

EOSC Academy - Course 2: Applying the EOSC Federation Handbook

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for the **EOSC Academy**



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EOSC EOSC Association

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EOSC Federation Handbook

EOSC Association (Editor)

The EOSC Federation Handbook provides an overview of the organisational and operational structure and technical characteristics of the EOSC Federation. It aims to serve as a practical guideline for organisations that are interested in making their resources available within and across the EOSC Federation. Such organisations can achieve this objective by creating and operating an "EOSC Node", and "enrolling" it as part of the EOSC Federation, and/or by "onboarding" their resources in one or more EOSC Nodes operated by other organisations.

The intended users of the Handbook include primarily facility managers, policy makers and technical staff of research performing and funding organisations, research infrastructures, providers of scientific services and other resources, and e-infrastructures.

The "end-users" of the resources accessible through the EOSC Federation, i.e. the researchers, are not directly targeted by the Handbook, but they may still find useful information about the scope and organisation of the EOSC Federation. It is important to build the EOSC Federation in the most transparent manner and with the understanding of the research community.

Files

EOSC_Federation_Handbook_V2_20260130.pdf

Version	Date
Version 2.0 10.5281/zenodo.18454649	Jan 30, 2026
Version 1.0 10.5281/zenodo.1499577	Mar 27, 2025

External resources

Indexed in

OpenAIRE

Communities

EOSC EOSC Association

Details

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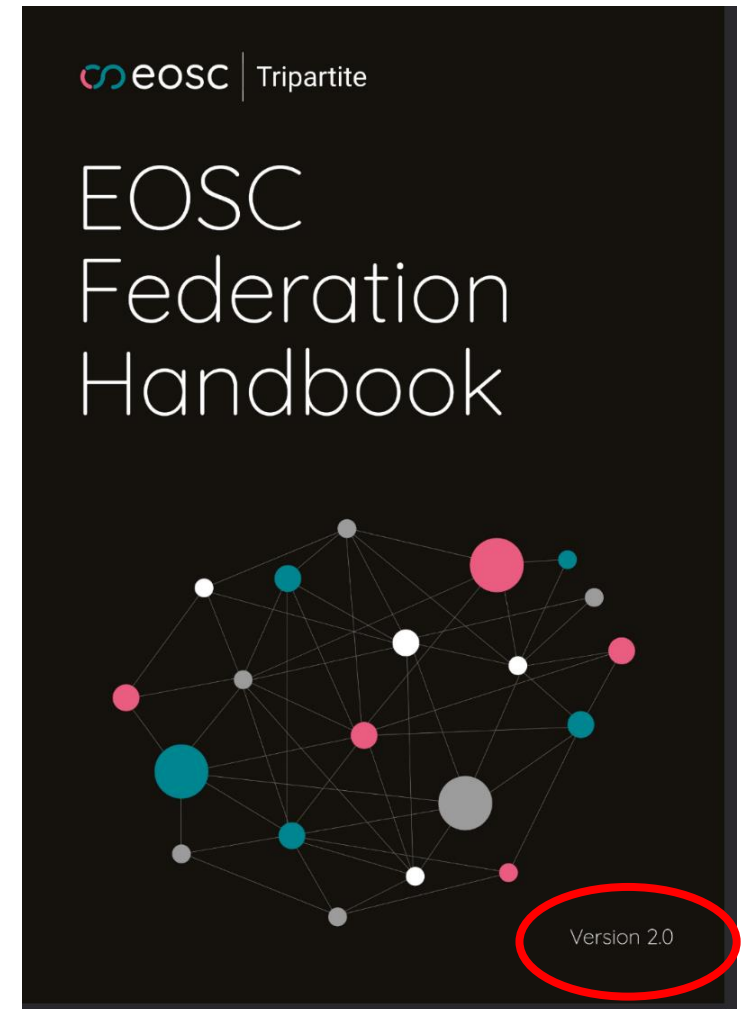
Resource type

Book

Publisher

EOSC Association

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Module 1

Introduction to the EOSC Federation Handbook

GOAL = BE THE REFERENCE document which describes the EOSC Federation and Nodes

1. It should be kept relatively short (~50 pages)
2. It should link to official documents which describe technical details
3. It should capture the common understanding of the Federation
4. It should be written by the community and reviewed by the Tripartite Group
5. It should be updated regularly



[Image](#) by Ross Sneddon | [Unsplash](#)

The EOSC Federation is still under development and many decisions on the implementation have yet to be taken, however ...

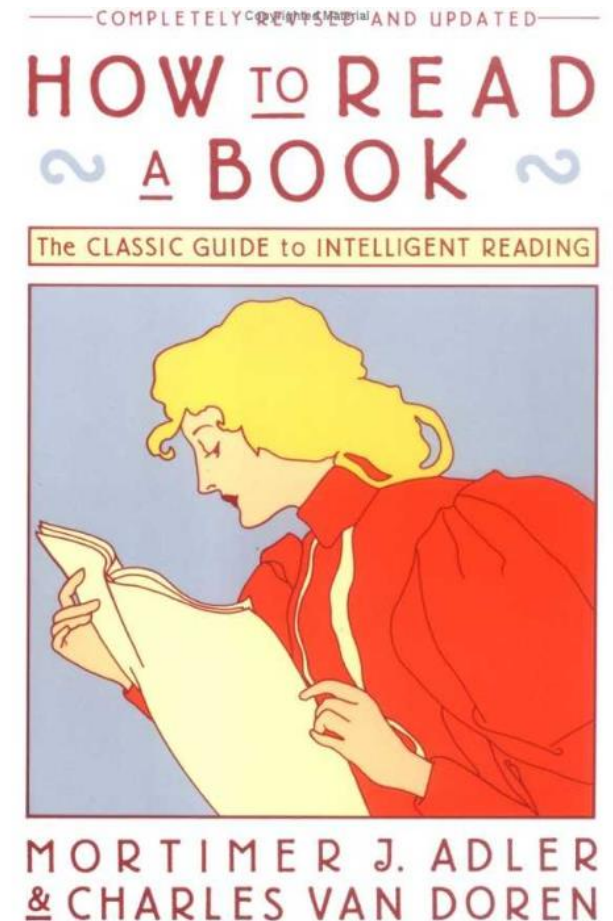
1. **The basic concept is clear**
2. There is **enough information in V2 of the Handbook to build a Node satisfying the current requirements**
3. Additional confusion comes from :
 1. Not reading the Handbook carefully
 2. Not understanding the Handbook
 3. Not agreeing with the Handbook



[Image](#) by Rodion Kutsaiev | [Unsplash](#)

From beginning to end, page by page!

1. Read the original text (not an AI summary!)
2. Read it carefully
3. Reflect on the meaning
4. Read it on paper
5. Send feedback / questions





V1 (03/2025)
V2 (12/2025)

9K
VIEWS

7K
DOWNLOADS

- ✓ **Handbook V1** written collectively by **volunteers**, it was published in March 2025
- ✓ Responding to the need to have a clear manual on how to build the Federation for Nodes
- ✓ It accompanied the EOSC Federation Build-up phase in 2025 which led to Handbook V2
- ✓ **V2** was written by more **volunteers** with input from a survey of Nodes, Projects + TFs + WGs

- The Handbook aims to serve as a practical guide for **organisations** that are interested in **making their resources available** within and across the EOSC Federation.
- Such organisations can achieve this objective by **creating and operating an EOSC Node**, and enrolling it as part of the EOSC Federation, alternatively they can **onboard their resources** in one or more EOSC Nodes operated by other organisations.
- The intended **users of the Handbook** include primarily **facility managers, policy makers and technical staff** of research performing and funding organisations, research infrastructures, **providers of scientific services and other resources**, and e-infrastructures.

Large variety in the Nodes services, construction + management

1st Wave

- **Thematic Nodes**
 - PaNOSC – photon and neutron science
 - Life Science Connect – life sciences
 - Digital Twin of the Ocean - marine
 - Data Terra – environment
 - CERN – particle physics
 - BBMRI – biobanks
- **National Nodes**
 - Finland, Netherlands, Germany, Italy, Poland, Slovakia
- **Infrastructure Nodes**
 - EU Node, EUDAT

2nd Wave

- **Thematic Nodes**
 - METROFOOD-RI – food quality + safety
 - EBRAINS RI – brains research
 - ENVRI - environment
- **National Nodes**
 - Czechia, Croatia, Latvia, North Macedonia, Sweden, Slovenia, Switzerland, Turkey
- **Infrastructure Nodes**
 - GÉANT, EGI, Scholarly Commons



1. **PaN community is 18+ large Research Infrastructures** in Europe
 2. Working **together for over 20 years** on data and other topics
 3. Producing **petabytes of high quality unique data** e.g. Human Organ Atlas
 4. Some domains produce **FAIR AI-ready data** e.g. **protein crystallography**
data from synchrotrons represent 80% of Protein Data Bank
 5. For many other domains data are **not FAIR nor AI ready**
- **Combining our efforts around FAIR and Services for Open Science we will increase the quality and scientific impact of data**

Multi-partner Nodes – PaNOSC example

Currently 11 PaN RIs are partners



Elettra Sincrotrone Trieste



eOSC Node

PaNOSC

Physical Sciences & Engineering





The vision for PaNOSC is to put in place a **system in Europe** to **find and access data and services from European Photon and Neutron Facilities** for research and innovation, and to help researchers **store, share, process, analyse and reuse FAIR research outputs** within and across disciplines and borders.

The ***system in Europe*** is the **PaNOSC Node** of the EOSC Federation



The CERN node's value proposition is a **two-phase contribution** to the EOSC Federation: (1) enhancing the **EU Node by integrating CERN's key services (Zenodo, REANA, Indico, data repositories)** and testing the virtual credit system, then (2) **establishing the CERN Node with controlled, quota-managed access to HEP data and tools for researchers in any field.**

It will make **high-value HEP data discoverable and reusable across disciplines**, widen access to high-TRL tools originally built for HEP, and lets **non-HEP researchers run scalable, reproducible analyses directly where the data resides**—in a secure, science-focused environment, without large downloads.

The NFDI node's contribution is **interdisciplinary FAIR data access, federated AAI connectivity** to ease onboarding, and bottom-up **specialized services** (notably terminology / semantic artefact services) that improve **cross-domain interoperability**—all framed around **digital sovereignty** and **European strategic autonomy**.



Photo by Leeloo The First on Pexels

Flashcards

Question 1.1: Who is the Handbook for?

Question 1.2: What is the difference between the first and second wave Nodes?

Further Questions + Discussions on the EOSC Federation User Forum

<https://user-forum.eosc.eu/>



A screenshot of the EOSC Federation User Forum interface. The top left shows the EOSC logo and 'Federation'. Below it is a 'New Topic' button and a 'Topics' menu with options like 'My posts', 'My messages', 'Review', 'Admin', 'Invite', and 'More'. A 'CATEGORIES' list includes 'EOSC Academy', 'EU Projects', 'Federation Nodes', 'Federation Support', 'Research Communities', and 'All categories'. A 'CHANNELS' list includes 'General' and 'Staff'. A 'DMS' list includes 'Brina'. The main content area shows a welcome message 'Welcome back, andygotz!' and a search bar. Below are several forum posts with titles like 'EOSC Academy - Online sessions - May/June 2026', 'EU Node Technical Architecture Specifications', 'EOSC Federation onboarding of services', 'EOSC Node Open Source bundles', 'OSCARS project InViMOD', 'Code of Conduct - draft', 'Admin Guide: Getting Started', and 'Welcome to the EOSC Federation User Forum!'. Each post includes a category tag and the author's name and time.