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## TECHNOLOGY TRANSFER AND CAPACITY BUILDING FOR COLOMBIA'S SPACE PROGRAM BY MEANS OF SMALL SATELLITES.

## Abstract

Colombia as state is emerging its space capacity, by considering the formulation and implementation of several active initiatives, in both civil and defense domains. The country was early in the small satellite scene with the launch of its first academic 1U nanosatellite – Libertad 1 – in 2008. More recently, the Colombian Air Force launched its first educational 3U advanced nanosatellite – FACSAT1, in November 2018. The former projects have contributed as the initial building blocks of the future capacity in this matter, in order to project Colombia as a space-faring nation and leader in the Latin American region, by considering its strategic geographical position and its composition of its human critical mass.

The Colombian Air Force, through its FACSAT small satellite educational program, is allocating budget and coordinating efforts involving national universities, other government agencies, civil authorities, and Minister of Defense actors, to strengthen the national policy while the next generations of small satellites will be launch into orbit. What is more, an intense international technology transfer program is underway to achieve international cooperation in terms of know-how and best practices implementation.

The prior is true in emerging and developing countries, while military forces could act as real input channel for international cooperation and drive the creation of capacities not only for national defense, but also for other usages such as research in different topics in terms of climate change effects, whether, agriculture, and so on.

The FACSAT small satellite program is a long-term investment that aims at developing all the capacities needed to give Colombia frequent access to space. This paper will present an overview, the context of the country and the efforts undertaken with respect to national policy, regulatory matters, academic outreach, RD capacity building, as well as the general defense framework allowing this to happen. Besides, it will also feature a focused presentation of the FACSAT1 and FACSAT2 Earth Observation projects, which are contributing and benefiting the Colombian society, specially from the processing and exploitation of imagery, to convey services with great value in different arenas, as never before.