

SSTL ships RemoveDEBRIS mission for ISS launch

Surrey Satellite Technology Ltd (SSTL) has shipped the RemoveDEBRIS spacecraft to the Kennedy Space Center in Florida for launch to the International Space Station (ISS) inside a Dragon capsule on board the SpaceX CRS-14 re-supply mission, a service provided through supply agent, Nanoracks. RemoveDEBRIS is an Active Debris Removal (ADR) demonstration mission led by the Surrey Space Centre at the University of Surrey and co-funded by the European Commission and partners.

The RemoveDEBRIS satellite platform was designed and manufactured by SSTL in Guildford UK, and will fly four space debris removal technologies and two target cubesats. The platform, which is approximately one metre cubed, has a flight mass of less than 100kg and is due to be the largest satellite deployed from the ISS to date. It will be delivered in a box to the ISS where it will be unpacked by the astronauts and attached to a slide table for deployment using the Japanese Experiment Module Robotic Manipulator System, developed by JAXA.

Once in orbit the ADR experiments on board the spacecraft will be performed. In the first of two capture experiments a net will be discharged at one of the deployed target cubesats to demonstrate net capture in space. The second capture experiment will see a harpoon launched at a deployable target plate made of representative satellite panel materials – the first harpoon capture in orbit. The third experiment involves vision-based navigation by deploying the second cubesat and demonstrating rendezvous navigation using cameras and a LiDaR. Finally, the RemoveDEBRIS spacecraft will deploy a large dragsail to speed de-orbit, where it will burn up as it enters Earth's atmosphere.

Professor Sir Martin Sweeting, Executive Chairman of SSTL commented "Since the beginning of the space era, orbital debris has progressively been building up and there are now almost 7,000 tons of it around the Earth. It is now time for the international space community to begin to mitigate, limit and control space junk and I am very pleased that the



RemoveDEBRIS consortium is leading the way with an innovative ADR mission which I hope will be a precursor to future operational ADR missions.”

“This is an excellent example of what can be achieved when Industry and Academia are working together to tackle real problems” said Prof G Aglietti, Director of the Surrey Space Centre, and current Principal Investigator for the project.

The RemoveDEBRIS mission, which started in 2013 and at peak times has had more than 60 people assigned to the mission, is led by the Surrey Space Centre and draws on the expertise of some of Europe’s most prominent space companies and institutions.

- Mission & Consortium coordination - Surrey Space Centre (UK)
- Satellite system engineering - ASF (France)
- Platform & Avionics – SSTL (UK)
- Harpoon – Airbus (UK)
- Net – Airbus (Germany)
- Vision Based Navigation – CSEM (Switzerland)/INRIA/Airbus (Toulouse)
- Cubesat dispensers – Innovative solutions in space (Holland)
- Target cubesats – Surrey Space Centre (UK)/STE
- Dragsail – Surrey Space Centre (UK)

The project is co-funded by the European Commission and the research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n°607099.

ENDS

Notes to editor:

The full-size images for this press release, can be downloaded at <http://www.sstl.co.uk/Press/SSTL-ships-RemoveDEBRIS-mission-for-ISS-launch>



Image 1: RemoveDEBRIS spacecraft during final assembly at SSTL. Credit SSTL/Max Alexander.

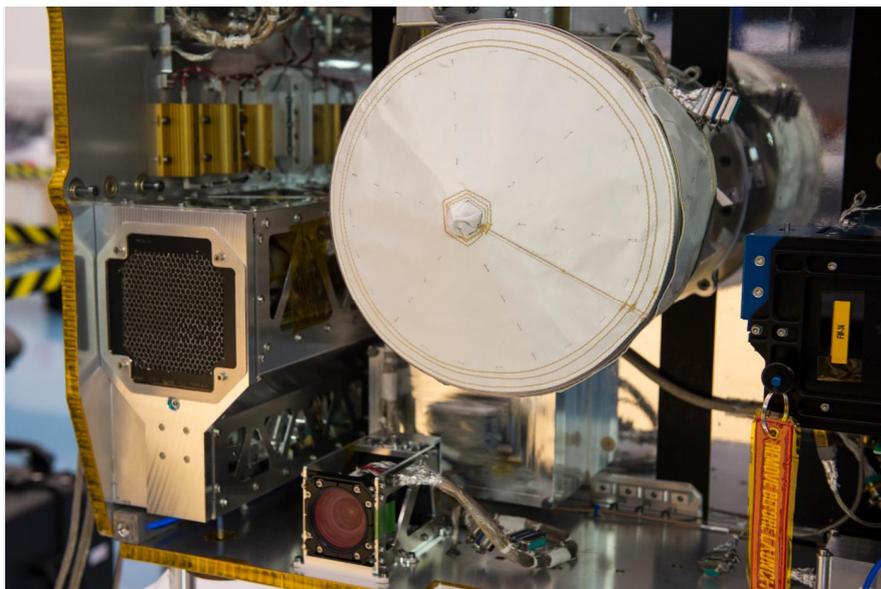


Image 2: RemoveDEBRIS payload panel: the Harpoon target is visible bottom left, and the net is housed in the white container mid-centre. Credit SSTL/Max Alexander.

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About the Consortium

RemoveDEBRIS is a low cost mission funded jointly by the European Commission (EU) and 10 partners. Surrey Space Centre (University of Surrey) leads the consortium. The



consortium consists of: Airbus Defence and Space (DS), the world's second largest space company; Airbus Safran Launchers (France); SSTL, a world leader in small satellites (UK); ISIS (Netherlands); CSEM (Switzerland); Inria (France); Stellenbosch University (South Africa).

About SSTL

Surrey Satellite Technology Limited (SSTL) is the world's leading small satellite company, delivering operational space missions for a range of applications including Earth observation, science, communications, navigation, in-orbit servicing and beyond Earth infrastructure. The Company designs, manufactures and operates high performance satellites and ground systems for a fraction of the price normally associated with space missions, with 500 staff working on turnkey satellite platforms, space-proven satellite subsystems and optical instruments.

Since 1981, SSTL has built and launched 50 satellites for 20 international customers – as well as providing training and development programmes, consultancy services, and mission studies for ESA, NASA, international governments and commercial customers, with an innovative approach that is changing the economics of space.

Headquartered in Guildford, UK, SSTL is part of the Airbus Group.

www.sstl.co.uk

About NanoRacks

NanoRacks LLC was formed in 2009 to provide commercial hardware and services for the U.S. National Laboratory on-board the International Space Station via a Space Act Agreement with NASA. As of July 2016, over 375 payloads have been launched to the International Space Station via NanoRacks services, and our customer base includes the European Space Agency (ESA) the German Space Agency (DLR,) the American space agency (NASA,) US Government Agencies, Surrey Space Centre, Planet Labs, Urthecast, Space Florida, NCESSSE, Virgin Galactic, pharmaceutical drug companies, and organizations in Vietnam, UK, Romania and Israel.