

50th STUDENT CONFERENCE (E2)  
Educational Pico and Nano Satellites (4)

Author: Mr. Tensae Alemayehu Ali  
Space Generation Advisory Council (SGAC), Ethiopia

Mr. Matias Campos  
Astralintu Space Technologies, Ecuador  
Ms. Niki Sajjad  
K. N. Toosi University of Technology, Iran

AN INTERNATIONAL HANDS-ON COOPERATIVE NANOSATELLITE PROJECT FOR STUDENTS  
AND YOUNG PROFESSIONALS IN EMERGING SPACE COUNTRIES**Abstract**

Space education has been off-balance across the globe due to various factors like deprived economies, low to zero infrastructure, and lack of organic workforce. Even though multiple approaches are taken to tackle this issue and bridge the gap, the balance sets to be still off when coming to hands-on activities. Due to the lack of space-themed curricula, infrastructure, and experts, students and young professionals from emerging space countries get involved with hands-on projects through hardships and tight opportunities. Members of the Space Generation Advisory Council (SGAC) in different regions have explored innovative ways to develop training materials and provide a long-term project plan to give members access to hands-on activities. This paper presents a feasibility study of a collaborative project that aims to bring together worldwide students and young professionals, focusing on the non-space faring and emerging countries for hands-on experience in building nanosatellites. Tackling the unequal distribution of academic resources across the globe, this project aims to balance the situation by providing CubeSat training packages and hands-on experience opportunities to take members through building their satellite. Different phases are planned to achieve this long-term goal, and challenges and potential solutions are discussed. This paper presents each phase and timeline in detail, including training series, mission design, and launch. Furthermore, member capacity, diversity of expertise, remote and on-site plans, and estimated costs for each phase are discussed. Through this procedure and all its challenges, logistics, sponsorship, and project sustainability are the most critical issues. This exemplary project shows how a global non-governmental organization provides a platform and enables students and young professionals to move towards United Nations Sustainable Development Goals by reducing inequalities and promoting learning opportunities for quality education.