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Singapore's first nano-satellite launched

By Alice Chia
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The nano-satellite, launched by NTU, will deploy a pico-satellite in two to three months' time.

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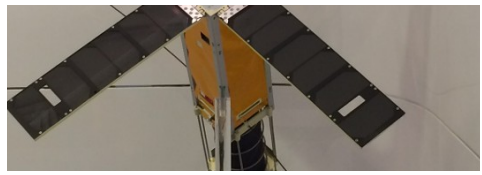

Singapore's first nano-satellite, VELOX-1, which was laun
Monday. (Photo: Alice Chia)

THUMBNAIL CAPTION

SINGAPORE: Orbiting in space, some 650 km above Earth, is Singapore's first nano-satellite. Named VELOX-I, it was launched on Monday (June 30), in what is touted as a step forward for the country's aerospace industry.

Designed and built by students and researchers from Nanyang Technological University's Satellite Research Centre, the satellite was launched from the Satish Dhawan Space Centre at Sriharikota in Andhra Pradesh, on a space rocket owned by the Indian Space Research Organisation.

Built as a proof-of-concept, VELOX-I boasts new features that could bring cost-savings to the industry. It weighs just 4.28 kg, thanks to electronic components that are smaller and lighter. This can help companies save money as launch costs are calculated by the weight of the satellite.

VELOX-I also boasts customised equipment built by the NTU team - a camera sensor that's radiation-resistant, and extendable lenses to take higher-resolution photographs from space. It is also fitted with solar panels that feed into an efficient power management system.

Said Associate Professor Low Kay Soon, Director of the Satellite Research Centre: "We actually put in a lot of new components and new sensors. These, if proven, can eventually be used for other satellites, big satellites for commercial application. We hope that this will actually benefit Singapore's space industry in the long term."

Another special feature: VELOX-I carries a smaller satellite, named VELOX-PIII, which will separate from it in the next three months. This brings the total number of satellites the university has launched to four.

One function of the satellites is to test the new technologies, as many of the systems are built by the students. In a state-of-the-art control centre completed earlier this year, students can monitor the movement of the satellites using advanced communications and computer systems.

With these projects, the university hopes to give students more experience in developing satellites, and nurture a pool of talent for the industry.

"As an engineer myself, I believe that building a satellite is something very very challenging," said NTU student Lau Zi Rui. "So if we are able to build a satellite, as my Professor always says, we can actually build many other stuff."

The university is now building Singapore's first weather satellite funded by the Economic Development Board for tropical climate studies. VELOX-CI, a fridge-sized satellite weighing 130 kg, should be completed by September next year.

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