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CONSIDERATIONS FOR A SPACEPORT IN VENEZUELA: A DEVELOPING COUNTRY.

Abstract

The reduction of the components, the later development of more powerful satellites and of increasingly smaller dimensions, allowed an increasingly larger group of users, among which the following stand out: universities, research centers or space agencies from developing countries, to access to technologies and/or equipment, which a few decades ago would have been impossible, thus paving the way for the development of low-cost space missions. However, the space push in developing countries not only includes the acquisition of components for small satellites, or in some cases, the construction of CubeSats, but also the creation of spaceports, from which agencies could launch of eigenvectors. The vertiginous increase worldwide of CubeSats, and the long waiting periods between launches of the main payloads, prompted the present investigation, where the main factors to consider in the selection of a spaceport location were stipulated. Therefore, to meet the objective of studying the various factors, a series of points were established to be analyzed: low latitudes, azimuth limitations, natural factors, political and social considerations, airspace, accessibility, and political stability. Once each of the factors had been studied, various locations in Venezuela were analyzed for small-size space vector missions, where, based on three possible locations and prior analysis of each one, “el Pao” was obtained as a result, location in the Venezuelan plains, far from urban centers, which has good communication routes, low latitude of only 9 and few azimuth limitations. However, the factors analyzed in this research are not framed exclusively in the Venezuelan space effort, since these are common for any country that wishes to establish a spaceport in its territory.