



ENVRI
FAIR

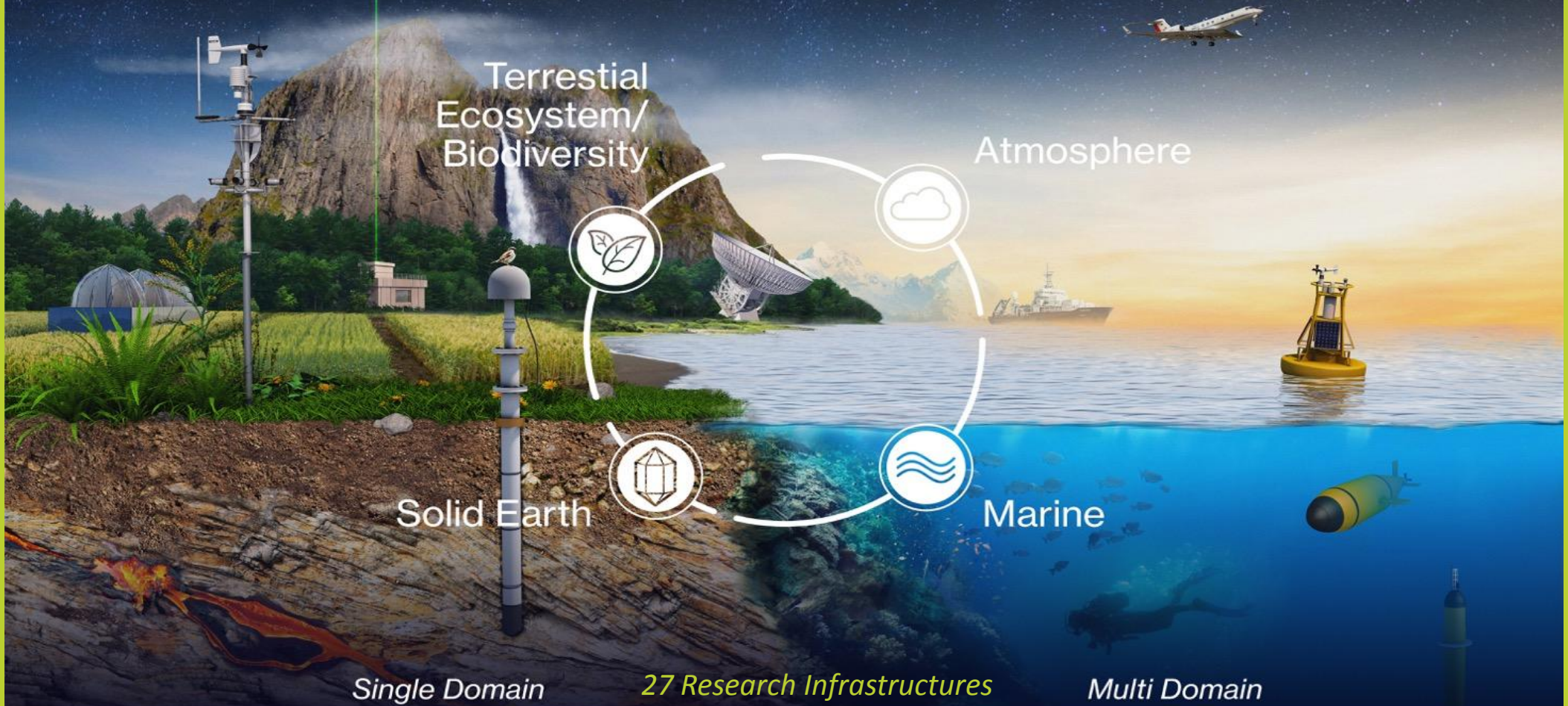
ENVRI: Data and Services interoperation Framework in the Environmental Cluster

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ENVRI Community



AnaEE
DiSSCO
ELIXIR
EMPHASIS
INTERACT



EPOS



EUROFLEETS
EURO-ARGO
JERICO-RI
SEADATANET



ACTRIS
ARISE
EISCAT_3D
EUFAR
EUROCHAMP 2020
HEMERA
IAGOS



EuroGOOS
ICOS
IS-ENES
SIOS



DANUBIUS
eLTER
EMBRC
LifeWatch
AQUACOSM



EMSO

27 Research Infrastructures

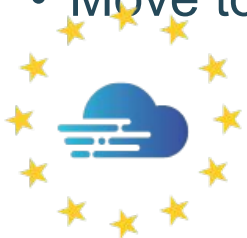


The Earth is our Lab

Europe's Environmental Research Infrastructures

ENVRI Goals

- Improve understanding of the system Earth
- Harmonized delivery of observational data
- Collaboration among Research infrastructures
- Knowledge Sharing
- Develop RI common solutions
- Avoid unnecessary costs & prevent duplication of efforts
- Move towards EOSC interoperability

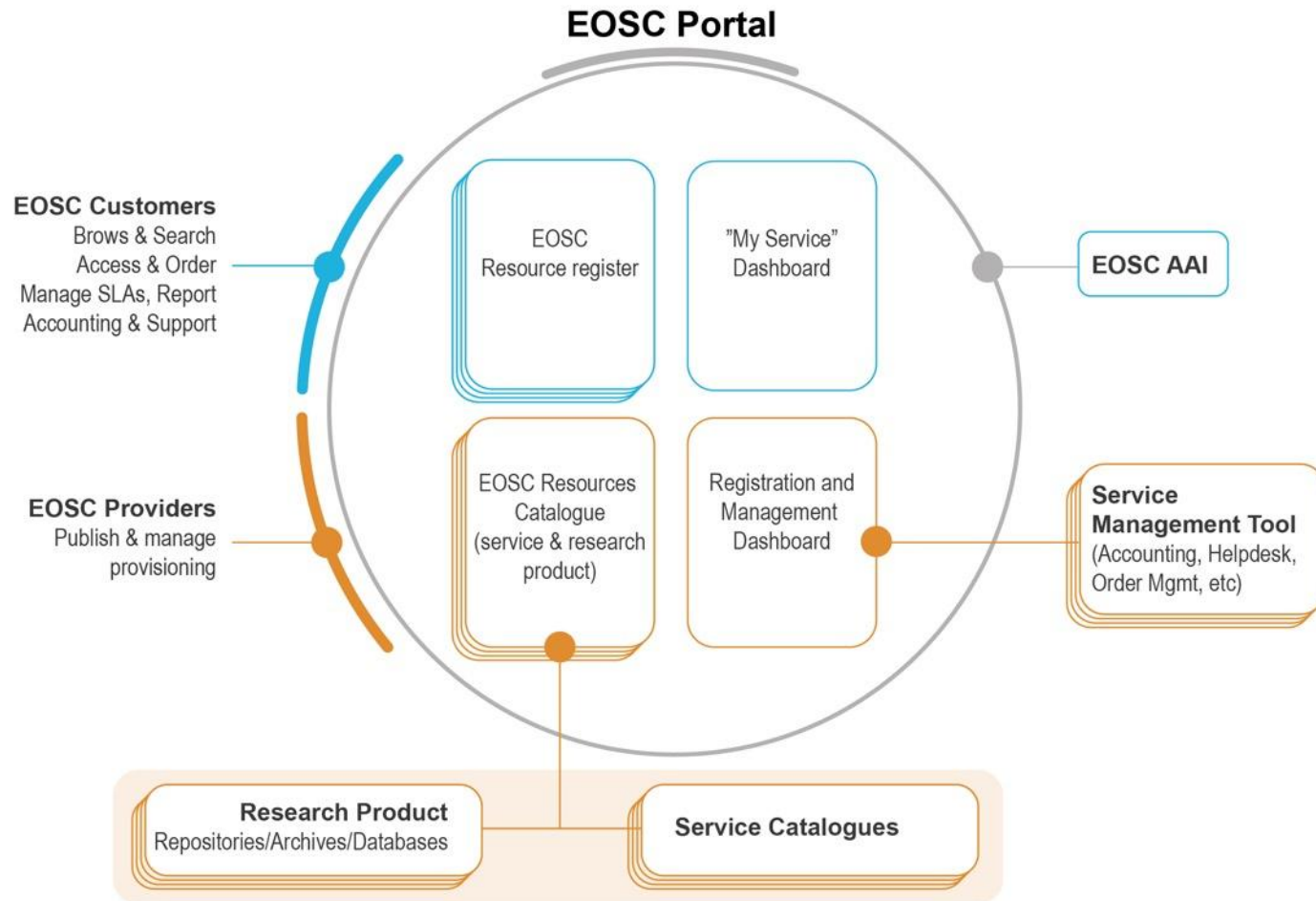


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The Role of ENVRI in EOSC



Together with the other ESFRI RI clusters the ENVRI cluster is one of the main initiatives of the EOSC family.

ESFRI Clusters contribute significantly to the EOSC

ENVRI is considered as one of the matured clusters



ENVRI HUB

Key Features:

- Central gateway to European Environmental data and services.
- Data is interoperable across Earth system disciplines.
- Supports interdisciplinary environmental research.
- Data is open and free for all.
- Users can utilize Virtual Research Environments.
- Allows science computing directly inside the hub.

<https://envri-hub.envri.eu/>



Services ▾

FAQ

About

Feedback

ENVRI Community

Welcome to the Data Portal of the European Environmental Research Infrastructures

Tell us what you are looking for: a dataset, policies, a service, ...

Or explore our services



ENVRI Catalogue of Services

Access the descriptions of the RI services that provide data, metadata, semantic assets, taxonomic information, and more.



ENVRI Knowledge Base

Access technical practices, common data and service requirements that facilitate search and analysis of existing RI solutions for interoperability challenges.



ENVRI Training Gateway

Access training resources developed by and for the ENVRI Community.



ENVRI Science Demonstrators

Use reliable Jupyter Notebooks to support interactive data science and scientific computing.



ENVRI Catalogue of Services

Key Objectives

- Describe and provide access to ENVRI assets for humans through a portal
- Create a machine readable and actionable tool for autonomic access to RIs services
- Interface to and for the European Open Science Cloud
- Leverages on the work done in EPOS ERIC
<https://envri-hub.envri.eu/>

ENVRI Catalogue of Services



1 Filter the available services. You can choose several options for each field.

Apply Filters

2 Click on a service to read its description. Click on "Details" to access the technical info.

All	71
ACTRIS Data Centre	5
British Oceanographic Data Centre	1
CREA - Consiglio per la Ricerca in Agricoltura e l'analisi dell'Economia Agraria	1
ENVRI	2
EPOS EPOS	11
IAGOS	2
ICOS ERIC	8
IFREMER	8
LifeWatch ERIC	2
EcoPortal Metadata	

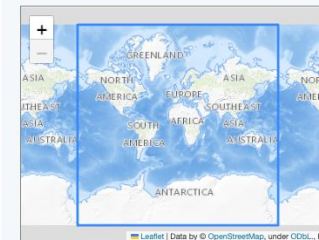
The ENVRI Catalogue of Services is populated by the Research Infrastructures in ENVRI-FAIR. It contains descriptions of the RI services that provide data, metadata, semantic assets, taxonomic information, and more. The focus here is on services that provide machine-accessible endpoints, and information about how to query these service endpoints is provided here.

3 View the details of the selected service.



LOS Displacement Time Series

Temporal evolution of the surface displacement projected along the satellite Line of Sight (LOS)



Service Description

Temporal evolution of the surface displacement projected along the satellite Line of Sight (LOS).

Service Documentation

<https://docs.terradue.com/ellip/core/da/catalog/search.html#>

Service Provider

EPOS

Data Provider

EPOS

Temporal Coverage

1978-01-01:00Z

Resource Type

WEB_SERVICE

Endpoint

<https://catalog.terradue.com/ellip/core/da/catalog/search?>

1 – Search by
Type
Domain
Keyword

2- List of matching results
with short description

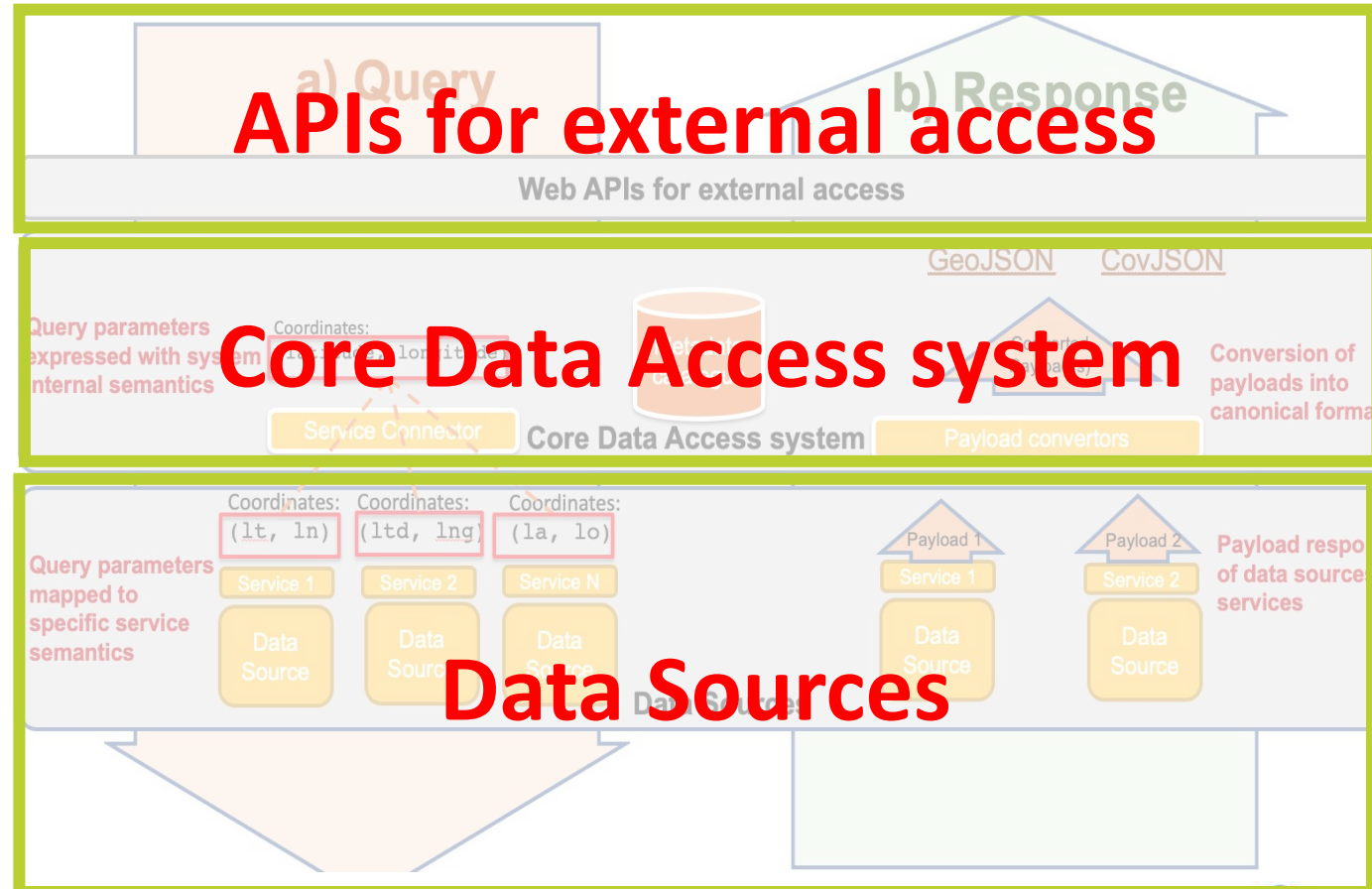
3 – Generic information
→ Title
→ Description
→ Coverage

4 – Detailed information
→ Service description
→ Service Documentation
→ Resource type
→ License
→ ...others



Key interoperability concepts

- Based on a 3-tiers architecture:
 - Data sources
 - Core Data Access system
 - APIs for external access
- Assumes data provision through **web-services**
- Semantic description of web services in **EPOS-DCAT-AP**
- Uses a **metadata catalogue (CERIF)** for storing information about web services details and their semantics
- Can perform **semantic crosswalks** through different web services parameters
- Assumes an intelligent software can manage the semantic rich metadata information for **accessing heterogenous web-services**



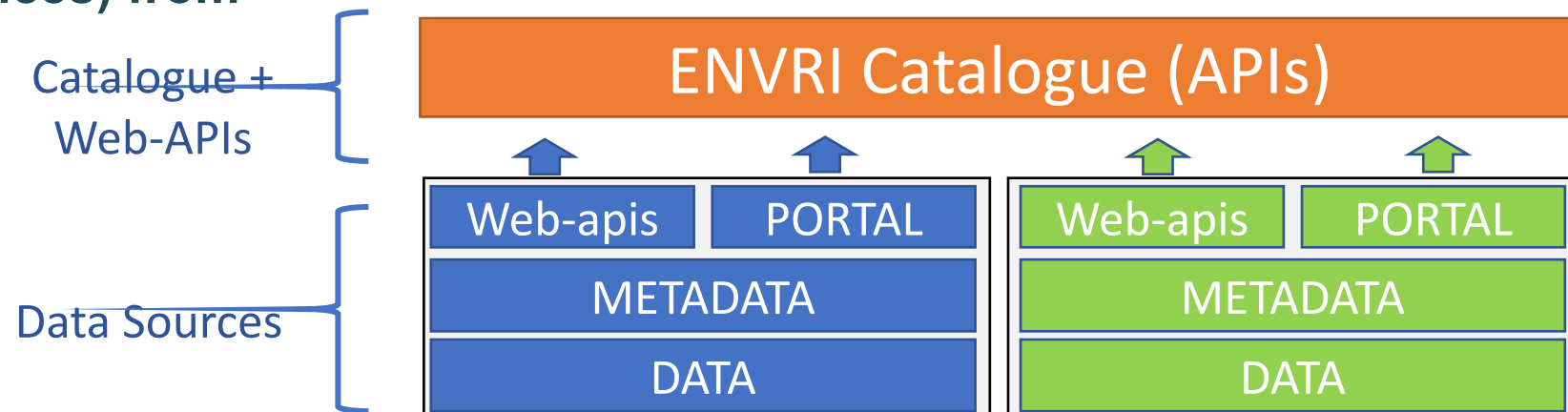


Role of the ENVRI Catalogue

- ENVRI Catalogue is based on the "service" concept
- It can provide access to:
 - Data
 - Services
 - ...from heterogeneous Environmental Data sources
- ENVRI catalogue allows interoperation with RIs assets (data and services) from the environmental cluster



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ENVRI-catalogue Proof of Concept- TFI

- It contains **55** «assets» descriptions provided by:
- **ARGO, LIFEWATCH, SIOS, SEXTANT, ICOS, ACTRIS, CREA**
- APIs available here <https://ics-c.epos-ip.org/demo/k8s-epos-deploy/envri-fair-catalogue/api/v1/ui/>
- API provide:
 - List of «assets» (services or portals)
 - Details for each asset
- API consumed by the Catalogue GUI by ENVRI-hub
- API can be consumed by EOSC

The screenshot shows the ENVRI-Hub website interface. At the top, there is a navigation bar with 'ENVRI-Hub' and various menu items like 'About', 'Services', 'FAQs', 'Issues', 'Contact', 'Contributors', and 'ENVRI Community'. Below the navigation bar, there are two main sections: 'Filter Keywords' and 'Service Details'. The 'Filter Keywords' section has a search box and a 'Filter Resources' button. The 'Service Details' section displays the results for the search. It shows a table with columns for 'Data Providers' and '55' (likely the number of results). The first entry is 'ACTRIS Data Centre' with a count of '4'. Below this, there are two entries for 'ACTRIS metadata catalog REST API'. Each entry includes a description: 'API documentation for the ACTRIS metadata catalog. In order to add or delete metadata in the catalog, you would need to be a registered data provider and create an API token. Please contact the ACTRIS Data Centre (DVAS unit) if you have any questions or need an API token.' It also shows 'Data: t.b.d.', 'Status: ✓', and a 'Details' link. To the right of the table, there is a map of Europe and a section titled 'ACTRIS metadata catalog REST API' with a description and a 'Service Documentation' link.



Work goes on..

- We have demonstrated technical interoperability across multiple ENVRI RIs but more ingested metadata records are needed, and more development efforts are required
- We have demonstrated federated single sign-on across a subset of ENVRI RIs – more work to be done
- This is only loosely supported by governance interoperability; each RI has its own governance and – while we have increasing convergence on policies and their implementation - there is more to be done, and MoUs can be a starting point.



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THANKS



envri.eu/envri-fair



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