Advancing FAIRness and Openness of Earth system science in Europe

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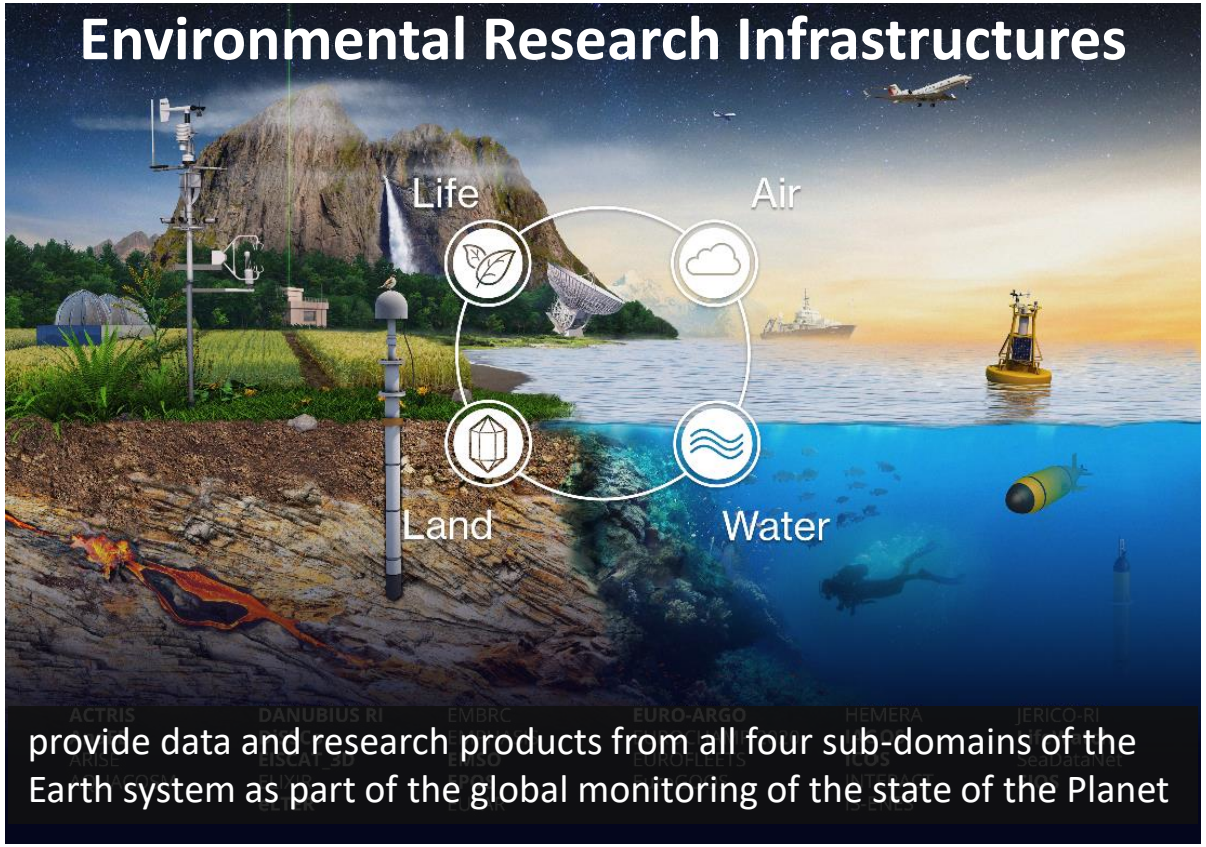
The ENVRI-FAIR Mission



ENVRI-FAIR

- develops FAIR-based resources for easy and seamless access to ENVRI data and services
- implements common standards and policies for data life cycle, cataloguing, curation, provenance and service provision
- realises the service platform ENVRI-hub for
  - discovery of services and data
  - documented standardized interface and machine actionability
  - re-usability and user support via notebooks

ENVRI-FAIR Goals

Adoption of an open approach to sharing data and software

Open science

Improved skills of the research infrastructures' personnel to develop and maintain their RI FAIRness

Capacity building

Global cooperation

A cohesive global research infrastructure landscape with a strong role of the ENVRI community in it

Common data standards and policies

Further development of the common standards and policies for data life cycle, cataloguing, curation, provenance and service provision

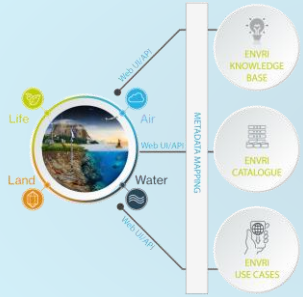
Innovation potential

Increased innovation potential of each Research Infrastructure by establishing a specific ENVRI-FAIR service catalogue section in the EOSC catalogue

ENVRI-FAIR Approach

Closeness to scientific communities

Open and high quality data



ENVRI-hub

Convergence of coherent methodologies and technologies

Sharing experiences, technologies, training and outputs

The ENVRI Users

Atmosphere Monitoring Service

Copernicus Europe's eyes on Earth

Science

Industry

Society

Citizens

User community accessing ENVRI ecosystem via ENVRI-hub

Science

Industry

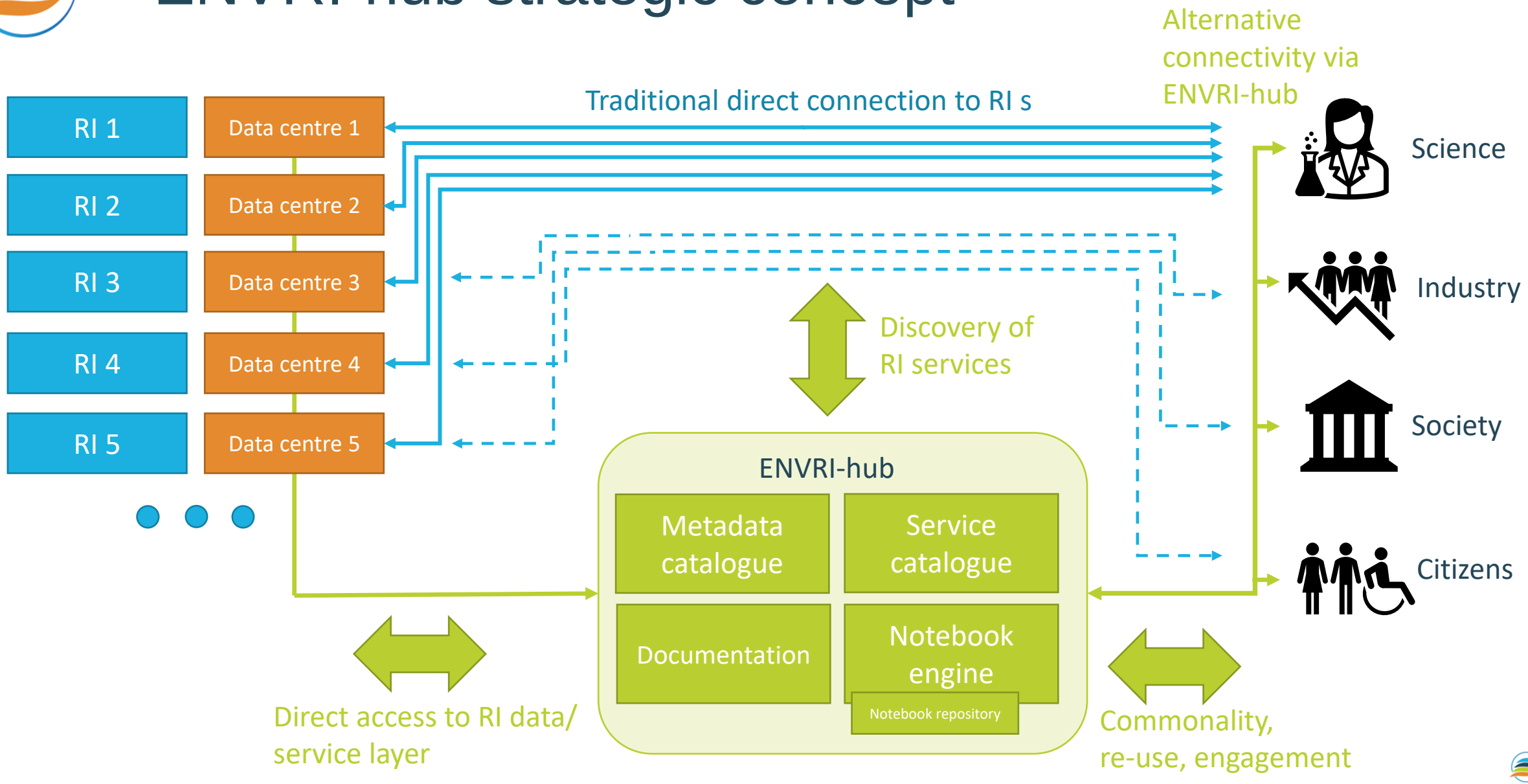
Society

Citizens

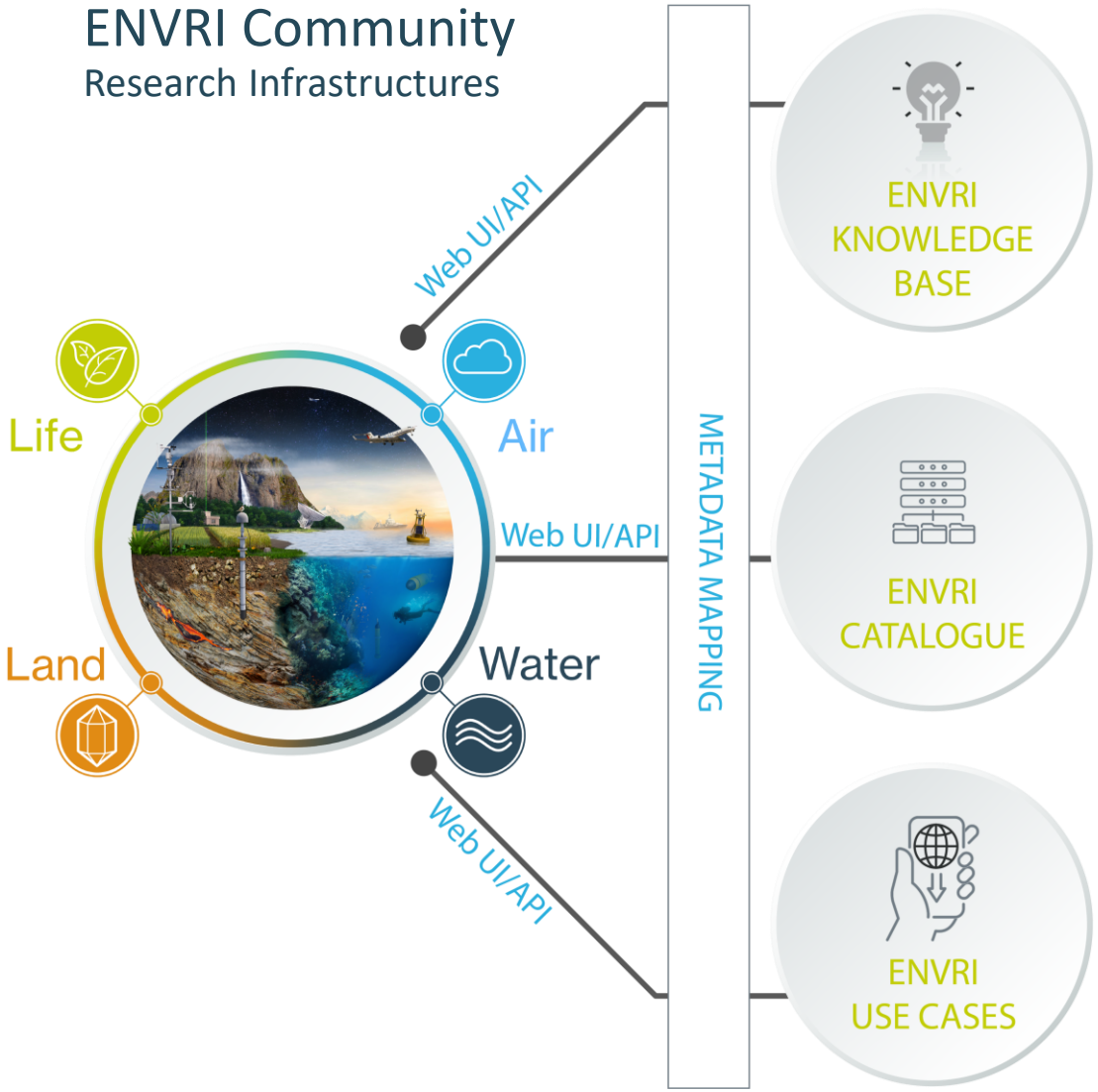
Specialised users accessing RIs or sub-domains directly via RI portals or APIs

ENVRI FAIR

ENVRI-hub strategic concept



The ENVRI-hub Pillars



Human interface to the ENVRI ecosystem

- quick discovery of data, services and assets
- sharing of engineering practices, technologies and knowledge

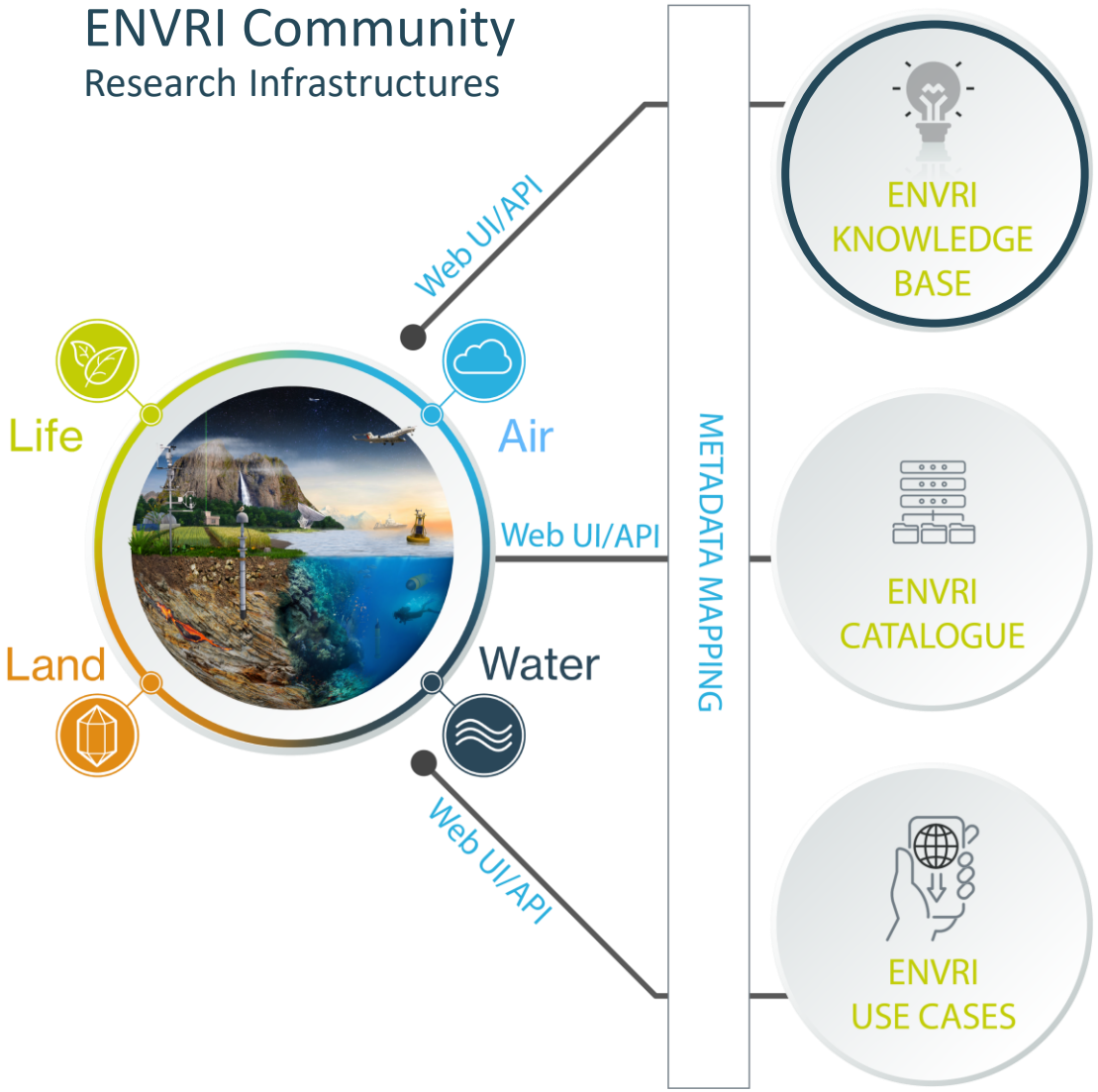
Machine actionable interface to the ENVRI ecosystem

- cataloguing all RIs in the ENV domain
- accessing RIs datasets via metadata search
- interface to EOSC and other users (e.g. Copernicus)

Jupyter notebooks on scientific use cases

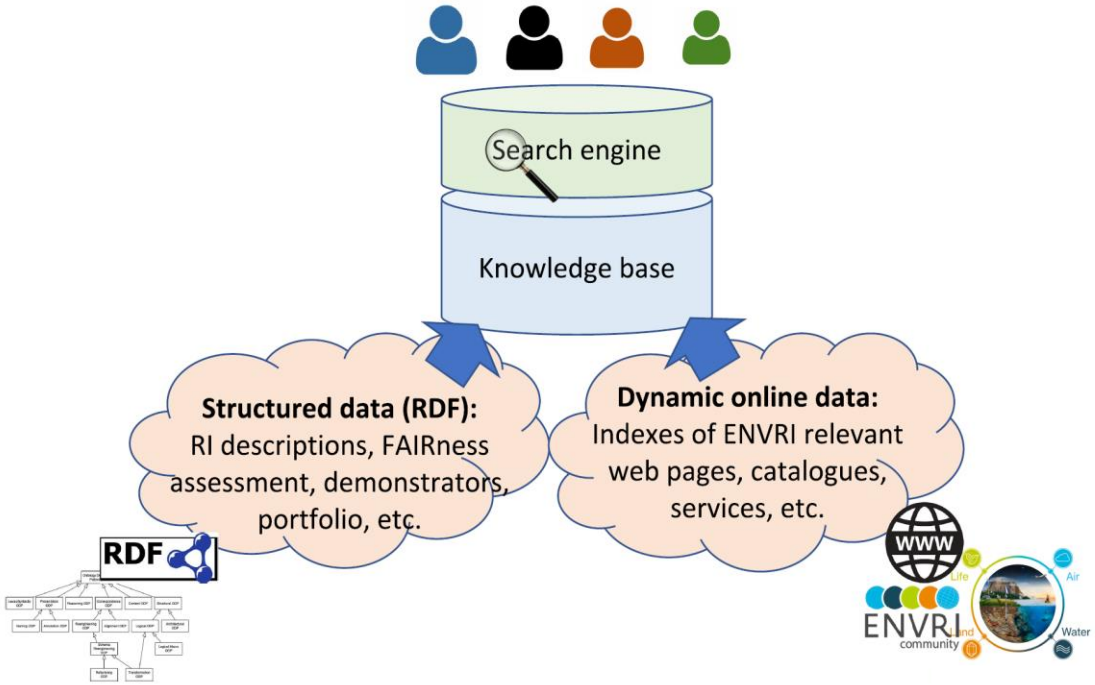
- Use cases are made accessible as executable demonstrators and demonstrator VREs

The ENVRI-hub Pillars

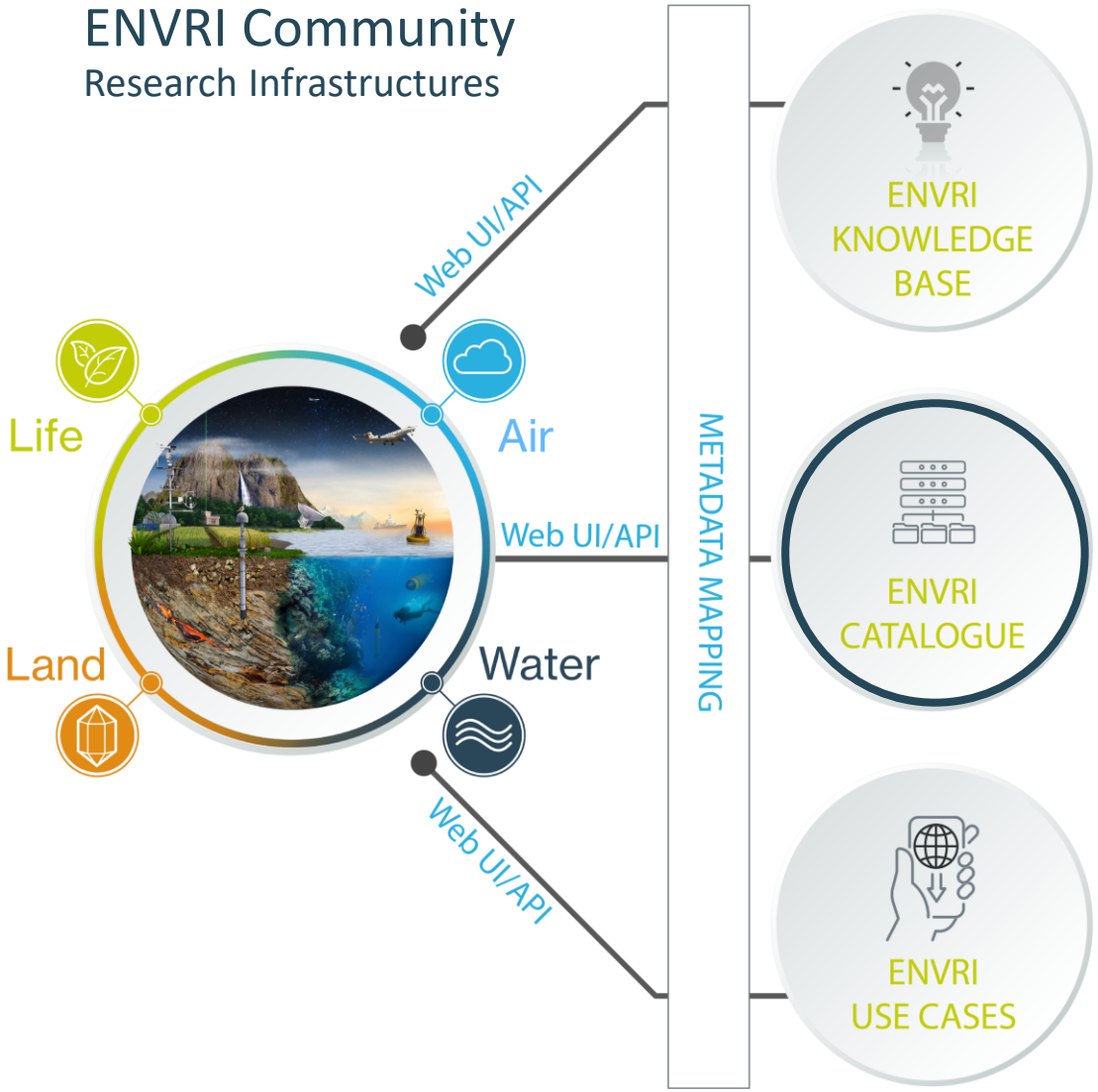


<u>Human interface</u> to the ENVRI ecosystem for:

- quick discovery of data, knowledge, services and assets
- sharing of engineering practices, technologies and knowledge
- enhancing collaboration among communities with customisable knowledge subscription and publishing pipelines

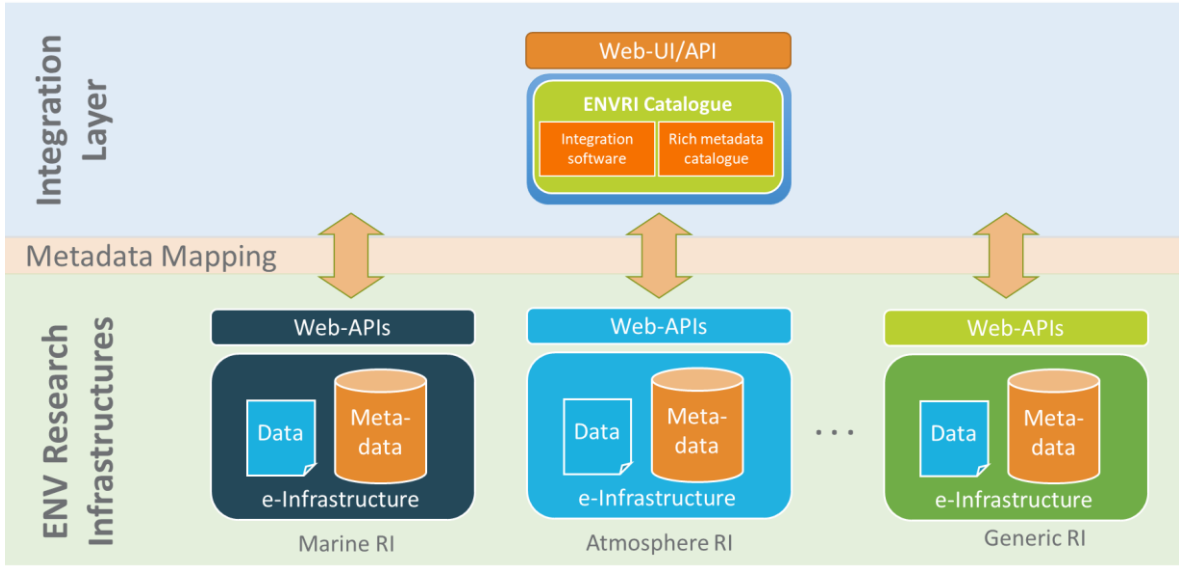


The ENVRI-hub Pillars

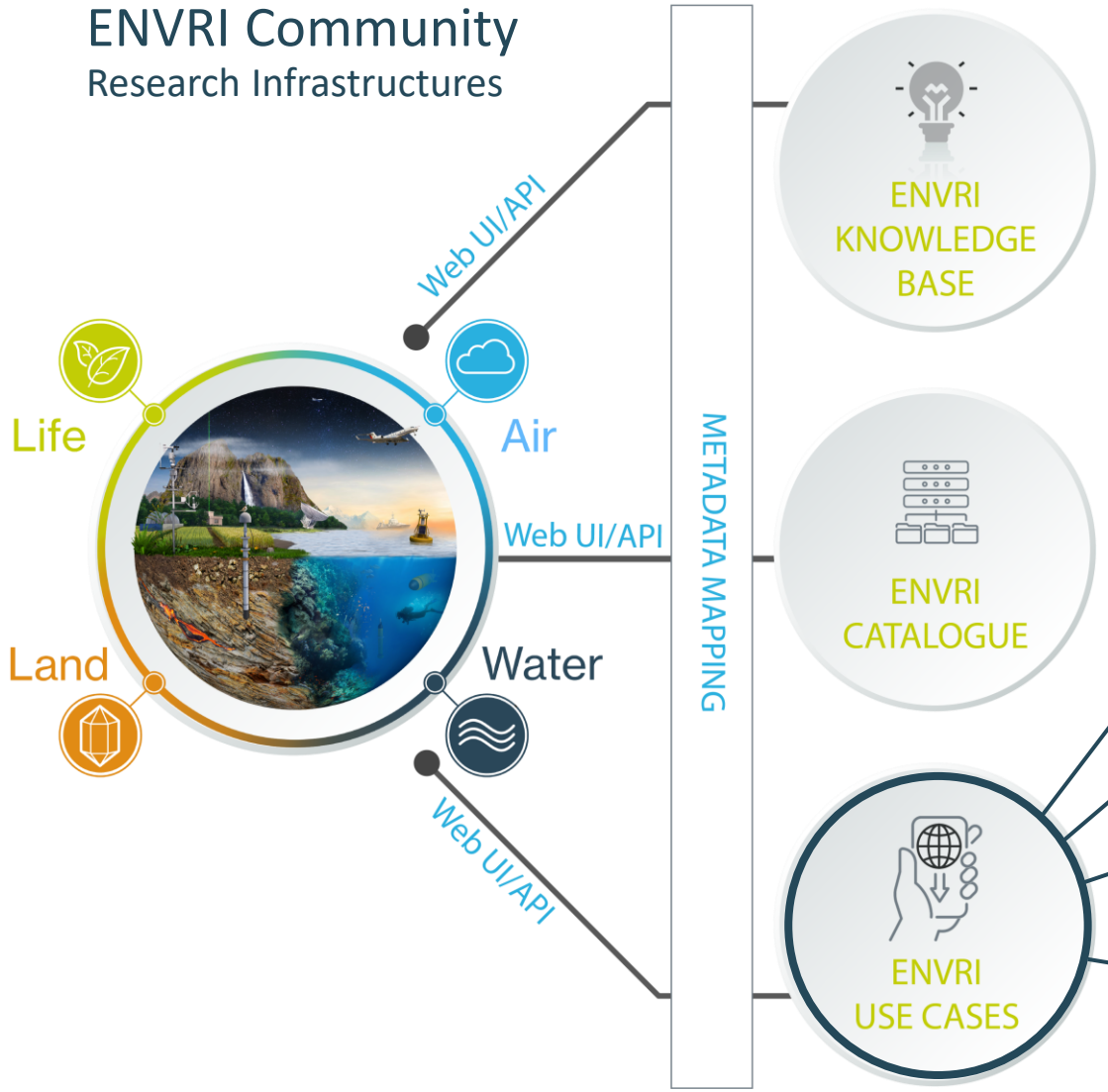


<u>Machine actionable interface</u> to the ENVRI ecosystem:

- cataloguing all RIs in the ENV domain;
- catalogue should not map all metadata, but describe services that provide access to data
- starting point for accessing RIs datasets via metadata search – no direct access to data
- interface to the European Open Science Cloud and other users (e.g. Copernicus)



The ENVRI-hub Pillars



ENVRI scientific demonstration services:

- set up to highlight added value from interoperable ENVRI data and research services;
- are made accessible as executable demonstrators and demonstrator VREs;
- are based on the Jupyter Notebook technology to ensure flexibility in further development.

Essential Climate Variables demonstrator
Dashboard on the State of the Environment

Essential Ocean Variables demonstrator

EPOS solid earth products

Soil Moisture product
Biodiversity in a changing climate

ENVRI–FAIR Technical Foci

- TF1 ENVRI Catalogue - central element of ENVRI-hub
- TF2 ENVRI AAI Implementation - AAAI federation for ENVRI, GDPR
- TF3 PIDs, Identification, Types and Registries - FDO in ENVRI-hub, PID for services
- TF4 Triple Stores and Data Storage - test metadata ingestion into DCAT
- TF5 Certification, Licenses, Citation and Usage - essential input for operation
- TF6 ENVRI-hub architecture

The ENVRI-hub architecture is

- designed in anticipation of interoperation with the European Open Science Cloud, intended to act as a key platform for users and developers planning to include ENVRI services in their workflows.

ENVRI community of research infrastructures offer wide variety of research services (esp. data) on environmental domain “in-situ” aspects

ENVRI-FAIR is a H2020 project to use the strengths of ENVRI to create FAIR data and service use, and connect to European Open Science Cloud

ENVRI FAIR

ENVRI-hub is a realization of this service platform, demostrating:

- Discovery of services and data
- Documented standardized interfaces, machine actionability
- Re-usability and user support via notebooks

For details, please contact the project management office at manager@envri-fair.eu

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