

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Lift Off - Secondary Space Education (2)

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THE UK SPACE DESIGN COMPETITION: A DISCUSSION ABOUT METHODOLOGIES TO  
ENHANCE STUDENT ENGAGEMENT WITH THE SPACE SECTOR**Abstract**

The UK Space Design Competition (UKSDC) challenges secondary school students, aged 15-18, to design space settlements based on a request for proposal and present their ideas to an audience of their peers and industry experts. They are expected to work in ‘companies’ of between 12 and 60 students from different schools, where they elect a management structure and subdividing into structural, operational, automation and human-factor departments. Unlike most STEAM and space outreach activities, this gives students the opportunity to experience non-technical roles, including business development, project management and finance, in addition to technical roles such as engineering. Although they are given short technical training sessions at the beginning of the day, students are largely expected to ‘learn on the job’, with the support of ‘technical advisors’, a small library, and online resources, allowing them to gain a deeper understanding of their work as opposed to purely assimilating information. The UKSDC gives students the chance to compete at three competition stages: (1) Regional Heats at local universities; (2) National Semi-Finals held at Imperial College London; and (3) International Finals, in partnership with competitions around the globe, at the Kennedy Space Centre, Florida.

The competition is formatted in such a way which aims to simulate the engineering industry, and thus gives students a more accurate representation of working within the space sector than traditional outreach activities. The volume of students who return year after year to compete and volunteer speaks to the success of the progressive methods used by the UKSDC. In this paper we will discuss how extensive specification requirements, large team sizes, and exposure to industry experts and alumni, are effective in encouraging students to pursue STEM subjects at university and careers within the space sector.