



## KER 9. Training Courses and Material

Giuseppe La Rocca (EGI Foundation) - WP11 leader



[eosc-hub.eu](https://eosc-hub.eu)



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**Dissemination level:** Public

Disclosing Party: Project Consortium

Recipient Party: European Commission





## **Enterprise: Boost innovation**

Digital Innovation Hub:  
Platform for industrial  
collaborations with EOSC

EOSC  
Portal  
and  
Marketplace

**EOSC-hub  
Key Exploitable  
Results**



## **EOSC Hub Operators: Develop the EOSC landscape**

## **Service Providers: Provide services for Researchers**

Rules of Participation

Internal services in the Hub portfolio

*Educate, inform  
and support my  
team and  
community*

Service Management  
System

Business and sustainability models for  
for services and the Hub

**Training  
courses  
and  
Materials**

Interoperability &  
Integration Guidelines

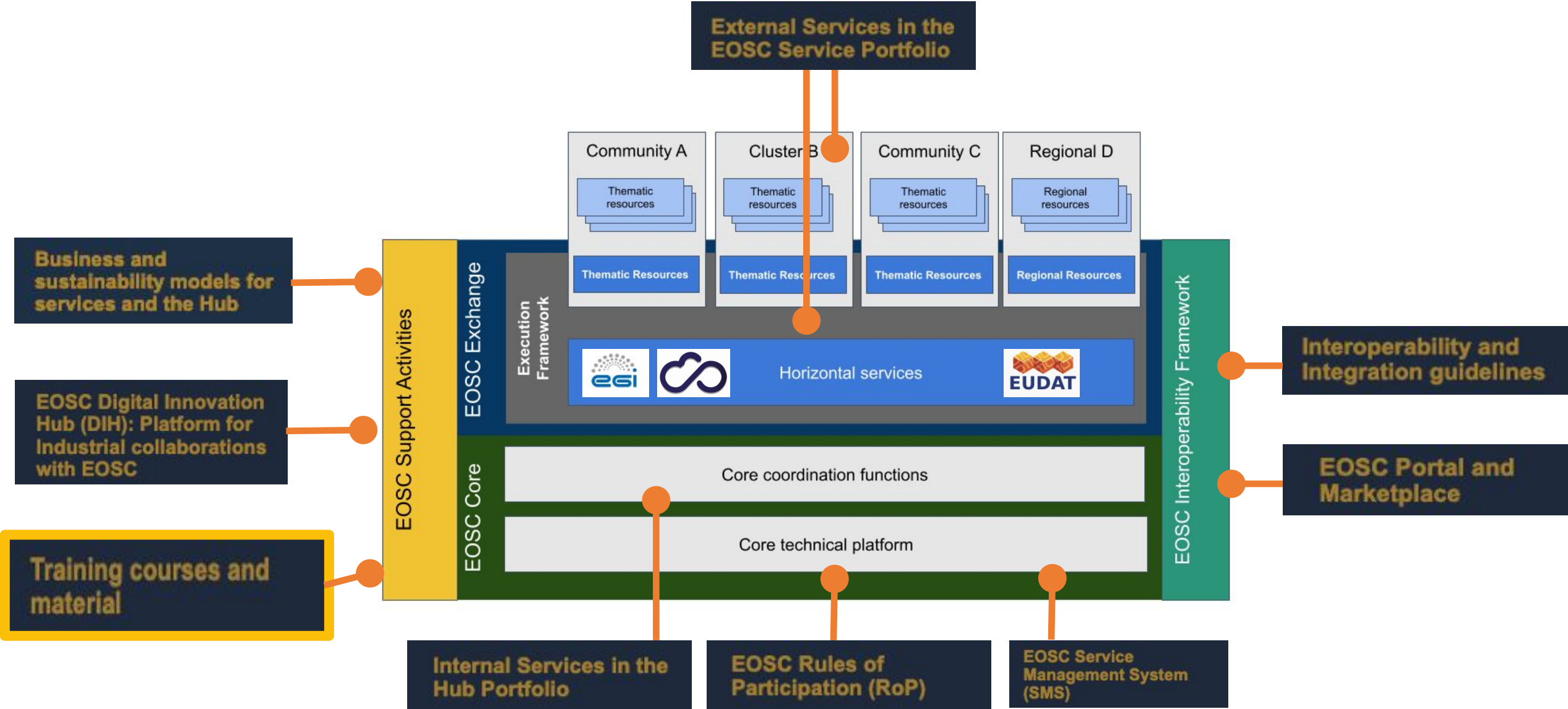
Services in the EOSC Service  
Portfolio

## **Researchers and research communities: Empower my research**





<b>Description</b>	<ul style="list-style-type: none"><li>• Training and support activities play a key role in creating awareness of EOSC services and resources.</li><li>• The training courses and material encompass a large variety of project results.</li></ul>
<b>Type</b>	<ul style="list-style-type: none"><li>• Documents and reports, skills.</li></ul>
<b>Key innovation</b>	<ul style="list-style-type: none"><li>• Rich set of tools, consulting models and material that make it possible to provide training services tailored to optimally fit the needs of the diverse audience EOSC needs to reach.</li></ul>
<b>Related information</b>	<ul style="list-style-type: none"><li>• Training materials linked in the EOSC Portal.</li><li>• Joint training activities organized in collaboration with OpenAIRE-Advance project.</li></ul>





**Innovation**



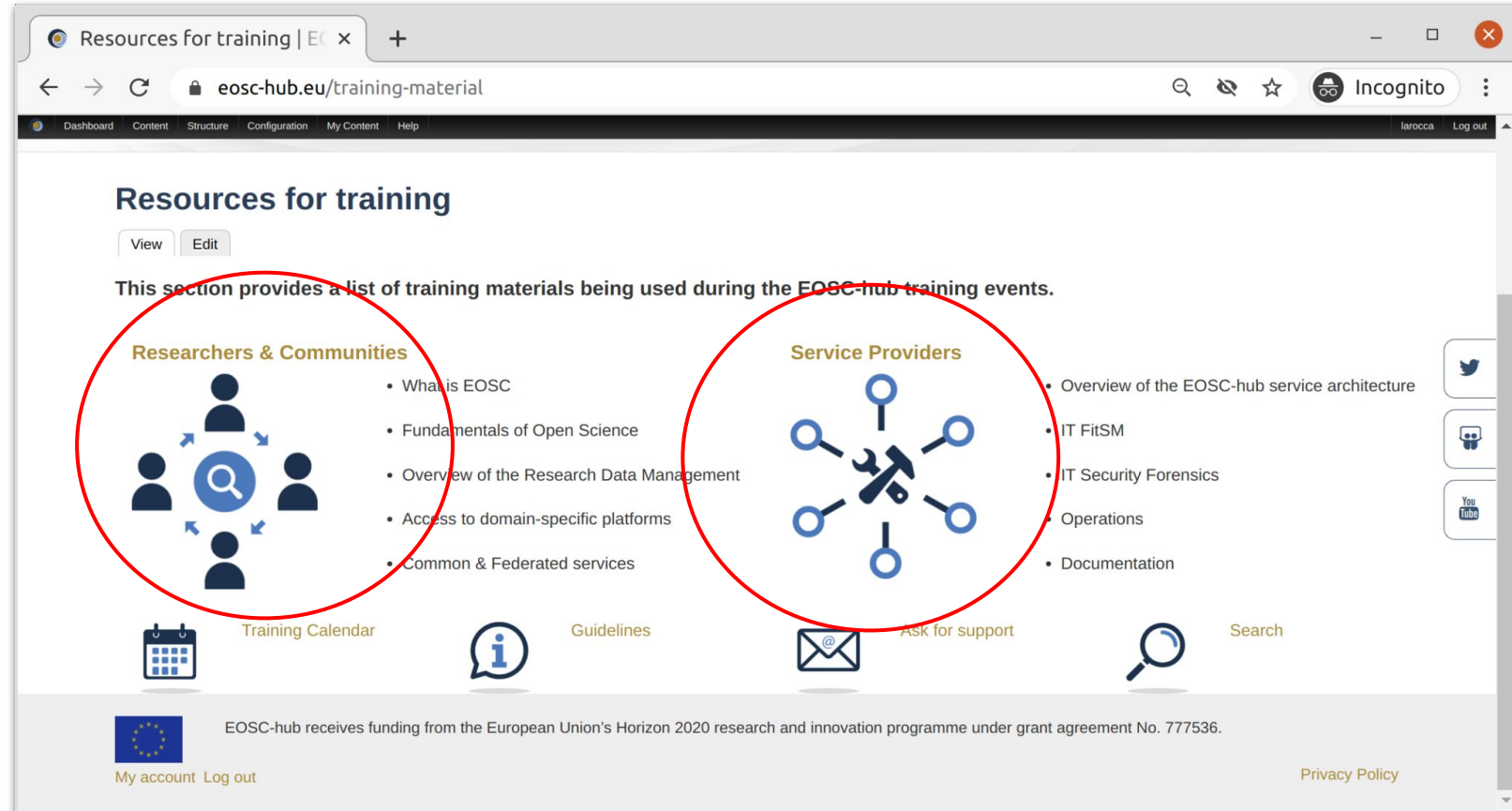
<b>Motivation</b>	<ul style="list-style-type: none"><li>● Stimulated the knowledge transfer for helping: 1.) researchers from different scientific disciplines to better integrate advanced digital services, tools and data to achieve excellence in science, research and innovation, and 2.) service providers interested to contribute to the EOSC ecosystem.</li><li>● Reduced the risk of EOSC becoming inaccessible to the majority of researchers and service providers interested to contribute.</li></ul>
<b>Implementation aspects</b>	<ul style="list-style-type: none"><li>● Developed focused training programmes to address the needs of the different stakeholders (e.g.: scientific communities and service providers).</li><li>● Allocated resources and provide guidelines for training activities.</li></ul>
<b>Contribution to EOSC</b>	<ul style="list-style-type: none"><li>● Set-up a catalogue of training materials to promote the knowledge sharing.</li><li>● Contributed in the EOSC Training and Skills WG.</li><li>● Collaborated with the EOSC-wide Training Coordinators' Community of Practice to ensure that lessons learned and best practices developed in the EOSC-hub training context will be available in the broader EOSC landscape.</li></ul>

- Issues with the delivering of training activities in 2020:
  - Many of the already scheduled face-to-face events were cancelled or postponed.
  - Several events turned out to be delivered as online workshops and webinars starting from Q2
    - 50 webinars/remote (+56% of the total events organized in 2020)
  - The WP11 work plan was extended until March 2021

- **Dedicated paths** were created for helping **Scientific Communities** and **Service Providers** to get easy access to the relevant documentation
- Supported by WP11 and WP3

## IMPACT

Since revamp (June 8 2020), bounce rate was reduced from 48.28% to 30% meaning an improvement in UX



Resources for training | EO x +

eosc-hub.eu/training-material

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### Resources for training

View Edit

This section provides a list of training materials being used during the EOSC-hub training events.

#### Researchers & Communities

- What is EOSC
- Fundamentals of Open Science
- Overview of the Research Data Management
- Access to domain-specific platforms
- Common & Federated services

#### Service Providers

- Overview of the EOSC-hub service architecture
- IT FitSM
- IT Security Forensics
- Operations
- Documentation

Training Calendar Guidelines Ask for support Search

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EOSC-hub receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 777536.


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### Available training modules for Scientists and scientific communities


View Edit

#### Open Science




**OPENSCIENCE**

#### European Open Science Cloud




- Cloud for research data in Europe
- Concept and opportunities

#### Data Management




- B2HANDLE
- EGI DataHub
- B2NOTE
- B2FIND
- Data Management Planning

#### Sharing & Discovery




- B2DROP
- Sharing & Discovery

#### Processing & Analysis




- ENES Climate Analytics Service
- DODAS Dynamic On Demand Analysis Service
- DARIAH Science Gateway
- WeNMR suite for Structural Biology
- OPENCoasts
- Services for sensitive data
- Component MetaData Infrastructure
- LifeWatch
- Disaster Mitigation Competence Centre

#### Security and Operation




- EOSC AAI

#### Compute



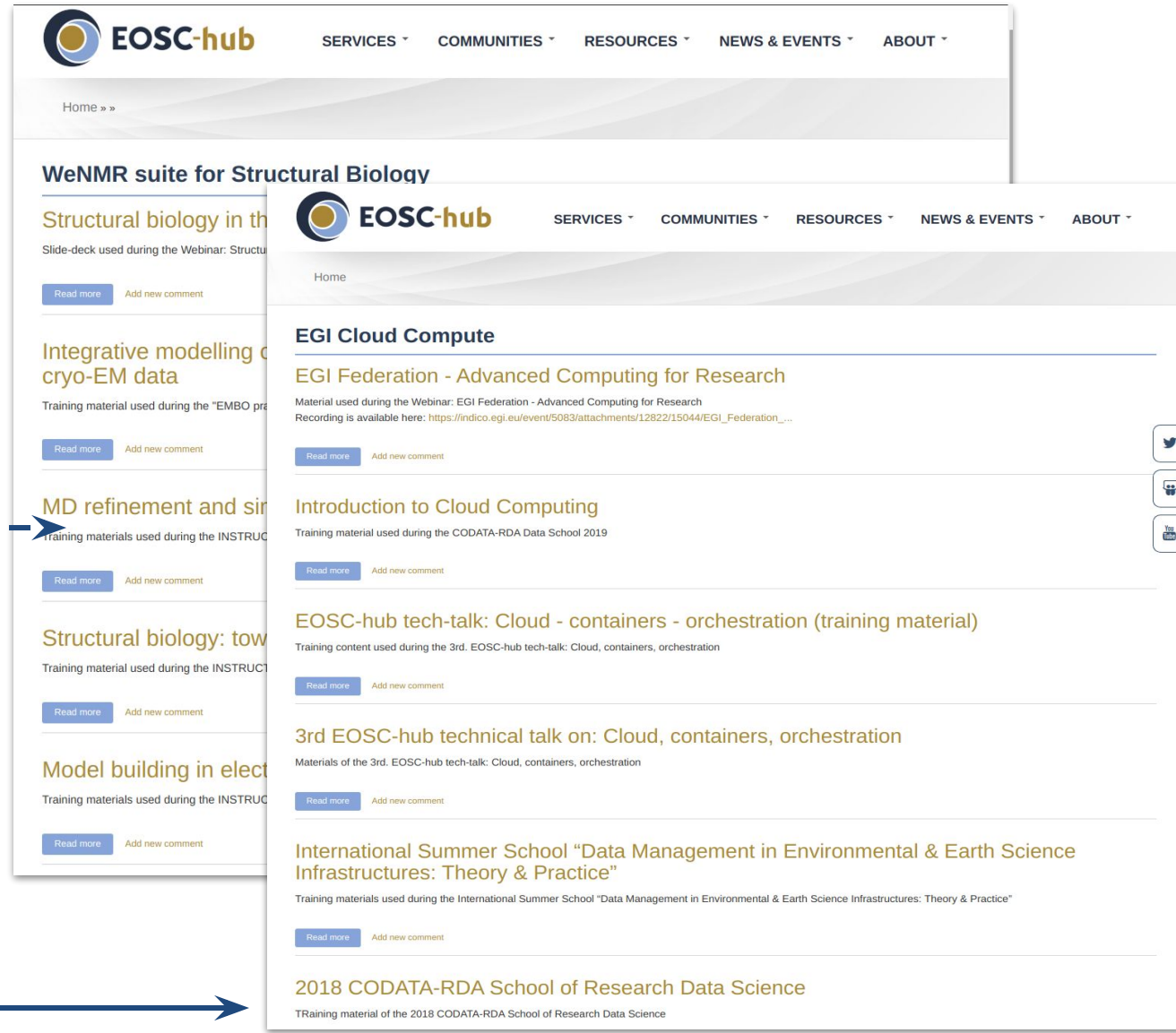
- EGI Cloud Compute
- EGI High-Throughput Compute
- EGI Cloud Container Compute
- EGI Notebooks
- PaaS Orchestrator

#### Storage



- B2STAGE
- B2SAFE
- EGI Online Storage
- CernVM File System CVMFS
- B2SHARE

[← Back to the main page](#)



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### WeNMR suite for Structural Biology

Structural biology in the

Slide-deck used during the Webinar: Structu

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### Integrative modelling of cryo-EM data

Training material used during the "EMBO pr

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### MD refinement and sim

Training materials used during the INSTRUC

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### Structural biology: tow


Training material used during the INSTRUC

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### Model building in elect

Training materials used during the INSTRUC

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### EGI Cloud Compute

#### EGI Federation - Advanced Computing for Research

Material used during the Webinar: EGI Federation - Advanced Computing for Research  
Recording is available here: [https://indico.egi.eu/event/5083/attachments/12822/15044/EGI\\_Federation\\_...](https://indico.egi.eu/event/5083/attachments/12822/15044/EGI_Federation_...)

[Read more](#) [Add new comment](#)

### Introduction to Cloud Computing

Training material used during the CODATA-RDA Data School 2019

[Read more](#) [Add new comment](#)

### EOSC-hub tech-talk: Cloud - containers - orchestration (training material)

Training content used during the 3rd. EOSC-hub tech-talk: Cloud, containers, orchestration

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### 3rd EOSC-hub technical talk on: Cloud, containers, orchestration

Materials of the 3rd. EOSC-hub tech-talk: Cloud, containers, orchestration

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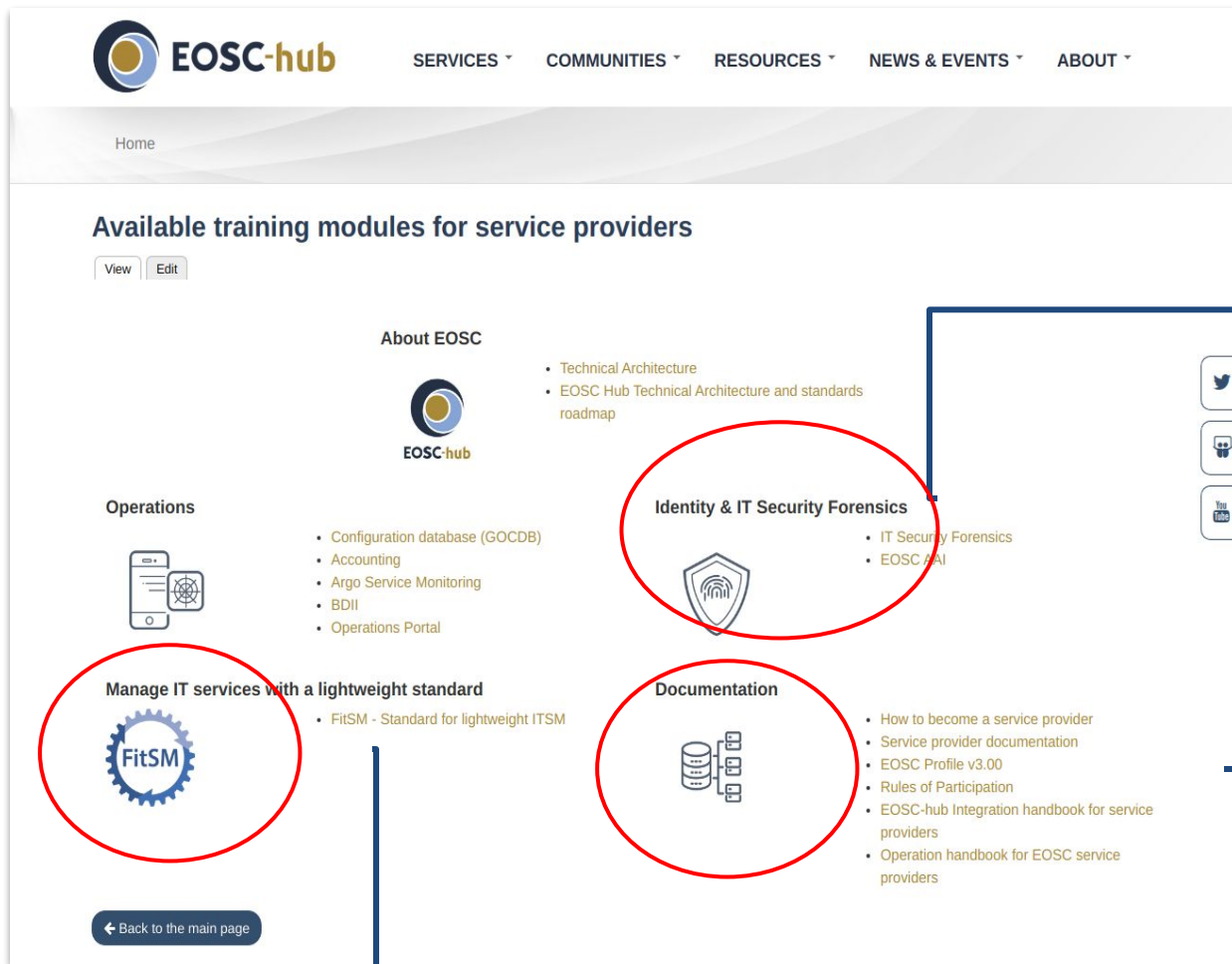
### International Summer School "Data Management in Environmental & Earth Science Infrastructures: Theory & Practice"

Training materials used during the International Summer School "Data Management in Environmental & Earth Science Infrastructures: Theory & Practice"

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### 2018 CODATA-RDA School of Research Data Science

Training material of the 2018 CODATA-RDA School of Research Data Science



**Available training modules for service providers**

View Edit

**About EOSC**

- Technical Architecture
- EOSC Hub Technical Architecture and standards roadmap

**Operations**

- Configuration database (GOCDB)
- Accounting
- Argo Service Monitoring
- BDII
- Operations Portal

**Manage IT services with a lightweight standard**

- FitSM - Standard for lightweight ITSM

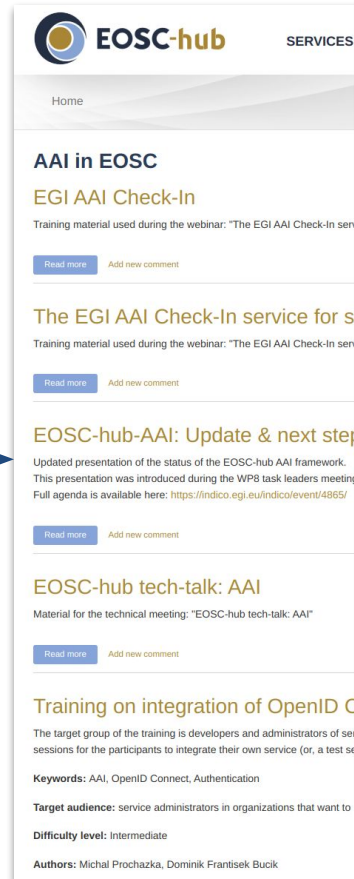
**Identity & IT Security Forensics**

- IT Security Forensics
- EOSC AAI

**Documentation**

- How to become a service provider
- Service provider documentation
- EOSC Profile v3.00
- Rules of Participation
- EOSC-hub Integration handbook for service providers
- Operation handbook for EOSC service providers

Back to the main page



**AAI in EOSC**

**EGI AAI Check-In**

Training material used during the webinar: "The EGI AAI Check-In service for EOSC"

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**The EGI AAI Check-In service for EOSC**

Training material used during the webinar: "The EGI AAI Check-In service for EOSC"

Read more Add new comment

**EOSC-hub-AAI: Update & next steps**

Updated presentation of the status of the EOSC-hub AAI framework. This presentation was introduced during the WPB task leaders meeting. Full agenda is available here: <https://indico.eui.eu/indico/event/4865/>

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**EOSC-hub tech-talk: AAI**

Material for the technical meeting: "EOSC-hub tech-talk: AAI"

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**Training on integration of OpenID Connect**

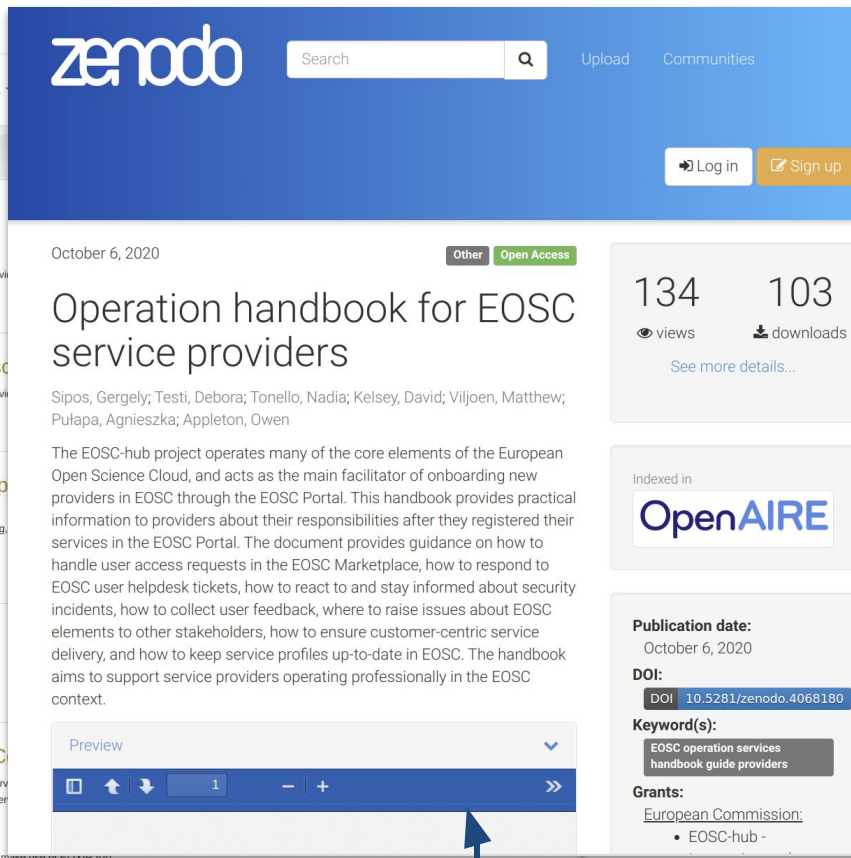
The target group of the training is developers and administrators of service providers who want to integrate their own service (or, a test service) with the EOSC-hub AAI framework.

Keywords: AAI, OpenID Connect, Authentication

Target audience: service administrators in organizations that want to make use of EOSC-hub AAI

Difficulty level: intermediate

Authors: Michal Prochazka, Dominik Frantisek Bucik



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October 6, 2020 Other Open Access

## Operation handbook for EOSC service providers

Sipos, Gergely; Testi, Debora; Tonello, Nadia; Kelsey, David; Viljoen, Matthew; Pulapa, Agnieszka; Appleton, Owen

The EOSC-hub project operates many of the core elements of the European Open Science Cloud, and acts as the main facilitator of onboarding new providers in EOSC through the EOSC Portal. This handbook provides practical information to providers about their responsibilities after they registered their services in the EOSC Portal. The document provides guidance on how to handle user access requests in the EOSC Marketplace, how to respond to EOSC user helpdesk tickets, how to react to and stay informed about security incidents, how to collect user feedback, where to raise issues about EOSC elements to other stakeholders, how to ensure customer-centric service delivery, and how to keep service profiles up-to-date in EOSC. The handbook aims to support service providers operating professionally in the EOSC context.

134 views 103 downloads

See more details...

Indexed in OpenAIRE

**Publication date:** October 6, 2020

**DOI:** [10.5281/zenodo.4068180](https://doi.org/10.5281/zenodo.4068180)

**Keyword(s):** EOSC operation services handbook guide providers

**Grants:** European Commission; EOSC-hub -

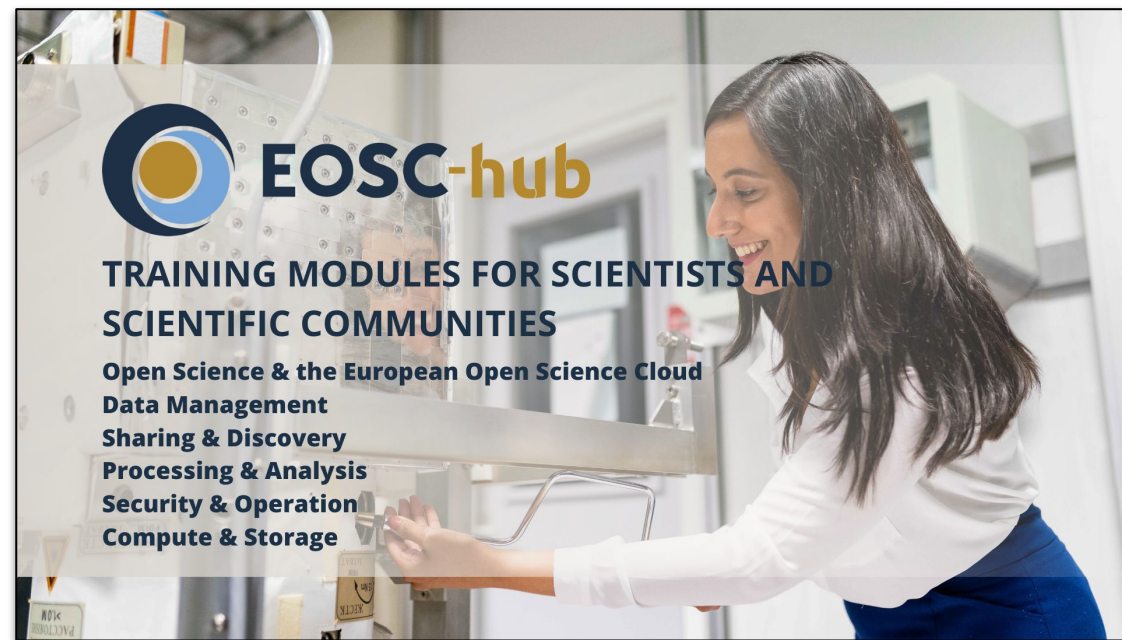
### IT Service Management

#### FitSM Training material

FitSM is a free and lightweight standards family aimed at facilitating service management in IT service provision, including federated scenarios. The main goals of FitSM are: Create a clear, pragmatic, lightweight and achievable standard that allows for effective IT service management (ITSM). Offer a version of ITSM that can cope with federated environments, which often lack the hierarchy and level of control seen in other situations. Provide a baseline level of ITSM that can act to support 'management interoperability' in federated environments where disparate or competing organisations must cooperate to manage services.

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<https://eosc-portal.eu/using-the-portal>



- Supported by WP11 and WP3

# What benefits does it bring?

Exploitation audience	Benefit
Service Providers	<ul style="list-style-type: none"><li>● Get access to technical documentation for a smooth integration into the EOSC ecosystem, maximising the benefits.</li><li>● Increase the visibility of the service provider.</li></ul>
Researchers and research communities	<ul style="list-style-type: none"><li>● Researchers can get trained on the use a wide plethora of services and solutions to support advanced research</li><li>● Increased trust in the EOSC services, tools and resources</li><li>● Increase the impact of scientific research</li><li>● Facilitate the adoption of the FAIR principles</li></ul>

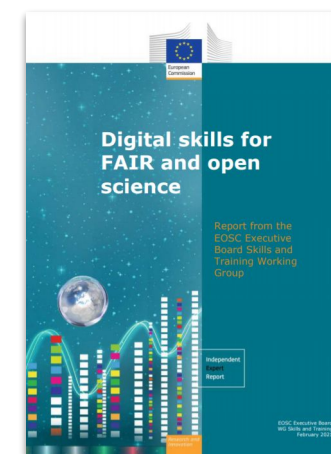


# Exploitation

Participated in the **EOSC Skills and Training Working Group (WG)** formed in 2020

## Main Recommendations:

- Develop initiatives, skills, training and career paths necessary to support further development of FAIR and Open Science.
- Coordinate and align relevant skills curricula and training frameworks on a core European higher education curriculum to deliver FAIR and Open Science skills at university level.
- Facilitate increased integration of FAIR and Open Science courses with university qualifications.
- Include learning and training resources in the EOSC Interoperability Framework.
- Develop an EOSC Skills and Training Leadership Programme.



doi 10.2777/59065

## **About**

- Informal network of training coordinators and managers composed by over 60 representatives of e- and Research Infrastructures and national training initiatives
- Coordinated by OpenAIRE

## **Objectives**

- Stimulate the sharing of training experiences and best practices about training related topics organized in EOSC

## **Contribution**

- Sharing best practices for implementing the Open Science principles with open-source solutions and open services
- Consultancy and expertise for the implementation of Data Management Plans (DMP)

<https://www.openaire.eu/cop-training>

## Event

- Workshop was funded through a co-creation grant of the EOSC Secretariat
- Organised by DANS in cooperation with EUDAT, EGI, representing EOSC-hub, and OpenAIRE

## Objectives

Provide recommendations in the following two main areas:

- Rules of Participation for training in EOSC, and
- Practical Guidance for training service providers.

## Outcomes

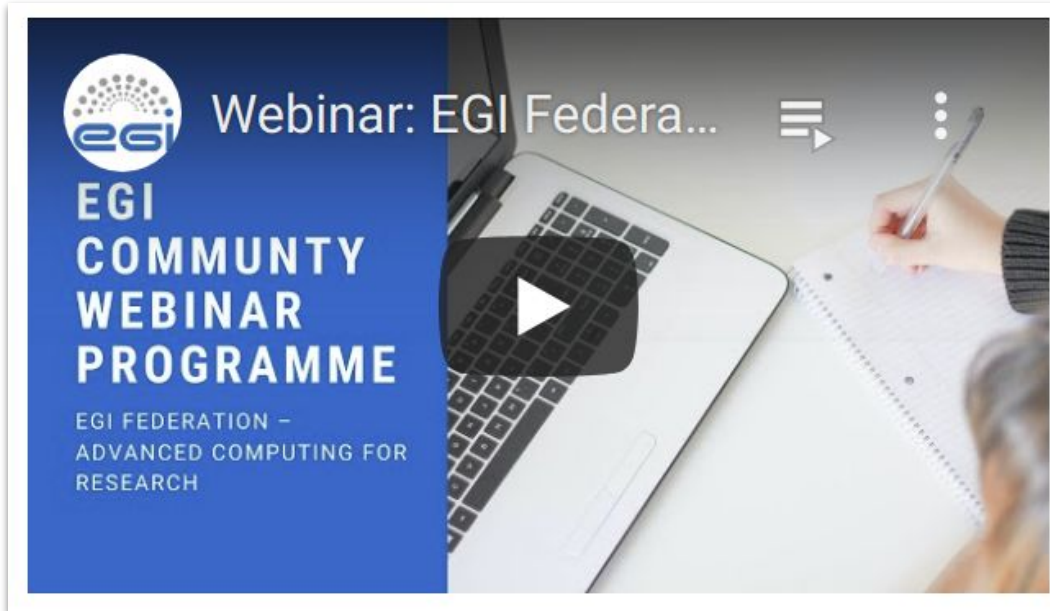
- The [EOSC Rules of Participation \(v0.2\)](#) was extended to include training services and training materials
- Recommendations: <https://zenodo.org/record/3894370>



<https://www.eoscsecretariat.eu/events/workshop-training-eosc>



To promote the uptake of EOSC services the EGI webinar programme was organized.



- Started in **April 2020**
- **17** webinars
- More than **420** participants from **30** different countries attended the programme (~ **24** participants per webinar)
- <https://www.egi.eu/webinars/>
- Recording available in the EGI YouTube [channel](#)



(\*) Including external events: **CODATA-RDA, CORBEL, ENVRI, INSTRUCT, NGS, NI4OS, PaNOSC/ExPaNDS, VIRGO** and advanced Univ. courses for PhD students

(\*\*) Including ppts, containers, VAs, notebooks, guidelines, etc.

- Most of the material is **openly available**, licensing approach differs on a case-by-case basis.
- The training material can be searched and filtered based on the licensing approach
  - e.g. to find training material licensed under creative commons, Apache or MIT licenses.
- All the documentation is **licensed under CC-BY** in order to ensure that future initiatives have sufficient IPR rights to curate and further improve the available material.

- Starting from April 2021, training activities will continue in EOSC Future
  - led by OpenAIRE, **WP9 - Training and Skills**
  - Design and offer training activities in tandem with **INFRAEOSC-07** projects
- Training areas supported in EOSC Future:
  - Train researchers and research communities **to onboard data and services** in EOSC.
  - Design and implement a **structured modular and reusable training programme** for EOSC end users and providers to be used across different disciplines and countries
  - Develop and roll out an **EOSC train-the-trainers programme** focusing on use/FAIR integration and use of EOSC data, services, software, and training.
  - Design a **training resource catalogue** and platform as part of the EOSC Portal.
    - The catalogue will support making EOSC-related training resources FAIR.



## **EOSC-hub website**

<https://eosc-hub.eu/training-events>  
<https://eosc-hub.eu/past-training-events>  
<https://eosc-hub.eu/training-material>

## **Publications**

A. Oliveira, et. al, **OPENCoastS: An open-access service for the automatic generation of coastal forecast systems**, Environmental Modelling & Software, 2019, <https://doi.org/10.1016/j.envsoft.2019.104585>.  
A. Oliveira, et. al, **OPENCoastS: An Open-Access App for Sharing Coastal Prediction Information for Management and Recreation**. In: Rodrigues J. et al. (eds) Computational Science, [https://doi.org/10.1007/978-3-030-04849-5\\_44](https://doi.org/10.1007/978-3-030-04849-5_44)  
WeNMR publications in [Google Scholar](#)  
The VLab Framework: An Orchestrator Component to Support Data to Knowledge Transition, <https://doi.org/10.3390/rs12111795>

## **Magazine**

- How to make your data Open and FAIR, EOSC-hub Magazine, Issue no. 2
- OPENCoastS and EOSC-hub, EOSC-hub Magazine, Issue no. 3
- The new EOSC-hub training catalogue has just been released!, EOSC-hub Magazine, Issue no. 6
- Open Science in action with EGI Notebooks and Zenodo (news), 08/06/2020
- Outreach and Training activities for the seismological community, EOSC-hub Magazine, Issue no.7

## **Selected presentations at events**

- Several presentations during EOSC-hub training events
- Training workshop in EOSC, 26-28/02/2020



<b>WPs in leading roles</b>	WP11
<b>WPs providing contributions</b>	WP5, WP6, WP7, WP8, WP10 and WP3
<b>Other information</b>	<p><u><a href="#">D11.1 - Training materials about common services and thematic services</a></u> <u><a href="#">D11.2 - Training materials about competence centre services</a></u> <u><a href="#">D11.4 - Report on training activities, infrastructure and material</a></u> <u><a href="#">D11.5 - Updated training materials about common services, thematic and competence services</a></u></p> <p><u><a href="#">M11.1 Process is defined for allocating financial support for trainers to attend f2f events</a></u> <u><a href="#">M11.2 Online services for training</a></u> <u><a href="#">M11.3 Training programme of first project year</a></u> <u><a href="#">M11.4 Training programme of second project year</a></u> <u><a href="#">M11.5 Training programme of third project year</a></u></p>

**Thank you  
for your attention!**

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*Questions?*



**EOOSC-hub**

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