

D5.3 Training plan

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Deliverable Abstract
This deliverable presents the first release of the project's training plan.



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TERMINOLOGY

<https://eosc-portal.eu/glossary>

Terminology/Acronym	Definition
DMP	Data Management Plan
EC	European Commission
EOSC	European Open Science Cloud
MOOC	Massive Open Online Course
OA	Open Access
RDM	Research Data Management
WG	Working Group
WP	Work Package

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Executive summary

EOSC-Pillar is one of the projects resulting from the INFRAEOSC-05 call “Support to the EOSC Governance”, having as main scope to “set up an operational framework for supporting the overall governance of the EOSC, including the coordination between relevant national initiatives.”. The other projects from the same call, sharing common activities and objectives are: FAIRsFAIR, EOSC-Secretariat, EOSC-Synergy, EOSC-Nordic, NI4OS Europe, ExPaNDS.

To foster collaboration between these projects, several Task Forces have been created to work on common topics: Service Onboarding, Landscaping, Dissemination and Events, National Policies and Governance, FAIR data and infrastructures, and Training and Skills. To support training activities EOSC-Pillar can build, in addition to a dedicated inter-project task force, also upon the results achieved by other initiatives in Open Science training thanks to its network of Partners that are connected and involved in such other initiatives and projects as the Community of practice of training coordinators, RDA groups on training, GoTRAIN, OpenAIRE, FOSTER.

This document describes the initial activity plan for Task 5.4 (*“Training modules on FAIR-oriented research data management tools and solutions”*) as well as the methodology, the selected specific training themes and the type of planned event. The plan is drafted in accordance with EOSC-Pillar objective 03 (*“O3 - Co-ordinate with other initiatives to achieve harmonisation across different regions, countries, and transnational research communities to build a truly inclusive EOSC”*) and 04 (*“O4 - Promote the uptake of FAIR data practices and services at national levels and across scientific communities and national borders”*).

In order to achieve these objectives, at least 10 training courses on data management shared tools and solutions will be organised by EOSC-Pillar, possibly in conjunction with other projects and initiatives.

1 Introduction

EOSC-Pillar is one of the projects resulting from the INFRAEOSC-05 call “Support to the EOSC Governance”, having as main scope to “set up an operational framework for supporting the overall governance of the EOSC, including the coordination between relevant national initiatives.” Seven projects resulted from the INFRAEOSC-05 call and represent a unique network sharing common activities and objectives: FAIRsFAIR, EOSC-Secretariat, EOSC-Synergy, EOSC-Nordic, NI4OS Europe, ExPaNDS, and EOSC-Pillar.

To foster collaboration between these projects, several Task Forces have been created to work on common topics: Service Onboarding, Landscaping, Dissemination and Events, National Policies and Governance, FAIR data and infrastructures, and Training and Skills. Task forces are a lightweight collaborative structure where the INFRAEOSC-05 projects share methodologies, material, best practices and results to carry out their aims on the specific thematic. Apart from the INFRAEOSC-05 framework, EOSC-Pillar is immersed in an environment of existing projects and initiatives that represents a unique opportunity for sharing, engaging and efficiently collaborate towards the common goal of building the European Open Science Cloud federated infrastructure for FAIR data. In this context, training is an essential activity to facilitate FAIR practices adoption and promote FAIR principles toward the various stakeholders. As the other INFRAEOSC-05 projects, EOSC-Pillar has a strong training component oriented toward the national stakeholders.

To support this activity EOSC-Pillar can build upon the results achieved by other initiatives in Open Science training thanks to its network of Partners that are connected and involved in other initiatives and projects such as the Community of practice of training coordinators¹, RDA groups on training², GoTRAIN³, OpenAIRE⁴, FOSTER⁵.

EOSC-Pillar will therefore count on existing and past training initiatives and projects to achieve its goal of setting up support and training activities facilitating the diffusion and adoption of mainstream standards and approaches for FAIR research data management, and an efficient uptake of the EOSC services in the region covered by the EOSC-Pillar partners.

This document describes the initial activity plan for Task 5.4 (“*Training modules on FAIR-oriented research data management tools and solutions*”) as well as the methodology, the selected specific training themes and the type of planned event. In accordance with EOSC-Pillar objective 03 (“*O3 - Co-ordinate with other initiatives to achieve harmonisation across different regions, countries, and transnational research communities to build a truly inclusive EOSC*”) of creating FAIR-friendly services both at national and international level several activities of support and training are going to be set up and promoted. With the aim of creating awareness of FAIR data principles in different stakeholders, various approaches on data stewardship and exchange practices are to be collected and disseminated. This objective will be supported by the training task force, established between

¹ <https://www.openaire.eu/cop-training#:~:targetText=The%20Community%20of%20Practice%20for,of%20research%20and%20e%2Dinfrastructures.>

² <https://www.rd-alliance.org/>

³ <https://www.go-fair.org/>

⁴ <https://www.openaire.eu/>

⁵ <https://www.fosteropenscience.eu/>

INFRAEOSC-05 projects and composed of members from each project. Through this medium, it will be thus possible to harmonize our training approaches and set up a common framework of training including aims, themes, means and methods, approaches, stakeholders. Furthermore, this collaborative task force would agree on a common Timeline, rely on existing material and expertise, create a shared Catalogue of Training Resources that aims to be included in the EOSC portal.

In line with EOSC-Pillar objective 04 (*“O4 - Promote the uptake of FAIR data practices and services at national levels and across scientific communities and national borders”*) of raising awareness of FAIR data practices among a broad range of communities, online help and certification schemes for data management are to be set up, with the production of a proper documentation. Training events on site, webinars and other e-learning means will be provided in a two-sided approach, addressing both data providers and consumers, and coordinating with other initiatives, in order to reach research communities at different levels (regional, national and transnational).

In order to achieve all these objectives, at least 10 training courses on data management shared tools and solutions will be organised by EOSC-Pillar, possibly in conjunction with other projects and initiatives. The idea is to prepare specific training modules on site for each involved country (Italy, France, Germany, Austria and Belgium) and the other five through the webinar format.

In the following document, we will first present the different training themes considered in our training approach as well as the expected audience for our training activities. We will then present our training methodology and how we are planning to manage our training resources. We will then focus on the different types and formats of training events and articulate them with an initial activity plan.

2 Training Themes

The training activities will be focused on 7 key themes:

EOSC basics

EOSC concept and state of the art will be part of this topic. Introduction to EOSC governance, roadmap, and co-creation process, EOSC Executive Board WGs ongoing discussion and results, existing infrastructures, and standards will be presented to the audience. This topic should always be introduced at the beginning of each training event.

FAIR principles

General description of FAIR principles and how to implement FAIR in the everyday life of researchers. Guidelines, best practices and practical tools coming from existing projects and initiatives such as FAIRsFAIR, FOSTER, RDA, GoFAIR Implementation Network, OpenAIRE will be presented.

Data Stewardship

Data Steward will be presented as a new professional profile, not only as a set of skills. Stemming from the results of the landscaping analysis (WP3), and of the other tasks in WP5, a mapping of the Data Stewardship training available in the Countries covered by EOSC-Pillar will be completed and presented during training courses as a possible deepening material. This work will be done in conjunction with the Community of Practice of training coordinators and supported by other initiatives including the collaborative work done to develop and maintain an ontology describing skills for FAIR⁶ research data management which could be used to align existing training catalogues for Data Stewards.

Research Data Management

Research Data Management (RDM) is key to Open Science achievement and it should be embedded as an everyday practice in the research workflow. RDM will be presented not as a mandate bound to Funders obligations but as a practice to simplify researchers' work and make the results FAIR and ready-for-EOSC. Legal aspects of RDM will also be covered in the training. Tools for drafting Data Management Plan will be presented, also relying on other initiatives and Institutions such as the results of the RDA Working Group on DMP Common Standards, DCC DMP Online.

EOSC services

The training programme will briefly cover EOSC-Pillar services part of the EOSC catalogue, and relevant services from EOSC-related projects (such as OpenAIRE-Advance, EOSC-Hub, and Freya). A particular emphasis will be dedicated to those services based in the countries covered by the EOSC-Pillar project, and on those resulting from EOSC-Pillar technical WPs (WP5, WP6, WP7). The training will also include aspects related to Onboarding once this will be defined by the EOSC Executive Board Rules of Participation Working Group. In collaboration with relevant projects and initiatives, repository certification, onboarding, and interoperability will be some of the essential aspects of EOSC training services dedicated to service providers.

Open Science and EOSC policies

⁶ <https://terms4fairskills.github.io>

The training activity on Open Science Policies will be dedicated both to researchers and policy makers (including both Research Performing and Funding Organisations). Researchers need to be aware of the Open Science policies that may affect them, being these adopted by Funders or Institutions. Open Science policy harmonisation is key to implementing the way forward to EOSC initiative, therefore specific training sessions will be envisaged for policy makers.

Open Access

Open Access (OA) is one of the key aspects of Open Science and will be treated in the training course as one of the pillars of EOSC, especially concerning OA to data.

3 Audience

The audience of the training activities is intended to be both internal and external to the consortium, ranging from service providers to end users, to data consumers and specific communities.

The internal training activity aims at aligning and harmonising the different national and institutional scenarios towards a commonly agreed vision of EOSC and the related topics addressed in the previous paragraph. A preliminary questionnaire will be circulated to map the actual knowledge level of the EOSC-Pillar partners and to understand the needs of the Consortium. This particular activity may take the form of a train-the-trainer approach and will also stem from the Training and Skills Task Force that was created as a cross-project collaborative approach among the INFRAEOSC-05 projects.

The target audience for external training activities should include researchers, funders and institutions, PhD students and service providers. EOSC-Pillar will rely on the experience of its training team to deliver customized training sessions and contents, and on the results of the envisaged Evaluation and Follow-up that will take place after each training event.

The training activities will be conceived bearing in mind the specific target audience to customize the sessions. This way, specific contents for different audiences will be delivered.

4 Training methods

The training activities will be held in a variety of formats and methods, both in presence - workshops, seminars and face to face courses - and remotely - webinars and online training (for example MOOCs). Certificates of attendance are envisaged for all the training sessions, both online and in presence after completing a test.

In presence training sessions

Training events occurring in presence should be organised before, after, or alongside big community events, so as to build synergies, facilitate participation and maximise the impact of the training activities.

Venues for the training events should be selected carefully and minimum requirements will be the availability of hardware (projectors/wide screens) and of internet connection that will allow for interactive activities to engage the audience.

The training events will be well-planned and announced far in advance, at least 3 months before the event takes place, to promote them within the relevant audience and to increase the participation.

The training events will be organised in each of the Countries covered by the EOSC-Pillar consortium (Italy, France, Germany, Austria and Belgium); to increase the engagement, local language is highly recommended for the national events.

In presence events allow for higher involvement of the audience and longer sessions of training that may deepen the participants' knowledge on specific topics addressed by the event. These events should be possibly co-organized with other projects in the task force, especially if co-located with some important event/conference.

Online training sessions

The advantage of online training session is the wider coverage and the possibility to record the session to allow for re-play. Remote sessions however are usually less interactive and do not allow for a profound discussion of the thematic covered by the event.

The online training sessions will be announced and the corresponding material (presentation and recording) will be made available to the public on the EOSC-Pillar website.

Trust-IT can provide an instance of its TRUST-LCMS <https://www.trust-itservices.com/products/trust-lcms>, a learning content management system allowing trainees to undertake the course at their own convenience. Course material can be offered via recorded video or presentation slides. It also has functionalities for automatically graded quizzes or tests and can accept submitted practical materials such as assignments which can be graded by instructors. Upon completion of the course, the TRUST-LCMS can release certificates to those who passed the requirements.

The TRUST-LCMS can be integrated with the EOSC-Pillar website, allowing it to further become the single point of reference for EOSC-Pillar trainees.

Potential ways to use the TRUST-LCMS:

- Webinar and Test on LCMS: Run a live training webinar, direct trainees to a test on the TRUST-LCMS where they will be automatically graded. Trainers also have the option to request for

submissions for a practical work in the form of a file attachment which will be graded by the trainer.

- Recorded video and slides, then testing on the LCMS: Same process as the first point, except that instead of a live webinar, the trainees will undertake training on the TRUST-LCMS platform within the EOSC-Pillar website for a Moodle-style course.
- Presentation and Testing on the LCMS: Same process as the 2nd point but instead of a recorded video, the training content will only consist of presentation slides.

Test can be multiple choice, true or false and can be automatically checked. Another option for the test/exam could be to submit a practical exam, which would be an attachment and the trainer would manually check and grade the trainees.

5 Event formats

In order to better cover the variety of topics and to meet the specific needs of the different types of audience and their level, the following types of training formats are foreseen. The formats are taken from “The Open Science Training Handbook”⁷ developed by FOSTER project.

Workshop. Usually intended as a hands-on, collaborative and interactive activity, workshops should treat practical aspects and pursue the acquisition of specific skills. Duration: 1-2 days.

Course/class. Classes can be considered short courses, usually focused on a specific topic, and delivered in a few hours. Courses usually focus on a wider range of themes and can last from 2 days to one week. At the end of the training session, tests may be foreseen.

Lecture/seminar. Presenting a specific theme, usually with a discussion on innovative or controversial aspects, this type of approach can take 1-3 hours and usually results in producing lively sessions.

Table 1 represents a recommendation guidance to help planning the training session and choosing over possible types of training and their characteristics.

Table 1 Recommendation guidance to help planning the training session and choosing over possible types of training and their characteristics; Source FOSTER “The Open Science Training Handbook”.

	TYPE OF TRAINING			
	Live workshop	Course/Class	Lecture/Seminar ⁸	Online Training
Audience size				
less than 20	x	x	x	x
less than 40		x	x	x
more than 40			x	x
Funds				
none			x	x

⁷ Bežjak, Sonja; Conzett, Philipp; Fernandes, Pedro L.; Görögh, Edit; Helbig, Kerstin; Kramer, Bianca; Labastida, Ignasi; Niemeyer, Kyle; Psomopoulos, Fotis; Ross-Hellauer, Tony; Schneider, René; Tennant, Jon; Verbakel, Ellen; Clyburne-Sherin, April. (2019). The Open Science Training Handbook. Zenodo. <http://doi.org/10.5281/zenodo.2587951>

⁸ was “Lecture” in the original FOSTER table.

little	x	x	x	x
loaded	x	x		
Time				
less than ½ day	x	x	x	x
½ - 1 day	x			
1-4 days	x	x		
more than 4 days			x (series)	x (series)
Training level				
Introductory			x	x
Aware of	x	x		x
Intermediate	x	x		x
Advanced	x	x	x	x

6 Activity Plan

As mentioned previously, at least 10 training events are envisaged during the project life to support our initial objectives:

- 5 in presence training events (one for each Country of the Pillar Consortium - France, Italy, Belgium, Germany and Austria - and in the national language) and
- 5 events in the form of remote training sessions in English envisaged to reach a broader audience.

A preliminary plan of activities based on these 10 training events is outlined in Table 2.

As in-presence training sessions are hard to plan in detail for different reasons, we suggest here a preliminary programme and give instead general criteria to organise the events. Every 6 months a quick check on upcoming events in the countries covered by the EOSC-Pillar consortium will allow to plan co-located training sessions. The first event in Table 2 is already under definition in collaboration with APRE⁹ (the Italian Agency for the Promotion of European Research), and will be dedicated to the H2020 National Contact Point network¹⁰. An online course “Open access nei progetti europei – SPS/03” (4 hours) is already planned for November 15th 2019, and it is a participated training session within the framework of the “Master INPS Executive annuale di I livello in Europrogettazione: project design, management e rendicontazione”.

Table 2 Preliminary plan of activities for EOSC-Pillar training events

Period	Venue	Method	Theme	Audience
Q1 2020	Italy, Rome	in presence	EOSC basics	APRE
TBD	France	in presence	TBD	TBD
TBD	Germany	in presence	TBD	TBD
TBD	Belgium	in presence	TBD	TBD
TBD	Austria	in presence	TBD	TBD
Q4 2019	online	remote	EOSC basics, RDM, FAIR principles, OA, OS policies	Research Offices and Librarians - University of Cassino
Q2 2020	online	remote	FAIR principles	Researchers and PhD Students
Q3/4 2020	online	remote	Data Stewardship	Researchers and PhD Student

⁹ <https://www.apre.it/en>

¹⁰ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/ncp>

Q1/2 2021	online	remote	Research Data Management	Researchers and PhD Student
Q3/4 2021	online	remote	EOSC services	Service providers
Q1/2 2022	online	remote	EOSC policies	Institutions/Funders

The training events organisation will take place in three main steps (Planning and preparation, Training delivery, and Evaluation and follow-up), that will follow the timing provided in Figure 1.

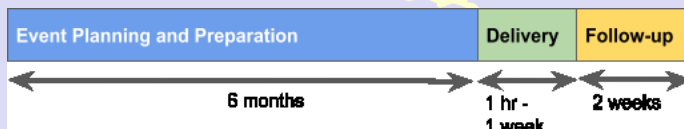


Figure 1 Timeline for events organisation.

1. Planning and organization.

WP5 will be responsible for planning the training events, with the contribution of WP2 for communication and dissemination related aspects. The planning will consider the main aspects of the training event:

- description and scope
- event format
- venue and time
- targeted audience
- key takeaways
- training event themes
- method

In presence training sessions need to be planned for at least 6 months in advance, whereas a shorter period (at least 1 month for webinars) can be envisaged for remote sessions.

Announcement and invitation will be drafted and sent out by using the EOSC-Pillar communication channels and partners' channels as well. WP2 has a dedicated promotion campaign detailed in D2.2 to disseminate training events.

Registration for the events may be considered and will be set up on EOSC-Pillar website. During registration, participants may consent to use their contacts for receiving information about similar initiatives or other information related to EOSC-Pillar activities. Training material will be prepared based on the selected audience, method and format, and will be made available to the participants via the EOSC-Pillar website.

In the planning and preparation phase, possible co-organiser (institutions, initiatives or other projects) may be sought/selected, especially for those training sessions that may take place in co-location with other events. A particular effort will be dedicated in organising events in coordination with the INFRAEOSC-05 cross-project Training and Skills task force.

2. Training delivery.

The training team for the specific event will be selected among EOSC-Pillar partners taking into account the venue and the topics to be included in the specific training session. For this reason, train-the-trainer approach for ensuring a high level trainers' presence in the consortium (internal training) is of vital importance for delivering distinguished training sessions.

The training session may include assessment of the concepts introduced, also through practical hands-on activities, through which the participants will have the chance to test the gained knowledge.

3. Evaluation and Follow-up.

Evaluation of the events is a key step in the overall activity plan. Evaluation results will be used as an important feedback to improve training delivery and preparation. One or two weeks after the event, participants will be asked to evaluate the training session through a dedicated survey that will be drafted in collaboration with WP5 and WP2. The survey will also give the chance to continue the collaboration with participants, to work towards the creation of an EOSC-Pillar stakeholder community. The survey results will be used to examine the whole organisation process and its outcomes and to assess the success factors, such as the participants' feedback, the satisfaction rate, the quality of discussions, the number of attendees, and others.

7 Managing training resources

All the training resources produced and existing ones have to be up to date and in line with most recent policy adoptions, standards, best practices and activities. To avoid fragmentation and duplication of efforts, the training resources must build upon existing material and taking advantage of already existing networks. A privileged source will be the Training and Skills task force created as a collaborative and coordination effort by the INFRAEOSC-05 projects.

A common format for material classification will be agreed to accurately describe training resources to make them accessible and searchable by the Consortium members. The final aim of this exercise will be the FAIRification of training material that can be also shared outside the Consortium and possibly be included in an EOSC training Catalogue (a discussion around this issue has been already started in the community¹¹).

A preliminary set of metadata for the training material is indicated in Table 3, and should be included as a readme text file together with the corresponding training resource.

Table 3 Preliminary set of metadata for the EOSC-Pillar training material.

Metadata	Description
Title	Title of the training resource
file name	name of the file
author(s)	Name, Surname, Affiliation(s)
version	version number
date	date of upload DD/MM/YYYY
resource type	presentation, manual, test, other type of training documents
level	beginner, intermediate, advanced
language	English, Italian, German, French, Flemish.
Estimated time for delivery	referring to the time needed to deliver the lesson, to read the material, to complete the test.
audience/community	researchers, funders and institutions, phd students and service providers, specific community
topics covered	list of the specific topics covered in the material
method	in presence or online
related event	indicate, if applicable, the training event where the material was delivered (venue and date/time)

¹¹ OS FAIR, “Making EOSC Training more FAIR” <https://www.opensciencefair.eu/workshops-2019/making-eosc-training-more-fair>

8 Conclusion

This deliverable documents the initial activity plans for the related Task 5.4 “Training modules on FAIR-oriented research data management tools and solutions”. Throughout the duration of the project, this plan is bound to change to reflect the integration of the various inputs from the collaborative environment in which EOSC-Pillar evolves.

The training activities will be focused on the following topics: (i) EOSC-basics; (ii) FAIR principles; (iii) Data Stewardship; (iv) Research Data Management; (v) EOSC services; (vi) EOSC policies; and (vii) Open Access. Activities will be targeted to both internal and external to the consortium audience by relying on a variety of formats and methods including both in presence (e.g. workshops, seminars and face-to-face courses) and remote (e.g. webinars and online training) participation.

The preliminary plan of activities includes 5 in presence training events (one for each country of the Pillar Consortium - France, Italy, Belgium, Germany and Austria) and 5 events in the form of remote training sessions in English envisaged to reach a broader audience.