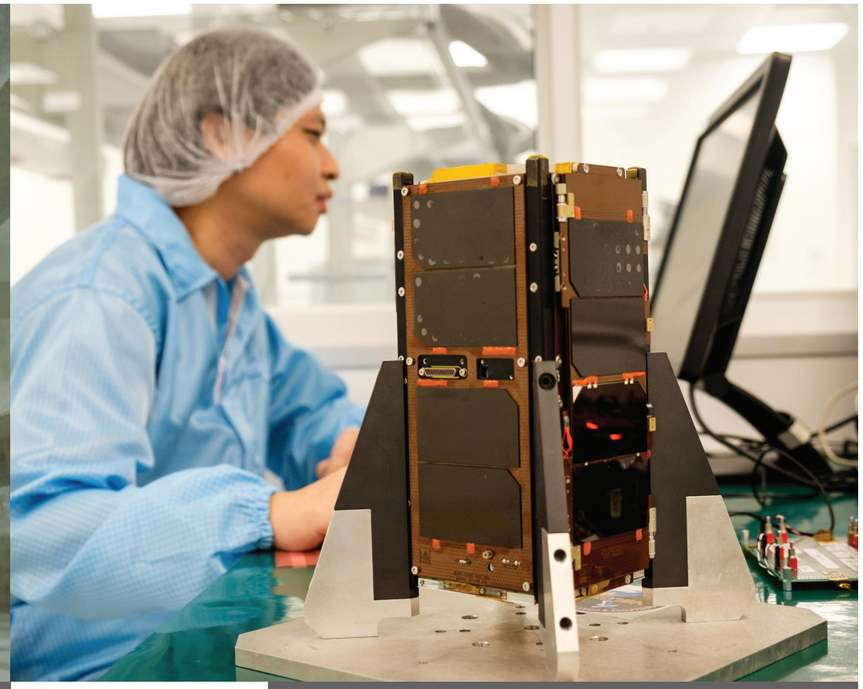
SCAN THE IMAGE TO TOUR
THE STAMFORD DETENTION TANK

Located 30m beneath the Singapore Botanic Gardens, PUB's Stamford Detention Tank protects Singapore's shopping belt, Orchard Road, against flash floods arising from heavy downpours which may become more frequent in the future due to climate change.

Heavy downpours and flash floods crippled Orchard Road, Singapore's premier shopping district in 2010 and 2011. Since then, PUB, Singapore's national water agency, designed and constructed a new drainage system consisting of the Stamford Diversion Canal and the Stamford Detention Tank to divert and store excess storm water in the event of a heavy downpour.

While the Stamford Diversion Canal diverts rainwater, the Stamford Detention Tank holds the water temporarily so less of it flows into the Stamford Diversion Canal. Once it is full, the tank is emptied to prepare for the next downpour.

SHOOTING FOR THE STARS WITH NANOSATELLITES



SCAN THE IMAGE AND MOVE YOUR PHONE AROUND
TO VIEW A **3D MODEL OF THE NANOSATELLITE**

Nanyang Technology University (NTU)'s satellite programme has sent nine nanosatellites into space since 2011. At a fraction of the size, weight and cost of conventional satellites, they are pioneering new propulsion systems while bringing more accurate weather forecasts with frequent snapshots of the Earth's atmosphere that allow real-time tracking of storms.

Deployed in 2018 and 2019, NTU's latest two nanosatellites are harbingers of greater things to come — Singapore's first lunar mission. The findings of these satellites could turn this into reality within five years, with satellites weighing less than 100kg each, lighter than any that has made the journey to the moon.