

# NTU unveils all-in-one Smart Pass to support Smart Campus

Other plans include deploying fully electric shuttles and autonomous buses to ply the campus roads

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A NEW all-in-one Smart Pass that can be used for various campus activities, as well as more electric shuttles and autonomous buses that can ferry people between buildings, will be deployed in Nanyang Technological University (NTU) in 2018.

These plans were formally unveiled as part of NTU's Smart Campus initiative – which seeks to transform the research-intensive university into the largest Smart Campus, and potentially the first cashless campus, in Singapore.

The university's new president, Subra Suresh, said that NTU will serve as a model for the world by demonstrating how tech-enabled solutions can improve everyday life and support better learning in a sustainable manner.

"It is not just about tech. It is equally about how tech impacts our daily experience, livelihoods, and quality of life both on and off campus. Cash-free payments are very much part of this," he said.

The new NTU Smart Pass – which

Professor Suresh described as a "credit card with one's picture on it" – will be used for multiple purposes such as identification, single-tap access to classrooms and offices, and contactless payments at canteens, vending machines, and even off-campus services such as public transport. Notably, it will be embedded with Nets' FlashPay function.

A Nets spokesman told *The Business Times*: "The advantage of adopting the Nets FlashPay card as a matriculation card lies in the card's ability to fulfill other purposes, including payments at retail acceptance points within the campus.

"Another benefit is that the Nets FlashPay card can be used outside the campus – for transportation such as MRT or LRT, public buses, Comfort, CityCab and SMRT taxis, as well as at more than 100,000 acceptance points islandwide."

The new pass will be rolled out to the 40,000 students and staff from Wednesday.

Tan Aik Na, vice-president for administration and chief financial officer of NTU, said that as a safeguard, personal information on the cards will not be made visible to campus ad-



NTU president Subra Suresh with the new NTU Smart Pass. Beside him is a driverless electric shuttle that is being trialled on campus.

PHOTO: NTU

ministrators. She added that NTU's plan is to expand the number of uses of the card throughout 2018.

To boot, there are plans to deploy fully electric 22-seater shuttles to ply the roads of NTU, in addition to the driverless electric shuttles that are already being trialled on campus.

Several 40-seater autonomous buses that support ultra-fast charging will also be developed, along with bus stops with complementary infrastructure.

Prof Suresh said: "One of the nice things about the NTU campus is that it's very large, 500 acres, and it's a well-contained campus."

He added that this makes it a good testbed for sustainable transportation solutions that can be applied both within and outside of campus.

AI, computer science, big data, deep analysis, Internet of Things (IoT) and cybersecurity are among technologies that will "dramatically alter our way of life", Prof Suresh noted.

When asked how NTU's Smart Campus will leverage AI to improve everyday operations, he pointed to optimising traffic flow and energy utilisation.

"We need large volumes of data first, such as transport patterns and energy sources. We can then ask ques-

tions like what is severely underutilised or where we can have energy savings. This provides opportunities for us to develop policies. Take the adjustment of building temperatures. That can be made to happen automatically without human intervention," he said.

As part of its Smart Campus initiative, NTU will introduce new core educational modules to enhance the digital literacy of its students, as well as an undergraduate programme in data science and artificial intelligence (AI), beginning with the new academic year in 2018.

Ling San, provost and vice-presid-

ent for academics at NTU, said: "This is to prepare students for the kind of work and everyday life that they will face when they leave the university. We don't know what kind of technologies will appear, but students need to know the underlying pillars, such as IoT and cybersecurity.

"We're not trying to make everyone an expert in IT. What we are trying to achieve is that even the humanities major will leave the university aware of the opportunities they can harness with the new technologies, as well as the risks, pitfalls and constraints."