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THE STUDENT AEROSPACE CHALLENGE, A UNIQUE CONTEST AND TERTIARY EDUCATIONAL PROGRAMME IN EUROPE

Abstract

Inspired by the first successful tests of a private manned spaceplane in 2004, the Student Aerospace Challenge has been created by Astronaute Club Européen (ACE/European Astronaut Club) – and its institutional and industrial partners – to allow University students to explore some aspects of a manned suborbital vehicle. For the purpose of the Challenge the targeted spaceplane must reach Mach 3.5 and 100 km of altitude (the edge of space) with six passengers. Each year, the Steering Committee defines several work packages corresponding to domains of study realistically related to this type of innovative vehicle: aerodynamic and flight control, structure, cabin layout, automated or piloted vehicle, airworthiness, promotion, project economy, legal frame, medicine,...

In function of their background and interest, European University students have the opportunity to propose a topic related to one of the work packages and to explore new solutions. At the end of spring, the Steering Committee assesses the proposals and student teams are invited to a dedicate event to present their projects and meet representative of the different partners. the better quoted projects are rewarded with prizes, among them the ESA Prize allows the best student team to present their project in an appropriate space-related event (IAC, RIS , etc.). Since 2006, nearly 1000 University students coming from all over Europe participated to the Student Aerospace Challenge. We present in this paper the different aspects of the Challenge and some results of this unique opportunity for young and "future space actors" to participate in a motivating and ambitious educational aerospace programme supported by institutions and by industry.