Aalto-2 satellite launched into space

April 19 2017

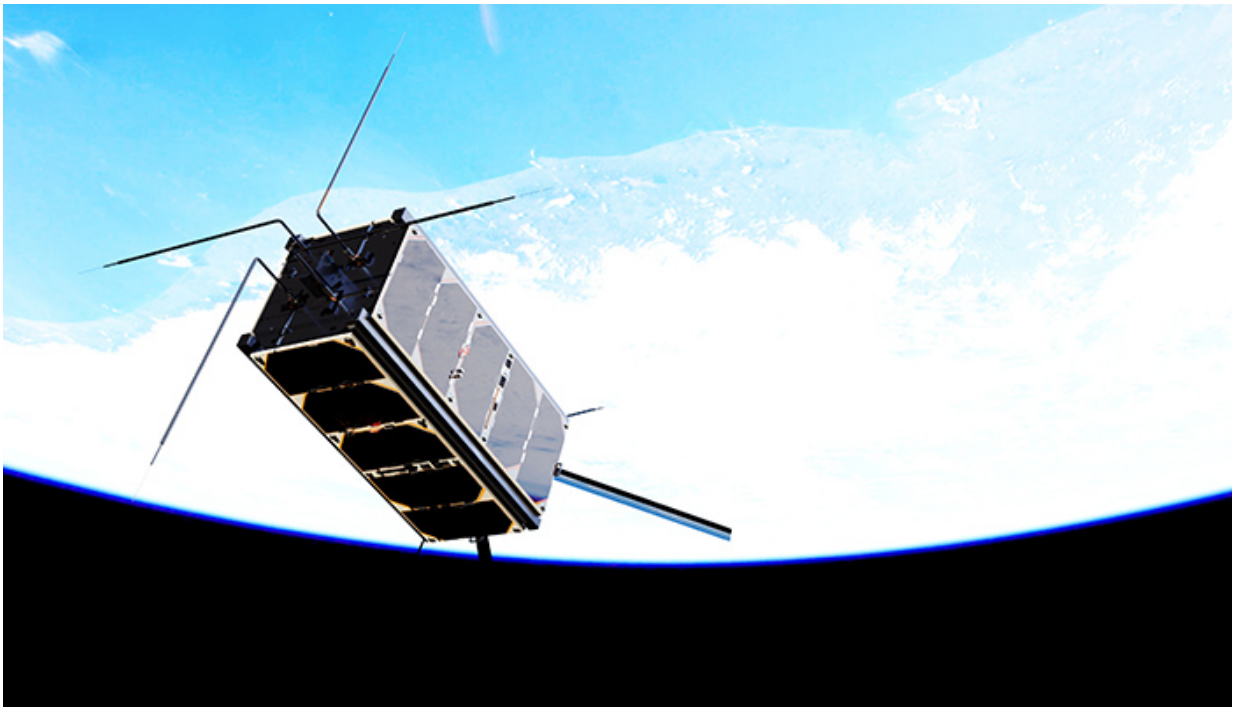

Illustration of Aalto-2. Credit: Aalto University

In the evening on Tuesday 18 April, Aalto-2, the satellite designed and built by students in Otaniemi was launched on the Atlas V booster rocket towards the International Space Station orbiting the Earth. It will take the cargo spacecraft Cygnus about three days to reach the International Space Station.

'We have been preparing for the launch of either Aalto-1 or Aalto-2 for

a long time. There was a big crowd of us looking forward to and celebrating this historic event in Otaniemi,' says Professor Jaan Praks, the director of the project.

Aalto-2 will take part in the international QB50 Mission, the aim of which is to produce the first ever comprehensive model of the features of the thermosphere, the layer between the Earth's atmosphere and space . Dozens of nanosatellites from different parts of the world will take part in the mission. Because Aalto-2 is part of a larger project, it will be registered in Belgium in the same way as the project's other satellites in order to simplify the permit procedures.

'The space station will release Aalto-2 into space within about one month of the arrival of the cargo. The astronauts will install the launch adapter into a robot arm, which will allow the satellites to be safely detached to their orbits. The astronauts will film the satellite being detached and that will be the last time we get to see the Aalto-2 satellite before starting to wait for a signal from it,' says Tuomas Tikka, a doctoral candidate at Aalto and one of the founders of Reaktor Space Lab.

The Aalto-2 satellite's orbit is close to the equator, so the satellite can only be occasionally in contact with the earth station in Otaniemi.

'Several earth stations from around the world are involved in the mission. The information sent by the satellites will be shared by them all, so it is likely that the first time we hear from the Aalto-2 satellite will be with the help of one of the other earth stations,' says Tikka.

Aalto-2, which only weighs two kilogrammes, is carrying the multi-Needle Langmuir Probe (mNLP) payload developed at the University of Oslo for the measurement of plasma characteristics.

'Our team's primary goal will be to demonstrate how well the satellite

platform designed and built at Aalto University functions in the challenging conditions of space,' Tikka continues.

Finland has officially entered space age

Construction of the Aalto-2 satellite began in 2012 as a doctoral project when the first students graduated as Masters of Science in Technology after working on the Aalto-1 project. Over six years, dozens of next-generation space industry experts have been trained in the projects. The impact is already visible in the growth of start-up companies in the space sector.

'Although there has been space technology in Finland for several decades, Aalto-2 is the first Finnish-built satellite that is now in space. Thanks to the cost-efficiency of small satellites, the industry is on the rise both in Finland and abroad ,' says Praks.

Provided by Aalto University

Citation: Aalto-2 satellite launched into space (2017, April 19) retrieved 3 May 2024 from https://phys.org/news/2017-04-aalto-satellite-space.html