

Warwick University Satellite Project: Winter 2014 Newsletter

It has been a busy couple of months for the WUSAT team! Our newsletter in November explained that we had been shortlisted for the Rocket Experiments for University Students (REXUS) programme, and that we would be heading to a selection workshop in the Netherlands.

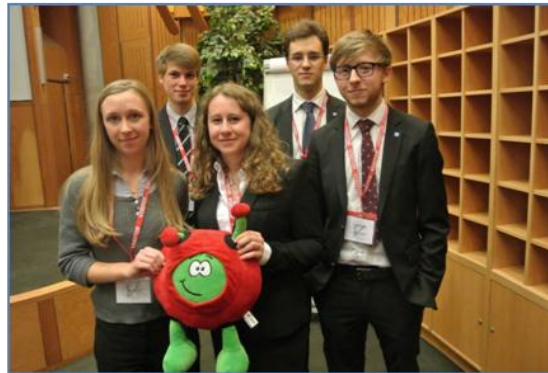
We are very pleased to announce that **we successfully achieved the offer of a place on the REXUS launch in March 2015!** The focus for the team is now on working towards this launch, and progress has been made on our designs, outreach and media presence.

REXUS Selection Workshop

The REXUS programme launches two sounding rockets from northern Sweden every year, carrying scientific and technological experiments designed and built by student teams.

Five members of the WUSAT team (pictured)

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Top: The team presents to the panel of experts
Centre: The team poses with the ESA Kids mascot, Paxi!
Bottom: Outside ESTEC

attended the selection workshop at ESTEC from the 3rd to 5th of December, along with 13 other teams from around Europe.

The 20 minute presentation was made to the other students and a panel of 14 experts from the European Space Agency (ESA) and the Swedish and German space boards, followed by 20 minutes of questions from the panel.

We were very pleased to hear later in December that we had made a convincing case and that we have gained a place on the 2015 rocket launch, subject to passing the further requirements of the programme.

What's next?

The next step in the REXUS programme is attendance at the student training weekend at Kiruna, the northernmost town in Sweden, from the 3rd to 7th March 2014. A preliminary design review (PDR) will take place during this week to make sure that our designs and proposals are up to scratch.

More information on the programme can be found at www.rexusbexus.net - our project is now listed under REXUS → New REXUS Experiments.

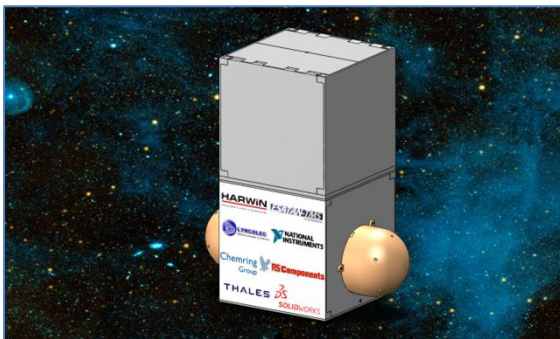
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Progress: Electronics

The electronics aspect of the CubeSat has progressed significantly over the last couple of months.

A circuit schematic has been designed following the selection of all components and circuits, including the communications, GPS and data storage interface modules, temperature sensors, photodiodes and their associated circuits. Components have been ordered and the schematic submitted for production of PCB layout.

The communications system has evolved from the deployable antenna that was initially proposed; the decision has been made to use a micro patch antenna instead.



Progress: Mechanical

Several changes have been made to the chassis design, primarily to accommodate the parachute box and antenna. These alterations have been decided following advice given at the selection workshop in December.

Thermal analysis has led to the selection of an Aerogel insulation material called Spacetherm®, chosen for its low thermal conductivity. For the spectrometer payload, optical fibres have been ordered for testing.

The chassis designs are now complete and have been submitted for manufacture; 3D printing will also be shortly underway using an Objet 260 Connex to make the external domes.



Sponsorship & Media

The team would like to take this opportunity to thank all of our partners for their generous sponsorship and support of our project.

Since the REXUS selection, we have raised our profile significantly with help from the university and the School of Engineering.

We have been filmed for BBC Midlands Today (wearing our new polo shirts, as pictured left, which have all our sponsor logos on).

Project director Dr Bill Crofts had a chat to BBC Radio Coventry and Warwickshire on the 30th January about our project.

We have been the subject of a great press release by the university:

www2.warwick.ac.uk/newsandevents/pressreleases/warwick_students_set/

Our Facebook page is updated regularly at:

facebook.com/WarwickUniversitySatellite

Finally, to keep up with our news and more please visit www.warwick.ac.uk/cubesat.

Thank you from all of us for your continued interest in our project!