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CUBESAT SOCIAL: AIR MONITORING SPACE PLATFORM FOR COLOMBIA

Abstract

CubeSat Social is a project that is currently working in the Space Agency of Colombia, in conjunction with the Universidad de los Andes, the Universidad Minuto de Dios and the Technology Park of the latter. The main objective of this project is to measure and analyze air quality in the three main cities of Colombia, which is where yellow, orange and red category alerts have been presented lately due to high levels of pollution that are carrying a good number of the population to suffer respiratory diseases, to locate specific sources of emission; However, the measurements obtained can be useful for different factors and purposes. Within the project, we want to link the community in general by generating a network of IOT sensors in primary and secondary schools, for ground monitoring. This allows to expand the type of particles that can be measured and complement the satellite information. This can be the axis of a STEM program. The satellite allows more coverage over the area of interest This activity is based on two initial questions: 1. Is it going to work to solve an urban problem, a rural problem or a territorial problem that combines urban-rural? It may have both urban and rural application, however, its application in Bogota D.C. It is strategic and priority. 2. What problems can be optimally resolved with a CubeSat in the Rural environment? Reduction of greenhouse gases due to livestock production, illegal deforestation, detection of specific sources of air pollution. This article will address both the technical aspects of the mission, such as orbit, revisit time, number of earth stations, among others, as well as the social impact of the project, the SDGs that are met, in addition to the goals of the national government that are helped to accomplish through this project.