

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
SPACE WORKFORCE DEVELOPEMENT – CHALLENGES AND OPPORTUNITIES (7)

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“LUNCHSAT”, A TRAINING PROGRAMME FOR YOUNG PROFESSIONALS IN EADS ASTRIUM
TO BUILD A NANO-SATELLITE

Abstract

The “LunchSat” training programme was started in the UK satellites division of EADS Astrium to provide young professionals at the start of their career the opportunity to design, build and test their own nano-satellite. The activity is performed alongside their day-to-day jobs and it delivers a complete overview of the whole process of making satellites. It is a unique programme within space industry prime contractors for further dynamic education of new entrants to the space industry, which promotes both links to universities as payload providers and contributes to the award winning Astrium outreach programme. The LunchSat project clearly increases the appeal of Astrium and the space industry to graduates as it provides early experience of real flight hardware and the critical problem solving required to launch and operate a satellite, which can then be applied to other larger missions.

LunchSat is a three unit Cube-Sat, based on the University of Toronto Institute for Aerospace Studies successful CanX-2 mission. The satellite is scheduled to be flight ready in 2012 and it is envisaged that it will piggy-back with a large commercial Astrium satellite. LunchSat has a monochrome CMOS imager and other payloads are being currently selected. The platform will be used as a technology demonstrator for Astrium internal developments and has space reserved for science experiments from UK universities. Two ground stations have been commissioned at both the Portsmouth and Stevenage Astrium UK sites which will be used to control the satellite. The ground stations can also be used for Astrium in-orbit satellite operator training and provide outreach opportunities to local school children.

LunchSat fulfils its programmatic objectives by providing the team members with a complete understanding of the design, development and implementation cycle of a complete satellite programme within a short timescale, as well as letting them work with real hardware and test constraints. Building a Cube-Sat within a large space prime contractor has allowed for use of a wide range of facilities and access to senior engineers’ experience. The programme also lets the young professionals take responsibility for managing entire satellite systems many years before they would normally do so during their careers.

This paper discusses the implementation, logistics and educational benefits of the Astrium “LunchSat” training programme for young professionals starting their careers in space. Such a programme could be applied to other space prime contractors to facilitate the training of the next generation of senior space engineers.