

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future - Developing the Space Workforce (5)

Author: Mr. Roberto Aguilar

Central American Association for Aeronautics and Space (ACAE), Costa Rica

Mr. Luis Monge

Central American Association for Aeronautics and Space (ACAE), Costa Rica

SPINNING OUT FROM SMALL SPACE PROGRAMS, START-UP EXPERIENCE IN COSTA RICA

Abstract

Aerospace sector is an engine of worldwide economy responsible for the technology that allows globalization. During the last years, Costa Rica has put efforts to introduce the country's economy into this sector, starting with creation of the Costa Rica Aerospace Cluster required for the needs 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 under microgravity conditions on the ISS, developed with the University of Costa Rica. The second program, with the partnership of the Costa Rica Institute of Technology, has the objective to put the first nanosatellite of Central America into orbit.

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. Ditsö for example, has produced research in rocketry communications and small rocket-based scientific payload design and development. While, Irazú has also helped to develop sensing technology for carbon dioxide fixation monitoring, which aligns with the country compromise to become carbon neutral by 2021.

As a result of the experienced gained in the past years, a spin out project has been developed by ACAE members in order to develop 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, mining industry, environment and local governments planning. DIT Space follows an established company owned by an ACAE member, Systronic, specialized in the development of electronic devices for aerospace and one suppliers for Ditsö and Irazú.

The result is a strength based model in which academy scientific research can pivot and align to local industry needs and expectations, to create synergies from which further space technology can be developed. This proves to be a valuable model for small space programs and proves the economic value and universal benefits of Space technology research and development.