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SPACE-BASED TECHNOLOGY APPLICATIONS DEVELOPED BY START-UP "DIT-SPACE", SPIN
OUT FROM SMALL SPACE PROGRAMS IN THE CENTRAL AMERICAN REGION

Abstract

Aerospace sector is an engine of worldwide economy responsible for the technology that allows globalization. Costa Rica came into this sector during the last years, starting with creation of the Costa Rica Aerospace Cluster, organization required to generate a knowledge base and regulatory strengths essentials by this high-quality industries. Besides the cluster creation, the Central American Association for Aeronautics and Space (ACAE) promotes research projects in the aerospace field; this with the purpose of the development of talent in the region. Among the programs promoted by ACAE are Ditsö and Irazú. The first is related with the research of materials under microgravity conditions on the ISS, developed with the University of Costa Rica (UCR). During its early development, Ditsö has also generated experience in rocketry and communication systems, since its first tests were onboard high-power rockets launched in country during 2015. Irazú, in partnership with the Costa Rica Institute of Technology (ITCR), has the objective to put the first Central American nanosatellite into orbit in April of 2018. As a prove of the value of interaction with academia and the participation in global forums, such as IACs, both programs have pivoted in some way and generated additional knowledge and networking with several space agencies. As a result of the experienced gained in the past years, a spin out project has been developed by ACAE members in order to create an entrepreneurship model, identifying key sectors and players of the Costa Rican economy who can benefit from space based technology; the start-up DIT Space aims to develop applications based in satellite images for specific sectors such as agriculture, disaster management, environmental conservation and local governments planning. DIT Space has also make commercial links with another established company owned by an ACAE member, TriverLogic, specialized in the development of electronic devices for aerospace and one of the suppliers for Ditsö and Irazú. This partnership has marked the beginning in the development of agroclimatic stations and drones with application specially in farming. This provides DIT Space the opportunity to increase the portfolio of products in different levels, and also opens the window to become not only consumers and distributors of technology, but also developers and exporters. The initial results of this start-up show the value of small space programs when academic scientific research aligns with local industry needs and proves the economic value and universal benefits of Space technology research and development.