

Innovations at airshow

ST Engineering is applying its traditional strengths in defence manufacturing to produce aviation and urban innovations, which visitors can see at the Singapore Airshow. The Straits Times takes a look at some of them.

DEFENCE

Exo-suit

- Attached to the frame of a soldier's field pack
- The exo-skeleton reduces a soldier's load by **up to 80 per cent**, and chances of injuries, improving endurance.

Brain-computer interface (BCI) drone

- The stuff of science fiction movies, a trained soldier wearing a **special helmet and visor** might, in the future, be able to **move drones with just his mind**.
- The technology is still in its early stage of development.



Transparent armour

- Made up of a highly durable and scratch-resistant ceramic material, it is **30 per cent lighter** than conventional armoured glass.
- **Customisable to different shapes and thickness**, it can be used in law enforcement, as well as marine, aerospace, and land system defence platforms.



AVIATION

DroNet

- A team of drones can soon be commanded by a lean crew in a remote command centre.
- Potential applications include **delivery, surveillance, and conducting building inspections**.
- Four mobile ports can deploy four drones covering an area of six by six kilometres.



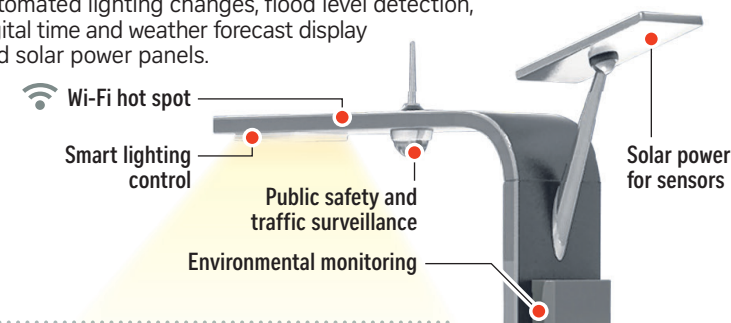
Unmanned freighter technology

- Aims to reduce a two-man into a single-pilot cockpit.
- An additional remote pilot on the ground is needed, but this pilot can **support up to 12 single-pilot aircraft simultaneously**.

SMART CITIES

Smart street lamp

Puts together features such as Wi-Fi hot spot, sensors to support automated lighting changes, flood level detection, digital time and weather forecast display and solar power panels.



Autonomous mobile robot

- Able to **carry loads of up to 635kg**, it helps to automate physical tasks such as transporting supplies, delivering meals and removing waste.
- These robots have been in use in **healthcare, logistics, hospitality and manufacturing industries** around the world.



Public warning system

Digital signage

Infotainment system

Flood/water level detection

More than 12 hours of battery storage

Smart scanner

- The hidden early detection long-range mobile (Helm) scanner aims to detect both **metallic and non-metallic threats**, including knives and chemical warfare agents, by using radar technology.
- Unobtrusive and is able to scan a large number of people at one time without having to do individual checks.

