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COLOMBIAN AEROSPACE LAUNCH SYSTEM (SILAC)

Abstract

In recent years, Latin America have made significant progress in space development. Thus, several countries in the region are beginning to build their own satellites. Due to the above, there is a need for Latin America to have its own launching systems to continue promoting the development of the space sector. At the same time, in Colombia, the Colombian Aerospace Force (FAC) started the satellite development of the country with its FACSAT satellite program. To date, a total of two satellites have been launched, FACSAT-1 and FACSAT-2, and a constellation of three satellites is expected to be launched in the coming years. The FAC is in the process of renewing its fleet of fighter planes, which means that the current fleet will be in disuse or in pause. Thus, this article proposes the use of the K-fir aircraft of the FAC as a launch platform for small to medium size satellites in low orbit. These aircraft have a high payload capacity, a high flight ceiling, and the possibility of attaching a launcher that can have a payload of up to 50 kg to be launched into LEO orbit. Also is shown, the technical, economic, and feasibility analysis behind the proposal that validates the use of the K-fir as an air-to-space launch platform Finally, the platform would boost the entire space development of the country, which would place it as an important player in the Latin American space ecosystem.