

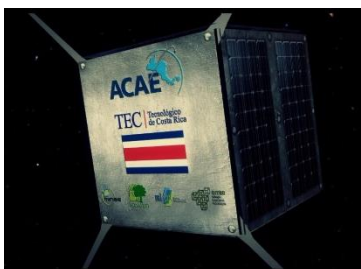


COSTA RICA'S PATH TO SPACE DEVELOPMENT AND POTENTIAL CENTRAL AMERICAN COOPERATION PROGRAM

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President

Central American Association for Aeronautics and Space (ACAE)
United Nations / Costa Rica Workshop on Human Space Technology
San José, Costa Rica
March 7th, 2016

AEROSPACE DEVELOPMENT IN COSTA RICA

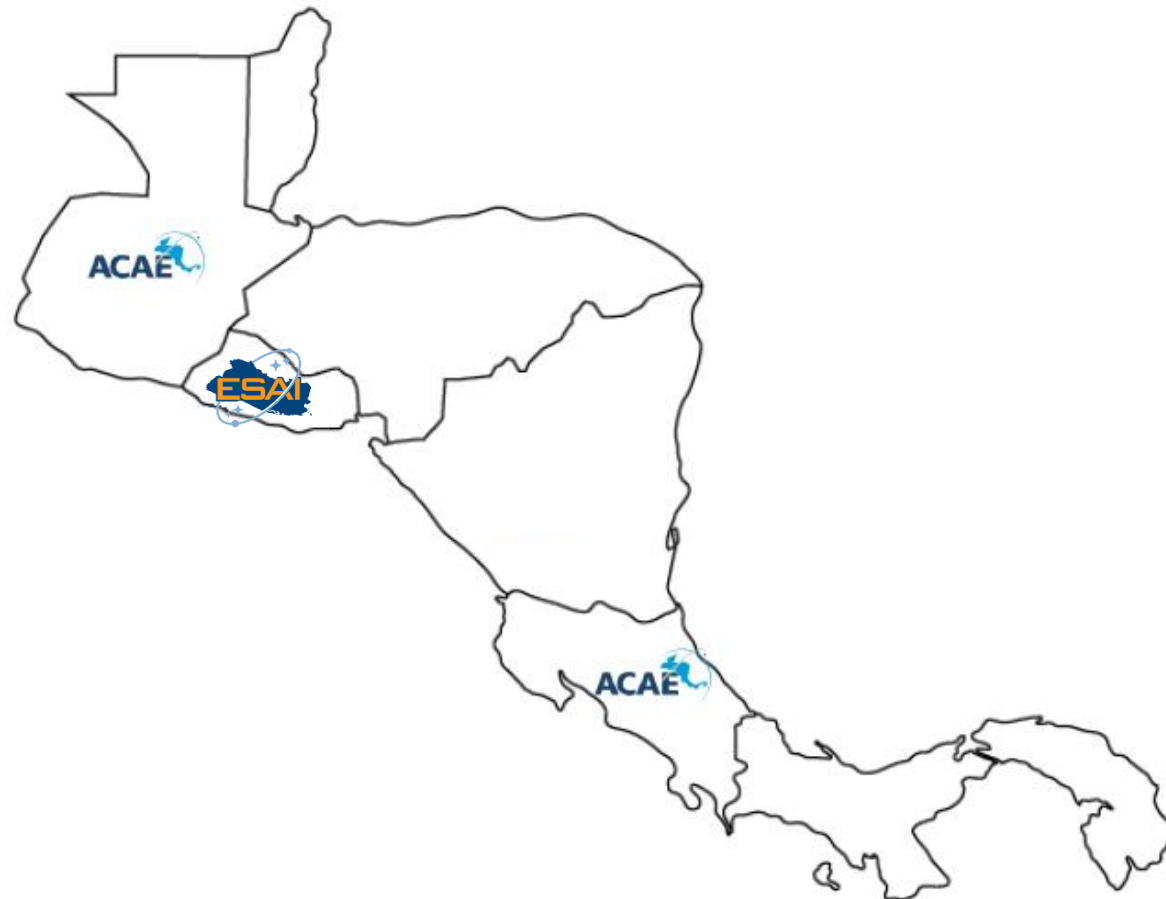


- **1980:** Dr. Franklin Chang Díaz, selected to become a part of NASA's astronauts corps.
- **1986 - 2002:** STS-61-C, STS-34, STS-46, STS-60, STS-75, STS-91, STS-111.
- **1989:** Foundation of ACIDE.
- **1990:** I CEA (I Space Conference of the Americas).
- **2004:** Foundation of ESXXI.
- **2005:** Ad Astra Rocket Company's creation.
- **2009:** Foundation of ACAE.
- **2010:** Creation of CONIDA (36102 – RE – MICIT).
- **2012:** Costa Rica became official Member State of the Committee on the Peaceful Uses of Outer Space (COPUOS).
- **2014:** Costa Rica's first satellite declaration of public interest (38340 – MINAE – MICITT).
- **2016:** United Nations/Costa Rica Workshop on Human Space Technology.

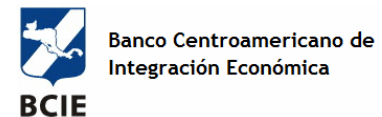
Picture credits:

1. Dr. Franklin Chang Díaz. 1982
2. VX-200 Plasma at Full Power Both Stages. "Copyright Ad Astra Rocket Company © all rights reserved".
3. Costa Rican CubeSat artistic concept – Central American Association for Aeronautics and Space, 2014

AEROSPACE ORGANIZATIONS IN THE REGION



INTEGRATION OF CA REGION



Launching of the Program of Aerospace Development of Costa Rica and Integration of the Central American Region in the Generation of New Technologies

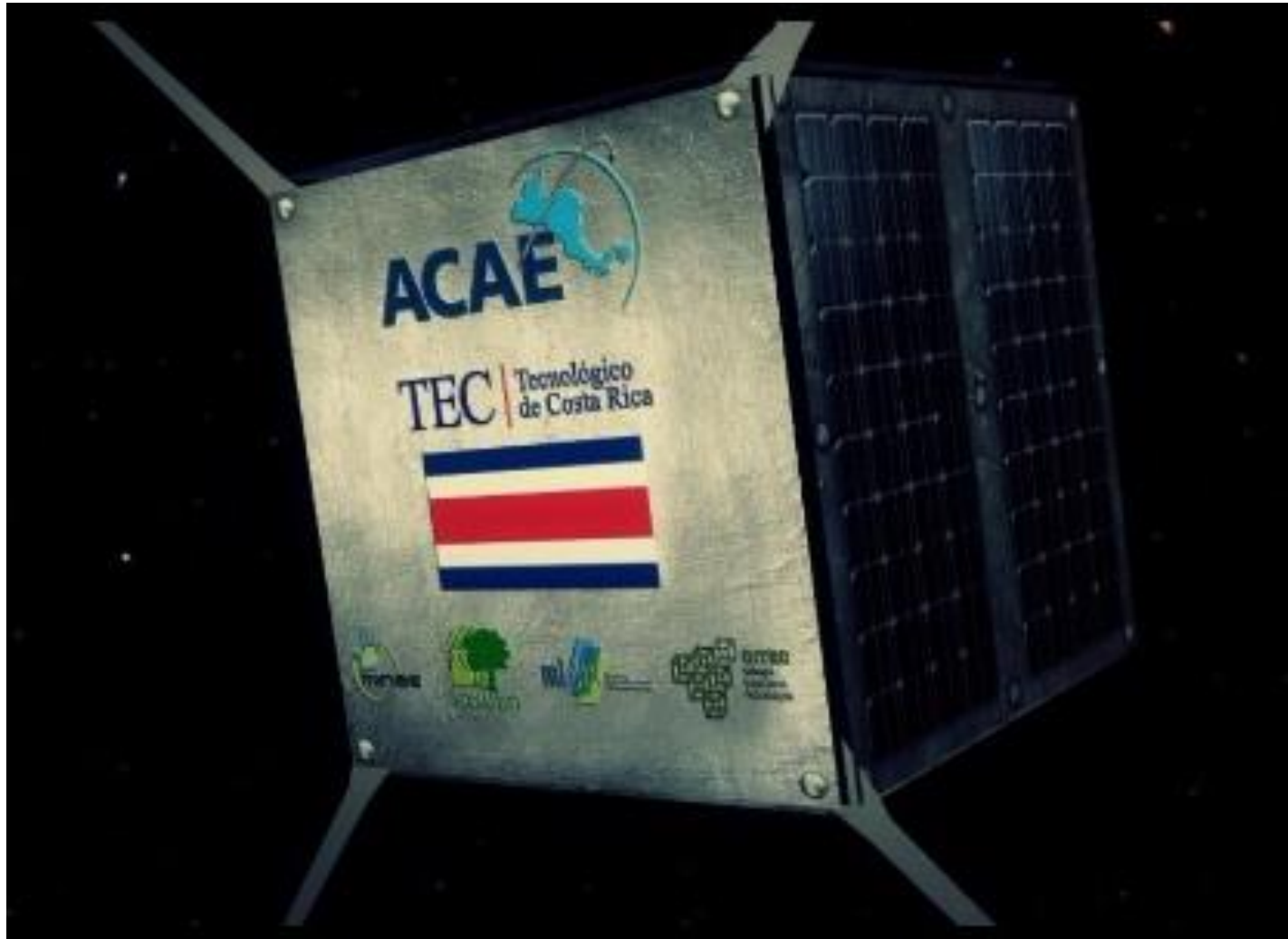
Guanacaste, Costa Rica. July, 2010

CONIDA

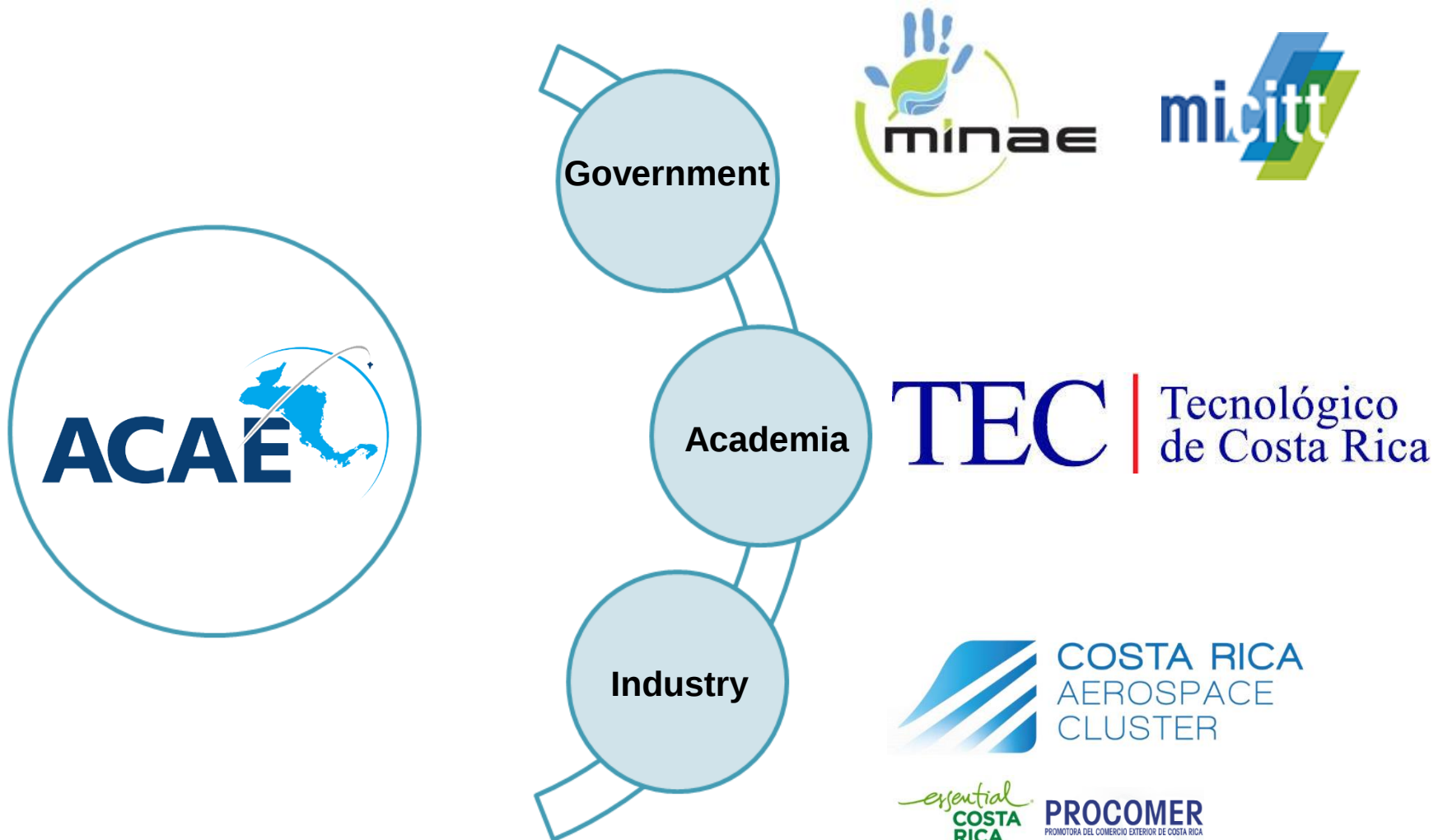


- **Current Status:** Last meeting on April 2014. Presentation of the first draft of the National Aerospace Development Policy Program.

DSPACE PROJECT



DSPACE BENEFICIARIES



GOVERNMENT PARTICIPATION (CR)



**DSPACE Declaration of Public Interest by the Former-President of the
Republic of Costa Rica**
April 21st, 2014

DITSÖ: THE SEED IN SPACE



From indigenous language Bribri:

- **Ditsö** means seed as a concept that encompasses everything related to growth and the beginning of something new.



- **For ACAÉ, Ditsö means the birth of a new age for Costa Rica**, with the beginning of a space research program based 100% on Costa Rican talent.

THE MISSION: DITSÖ I

- The scientific research project is an investigation developed by the Research Center for Materials Science and Engineering (CICIMA) from the University of Costa Rica (UCR).



- It focuses on the properties of the elytra of the *Chrysina Chrysargyrea*, Costa Rican native beetle, to determine the capacity to replicate them in a synthetic material to be used as coating for space ships and satellites.

CURRENT EFFORTS IN UNIVERSITY OF COSTA RICA





SWF REGIONAL WORKSHOP ON THE LONG-TERM SUSTAINABILITY OF SPACE ACTIVITIES IN COSTA RICA



REGIONAL COOPERATION PROPOSALS: NEXT STEPS

1. REGIONAL TECHNOLOGY PROJECT:

- Development of an in-orbit experiment platform.
- Role of the Central American Integration System (SICA).

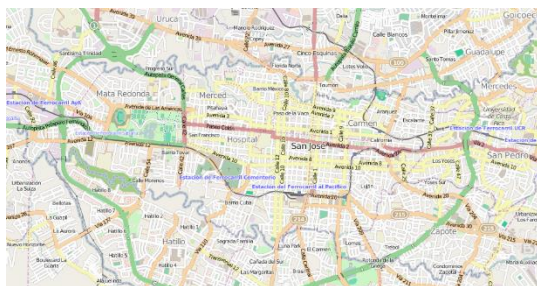
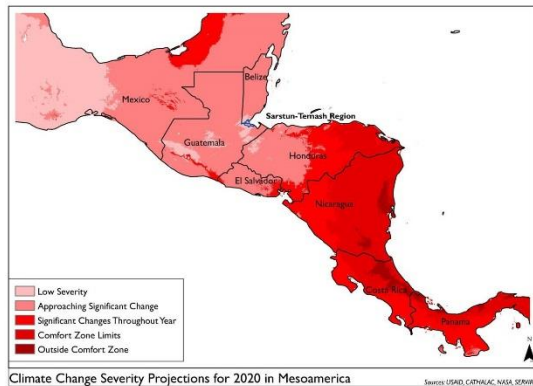
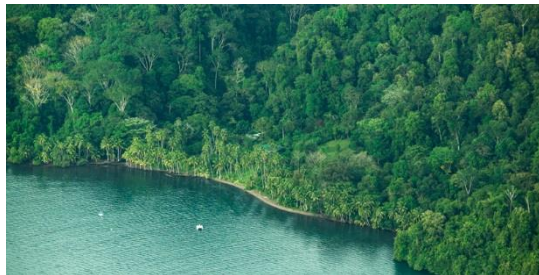
**Are we ready to surpass the political
integration obstacles?**

REGIONAL COOPERATION PROPOSALS: NEXT STEPS

2. REGIONAL SPACE AGENCY:

- Only two CA countries are members of UNCOPUOS (Costa Rica and Nicaragua).
- Cost-shared platform for selecting the solutions that best fit with their necessities of creating native technology for space applications.

AREAS OF POTENTIAL INTEREST FOR CENTRAL AMERICA:



- Environment and natural resources (MRV, REDD+, UNFCCC negotiations).
- Water scarcity and management.
- Urban and transport planning.

Photo credits:

1. Playa Cativo blog: http://playacativoblog.com/wp-content/uploads/2014/03/Playa+Cativo_rainforest.jpg
2. Ecologic.com – “This map shows the severity of the effects of climate change expected by 2020. Created by Strategies for Equitable Development”: http://www.ecologic.org/wp-content/uploads/2013/06/Climate_change_severity_2020_map_SED.jpg
3. Wikipedia.com “San José and surrounding area” - OpenStreetMap contributors - Map of San José, Costa Rica: https://upload.wikimedia.org/wikipedia/commons/c/cd/San_Jose%2C_Costa_Rica_-_City_map.png

AREAS OF POTENTIAL INTEREST FOR CENTRAL AMERICA:



- Agriculture and land use.
- Natural disasters prevention and management.
- Coast and Oceans activity monitoring (illegal fishing, drug trafficking).
- Marine spatial planning.

Photo credits:

1. Costa Rican newspaper La Nación – “Apertura de trocha en zona de desastre preocupa a geólogos de CNE”: http://www.nacion.com/in_ee/2009/marzo/22/_img/2361435_0.jpg

2. The Rewilding Institute – “Sea Shepherd sheds some light on the recent Shark finning ban in Costa Rica”: <http://rewilding.org/rewildit/sea-shepherd-sheds-some-light-on-the-recent-shark-finning-ban-in-costa-rica/>

The successful cooperation experience that Central America has shown in other fields of research such environment and disasters management allows the governments to begin the efforts for a new era of academic and technological integration that could be taken as a paragon for the rest of the World.



Q&A?

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