

First satellite unveiled



SINGAPORE

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Special spacecraft: Lim with a final model of Elite. — The Straits Times/ANN

The Republic's first satellite to fly closest to the Earth – carrying novel technologies and capturing high-quality pictures – has been built by Nanyang Technological University (NTU) and will be ready for take-off in mid-2025.

Most satellites in space are found at least 500km to 800km from Earth but the new 1.3m-tall satellite – named Extremely Low Earth Imaging Technology Explorer (Elite) – will soar just 250km above the globe.

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This altitude is a relatively unexplored part of space with a harsher environment for machines since they are surrounded by highly reactive gases and atmospheric friction. Only a handful of such satellites are in very low orbit currently.

As a research satellite, Elite is expected to spend about 1.5 years in space to test some novel, home-grown devices and see if it is possible for more Singapore satellites to fly closer to Earth.

The size of a small fridge and with a weight of 180kg, Elite is NTU's 14th satellite and its largest and most complex to date.

To top it off, the spacecraft will be launched during a period of heightened solar activity between 2024 and 2025.

While powerful solar storms and flares treat people on Earth to dazzling auroras far beyond the poles – as seen during the major storms in May – such strong activity from the Sun can be a menace to satellites, worsening friction and destroying sensitive microchips.

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But instead of feeling apprehensive about the upcoming launch, NTU Satellite Research Centre wants to embrace that challenge.



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