

CDS Plans and challenges

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CENTRE DE DONNÉES
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□ CDS Strategy

- **Constantly evolving** — based on scientific needs
- **Main strategy** for core services is well established:
 - Pursue the CDS mission at the highest possible level
 - Science-driven Data Centre for “reference” data
 - Spirit of Open Science, and application of FAIR principles
- **Themes**
 - Reinforcement of core mission** — trusted reference data centre
 - Enabling science with the CDS services** — supporting community use of CDS services, and development of the CDS science team
 - Engagement with the astronomy community**
 - Adaptation and innovation** — responding to science needs and increasing volume
 - Building on success of CDS by maintaining specialised staff profiles & teamwork**

□ Service plans ~5 yr timescale

- **SIMBAD**

- Exploit new hierarchy of object types in query services.
- Cross-ids with successive releases of Gaia.
- Strategies and tools to systematically cross-id large surveys.
- Work toward SEDs based on cross-ids.

- **VizieR**

- Towards a merge of normal and large catalogue pipelines.
- Necessary re-writing of legacy code.

- **X-Match**

- Next generation cross-matching service.
- Continue to work on the role of the X-Match service for event brokers.

- **Aladin**

- Exploitation of WebGL enabled Aladin Lite — next innovations.
- Scientific services based on HiPS.
- Support more use of Aladin in notebooks - ipyaladin.
- Work on the long-term evolution of Aladin Desktop and Aladin Lite.



□ Staff

Permanent staff:

- **Support candidates for Scientific positions - CNAP**
- Seek replacement for permanent documentalist (leaving Nov 2023)
- Continue high priority for VizieR engineer. Can we convert support for the ‘handicap’ position which was on the ‘Complementary’ list in 2023 to support for a position in 2024?
- Seek an administrative assistant.

Up-coming contract staff recruitment:

- Postdoc (CDS) – **K. Voggel** - to start short contract in January 2024.
- Documentalist (DJIN) – **CNRS Contract position advertised.**
- Documentalist (VizieR) – **UNISTRA Contract position to be advertised.**
- Postdoc (CDS-ODAS) – **to be advertised 2024.**
- Research Engineer(s) (CDS-ODAS/VizieR) – **to be advertised 2024.**



Continued evolution of the CDS Information System

- Renew / updated
- (to be) removed
- Ongoing
- Steady



□ Recherche Data Gouv - inaugurated July 2022

New French initiative in the National Plan for Open Science

— *CDS is named as one of the Thematic Reference Centres*

- Define the international data description standards in their thematic field;
- Define and disseminate best practices for data collection, documentation, processing and dissemination in their thematic field;
- Support inclusion in and compliance with the international ecosystem.
- Repositories are to be 'harvested' by *Recherche Data Gouv*;



□ Projects

- **ESCAPE** - Now the 'ESCAPE Open Collaboration'
 - Expect to make use of *Cascading Grants* of the OSCARS project.
- **Europlanet 2024** Research Infrastructure (EPN-2024-RI)
 - Small but important CDS participation (~20PM).
- **XMM2ATHENA**
 - A. Nebot is the ObAS coordinator. Postdoc to be recruited
 - ~5PM participation of CDS related to X-Matching
- **EOSC Future** - finished but keep in contact with network...
 - Follow-ons really depend on the EOSC Procurement
- **CDS-ODAS (Open data for Astronomy)**



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

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.



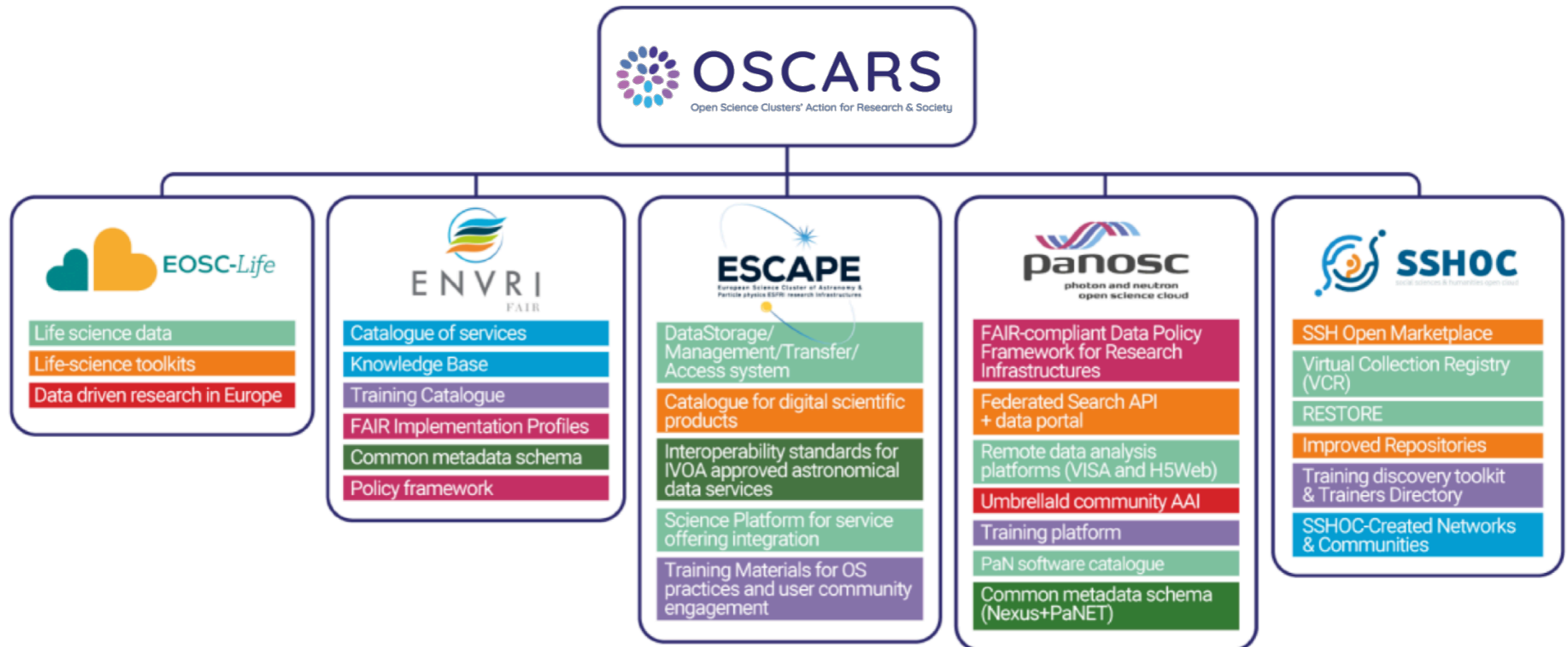
<https://science-clusters.eu/>

Budget and timeline

- Starting date: **2024-01-01**
- Duration: **4 years**
- EC funding: **25 M€** (100%)

Science Clusters fostering the uptake of Open Science in Europe

Clusters' results



RESULTS CATEGORIES

- Technical Harmonisation
- Policy Harmonisation
- Discovery/Access Platform
- Virtual Reserch Environment (VRE)
- Training Resource
- Knowledge Centre
- Authentication and Authorization Infrastructure (AAI)

OSCARS project – OPEN CALLS

16 / 25 M€

GOAL:

Build on the science cluster approach to ensure the uptake of EOSC, i.e., consolidate FAIR services of the five Science Clusters and, more broadly, perform excellent science and pursue societal benefits by leveraging an Open Research approach.

TARGET USER COMMUNITIES:

Science Clusters and wider community (RIs, Universities, Institutes, either consortia, or individual researchers)

Submission process

- Opens: ~ **March 2024 / Nov. 2024**
- 10 pages max
- Submission within **60 days**
- Project start: **Sept-Dec. 2024 / Aug-Oct. 2025**

Limits

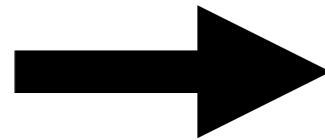
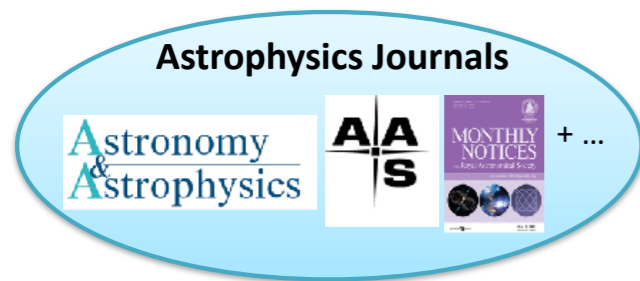
- Budget: **100 - 250 k€** / project
- Duration: **1 - 2 years**

Evaluation criteria for the independent expert panel

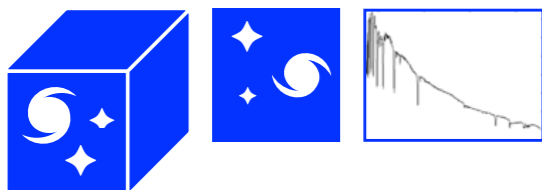
- Project description: clear objectives, towards **FAIR** and **open**
- Scientific impacts: **multiple RIs / cross-cluster**
- Digital resources: use of **EOSC** services / new **EOSC** service
- Implementation: **realistic** within budget

– Open Data for Astronomy (CDS-ODAS)

A major renewal of the CDS VizieR associated data service.



<https://vizier.cds.unistra.fr/>



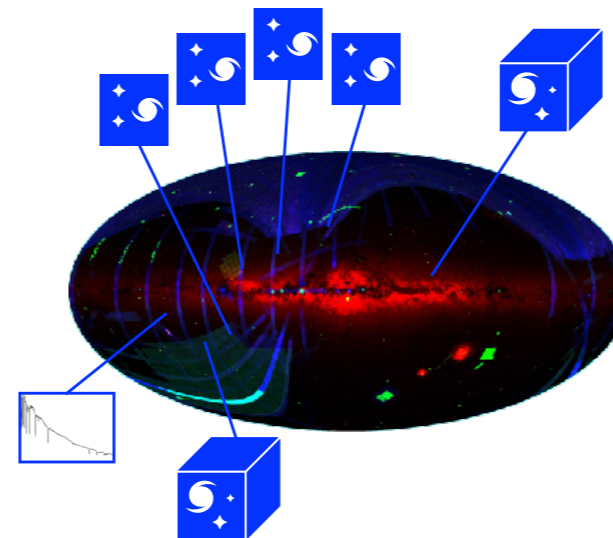
3. Integration with VizieR service interfaces making data FAIR via standardised access protocols.

4. Documentation and dissemination to astronomy community – highlighting new data publication capabilities to support Open Science.

1. Renew the workflow for deposit of data associated with refereed journal publications, provided by authors: *multi-d cube data, images, spectra/time-series*.

2. Implement a renewed system for mapping *cube / image / time-series* metadata to IVOA standard data model.

Feasibility studies on different systems for metadata description and data ingestion. (Including Dataverse)



□ Events for 2024

- **American Astronomical Society (AAS) meeting**

- New Orleans, USA, 7-11 January 2024.
- CDS exhibit booth (4 CDS staff).
- CDS interaction with US community.
- Participation in 'Best Practices' workshop organised by NED



- **European Astronomical Society annual meeting**

- Padova, Italy 1-5 July 2024.
- CDS Booth in exhibit hall.
- Proposed Lunch Session session on 'Best Practices for data publication' (decisions before end 2023).



- **IAU General Assembly**

- Cape Town, South Africa, 6-15 August 2024.
- Idea being developed for a CDS/SAAO school with potential support facilitated by UNISTRA International Relations Office.



□ Events for 2024.

- **IVOA**
 - Interoperability meeting, Sydney, Australia, 20-24 May 2024
 - Opportunity for engagement with SKA partners in Australia
 - CDS participation (with economic/environmental considerations).
- **ADASS 2024** - Malta, 10-14 November 2024
 - Plus 2.5-day IVOA interoperability meeting afterwards.
- **Others:**
 - ASOV, RDA, EOSC, Science visits, Science conferences

□ Science staff

CDS Scientists

- Necessary expertise of active scientists covering wide range of astrophysics research areas.
- Necessary diversity of scientific profiles.
- ***Recruitment being sought via CNAP competition***

Contribute to all scientific aspects of the CDS mission:

- Selection and validation of scientific data.
- Providing expert scientific advice and setting the scientific strategy.
- Supervision of the scientific development and evolution of the CDS services.
- Support the users (hot-line, dissemination, documentation...).

Priority areas related to CDS service tasks: more focussed for 2024:

- *Scientific support of VizieR service*
- *Catalogue, spectral, data cube and multi-dimensional data expertise*

□ Summary

- **An exciting new year coming up after the changes of 2023:**
 - CDS core activities.
 - Hope to make contributions to the INSU-AA Prospective
 - New proposal development: Networks of Networks
 - Engagements with projects - in particular SKA SRC
 - Establish functional activities connected with Recherche Data Gouv.
 - Defining the next phases for VO interoperability (and connections to EOSC and other Open Science infrastructure).
- **Challenges:**
 - Staffing (in particular Vizier) - with a lot of contractor recruitment
 - Strengthen the CDS scientific team.
 - Positioning of CDS services in context of large projects and science platforms.
 - All-Sky-Data renewal.

