

## **Video:** Net successfully snares space debris

September 19 2018



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The RemoveDEBRIS satellite has successfully used its on-board net technology in orbit – the first demonstration in human history of active debris removal (ADR) technology.

The spacecraft began the experimental phase of its mission on Sunday 16 September, when it used a net to capture a deployed target simulating a piece of <u>space debris</u>.

RemoveDEBRIS was designed, built and manufactured by a consortium of leading space companies and research institutions led by the Surrey Space Centre at the University of Surrey. The spacecraft is operated in <u>orbit</u> by engineers at Surrey Satellite Technology Ltd in Guildford, UK. The project is co-funded by the European Commission.

Professor Guglielmo Aglietti, Director of the Surrey Space Centre, said: "We are absolutely delighted with the outcome of the net technology. While it might sound like a simple idea, the complexity of using a net in space to capture a piece of <u>debris</u> took many years of planning, engineering and coordination between the Surrey Space Centre, Airbus and our partners – but there is more work to be done. These are very exciting times for us all."

Ingo Retat, Airbus RemoveDEBRIS project head, said: "To develop this net technology to capture space debris we spent 6 years testing in parabolic flights, in special drop towers and also thermal vacuum chambers. Our small team of engineers and technicians have done an amazing job moving us one step closer to clearing up low Earth orbit."

In the coming months, RemoveDEBRIS will test more ADR technologies: a vision-based navigation system that uses cameras and LiDaR technology to analyse and observe potential pieces of debris; the



first harpoon capture technology used in orbit; and a drag-sail that will finally bring RemoveDEBRIS into the Earth's atmosphere where it will be destroyed, bringing its mission to a close.

The US Space Surveillance Network tracks 40,000 objects and it is estimated that there are more than 7,600 tonnes of 'space junk' in and around Earth's orbit—with some moving faster than a speeding bullet, approaching speeds of 30,000 miles per hour.

Provided by University of Surrey

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