



# Digital fika about cluster 4 – Destination 5

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2025-02-21

VINNOVA



Rymdstyrelsen  
Swedish National Space Agency

# Agenda

- Short introduction to destination 5
- Open Q&A
  - Raise your hand or write your question in the chat
- Slides will be shared on the homepage of this event
- You can ask your question in Swedish/English
- From 11.00 until latest 11.45

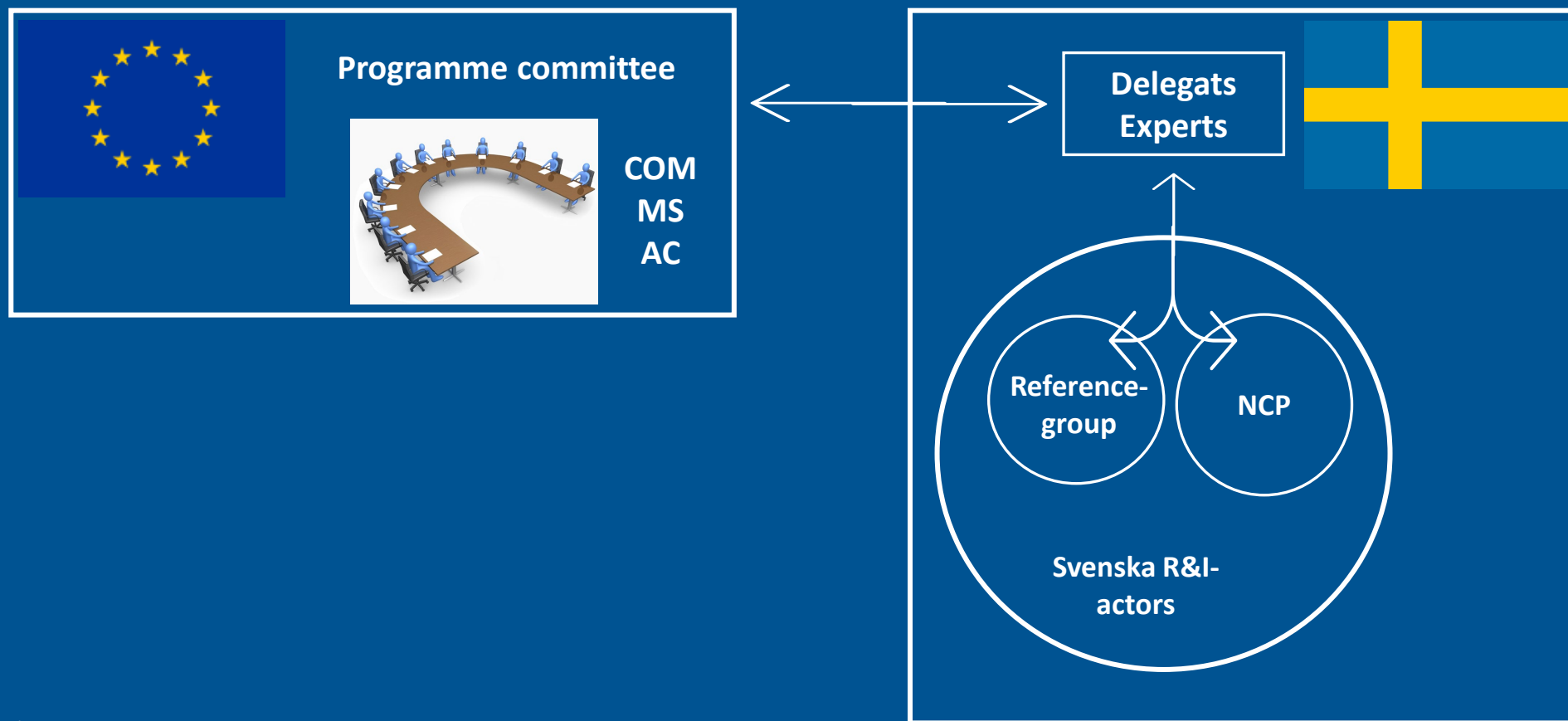
# Horizon Europe 2021-2027



## Cluster 4. Digital, Industry and Space

- **Destination 1:** Climate neutral, circular and digitised production
- **Destination 2:** A digitised, resource-efficient and resilient industry
- **Destination 3:** World leading data and computing technologies
- **Destination 4:** Digital and emerging technologies for competitiveness and fit for green deal
- **Destination 5:** Strategic autonomy in developing, deploying and using global space-based infrastructure, services, applications and data (highlighted with a red box)
- **Destination 6:** A human-centered and ethical development and industrial technologies

# Different roles in the system



# Work programme 2025

- Work programme 2025 is for one year
- Starting discussion on WP 2026-2027

**Q4 2024- Q1 2025**  
Stable drafts in PC

**April 2025**  
Adoption and  
publication

**Q1-2 2025**  
Discussions in PC

**Q3-4 2025?**  
Stable drafts in PC

**Q4 2025/Q1 2026?**  
Adoption and  
publication

# Strategic autonomy in developing, deploying and using global space-based infrastructure, services, applications and data

Strategical plan for Horizon Europe 2025-2027 lines out the impacts for cluster 4  
*e.g. 19. Achieving open strategic autonomy in global space-based infrastructures, services, applications and data*

## WP 2025 (DRAFT)

- Accessing Space
- Acting in Space (ISOS)
- Exploring in Space
- Using Space on Earth related to
  - Earth Observation
  - Telecommunication and Earth Observation
- Monitoring Space
- Boosting in Space through
  - non-dependence of the EU for key critical space technologies
  - international cooperation
  - training and education activities
  - support IOD/IOV opportunities
  - entrepreneurship





Horizon Europe,  
a programme of the  
European Union

#EUSpaceResearch

# IN-SPACE OPERATIONS AND SERVICES

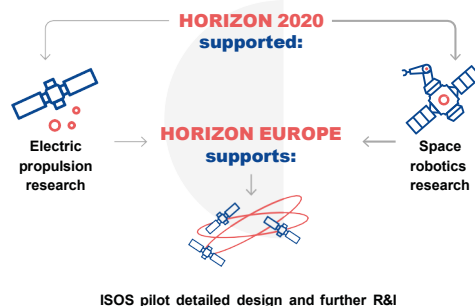
Introducing the future space ecosystem  
and our strategic capacity to  
**ACT IN SPACE**

In-Space Operations and Services (ISOS) will enhance the **adaptivity, resilience and sustainability of space assets**. It includes satellite servicing, assembly, manufacturing, recycling and logistics in space. The European Commission recognises the **strategic importance of ISOS**, in particular with regards to resilience and protection of the infrastructure in space and to commercialisation.

**ISOS aims at creating a new in-space economy and at fostering the protection of space assets, safeguarding the EU's freedom to act in space.**

## Towards a strategic flagship

In the current geopolitical context, it is essential to reduce technological dependencies in critical sectors. **Act in Space** is a key future strategic capacity for the EU as a space power. The EU is aligning objectives and acting towards a **new strategic flagship** for service provision to the European infrastructure in space that will also foster a new in-space economy. A pioneering pilot mission including technology and service demonstration is already under development. It will be the seed point for this future flagship. As global competition intensifies, it is necessary to maintain Europe's capabilities on par with competitors.



### Act in Space

This strategic capacity will bring the EU to the forefront of emerging service applications, including inspection, rendez-vous and docking, grasping, repair, reconfiguration, assembly and disassembly, manufacturing, resource extraction, reuse/recycling, removal and transport of objects in space, for satellites, platforms and larger structures.



### ISOS pilot mission

The EU ISOS mission shall demonstrate future applications and operational services.

## Game-changing innovations and enabling technologies

The paradigm shift towards adaptive space systems builds on **automation and robotics, AI, electric propulsion and modular and reconfigurable spacecraft concepts**. Together with other enabling technologies such as electric propulsion, they will change how space assets are designed, produced, tested, transported, and operated. Different means realised with AppStore-like approaches, will benefit the future space ecosystem and foster a **circular economy**.

## Synergies between civil and defence sector

Autonomous, robotic, real-time and onboard decision-making ISOS technologies illustrate their potential use for both **commercial and governmental purposes**. ISOS, leveraging in-space servicing, assembly, manufacturing, and transport technologies, will foster the reliability, safety, security, sustainability, and flexibility of space missions.

## Promoting rules and standardisation for an ISOS market

Appropriate regulation and standardisation are crucial for the growth of global ISOS. The European Commission works towards a comprehensive **regulatory framework** that provides the foundation for a new ecosystem, stimulating market growth and **fostering cooperation** between market players. Standardisation ensures interoperability of developed products and services.

## Introducing EU-funded space R&I projects

**BROSS IOD** seeks to enable the repair of satellites in orbit through autonomous robots, covering tasks like rendezvous, refueling, and component replacement to extend satellite lifespans.

**STARFAB** is developing an automated orbital warehouse unit that will enable the handling of goods in space, supporting sustainable on-orbit servicing, assembly and manufacturing (OSAM) business models.

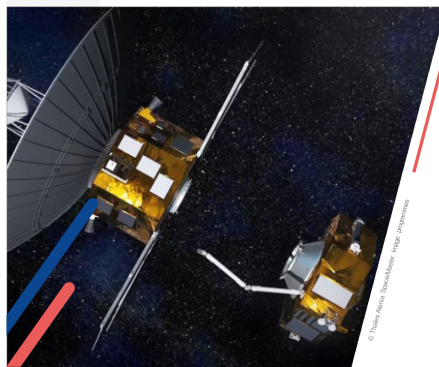
**EU-RISE** is analysing the market for in-space services to develop and refine European capabilities in space robotics, thereby establishing a significant OSAM capacity in Europe.

**SPACE USB** aims to develop a flexible, universal interface akin to USB for on-orbit servicing and assembly, focusing on compactness, docking symmetry, and interoperability with existing space connectors.



**Be part of the  
EU-funded space R&I**

Horizon Europe is the EU's key funding programme for research and innovation, with a budget of around €95 billion over 2021-2027, of which close to €1.6 billion is dedicated to space research. The space R&I is managed by the **Health and Digital Executive Agency (HaDEA)**, the **EU Agency for the Space Programme (EUSPA)**, the **European Space Agency (ESA)** and the **European Commission** itself. Most calls are also published on the **EC Funding and Tenders participant portal**.



#EUSpace



SERVICING  
COMPONENT

Providing commercial and  
governmental services

HOST  
COMPONENT

Providing supply for commercial and  
governmental services, hosting and  
distributing satApps, IOD/V  
experiments, propellant



Transporting cargo and supply to  
HOST, providing transport  
services to commercial and  
governmental spacecraft

LOGISTIC  
COMPONENT

Building an ecosystem of  
functional satellite upgrades and  
enhanced IOD/V opportunities

satAPPS  
COMPONENT



- [An overview of EU-funded R&I projects supporting The development of ISOS capabilities \(2024\)](#)
- [ISOS Pilot Mission – Youtube](#)

**PILOT MISSION:** IN-SPACE OPERATIONS & SERVICES INFRASTRUCTURE

**ACRONYM:** EU ISOS>I

**STRATEGIC OBJECTIVE:** Pre-cursor element for continuous provision of services to the EU and Member States' infrastructure in space.



# What is it also not ... bottom-up

- The other pillars in Horizon is though:
  - Pillar 1
    - MSCA, researcher mobility grants
    - ERC, principal investigator driven grants
  - Pillar 3
    - EIC, Small & medium sized businesses grants, loans and investments

# Types of projects

- **Research and innovation action (RIA)** that establishes new knowledge and/or explores a new or improved technology, product, process, service or solution.
- **Innovation action (IA)** that produces plans or designs for new or improved products, processes or services including prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.
- **Coordination and Support action (CSA)**

# Article 22

- 22.5
  - Legal entity established in ...
- 22.5
  - Ownership control assessment (OCA)
    - Assessment, first by EC, then by MS where legal entity resides
    - Template on EC funding portal for proposers to fill in and file with proposal
- 22.6
  - Exceptional case using eligibility criteria
  - High-risk suppliers
    - First case with 5G and the EU 5G toolbox  
(<https://ec.europa.eu/newsroom/dae/redirection/document/64577>)

# Relevant partnerships/initiatives

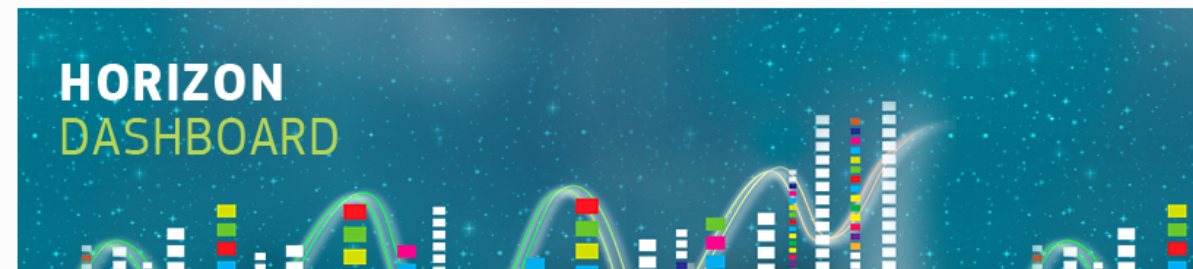
- Partnership
  - Space partnership "Globally competitive Space systems" (co-programmed COM-SPACE AISBL Association)
  - [GCSS Partnership - SPACE AISBL Association](#) funded by members of Eurospace, SME4Space, ESRE, EASTRO and EASN
  - SRIA: Digitalisation for commercial space solutions: Space partnership recommendations for Horizon Europe 2025-2027
- Relevant programmes
  - [European Union Agency for the Space Programme](#)
    - [The EU Space Programme | EU Agency for the Space Programme](#)
  - [Joint Research Centre \(JRC\)](#)
    - *"The Joint Research Centre (JRC) may participate as member of the consortium selected for funding."*



# Rymdteknik



- Sweden has a very capable space industry, especially relative to our size
- Key technologies
  - Onboard computers - Beyond Gravity
  - SpaceTurbines and nozzles for launchers - GKN
  - Microprocessors - Frontgrade Gaisler
  - Propulsion systems - OHB Sweden
  - Data management and control of satellites - OHB Sweden
  - Ground station services, sounding rockets and balloons - Swedish Space Corporation
  - Telecommunications equipment - Beyond Gravity



## Implementation figures

This section presents an overview on evaluated proposals (incl. success rates) and detailed statistics and data on funded projects and their participants in EU R&I programmes, broken down by countries and regions, research domain/programme part, organisation type, etc.

[R&I Proposals](#)
[R&I Projects](#)

## Country Profiles

Find out more about country-specific performance in EU R&I programmes: funding received, participations by region, top beneficiaries, collaboration with EU partners.

[R&I Country Profiles](#)

Country Summary fiches and success stories are also available on the [Europa website](#).

## Organisation Profile

Find out more about the performance of an organisation participating in EU R&I programmes: its projects, the amount of EU funds received, its collaborations.

[Organisation Profile](#)

## Project Keywords

Robotics and automatic control

Environmental engineering

Data mining

Cyber-physical systems

Numerical analysis, simulation, optimisation, modelling tools

Aeronautics

Materials engineering

Nano-technology

## Collaboration



# SME

- [Arctic Business - It all starts with one idea. Let's start a startup!](#)
- [CASSINI Business Accelerator](#)
- [ESA - Small and Medium Sized Enterprises](#)
- EIC Accelerator: [Innovative in-space servicing, operations, robotics & technologies for resilient EU space infra](#)



# Events

- [EUSPA Industry Days](#) 2025, 25-26 March 2025 in Prague
- **Cluster 4 Infoday from the commission:** The commission will organize an information meeting for Cluster 4 on 13-14 May: [online](#)
- Physical event to mobilize for WP2025 at Vinnova on 27th March 10.00-15.00  
[Horisont Europa- Vilka möjligheter erbjuder 2025? | Vinnova](#)
- **Newsletter:**
  - [Vinnovas Nyhetsbrev för Horisont](#)
  - [Kluster 4: Digitala frågor, industri och rymd](#)



# Planning grant

- Who can apply?
  - Swedish organisations - academic actors, research institutes, public sector, civil society or SMEs ... who are planning to design an application for a research and innovation project for an international call
- < 300 000 SEK Plan to apply for an international call
- < 500 000 SEK Plan to coordinate an international project
- The identified international call must be published at the time of the application
- [Planning grant for international proposal 2025 | Vinnova](#)
- [Informationsmöte om planeringsbidrag inför internationell ansökan | Vinnova](#) (recording)

