

# Little red dot in space with Singapore's first student-built space satellite

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By Joey Liew

POSTED: 25 Nov 2013 18:45

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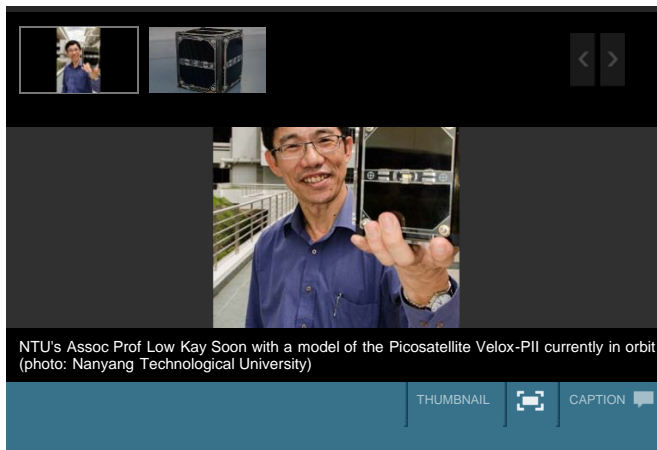
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Students at NTU have successfully built and launched into space, the VELOX-P11 satellite, along with a campus ground station that has been communicating with the orbiting satellite.

## PHOTOS



SINGAPORE: Orbiting some 600km above Earth is Singapore's very first student-built satellite, the VELOX-P11, created from scratch by students at Nanyang Technological University (NTU).

The student-built VELOX-P11 satellite was launched on board a Russian RS-20B rocket from the Yasny Launch Base in Russia, just before 11pm (Singapore time) on Thursday 21 November, and began transmitting data some 24 hours later, indicating that it was fully operational.

While the VELOX-P11 is keeping some students busy at a new NTU- built ground station on campus to control and monitor the satellite, others are busy with the VELOX-I, a 4.5kg nano-satellite undergoing its final stages of testing in preparation for launch early next year.

All this is part of NTU's Undergraduate Satellite Programme, which involves second year engineering students onwards in developing and building real satellites.

The programme started in 2009 and managed by NTU's Satellite Research Centre, is aimed at training highly-skilled engineers to support Singapore's space industry.

"The successful launch of VELOX-P11 marks yet another momentous chapter in our journey into space," said Associate Professor Low Kay

Soon, Director of NTU's Satellite Research Centre.

"Our pipeline of bigger projects will not only train our future students for a career in the aerospace and space industry, it will also further strengthen NTU as an exceptional institution of excellence in satellite technology as well as realise Singapore's ambitions to make a global mark in the space industry."

The cubed VELOX-PII satellite that weighs 1.33kg will be in operation for the next 12 months, running tests such as using a fine sun sensor to determine a satellite's orientation with respect to the Sun and maximizing solar energy harvest with a power management system.

The satellite technology being tested covers hardware and software built in-house by students as part of hands-on, multi-disciplinary and team-based projects.

"We are confident that this remarkable satellite project will spur greater academic interest in engineering research and development among undergraduates" said NTU President, Professor Bertil Andersson, who went on to describe the project as "a fantastic showcase of NTU's strengths in research and engineering which augurs well for the future of Singapore's aerospace and space industry."

He added that the VELOX-PII proves that NTU's engineering students have the aptitude and attitude to successfully apply what they have learnt in the sophisticated area of satellite-building, and that the university is "committed to push the frontiers in satellite research and further accelerate the commercialisation of made-in-NTU satellite technologies."

The first university in Singapore to develop an undergraduate satellite programme, NTU plans to develop at least four nano-satellites in its 10-year road map.

This is NTU's second satellite in space, following the maiden launch in April 2011 of the X-SAT, Singapore's first locally-built satellite developed by the university and DSO National Laboratories.