Pirate-tracking system wins prize

A team of students has designed a satellite system which provides an eye in the sky to identify and track pirate ships.

The four NUS High School of Mathematics and Science students came up tops in this year's Singapore Space Challenge, winning $10,000 for their effort.

The competition – open to students aged 15 and above – aims to get more students interested in space-related activities, as well as educate people about space technology. It was organized by the non-profit group Singapore Space and Technology Association (SSTA), in partnership with the Centre for Research in Satellite Technologies at Nanyang Technological University.

This year, the teams had to design satellites which could keep an eye on seaways around Singapore and neighboring countries, pick up distress signals for search and rescue operations and monitor pirate activities.

Members of the winning team started work on the project in January. They often worked through the night to familiarize themselves with the designing and conceptualizing satellites, said team member Ong Hao Yi, 18.

The three satellites – a master satellite and two revolving micro-satellites – work together to create a three-dimensional image of each ship, rather than the two-dimensional images available now, he explained.

By setting up a communication network with the legitimate vessels plying the waters, the system was able to pinpoint pirate ships – and could even provide their dimensions.

SSTA president Jonathan Hung said:"With the Singapore Space Challenge, we hope to generate a better understanding of the relevance of space technology in everyday life. It's not just about launching astronauts into space on missions."

In fact, space technology has applications in many industries, including communications, oil and gas, defence, transport and logistics, he said. This year's competition, for example, highlighted how the field was critical in supporting marine operations and security.

This is the second year that the competition was held. The 22 teams taking part included those from tertiary institution, junior colleges and high schools.

Registration for Singapore Space Challenge 2010 will open next month. Those interested can look up http://www.space.org.sg/ for details.