



BEEs

The LifeWatch ERIC Biodiversity & Ecosystem eScience Conference

Seville
22-24/05/23



Threats and challenges to biodiversity and ecosystem conservation from an eScience perspective



Ron Dekker
Technopolis Group



UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional
Una manera de hacer Europa

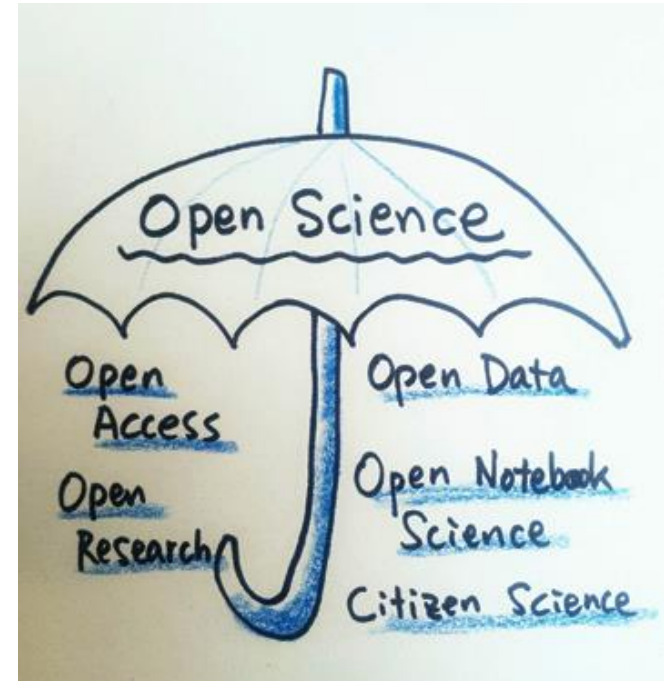
The European Open Science Cloud as a Service

Open Science

inclusive construct that combines various movements and practices aiming

- to **increase scientific collaborations** and sharing of information for the benefits of science and society
- to **open the processes** of scientific knowledge creation, evaluation and communication to societal actors beyond the traditional scientific community
- to make multilingual scientific **knowledge openly available**, accessible and reusable for everyone

UNESCO, 2021



by Eva Mendez

EOSC

EOSC is the European initiative to create one market for research data.
It consists of

- Governance, Policy, EC-Partnership EC-MS/AC-EOSC Association
- Conglomeration of (Horizon) projects – technical, content, standards, ...
- EOSC Platform

EOSC Future is the project that realises the EOSC Platform. Its focus is on

- Technology: architecture, platform, standards, onboarding, ...
- Content: data & services from RI's, e-Infra's, commercial providers
- Engagement: esp. from users and providers, other stakeholders



Ursula von der Leyen, WEF 2020

“We will create a pool of interlinked information,
a ‘web of research data’.

Every researcher will be able
to better use not only their own data
but also, those of others”

System of systems = federated

a collection of **systems that pool their resources** and capabilities to create a new, more complex system which offers **more functionality** and performance **than simply the sum** of the constituent systems

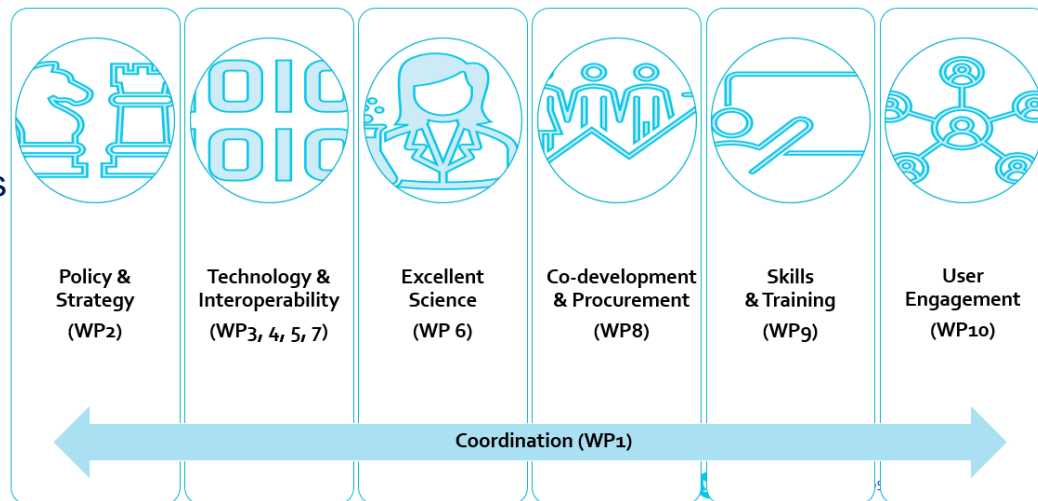
- Each system can **operate independently** of other systems
- Each system has its **own policies** and management
- The SoS is not pre-specified completely but is developed in an **evolutionary** way
- SoS characteristics (e.g., compliance, reliability) are **emergent** so that they only become understandable when the SoS is integrated
- The SoS are not co-located but may be **widely distributed**, which may cause operational problems
- The different systems in a SoS are likely to be built **using different hardware and software** technologies – finding ways of working together
- Typically, the **size of the databases** in the SoS exceeds the code size by one or more orders of magnitude

For EOSC a federated governance has been chosen: governance by different organisations, that agree on overall purpose, participation in a governing body

Source: Ian Sommerville, www.slideshare.net/sommerville-videos

EOSC Future project

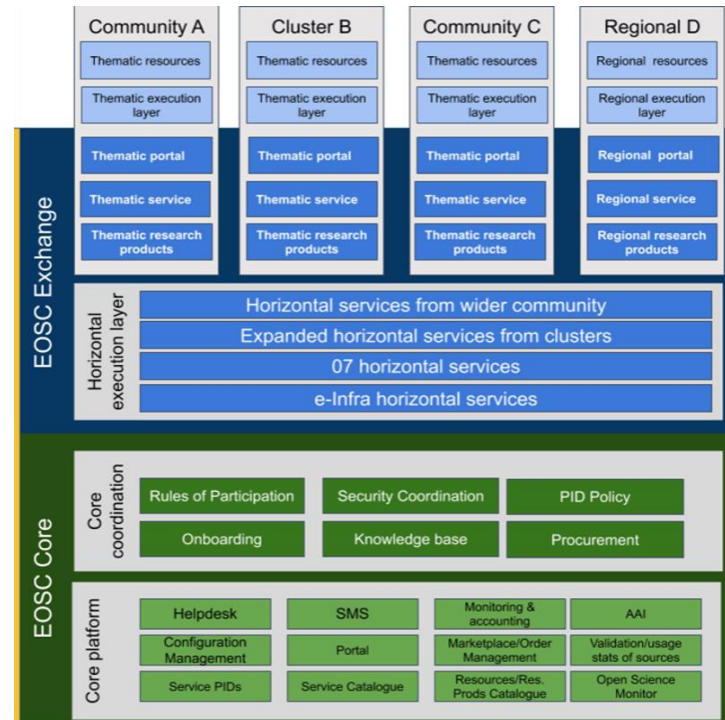
- 41 M€, 98 Beneficiaries, 30 Months
- RI's, e-Infra's, RDA, Technopolis Group
- Connect with other EOSC-related projects
- Connect with other stakeholders (Member States, EC, EOSC Association)



EOSC platform

Three tenets:

- Technology
- Content
- Engagement



Research

The EOSC Platform allows sharing of data, services and other resources

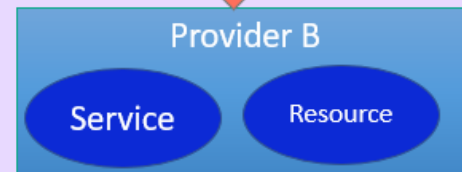
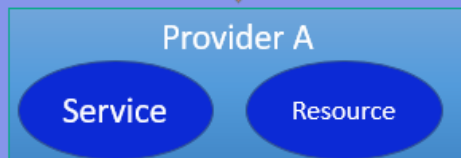
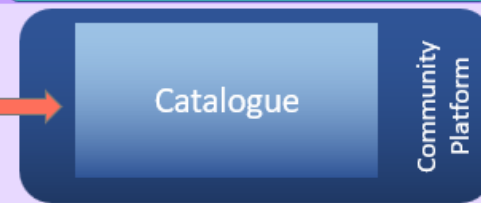
Researcher / Research Group /
Research Performing Organisation

Researcher / Research Group /
Research Performing Organisation

EOSC Portal

Community Portal

EOSC



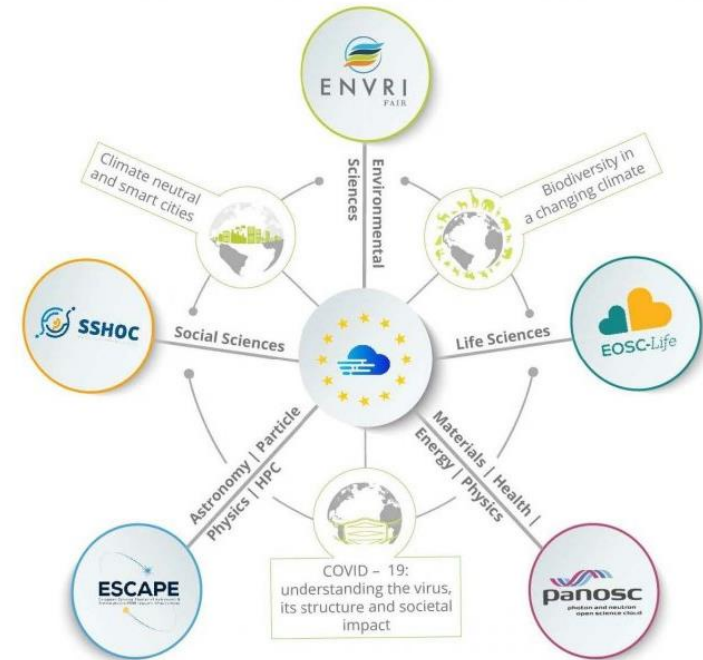
Science Projects

ESFRI Science Clusters

- **ENVRI-FAIR** – environmental sciences
- **EOSC-Life** – life sciences
- **ESCAPE** – astronomy and particle physics
- **PaNOSC** – photon and neutron sciences
- **SSHOC** – social sciences and humanities

Key features

- Cross-disciplinary
- Composability
- Onboarding



Where are we now?

- EOSC Platform is operational
 - Onboarding of service providers – visibility, findability
- Proof of concepts on cross-disciplinary work
 - Science Projects – e.g. Dashboard of the environment
 - Integration of RI data with e-infra (core & exchange) services
 - Showcases
- RI's & e-Infra's as 'aggregators'
 - Acquiring storage/computing power/data – incl. commercial services
- Training
 - Content Management System: Training platform & training catalogue
- Focus Groups to stimulate engagement
 - Libraries, Research Communities, National Infrastructures

EOSC in Practice Story

N.11

Supporting marine data discovery and accessibility to enable cross-domain research

**Dick Schaap**
Manager at MARIS B.V. and Blue-Cloud
Technical Coordinator Blue-Cloud

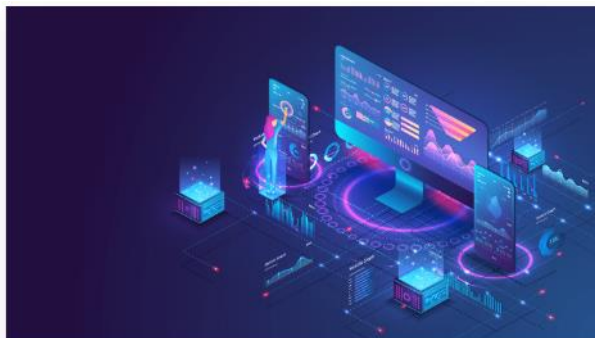
Supporting marine data discovery and accessibility to enable cross-domain research

Providers Portal



Onboarding of Resources

Self service, Workflow based



Provider Dashboard

Gain full control of your resources in the catalogue



Application Programming Interfaces (APIs)

Programmatic management of resources

For Researchers

Browse EOSC Marketplace Resources

Browse through over 3 millions of research and innovation tools and services, thousands of datasets from a wide scale of research domains from renowned European service providers.

Find resource...



Browse by category

Software

Services

Publications

Data

Data Sources

Training Materials

For Discussion

- With RI's: how the onboarding of service providers can be improved
- How to connect better with research communities
 - either directly or via research infrastructures and other intermediary organisations
- How to ensure the quality of the data and tools that are on the platform



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Thank you! | www.lifewatch.eu/bees-2023

