The increasing connectivity of physical objects is reshaping the way we live and work.
The Straits Times looks at some A*Star innovations which have made a positive impact.

Keeping tabs on seniors' safety

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CREATING GROWTH, ENHANCING LIVES

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It is not easy for those who care for the elderly – especially those who live alone – to keep track of whether these senior citizens take their medication regularly or whether they have suffered a fall at home.

To help them, researchers at the Agency for Science, Technology and Research (A*Star) and the Singapore Management University (SMU) have developed a monitor-ing system that tracks the home-alone senior's movements and behavioural patterns.

The project, called ShineSeniors, comprises a system of in-fra-red sensors installed on the walls of each room and the front door of the senior's home.

The system tells remote caregiv-ers if the senior is moving around, said Dr Liang Huiguang from A*Star's Institute of High Perform-ance Computing, who co-leads the research.

With time, it can also trace a pat-tern in their movements and, if this pattern changes – suggesting a health problem – it can alert care providers via a mobile app.

The team also developed a medi-cine box with a sensor attached to the cover, which sends a signal to caregivers when it is opened.

This can be used to track when the senior takes his medicine.

Lapses in medication compli-ance are one of the main reasons for repeated hospital admissions, said Associate Professor Tan Hw-ee Pink from SMU, the other project co-leader.

The system and the medicine box are being trialled in 50 homes, mostly two-room flats. The team intends to test it out in 50 more homes by October next year, when the project ends.

The project is funded by the Min-istry of National Development and National Research Foundation.

Dr Eugene Shun from Eastern Health Alliance, a collaborator in the project, said the system allows volunteers and healthcare profes-sionals to respond early to the needs of the people they care for.

Dr Shun added that remote sens-ing technologies like this also al-low people to age in their own homes while being watched over.

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Madam Chan Soh Mui, 82, with a medicine box that has a sensor on its cover to detect when she opens it. Passive infra-red sensors were also installed on the walls to track her movements. PHOTO: ALICIA CHAN FOR THE STRAITS TIMES