

CANSAT LEADER TRAINING PROGRAM (CLTP-1)

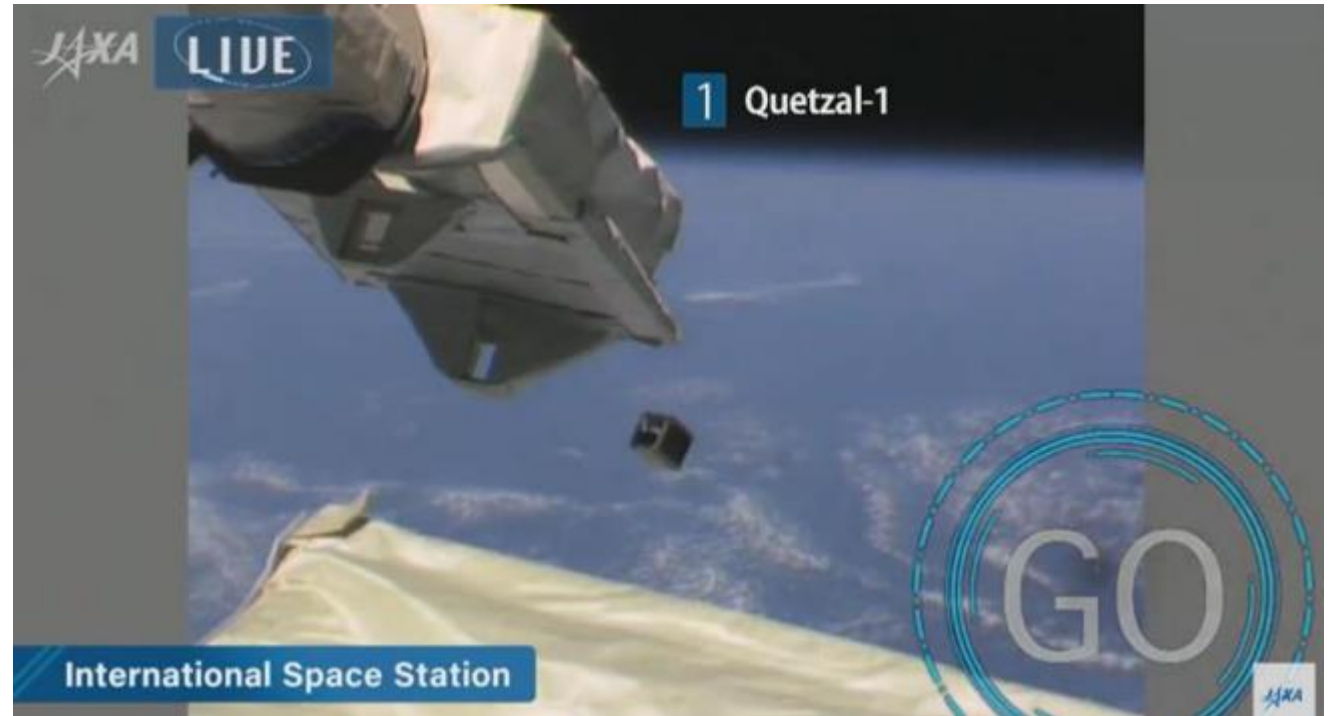
A story of success for Guatemala.

- A story of a dream, a seed planted in our minds.
- The challenges: Promote a space program in the developing countries of Central America, Cansat international competitions.
- A finally successful journey with the first Guatemalan cubesat, QUETZAL-1, in orbit.
- The dream is not finished, more challenges to come, the difficulties, our worst phantom: time and lack of resources, governmental support.

By Willy Cabañas
Guatemala

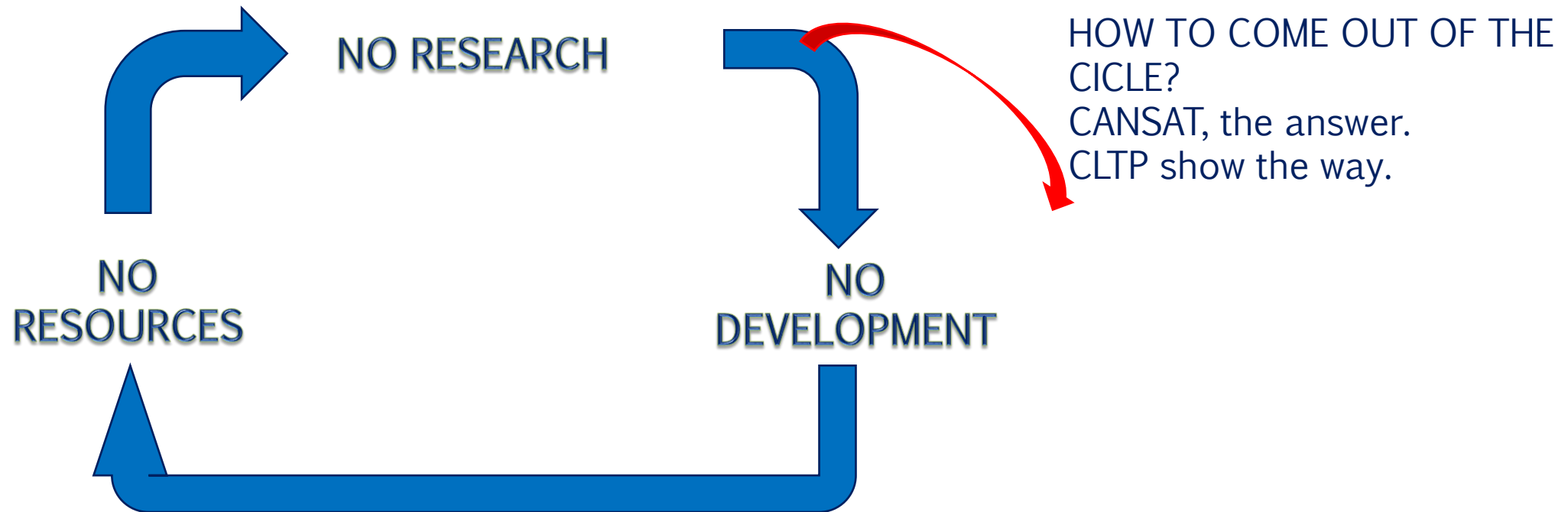
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FROM A DREAM TO A SATELLITE IN ORBIT



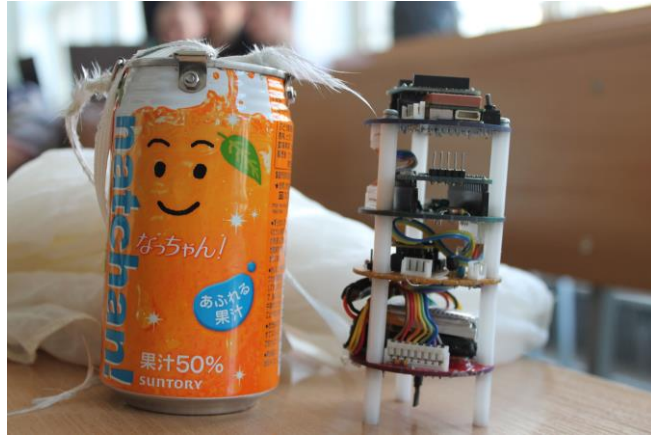
The problem of not doing research and development in “developing countries”

› The paradigm:



CANSAT LEADER TRAINING PROGRAM (CLTP-1, 2011)

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The concept: Low cost satellite, educational purposes



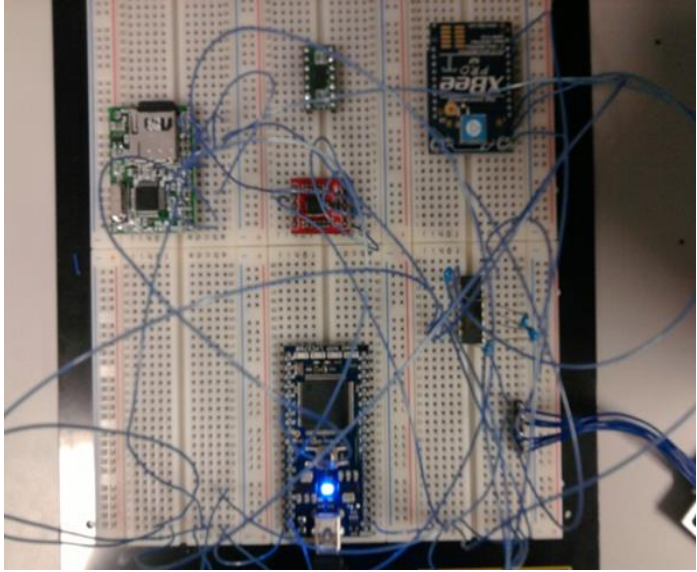
Lessons start at Wakayama University (March, 2011).

The cycle of a Project:

- The mission.
- Planning.
- Designing.
- Building a prototype.
- Testing.
- Conforming.

Hands on work

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From the workshop to the field and to the sky

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A bunch of dreams for my country, homework starts

A

- University authorities and students.

› Only one university decided to take the challenge.

B

- Promote CanSat competitions.

› No local competition, only international.

C

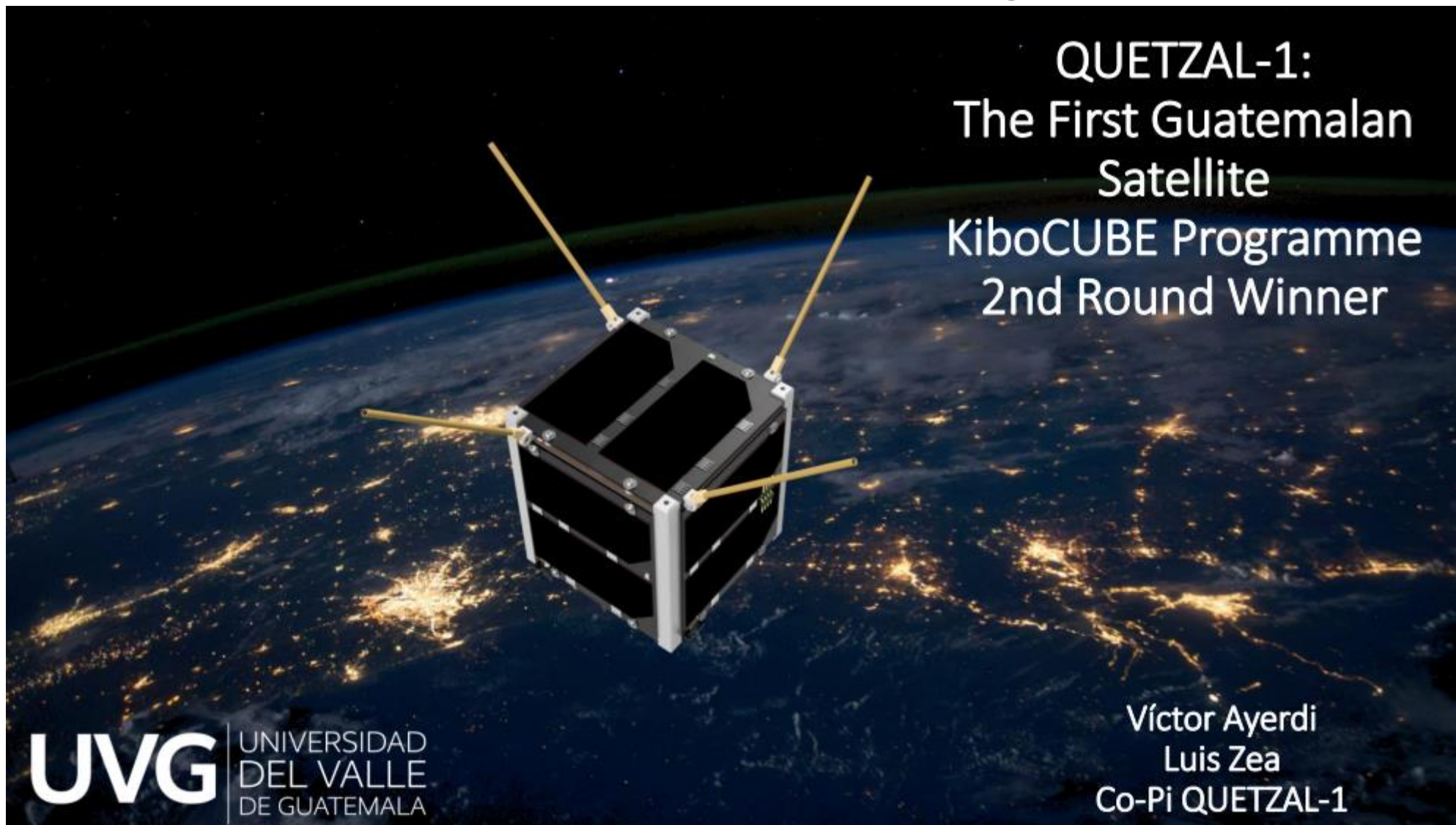
- Private sector, media, government.

› Government R&D focused in agricultura.

PROMOTION OF RESEARCH AND DEVELOPMENT

- Conferences in 12 universities.
- Participation in scientific events organized by government R&D institutions (CONCYT).
- Central American Association for Aeronautics and Space ONG.
- Promotion in the media (newspapers, TVnews, tec-parks, etc.)
- Private company: Astrotechnologies, Cabañas & Acuña).

At the end, a successful story



From publications of the University of The Valey of Guatemala.



**First members of the UVG
CubeSat team, 2014**

From publications
of the University
of The Valey of
Guatemala.



Phase 4 team, 2016-2017



Deployment of QUETZAL-1 from the International Space Station.

From publications of the University of The Valey of Guatemala.

QUETZAL-1's deployment from International Space Station on April 28, 2020. Image: JAXA



QUETZAL-1's deployment on the cover of all the newspapers in Guatemala

CONCLUSIONS

- Space research and development requires a lot of work, a lot of compromised people, a lot of resources (more than I expected). But mainly, space R&D requires BIG DREAMS, BELIEVING IN A GOAL AND HARD WORK.
- Many people and institutions must be involved, of course, those who are willing to support and work with.
- A strong cooperation must be held between local and international partners, JAXA, KYUSHU UNIVERSITY, NASA, ISS, UVG, CONCYT, among others were involved in Guatemalan successful journey.
- Media take an important role in every phase of space projects.
- People who continue working in research and technological developments is a must. The work continues.

So, what's next for Guatemala and
Central America?

*LET US DEFINE A NEW
MISSION,*

*LET START AGAIN
THE CICLE CONTINUES
Please, lend us a hand again.*