

## BUSINESS INNOVATION SYMPOSIUM (E6)

New space individuals, projects, programs, or business units: innovation, entrepreneurship & investment at the microscopic level of analysis (1)

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DEVELOPING INNOVATIVE BUSINESS MODELS FOR SMALL SPACE PROGRAMS SPIN-OUTS,  
“DIT SPACE” START-UP EXPERIENCE IN COSTA RICA

**Abstract**

Aerospace sector is an engine of worldwide economy responsible for the technology that allows globalization. In Costa Rica in recent years' efforts have been made to introduce the country's economy into this sector. The Central America Association for Aeronautics and Space (ACAE) promotes the development of research projects in the aerospace field, inspiring new talent in the region. Among ACAEs programs are Ditsö for research under microgravity conditions, Irazú is the first nanosatellite in Central America, and an initiative for the creation of the Costa Rica Aerospace Cluster which has generated a knowledge base and regulatory strengths required by this high-quality industry. To further promote the country's economy insertion into the “new space” trend, an entrepreneurship model was developed by ACAE members through the implementation of a spin-out project. The entrepreneurship model relies in two big pillar. First, identifying key sectors and players of the Costa Rican economy who can benefit from space based technology, a dynamic similar to the Smart Specialization concept. Second, the development of an innovative business model trough improvement of channels, customers' relations, market segments, and revenue sources; while parts of the business model structure, such as resources activities and partners, are given by the space program background. By analyzing the business model as a technical system in which different parts of the supra-system interact to produce a desired outcome, it can be assumed the system is subject to technical innovation principles, such as ideality and technical evolution, trough removal of technical contradictions. The initiative DIT Space (design, innovation, technology) aims to develop applications based in satellite images. These applications are focused on specific sectors of the Costa Rican and Central American economy including agriculture, mining industry, environmental solutions, and local governments planning. Through an innovative business model, a market of diverse niche segments with diverse needs, is both served and educated on the benefits of the implementation of space based technology. The result is a strength based model in which academy scientific research can pivot and align to local industry/government needs, 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.