The Spanish Space Agency

Spain in Space
The Spanish Space Agency - A New Institutional Framework
• Established in 2023 to coordinate all space activities in Spain.

• Dual Space Agency within two Ministries:
  o Min. of Science, Innovation & Universities
  o Min. of Defense.

• Involving all actors and users: industry, technology & research centers, universities, institutional users, general public, society.

• Own Space Budget ➔ Program funding and management.
Evolution of Space Governance

1. MINISTRIES

- Space Facilities & Assets
- Space RTD
- Space Programmes & Missions
- Public Funding
- Space Policy

→

n

1. MINISTRIES

- Space Facilities & Assets
- Space RTD
- Space Programmes & Missions
- Public Funding
- Space Policy

AEE
• Representation of Spain in space matters: EU, ESA, COPUOS, bilateral, multilateral relations, etc.

• Promotion of space industrial capabilities and infrastructures.

• Preparation and implementation of a National Space Strategy.

• Development of implementation plans, including a national space plan, according with the strategy and coherent with the needs of the users.

• Proposing of a Space Law.
AEE HQ Established in Seville

SEVILLE

10'

12'

AEE HQ

AGENCIA ESPACIAL ESPAÑOLA
Contributions to ESA Budget

PPGGE
The AEE represents Spain in the international arena:
- International and intergovernmental: EU, ESA
- Collaborates with Spanish Embassies, including representation to COPUOS
- Bilateral relations with other agencies
- Multilateral fora: Artemis accords, Latin America, etc.

One of the main goals of the AEE international relations is to promote the cooperation between Spanish industry and research institutions and international partners.

Bilateral Programs: set up in 2006 to promote Spanish participation in space missions.
Spain in Space
A Pioneer in Space Exploration

1960 Spain joins COPERS - Commission Préparatoire Européenne de Recherche Spatiale
1960 First space cooperation agreement between the U.S. and Spain
1960 NASA's first ground station in Maspalomas (Gran Canaria)
1962 Spain joins ESRO - European Space Research Organisation
1964/67 Three NASA ground stations come into operation: Robledo, Cebreros, Fresnedillas
1966 El Arenosillo Launch Range (>300 launches 1966-74)
1968/74 First National Space Program
1974 Launch of the first Spanish satellite (INTASAT)
1974 First launch of the INTA 300 sounding rocket (300 km and payload 30 kg)
1975 Spain one of the founding members of ESA
1978 ESA satellite tracking station in Villafranca del Castillo (Madrid)
Revenue > 1 B$

5th country in Europe

> 80% exports

Workforce > 5.900

All elements of space systems

The Spanish Space Sector
• Capability to develop all parts of a space mission.

• Leading space missions:
  o Acting as platform prime: CHEOPS, Copernicus-LSTM, Smile, Draco, PROBA-3, Ingenio.
  o Acting as prime for main instrument: SMOS, Arrakihs, FLEX, PAZ.

• European leaders in several areas: power conditioning and distribution, GNC, autonomous navigation, mission analysis, etc.
Spanish Systems in Mars Surface

High-Gain Antenna in NASA Mars rovers:
- Curiosity
- Perseverance

Weather Stations in NASA missions:
- REMS (Curiosity)
- TWINS (Insight)
- MEDA (Perseverance)
Spanish SST – A Success Story

• In less than a decade Spain has developed a fully-fledged SST system, top-rated in Europe.

• Includes radars, telescopes and Operations Center, maintaining own Spanish catalog.

• AEE is the Coordinator of EU-SST, Europe’s regional SST service provider.

• Spanish companies provide critical SST technology for all the main players in Europe.
ESA Science Missions led by Spain

CHEOPS
Search for Exoplanets

SMILE
Solar Wind & Magnetosphere

ARRAKIHS
Dark Matter
ESA Missions led by Spain

PROBA-3
Formation Flying

LEO PNT
Navigation

DRACO
Re-Entry Research
Atlantic Constellation

- Investment Volume by Spain: 40 M€
- Smallsat constellation in development in cooperation with other countries
- 8 satellites 30 kg (ES) / 5 payloads / 16+ satellites
Small Launchers

• Spanish industry is developing launcher solutions for small satellites.

• First European privately-developed launcher that succeeds in test launch.

• Development of disruptive technologies for advanced launchers.
Quantum Communications

- Satellite and Terrestrial Systems for Quantum Communications
- Investment Volume: 125 M€
- Currently in Tender process
- First Quantum Key Transmission (QKD) System from GEO orbit, more payload from LEO orbit
Spanish Astronauts

- Selected in the 2022 ESA Astronaut Campaign.
- Pablo Álvarez in Astronaut Corps
- Sara García as Astronaut Reserve
- Will fly in the second half of the decade
• AEE has high interest in promoting international cooperation projects.

• Spain can contribute elements (subsystem, instrument) or lead a small mission.

• Signing MoUs with other space agencies.

• Specific Bilateral Programs budget line to be included in first AEE budget.
Thank you!