

# International Cooperation and Space Activities: ESA perspective

Silke Bode, Legal Officer, ESA Legal Services Department

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# 1. Introduction

- Space is a driver of cooperation – space missions require significant economic and technological resources and are often impossible to achieve without cooperation
- Cooperation arises from a common interest
- Space as a driver of cooperation even in times of conflict



# 55 years of European cooperation in space

- In 1964, Conventions of the precursors of ESA (ESRO & ELDO) entered into force.
- ESA Convention signed on 30 May 1975 by 11 Signatory States





# ESA as mechanism and actor of international cooperation

Article II of the ESA Convention:

*"The purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications"*



ESA is a mechanism for international space cooperation and an actor of international space cooperation.

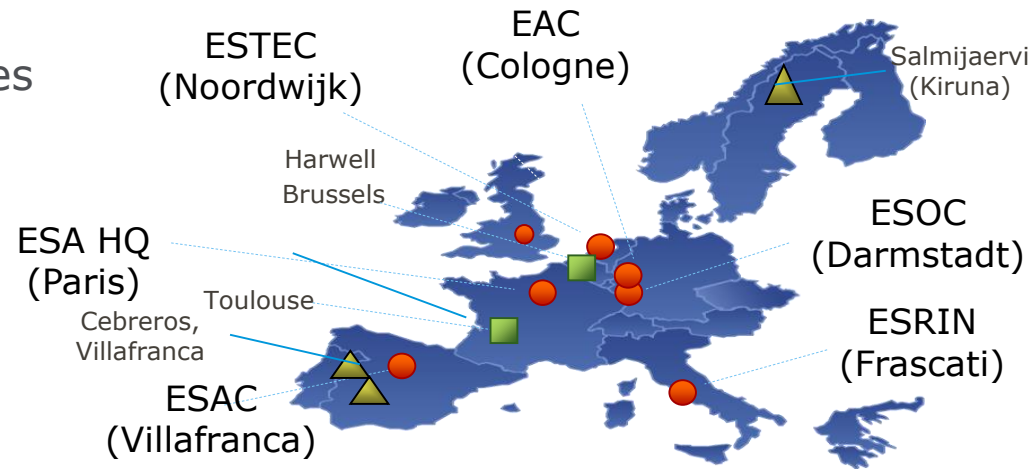


## 2. ESA as a mechanism for international cooperation



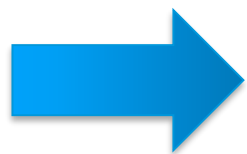
- International, intergovernmental organisation of 22 Member States
- 7 sites across Europe and a space port in French Guyana
- 2200 staff, 5.3 billion € budget
- Over 80 satellites, over 220 launches

- Establishments & Centres
- Offices
- ▲ ESA ground stations





The organs of ESA are the **Council** and the **Director General** assisted by a staff



## Director General

- chief executive officer and legal representative of ESA



## Council

- ESA's plenary organ
- Council at ministerial level
- Council at delegate level





- One of few space agencies in the world with programmes in all areas of space activities:

- **Space science**
- **Human spaceflight**
- **Exploration**
- **Earth observation**
- **Launchers**
- **Navigation**
- **Telecommunications**
- **Technology**
- **Operations**

**+60  
programmes  
in parallel**

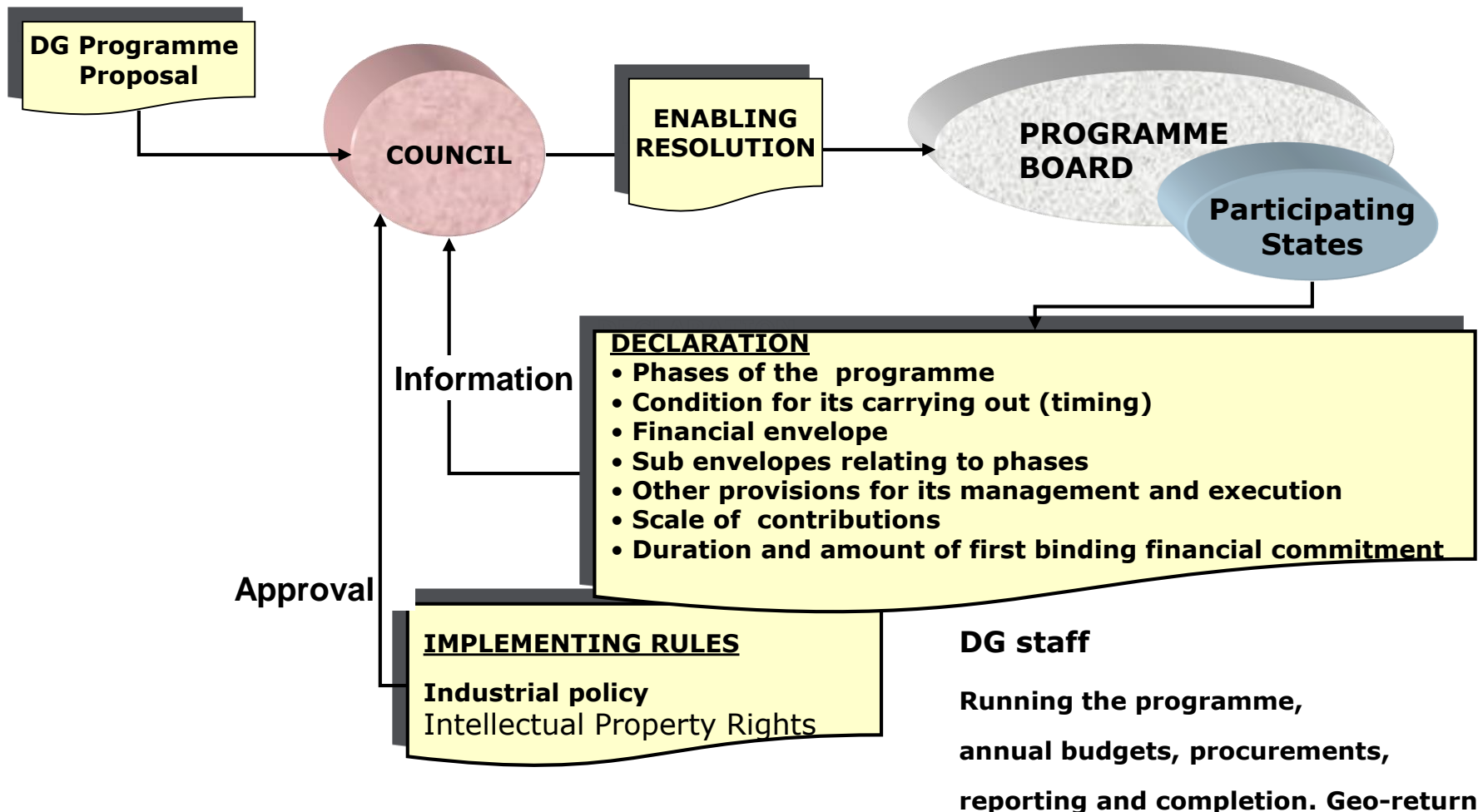




- Mandatory activities: defined activities to which all Member States are obliged to contribute
- Optional activities: decided by some or all Member States based on their interests
- “Operational activities”: provision of the Agency’s expertise, facilities, services and products to 3<sup>rd</sup> parties for their own requirements



# Steps to set up an ESA programme





### 3. ESA as an actor in international cooperation

#### Article XIV of the ESA Convention

*"The Agency may, upon decisions of the Council taken by unanimous votes of all Member States, cooperate with other international organisations [...] and with governments and institutions of non-Member States, and may conclude agreements with them to this effect"*

*"such cooperation may take the form of participation by non-member States or international organisations in one or more programmes..."*

*"such cooperation may also take the form of according associate membership to non-member States"*



- ~ 400 international agreements with States, IGOs and others
  - European Union as main partner
  - Long-standing cooperation with USA, Russia, Japan, India, China, Canada
  - South American, African, Asian-Pacific states





# Cooperation with European Union (EU)

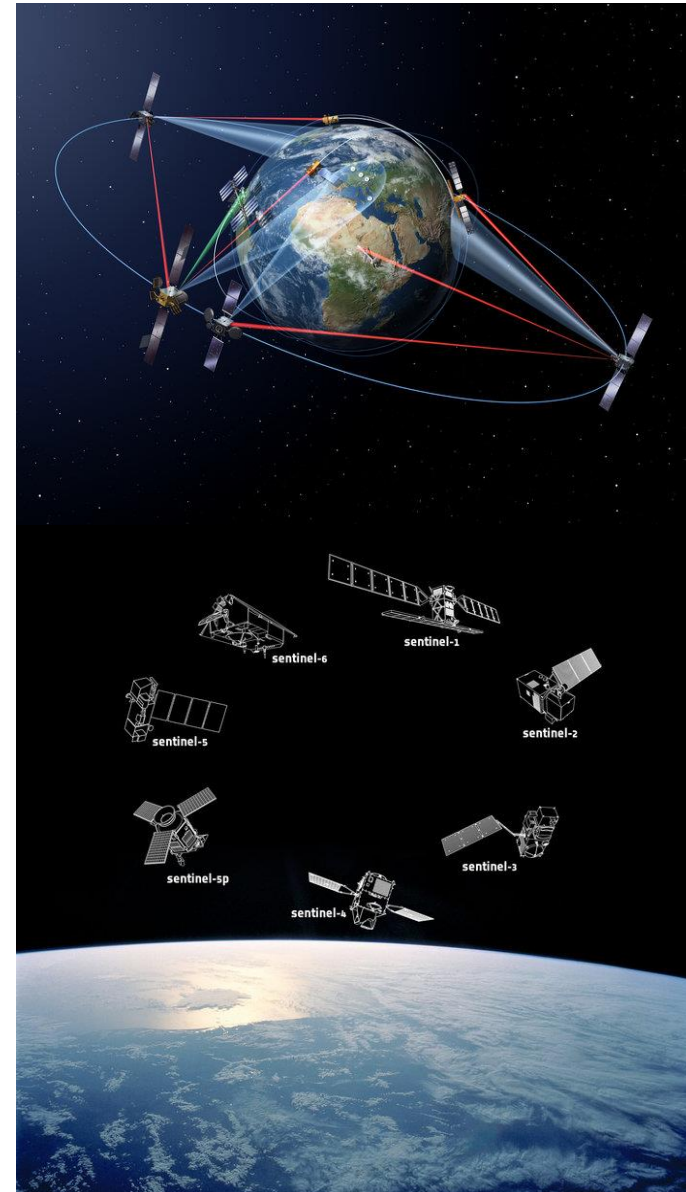


The European Union (EU) is an important partner for ESA.

The legal basis for the EU/ESA cooperation is provided by a Framework Agreement that entered into force in May 2004.

Because of its implementation of the EU's flagship programmes, Galileo (2003) and Copernicus/GMES (2009), and its support of the EU's research and development programme, Horizon 2020, some 20% of the funds managed by ESA in the recent past have originated from the EU budget.

ESA maintains a liaison office in Brussels to facilitate relations with the European institutions.





- close cooperation since 1979, renewed for the 5<sup>th</sup> time in 2010 until 2020
- may participate in mandatory activities and optional programmes
- may participate in the Agency's delegate bodies and has the right to vote on questions relating to programmes and activities in which it participates.





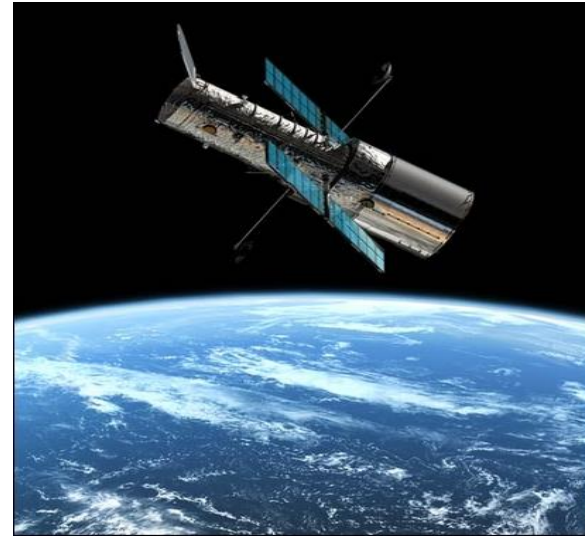
- To help European countries, especially those who joined the EU after 2004, to join ESA.
- First step: Cooperation Agreement (currently Malta and Croatia)
- Second Step: European Cooperating State (ECS) Agreement, allows a country to participate in certain ESA activities and procurement; complemented by a PECS Charter, a five-years plan, defining a number of activities, mostly in R&D.
- At the end of the five-year period ESA will assess the progress made and decide whether the country is ready to become a full member of ESA.
- Since 2003, ESA has signed 11 ECS agreements with 11 countries: Hungary, Czech Republic, Romania, Poland, Hungary, Estonia, Slovenia, Latvia, Lithuania, Slovakia, Bulgaria, Cyprus. The Czech Republic, Romania, Poland, Hungary and Estonia are now among the 22 ESA Member States. Slovenia is an Associated Member State.







**Bepicolombo**



**Hubble Space Telescope**

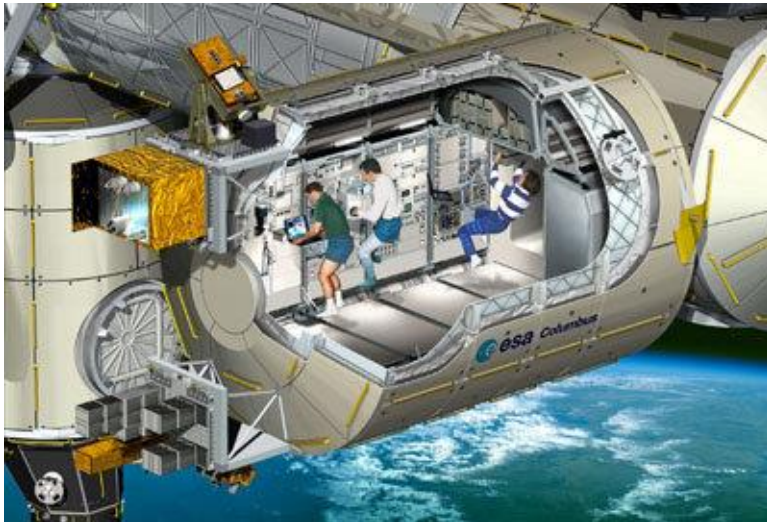




# International Space Station

The ISS unites USA, Russia, Japan, Canada and Europe in one of the largest partnerships in the history of science. Crews of six astronauts conduct research into life and physical sciences and applications, and prepare for future human exploration missions.

Europe's key contribution is the Columbus laboratory. It provides a substantial part of the ISS's research capability, specialising in fluid physics, materials science and life sciences. European industry has also provided almost 50% of the pressurised part of the ISS, including Cupola, Node-2 and Node-3.





# Examples of international cooperation: Estrack

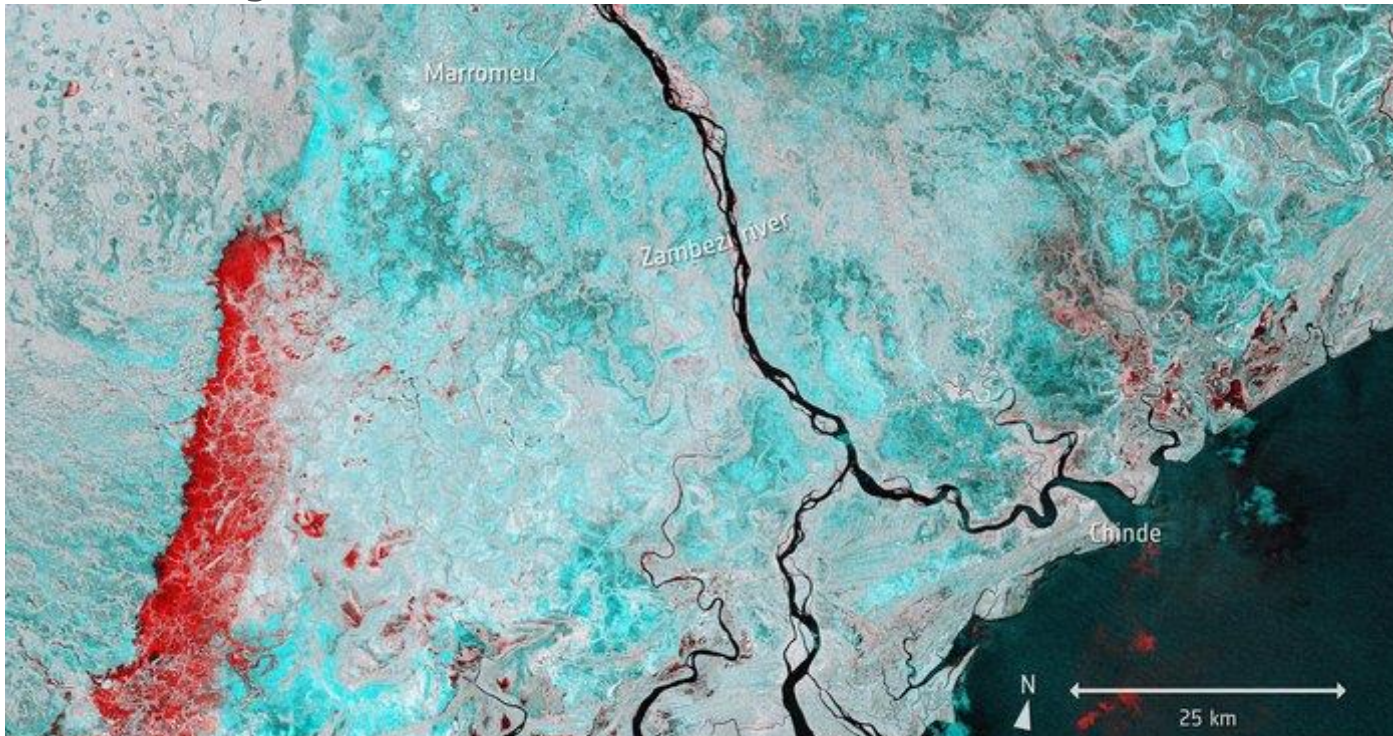




- Estrack is a global system of ground stations providing links between satellites in orbit and the European Space Operations Centre, Darmstadt, Germany.
- The core network comprises 10 stations in seven countries.
- ESA shares Estrack capacity with other space agencies, who in turn support ESA missions.
- This global cooperation allows all agencies to make use of a wide number of ground stations in geographically advantageous locations, maximising efficiency and boosting scientific returns for all.



- Founded by ESA and CNES 1999.
- 17 members
- Joint effort between member space agencies to place their satellite resources at the disposal of rescue authorities in the event of disasters of both human or natural origin



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## Formal and informal means of collaboration

ESA Council  
Agreements

workshops, conferences, informal exchanges  
visits....

### Practical steps for setting up an Agreement

- Common interest (e.g. political, scientific, technical)
- First contacts and discussions (on political, technical, scientific level, meetings, visits)
- Drafting and negotiation of the appropriate legal instrument (content of the cooperation, financial obligations, IPRs, privileges and immunities, arbitration....)
- Submission of the draft agreement to ESA Council for approval (unanimity)
- Signature of the agreement (sometimes during a ceremony)
- Implementation of the agreement (e.g. by project teams on both sides)



# Skills and competences required

- Language skills
- Intercultural skills
- Interdisciplinary skills
- Political sensibility, diplomatic skills
- Communication skills



# Thank you for your attention!

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