

# THE EUROPEAN SPACE AGENCY AND EU POLICIES; LEGAL AND POLITICAL PERSPECTIVES OF THE PARTICIPATION OF GREECE

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# Introduction (1)

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This dissertation discusses:

- the general creation, structure and organization of the European Space Agency
- The cooperation of the Agency with the European Union and the challenges that present through this cooperation
- The participation of Greece in the ESA, as an example of the participation of small nations in the organization.

## Introduction (2)

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- In 1962, 6 European states created the European Launcher Development Organization (ELDO) based in Paris
- Also, 10 European nations came together and founded the European Space Research Organization (ESRO).
- In 30 May 1975, the European members of ESRO and ELDO, came together in Paris, at the “Convention for the Establishment of a European Space Agency”. The Convention entered into force in 30 October 1980
- ESA and the EU cooperate since 1993.

# Organization and Internal Structure of ESA :

## -Procedure of accession

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There are three (3) stages for a nation to become a member of ESA:

- Cooperation Agreement
- ECS states
- Associate or full member

## -Member States

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- ESA has 22 Member States that have signed and ratified the ESA Convention.
- 20 EU countries (Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden) plus the United Kingdom and Switzerland
- 7 EU countries that have ESA Cooperation Agreements (Bulgaria, Cyprus, Latvia, Lithuania, Slovakia, Malta and possibly soon Croatia)
- Canada and Slovenia as Associated States under a Cooperation Agreement

# -Organizational Structure

## DG

- the legal representative of the Agency
- Chief Executive Officer
- head of the administration
- implements initiatives
- enforce policies
- reports to the Council

Is aided by

- Science
- Administrative and clerical personnel
- Relevant staff

The DG's staff is referred to as the "Secretariat".

The DG is voted by the 2/3 of the council every 4 years

## Council

Is a governing body of ESA

Is managed by a Chairman who is in charge for a 2-year period and is composed by representatives of each Member State

Each Member of the Council has the right to one vote

Its aim is to decide on policies and activities of ESA

Meets every 2-3 years at ministerial level and quarterly at delegate level

## -Facilities

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- ESTEC (European Research and Technology Center in Noordwijk, the Netherlands)
- ESOC (The European Space Operations Center in Darmstadt, Germany)
- ESRIN (The ESA Center for Earth Observation in Frascati, Italy)
- EAC (The European Astronaut Center in Cologne, Germany)
- ESAC (The European Space Astronomy Center in Villanueva de la Canada, Spain)
- CSG (Guiana Space Center in Kourou, French Guiana)
- ESEC (The European Space Security and Education Center in Redu, Belgium)
- *ECSAT* (The European Center for Space Applications and Telecommunications in Harwell, Oxfordshire, UK.)

# Mandatory and Optional Activities

<b>Mandatory</b>	<b>Optional</b>
The Technology Development Program	Technology
The General Study Program	Navigation
The Science Core Technology Program	Space Situational Awareness
The European Component Initiative	Launchers
	Human Spaceflight Exploration
	Earth Observation
	Telecommunications

# ESA'S Industrial Policy

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ESA reviews the industrial potential and industrial structure of the member states in relation to the Agency's activities. In particular:

- the industrial groupings and general structure of industry,
- the level of specialization that is needed in industry and the methods that are used,
- the application of national industrial policies,
- communication with any other industrial policies of other international bodies
- the connection between industrial production capabilities and potential markets
- the creation of contracts with said industry

# The Geopolitical Return Principle

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- A member state's total percentage of contributions and its percentage share of the total of contracts appointed between all the member states is a member state's overall return coefficient
- In order to calculate the return coefficients, there are applied weighting factors to the value of the contracts regarding their technological interest
- ESA distributes contracts when all nations have an overall return coefficient of 1

# National Audits

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ESA's criteria in national audits:

- Location of the company's registered office
- Research and decision making centers
- Location in which the project will be carried out

# ESA Business Applications

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Businesses from any sector that are interested in using space applications such as

- satellite telecommunications and navigation,
- earth observation,
- space weather,
- technologies,

can be funded by ESA's Business Applications to design new commercial projects and services. They can apply all year long to a **thematic opportunity** or submit an **open application**

# ESA's Programs

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- The Copernicus Program
- ExoMars 2016-2022
- Cosmic Vision
- FAST20XX
- Horizon 2000
- Horizon 2020
- Living Planet
- Galileo
- Aurora

# Cooperation with other Space Agencies

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- NASA (National Aeronautics and Space Administration)
- Russian Federal Space Agency
- JAXA (Japan Aerospace Exploration Agency)
- CSA (Canadian Space Agency)

# ESA and the EU Timeline (1)

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*1961*  
COPERS

*1962*  
ELDO, ESRO

*1966*  
European Space  
Conference

*1975*  
ESA

*1980*  
ESA Convention

*1993*  
Advisory ESA-EU  
group

*1994*  
GNSS, ESC

*1996*  
Further from RND

*1998*  
EGNOS, GMES

*1999*  
Galileo

## ESA and the EU Timeline (2)

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**2000**  
JTF

**2003**  
Green & White  
Papers

**2004**  
Framework  
Agreement, SC, GSA

**2007**  
ESP

**2009**  
Lisbon Treaty

**2011**  
European SSA

**2012**  
EU Parliament &  
ESA

**2014**  
Financial Framework  
2014-2020, GMES-  
Copernicus

**2016**  
2 Resolutions, Space  
4.0

**2019**  
Space19+

# Challenges (1)

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- ESA is an intergovernmental organization
- EU is a supranational one
- Different membership
- Different decision- making procedures
- Different budgetary decisions
- Different voting methods

## Challenges (2)

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- Big programs (e.g. Galileo) have many members involved with different opinions
- Unsuccessful renewal of the 2004 Framework Agreement
- 2012 was Space Council's final meeting
- Joint Secretariat is not active
- 2016's joint Statement had no outcome
- Overlapping responsibilities regarding security and policy coordination issues

## Challenges (3)

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- ESA's Geopolitical Return Policy
- Canada, Norway and Switzerland have disproportionate leverage
- ESA's lack of a formal coordination mechanism to maintain that ESA initiatives are consistent with EU policies
- ESA's lack of political accountability
- European space sector fragmentation
- Lack of clear European space representation

# Pros of ESA-EU Cooperation

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- Continental unity for Europe
- Diverse environment
- More members
- Flexibility in participation

# Suggestions

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- EU suggested unanimous vote to resolve the disproportionate leverage
- ESA suggested in 2016 to assume the role of the permanent observer to the COPUOS so as to resolve the issue of European space representation
- EU suggested that ESA creates an internal formal coordinating mechanism in order to maintain consistency between ESA initiatives and EU policies
- Revisiting of the terms of their cooperation was suggested many times by both sides

# Greece in the ESA

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- In 1994 Greece signed the first Cooperation Agreement with the ESA
- On January 17 2001 in Athens, Greece and ESA signed a framework cooperation agreement. Through this agreement Greece participated in 3 of ESA's optional programs: ARTES, Copernicus and General Support Technology Program
- On January 18 2005 Greece signed the ESA Convention and became a full member of the Agency

# Greek participation in ESA Programs

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- ARTES (telecommunications program)
- Copernicus (environment monitoring program)
- Space19+ (satellite technologies and applications)
- Fiber in the sky (high-speed data transfer through satellites)

# Conclusions (1)

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- In 1975 ESA was created
- In 1980 the Convention for the Establishment of a European Space Agency came into force
- In 1993 ESA and the EU form their first advisory group for space matters
- In 2004 ESA and the EU signed the Framework Agreement in an effort to jointly create and run space programs
- This cooperation often faces issues due to the morphological differences of the two organizations and the overlapping of authorities in security and policy implementation

## Conclusions (2)

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- Constant efforts to improve the cooperation are important from both sides
- The 2004 Framework Agreement needs to be revisited and updated in order to cover any remaining differences between the organizations

Also,

- Greece joins the ESA as a full member in 2005
- The example of Greece is used as a representation of the small nations that take part in the ESA and the extent of their contributions in the European and international space sector

# Indicative Bibliography

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*Thank you*

