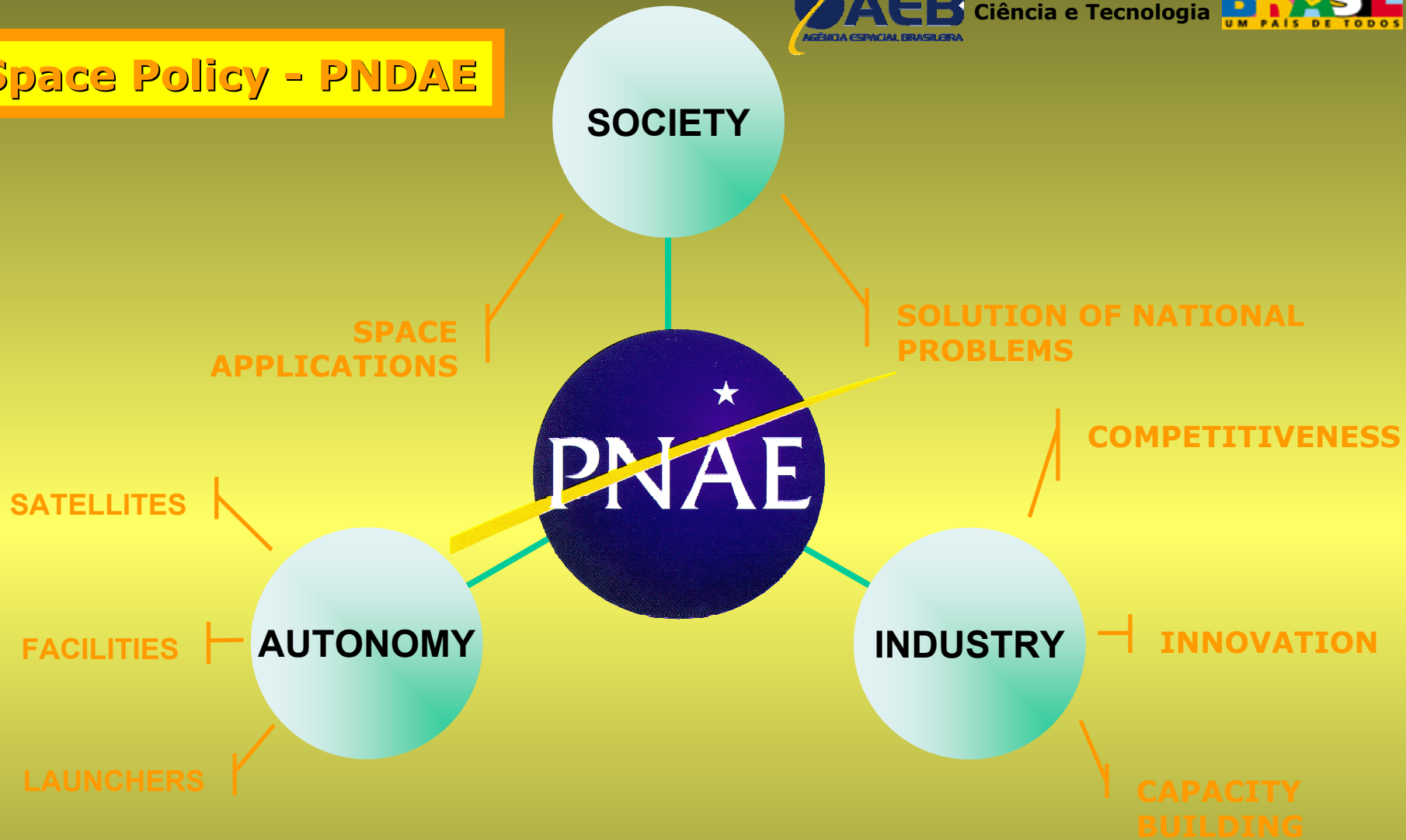


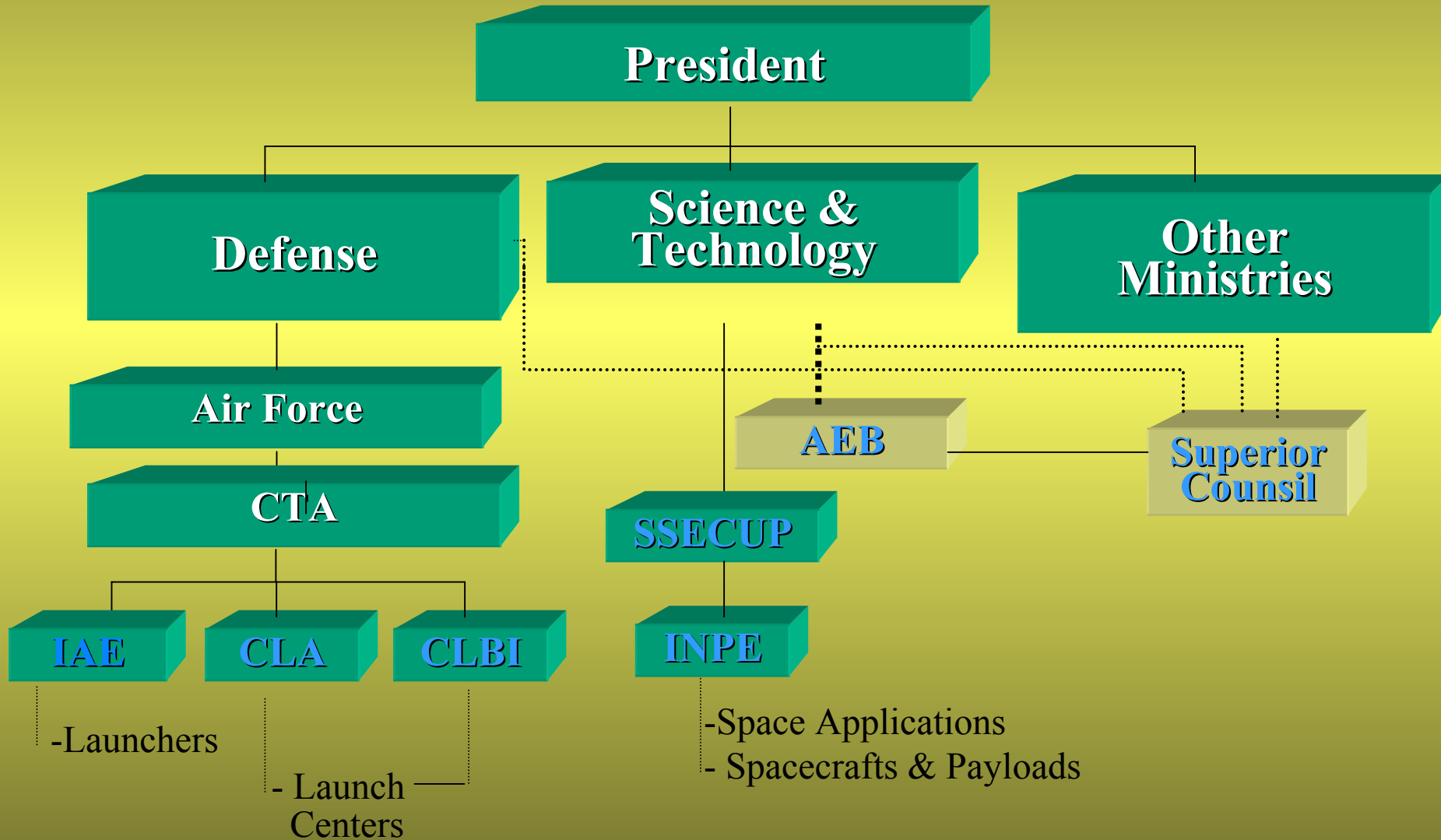


# **National Program for Space Activities 2005 - 2014**

# Space Policy - PNDAE



## Main Actors - SINDAE



**Earth  
Observation**

**Science**

**Telecommunications**

**Meteorology**

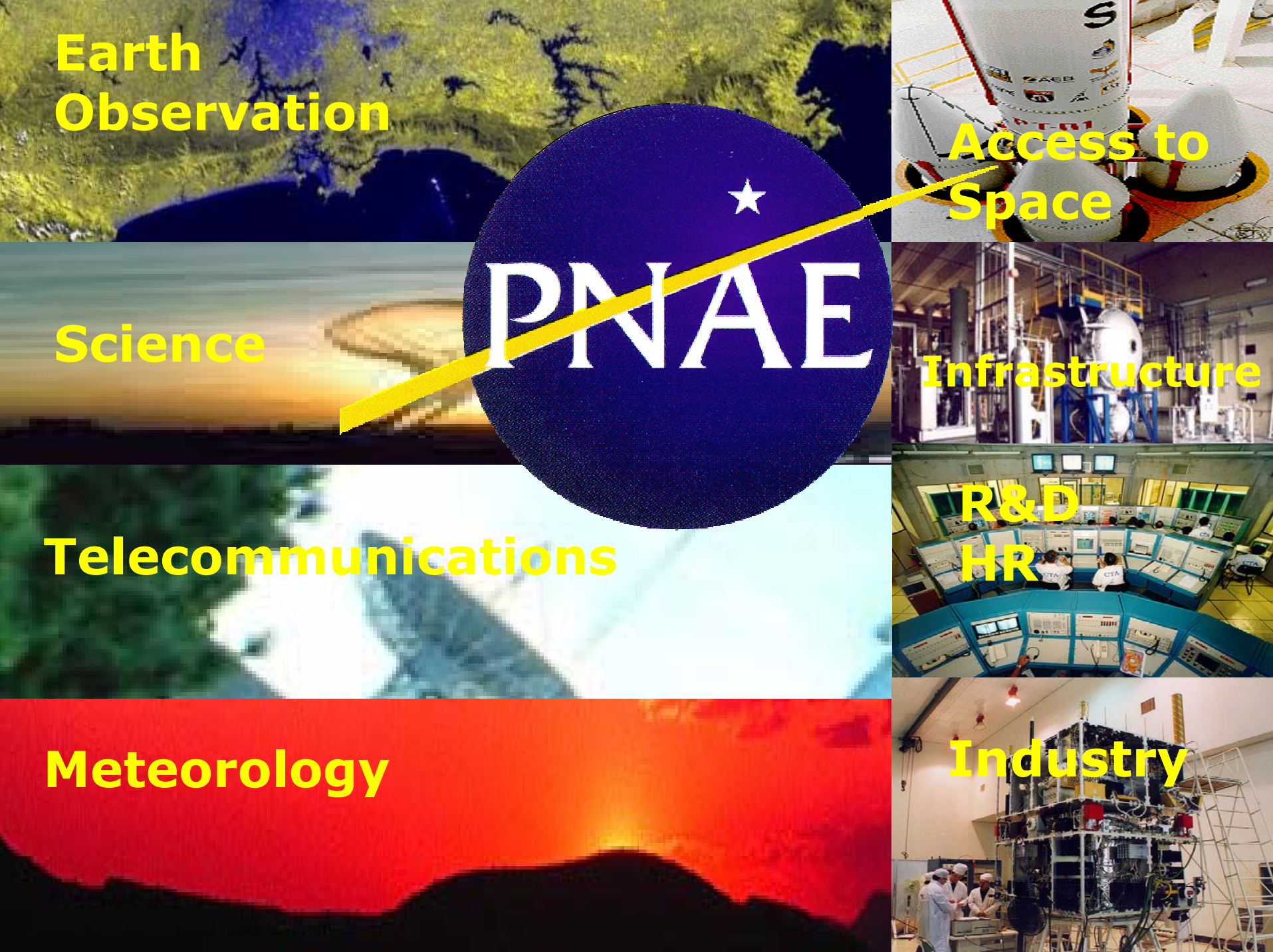
**Access to  
Space**

**Infrastructure**

**R&D  
HR**

**Industry**

**ISRO**

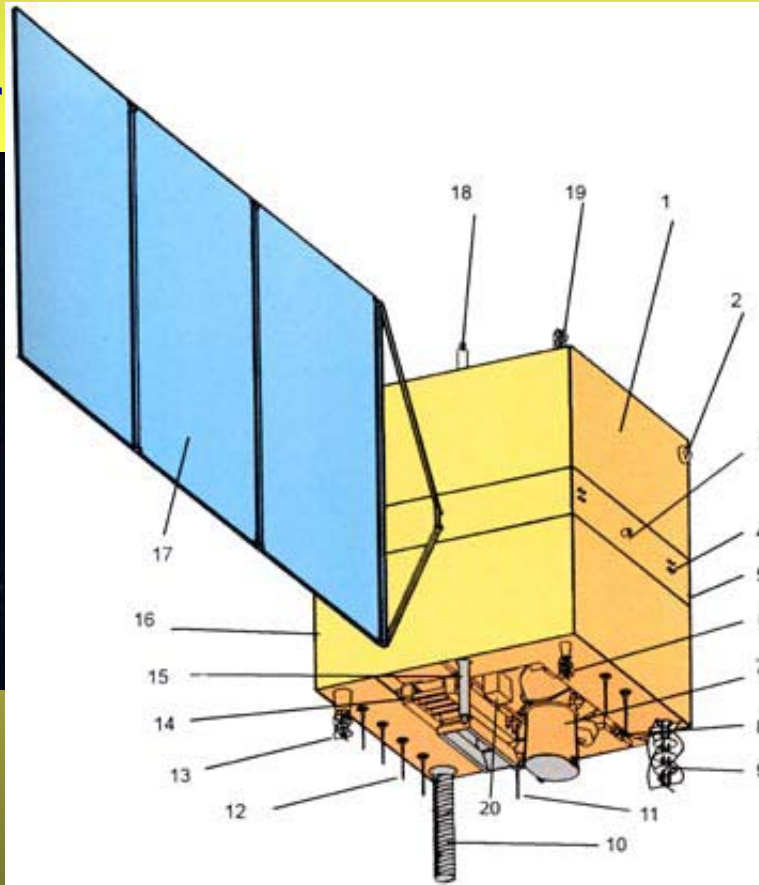


# Earth Observation

## Missions

### CBERS Program

- **CBERS-2B**
- **CBERS 3 e 4**



- 1 - Módulo de Serviço
- 2 - Sensor de Presença do Sol
- 3 - Conjunto dos Propulsores de 20N
- 4 - Conjunto dos Propulsores de 1N
- 5 - Divisória Central
- 6 - Antena UHF de Recepção
- 7 - Câmera IRMSS
- 8 - Antena de Transmissão do IR
- 9 - Antena de Transmissão em VHF
- 10 - Antena UHF Tx/Rx
- 11 - Antena em Banda - S (DCS)
- 12 - Antena de Transmissão do CCD
- 13 - Antena de Transmissão em UHF
- 14 - Câmera CCD
- 15 - Antena em Banda-S (TT&C)
- 16 - Módulo de Carga Útil
- 17 - Painel Solar
- 18 - Antena em Banda-S (TT&C)
- 19 - Antena de Recepção em UHF
- 20 - Câmera Imageadora WFI

**CBERS**

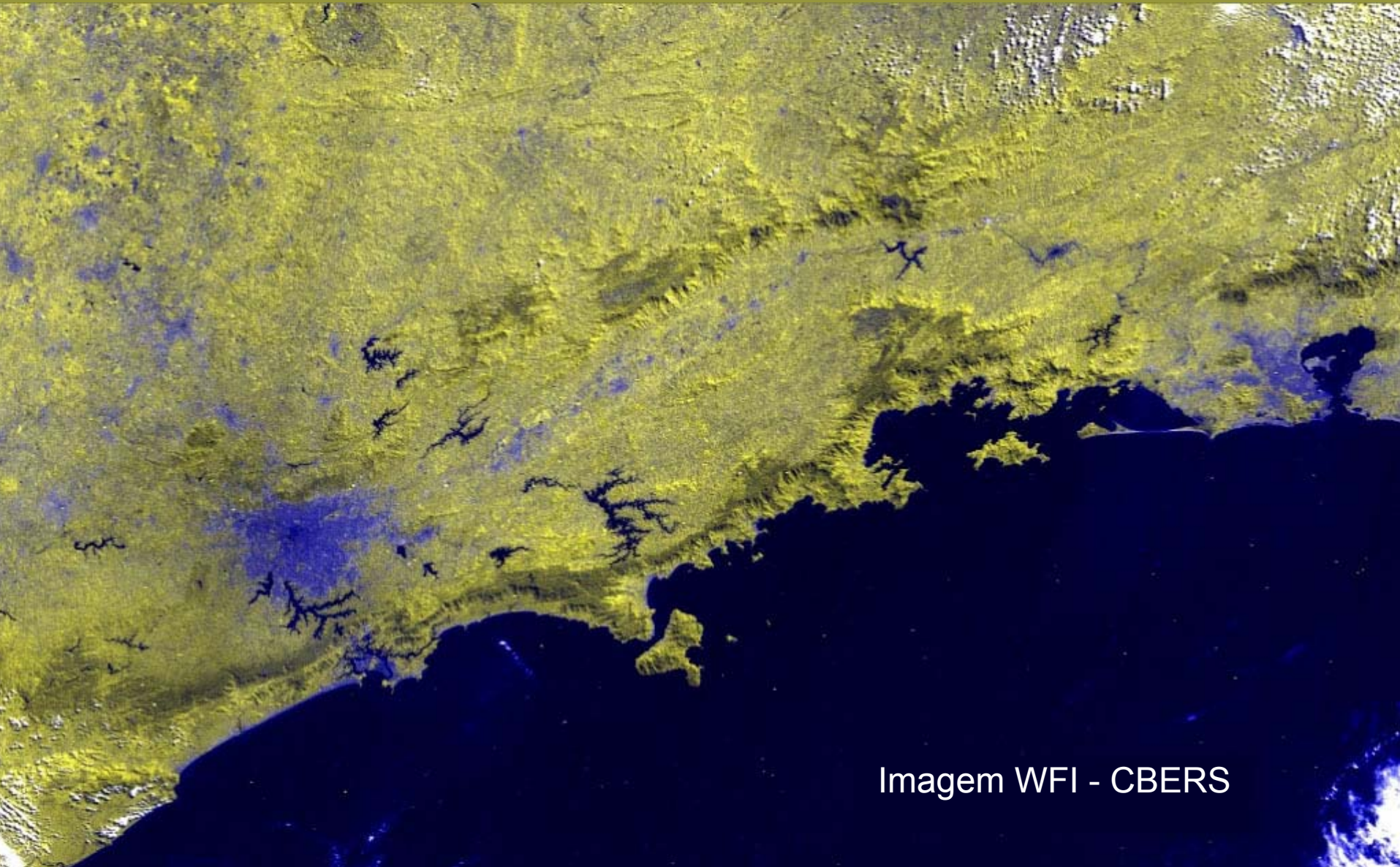


Imagem WFI - CBERS

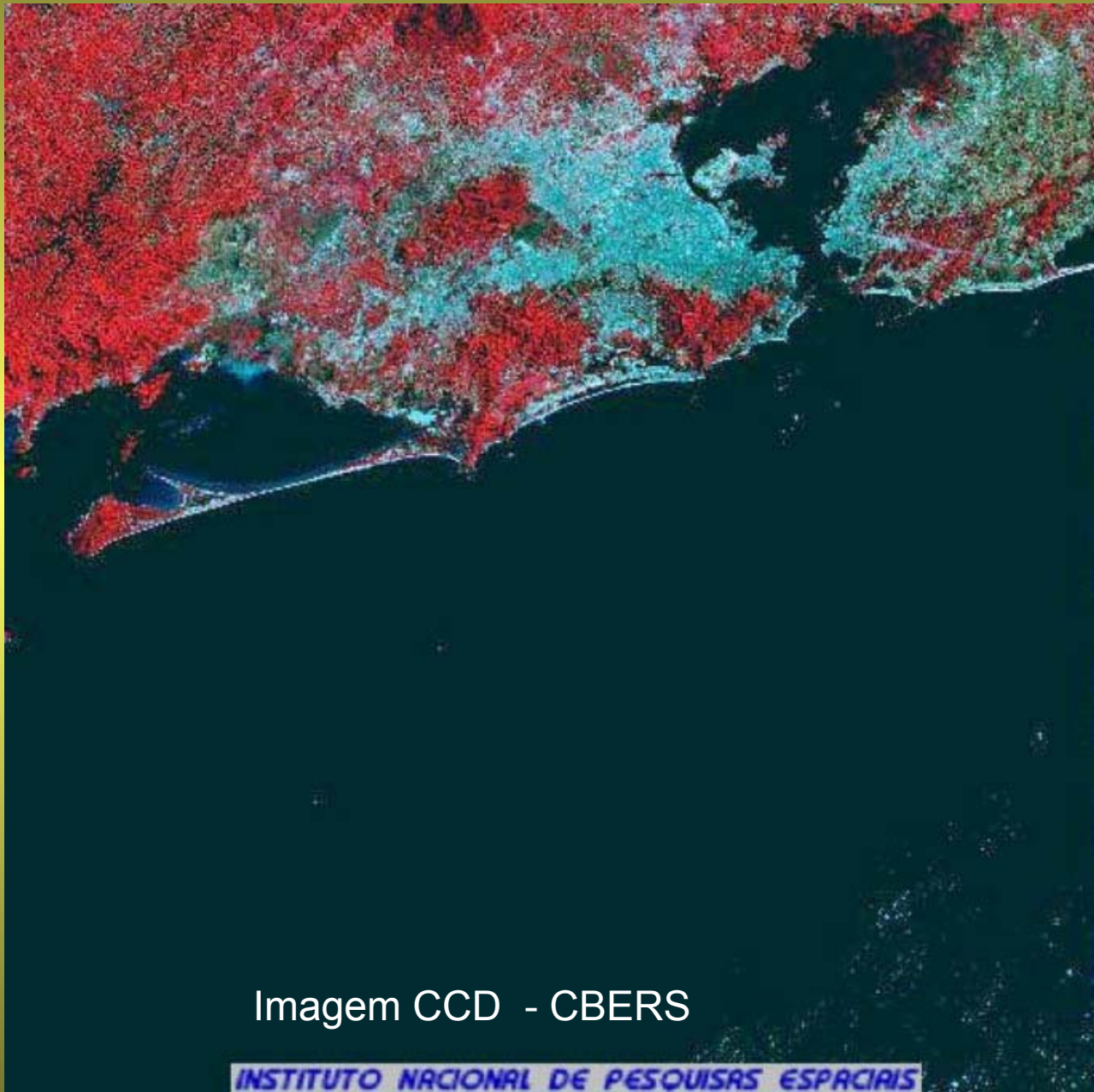


Imagem CCD - CBERS

# Earth Observation

## Missions

## Data Collecting



SCD





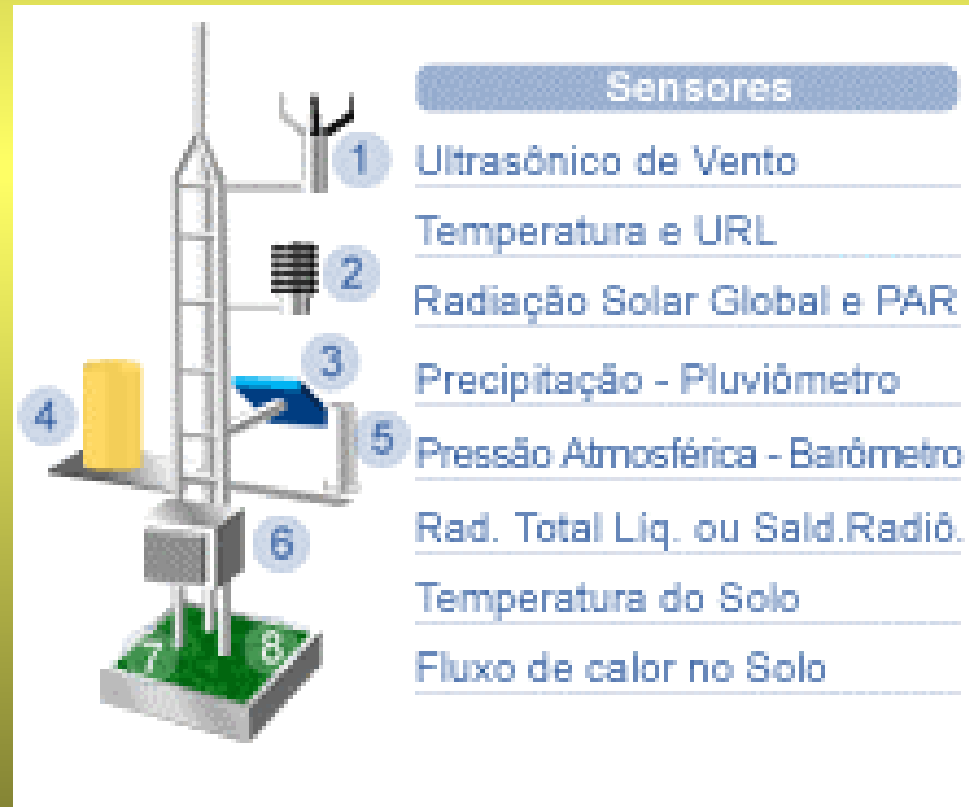
# Earth Observation

## Missions

## Data Collecting



SCD



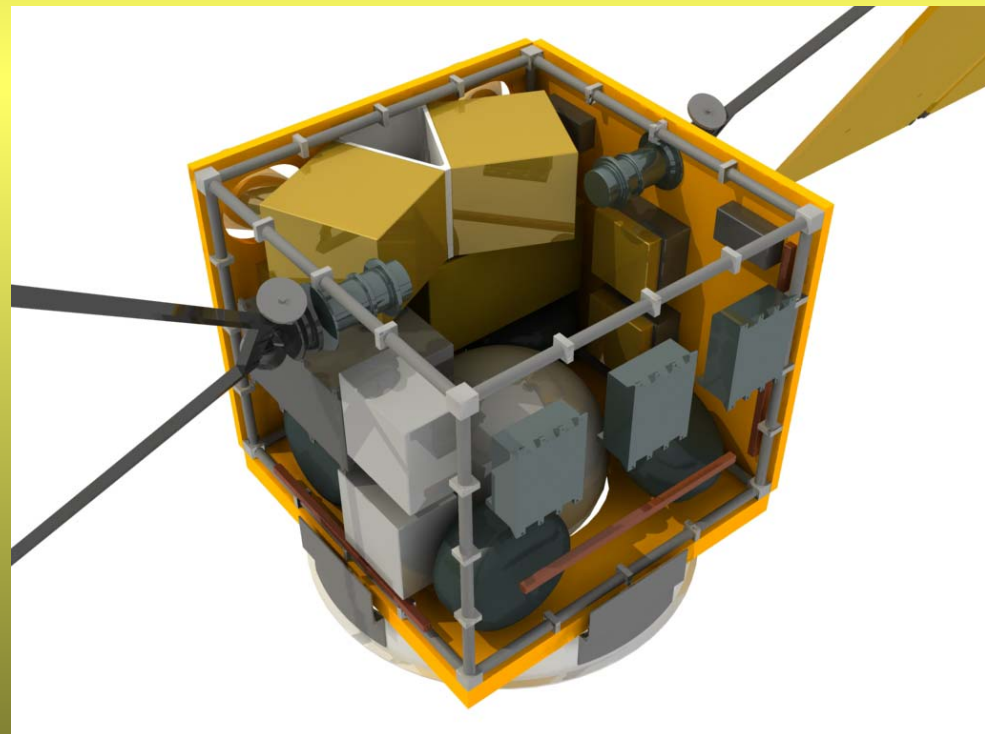
# Earth Observation

## Missions

### Remote Sensing Satellites – SSR

- Optical
- Radar

### Multi-Mission Platform



# Earth Observation

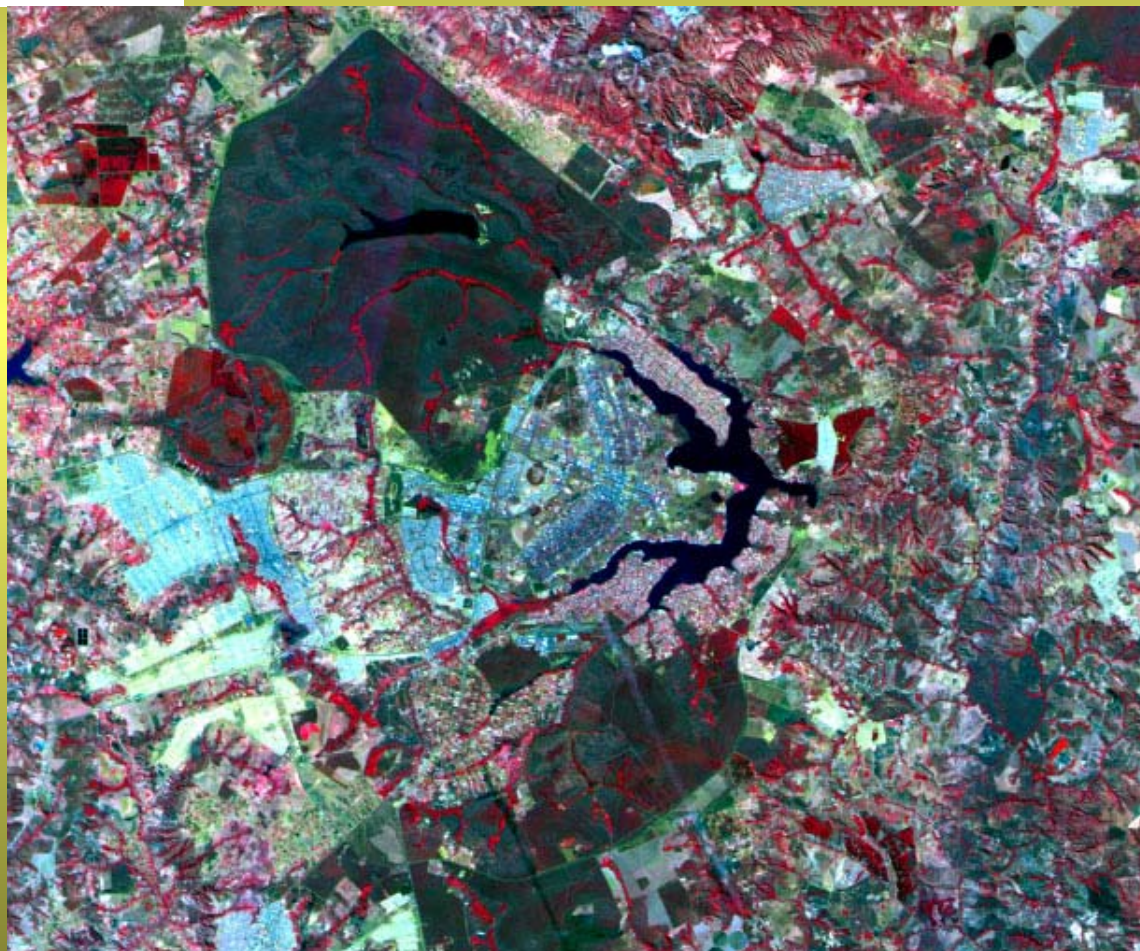
## Actions

### Integrated Space Data Center

### Tools

- Spring
- TerraLib

### CBERS Image Data Distribution Policy



# Scientific and Technological Missions

## Missions



# Scientific and Technological Missions

## Actions

**Microgravity**

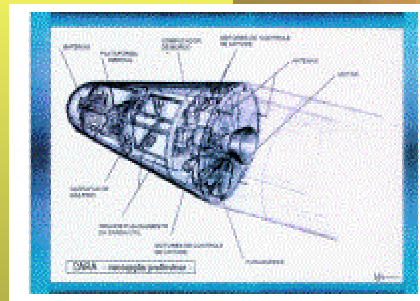
**Suborbital Platforms**

**Balloons**

**Reentry Platforms**

- **SARA**

**International Space Station**



# Communications & Meteorology

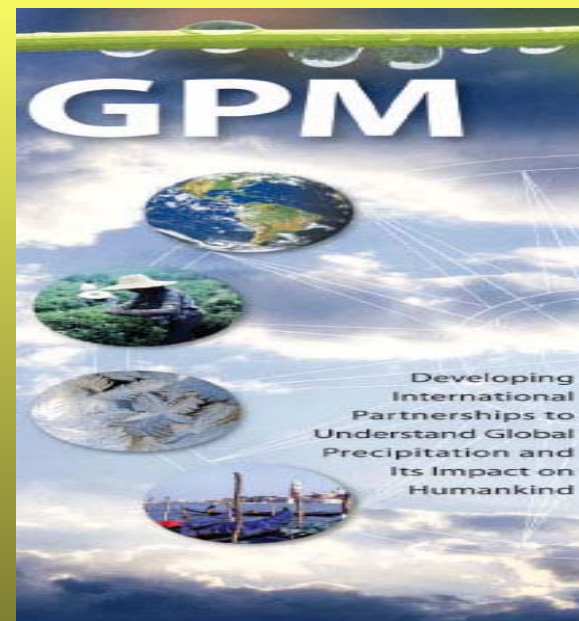
## Missions

### Geostationary Satellite

- Government Comms
- Tele-justice
- Tele-medicine
- Tele-education
- CNS/ATM

### Meteorological Payload on-board GEO satellite

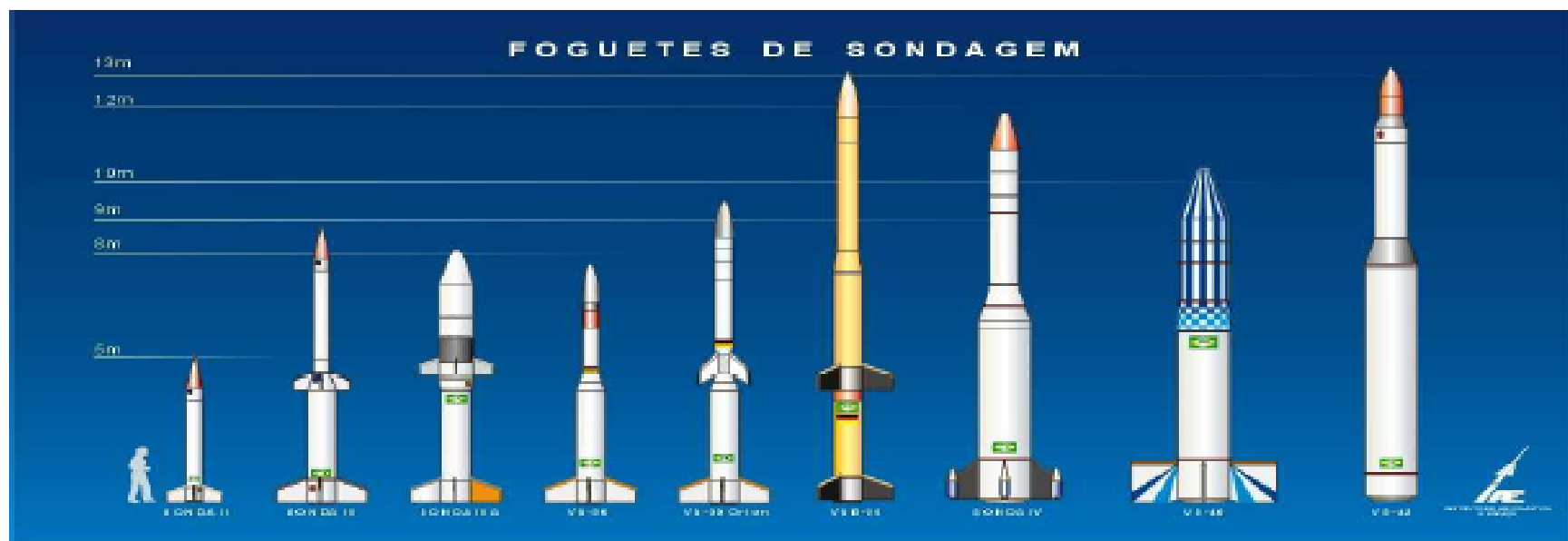
### Brazilian participation in GPM – Global Precipitation Measurement Program



# Access to Space

## Missions

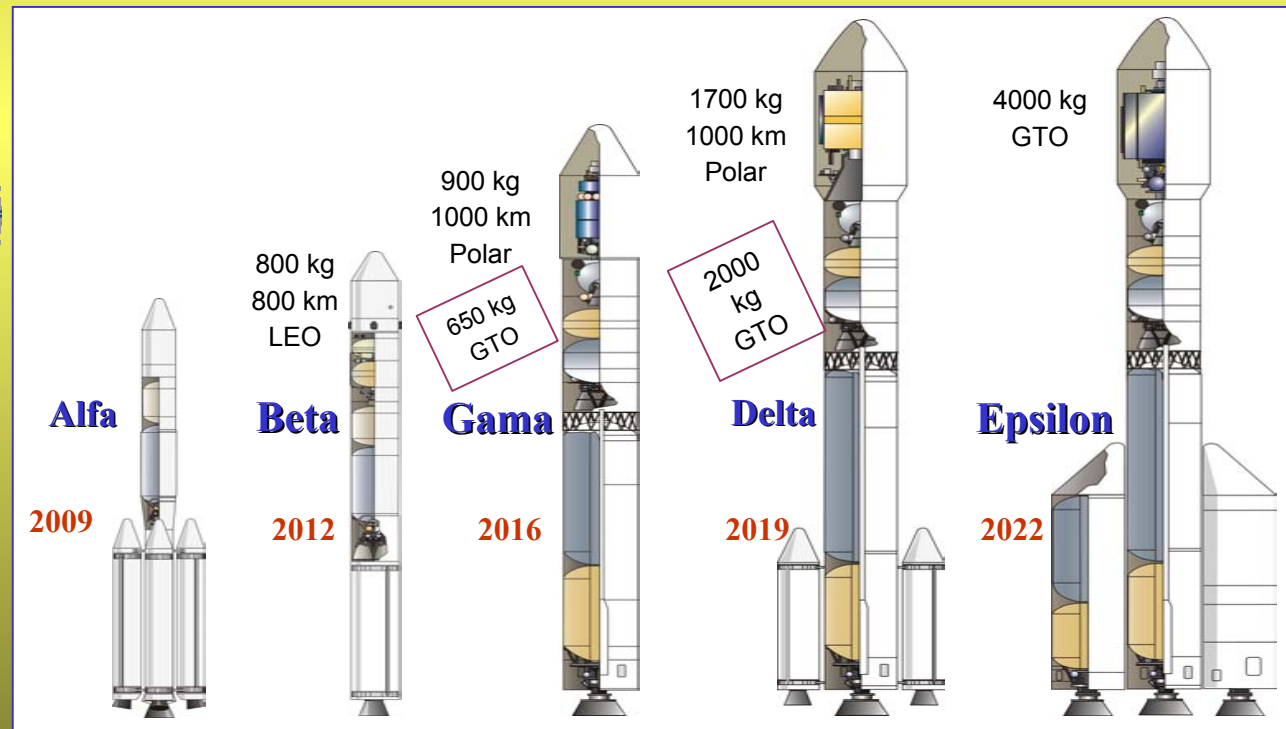
### Sounding Rockets



# Access to Space

## Missions

## Launchers





# Facilities

Support to Satellite  
Development and Operations

## Ground Control Center



# Facilities

Support to Satellite  
Development and Operations

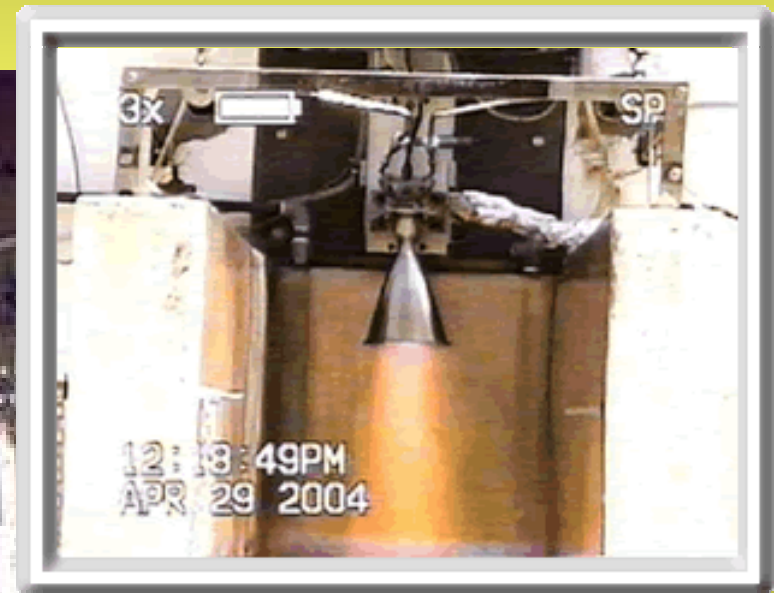
**Integration and Test Lab - LIT**



# Facilities

Support to Satellite  
Development and Operations

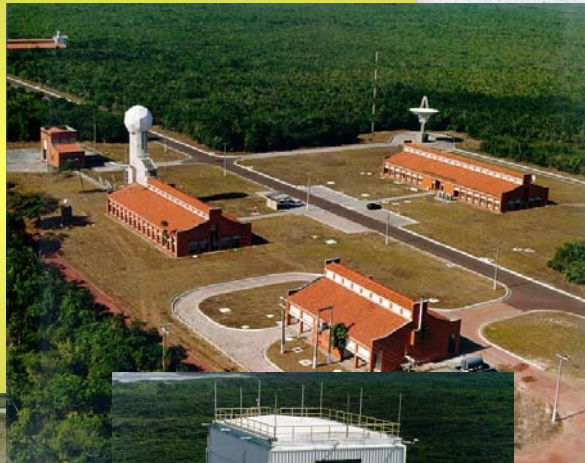
## Propulsion and Combustion Lab



# Facilities

Support to Launch Vehicles  
Development and Operations

## Alcantara Launch Complex



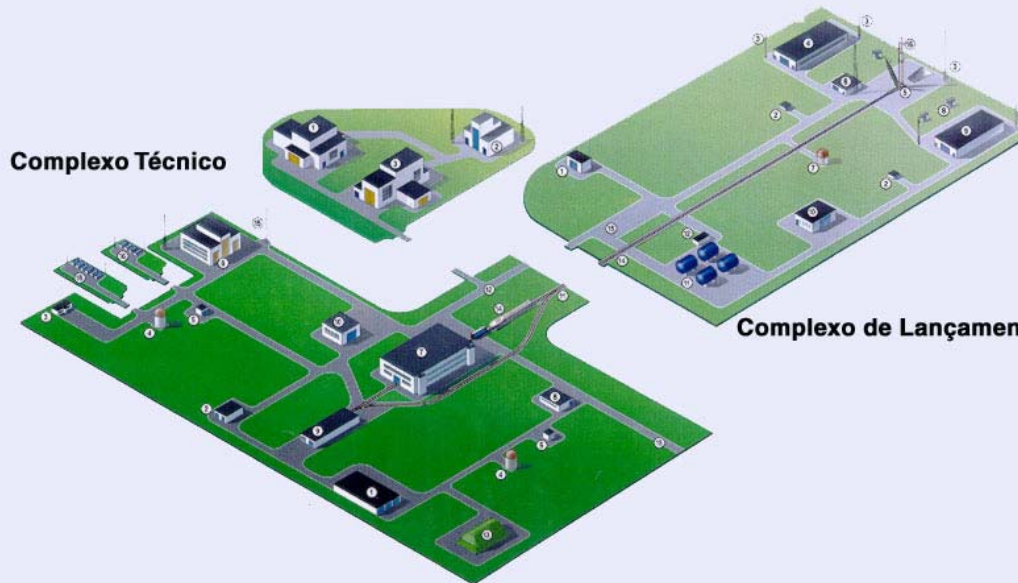
# Alcantara Launch Center



# Facilities

Support to Launch Vehicles  
Development and Operations

## Alcantara Launch Complex



# Research and Development

## Actions

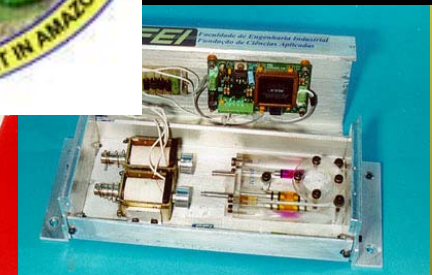
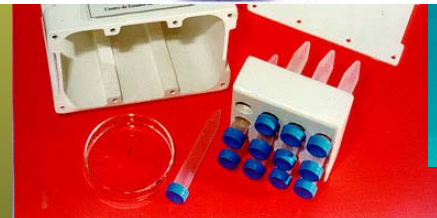
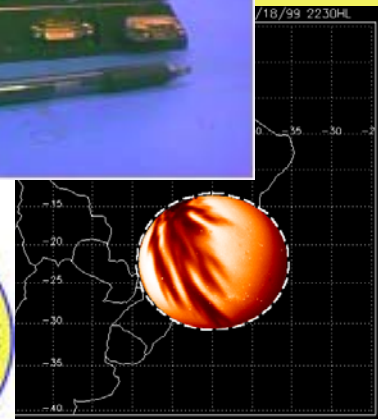
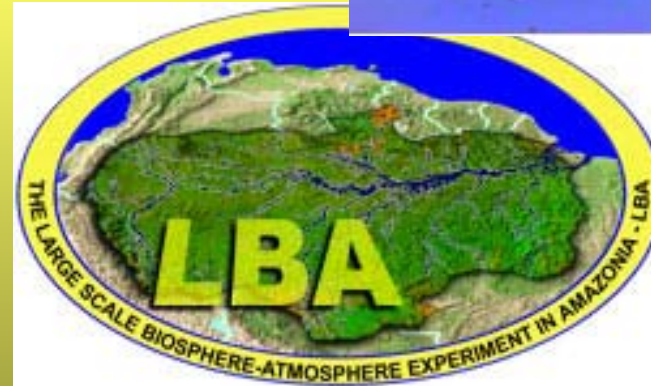
**Critical Technologies**

**Space Science**

**Global Changes**

**Microgravity**

**Uniespaço Program**



# Cross-Cutting Issues

## Actions

- **Standardization and Certification**
- **Education**







Thank you!