

CTIC UNI

NATIONAL UNIVERSITY OF ENGINEERING
CENTER OF INFORMATION TECHNOLOGY AND COMMUNICATIONS

12th Virtual UNISEC Global Meeting
August 21, 2021
ACTIVITY REPORT – UNISEC PERU



[Facebook.com/labsmartmachines](https://www.facebook.com/labsmartmachines)



PREPARING PROFESSIONALS FOR THE FUTURE IN SPACE TECHNOLOGY

2008



CTIC: 2008
building and equipments of the Center donated by the Korean International Cooperation Agency (KOICA)

2010



Works started with the Nanosatellite **CHASQUI I** in 2010 with a multidisciplinary team of 70 participants, undergraduate, postgraduate, lecturers, researchers.
The Educational Mission fully completed in 2014.
Team Leader: Eng. Jose Oliden

2011



Miss Rei Kawashima, Secretary UNISEC Global -Japan, visited Perú and invited the Center to participate in the CANSAT Leader Training Program 2011. CLPT1. Great experience.

18 de Agosto 2014



CHASQUI I was put in orbit hand deployed during a space walk of russian cosmonaut Oleg Artemyev from the International Space Station (ISS) .



2016

C'Space 2017 – France, ranked 2nd place in CanSAT ROVER competition.



2017



2016:
Laboratory
“Smart
Machines”

May 2016: Start up “Playtec Lab”, member of Smart Machines Lab won Hackaton with a mining helmet at National Society of Mining, Petroleum and Energy.

2017: ESTACA Engineering School(FRANCE)member of ISAE Group, 1st world cluster in aerospace training and research started participating with Smart Machines in Rockets and Aerostatic Globes.

Mining robot
QHUBOT 2016:
Financed by Ministry of Production. Robot tested at underground mining firm: Compañía Minera Volcan.
Team Leader: Eng.José Oviden.

Remote work and virtual collaboration from March 16th 2020 up to date.

From time to time, face to face work

2019



C'Space 2019 ranked 2nd in CanSAT contest.

“AllpaLlamk'ay” collects environmental data in order to control pests and diseases in agricultural crops.

Enero
2020



Robotic courses for children: summer 2018, 2019 and 2020 (January-February).

2021



2022

Farmer Robot,
Pachaqutec Robot,
and others

Aerostatic Balloon

Aerospace Peru

Chasqui II-
Eng. José Oviden

July
2021

AEROSTATIC BALOON - WANKA



2022

HASP 2021 USA:

Wanka – Stratospheric Balloon payload approved for September 2021 launch on “High Altitude Student Payload”, managed by NASA and Louisiana State University.

Wanka is a payload developed to measure stratospheric aerosols concentration.

Farmer Robot,
Pachaqutec Robot,
and others

Aerostatic Balloon

Aerospace Peru

Chasqui II-
Eng. José Oliden



AEROSPACE PERU

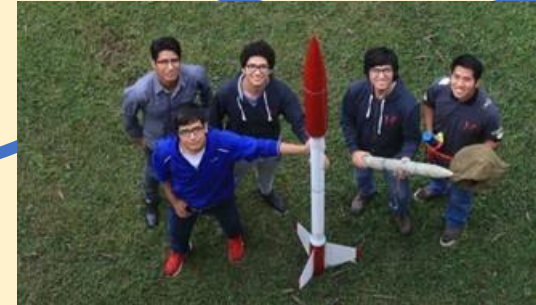
2017



2018



Participant C'space and Latin American Space Challenge. Research with IEEE indexed papers



2019



2021

NAECON IEEE 2021

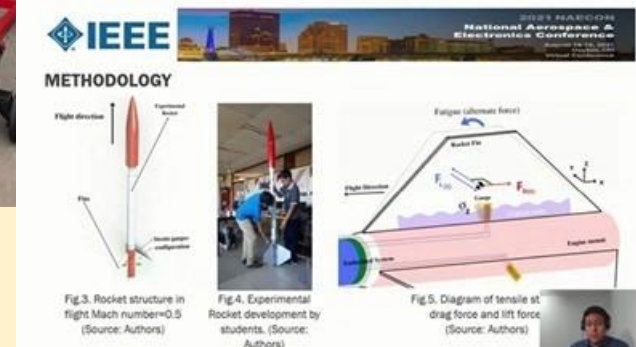
ICECCME IEEE 2021

Latin American Space Challenge

C'space

Aerospace Peru:

Development of experimental rockets, winner of the innovation award at National Society of Mining, Petroleum and Energy, 2018.





**UNIVERSIDAD
NACIONAL DE
INGENIERÍA**

Nano-Satellite Chasqui II



Target

Design and implement a nanosatellite to train research capabilities in space technology with undergraduate students

The design consists of 1 unit with LEO orbit. The mission will study elements of the atmosphere.



Lastest Activities

2019



2020



2021



"STEAM en mi Colegio: Virtualidad, Programación y Robótica Educativa" es un proyecto de índole social sin fines de lucro, financiado por la Embajada de los Estados Unidos de América en el Perú.

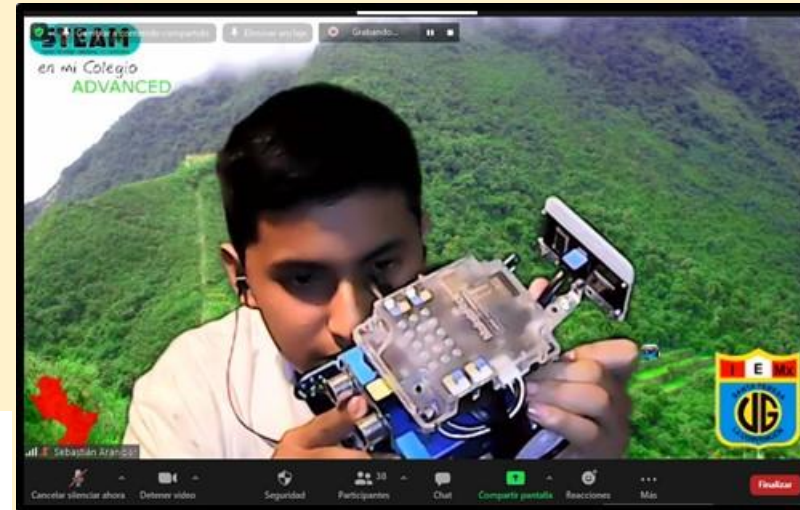
OBJETO

Generar y desarrollar competencias para el fortalecimiento de la educación en ciencia y tecnología, en estudiantes y docentes; así como incentivar la creatividad y el uso de la tecnología para encontrar soluciones en su comunidad, entorno, o para mejorar su desarrollo.

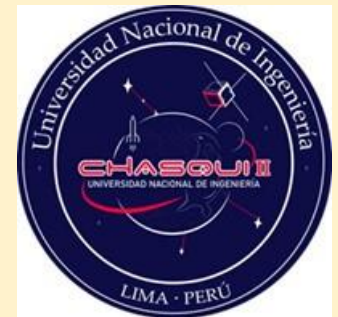
Peruvian Space Agency



2020- 2021



UNIVERSIDAD NACIONAL DE INGENIERÍA



Peruvian Space Agency



World Space Week PERU



12th Virtual UNISEC-Global Meeting

August 21, 2021 Time: 22:00 - 24:00 (JST)

Moderator: George Maeda, KyuTech, UNISEC-Global

OPENING REMARKS

Herman Steyn
Stellenbosch University

PRESENTATION

Yeshurun Alemayehu Adde(Kibret)
Ethiopian Space Science & Technology Institute
Topic: Overview of Space Science & Technology Development in Ethiopia

BREAKOUT SESSION

All Participants
Moderator: Nate Taylor, UNISEC-Global
Theme: Space Education Policy Case Study

ACTIVITY REPORT: UNISEC-PERU

Margarita Mondragon (TBC)

ANNOUNCEMENT & CLOSING

Rei Kawashima, UNISEC-Global
and those who have announcements

Thank you!



<http://www.unisec-global.org/virtual-meeting.html>



Master plan for the construction of the Nano-satellite.



2021

Landmark 1

We will launch the second prototype of the nanosatellite with a stratospheric balloon at 12 km altitude.

2022

Landmark 2

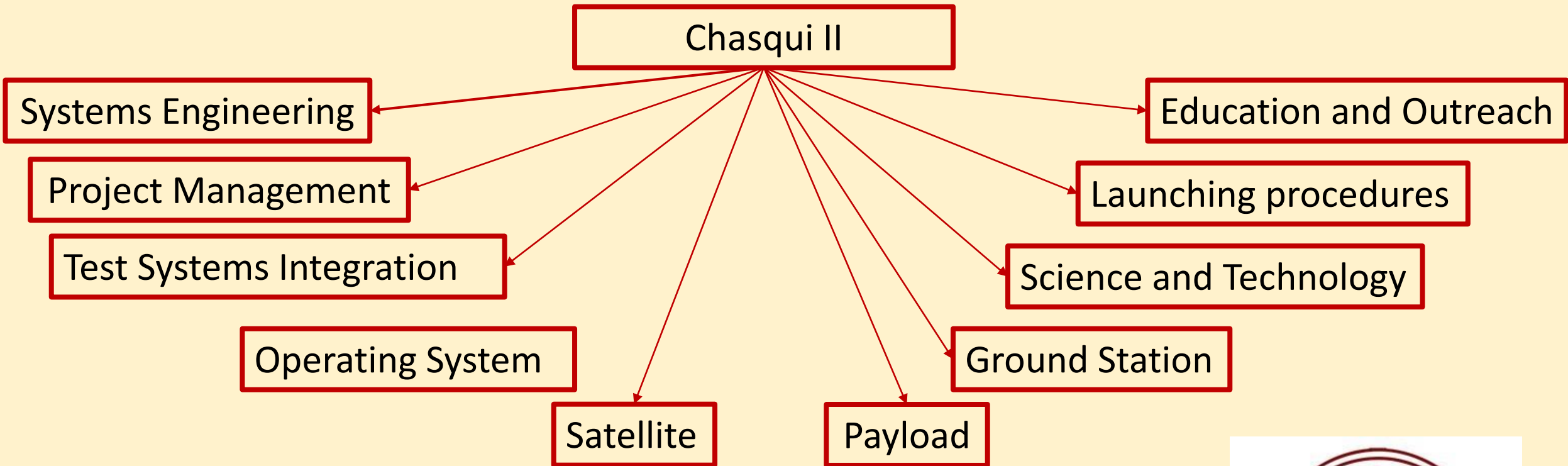
We will launch the first prototype of the nanosatellite with a captive balloon at 100 m above sea level.

2023

Landmark 3

In this year, with the third prototype we will finish building our nanosatellite. We are looking for who could launch the nano-satellite.

Project systems



1. Mechanical structure.
2. Attitude determination and control unit.
3. Communications.
4. Central control and information management,
5. Power and thermal control.



Project team

The project team: 30 students and advisors. The undergraduate students involved are from the fields of Systems Engineering, Physics Engineering, Telecommunications Engineering, Electronics Engineering, Mechanical-Electrical Engineering, Mechatronics Engineering, Communication, Art and Marine Biology.

The Government, the company and the academy must join forces to develop the satellite technology of Peru.



CHASQUI II - Eng. José Oliden

Thanks UNISEC
August 21, 2021

