UiTM sends second satellite into orbit

Project to focus on Earth observation, spaced-based IoT: Academic

Shahrin said the launch of the nanosatellite proves that Malaysia, particularly UiTM, is capable and ready to play a greater role in the future technological landscape. – **BERNAMAPIC**

SHAH ALAM: Universiti Teknologi Mara (UiTM) created history by successfully releasing its second nanosatellite, UiTMSAT-2, into orbit from the International Space Station (ISS).

Project leader Dr Fatimah Zaharah Ali said UiTMSAT-2 is a 1.1kg 1U CubeSat nanosatellite that was released through the Japanese Experiment Module (JEM) using the JEM Small Satellite Orbital Deployer mechanism.

She said the UiTMSAT-2 project carries the primary mission of an Earth observation camera and the secondary mission of a space-based Internet-of-Things (IoT), Bernama reported.

"It is aimed at transmitting sensor data from remote areas that do not have a terrestrial (ground) connection network and use the VHF-UHF amateur radio frequency band."

She was speaking to reporters at the Live Viewing Ceremony for the launch of the nanosatellite, which was broadcast from the Japan Aerospace Exploration Agency at 7.52pm (Japan time) on Tuesday.

The event was also attended by UiTM vice-chancellor Professor Datuk Dr Shahrin Sahib at the Tuanku Syed Sirajuddin Chancellery Building in UiTM.

UiTM launched UiTMSAT-2 to the ISS on Oct 26, 2025 via the HTV-X1 mission using the H3 F7 rocket from the Tanegashima Space Centre in Japan, precisely at 8am Malaysian time (9am Japanese time).

Fatimah Zaharah said the small satellite project would operate in low Earth orbit at an altitude of 380km to 400km (from Earth) and would orbit the planet 16 times in 24 hours.

Meanwhile, she said the development of UiTMSAT-2 since February 2021, with the formation of the engineering model at UiTM, involved the process of component procurement, circuit board design, subsystem integration and functional testing.

She added that vibration and electromagnetic compatibility tests were conducted in Malaysia, while the development of the flight model continued at the Kyushu Institute of Technology (Kyutech) in Japan from 2024 to 2025, including the integration of solar panels and space environment tests such as the thermal vacuum test, antenna deployment test, communication test and fit check test.

The project is led by UiTM as the main institution, with strategic collaboration from the University of Perpetual Help System Dalta (Philippines), King Mongkut's University of Technology North Bangkok (Thailand) and Kyutech as the technical supporter.

Project funding was contributed by the Science, Technology and Innovation Ministry through the International Collaboration Fund with RM500,000, and others from UiTM through the Strategic Research Partnership Fund as well as financial contributions from international collaboration partners.

The UiTM satellite development involves the Satellite Integration Laboratory at UiTM and the ground station at the Tuanku Abdul Halim Mu'adzam Shah Engineering Complex at the university, equipped with VHF/UHF Yagi antennas, a rotator system and an amateur operator licence that is renewed periodically.

Meanwhile, Shahrin said the launch of the nanosatellite proves that Malaysia, particularly UiTM, is capable and ready to play a greater role in the future technological landscape.

"UiTMSAT-2 also reflects meaningful university-industry collaboration, in which academic research is translated into real-world technological applications.

"It is not just a nanosatellite. It is a symbol of local expertise, a manifestation of confidence in the talent of Malaysian children and proof that public universities are capable of being a driver of the country's strategic technology."