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Thematic Track 3:
Competencies and Training

Session A:
EOSC Academy: Competencies and Training for the EOSC Federation

Time	Topic
11:00-11:05	Introduction to Track 3
11:05-11:15	Introduction to the EOSC Academy
11:15-11:45	The EOSC Node build-up process and the skills required for successful enrolment and onboarding. Sharing experiences of the Federation Build-up Group
11:45-12:15	Panel discussion: Training needs and their expectations towards the EOSC Academy
12:15-12:30	Conclusions

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Track 3 Competences and Training Setting the scene

Celia van Gelder (Health-RI, ELIXIR-NL, OA5EG)

Helen Clare (Jisc, EUDAT, OA5EG)

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Welcome to Track 3 Competencies & Training

- Today 35 registrants/ participants
- Which role(s) do you have in EOSC?

Word cloud from emerging topics and gaps identified by EOSC Winter School 2026 participants

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Our role(s) in EOSC

Join at menti.com | use code 5958 9888

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Track 3 Schedule

- Setting the scene for Track 3
- Session A:
  “EOSC Academy: Competencies and Training for the EOSC Federation”
- Session B:
  “Embedding Training and Engagement into the EOSC Federation”
- Session C:
  “Towards an EOSC skills and training roadmap”
- Preparing for reporting

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EOSC Federation: Transition to production

EOSC Federation Building the Roadmap for 2026

Transition to production

- Move the EOSC Federation from prototype to production
- Address legal, governance, operational and engagement requirements

Gov & Funding model

- Move beyond the recently approved MoU as a basis for collaboration in 2027
- Elaborate a gov. & funding model that supports a sustainable future for the EOSC Federation beyond the current co-programmed European partnership

Federation-level policies

- AAI: trust framework, levels of assurance & attribute release policies
- Rules of Participation: rights and obligations of a node host/resource provider
- Cybersecurity: Including incident response procedures
- Data Access and Use: for data sharing, licensing, and access
- FAIR Data & Interop: measurable baseline for discovery and access
- Service Mgmt & Monitoring : service quality, reliability, & accountability

Training and Engagement

- Open Science and FAIR data skills
- Contributing to the EOSC Federation
- Engagement of research communities
- Role of competence centres

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Track 3: Competencies and Training - Objectives

Session A: **To discuss the role and the contribution of the EOSC Academy within the EOSC Federation**

- Shape the design and delivery of the EOSC Academy
- Address the training needs of nodes joining the Federation
- Support the process of Federation development through targeted and well-designed training
- Share lessons learned from EOSC Nodes

Session B: Embedding Training and Engagement into the EOSC Federation

- Explore how open science training can enhance uptake of Node resources
- Clarify synergies between competence centres, other training providers and EOSC Nodes
- Exploring options to improve training material discovery and catalogues
- Provide input to the EOSC Academy and EOSC Federation Handbook

Session C: Towards an EOSC skills and training roadmap

- Consolidate previous recommendations and those from Sessions A and B
- Identify and prioritise next steps for different stakeholder groups
- Create a draft mandate for a new sub-group on training in the Build-up Group

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Track 3: Competencies and Training

Challenges addressed

Without proper skills for & engagement from all stakeholders the benefits of EOSC can not be realized

- For potential users/researchers
  - Joining up a fragmented training landscape to make it easier for users to access training
  - Explaining EOSC - its value & services; support is needed if they want to use EOSC services;
  - Making sure users have the skills to access and use the services: training, help desk etc.

- Urgent need for research data professionals (data stewards, etc.)
  - With the appropriate skills
  - We need to have enough of them - training and train-the-trainer needed
  - (European) agreement about minimum curricula and competencies would be very useful
  - Career paths, career possibilities, and certification mechanism

- For staff building the national and thematic EOSC Nodes
  - Guidance needed, following emerging Node specifications (Handbook)
  - Services need to be on-boarded, including Training Services (o.a. Catalogue)
  - Services need to delivered to users (helpdesk, consultancy, training...)
  - Supporting the training needs of the Federation as it develops

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EOSC Academy

Eleni Toli, Athena RC

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Purpose and goals

A **collaborative initiative** built as a **convergence space for mutual learning and knowledge sharing** by bringing together knowledge created within EOSC Federation ecosystem

- Accelerate the development of the EOSC Federation
- Foster a cohesive and sustainable EOSC ecosystem
- Create greater level of awareness on lessons learned from the current Nodes
- Build a shared understanding of the EOSC Federation: a system of people and technical infrastructures
- Assist existing and candidate Nodes and resource providers in participating in the EOSC Federation

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Expected impacts

- Acts as a **knowledge bridge** between the EOSC Federation Build-up Group, the EOSC Association, and the broader research and innovation communities;
- Contributes to **accelerating the development of the EOSC Federation** and **enhances capacity and readiness** of national and thematic infrastructures and organisations to participate as fully integrated EOSC Nodes and resource providers;
- Promotes **policy and technical alignment**, supporting e.g. interoperability, adoption of common standards, governance;
- Strengthens **community cohesion**, encouraging cross-domain collaboration and mutual support;
- Creates **greater level of awareness** and builds a shared understanding of the EOSC Federation;
- Supports **long-term sustainability** by embedding continuous knowledge development and sharing, as well as collective knowledge growth into the EOSC governance and operational framework.

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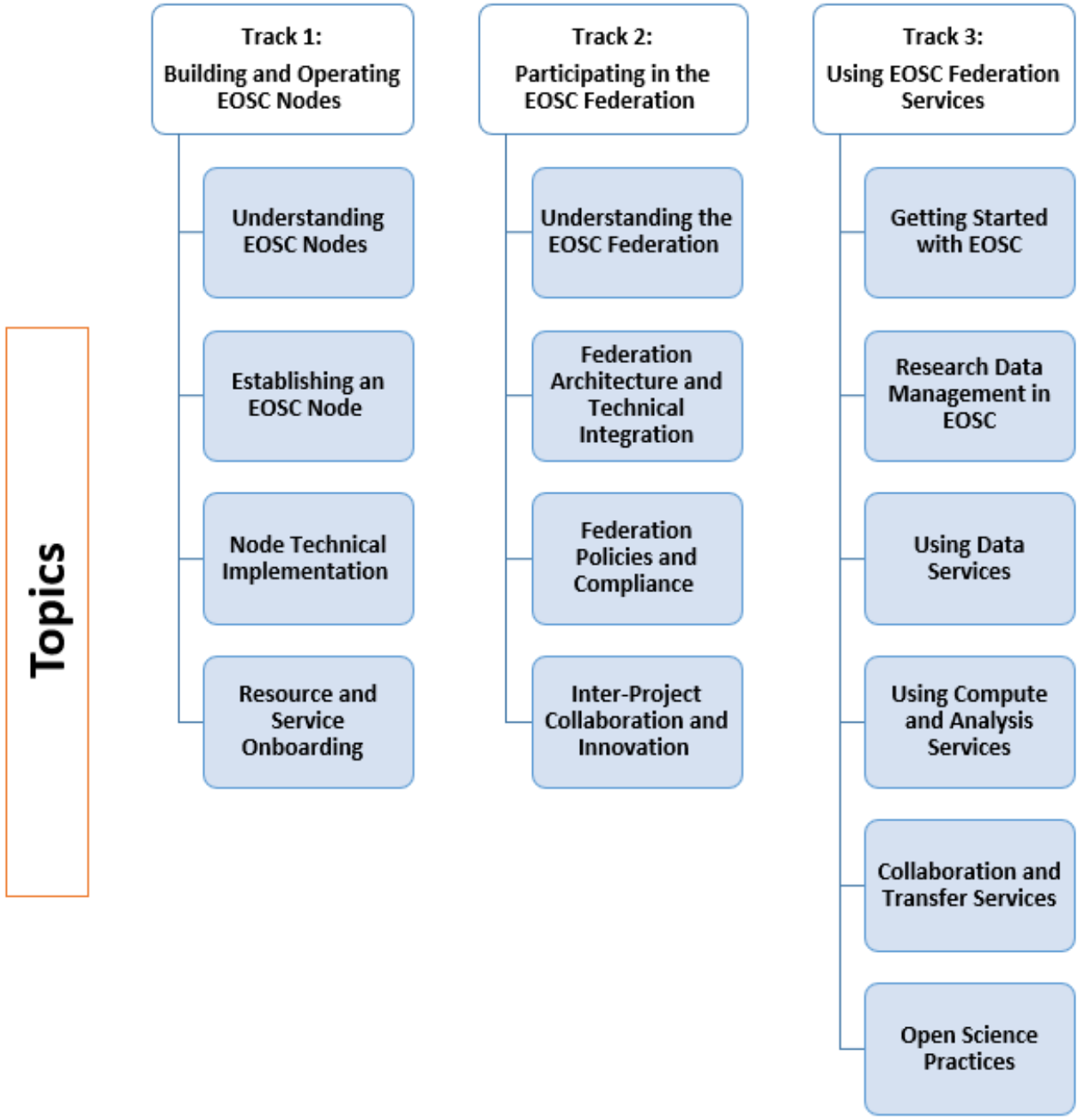
Indicative EOSC Academy Topics



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Indicative activities of the EOSC Academy

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EOSC Academy priorities for 2026

- Establish a liaison and maintain regular interaction with the EOSC Federation Training Working Group
- Aggregate and curate relevant training resources
- Design and launch of a series of webinars and targeted training actions
- Support cascading grant selected organisations/consortia by facilitating tailored learning opportunities
- Develop a dedicated microsite, as a space for sharing and providing access to all relevant information

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EOSC Gravity Academy team

- Eleni Toli, Elli Papadopoulou, Maria Kontopidi: Athena RC
- Isabel Caetano, Yann Libaers: EOSC Association
- Natalia Galica: NCN
- Zoltán Pompor, Ákos Lencsés: Pro-M
- Sara Pittonet Gaiarin: Trust-IT

Initiative in the making: your contributions are valuable and can shape the outcome

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Presentations

The EOSC Node build-up process and the skills required for successful enrolment and onboarding. Sharing experiences of the Federation Build-up Group

Chair: Kamran Naim

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EOSC-PL

Magdalena Szuflita-Żurawska & Roksana Wilk

Gdańsk University of Technology & Cyfronet AGH

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Introduction to the Node

Objectives:

1 Integration
Bring resources into the EOSC Federation

2 Standards
Ensure compliance with FAIR principles across all integrated services

3 Access
Provide federated (AAI) for a seamless user experience

4 Interoperability
Enable open science interoperability across platforms and services

5 Impact
Facilitate cross-border collaboration and efficient resource use for researchers

Governance:
A coordinated federation:
- light central steering
- strong community execution
- iterative approach

Structure:
- Defined roles and responsibilities
- Steering group
- Regular weekly meetings
- Ad hoc Working Groups

Use cases:
- Implementation of federating capabilities
- Desiginign and implementing research workflows based on resources across Federation

Node's entry point:
- Discovery platform
- Federated AAI
- FAIR-by-design working space for researchers

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Skills and training within the Node

Wave 1 – Providers & Technical Developers (Onboarding Track)

Target group: service providers, infrastructure operators, technical developers
Goal: enable integration and onboarding into the EOSC PL Node, support providers in the *professional delivery of resources in EOSC PL*

- EOSC architecture & interoperability standards
- Service onboarding workflows and compliance
- Technical integration with core capabilities(AAI, catalogue, monitoring,...)
- DevOps & operational best practices
- Producing and onboarding training materials for onboarded services
- Hands-on labs: publishing and connecting services

Wave 2 – End Users (Competence Center Training Track)

Target group: researchers, research communities, data practitioners
Goal: empower effective use of EOSC services and FAIR research practices

- Using EOSC PL infrastructure for research workflows
- Data Life Cycle training (from collection to reuse)
- Research Data Management (RDM) & Data Management Plans
- FAIR & CARE data principles applied in practice
- Data analysis, data science & reproducible research
- Service-specific (EOSC Exchange) training materials

Outcome: A scalable, two-level training ecosystem supporting EOSC PL onboarding, adoption, and long-term cultural change.

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Roksana: roksana.wilk@cyfronet.pl

- EOSC PL contact:
- Researchers - support@eosc.pl
- Providers - onboarding@eosc.pl
- Coordination: contact.eosc.pl

www.eosc.pl

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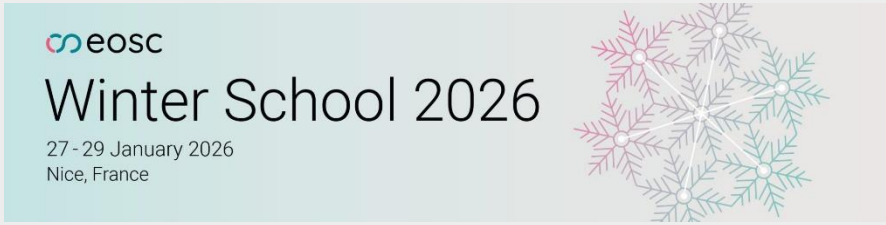

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EOSC Node Digital Twin of the Ocean

Sara Pittonet Gaiarin

Senior Manager, Trust-IT Services

EOSC Node Digital Twin of the Ocean Communications officer

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Introduction to the Node

Node Coordination
Coordinating organisation

Consiglio Nazionale delle Ricerche

CNR – Consiglio Nazionale delle Ricerche

Node organisation

Coordinator
Pasquale Pagano (CNR)
Technical Coordinator
Dick Schaap (MARIS)
Stakeholder Engagement and Dissemination Coordinator
Sara Pittonet Gaiarin (Trust-IT Services)
Operation Manager
Massimiliano Assante (CNR)
Security Officer:

- Tommaso Piccioli (CNR)
- **Infrastructure Manager**
- Andrea Dell'Amico (CNR)

Node Operation

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The Strategic Landscape: No More Silos

The Ocean doesn't work in silos — Why should we?" — *Nicolas Segebarth, DG RTD*

The European Mandate: Unifying Digital Ecosystems

- **EOSC Federation:** The horizontal, trusted **System of Systems** for all European Research.
- **EU Mission: "Restore our Ocean and Waters"** – The clear, policy-driven societal objective.
- **European DTO / EDITO:** The official, operational infrastructure for marine science.

The Challenge

- Ensuring these powerful strategic pillars are technically and operationally connected to prevent new, larger silos between the DTO Core and the long-tail scientific community.

Our Position

- The **EOSC Node Digital Twin of the Ocean** is the strategic and operational bridge. It promotes dedicated mechanisms to federate marine research capacity into the EOSC ecosystem.

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The Solution: Connecting the Ocean within EOSC

A Thematic Node for Empowered Researchers

The **Digital Twin of the Ocean** transforms marine research by providing an integrated environment built on EOSC principles

- **FAIR Federated Data Services**: harmonised data collections with advanced subsetting, semantic enrichment, and provenance tracking, so researchers get exactly the data they need with full trust.

- **Integrated Virtual Research Environment (VRE)**: suite of powerful tools within our Virtual Labs, including:
  - Interactive computing (Jupyter Notebooks, RStudio).
  - Reproducible workflows (Galaxy).
  - Containerization and application management pipelines.

- **Seamless EOSC & EDITO Integration**: seamlessly connect with the **EOSC Federation** and the **European Digital Twin of the Ocean (EDITO)**, placing marine science at the heart of Europe's digital ecosystem.

Researchers are empowered with trusted, interoperable tools and seamless access to data

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From Data to Societal Impact

EOSC Node | Digital Twin of the Ocean
Environment

The true value of the Marine Node is demonstrated by its impact on science and society

Real-World Cross-Disciplinary Use Case

- A researcher can now seamlessly combine aggregated in-situ and satellite data from key European services like **EMODnet** and **Copernicus Marine** with specialized observation data from Research Infrastructures like **Euro-Argo**, carbon data from **ICOS**, and deep-sea data from **EMSO**.
- They can process this integrated dataset using interoperable workflows in a Blue-Cloud Virtual Lab, with the results directly contributing to the **European Digital Twin of the Ocean (EDITO)** and being shared openly via EOSC.

Supporting a European Mission

- By providing the essential tools and FAIR data infrastructure, the Digital Twin Ocean node directly contributes to the ambitious goals of the **EU Mission: "Restore our Ocean and Waters"**.

A Blueprint for Other Thematic Communities

- Our approach serves as a proven model for how other scientific domains can federate their specific services and data into the **EOSC ecosystem**, extending impact well beyond the marine community.

The EOSC Federation accelerates scientific discovery and generates tangible societal impact

Training resources of the Node

The **Blue-Cloud Training Academy** offers comprehensive lessons and materials that guide users in utilising EOSC Node DTO services for Open Science in marine research.

- **A catalogue of Training resources** & Materials
- **Webinar series** on FAIR data, Blue-Cloud VRE, WBs and main Services
- **Partnership** with OTGA for thematic course

+ the **Service Catalogue**

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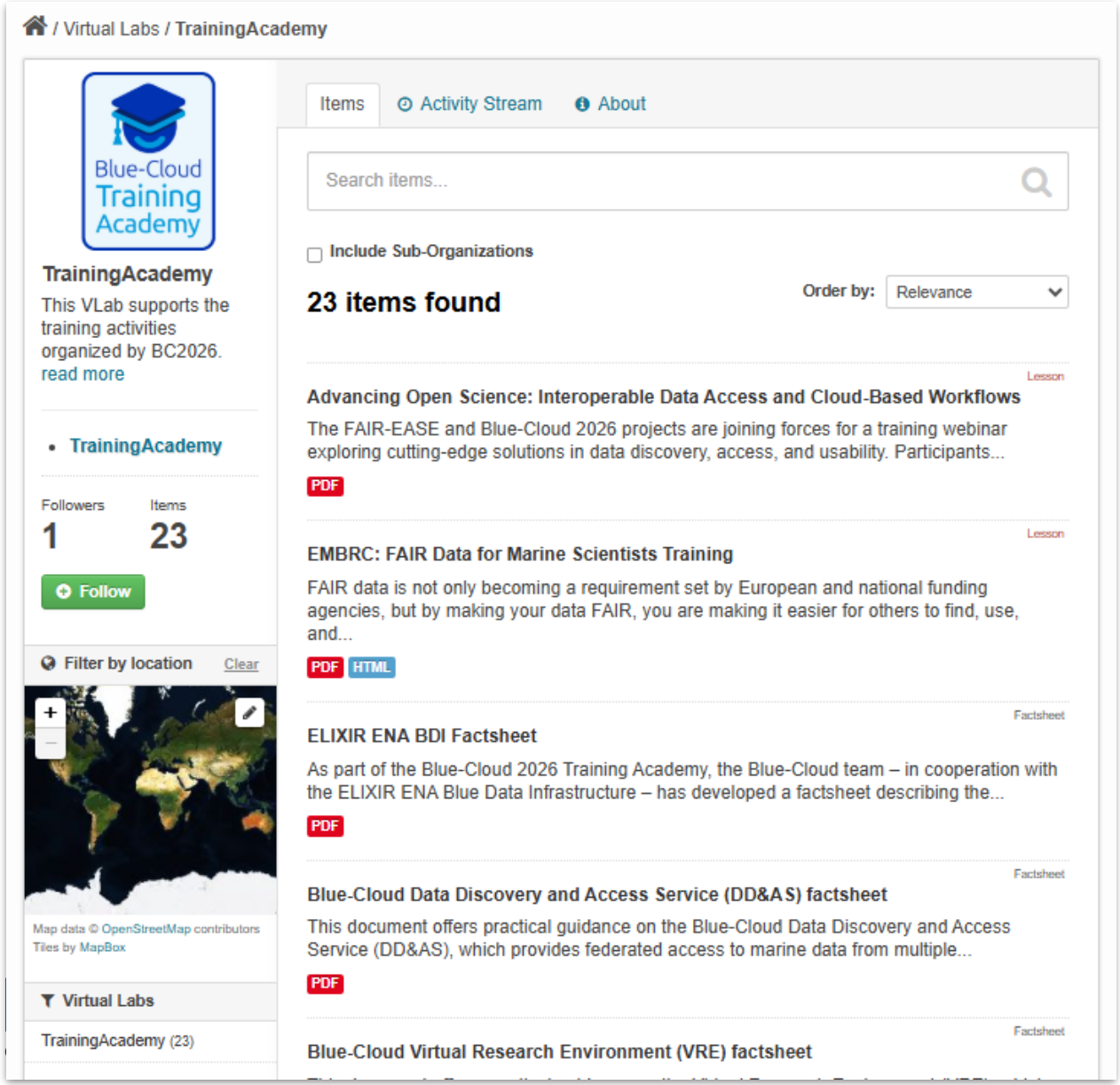
EOSC Node DTO Training Catalogue

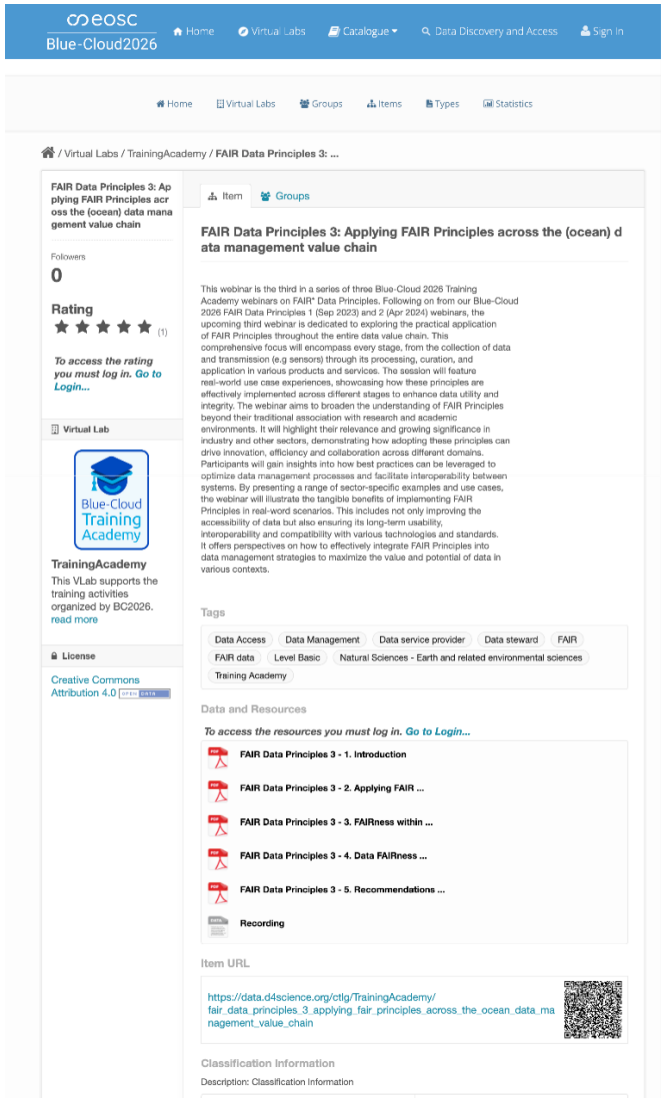


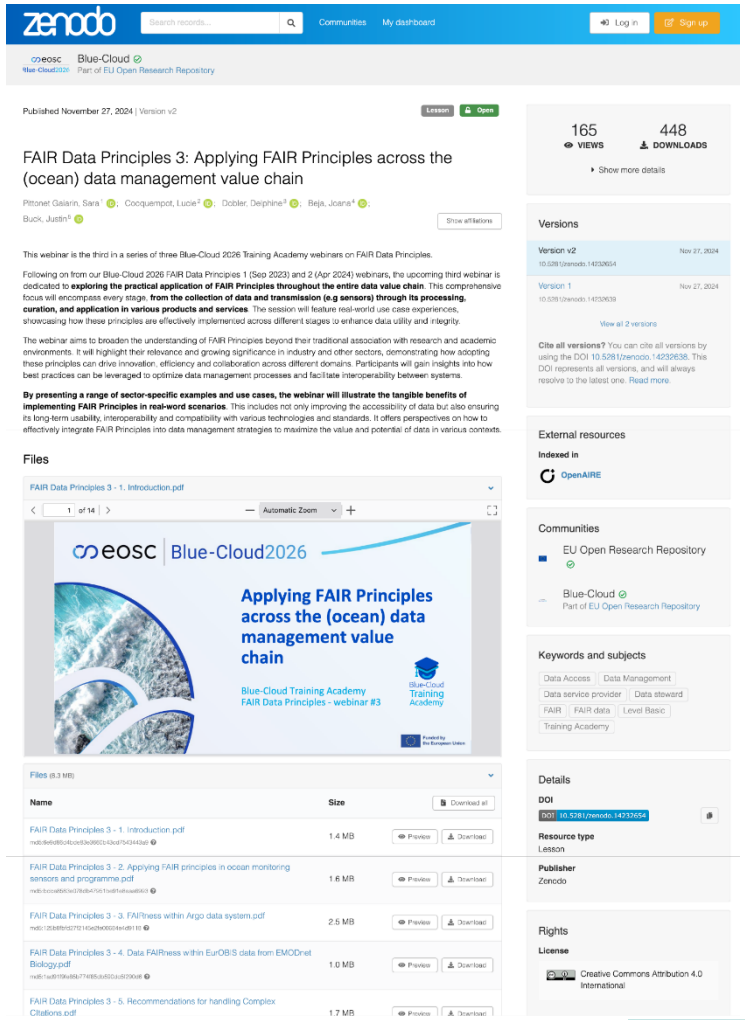
23 Training documents on how to access the VLab services, the VRE and specific Node services

Flow of publication of training materials materials

1. Log in to the EOSC Node DTO Catalogue
2. Upload the document, making sure to fill in the required metadata fields
3. Push the data into Zenodo
4. Through APIs, the document is published automatically on the Blue-Cloud Training Academy for public access and search

EOSC Node DTO Training Catalogue





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Skills and training within the Node: webinar series

The Blue-Cloud Training Academy **currently offers**:

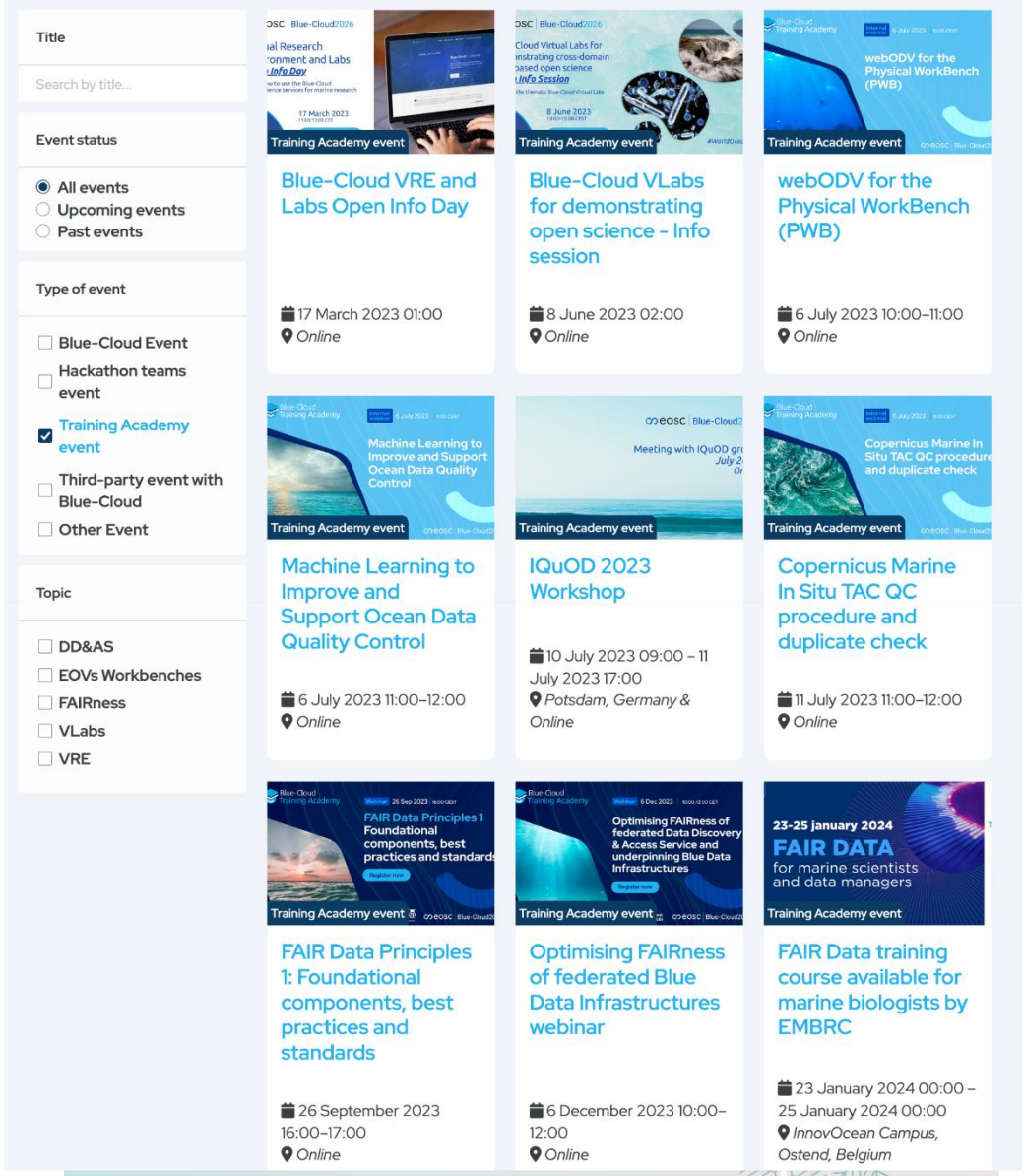
- 17 **Webinar series** on **FAIR data**, Blue-Cloud **VRE**, **WBs** and main **Services**

Upcoming events:

- 3 Ocean Observers Webinars with and for the EuroGOOS community to present the VLabs
- 3 Ocean Literacy webinar series

Internal training

- on how to upload and use the Training Catalogue in February 2026



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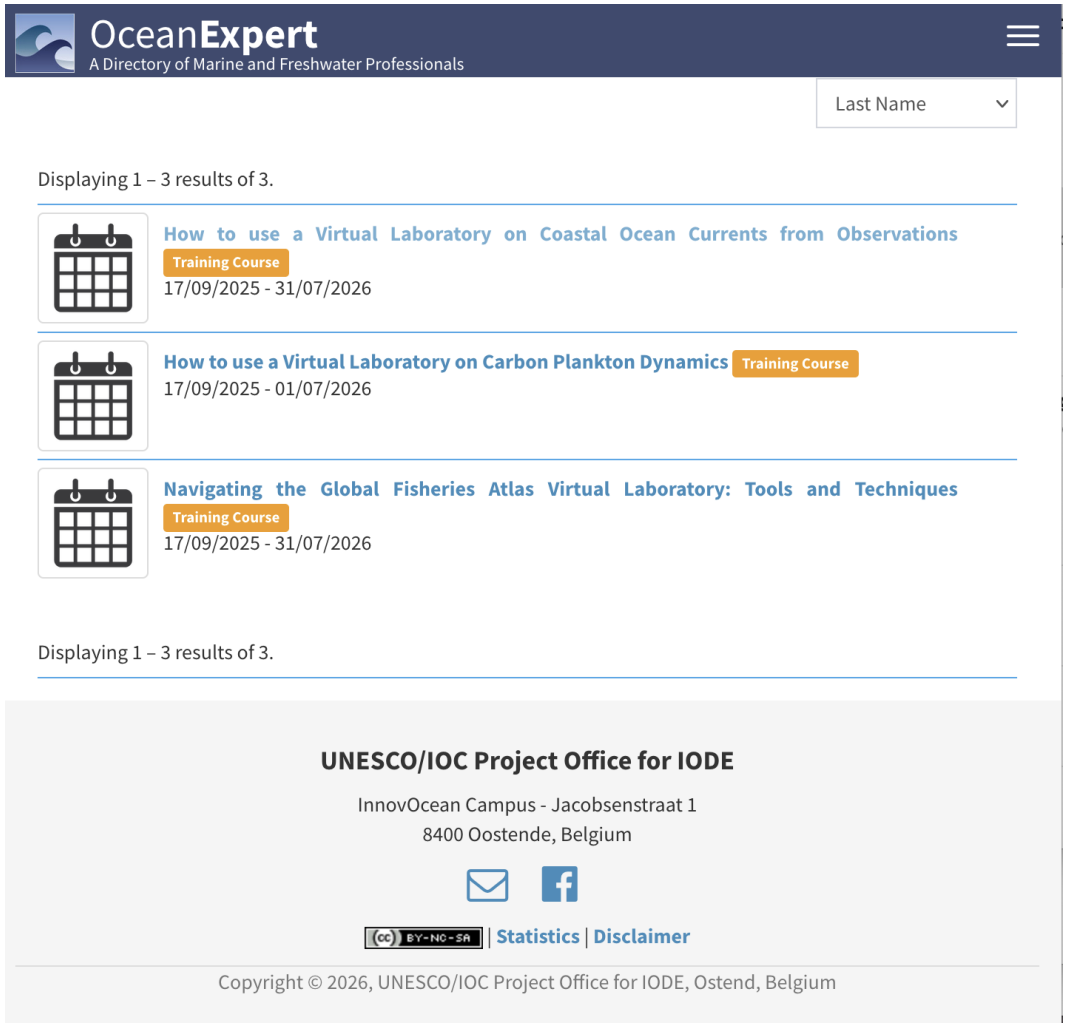
Skills and training within the Node: Partnerships



Starting from September 2025, the EOSC Node DTO / Blue-Cloud 2026 Training Academy is enriched with a set of 4 hour courses designed to empower ocean scientists by providing a comprehensive understanding and practical skills in using the Virtual Laboratories (VLabs) running in the Blue-Cloud Virtual Research Environment (VRE).

Thanks to the project collaboration with the **UNESCO/IOC Project Office for IODE,** the courses are available on the **IOC OceanTeacher Global Academy,** a comprehensive internet-based training platform that supports classroom training, blended training, and online (distance) learning.

- 3 OTGA courses live, 8 by the end of the project developed in cooperation with UNESCO
- 47+50+41 participants associated to the courses, mainly from outside Europe

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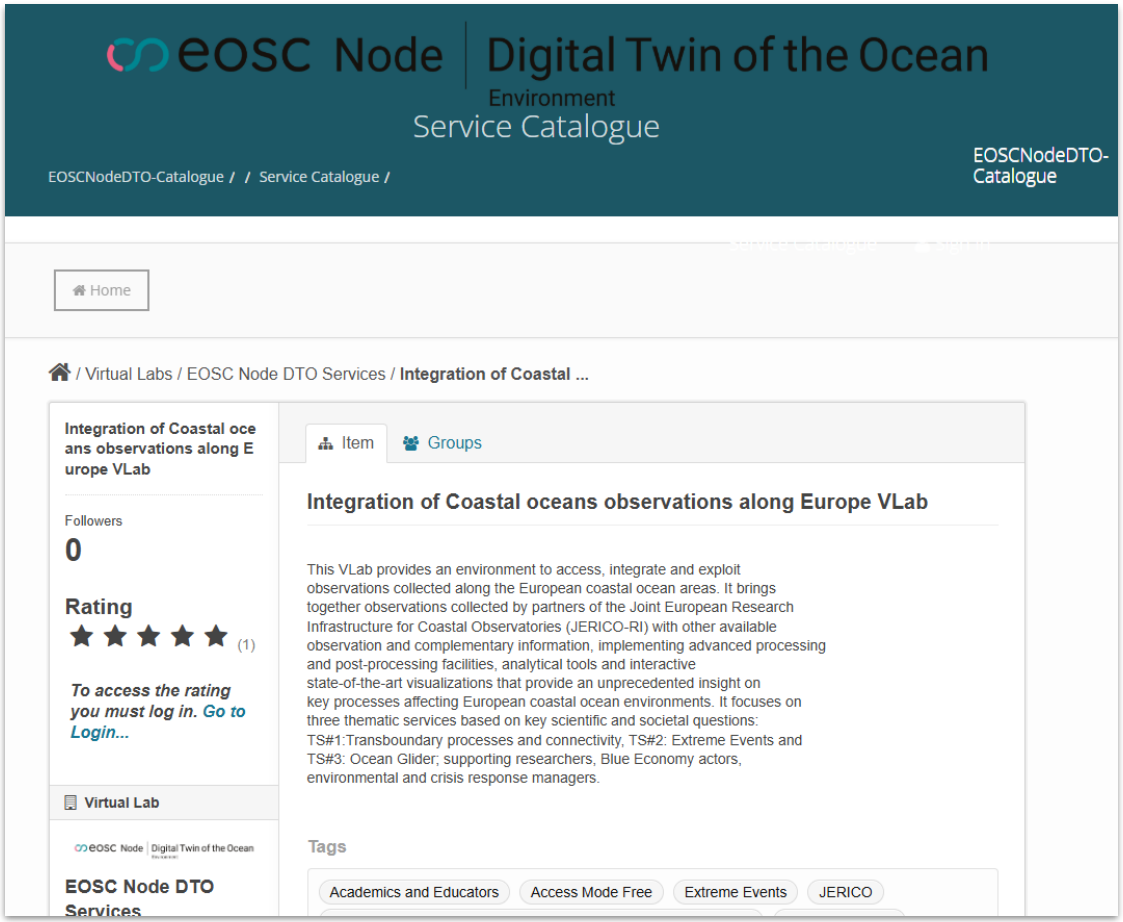
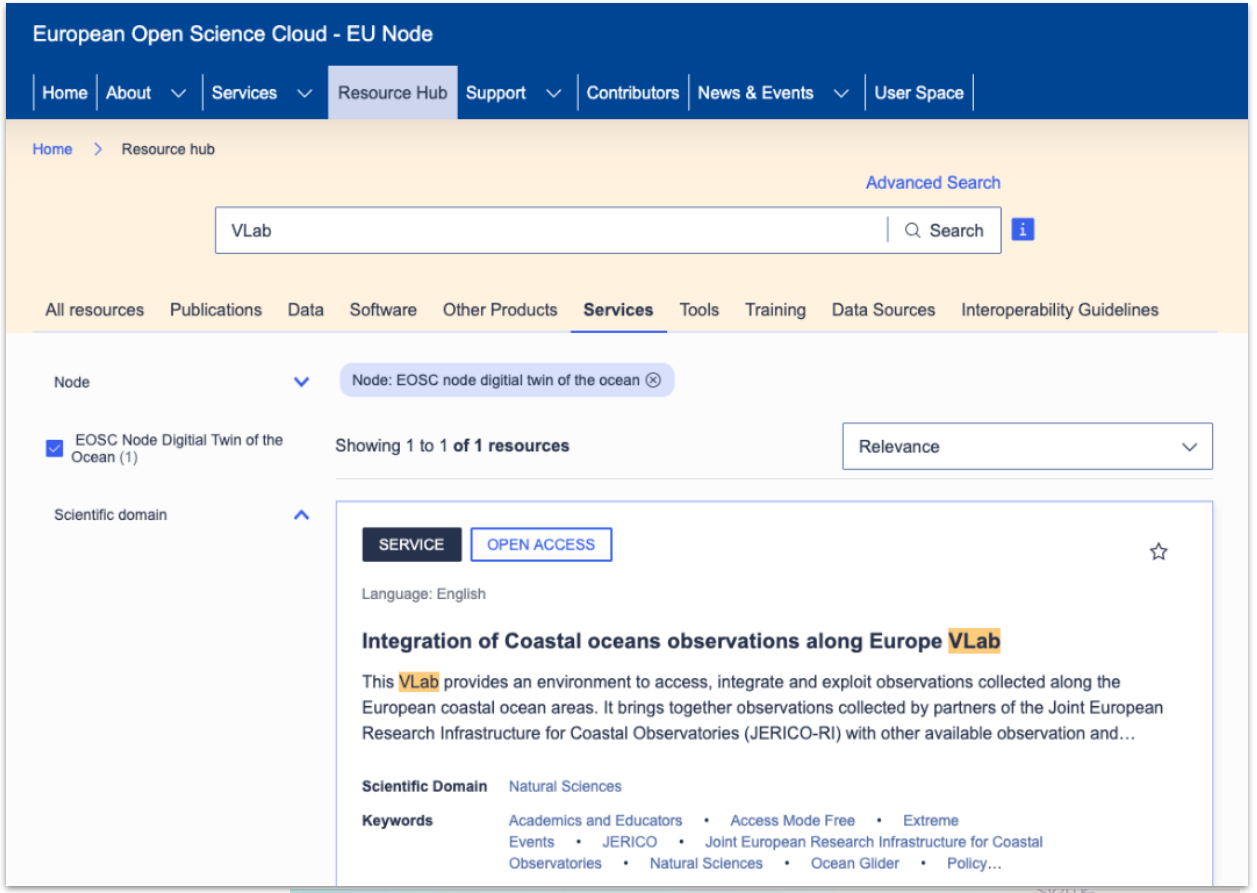
The EOSC Node Service Catalogue

12 services harvested into the EOSC EU Node catalogue





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Presenter: Sara Pittonet Gaiarin, Trust-IT Services – s.pittonet@trust-itservices.com

Node : EOSC Node Digital Twin of the Ocean: info@blue-cloud.org
Helpdesk Email: support@d4science.org | Security Contact: security@d4science.org

The website of the node/landing page: https://blue-cloud.org/eosc-node-digital-twin-ocean

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EOSC EU Node

Maja Dolinar

OpenAIRE AMKE

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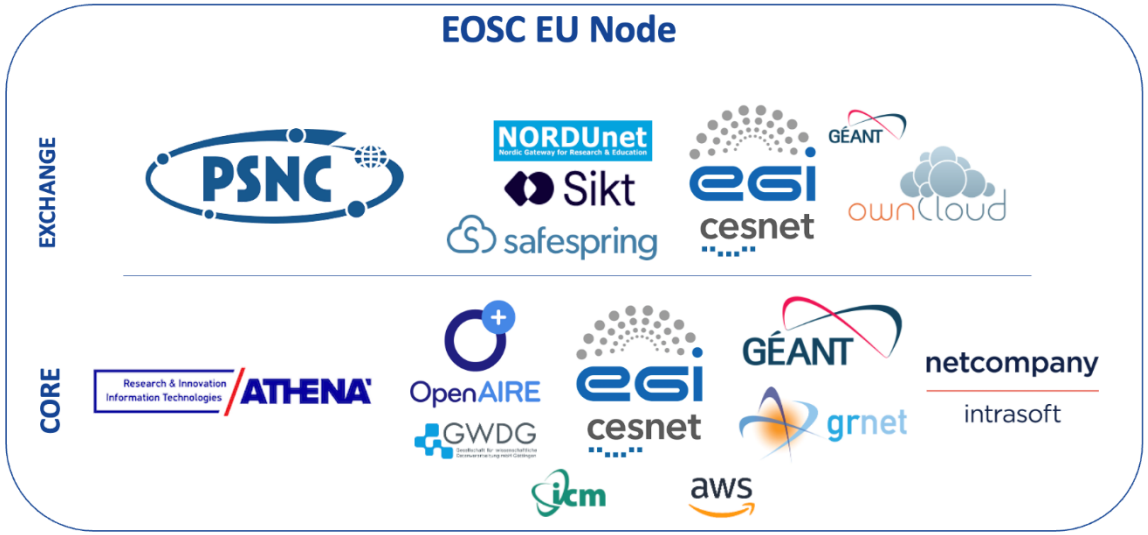
EOSC EU Node

Introduction to the Node



- The first node of the EOSC Federation commissioned by the EC as the Business Owner (DG CONNECT) and operated by the Managed Service Contractors
  - **European level multi-disciplinary** and **multi-national** scientific data/service portfolio for all research users and citizen scientists
  - Specified, provisioned, and operated leveraging experience and outcome gained from EOSC-related projects under a new pragmatic, focused, and quality-assured perspective
  - Serves as a **blueprint** for other EOSC Nodes; architecture and open-source software
  - Provides **federating capabilities** (e.g. AAI via GEANT) and **SaaS** (e.g., Helpdesk) offerings to other Nodes (optional; lower the entry barrier/costs)

The EOSC EU Node serves

- **researchers & groups** (across disciplines, under-served, last resort), **citizen scientists** (discover RO)
- **Service Providers** (discover, access, order), **RIs** (compute/storage resources), **Nodes** (enrol)

- Focal point of the EOSC Federation, but it is only one EOSC Node

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Goals and Value Proposition

GOALS

- Deliver a production EOSC Node operated for the EC (DG CONNECT) as Business owner
- Provide an EU-level, multidisciplinary portfolio for researchers and citizen scientists
- Act as a blueprint/reference implementation for other EOSC Nodes (architecture + open-source software)
- Offer federation enablers (e.g. AAI) and optional shared services (e.g. Helpdesk) to lower entry barriers

VALUE / GAPS ADDRESSED

- Reduce fragmentation: a clear entry point to validated services and resources
- Lower onboarding costs for emerging nodes / providers via reusable components and shared services
- Increase trust and usability through quality-assured operations
- Support under-served communities and cross-disciplinary reuse (including “last resort” scenarios)
- Accelerate federation rollout through repeatable processes and tooling

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Training Resources (available today)

- Documentation for all EOSC EU Node services and features
- Factsheets for researchers: 1-page quick starts per service with links to the full-service documentation and training materials
- Learning Center with tutorials and courses for researchers (certificates, badges)

https://openplato.eu/eosceunode

Explore EU Node Services Fact Sheets

Bulk Data Transfer	Cloud Container Platform	File Sync & Share
Interactive Notebooks	Large File Transfer	Virtual Machines

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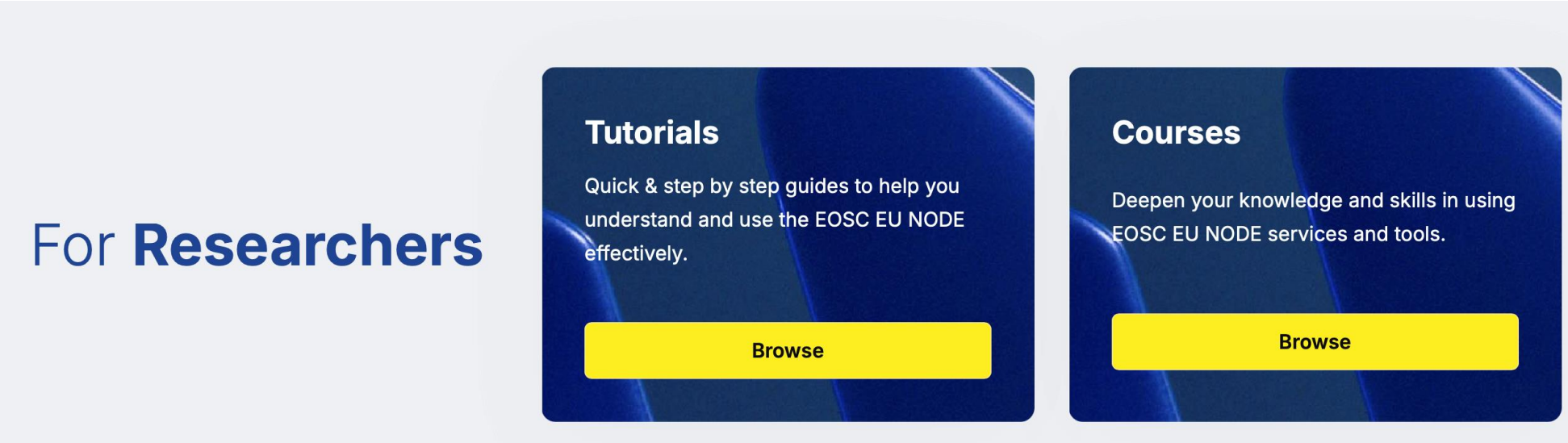
Learning Resources for Researchers



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Tutorials for quick understanding

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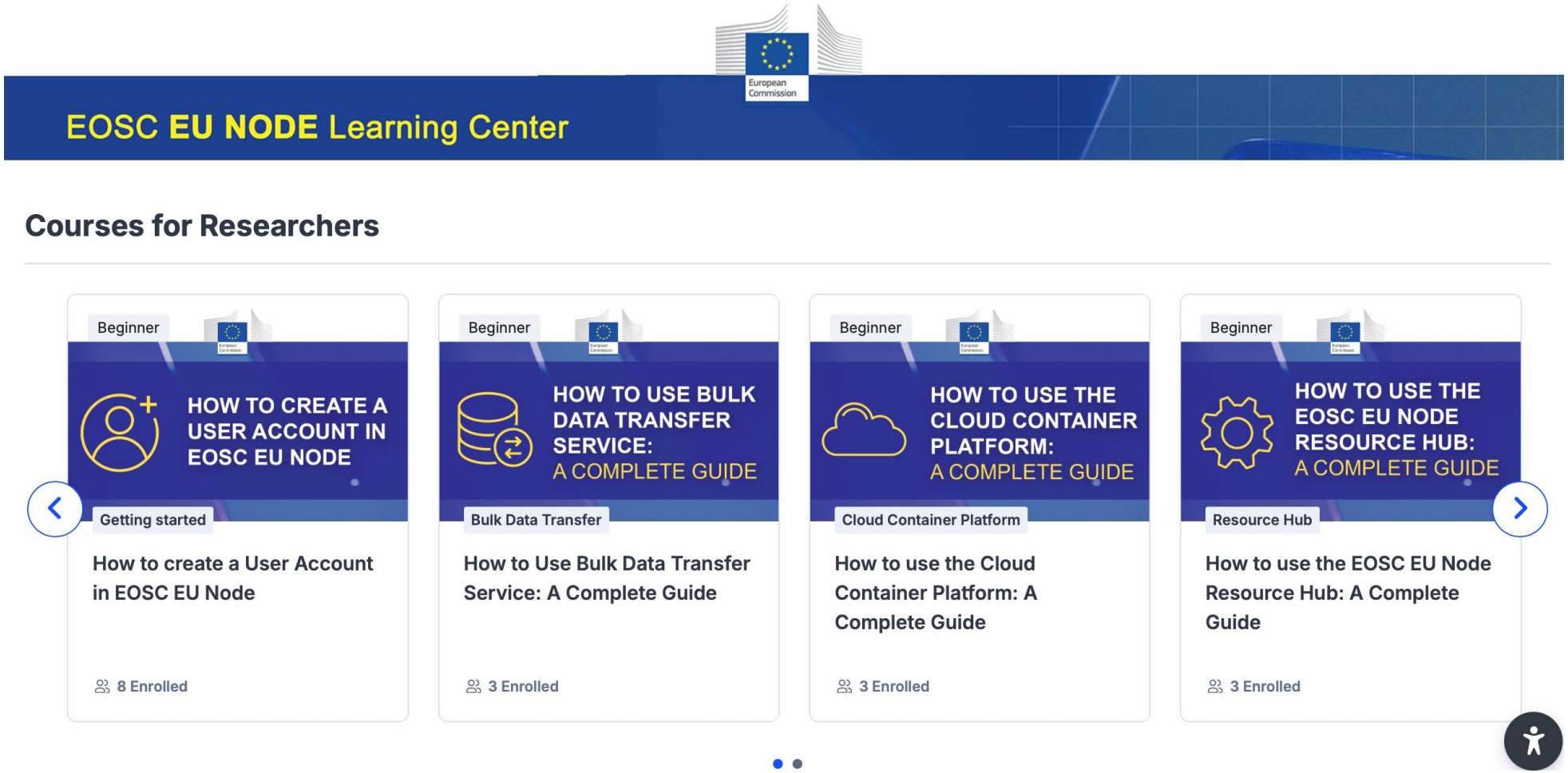
Courses

Optional quizzes available to test knowledge and earn certificates



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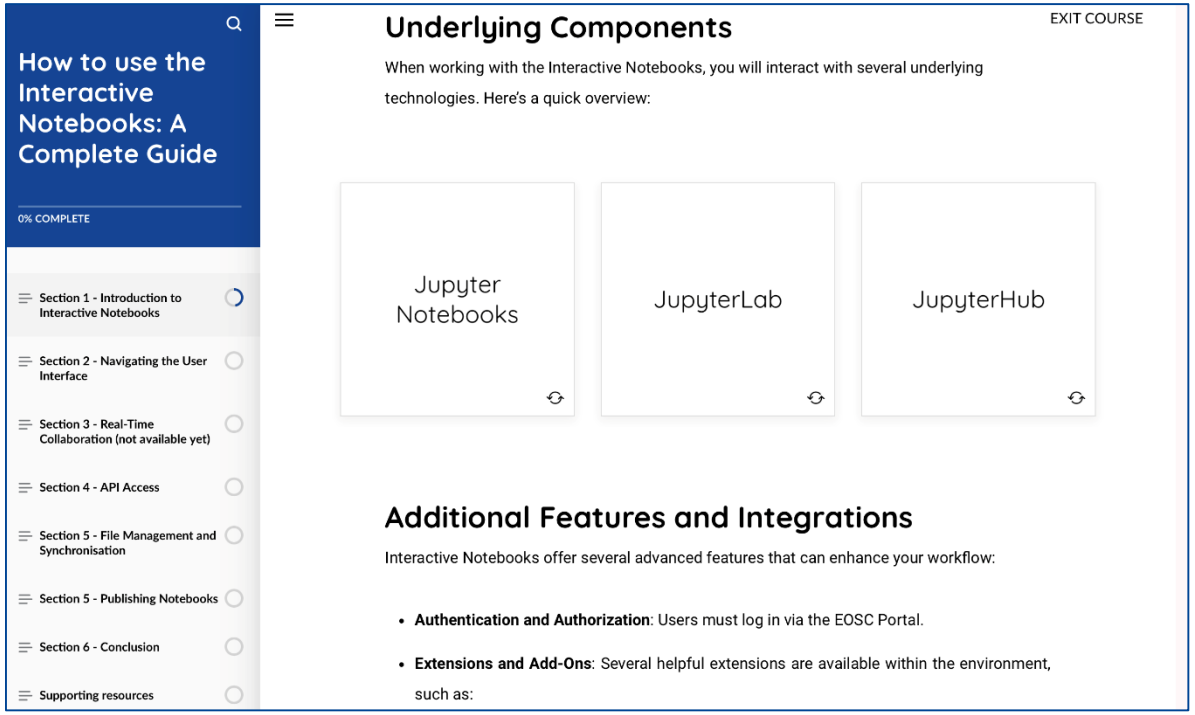
Example of a course

Course landing page

Entering a course



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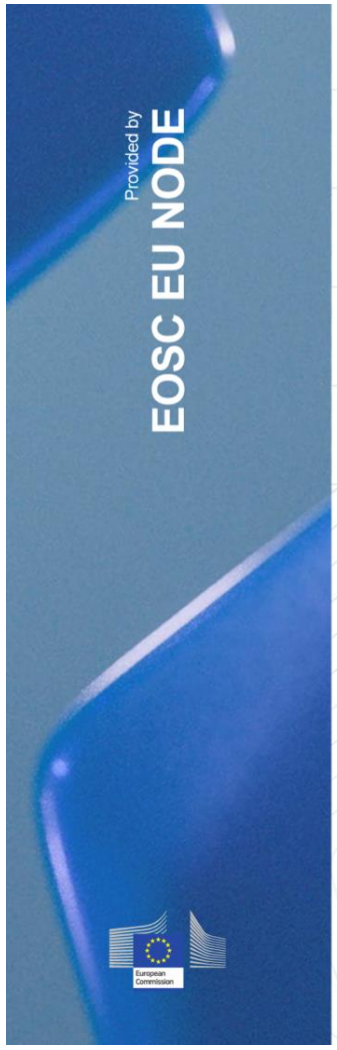
Certificates

Successful completion of a final course quiz grants a certificate of completion

A robust certification and badges system designed to showcase progress and commitment to Open Science and data management best practices

Complete a course to earn official certificate that verifies your knowledge



CERTIFICATE OF COMPLETION

This is to certify that

Maja Dolinar

has successfully completed the course

How to use the Interactive Notebooks: A Complete Guide

Date of completion:

Verify this certificate

9IzNZOsOtL

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EOSC EU Node Research Practitioner Badge

Complete a **dedicated learning path** to earn the **EOSC EU Node Research Practitioner** badge.

The badge demonstrates foundational competence in navigating and using the EOSC EU Node to support research activities.

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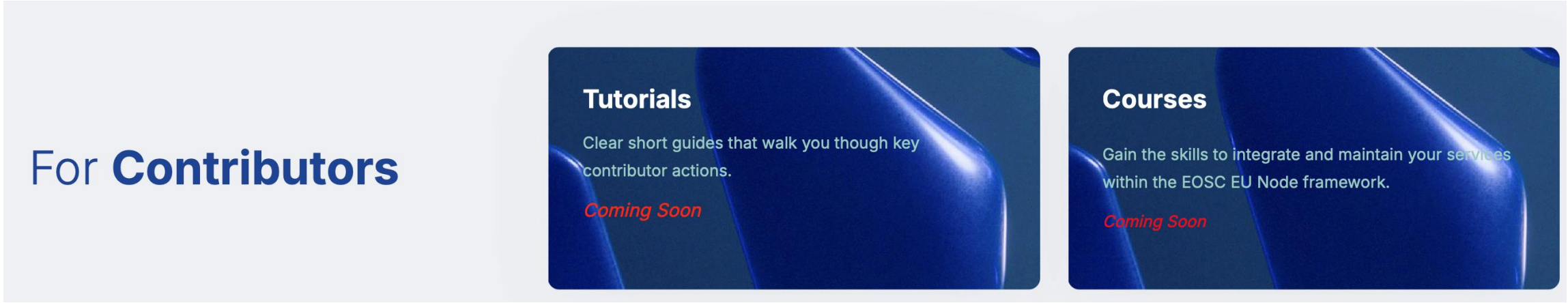
Training Resources (upcoming)

- Tutorials/Guides and courses for contributors – released when the Contributors Dashboard opens (service / tool / resource onboarding)
- Focus: integration, onboarding, metadata / FAIR & interoperability, operations, security & compliance
- Planned formats: step-by-step onboarding guides, self-paced courses
- Dedicated **learning path** for contributors resulting in **EOSC EU Node Research Contributor**



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Panel Discussion

Modrator: Kamran Naim

Kamran Naim

Roksana Wilk

Magdalena Szuflita-Żurawska

Sara Pittonet Gaiarin

Maja Dolinar

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Conclusions and next steps

Kamran Naim

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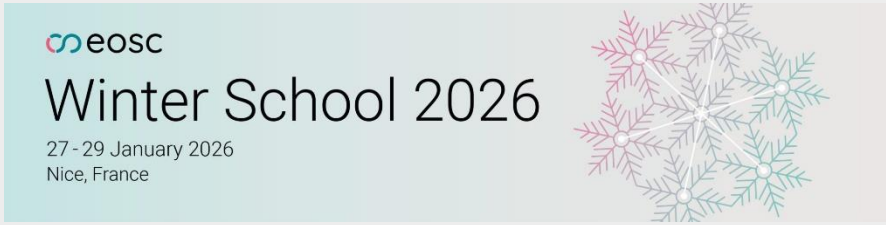
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