



# OSCARS

Open Science Clusters' Action  
for Research & Society

## Astro-CC Pilot

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### Implemented by



Funded by  
the European Union

## In response to the EU call on EOSC HORIZON-INFRA-2023-EOSC-01-01

- Building on the [Science Cluster approach](#)
- to ensure the **uptake of EOSC by research communities**

### Partners

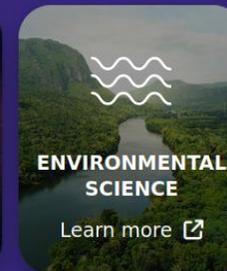
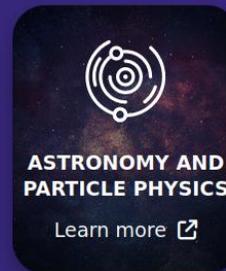
- Coordinator: **CNRS LAPP**
- **15** partners, **2-3** representing each Science Cluster community

### Budget and timeline

- Starting date: **1 January 2024**
- Duration: **4 ½ years**
- EC funding: **25 M€ (100%)**

## Research Infrastructures and Communities

The science clusters have grown out of five collaborative projects funded by the European Union in 2019 to link ESFRI and other world-class Research Infrastructures (RIs) to the European Open Science Cloud (EOSC). The services developed by the clusters and other outcomes of the projects are cornerstones of the emerging EOSC fabric and support both disciplinary communities and multidisciplinary initiatives with harmonised models for access to data, tools, workflows and training. Each cluster unites multiple RIs in their specific scientific domain.



<https://science-clusters.eu/>



**Science Clusters fostering the uptake of Open Science in Europe**



**OSCARS**

Open Science Clusters' Action  
for Research & Society

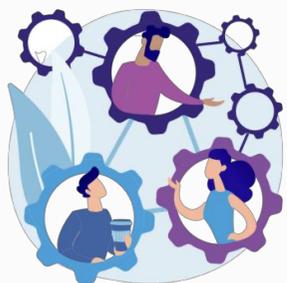


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the European Union

# Fostering the uptake of Open Science in Europe

Contribute to a  
Data space for science, research  
and innovation

Setup and  
implementation of  
**Clusters' Open  
Science Competence  
Centres (CLOCCs)**



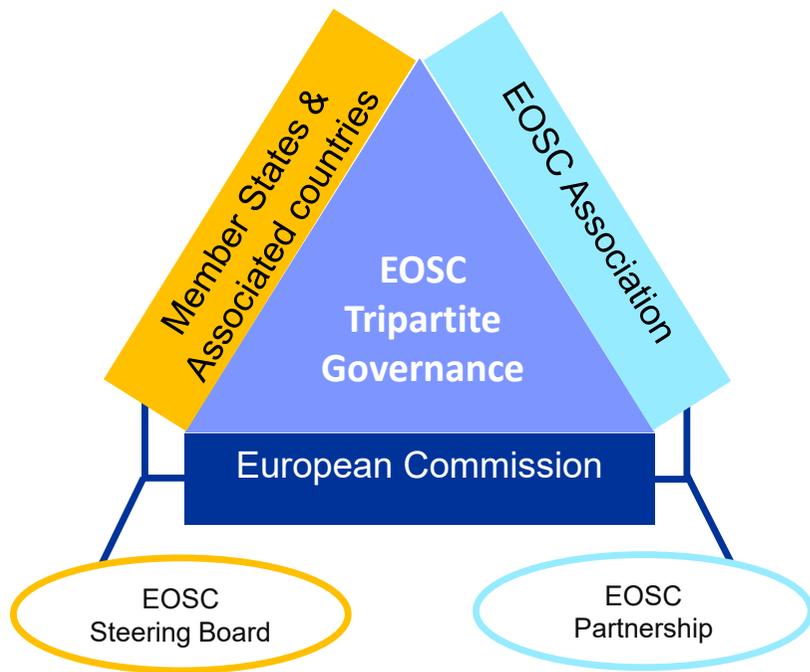
Identify and provide  
**Composable Open  
Data and  
Analysis Services  
(CODAS)**



## GOALS

Enhancing the **Open Science** adoption  
and supporting interdisciplinary **FAIR  
data services** and **practices**

# EOSC: a joint initiative at EU, national & community levels



- ✓ HE funding & in-kind additional activities EC EOSC A
- ✓ Strategic R&I Agenda EC EOSC A
- ✓ Community input for EOSC in Horizon Europe EOSC A
- ✓ Advice; national coordination Steering Board
- ✓ Position on EOSC in the future FP Steering Board
- ✓ Policy opinions Steering Board
- ✓ Financial estimates for EOSC post-27 EC Steering Board
- ✓ EOSC Open Science Observatory EC Steering Board
- ✓ Strategic Steer to Federation build-up EC Steering Board EOSC A
- ✓ EOSC Federation Handbook EC Steering Board EOSC A
- ✓ EOSC post-27 EC Steering Board EOSC A
- ✓ ...

Slide from:

3 November 2025  
EOSC Symposium

Jean-David Malo  
Director ERA & Innovation  
DG Research and Innovation

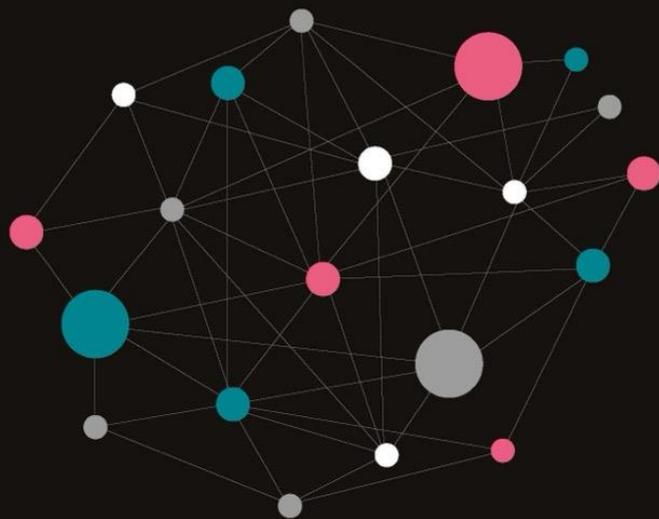




The vision for EOSC is to establish a system that enables researchers in Europe to store, share, process, analyse, and reuse FAIR research outputs—such as research data, publications, and software—across disciplines and borders.

- **System of systems approach:** Build on existing and planned infrastructures to create an interconnected ecosystem.
- **Inclusivity and accessibility:** Ensure low barriers to entry, ease of use, and broad participation.
- **Community-driven and participatory:** Engage the research community in co-creating and shaping the Federation.
- **Trust, security, and governance:** Establish clear rules, monitoring, and enforcement mechanisms to ensure a safe and reliable environment.
- **Flexibility and adaptability:** Allow for an evolutionary approach, adapting based on findings and lessons learned.
- **Autonomy and control:** Respect institutional autonomy while ensuring that data and service owners retain full control over shared resources and openness levels.
- **Broad engagement and transparency:** Keep all interested stakeholders informed and involved in key developments.

# EOSC Federation Handbook



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The EOSC Federation Handbook has been written by a group of **volunteers**, who have been working together since March 2024 with the support of the EOSC Focus project.

The Handbook provides an overview of the organisational and operational structure, and technical characteristics, of the EOSC Federation

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## EOSC Federation Handbook

March 27, 2025



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OSCARS

Astro-CC

***“Astronomy Open Science Competence Centre – pilot project”***

- OSCARS project Cascading Grant
- 2 yrs, April 2025 – March 2027
- University of Heidelberg, INAF Obs. Trieste, INTA Spain, Obs. Paris.
- 5 partners – 5 events

# □ Astro-CC and EOSC (European Open Science Cloud)

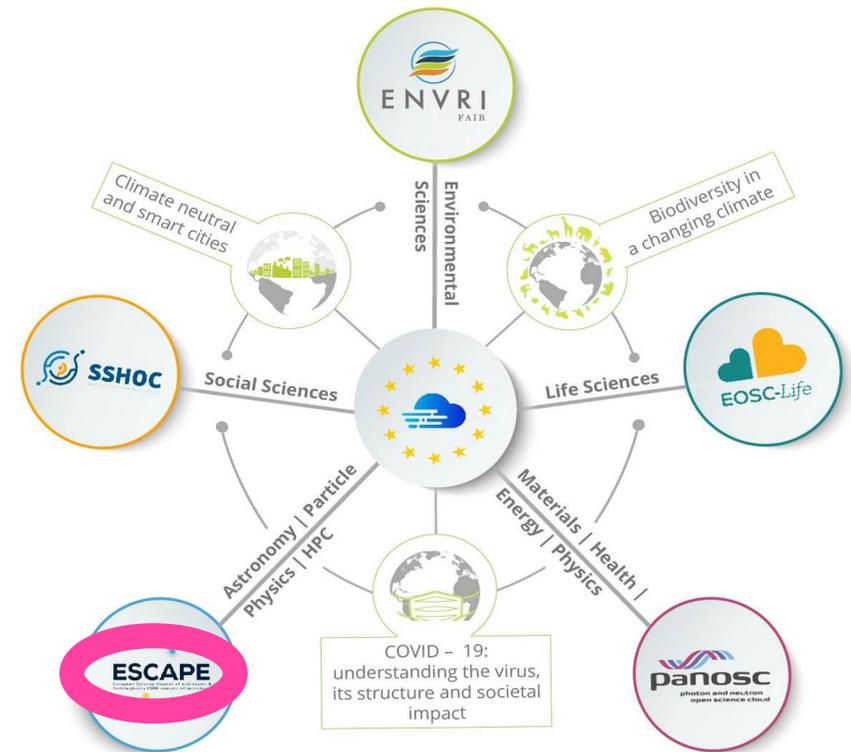
## Connected to Science Cluster: **ESCAPE**

(European Science Cluster of Astronomy & Particle physics  
ESFRI research infrastructure. 2019-2023)

## **Astro-CC Pilot project**

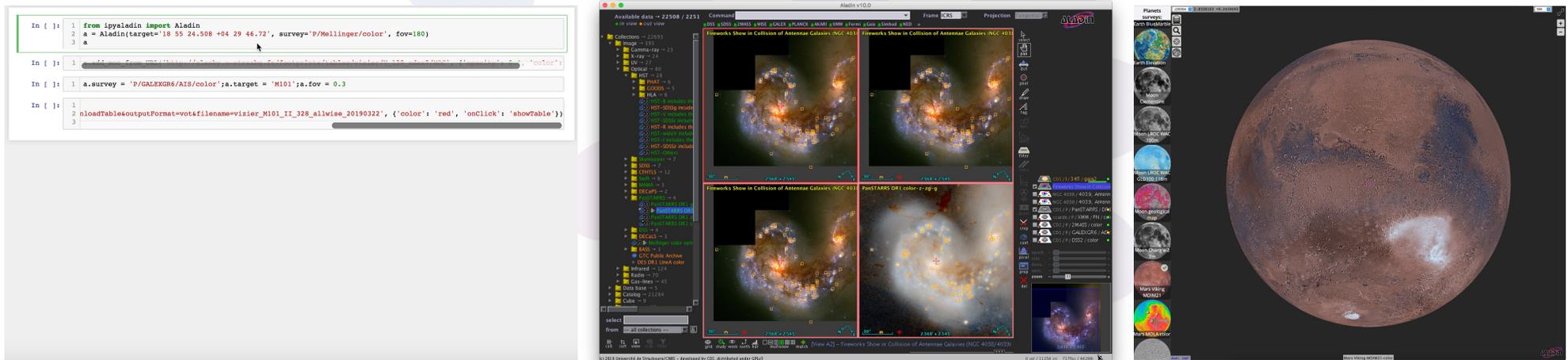
Lets us map out and test what is needed for an  
Astronomy Open Science Competence Centre in the  
context of EOSC.

→ A voice in EOSC development of EOSC.



## What problem(s) are you going to solve?

- Accelerating Open Science in Astronomy by use of standards.
- Widening the scope beyond the ESCAPE partners to include planetary science and space weather.



The image displays a workflow for astronomical data analysis and visualization. On the left, a Jupyter Notebook shows Python code using the `ipyaladin` library to query the Aladin database. The code includes:

```
In [ ]: 1 from ipyaladin import Aladin
2 a = Aladin(target='18 55 24.508 +04 29 46.72', survey='P/Mellinger/color', fov=180)
3 a
In [ ]: 1 a.survey = 'P/GALEXG6/AIS/color'; a.target = 'M101'; a.fov = 0.3
In [ ]: 1 nloadTablesOutputFormat=vot&filename=vizier_M101_I1_328_allwise_20190322', {'color': 'red', 'onClick': 'showTable'})
```

The central window shows the Aladin v10.0 interface with a multi-panel view of the Antennae Galaxies (NGC 4038). The interface includes a left-hand sidebar with a hierarchical tree of data collections, a central visualization area with four panels showing different data layers, and a right-hand sidebar with a list of available surveys and filters. The bottom right corner shows a large, detailed image of the planet Mars.

## What have you done to solve the problem?

- Organised Astronomy Open Science “**Competence Centre events**”

**2 of the planned events have been successfully held:**

- **Technology Forum 1** (*Trieste, October 2025*): <https://indico.in2p3.fr/event/36318/>  
30 participants
- **Scientific training event 1** (*Madrid, Dec 2025*): <https://indico.in2p3.fr/event/36738/>  
48 participants

**This event:**

**Data Provider Forum** (*Heidelberg, March 2026*): <https://indico.in2p3.fr/event/37439/>

**2 up-coming events:**

- **Scientific Training event 2** (*Strasbourg, Sept 29 – Oct 01, 2026 – soon to be announced*)
- **Technology Forum 2** (*Paris, ~October 2026*):

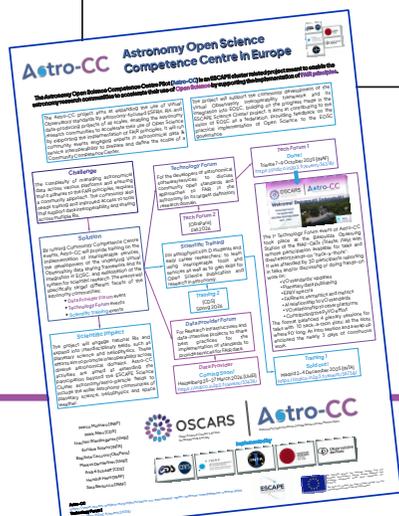
**What are the key results achieved to date and how have you made them available to the broader community?**

- Community engagement and new technical and scientific skills gained.



## How will make your results sustainable over time - How will the scientific community/-ies further exploit them?

- Results have been presented at international conference “Astronomy Data and Software Systems” – Görlitz, Germany, November 2025.
- We plan for Competence Centre activities to become sustainable and enlarged via community contributions.



The 35th annual conference on Astronomical Data Analysis Software & Systems 2025 in Görlitz, Germany

**Astronomy Open Science Competence Centre in Europe**

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**Abstract.** The Astronomy Open Science Competence Centre Pilot (Astro-CC) is an ESCAPE-cluster related project meant to enable the astronomy research communities to accelerate their use of Open Science by supporting the implementation of FAIR principles.

The Astro-CC project aims at expanding the use of Virtual Observatory standards by astronomy-focused ESFRIs, RIs, and data-producing projects of all scales, enabling the implementation of FAIR principles. It will run community events supported by astronomical data & service interoperability to prepare and define the scope of a Community Competence Center.

The project will support the community development of the Virtual Observatory interoperability framework and its integration into EOSC, building on the progress made in the ESCAPE Science Cluster project. It aims at contributing to the progress of EOSC as a federation, providing feedback on the practical implementation of Science to the EOSC governance.

## Who is doing it?

- Project team:
- Manon Marchand (CDS), André Schaaff (CDS), Ada Nebot (CDS), Sébastien Derriere (CDS), Anais Gonneau (CDS), Marco Molinaro (INAF), Sara Bertocco (INAF), Hendrik Heini (INAF), Enrique Solano (INTA), Patricia Cruz (INTA), Joachim Wambsganns (UHEI), Markus Demleitner (UHEI), Margarida Castro Neves (UHEI), Baptiste Cecconi (ObsParis), Stephane Erard (ObsParis), Pierre Le Sidaner (ObsParis)

