



January 22, 2022
17th Virtual UNISEC-Global Meeting

The STAMINA4Space Program – Transitioning from State University to Space Agency



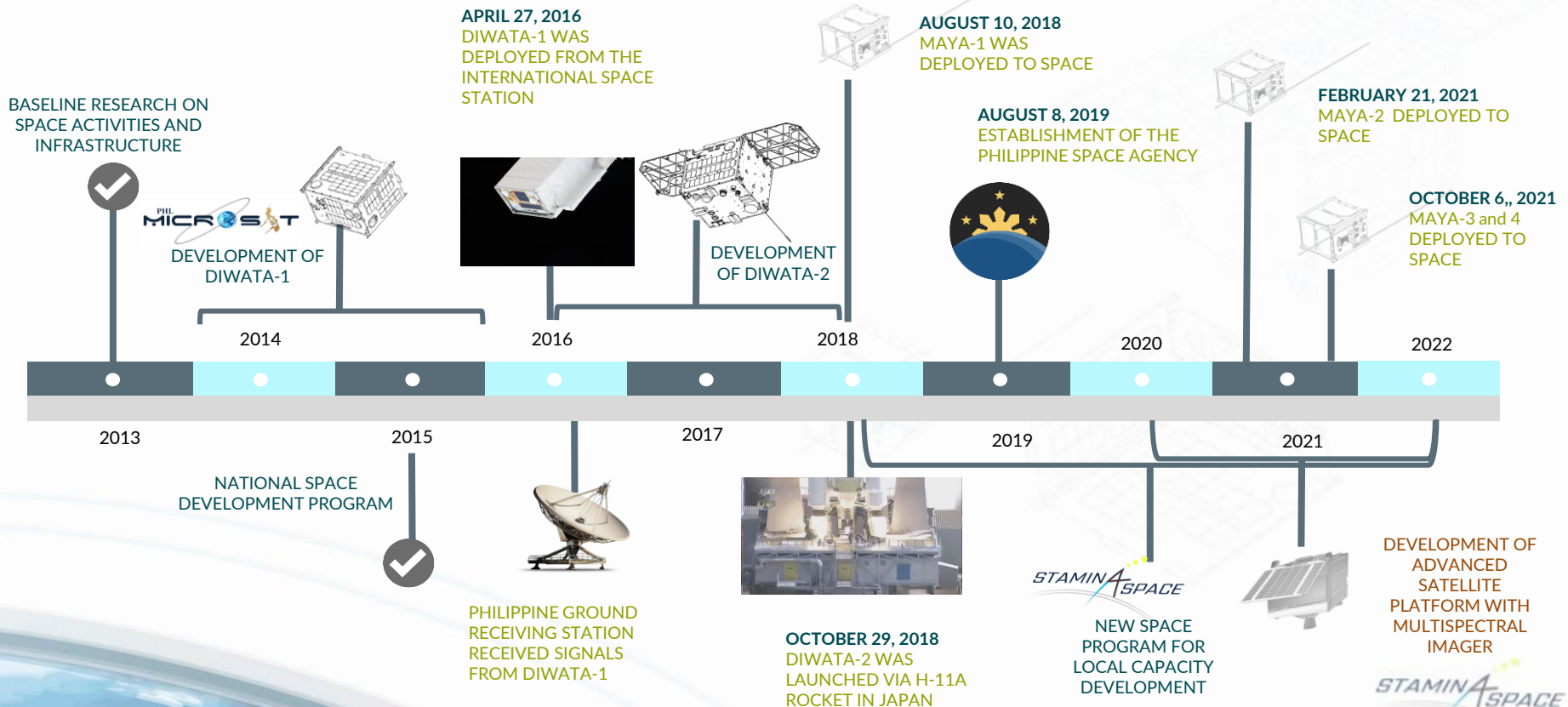
Maricor Soriano

Program Leader

Space Technology and Applications Mastery, Innovation and Advancement (STAMINA4Space) Program



PHILIPPINE SPACE TECHNOLOGY DEVELOPMENT



PROGRAM



**Space Technology and Applications
Mastery, Innovation, and Advancement**



1. Get **DATA**
2. Build **INDUSTRIAL BASE**
3. Set up **ENVIRONMENT** for R&D
4. Develop **PEOPLE**




Dr. Maricor Soriano
Program Leader



PROJECT 1



OPTIKAL

Optical Payload Technology, In-depth Knowledge Acquisition, and Localization



Dr. Maricor Soriano
Project Leader

Implementing Institutes:



PROJECT 2

PHL-50

Building PHL-50: Localizing the Diwata-1,2 Bus System as the Country's Space Heritage 50kg Microsatellite Bus



Dr. Marc Caesar Talampas
Project Leader


Implementing Institute:



PROJECT 3


StEP-UP

Space Science and Technology Proliferation through University Partnerships



Paul Jason Co
Project Leader


Implementing Institute:



PROJECT 4




GRASPED

Ground Receiving, Archiving, Science Product Development, and Distribution



Engr. Alvin Retamar
Project Leader


Implementing Institutes:



PROJECT 5



ASP

Advanced Satellite Development and Know-How Transfer for the Philippines



Dr. Gay Jane Perez
Project Leader

Implementing Institutes:



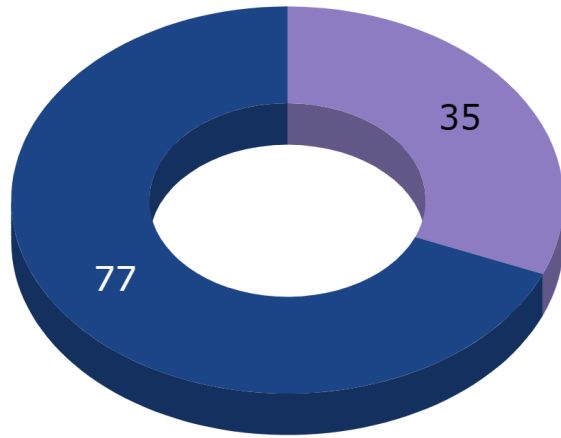
Director of Space
Technology Missions
PhilSA

Deputy Director
General of PhilSA



DEVELOP PEOPLE

STAMINA4Space Program



● Female ● Male

TOTAL: 112 members
(personnel, staff, scholars)

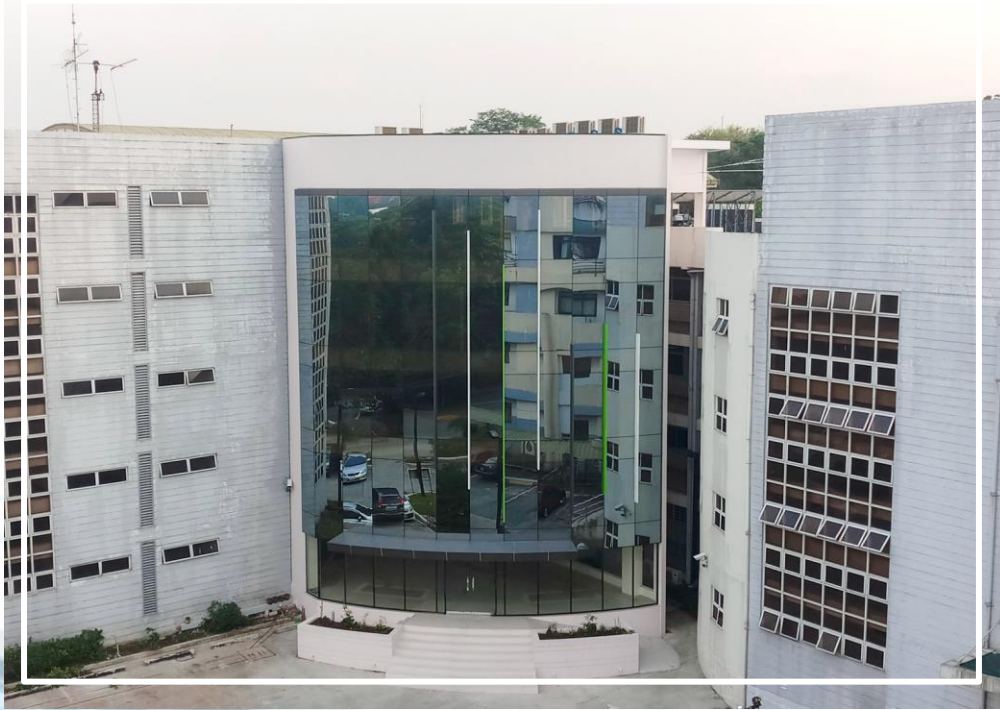


STEP-UP Project



- Offer graduate programs on nanosatellite development
- Develop MAYA nanosatellites locally (with BIRDS project)
- Establish University Space Engineering Consortium (UNISEC Philippines)
- Establish university-based amateur ground station network

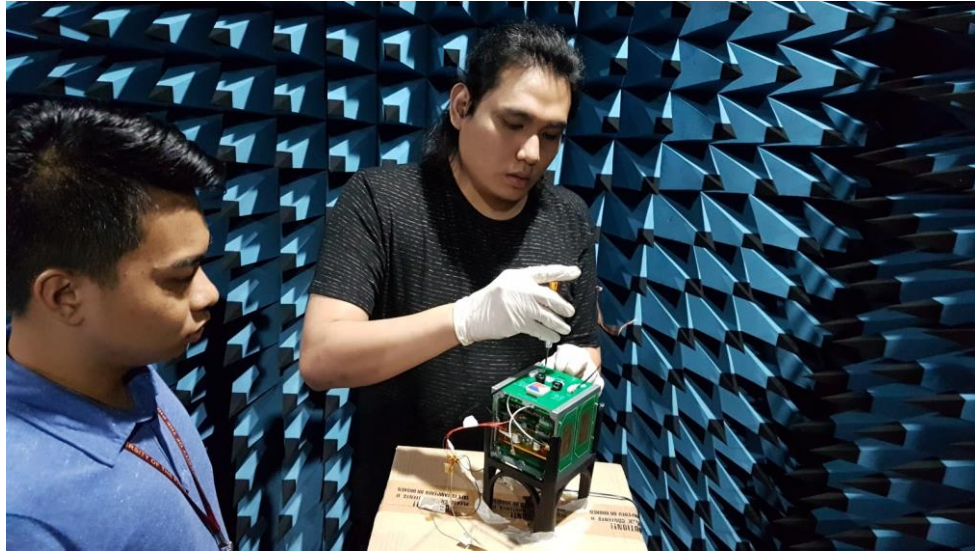
ULyS³ES



University Laboratory for Small
Satellites and Space Engineering
Systems

Features:

- Lean satellite development
- Small-satellite simulator system (S⁴)
- Prototyping equipment
- Full anechoic chamber test facility
- Amateur radio and satellite station
- Graduate students' workstations
- Administration office



Components for University to Space Agency/Industry Transition



- Scholarships from government or interested agencies
- Immersive courses and projects in university
- Availability of positions in Philippine Space Agency and other interested agencies or industries

Scholarships



- Studying space tech is expensive
- Scholarship funding can come from government or industries which have use for space tech or system engineering

Immersive Courses



- Space tech is mostly learnt by doing
- Space is not only about the engineering tech
 - Communications
 - Law and Governance
 - Data Science
- Companies / Agencies can offer on-the-job training as well

Positions for Graduates



- The Philippine Space Agency can only absorb so much.
- There are other industries and agencies which have a need for space



**Thinking
Machines**
Data Science

- Department of Foreign Affairs
- Department of Environment and Natural Resources
- Department of Agriculture
- Mapping companies etc.
- Aerospace industries

Components for^ University to Space Agency/Industry Transition

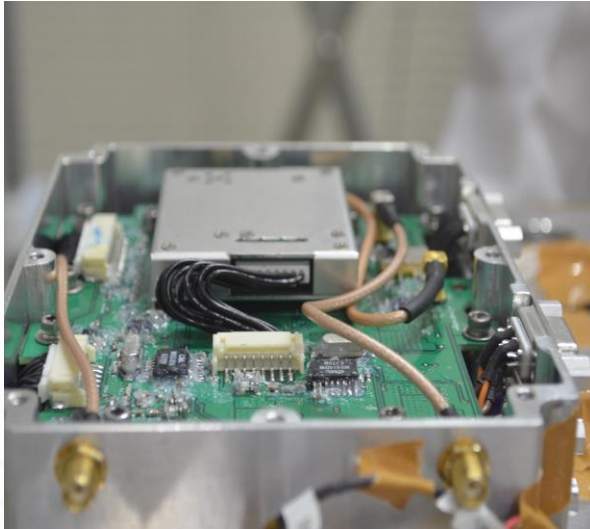
sustainable

- Scholarships from government or interested agencies
- Immersive courses and projects in university with industry
- Availability of positions in Philippine Space Agency and other interested industries/agencies

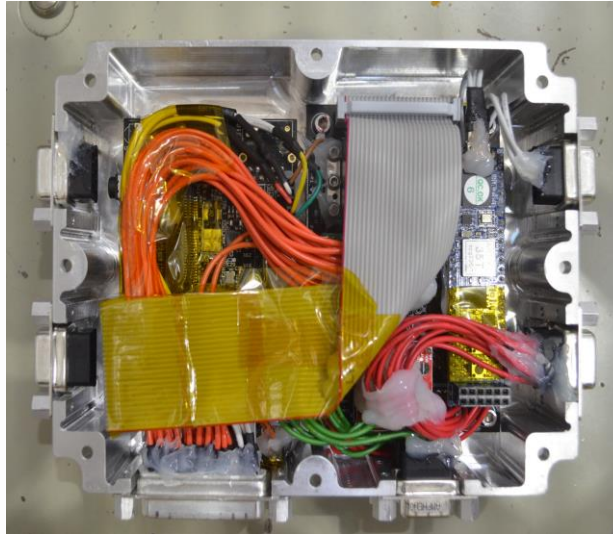
SYNERGY BETWEEN GOVERNMENT, ACADEME, AND INDUSTRY

We are developing a Local Industrial Base

Locally developed Experimental Modules flying with Diwata-2



Amateur ("Ham") Radio
Payload



Attitude Control Unit (ACU-Ex)



Sun Aspect Sensor (SAS-Z)

We are building cameras for remote sensing

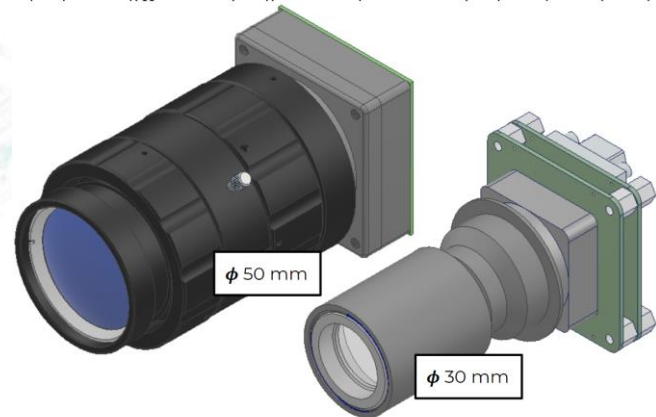
HYPIE

Hyperspectral Imaging Camera
(Airborne Payload)



MALIC-MATA

Multi-Application Line Imaging Camera -
Monochrome and Tri-linear Array and
PANCHROMATIC CAMERA
(Spaceborne Payload)



Currently engaging with these companies

PRECISION MANUFACTURING



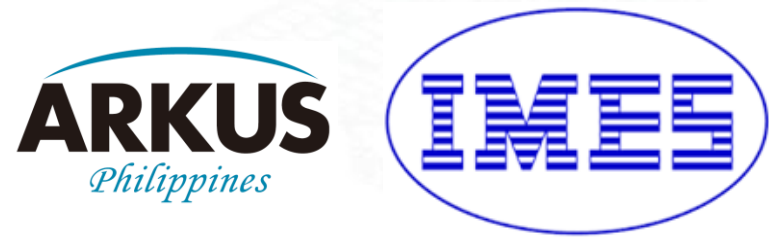
Frias Precision Technologies Corporation



WIRE HARNESS AND CABLE ASSEMBLY



PCB DESIGN, FABRICATION, AND ASSEMBLY



FPGA, DEV KITS, and IP Development



The STAMINA4Space and PHL-Microsat programs are funded by the **Department of Science and Technology (DOST)**, monitored by **DOST-Philippine Council for Industry and Emerging Technology Research and Development (PCIEERD)**, and implemented through the collaboration between the **University of the Philippines Diliman**, the **DOST-Advanced Science and Technology Institute (ASTI)**, and Hokkaido University and Tohoku University in Japan.

Funded by



Monitored by



In collaboration with

