IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future - Developing the Space Workforce (5)

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CNES INITIATIVES TO ENCOURAGE AND PREPARE THE SPACE FORCES FOR TOMORROW

Abstract

Since its creation, CNES has shared its passion for technical, scientific and spatial activities with as many people as possible. Examples of actions taken are numerous: awareness raising, outreach, animations, exhibitions, technical training, competitions, visits, invitations to events, etc., without forgetting the COMETS Network.

In recent years, CNES has intensified its efforts for students in higher education:

• More than 5000 hours of courses are given each year by CNES engineers in higher education institutions.

• The PERSEUS project launched by the CNES Launcher Directorate (DLA), with more than 250 students (50 schools, 6 countries), enabled last year to validate the first flight of Eole(6.7m airborne launcher, take-off mass 150kg, capable thanks to its two turbojet engines of 40 daN of unit thrust to dump in varied conditions of speed, altitude and maneuver, models of rockets themselves instrumented, potentially piloted and even propelled. This year, EOLE 3 was launched with success (5m high rocket, 1.5 km high altitude, Mach 1.4 speed).

• The JANUS project, led by the Toulouse Space Center (DSO), whose goal is mainly educational, since almost all the functions of a large satellite are present on these small satellites and all the complexity of a system that must be operated From the ground, brings together more than 200 students, about twenty institutions and no fewer than 11 projects. Three satellites was launched this year (Montpellier 2 University) (Ecole des Mines de Paris) (Ecole polytechnique) and 3 other satellites will be launched at the end of 2018.

• The PRAGMATIC project, which is also led by the Innovation, Foresight and Science Directorate (although more recent and which aims to work on futuristic orbital missions), is not to be outdone, since it regroups after 5 years of activity more than 450 students per year coming from two dozen institutions. Project Learning, Collaborative Open Innovation and the use of soil technologies are the three pillars that support this approach. A number of international publications (IACs) have emerged from work carried out within the framework of this project.

With all these levers, which will be described in more detail, CNES is already preparing to tackle the Newspace shift by attracting motivated young people to it as soon as possible, the route of which is then followed.