

The European Open Science Cloud

Stefan Hanslik, EODC 10/06/2024

“We therefore declare to work together towards realising the potential of the European Open Science Cloud for the benefit of citizens, society and the economy”

Vienna Declaration October 2018

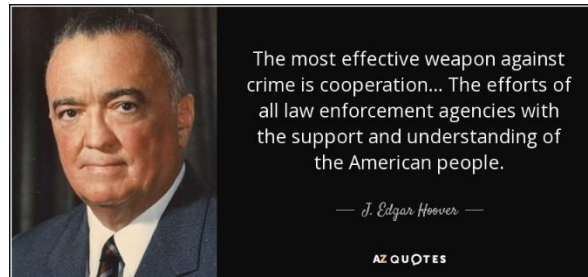


"Our propensity to cooperate has old evolutionary roots".

Why Humans and Other Primates Cooperate

Our ability to cooperate in large societies has deep evolutionary roots in the animal kingdom

BY FRANS DE WAAL



EOSC-the vision

22 Jan 2020

EC President Ursula von der Leyen talks EOSC in Davos

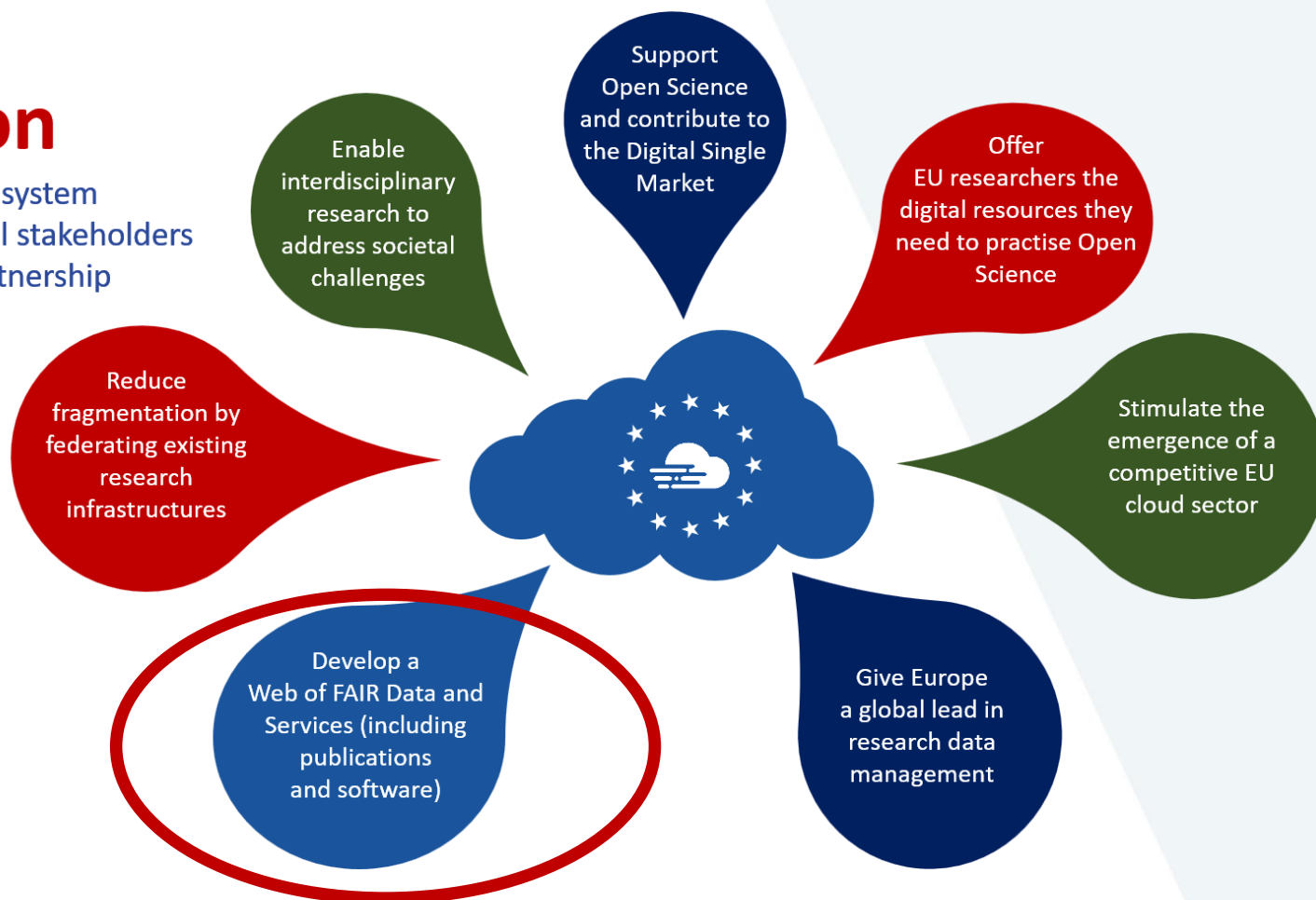


"We are creating a European Open Science Cloud now. It is a trusted space for researchers to store their data and to access data from researchers from all other disciplines. We will create a pool of interlinked information, a 'web of research data'. Every researcher will be able to better use not only their own data, but also those of others. They will thus come to new insights, new findings and new solutions."

<https://eosc-portal.eu/news/ec-president-ursula-von-der-leyen-talks-eosc-davos>

The Vision

Building the EOSC ecosystem
collaboratively with all stakeholders
through the EOSC Partnership



EOSC vision in a nutshell

What

EOSC is the European web of FAIR data and related services for research

Research data that is easy to find, access, interoperate and reuse (FAIR)
Trusted and sustainable research outputs are available within and across scientific disciplines

Why

Unlock the full potential of research data to accelerate discoveries and innovation

How

- Ensure that Open Science practices and skills are rewarded and taught, becoming the 'new normal'
- Enable the definition of standards, and the development of tools and services, to allow researchers to find, access, reuse and combine results
- Establish a sustainable and federated infrastructure enabling open sharing of scientific results



Strategic
Research and
Innovation
agenda (SRIA)
eosc.eu/sria-mar

Credits: Karel Luyben, EOSC A

EOSC – additionality to the web of FAIR data



EUROPEAN OPEN SCIENCE CLOUD

WORLD WIDE WEB

INTERNET

NETWORKS

COMPUTERS

Modelled after: World Wide Web - Wikipedia

The Common European Data Spaces

Common European data spaces

Rich pool of data
(varying degree of
accessibility)

Free flow of data
across sectors and
countries

Full respect of GDPR

Horizontal
framework for data
governance and data
access



Health



Industrial &
Manufacturing



Agriculture



Finance



Mobility



Green Deal



Energy



Public
Administration



Skills

- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)
- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

<https://dataspaces.info/common-european-data-spaces/#page-content>

Position of EOSC according to the European Commission

Taken from EC slides



“EOSC is the basis for a science, research and innovation data space that will bring together data resulting for research and deployment programmes and will be connected and articulated with the sectoral data spaces”

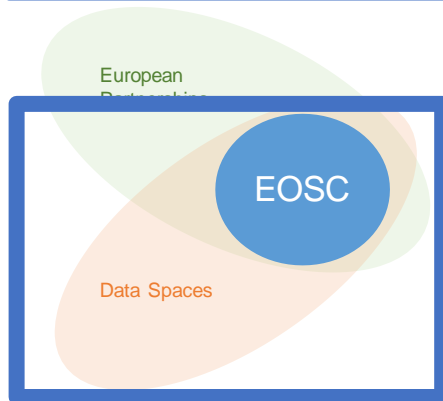
(European Data Strategy, COM(2020) 66 final)

Credits: Karel Luyben, EOSC A

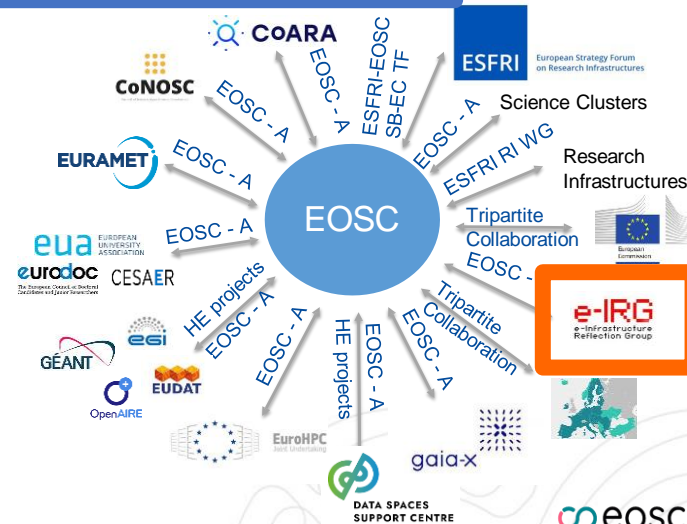
EOSC in the broader context

- EOSC is one of the Horizon Europe Partnerships:

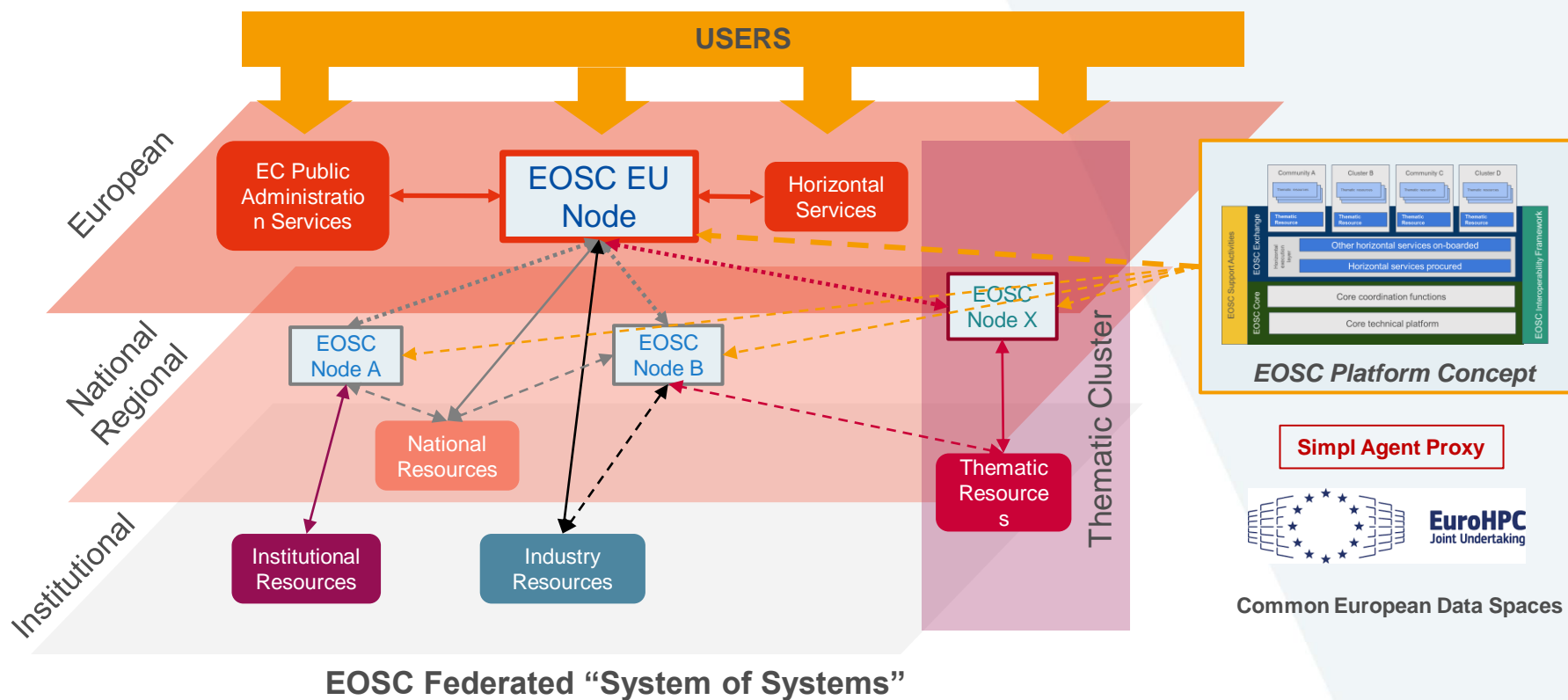
EOSC is one of the emerging Data Spaces



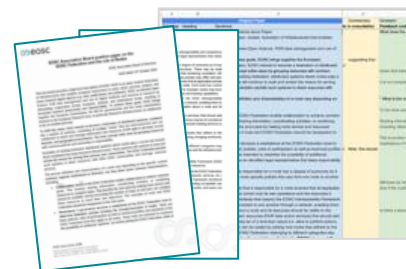
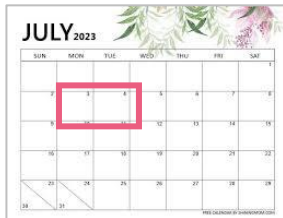
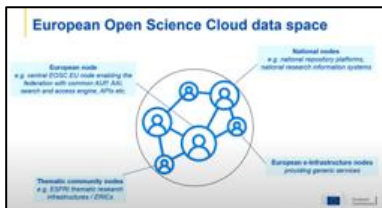
EOSC in the European Data Strategy landscape



EOSC EU Node – Federation Approach



Evolution of Node Concept in 2023



Spring

July

September

October

November

Introduction
EOSC EU Node
and concept of
nodes by EC

Meetings with
Mandated
Organisations
and ESFRI RI
Working Group
to prepare
September
workshops,
03./04.07

Community
Workshops
MOs & ESFRI RI
WG (08./15.09.)
Unconference
EOSC
Symposium
(21.09.)

Publication of
Draft Position
Paper on the
EOSC
Federation and
the role of
Nodes (13.10.)
&
Consultation

Publication of
revised version
of Draft
Position Paper
(12.11.)
&
Consultation

The EOSC Federation and the role of Nodes

Main points in the position paper

<https://eosc.eu/wp-content/uploads/2023/11/20231112-Short-paper-on-the-EOSC-Federation-draft-v3.pdf>

EOSC Federation

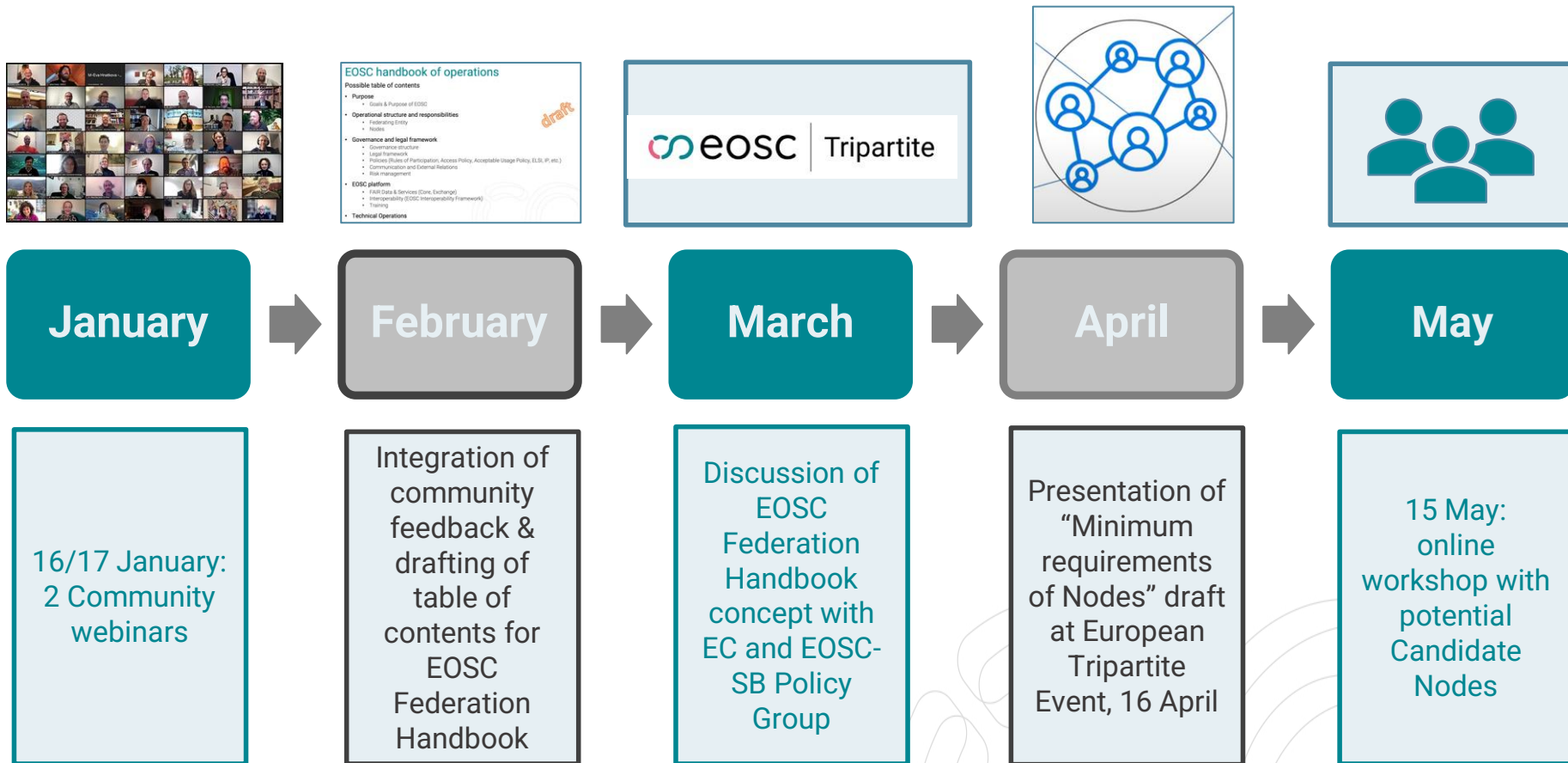
- is a federation of distributed systems ('system of systems')
- enables collaboration to achieve common goals and users to access additional resources beyond their usual environment
- has policies and rules defined by the legal entity governing the EOSC Federation
- consists of multiple "Nodes"
- can be scaled by adding more Nodes

EOSC Nodes

- contain resources adding value to the Federation
- act as the legal representative that can interact with EOSC's governance structure
- offer interfaces that comply with the EOSC Interoperability Framework
- control their own operations and resources and ensure that policies are followed within the Node
- may vary in their local policies, the resources to which they provide access and the infrastructure on which they are built

Initiatives (European, national, regional, institutional or thematic) may join the EOSC Federation and become EOSC Nodes when they meet the requirements listed above

Evolution of Node Concept in 2024



EOSC Federation Handbook co-creation

- **Aim** – prepare a handbook for the **EOSC Federation of Nodes** which covers the essential aspects of the purpose of the federation, what a node is, how to join, rules of governance, value proposition and rules of participation
- **Who** – driven by the EOSC-A and encouraging all interested parties (EC, Member states/ACs, RIs, EOSC-A members, etc.) who want to participate in the co-creation of the Handbook
- **Process** – the document will be written collaboratively with open consultations, meetings, sprints

Contributing events during 2024, including:

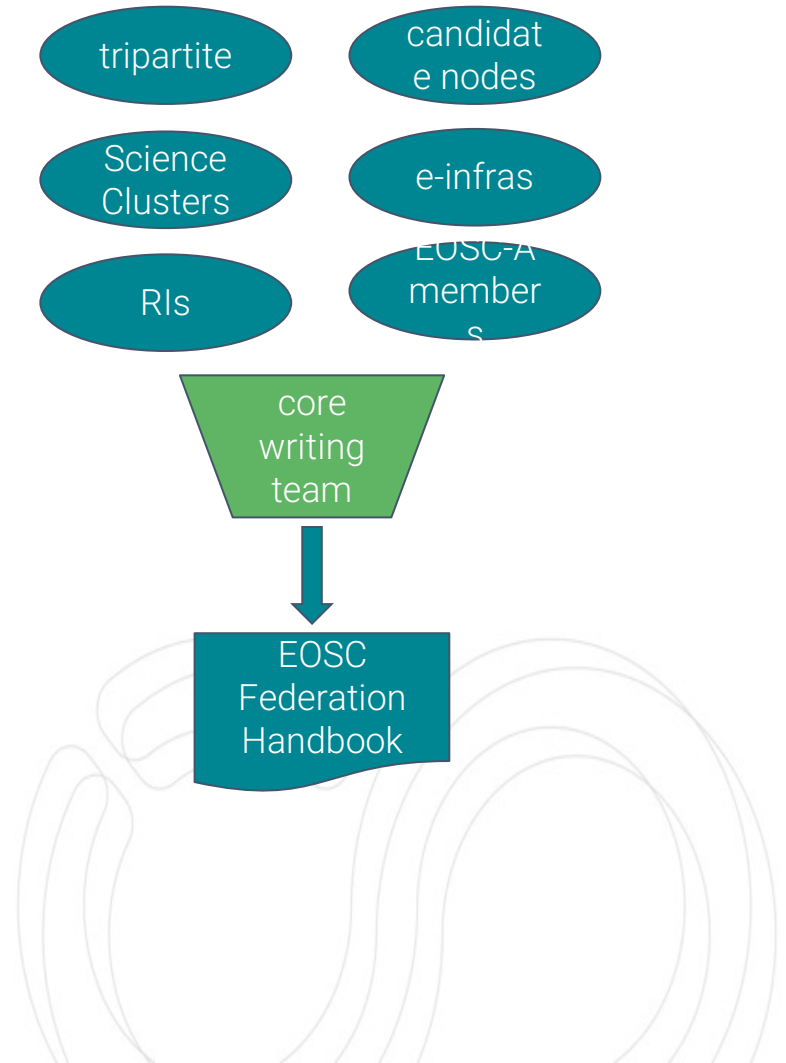
- Tripartite events preparing for the post 2027 governance
- EOSC General Assembly consultation sessions with members (May)
- Milestones in the deployment of the EOSC EU Node
- EOSC Symposium presentation and review of Handbook (October)

EOSC Federation Handbook - ongoing work

Open and Collaborative Work Plan

Actors

- Tripartite governance
- EOSC-A membership
- Candidate nodes
- RIs/Science clusters
- E-infras
- EOSC related EC funded projects
- etc.



EOSC Federation Handbook planning

Planning:

- May 2023 – Concept of nodes and federation raised at the EOSC-A General Assembly
- June-Sept 2023 – Workshop organised with RIs and Mandated Orgs
- October 2023 – Nodes concept focus of ‘unconference’ session at EOSC Symposium ‘23
- Nov 2023 – Revised short paper on Nodes distributed
- January 2024 – Preliminary draft of Handbook outline prepared with EOSC Focus
- March 2024 – Kick-off of Handbook writing process with core team (EOSC-A + EOSC Focus)
- **April 2024** – **Preliminary discussion of EOSC Node during the Tripartite meeting**
- May 2024 – Meeting with potential candidate EOSC Nodes
- now • May 2024 – Preliminary draft of Handbook for discussion with EOSC-A members
- July 2024 – Preliminary draft of Handbook discussed at EOSC Partnership board meeting
- Sept’ 2024 – Revision of Handbook prepared with consultation meetings
- October 2024 – Mature draft of Handbook presented at EOSC Symposium ‘24
- Nov’ 2024 – Mature draft of Handbook endorsed at next Tripartite meeting

Types of offerings by EOSC Nodes

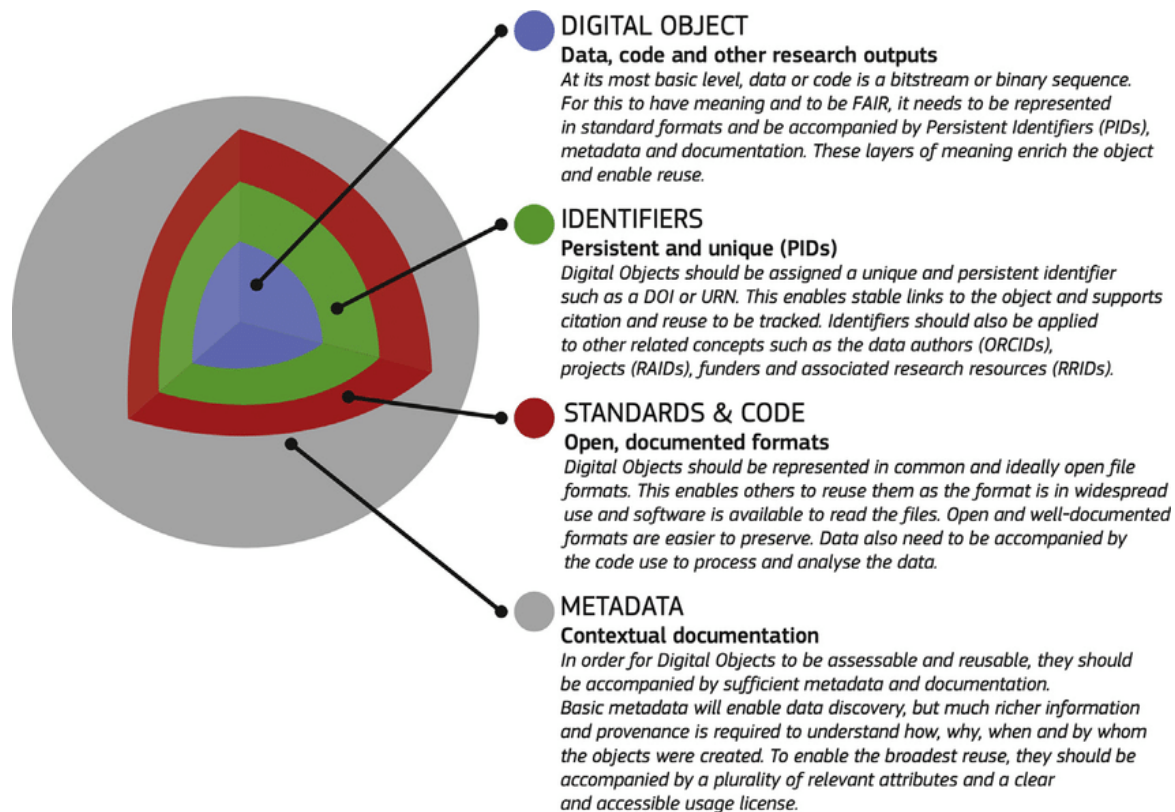
- **FAIR data** - a fundamental goal of EOSC is to build a “web of FAIR data”, therefore a FAIR data node must provide FAIR data through one or more trustworthy data repositories. The data repository must be recognised as belonging to a local, regional, national, or international community of scientific activity. It must have the right to distribute and share data through a documented data policy adhering to the FAIR principles. Trust and sustainability of the data repository must be ensured and ideally certified through a certification process e.g. CoreTrustSeal or similar.
- **Services** - a service node does not necessarily provide data but instead must provide services for processing and/or storing FAIR data. The node must provide access to the services under a documented policy which defines the rules of usage. The services must be recognised to be of general interest to a wider community and possibly be open to all EOSC users.
- A substantial number of the EOSC Nodes will most likely provide both **FAIR data and services**.

The promotion and realisation of FAIR data (principles) and FAIR digital Objects

- The FAIR principles promote the reuse of research objects generated by researchers operating in all fields of science and innovation
- The promotion and realisation of FAIR data (principles) and FAIR digital Objects
- The FAIR-AI alliance is already a fact that needs to be described and understood.

FAIR Digital Objects

[FAIR Digital Objects Forum | \(fairdo.org\)](https://fairdo.org)



Thank you for your continued attention !

Acknowledgements

This presentation is the fruit of the experience of working and collaborating with the colleagues listed:

In order of appearance:

e-IRG Support Project: Fotis Karayannis, Greece, Jan Wiebelitz, Germany

EOSC Association-President: Karel Luyben

FAIR Digital Object Forum: Paolo Budroni