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International Cooperation, Challenges, and New Horizons - IP Session (IP)

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FOSTERING GLOBAL EDUCATION IN SPACE TECHNOLOGY: AN INTERNATIONAL CUBESAT COLLABORATION BETWEEN EUROPE AND SOUTH AMERICA

Abstract

This paper discusses an international collaboration between a European and a South American university focused on the design, development, and launch of an educational CubeSat. The project aims to provide students and researchers with hands-on experience in space technology through a collaborative approach that allows resource and knowledge sharing. This partnership is driven by the goal of making CubeSat construction and deployment accessible as educational tools, allowing students to gain practical learning experience in a cost-effective way. The primary objective is to create a joint educational pathway that enables students from both countries to actively participate in all stages of a CubeSat mission, from design to launch, enhancing their technical skills and understanding of international scientific project dynamics.

The paper highlights two main benefits of collaboration between such distant regions as Europe and South America. First, the partnership enables a division of costs, which is crucial given the limited funding typically available for projects of this nature. By sharing the expenses related to the development and launch phases, the two universities maximize the use of financial resources, minimizing the economic impact for each partner. The second benefit lies in the exchange of expertise and technical know-how, which allows both students and faculty to acquire new technical and cultural perspectives, thereby enriching their educational experience and fostering the creation of an international professional network.

Geographical distance poses a significant challenge in terms of operational coordination and communication. To address this, the project employs advanced digital technologies for information sharing and remote meeting management. Tools like online collaboration platforms and specialized software for satellite simulation and remote control are utilized to facilitate interaction between the teams, minimizing logistical issues and operational delays.

In conclusion, this CubeSat project demonstrates how international collaboration in educational and scientific fields can benefit not only the institutions involved but, most importantly, the students, who gain access to a unique, inclusive learning experience that enhances their career prospects in a highly competitive field like aerospace engineering.