

Strategic Roadmap

Of A Panamanian Space Agency

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Comisión de Asuntos
Espaciales de Panamá



Precedent

- 2013: Indian Space Research Organisation (ISRO) seeks to establish a Satellite Telemetry Center in Panama.
- 2014: EUTELSAT Latin-America seeks to register two (2) geosynchronous satellites in Panama
- 2015: Panama Commission of Space Affairs (PA-SPACOM) was created on May 19th, 2015.
- 2016: PA-SPACOM promotes and organizes 1st Panamanian Congress on Space Science for May 11th to May 14th 2016.



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What is PA-SPACOM

An advising board comprised of civil society, private sector, academic institutions, and government agencies sponsored by the Science, Technology and Innovation Secretariat (SENACYT) of Panama in charge of developing the technical and legal strategy to create a sustainable space program.



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Members

1. National Secretariat of Science , Technology and Innovation - SENACYT
2. Civil Aeronautic Authority - AAC
3. Panama Chamber of Technology and Innovation –CAPATEC
4. Authority of Government Innovation- AIG
5. Universidad Tecnológica de Panama- UTP



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Vision

To increase the state of development of Panama and Central America through the peaceful use of space technology in a coordinated and cooperative manner.



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Mission

- To support the creation of a Panamanian Space Agency and develop the required legal and market framework that fosters regional cooperation and specialization in applied space technology.



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Objectives

Create the right environment

- Develop a national regulatory framework to support the creation of a local space technology market.
- Develop a model that includes Private Sector and Government to share risks in opening a new market.
- Open communication channels with developed countries for technology transfer.
- Help consolidate the efforts of central American countries to venture into space market by means of specialization, sharing risk and optimization of resources.



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Objectives

Application Oriented Program

Short Term Focus

- Environment
- Agriculture
- Education
- Health
- Security

Transition from applied to fundamental

Long Term Goals

- Space Exploration
- Manned Missions
- Launch Market
- Fundamental Scientific Studies



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Objectives

Cooperation through Specialization

- Through specialization and compartmentalization of R&D duties countries can minimize the risk of venturing into a new sector and optimize human capital and resources.
- A model based on specialization will foster regional growth through cooperation and not through competition.
- Longer strides towards space technology will achieve proficiency in the shortest amount of time.
- Shorten the path of development of larger and complex projects.



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Current Projects

Legal Framework

State, area or organization	United Nations treaties					Other agreements										
	(1) 1967 OST	(2) 1968 ARRA	(3) 1972 LIAB	(4) 1975 REG	(5) 1979 MOON	(6) 1963 NTB	(7) 1974 BRS	(8) 1971 ITSO	(9) 1971 INTR	(10) 1975 ESA	(11) 1976 ARB	(12) 1976 INTC	(13) 1976 IMSO	(14) 1982 EUTL	(15) 1983 EUM	(16) 1992 ITU
Oman			S				R	R			R		R			R
Pakistan	R	R	R	R	R	R		R					R			R
Palau													R			
Panama	S		R			R	R	R					R			R

- Adoption of 1975 Convention on Registration of Objects Launched into Outer Space – **Status: Ongoing**
- Adoption of 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space – **Status: Ongoing**
- **Creation of a National Space Object Registry – Status: Ongoing**

Upcoming Projects

Instrumentation & Sensor Miniaturization Program

- Joint private – government program to research and develop miniaturized components for earth applications that could be later used into complex space applications.
 - **Optical and RF Sensing**
 - **Microwave applications**
 - **Unmanned Robotics**
 - **Microgravity research**



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Upcoming Projects

Propulsion systems

- Joint private – government program to research and develop a rocket semi cryogenic and hypergolic fuel engines for suborbital flight in different configurations such as multi chamber aerospike engine.



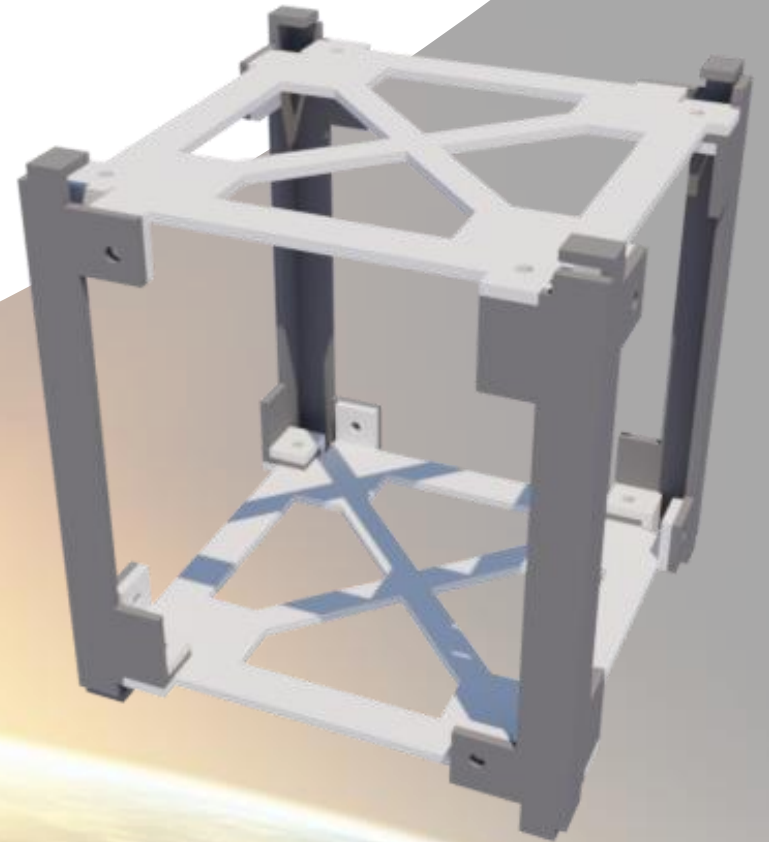
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Upcoming Projects

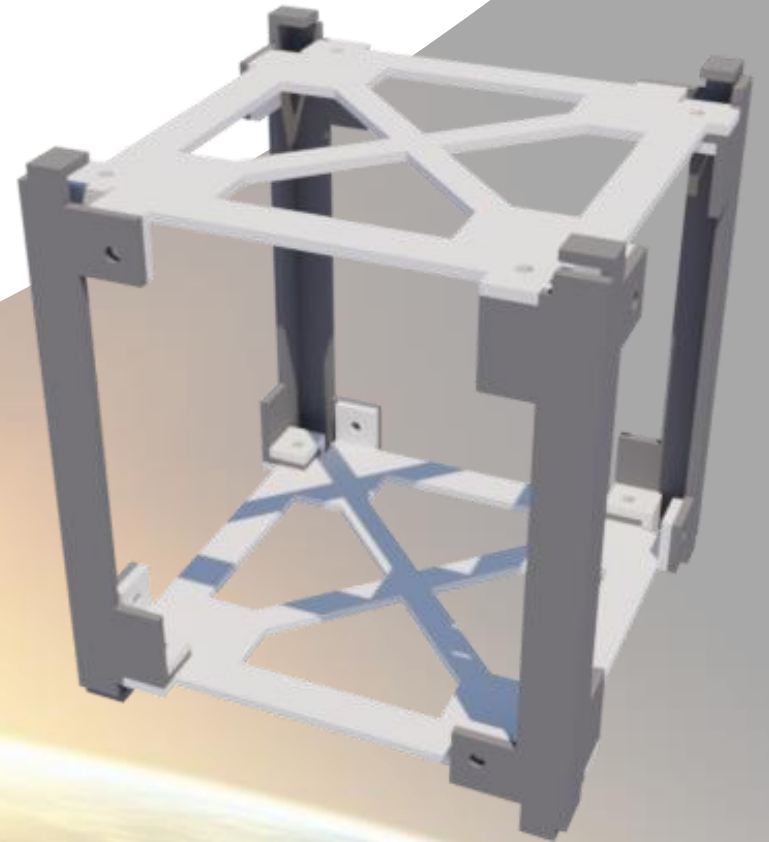
Higher Education

- University program to teach students complex system integration and space technology focused on the CUBESAT standard by building engineering models.



Benefits of Panama

- Logistic Hub of the Americas
- Tax Exemption
- Funding
 - SENACYT funds:
 - ✓ Reseach and Development fund: \$ 100,000.00
 - ✓ International Cooperation funds: \$250,000.00
 - ✓ Business Innovation funds: \$100,000.00



Let us cross the door to space

...holding hands together

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