



# Chilean Space Program, Opportunities for cooperation and development



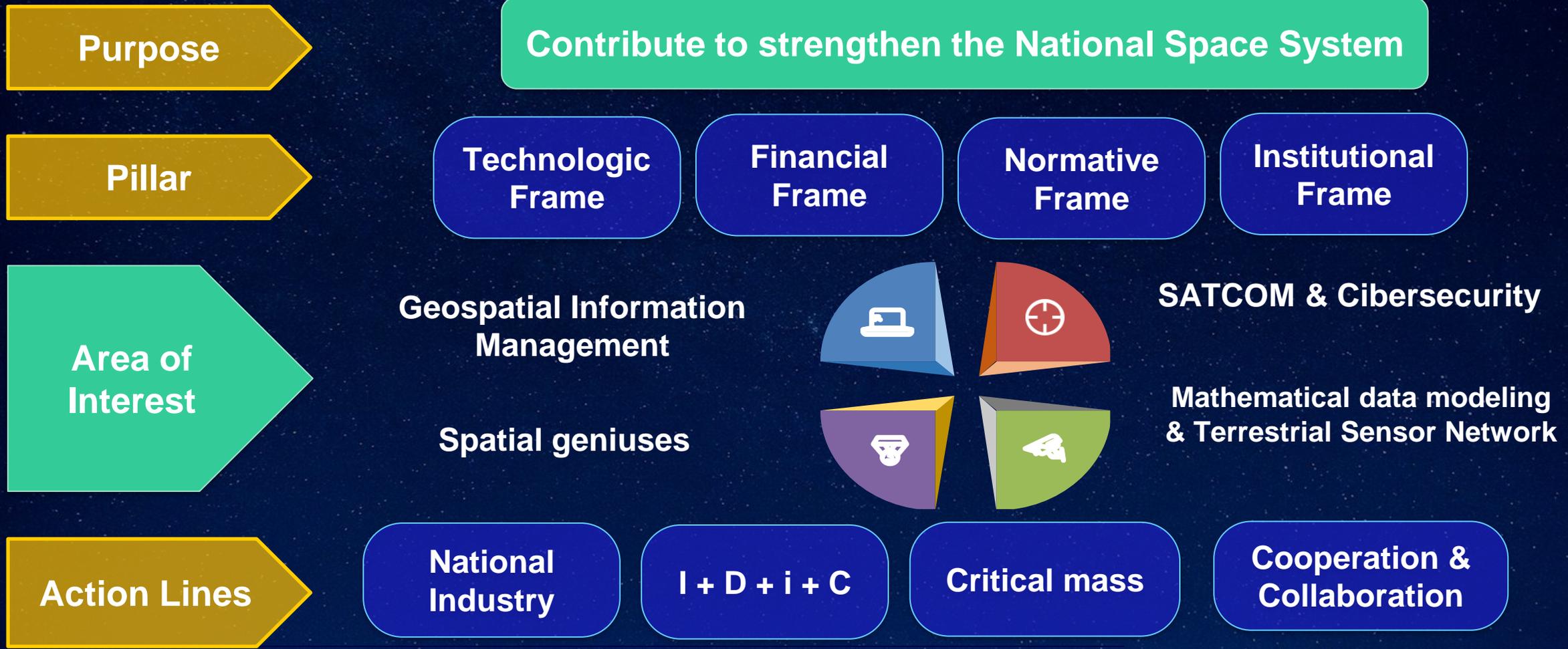
**Colonel Hernán Tello**  
Chilean Air Force

# AGENDA

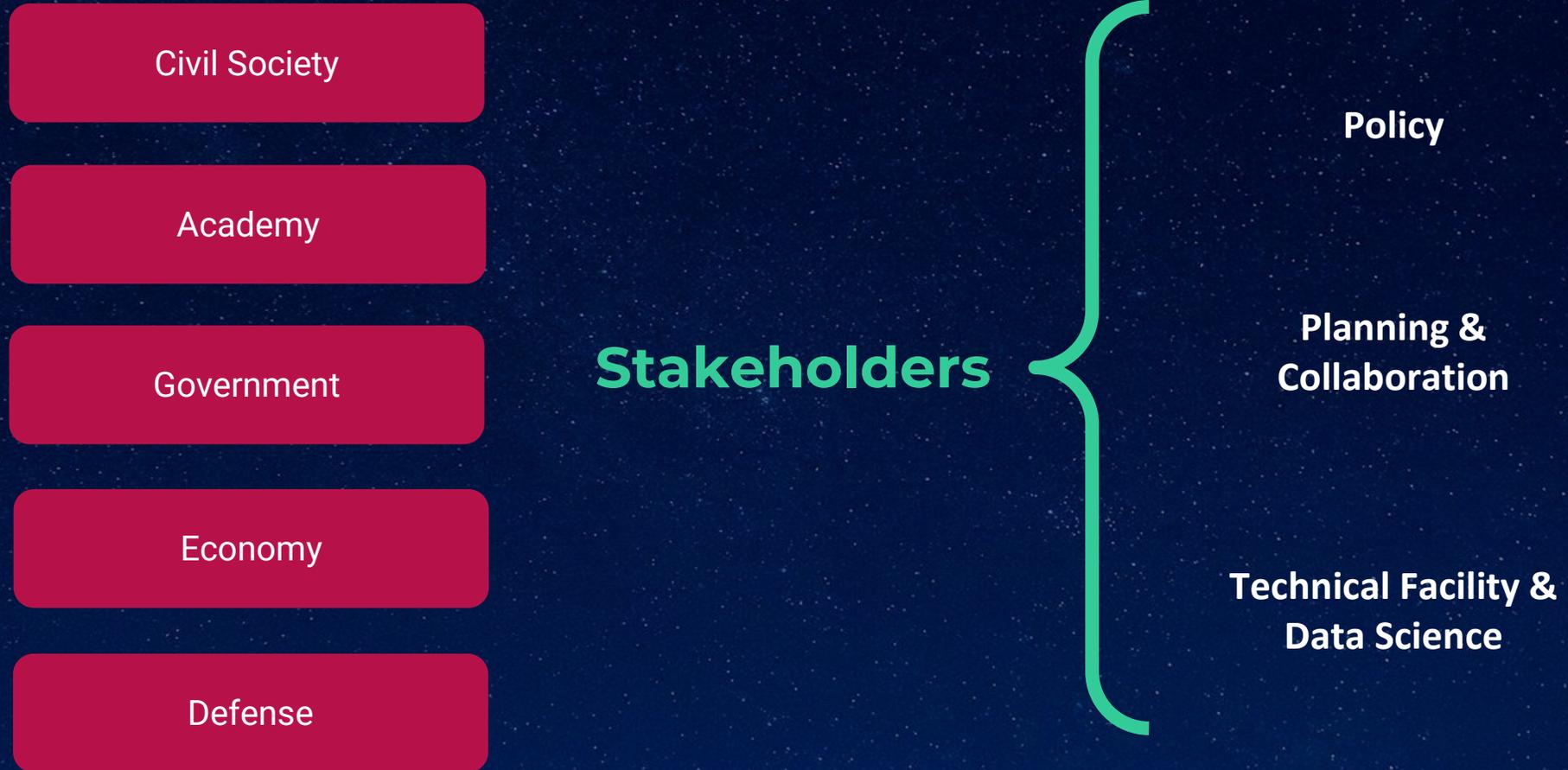
- I. Chilean Space Strategy
- II. Chile Space Program (SNSat)
- III. Implementation Schedule
- IV. Cooperation's Areas
- V. Conclusions



# I.- Chilean Space Strategy

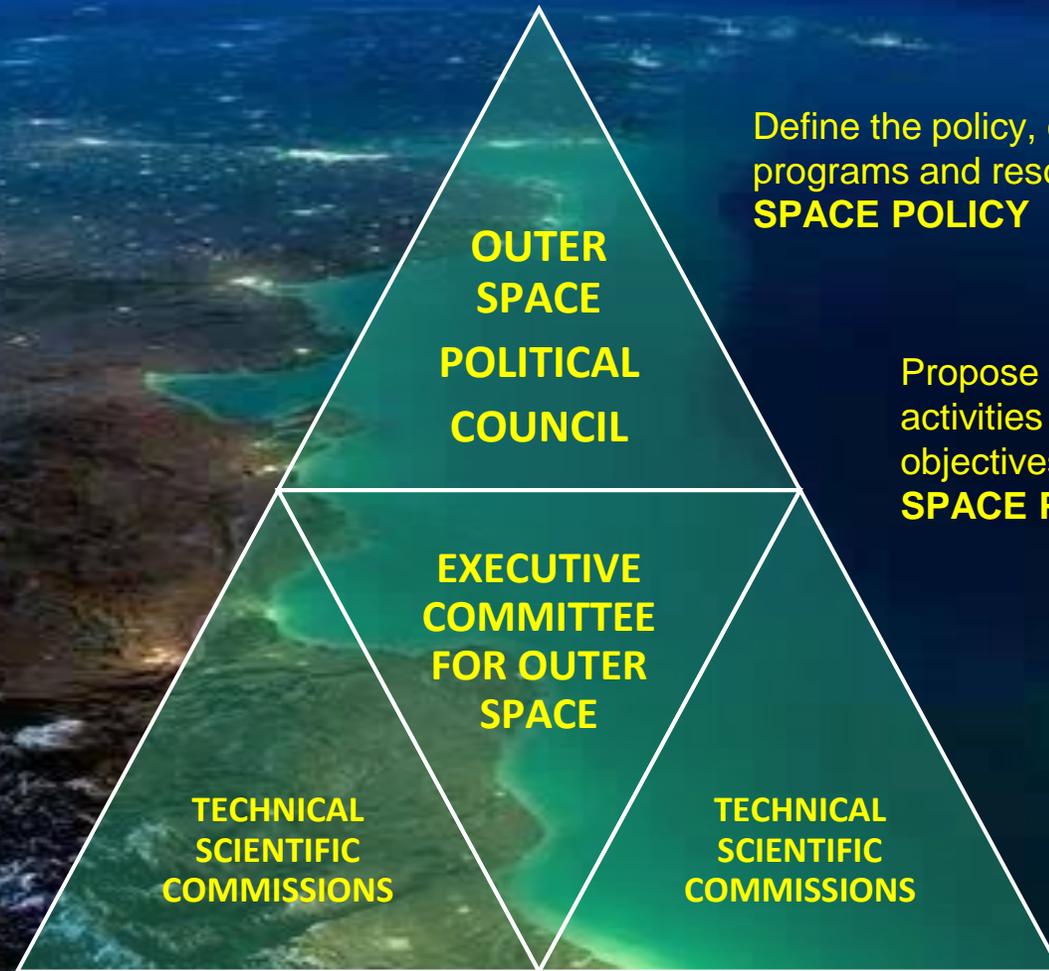


# I.- Chilean Space Strategy



# I.- Chilean Space Strategy

## INSTITUTIONALITY



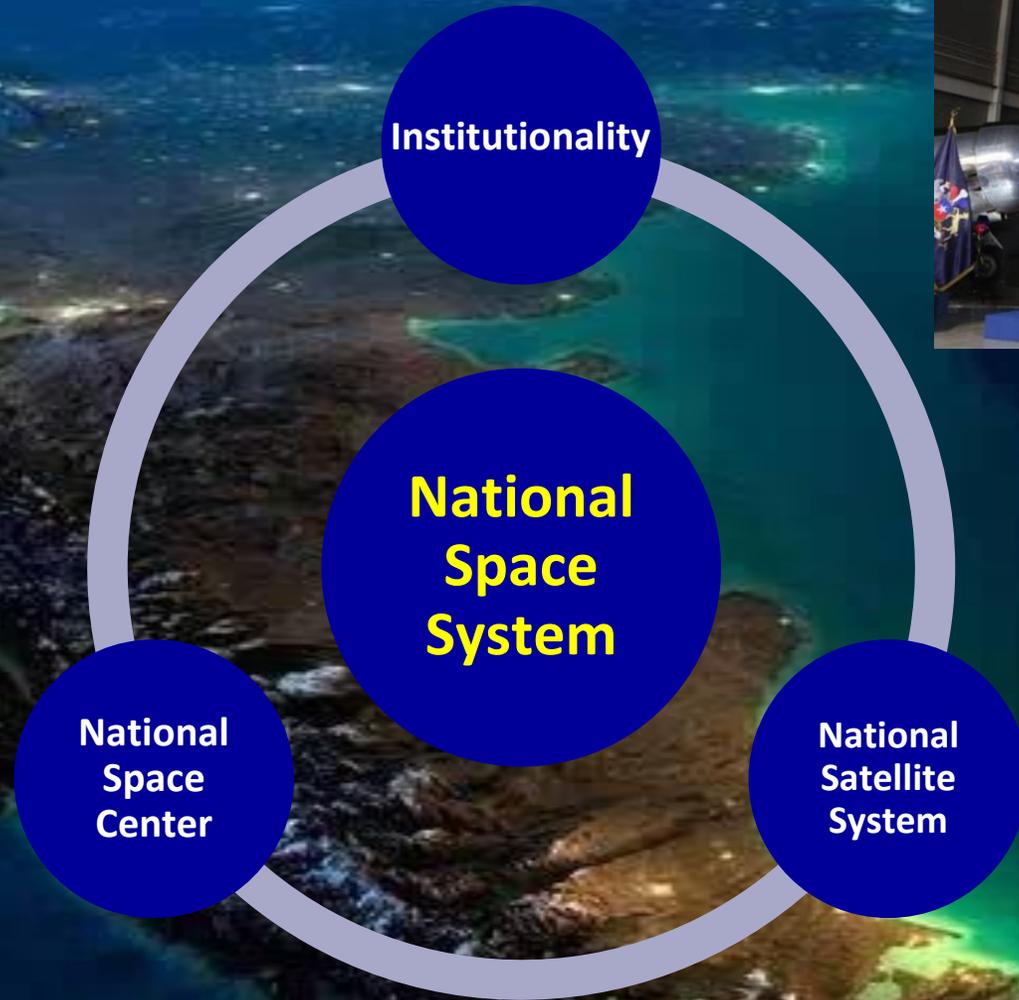
Define the policy, objectives, programs and resources:  
**SPACE POLICY**

Propose and coordinate the activities to achieve the established objectives:  
**SPACE PROGRAMS**

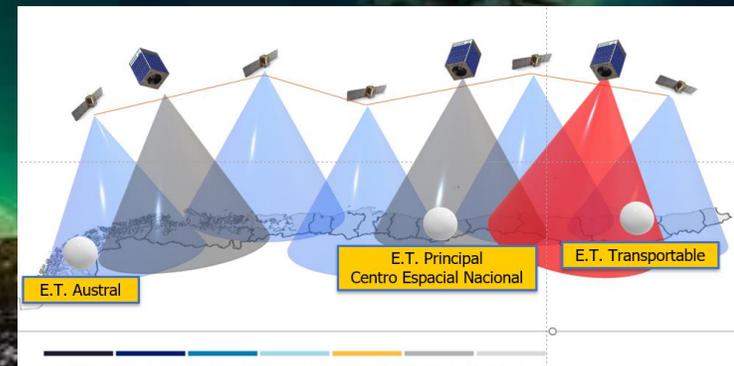
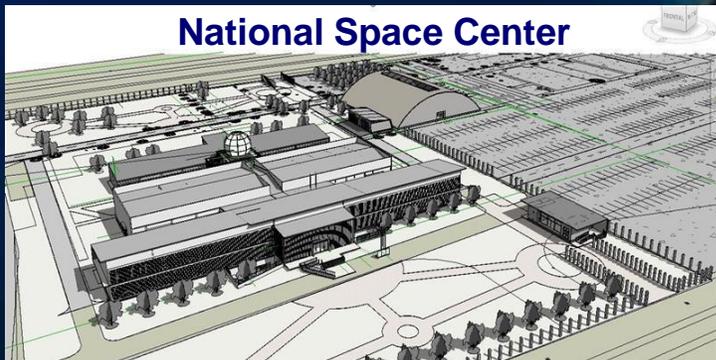
Specialized advice within the framework of the National Space Policy:  
**DIRECTION OF MISSIONS**

# I.- Chilean Space Strategy

## NATIONAL SPACE SYSTEM

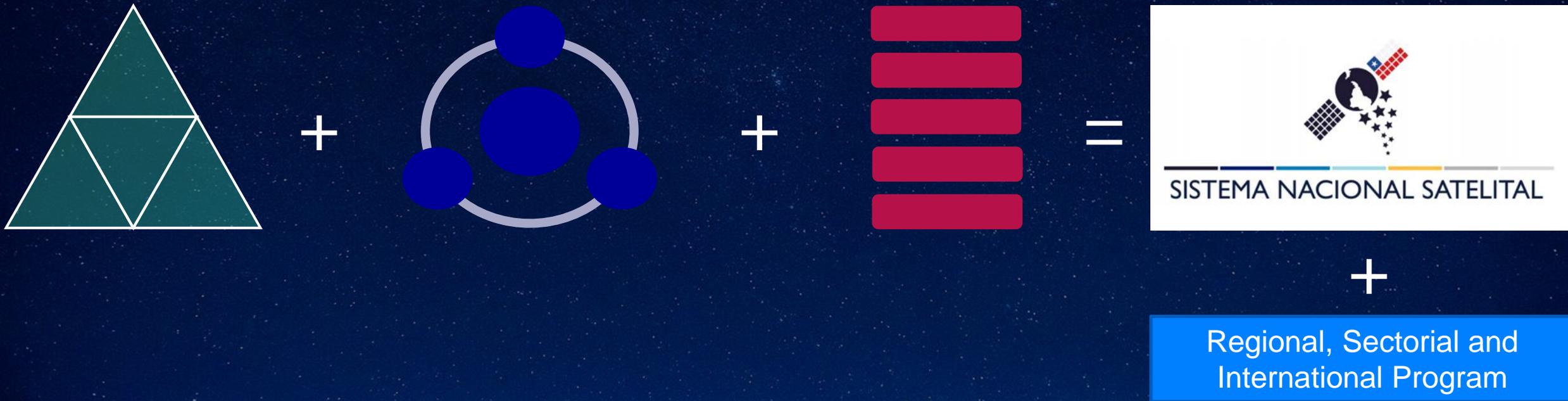


SNSat Program Launch Ceremony with 5 Ministers (May 26, 2021)



# Space Development Strategy

## Chilean Space Program for Science and Society



# II. Chile Space Program (SNSat)

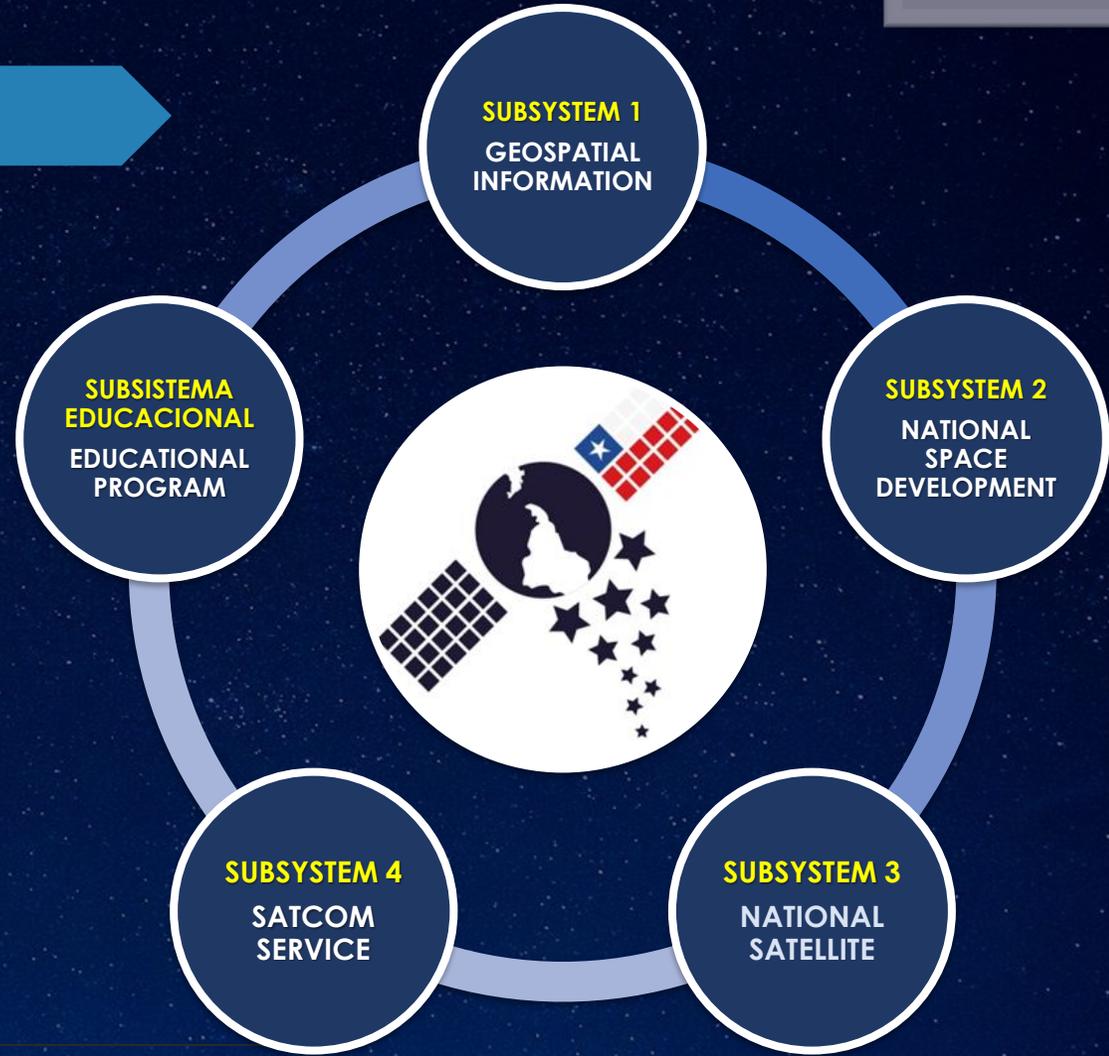


## NATIONAL SATELLITE SYSTEM (SNSAT)

Reducing the Digital Divide



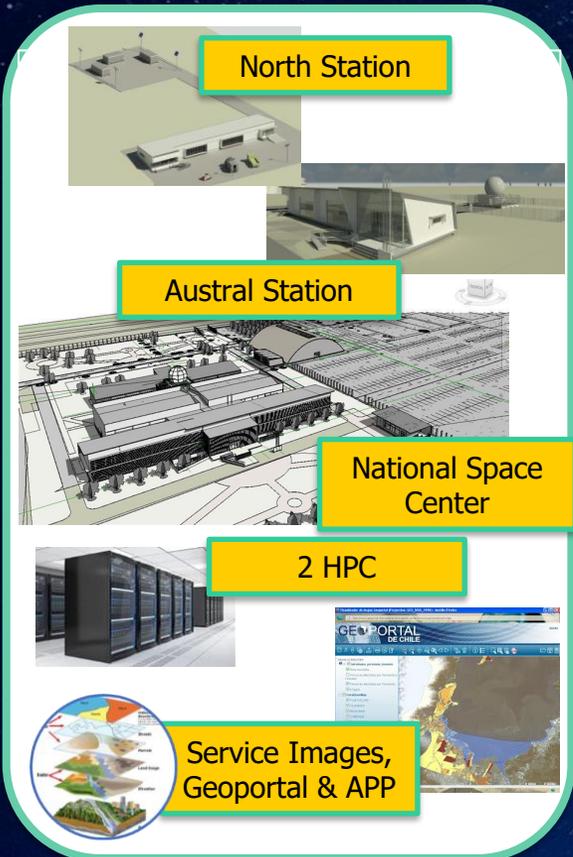
Reducing the Technological Gap



# II. Chile Space Program (SNSat)

## NATIONAL SATELLITE SYSTEM (SNSAT)

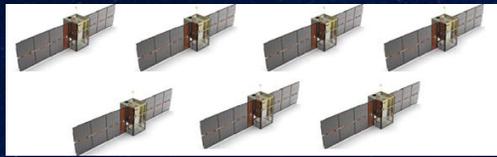
### SUBSYSTEM 1 Geospatial Information



North Station  
 Austral Station  
 National Space Center  
 2 HPC  
 Service Images, Geoportal & APP

### SUBSYSTEM 2 National Space Development

- AIT and local manufacturing of 7 satellites and payloads:

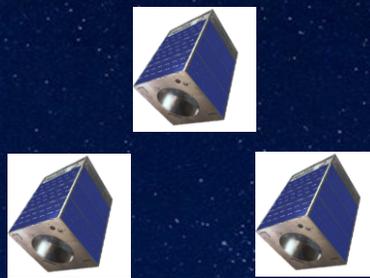


- Design and Develop a National Satellite Payload



### SUBSYSTEM 3 National Satellites

- 3 Remote Sensing Satellite.



### SUBSYSTEM 4 SATCOM Service

- Dedicated SATCOM Service



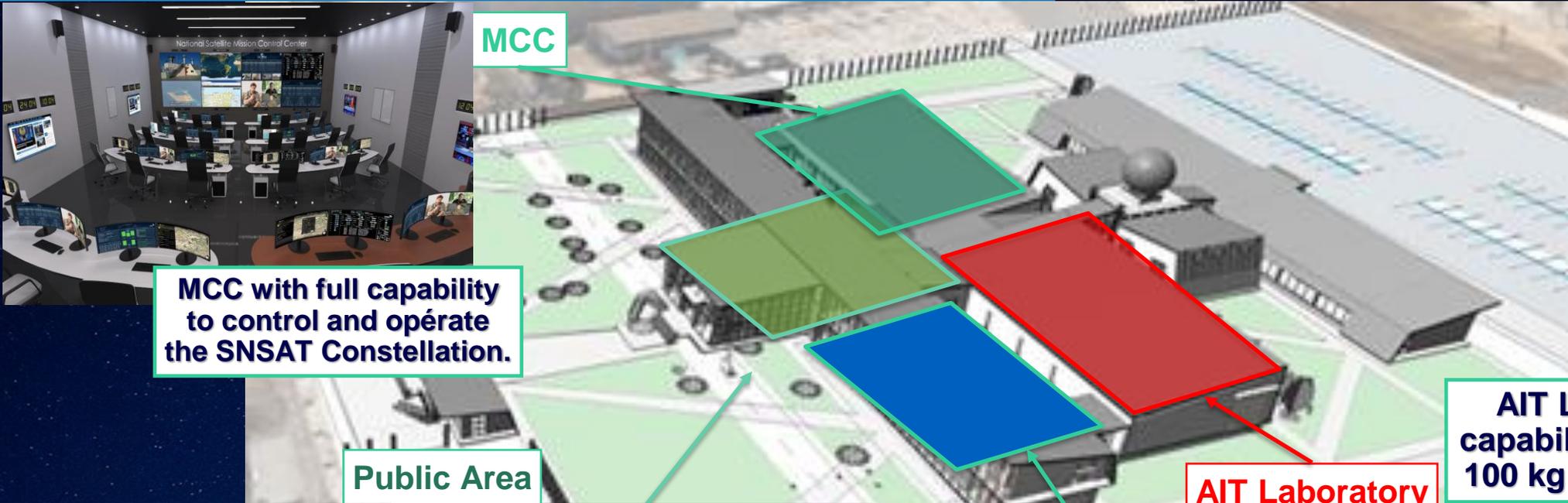
### SUBSYSTEM Educational

- Master Degree (in future)
- Academic Formation
- School Program "Columbia Space Lab"



# II. Chile Space Program (SNSat)

## NATIONAL SATELLITE SYSTEM (SNSAT)



**MCC with full capability to control and operate the SNSAT Constellation.**



**AIT Lab with capabilities up to 100 kg satellites.**



**Auditorium**

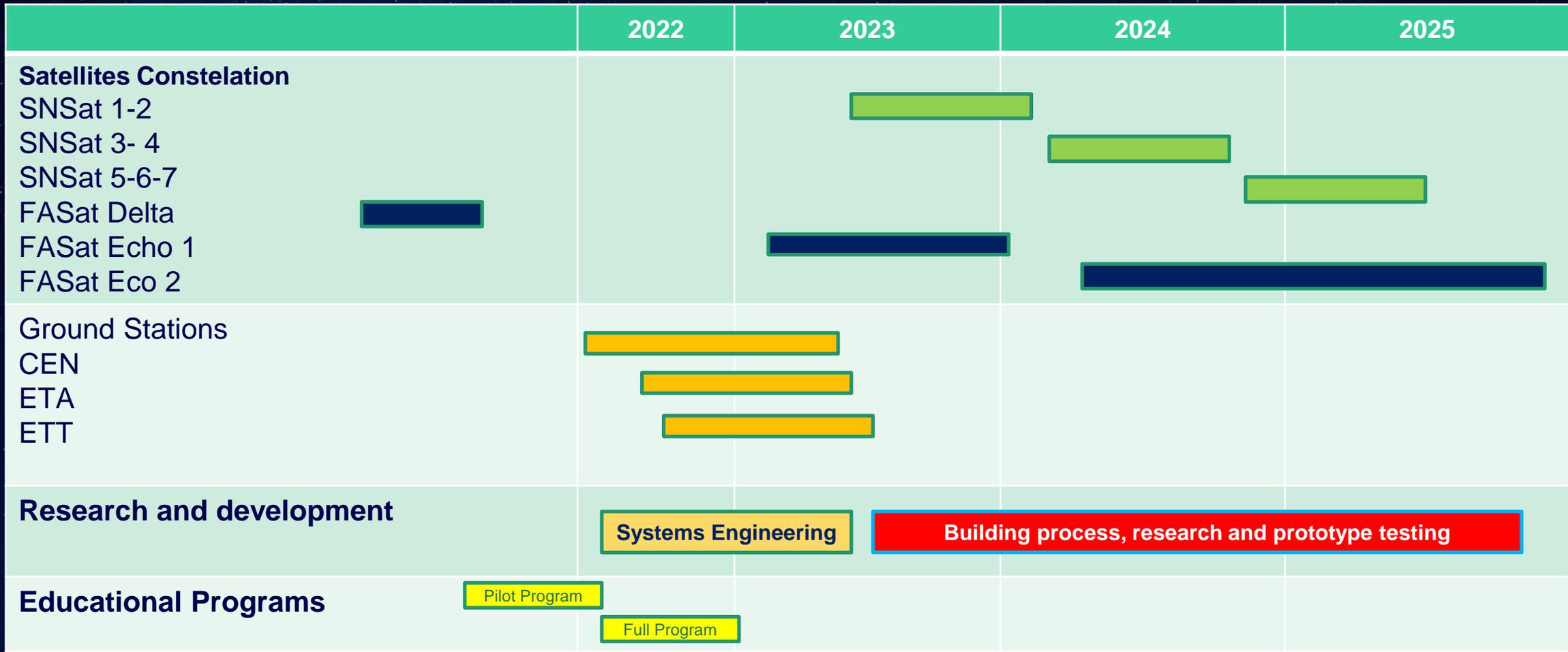


**Sphere of Science**

**National Space Astropreneurship and Innovation Centre**

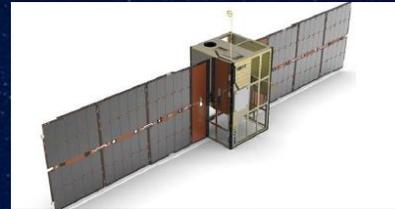
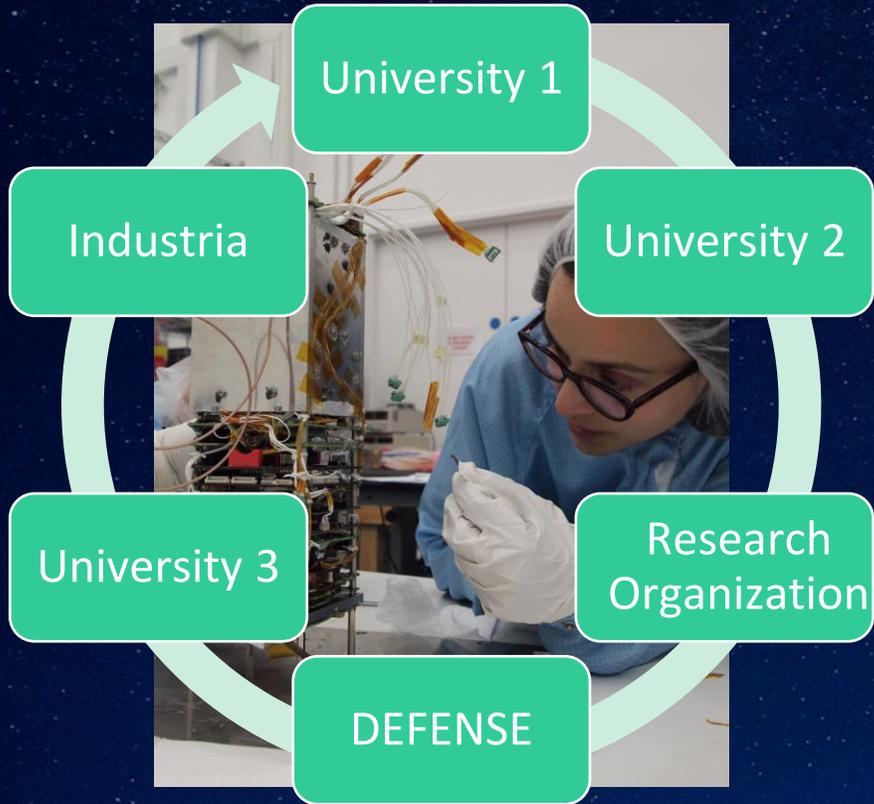
# III. IMPLEMENTATION SCHEDULE

SPACE MISSIONS



# IV. COOPERATION'S AREAS

## PERMANENTS WORK GROUPS



## Micro and Minisatellites

7 Microsatellite 12U

1 Minisatellite 100 Kg

### Payloads

1. Multispectral / Hyperspectral camera
2. Space Situational Awareness
3. GPS-RO (climate change monitoring)
4. Automatic Identification System (AIS)
5. Automatic Dependent Surveillance - Broadcast (ADS-B)
6. Store and Forward (S&F)
7. Inter Satellite Link (ISL)
8. Internet of Things (IOT)

Universities,  
 Organizations and  
 technical collaboration

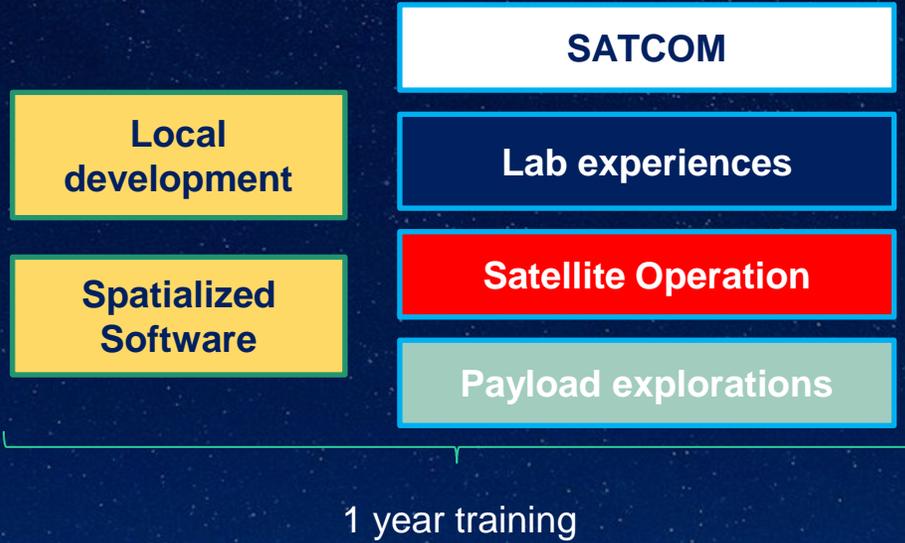
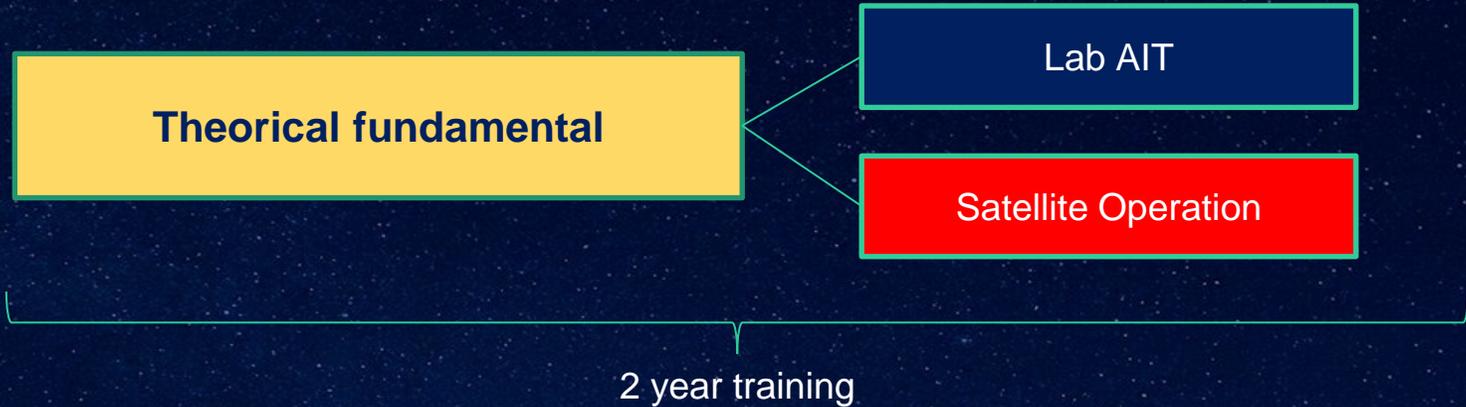
# IV. COOPERATION'S AREAS

Academy

Defense

Critical mass

Cooperation & Collaboration



# IV. COOPERATION'S AREAS

## Space Mission



ID	MISIÓN
CIN	Local development
GEO	Geospatial Information
CMA	Climate Change
SSA	Space Situational Awareness
CES	Space Wheather
COM	Satellite Communicaction and internet access
ACC	Space Acces Independence
MEX	Space Mining

# IV. COOPERATION'S AREAS

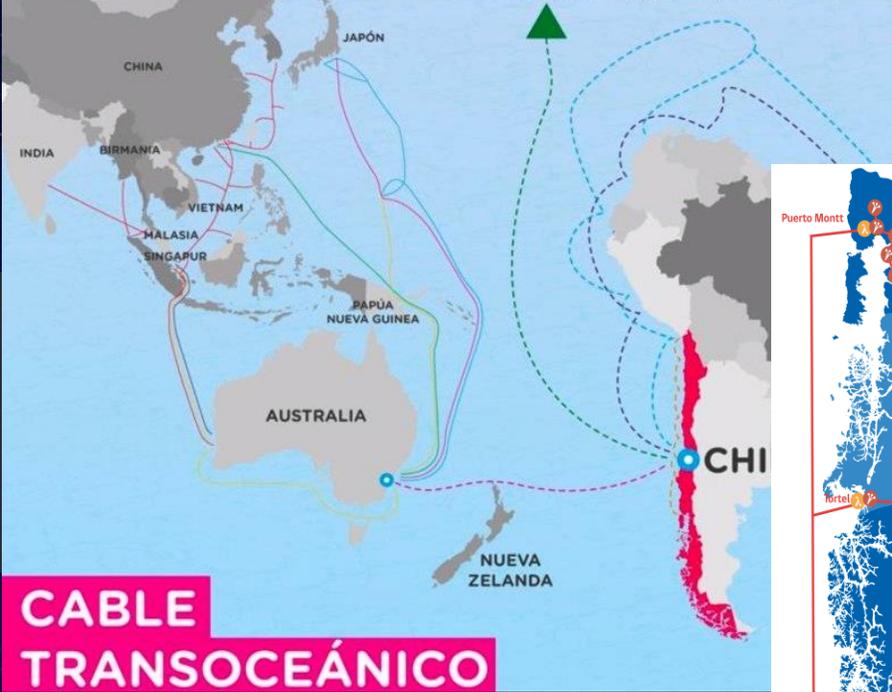
## Chile opportunities



**CONOCE AQUÍ**  
**RESERVAS ELEMENTALES**  
 LABORATORIOS NATURALES DE CHILE

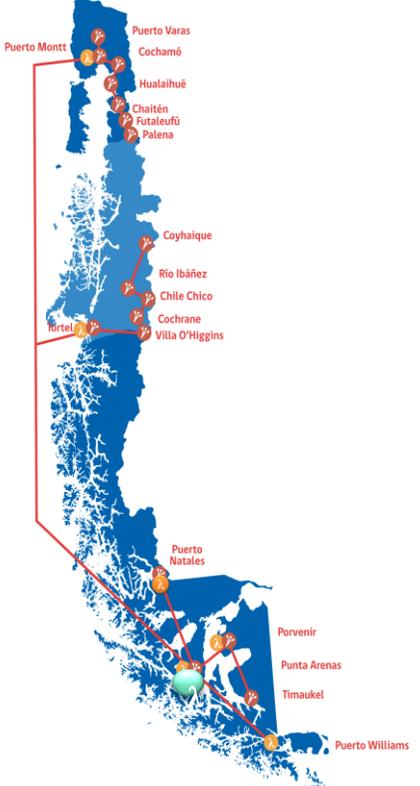


- Latitud 22°  
RESERVA ELEMENTAL SAN PEDRO DE ATACAMA
- Latitud 33°  
RESERVA ELEMENTAL ANDES
- Latitud 44°  
RESERVA ELEMENTAL PATAGONIA NORTE



**CABLE TRANSOCEÁNICO**

Austral connection by fiber optics from Punta Arenas to Asia, America and Atlantic.



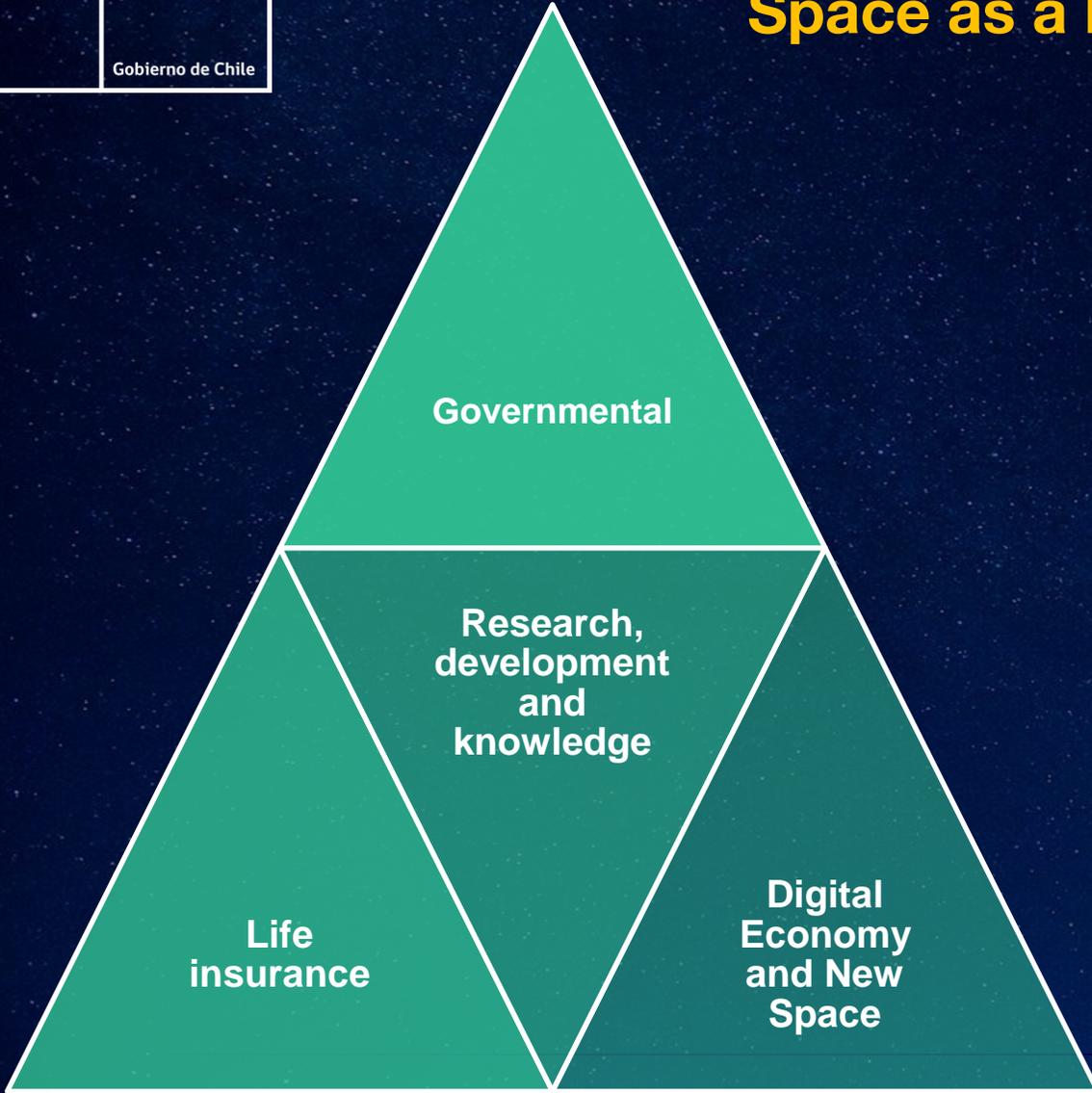
Puerto Montt, Puerto Varas, Cochamó, Hualaihué, Chaitén, Futaleufú, Palena, Coyhaique, Río Ibáñez, Chile Chico, Cochrane, Villa O'Higgins, Tortel, Puerto Natales, Porvenir, Punta Arenas, Timaukel, Puerto Williams



**Chile**  
**Laboratorio**  
**natural**

# Space Collaboration Activities

## Space as a high value asset...



**UNOOSA**



Ministerio de  
Ciencia,  
Tecnología,  
Conocimiento  
e Innovación

Gobierno de Chile

# V. CONCLUSION



**Chile has changed its strategy, integrating actors, means and ends, generating a Space Program called SNSAT.**



**This program seeks to develop technologies and generate geospatial information for the autonomous and sovereign management of the State.**



**Likewise, the effective integration of national actors, media and spatial capacities.**



**It is essential to seek the generation of public value, social and economic profitability for the country.**



**Finally, Chile offers opportunities to collaborate in the fields of science, technology and education, taking advantage of the momentum of this new development and the benefits that the country has as a natural laboratory, geolocation, clear skies and digital connectivity.**



# Chilean Space Program, Opportunities for cooperation and development



**Colonel Hernán Tello**  
Chilean Air Force