

The background is a dark blue space-themed image. It features a central globe with white orbital lines. Several satellites are depicted: one in the top left, one in the bottom right, and a large one in the center. There are also icons representing ground stations (parabolic dish), an airplane, a city skyline, and a person, each enclosed in a grid and accompanied by a shield with a padlock, symbolizing security and safety.

## Space Systems for Safety and Security (4S)

# Opportunities for next end-to-end Space Systems for Safety and Security (4S) missions

Christophe Allemand, Laurence Duquerroy

Webinar – 7 Nov 2024



## Before we start...

- Due to the number of attendees, your microphones and cameras have been muted/switched off
- You can use the conversation function anytime to submit your questions. They will be addressed during the Q&A at the end of the webinar.





- ❑ Welcome & Introduction
- ❑ ARTES 4.0 **Space Systems for Safety and Security (4S)** programme objectives for CM25
- ❑ 4S funding opportunities as preparatory actions
  - ❑ Objectives and Scope
  - ❑ Submission & implementation process
- ❑ Q&A session





Christophe Allemand

Head of Space Systems for  
Safety and Security  
(4S) Strategic Programme Line



Laurence Duquerroy

4S Implementation  
manager

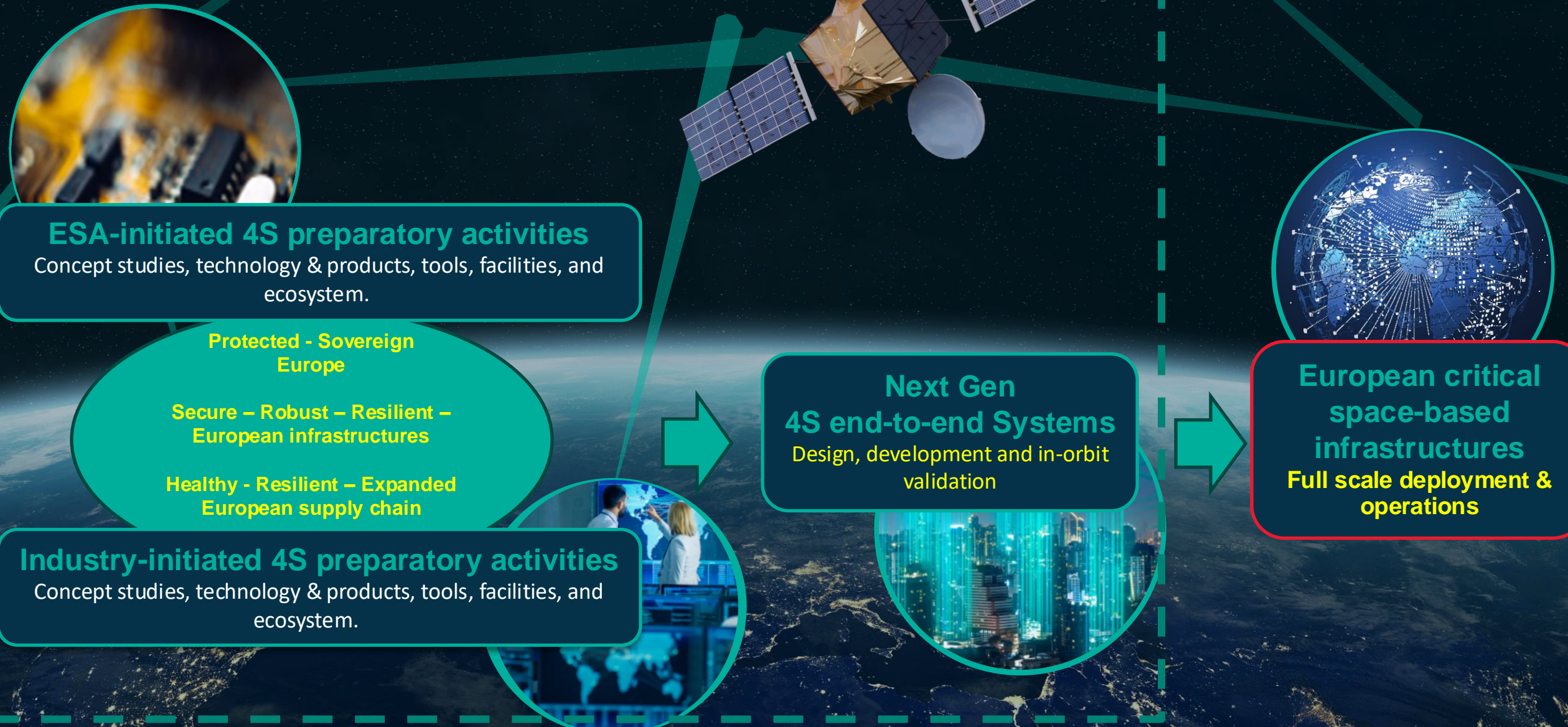


# ARTES 4.0 Space Systems for Safety and Security (4S) Strategic Programme Line

## Objectives for ESA Council at Ministerial level 2025 (CM25)

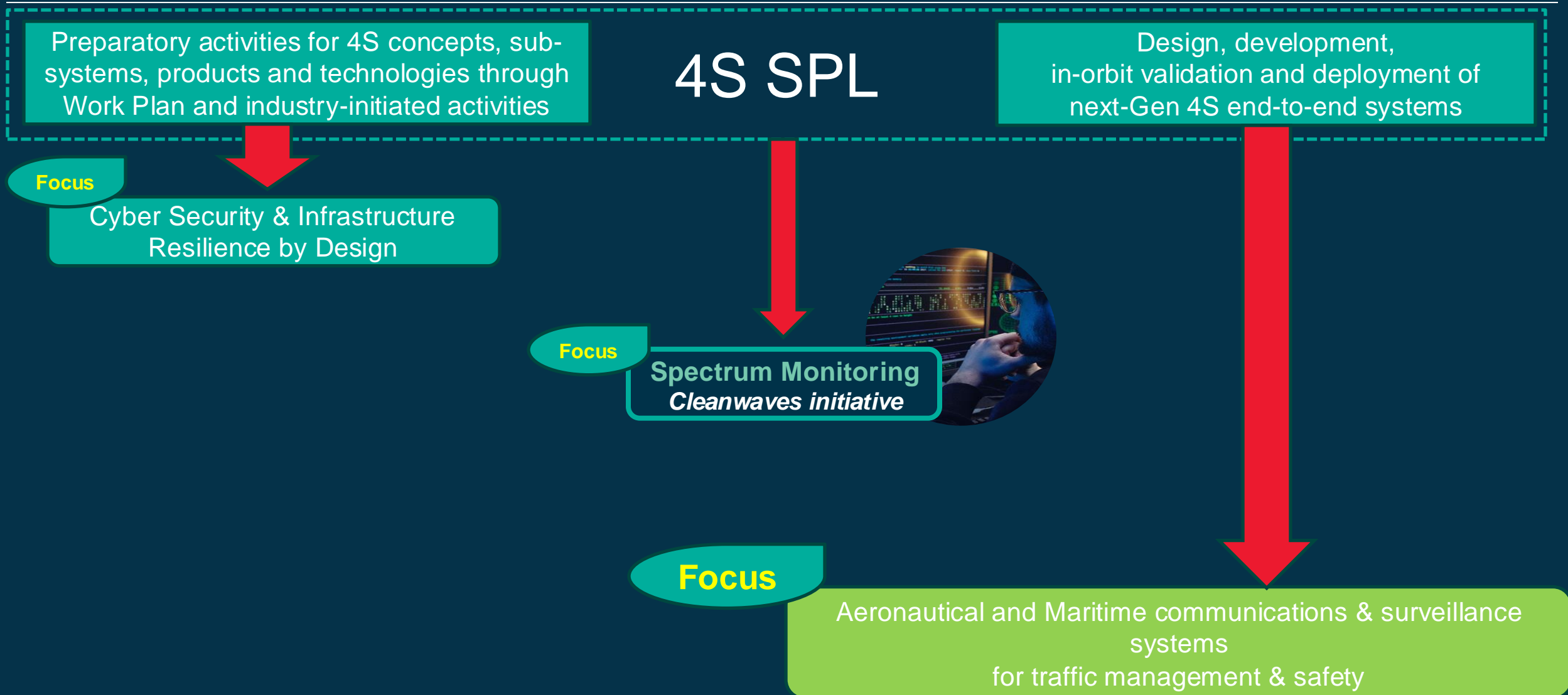


# 4S SPL – Scope and Perimeter





# 4S SPL @CM25 : proposal and focus





1. **Confirmed needs – Solid European ecosystem – Mature technology - ....**
2. **ESA 4S positioned to support all initiatives in a timely manner**
  - Preparatory tool in place - 4S Calls for proposals : for consolidation works until CM25
  - CM25 – ability to co-fund development/validation phase by 2028
3. **In addition, EC : IRIS2 Programme – EU great interest for sovereign and secure infrastructures responding to EU needs**





# Step 1 – Now Preparatory activities

**4S funding opportunity for preparatory actions in the domain of  
Aeronautical and Maritime communications & surveillance for  
traffic management & safety**

**Scope and objectives**



- Prepare the development of future **4S end-to-end satcom infrastructures and services ( inc. RF signals detection/characterisation)** by private actors from ESA Member States
- **Missions / systems and scope of activities are to be proposed by Industrial actors** in response to their own priorities and business strategy.
- Targeting satcom infrastructures to be **privately owned, deployed and operated.**
- Addressing needs of potential **maritime and aeronautical customers from European and/or non- European institutions, public regulated sectors for traffic management, surveillance and safety**
- Expected outcome is the **consolidation and maturation** of the proposed **missions and underlying infrastructure** (mission and system requirements , system/subsystem baseline consolidation, techno roadmap, development/deployment plan inc. financial and schedule elements, technical risks mitigation, etc).
- Instrumental in preparing proposals for the following development steps (B2/C/D phase), to be assessed by ESA Member States for the **next ESA Ministerial at Council Level in Nov 2025.**

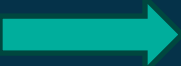


# Two open 4S Calls for proposals



**SUPPORT TO PRIVATE INITIATIVES FOR END-TO-END  
SATCOM SOLUTIONS SERVING APPLICATIONS WITH  
SECURITY, SAFETY, AND SOVEREIGNTY  
REQUIREMENTS**

**TECHNOLOGIES & PRODUCTS FOR SECURE AND  
RESILIENT SATELLITE COMMUNICATIONS**



[Funding Opportunity: Support to Private Initiatives for End-to-End Satcom Solutions with Security, Safety and/or Sovereignty Requirements | ESA CSC](#)



## SUPPORT TO PRIVATE INITIATIVES FOR END-TO-END SATCOM SOLUTIONS SERVING APPLICATIONS WITH SECURITY, SAFETY, AND/OR SOVEREIGNTY REQUIREMENTS



- ✓ Industry initiated proposals for **system studies** aimed at consolidating end-to-end satellite communications **missions and system concepts**
  - ✓ programme of work and objectives are to be defined by industry with the support of ESA, based on proposed mission and system concept maturity and industry's business perspectives.
  - ✓ e.g. Phase 0, Phase A or/and B1 system study.
- ✓ Expected outcome of the activity: **mature technical and programmatic baseline** established, expected to be the **core of proposals for potential Phases B2/C/D**
  - ✓ Consolidated mission, system/subsystem requirements
  - ✓ Consolidated system architecture, mission, system elements, external interfaces, etc
  - ✓ Consolidated system development, procurement, deployment and business plans and related technology roadmap, inc. risks, costs, schedule, etc

Preparatory works also help consolidating a request for support to development steps (co-funded partnership project covering B2/C/D phase) by Q2 2025, in view of ESA Ministerial Conference end 2025



- ✓ Industry initiated proposals for **early development of technologies and products critical** for the development of infrastructures providing Aeronautical and Maritime satellite communication and surveillance services for traffic management & safety
- ✓ Encompassing **ground, space, user segment and/or system development activities**,
- ✓ Addressing any **ARTES development phases** (definition , technology, product, demonstration phases)



4S funding opportunity

Submission & Implementation



- Activities to be implemented in the frame of ARTES 4.0 'Technology and Product development activity for C&G, Optical and Quantum Communication – ScyLight, **Space Systems for Safety and Security (4S)** and 5G/6G and Sustainable Connectivity **Standard Call for Proposals**' (4-40017)
  - Tender action package available on [esa-star Publication](#)
- ✓ Based on a **non-competitive process**
  - Each proposal is to be **evaluated independently**, based on its own merit (direct negotiation).
  - ESA can place as **many contracts** as good proposals received if supported by their respective national delegations
- ✓ Only proposals from companies or organisations – be it as Prime or as Subcontractor – residing in ESA Member States participating in the ARTES 4.0 4S programme can be considered :

**Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxemburg, Netherlands, Norway, Poland, Portugal, Romania, Spain, Switzerland, United Kingdom and Canada.**



# Submission process : main steps

## ❑ 2 Steps: submission of an **Outline Proposal** followed by submission of a **Full Proposal**

- ❑ Outline Proposal templates are available at [Documents | ESA CSC](#) (use “Templates for Co-Funded Technology and Product Developments”).
- ❑ Outline Proposals shall be submitted to [ARTES-4S@esa.int](mailto:ARTES-4S@esa.int)
- ❑ In case of a positive assessment from ESA, the bidder is invited by ESA to submit **via esa-star** its Full Proposal along with the **Authorisation of Funding from the relevant National Delegation(s)**





- ✓ This initiative opened in **February 2024** for an **initial duration of one year**.
- ✓ Outline Proposals can be submitted **at any time**.
- ✓ Industry aiming at performing **preparatory work** for consolidating a **request** for additional support for design, development and in-orbit validation phase (**B2/C/D phases**) at the occasion of the **ESA Ministerial Conference 2025** are invited to submit their **outline proposals for preparatory activities as soon as possible**, aiming to **intermediary results before June 2025**.
- ✓ Industry may contact ESA (at [ARTES-4S@esa.int](mailto:ARTES-4S@esa.int)) for further information or questions all along the process



- ✓ Consortium technical and commercial experience in related system, technology, product and/or service development.
- ✓ Credibility of the technical solution and relevance wrt. 4S opportunity's scope and objectives, quality and completeness of programme of work.
- ✓ Credibility of the business case.
- ✓ Adequacy of deliverables, schedule and risks management.
- ✓ Adequacy of cost and funding, value for money.



- ✓ The maximum amount of co-funding will depend :
  - Activities phases
  - type of entities
  - relevant National Delegation's decision

Development Phase	ESA maximum Co-Funding Level		
	Non-SME	SME	Universities or Research Institutes with no commercial interest in the product or system
Definition Phase	50%	80%	50% [up to 30% Development Phase cost]
Technology Phase	75%	80%	100% [up to 30% Development Phase cost]
Product Phase	50%	80%	50% [up to 30% Development Phase cost]
Demonstration Phase	50%	80%	50% [up to 30% Development Phase cost]



**Formal authorisation from the National Delegation(s)** of the companies involved **is required** at the time of submission of the **Full Proposal**.

- Full Proposals submitted without the Authorisation of Funding will not be admitted for evaluation.

**Please initiate discussions with your National Delegate(s) as early as possible, preferably before Outline Proposal submission to ESA.**

Contacts of the National Delegations can be found at [National Delegations | ESA CSC](#)



# Q&A session

Please use the 'chat' function





THANK YOU FOR YOUR TIME AND INTEREST

Artes-4S@esa.int

SECURITY

AUTONOMY

RESILIENCE

4S

Space Systems  
for Safety and Security

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