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Assuring a Safe, Secure and Sustainable Space Environment for Space Activities (4)

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SUPPORTING THE RESPONSIBLE ACCESS TO SPACE OF CUBESAT MISSIONS

Abstract

Small satellite missions, and particularly those of the CubeSat type, are becoming an attractive and affordable tool to carry out space activities, convenient to test technological innovation in space, for science and in particular for educational purposes. The “Fly Your Satellite!” programme of the European Space Agency, started in 2013, is an undertaking of the ESA Academy. One of its main objectives consists in transferring knowledge from space professionals to students. The university CubeSat teams selected to participate in the “Fly Your Satellite!” programme are supported by ESA in design, development, assembly integration, verification and testing, and, ultimately, the launch and operation of their CubeSat.

This education scheme applies and tailors ESA standards and practises usually adopted in the conduct of space programmes, enabling students to familiarise with a professional, responsible and sustainable environment. Also legal and regulatory aspects form an important part in the undertaking of a space mission, regardless of the size of a space object. Thus, the students participating in “Fly Your Satellite!” are guided and motivated to equally focus on non-engineering topics, such as the coordination and the registration of the satellite telecommunication frequencies, ground stations licensing, and on the registration of their spacecraft as a space object through the appropriate governmental channels. The “Fly Your Satellite!” programme educates the students on the need of accessing space in a responsible and sustainable way, deepening their knowledge and widening the concept of space missions, in order to raise their awareness on the fact that not only engineering and science are important, but also regulatory aspects at domestic and international level.

Through lectures, information sessions, written guidelines as well as direct follow-up of the communication with government bodies, national space agencies and international institutions, university student teams are supported in the process of obtaining the appropriate authorisation for their space missions. This paper explains how the ESA Academy raises the students’ awareness and knowledge on topics such as frequency coordination and registration, space object registration, third party liability and space debris mitigation, to ensure that the university space missions are undertaken in accordance with the applicable regulatory and legislative frameworks.