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S'pore team wins prize in space tech contest

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Keeping small satellites up in space can be a challenge because they tend to slowly re-enter the atmosphere and burn up over time, but a cheap idea proposed by a team of five students from Singapore may provide an answer to this problem.

The team, comprising two Singaporeans, two Indians and one Australian, proposed using 3D printing to produce customised microthrusters using water propulsion, instead of relying on expensive options available now.

The team pitched the idea to an international panel of experts in an innovation competition, ActInSpace, and won the Airbus Innovation Prize for their efforts.

The competition, which is related to space technology, was held in France on Wednesday.

While they fell short of winning the grand prize – a chance to experience zero-gravity flight – their prize meant they got to visit the European aerospace company Airbus.

The students – one from Tanglin Trust School and four from the National University of Singapore (NUS) – also had a flight training session on an Airbus A320 simulator.

Nano satellites, especially a common type known as CubeSats, are small, cubical devices about 10cm wide and weighing around 1.3kg. They are used for a wide range of functions such as space exploration and conducting experiments in space.

The executive director of the Singapore Space and Technology Association, Ms Lynette Tan, 38, said that because the lifespan of these satellites are short, lasting between three months and about two years, they tend to veer from their orbit and fall to earth over time.

Ms Tan, who was one of the judges, said conventional microthrusters can cost up to $250,000. The Singapore team claims their idea costs less than a quarter of that.

From far left: CNES technology transfer officer Didier Lapierre with Insert Space team members Francis Lee, Prince Soni, Rachiket Arya, Wilbert Tan and Vairavan Ramanathan; and Singapore Space and Technology Association executive director Lynette Tan at the ActInSpace competition in France. PHOTO: COURTESY OF LYNETTE TAN

The team, Insert Space, was one of five teams in the final round of the competition organised by the French space agency CNES and the European Space Agency.

"We were inspired by the need to make space exploration affordable and accessible for everyone," said one of the team members, Mr Francis Lee, 23, from the School of Computing at NUS. "Ultimately, we aim to... enable them (university students) to perform missions that were previously impossible."

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