

Singapore's first student-built satellite lifts off

SINGAPORE – The Republic's first student-built satellite has been successfully launched into space, joining Singapore's first locally-built satellite.

Designed and built by Nanyang Technological University (NTU) students, the satellite lifted off on board Russia's RS-20B rocket (Dnepr) at 3.10pm last Thursday, from the Yasny Launch Base located in the Orenburg region, Russia.

Classified as a pico-satellite — a satellite that weighs around 1kg — the VELOX-PII is soaring some 600km above Earth, on an orbital plane that has a fixed orientation with the sun, said NTU. While in space, VELOX-PII will run tests to prove the viability and robustness of NTU's satellite technology, including hardware and software built in-house by students.

The university has also built a new ground station on campus to control and monitor VELOX-PII for the next year of its operating life. The ground station successfully contacted the satellite last Thursday and the satellite successfully transmitted data to the ground station the day after, indicating that it is fully operational.

NTU is Singapore's first university to develop a satellite programme for undergraduates. The 1.33kg VELOX-PII is developed under NTU's Under-



NTU's 1.33kg VELOX-PII pico-satellite.

PHOTO: NTU

graduate Satellite Programme, which aims to train highly-skilled engineers to support Singapore's space industry. Since 2009, engineering students from their second year onwards can develop and build real satellites.

Singapore's first locally-built satellite, the X-SAT, was developed by NTU and DSO National Laboratories, and was launched in late April 2011.

In NTU's 10-year satellite road map, the university plans to develop at least four nano-satellites. The student teams are also working on another 4.5kg nano-satellite named VELOX-I. It is now undergoing its final stages of testing and is on track to be launched early next year. NTU's Satellite Research Centre has also embarked on building the Republic's first weather satellite, and the core team from the X-SAT programme is working on Singapore's first commercial remote sensing satellite, TeLEOS-1.