



D5.8 - Training Plan Update

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Deliverable Abstract

This deliverable presents the second release of the project's training plan.

The training plan has been substantially revised since its first release due to COVID-19 outbreak consequences. Not only the delivery of the training was turned into online, but the pandemic also affected both the target audience selection and the structure of the events. This document also contains information about the training events that have been delivered in the first half of the project, showing the achievement of the KPI was already achieved. This deliverable also includes a section with indicators built on the numbers and information related to the delivered training events.

For the sake of consistency, this deliverable does not only include the parts of "*D5.3 - Training Plan*" which were updated, but rather its whole structure, with notes on the specific parts which were changed since the initial release of the training plan.



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TERMINOLOGY

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

Terminology/Acronym	Definition
5b	All projects funded, like EOSC-Pillar, within the INFRAEOSC-05 call, subtopic b)
DMP	Data Management Plan
EC	European Commission
EOSC	European Open Science Cloud
EPOS	European Plate Observing System
F2DS	Federated FAIR Data Space
GUI	Graphical User Interface
ICDI	Italian Computing and Data Infrastructure
KPI	Key Performance Indicator
MOOC	Massive Open Online Course
OA	Open Access
OpenAIRE	Open Access Infrastructure for Research in Europe
OS	Open Science
RDM	Research Data Management
STEM	Science, Technology, Engineering and Mathematics
SSH	Social Science and Humanities
TRIPLE	Transforming Research through Innovative Practices for Linked Interdisciplinary Exploration
WG	Working Group
WP	Work Package

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Executive summary

This document describes the revised 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 delivered and planned events. 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”).

This deliverable is an updated version of “D5.3 - Training Plan”, which was substantially changed due to the COVID-19 pandemic outbreak. Whereas the themes substantially remained the same, the methodology was strongly adapted to focus on specific scientific communities and different profiles within research performing organisations. This new methodology was supported by the collaboration with institutions and Research Infrastructures in the planning and delivery of the training events. The new approach is proved successful and indicators are reported to demonstrate the performance achieved.

The objective of delivering at least 10 training courses on data management shared tools and solutions was achieved. EOSC-Pillar collaborated jointly with a number of projects, initiatives, organisations and Research Infrastructures to deliver training events and engage the EOSC community. Indicators presented in this deliverable show that EOSC-Pillar managed to train and engage more than 1000 participants between M1 and M18 since its start.

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, EOSCsecretariat.eu, 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. Like 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 therefore counts 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 updated 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

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/>

on data stewardship and exchange practices are to be collected and disseminated. This objective is supported by the training task force, established between INFRAEOSC-05 projects and composed of members from each project. Through this medium, training approaches are shared and harmonised thanks to a common framework of training including aims, themes, means and methods, approaches, stakeholders. Furthermore, this collaborative task force has agreed on a common Timeline, relies on existing material and expertise, and created 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 are 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 are envisaged to be realised throughout the EOSC-Pillar lifetime, possibly in conjunction with other projects and initiatives. The original idea to prepare specific training modules on site for each involved country (Italy, France, Germany, Austria and Belgium) and another set of five in webinar format, was influenced by the COVID-19 pandemic outbreak in early 2020. The approach was changed both to deliver training in remote session instead of in person, and to include an approach for the training mainly dedicated to specific research communities and profiles, also thanks to the collaboration with Research Infrastructures, Research Performing Organisations and other institutions.

In this document, which is an update of deliverable *“D5.3 - Training Plan”*, we first present the different training themes considered in our training approach as well as the expected audience for our training activities and material. Our training methodology and how we manage our training resources are then described. Finally, we focus on the different types and formats of training events and articulate them with both a description of the already delivered activities and the proposed plan for the next future. The document reflects the changes with respect to the original training plan occurred due to the COVID-19 pandemic.

2 Training Themes

The training activities focus on 7 key themes which are briefly described in the following sub-paragraphs. Because of the pandemic outbreak the initial training plan of EOSC-Pillar has changed and it was decided to keep the original themes **with a focus on specific research communities and profiles**. This approach allows the EOSC-Pillar training team to deliver training sessions that are personalised with specific tools, services and best practices tailored on the targeted audience. The collaboration with research performing organisation and other institutions in the planning and delivery is key to design training for a specific stakeholder and professional profiles involved in research related activities, whereas Research Infrastructures operating in the domain chosen for training targeting a research community allows EOSC-Pillar to support users embedding OS practices in their workflow.

2.1 EOSC basics

EOSC concept and state of the art are part of this topic. Introduction to EOSC governance, roadmap and results, co-creation process, existing infrastructures, and standards are presented to the audience. This topic should always be introduced in each training event, at least in short. It is important that EOSC-Pillar training team accurately personalises the EOSC basics presentation by designing the contents on the specific target, either for scientific communities, or for professional profiles. The strategy “what’s in it for me” needs to be implemented by highlighting the value of EOSC for the specific stakeholder

2.2 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 Networks, OpenAIRE are to be presented. When possible, FAIR principles should always be accompanied by best practices. When training involves a specific community, the FAIR by design should be stressed and specific tools and services to embed these practices in the workflow of researchers should always be presented; for this reason, collaboration in the training activities with the relevant Research Infrastructures or Cluster projects is key for EOSC-Pillar.

2.3 Data Stewardship

"Data Steward" is 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 is presented during training courses as a possible deepening material. This work is done in conjunction with and supported by other initiatives, such as the Community of Practice of training coordinators, and including the collaborative work done to develop and

maintain an ontology describing skills for FAIR research data management⁶ which could be used to align existing training catalogues for Data Stewards.

The EOSC-Pillar RDM Training & Support Catalogue⁷ is presented as a service for data stewards.

2.4 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 is 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 are also covered in the training. Tools for drafting Data Management Plan are presented, also relying on other initiatives and Institutions such as the results of the RDA Working Group on DMP Common Standards, DCC DMP Online, OpenAIRE ARGOS tool and guidelines. Particular importance and attention is given to the tools and services that researchers in a given field should use to embed RDM best practices in their everyday life.

2.5 EOSC Services

The training programme briefly covers EOSC-Pillar services part of the EOSC catalogue, and relevant services from EOSC-related projects (such as the INFRAEOSC-05 and Cluster projects, OpenAIRE-Advance, EOSC-Hub, and Freya). A particular emphasis is dedicated to those services based in the countries covered by the EOSC-Pillar project, many of which have been identified by the project and are presented in Milestone 25 (*"Existing tools available for FAIRization identified and classified⁸"*), and on those resulting from EOSC-Pillar technical WPs (WP5, WP6, WP7).

Specifically, the two services emerged from WP5.1 and WP5.2, where the F2DS is built as a metadata repository aggregating the dataset of interest, and the data catalogue which offers search and browse mechanisms to data consumers (i.e. researchers) to facilitate the exploitation of the data space itself by using GUI available in the VRE, respectively, might be of interest to researchers of EOSC-Pillar partners and of "5b" projects as well.

The training also includes aspects related to onboarding as defined by the EOSC Executive Board Rules of Participation Working Group. In collaboration with relevant projects and initiatives, repository certification, onboarding, and interoperability are some of the essential aspects of EOSC training services dedicated to service providers.

2.6 Open Science and EOSC policies

The training activity on Open Science Policies is 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

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

⁷ <https://www.eosc-pillar.eu/rdm-training-and-support-catalogue>

⁸ <https://zenodo.org/record/4283866>

way forward to EOSC initiative, therefore specific training sessions are envisaged for policy makers.

2.7 Open Access

Open Access is one of the key aspects of Open Science and is 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 (Covid-19 related communities, Earth and environmental sciences, social sciences, humanities, etc...) or roles within research performing organisations (PhD students, researchers and professors, research support staff, etc...).

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. An informal survey has been carried out to identify specific needs for training within the Consortium. From this, it emerged the need to train partners on the European Commission OA policies and the new Open Research Europe publishing platform; an internal training session on these topics was delivered during one of the periodic EOSC-Pillar plenary meetings. The internal training activity also stems from the Training and Skills Task Force that was created as a cross-project collaborative approach among the INFRAEOSC-05 projects: within this Task Force the projects meet periodically to exchange approaches and results and this also allows to disseminate information internally to the EOSC-Pillar consortium, in particular within the EOSC-Pillar training team to be updated on important news and approaches from other projects and initiatives.

The external training activities are dedicated to those not involved in EOSC-Pillar activities. Since the COVID-19 outbreak, a big effort was spent to reconfigure the EOSC-Pillar training activities to better target specific communities. The first pilot training series was designed to cover the importance of open science and collaboration to contrast COVID-19 pandemic. This first effort brought together EOSC-Pillar, EOSC-Life, ELIXIR and OpenAIRE to raise awareness on the importance and train researcher on why and how to share COVID-19 related data. The pilot also highlighted the importance of training researchers in Open Science and EOSC related topics by giving them specific perspectives on how they can embed best practices in their workflow by relying on services and tools designed for their particular community and needs at national and European levels.

Currently, the scientific communities identified for personalised training paths are: Covid-19 related communities, Earth and environmental sciences, social sciences, humanities.

EOSC-Pillar is also collaborating with many institutions as research performing organisations, to deliver training to their affiliated staff. This activities allow EOSC-Pillar to concentrate on training different profiles in the research communities. In the first half of the project, PhD students and research support staff were trained in separated and dedicated courses to personalise the experience. This approach allows to deliver training sessions based on the user needs. As an example, in the courses dedicated to PhD students, particular emphasis is given to the motivations behind Open Science, the FAIR by design approach, the data steward as a career path requiring a PhD, the definition of data in different domain, best practices to embed OS in their workflow. When training research support staff, the perspective is different and more importance is given to supporting researchers in the draft of a Data Management Plan, the infrastructures, tools and services

needed to support OS practices, how to define and implement institutional OS strategies and support.

The training activities are conceived bearing in mind the specific target audience to customize the sessions, even nationally, to maximise the impact. This way, EOOSC-Pillar can deliver specific contents for different audiences. EOOSC-Pillar relies 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 takes place after each training event.

4 Training Methods

The training activities are 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 self learning material, videos, tutorials). Certificates of attendance are envisaged for all the training sessions, both online and in presence, sometimes after completing a test designed to highlight important take away messages. Training material is shared in Zenodo and, since its creation, on [EOSC-Pillar RDM Training and Support Catalogue](https://www.eosc-pillar.eu/rdm-training-and-support-catalogue) (<https://www.eosc-pillar.eu/rdm-training-and-support-catalogue>).

In presence training sessions

Training events occurring in presence are 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 are selected carefully and minimum requirements are the availability of hardware (projectors/wide screens) and of internet connection that allow for interactive activities to engage the audience.

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

With COVID-19 outbreak, the in-presence training sessions were re-arranged into remote ones. The training programme also experienced re-planning and the upcoming events that were not yet confirmed were directly designed as remote session. However, before March 2020 EOSC-Pillar managed to deliver some of the training activities in person, see table 3 for details.

In presence training events are to be organised as soon as the pandemic situation will allow them.

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 are announced and the corresponding material (presentation and recording) are made available to the public on Zenodo and the EOSC-Pillar RDM Training and Support Catalogue and website.

Trust-IT provided 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.

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

Tests on LCMS have been used to allow the user downloading the certificate of attendance for the course that EOSC-Pillar organised in collaboration with EPOS.

Since the pandemic outbreak hit Europe, all training events were turned into online remote events. EOSC-Pillar training team adopted a set of approaches to maximise the attendees participation and interaction:

- Use of specific tools such as Mentimeter (www.mentimeter.com) to allow for easier interaction with public; the Mentimeter sessions are designed to guide the conversation and keep the attention high during long sessions by posing specific questions to the audience to anticipate the focus of attention on themes that are presented by the speaker.
- Use of D4Science Virtual Research Environments (VREs) to allow for a virtual class experience; the VRE allows for sharing of material and includes a social networking tool where attendees can discuss even after the course ends; it also allows the interaction with EOSC-Pillar training team for specific support such as to ask questions between modules or even after the course ends; the VREs is also used to convey information and messages after the course, such as new events or information that may be relevant to the specific audience.
- Long courses were necessarily divided into shorter modules when going from an in-presence approach to a forced online delivery in the beginning of 2020; this was necessary to keep the attention high and focus the discussion on specific themes. The slides and recordings are made available right after each module through the VRE to allow participants to attend off-line modules, giving more flexibility to plan the course attendance.
- The mandatory test to download certificate of attendance was used also to be sure participants attended the course either live or via self-learning view of recording/slides or via a mixed approach; this allows users to attend the course also off-line, and it is supported by the VRE social networking where attendees following one or more modules via recording can pose questions and interact with trainers for clarifications. The tests are designed to fix some important take away messages from the courses.

Self-learning materials

During the last half of the project, we will also focus on creating e-learning content dedicated to self-learning that can be used as a support for the training provided, or as tools in their own right on the themes identified above.

5 Training 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 adapted from “*The Open Science Training Handbook*”⁹ 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.
- Self-training material : tutorials on available tools, textual approaches (various supports envisioned) around tools or concepts promoting the understanding and practice of Open Science and FAIR data in different fields and putting into perspective the Open Science policies existing in the project countries, short videos on those very topics.

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; adapted form source FOSTER “The Open Science Training Handbook”.

	TYPE OF TRAINING				
	Live workshop	Course/Class	Lecture / Seminar ¹⁰	Online Training	Self-Training material (multimedia format)
Audience size					

⁹ Bezjak, 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>

¹⁰ was “Lecture” in the original FOSTER table.

less than 20	x	x	x	x	
less than 40		x	x	x	
more than 40			x	x	x
Funds					
none			x	x	
little	x	x	x	x	
loaded	x	x			
Time					N/A
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	x
Aware of	x	x		x	x
Intermediate	x	x		x	x
Advanced	x	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. Originally they were planned as:

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

The original plan was rearranged due to the pandemic. Currently, 13 different training events were delivered external to EOSC-Pillar consortium, and one internally. The overall delivered activities are outlined in Table 3 where only a couple of courses were delivered partially in presence, due to the pandemic. **We therefore already achieved the main KPI identified in the task level within this time frame.** Further training courses are envisaged for the upcoming months.

As the current pandemic situation makes it difficult to plan in-presence training sessions, we suggest here a preliminary programme for the upcoming months and give 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 possibly plan co-located training sessions.

Moreover, for the second half of the project, we envisage a third option to be added to the in-presence and online training:

- material of self-training on topics of interest (Cf. 2 Training Themes).

6.1 Delivered training activities

In the following table we show the training activities delivered, at time of writing. Basically, all of them were organized online due to the pandemic situation.

Table 2 Delivered training activities for EOSC-Pillar training events (M1-M18 period)

November 15, 2019	online	remote	EOSC basics, RDM, FAIR principles, OA, OS policies	Research Offices and Librarians - University of Cassino	Delivered. (10 participants)
January-March 2020	Pisa, Italy	originally planned as F2F, rescheduled remotely after COVID-19 outbreak	OA, OS, RDM, EOSC, FAIR data	PhD Students of the University of Pisa (both STEM and SSH).	Delivered: partially in presence, and partially rescheduled and delivered remotely due to the pandemic.

					50 participants.
March 18, 2020	Rome, Italy	originally planned as a F2F event, turned into remote after COVID 19 outbreak	OA, RDM, EOSC basics	Researchers	Delivered: coupled with the EOSC basics event on march 19 turned into 4 webinars, 2 hours each. 100 participants.
March 19, 2020	Rome, Italy	originally planned as a F2F event, turned into remote after COVID 19 outbreak	EOSC basics	Italian Agency for European Research	See above.
May 15, 2020	Italy	remote	OS, OA, RDM, EOSC basics	Earth and Environmental sciences community (Researchers)	Delivered: Introductory webinar on OS, OA, RDM, FAIR principles. 200 participants.
June 2020	Italy	remote	OS, OA, RDM, FAIR principles, EOSC basics	Research Support Staff	Delivered: 4 training modules, co-organised with the Italian Agency for European Research. 50 participants.
July 21, 2020	Italy	remote	OS, OA, RDM, FAIR principles, EOSC basics	COVID-19 researchers and clinicians	Delivered: Introductory webinar on the importance of data sharing. 60 participants
October 20, 2020	Belgium	F2F event -> online Presentation during OA Belgium week	Data Stewardship, EOSC Basics	Research support staff (incl. librarians)	Delivered 70 participants

November 9-10, 2020	Belgium	F2F event -> online	OS, RDM, FAIR principles,	Life Sciences researchers, in collaboration with Elixir Belgium	Delivered <i>35 participants</i>
November 12, 2020	Belgium	F2F event -> online webinar	EOSC Pillar Training and support catalogue Data Stewardship, EOSC Basics	Research support staff (incl. librarians)	Delivered <i>40 participants</i>
November 16, 2020	Italy	remote	OS, OA, RDM, FAIR principles, EOSC basics	COVID-19 researchers and clinicians	Delivered: Introductory webinar on the importance of data sharing (second edition). <i>100 participants.</i>
November 24 and 26 December 1 and 3, 2020	Italy	online training course	Open Science, FAIR principles, RDM	Researchers of earth observation domain	Delivered. <i>150 participants.</i>
December 1 and 3, 2020	Italy	online training course	Open Science, FAIR principles, RDM	PhD students, researchers, professors and technicians at Scuola Normale Superiore, Pisa, Italy	Delivered: organised with OpenAIRE and TRIPLE projects, and with the ICDI Italian Competence Center. <i>40 participants.</i>
February 23, 2021	Europe	online training course	Open Science and EOSC policies	EOSC-Pillar consortium, internal training	Delivered. Internal training. <i>25 participants</i>

The original training plan aimed at organizing a training event in each of the countries covered by the EOSC-Pillar consortium, and a series of online events that should cover general themes to be delivered in English and disseminated in Europe. The plan has been highly affected by the COVID-19 pandemic. All the already organised events needed to be turned online and redesigned. This was also the case for the series of events planned in collaboration with the Italian Agency for European Research (APRE), and for the already started PhD course on Open Science and RDM at University of Pisa.

Besides, the need to manage and share COVID-19 related data and research results urged to find new paradigms for Open Science and EOSC related training within the EOSC-Pillar community. The training team decided to focus on research communities within a specific domain, and to plan a set of pilot courses on Open Science practices to be jointly organised with the reference Research Infrastructure.

This new paradigm led to the organisation of two series of events to cover, as pilot projects, the Italian communities in the fields of Health and Earth and Environmental Sciences. To this aim, two sets of events were organised in conjunction with ELIXIR and EPOS respectively. Italy was chosen as the country of the pilot project, but all event series materials were developed in English to be easily reused by EOSC-Pillar trainers in the other countries covered by the consortium.

6.1.1 Community training pilots

The pilot projects also supported the start-up of the Italian competence centre task force within ICDI, as they highlighted the need to map and group the national experts in OS and EOSC related field at national level, with the aim of coordinating efforts towards training and support initiatives in the Country.

The event series in both disciplines are structured with a first introductory webinar, introducing the motivations for data sharing and basic information to the audience to raise awareness, followed by a specific course on OS practices. The attendees are also invited to join a set of online workshops tailored to the community needs that have the major aim of discussion on particular topics.

The table below summarises the structure of the event series for the two communities included in the pilots:

Table 3 Community specific training pilots

Health	ELIXIR, EOSC-Life, OpenAIRE, RDA	Covid-19 and data sharing: why are we doing so little in Italy?	Three tutorials on how to manage and correctly share : two will focus on omics data, and one on software.	Two workshops are foreseen: "Covid-19 data sharing: epidemiological data", and "Covid-19 data sharing: clinical data"
Earth and environmental sciences	EPOS, OpenAIRE	Open Access in the Earth and environmental sciences	Motivations to OS, OA, FAIR principles, Research Data Management, Data Management Plans	One workshop is planned to discuss the current change in the paradigm of research evaluation and collect feedback from the community of Earth and environmental science researchers. Feedback from attendees on other topics are currently undergoing.

Despite the pandemic, the courses organised in collaboration with and within a specific institution and dedicated to PhD students, researchers and technicians, continued. Two courses were delivered at University of Pisa and Scuola Normale Superiore and highlighted the importance to train in particular PhD students and work with Universities to design specific Open Science courses for them. One course in Belgium targeted the Elixir community. Besides, courses were also delivered to address research support staff as important stakeholders in the current Open Science environment, with the aim of supporting them to introduce new important professional skills and profiles related to data management (data stewardship and data curation).

6.1.2 Examples of Training

In the following subsection we describe in more detail the most relevant organized training events.

- **Research Data Management in Life Sciences**

Dates and venue: 9-10 November 2020, online

Event link: <https://training.vib.be/all-trainings/research-data-management-life-sciences>

Theme: RDM, FAIR principles, OS policies

Audience: Researchers in Life Sciences

Training material available at: <https://osf.io/fpvgyl/>

Summary: This course was jointly organized by Ghent University and ELIXIR Belgium, to help researchers to develop their knowledge and practical skills in handling and managing the research data they collect and use. The course guided the attendees through the key aspects on how to manage, document, store and safeguard research data well and how to plan and implement good RDM in research projects in accordance with current best practices. The session had 41 participants.

- **EOSC-Pillar RDM Training and Support Catalogue webinar**

Dates and venue: 12 November 2020, online

Event link: <https://www.eosc-pillar.eu/events/webinar-eosc-pillar-rdm-training-and-support-catalogue>

Theme: EOSC-Pillar Training and support catalogue, Data Stewardship, EOSC Basics

Audience: Research support staff (incl. librarians)

Training material available at: <https://www.eosc-pillar.eu/events/webinar-eosc-pillar-rdm-training-and-support-catalogue>

Summary: The aim of the webinar organized by Ghent University was to present the beta version of the catalogue and gather feedback from its potential users. The webinar was primarily aimed at the expanding RDM support community in Belgium and other EOSC-Pillar countries, and at any professional with a role supporting researchers with RDM. More than 40 people actively participated and very positive feedback was obtained with regards to the usefulness of the catalogue for the participants' daily tasks. A blog post summarising the feedback given by participants was published and is available at the EOSC Pillar website. A FAQ page about the Training and Support catalogue was also published.

- **Open Science and Research Data Management. La Scienza Aperta: dalla teoria alla pratica** - PhD transversal activities at University of Pisa

Dates and venue: January-June 2020, online

Event link: <http://dottorato.unipi.it/index.php/it/dottorandi/item/493-attivita-didattiche-trasversali-per-i-dottorandi-dell-universita-di-pisa-anno-accademico-2019-20.html#blo1>

Theme: Open Science Access to Research data, FAIR principles, Research Data Management, Skills roles and competences for Open Science, Services and Tools.

Audience: PhD Students at University of Pisa, Pisa, Italy.

Training material available at:

<https://zenodo.org/communities/stemosrdmunipi/?page=1&size=20>

Summary: This course was organised in the framework of transversal activities at University of Pisa in 2020.

In collaboration with OpenAIRE Advance, EOSCsecretariat.eu, EOSC-Pillar, the training course has been tailored to the PhD students at University of Pisa, both in the STEM and SSH sectors. The 40 hours course consisted in ten separated modules, replicated for each sector and covered all aspects of Open Science, including skills and new professional profiles required to embed Open Science in the research workflow.

- **Open Science and Research Data Management - PhD transversal activities at Scuola Normale Superiore**

Dates and venue: 10, 14, 16, 18 December 2020, online

Event link: https://www.sns.it/sites/default/files/allegati/2020/11/locandina_os_rdm2020.pdf

Theme: Open Science Access to Research data, FAIR principles, Research Data Management, EOSC, Research Infrastructures

Audience: PhD Students, Research Support Staff at Scuola Normale Superiore, Pisa, Italy.

Training material available at:

<https://zenodo.org/record/4317277>

<https://zenodo.org/record/4326563>

<https://zenodo.org/record/4450515>

<https://zenodo.org/record/4388823>

Summary: This course was organised in the framework of transversal activities at Scuola Normale Superiore in 2020.

In collaboration with OpenAIRE, Triple, EOSC-Pillar, and ICDI, the training course has been tailored to the PhD students at Scuola Normale Superiore, but open to attend by all the personnel of the institution. The course also had dedicated lessons for the SSH and STEM sector students. It consisted of the following 4 modules:

Module 1 (10th December): Introduction and motivations

Module 2 (14th December): Research Data Management

Module 3 (16th December): FAIR principles and Open data

Module 4 (18th December): Towards EOSC, Hands on session on Open Science tools (IRIS, DMP, etc.)

The course covered all modern aspects of Open Science (Publications, Open Data, FAIR principles, Data Management Plan, etc.) and provided with the tools and standards required to embed Open Science in the research workflow.

- **Training Course "Praticare l'Open Science nelle scienze della Terra e dell'ambiente"**

Per favore lasciateci tre parole/concetti che vi hanno colpito durante la lezione di oggi





Figure 1: One of the word clouds built during the course: “Please leave us three words/concepts that hit your attention during today’s lesson”.

Dates and venue: 24, 26 November and 3,4 December, online

Event link: <https://eosc-pillar.eu/events/corso-formazione-praticare-open-science-scienze-terra-ambiente>

Theme: Open Science Access to Research data, FAIR principles, Specific concepts and tools for Earth Environment Observation

Audience: Data stewards, researchers in Earth Environment Observation Science

Training material available at: <https://eosc-pillar.d4science.org/group/eoscpillarosta/workspace> (access requested)

Summary: This course, jointly organized by EOSC-Pillar with EPOS, OpenAIRE and CNR and INGV aims to provide the basic knowledge to apply the principles of Open Science and Open Access to Earth and environmental sciences. Aimed at professors, researchers, technicians, doctoral students, research fellows working in this sector, the webinar cycle includes four lessons of two and a half hours each, half an hour of which is reserved for questions and discussion. Through specific software, we will try to encourage interaction and exchange with the participants, who at the end of each module and after completing a short questionnaire on the topics covered, will be able to have a certificate of participation.

6.2 Upcoming Training Activities

Table 5 Upcoming training activities for EOSC-Pillar training events

9 March 2021	Austria	remote	RDM, FAIR and DMP	Researchers and students in the social sciences, research support staff

May/June 2021	Italy	remote	Open Science, RDM, FAIR and DMP	Researchers in the Humanities at CNR, in collaboration with RIs in the field
Q2 2021	Pillar countries	remote	Training catalogue (Data Stewardship)	Data stewards
Q2	Belgium	remote	Train-the-trainer workshop EOSC basics, Data Stewardship in collaboration with FairsFair	Data stewards
Q3/4 2021	Pillar Consortium	remote	EOSC services (Focus on EOSC-Pillar F2DS)	Researchers in Pillar (esp.community from WP6)
Q3/4 2021	INFRAEOSC-05	remote	EOSC services (Focus on EOSC-Pillar F2DS)	Service providers (repository managers), researchers working within EOSC Landscape
Q4 2021	Community of practice Training Coordinators	remote	Training catalogue (Data Stewardship)	data stewards librarians research support
Q4 2021	Belgium	remote	Open Access	researchers
Q1/2 2022	online	remote	EOSC policies	Institutions/Funders
Q1/2 2022	Belgium	remote	FAIR principles	Community specific training pilot
Q2/3 2021	France, Italy	remote	Open Science, RDM and FAIR	Humanities, notably through the Consortia of Huma-Num (CNRS) and other national research networks in humanities
May 2021	France	remote	EOSC Policies and current landscape	Humanities and Social Sciences as it will be given in the context of Huma-Num Meet-ups but open to all scientific communities

TBD	France	remote	What is a FAIR data in Humanities and Social Sciences	
TBD	Austria, Germany, France	remote	Open Science, RDM FAIR	TBD
TBD	France	remote	OS, OA, RDM, EOSC basics	Earth and Environmental sciences community (Researchers)

6.3 Provisional self-training material planned

The following is a non-exhaustive list of self-study materials that we plan to produce, with a provisional timeline:

- tutorials on tools identified by SSH communities as helping in the processes of FAIRisation of their data (NAKALA, HAL, ISIDORE for the generic ones...) and mentioned in the EOSC PILLAR deliverables (Ex : MS26, catalogue...).

TIMELINE : mainly 2021, could start in April when a dedicated recruitment is starting

- short video clips on FAIR-related concepts: one for each letter, maybe a focus on the definition of "data" (we could start with the Huma-Num disciplinary Consortia for France, then opening the dialogue with other researchers of EOSC-PILLAR countries) This will be a continuous work on a rolling basis until April 2022 and could be based on researchers' and/or experts' and infrastructure managers' interviews.

TIMELINE : April 2021 - April 2022

- animations/motion design videos on FAIR data in SSH (standards in different domains/disciplines of SSH) and Open Science: short format materials which can be easily reused in a course, e.g. embedded in a website, etc.

These audio-visual materials could also be used to illustrate webinars organised and/or to be organised

TIMELINE : from Q3/4 2021 to April 2022

6.4 Planning and Organization

The training events and material organisation takes place in three main steps (Planning and preparation, Training delivery, and Evaluation and follow-up), that will follow the timing provided in Figure 2.

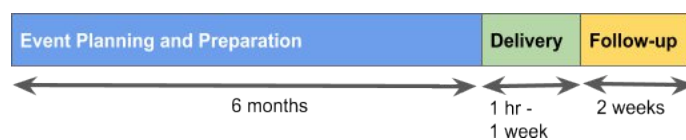


Figure 2 Timeline for events organisation.

WP5 is responsible for planning the training events, with the contribution of WP2 for communication and dissemination related aspects. The planning considers 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 are 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 is set up on EOSC-Pillar website or other convenient webpages. In the case of online events, the build in tools for registration of the platform used for the webinar can be also considered. 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 is prepared based on the selected audience, method and format, and is made available to the participants via the EOSC-Pillar RDM Training and Support Catalogue and Zenodo.

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

6.5 Training delivery

The training team for the specific event is selected among EOSC-Pillar partners taking into account the venue and the topics to be included in the specific training session. The training session may include assessment of the concepts introduced, also through practical hands-on activities, through which the participants have the chance to test the gained knowledge. Ad hoc questionnaire are also used at the end of the course as a test to gain the certificate of attendance.

7 Evaluation and Follow-up

Evaluation of the events is a key step in the overall activity plan. Evaluation results is used as an important feedback to improve training delivery and preparation. Right after the event, participants are asked to evaluate the training session through a dedicated survey drafted in collaboration with WP5 and WP2. The survey also gives the chance to continue the collaboration with participants, to work towards the creation of an EOSC-Pillar stakeholder community. The survey results are 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.

In some cases, when the training is delivered in collaboration with and within a specific institution, it was not possible to design the evaluation forms or to access and share the results. The results of the evaluation (anonymous) of the training course "Praticare l'Open Science nelle Scienze della Terra e dell'ambiente" were made available in Zenodo in Open Access¹¹

In view of the next type of activity planned within EOSC-Pillar, i.e. to build and distribute self-learning material, the team is investigating possible solutions for evaluation of the resources and format.

The following sections highlight and analyse the results of the evaluation and follow-up activities carried out in months 1-18 of the project. This activity was key since the very beginning, especially for the series of events that were planned. One of the key aspects was indeed the comments and advices collected by the attendees, that we used to improve the format, contents and focus on themes that were not clear to the participants. We also asked them to identify topics they wished to deepen in the next events, and planned them accordingly.

7.1 Evaluation and follow-up analysis

7.1.1 Key performance indicators on training effectiveness

We propose to use KPIs to measure the progress on delivered training activities. The identified KPIs are as follows:

- Training Attendance

This measure indicates the number of participants that attended a specific training course within a specific theme(topic) as displayed in the clustered column graph of Figure 3.

¹¹ Lazzeri, Emma, & Pavone, Gina. (2021). Risultati della valutazione del corso "Praticare l'Open Science nelle Scienze della Terra e dell'ambiente" [Data set]. Presented at the Praticare l'Open Science nelle scienze della Terra e dell'ambiente, Zenodo. <http://doi.org/10.5281/zenodo.4721951>
www.eosc-pillar.eu

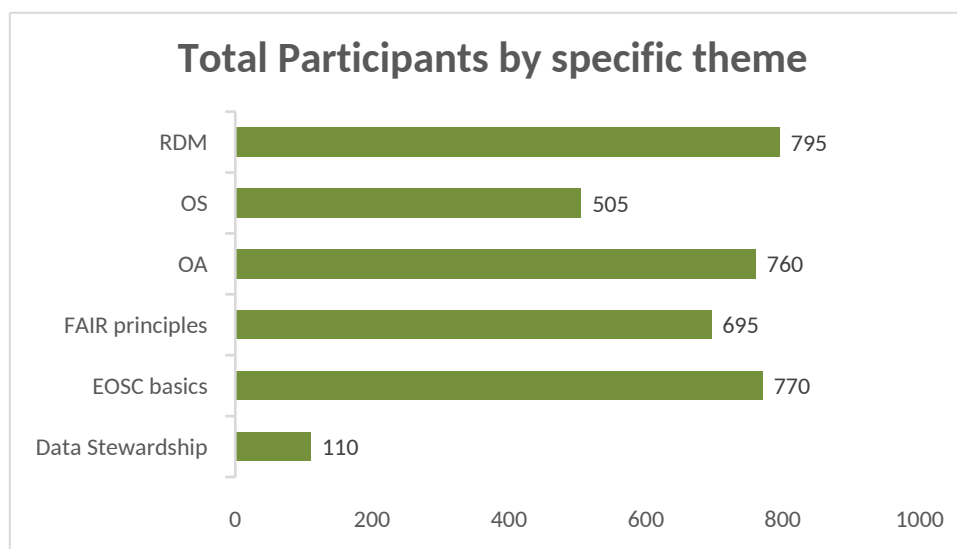


Figure 3 Training attendance by specific theme

The attendance is clearly greater in training courses where topics such as RDM, OA, EOSC basics, FAIR principles and OA are covered and low in courses addressing “Data stewardship” topics. The low values reported from the latter one are plausible as this role emerged quite recently as a new functional role to achieving data integrity.

This report informs us to pay more attention to courses where “Data stewardship” should be addressed and as well to offer in the future topics such as EOSC policies.

Beside this, we can report what are the current training courses that were delivered from M1-M18 and how they are distributed over different themes as shown in the graph of Figure 4, so what skills the trainees learned so far.

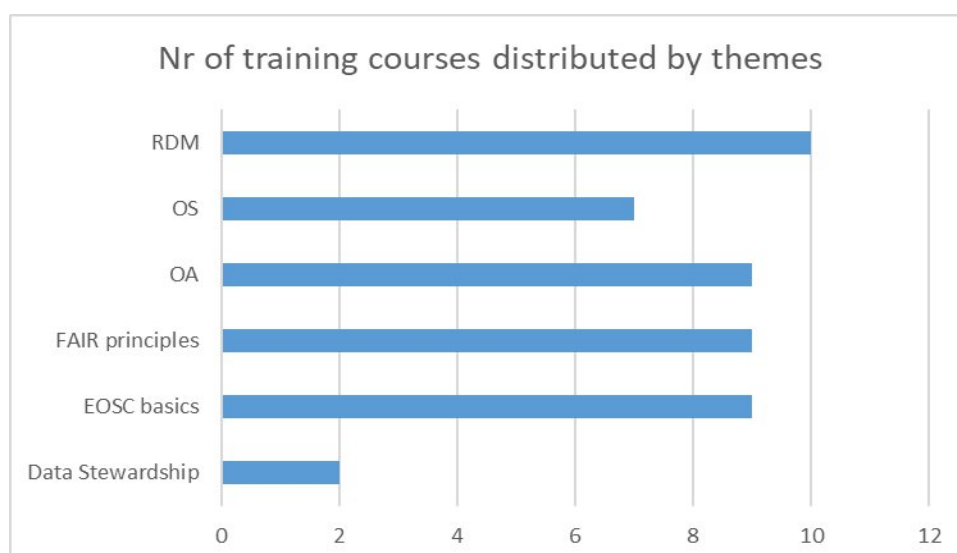


Figure 4 Training courses distributed over different themes

Some other useful information such as monitor the attendance by months or number of training courses offered by month are as well reported. The interested reader may have a look at the [Annex.1](#)

Another important aspect is to distinguish between the different training courses delivered, some of them were designed in collaboration with a specific research community as already reported in [Section 6.1.1](#)

Therefore, we labelled each training course with a “type” if it is taught jointly with a community we tagged it as: “Liaising with a specific community” otherwise we use the tag “No Liaison” instead. This difference is rather important as it has a direct impact in the attendance monitored as highlighted with a graph in Figure 5. Here, it is easily reported how this attendance was significantly high in the courses that were designed in liaising with the relevant research community.

This indicates that for future training activities we should focus in designing courses jointly with the interested community.



Figure 5 Training attendance by training type

This affects somehow the attendance reported for each target group as shown in Figure 6. As we can see attendance is higher where the target group are the researchers within a community, e.g. EPOS community.

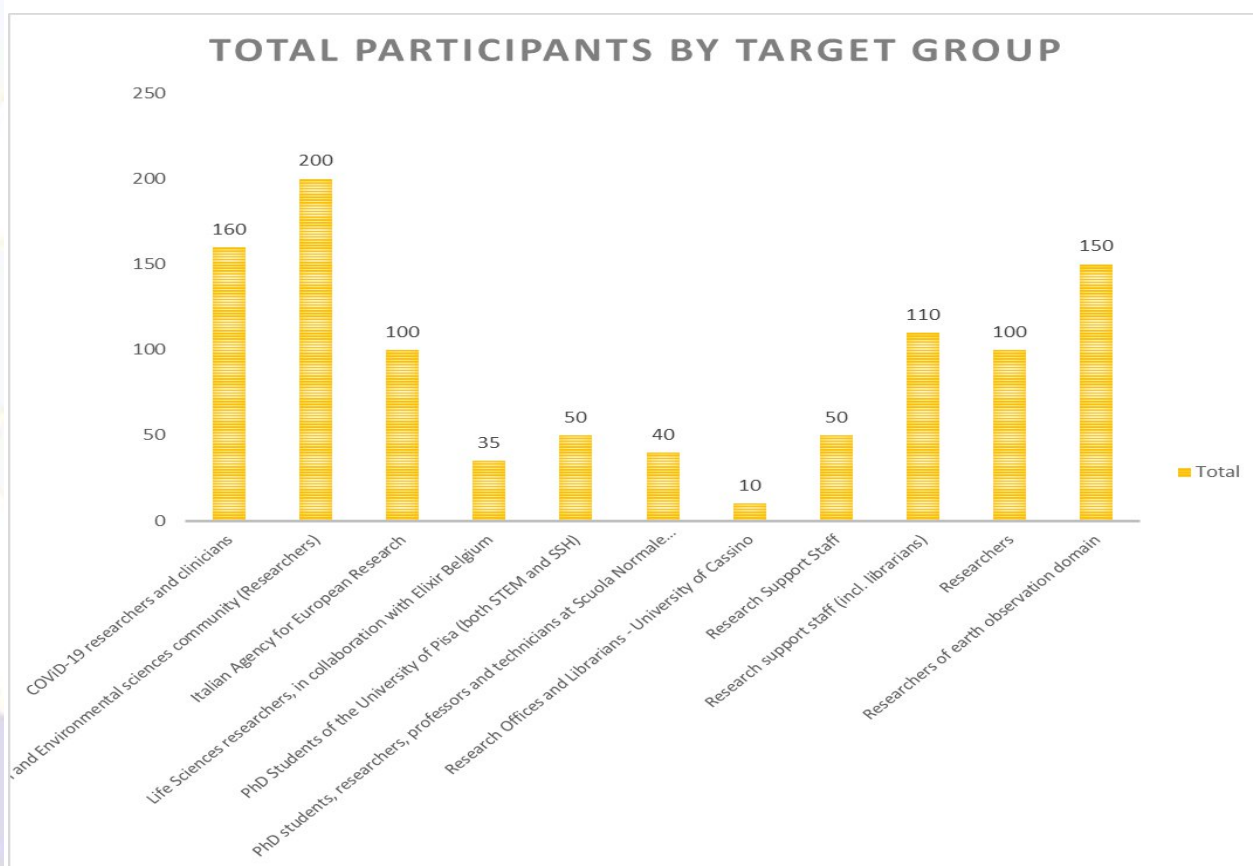


Figure 6 Training attendance by target group

- **Training Completion Rate**

This measure is used to indicate the number of participants that actually finished all the sessions of a specific training or if they sign up in the first session.

This measure is useful either for courses that were delivered in different sessions, for example in two or more consecutive days, or for courses where an exam test is given to test their knowledge after completing the training.

For the course “Practising Open Science with Earth and Observation Science” realized with four modules and designed jointly with EPOS community we have information on test/quiz participants took to test their knowledge after completing the training. The results are shown in Figure 7 where we can summarize that around 49% took a test/quiz after completing the training.

Whereas, for the other courses delivered in only one day and where a test has been given to the participants have reported a completion rate more than 50%.

From the completion rate values we can say that we moderately met the participants expectations in terms of skills and knowledge acquisition..

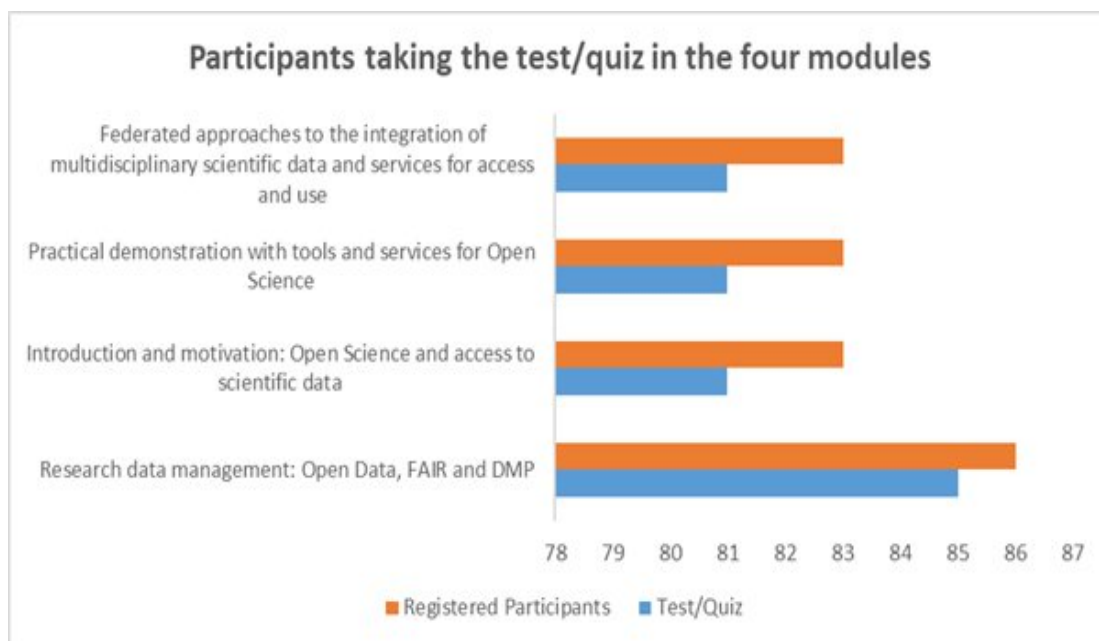


Figure 7 Training test/quiz taken by participants

- Training Test Results

This measure indicates the test results for those trainings where participants had a chance to test their knowledge. These results are an important KPI for training coordinators. Some of the results as part of the evaluation of the knowledge acquisition from the training program are displayed in Figure 8. As a summary, 44% of the participants received the “Certificate of Achievement”.

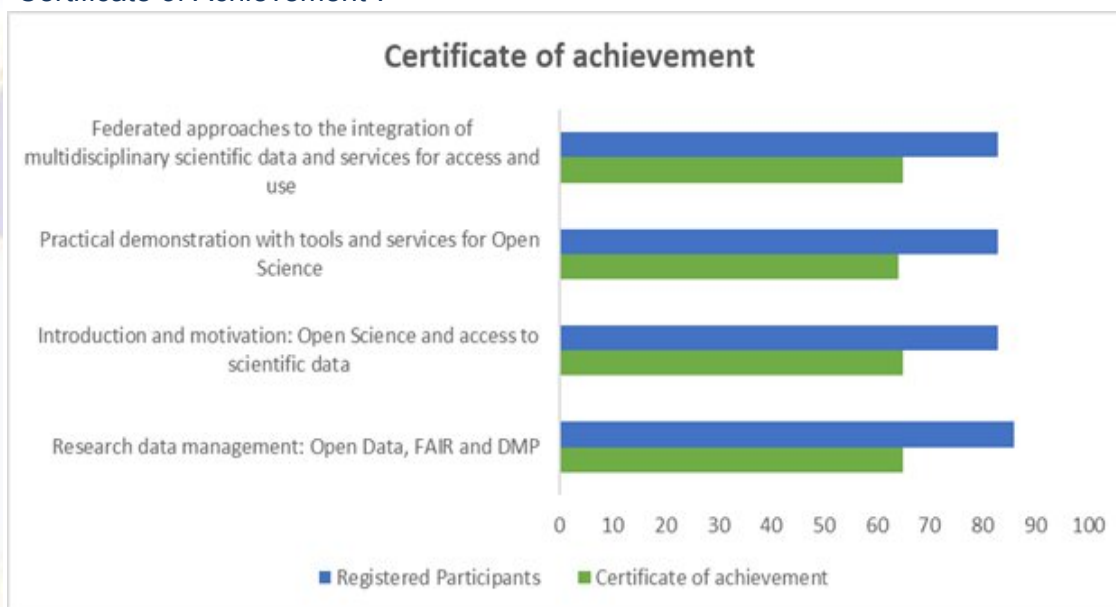


Figure 8 Completion of achievement results

Instead, for courses designed jointly with universities we do not have access to the results as examination papers were designed by them.

- Stakeholder Satisfaction

This measure indicates how satisfied were the participants with the training they attended. We collected satisfaction scores using post-training surveys. Some of them were provided through some google form which they have to answer or give feedback on specific questions like how they rate the course from 1 (unsatisfactory) to 5 (full satisfactory) as illustrated in graph of Figure 9. These values are results from the training course designed jointly with EPOS community. Other questions were posed on what are the suggestions to further improve the course from the participant point of view.

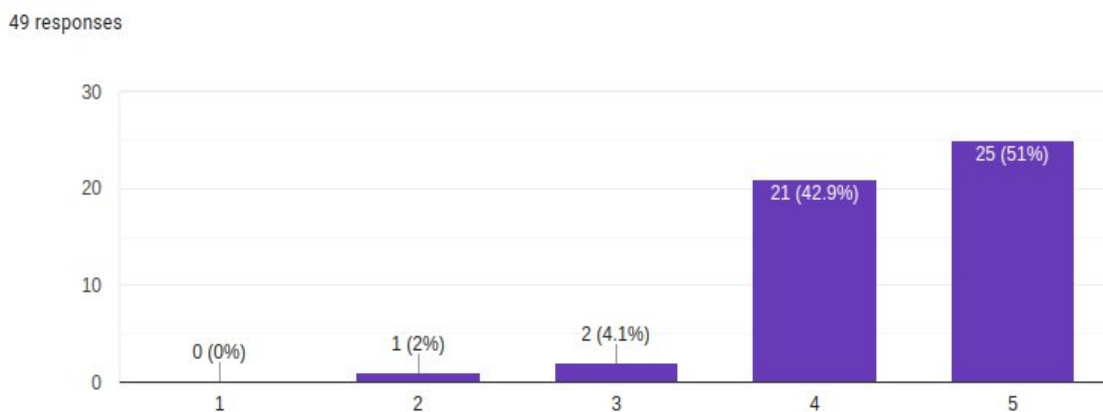


Figure 9 Stakeholder satisfaction score

Moreover, in some of the courses we asked also a question to evaluate the course based on different aspects such as: the overall course itself, the presentation, materials, the application used for the webinar, audio, use of the VRE as a communication hub and social networking and use of the Mentimeter for discussion, scoring them from “poor” to “excellent”. This evaluation is illustrated in the graph of Figure 10.

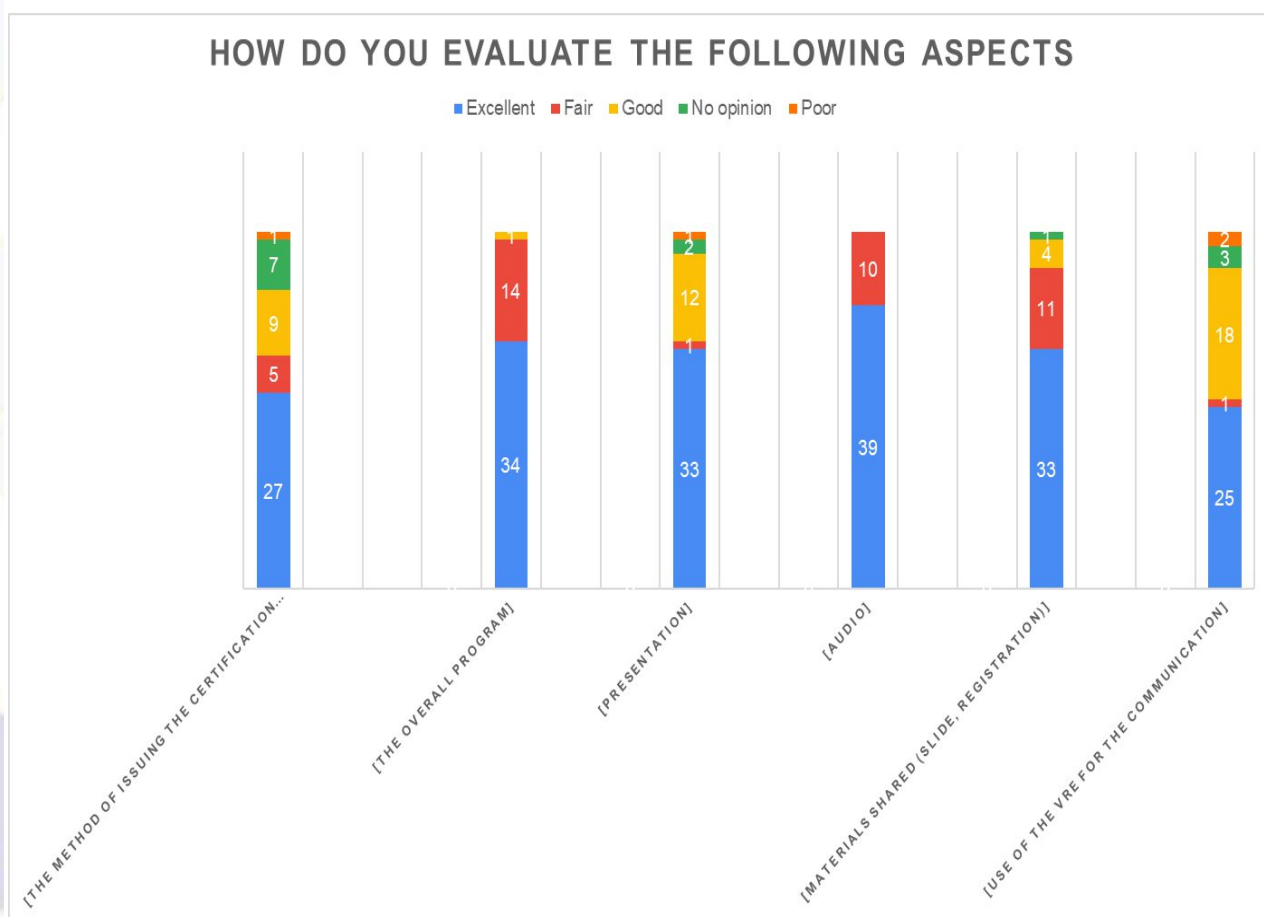


Figure 10 Different scored evaluation aspects

As displayed in the plot, 69% voted the overall program as excellent and 31% instead voted good or fair for this aspect.

As an overall based on the positive participants votes on different aspects we could conclude that participants were very satisfied with the training course.

For courses designed jointly with universities we do not have access to either the feedback they provided through the surveys they prepared. Some other aspects we covered through the questionnaire you may find in the [Annex.1](#)

7.1.2 Key performance indicators on future self-training materials

As for this last period we also integrated the production of self-learning material, news KPIs should be included to measure their impact on the research communities. This is very depending of the type of support (video, text, etc.) and how we will disseminate them. In any case we should be able to base ourselves on a number of clicks, downloads (for off-line use), views for videos and textual pedagogic material, and also bounces for all that is social networks, all of which depend on the preferred distribution medium according to which the impact should be studied.

In the context of the production of content on concepts related to the FAIRification of research data, the number of content produced by the research communities citing the

resource created in the framework of the Task 5.4 could be taken into account as an impact criterion.

For all the KPIs we just mentioned, we could use tools like Matomo (<https://matomo.org/>) which will give us a more precise view of the available material's use created.

KPIs and results will be presented in the final report .

8 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 has been agreed to accurately describe training resources to make them accessible and searchable through the EOSC-Pillar training & support Catalogue. Training material produced by EOSC-Pillar training team is also shared on Zenodo.org to comply with the European Commission Open Access mandate. The final aim of this exercise will be the FAIRification of training material that can be also shared outside the Consortium and through the EOSC training central catalogue (a discussion around this issue has been already started in the community^{12, 13}).

The preliminary set of metadata, envisaged in deliverable *"D5.3 - Training Plan"*, was adapted and finalised and is now implemented in the EOSC-Pillar Training & support Catalogue. See *"D5.4 - FAIR-oriented Research Data Management: Support, Training and Assessment Activity Report"* for more details.

¹² OS FAIR, "Making EOSC Training more FAIR" <https://www.opensciencefair.eu/workshops-2019/making-eosc-training-more-fair>

¹³ Manola, N., Lazzeri, E., Barker, M., Kuchma, I., Gaillard, V., Stoy, L., "Digital skills for FAIR and Open Science - Report from the EOSC Executive Board Skills and Training Working Group", European Commission. Directorate General for Research and Innovation. & EOSC Executive Board. Publication office (2021), <https://doi.org/10.2777/59065>.

9 Conclusion

This deliverable documents the updated 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 re-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 are 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 original training plan was substantially revised due to the COVID-19 outbreak. This also allowed to focus the training activities on specific communities and therefore deliver personalised training events, in collaboration with relevant Research Infrastructure. The original KPI of 10 events in the lifetime of the project was achieved and 13 events were delivered in the period M1-M18.

Annex 1: Additional indicators

In this annex section we show other measures that report on other important aspects about the delivered training courses.

For example, in the graph of Figure 11 are displayed the number of courses (from 13 in total) by each month. As we can see, March and November 2020 are reported the highest number of courses.

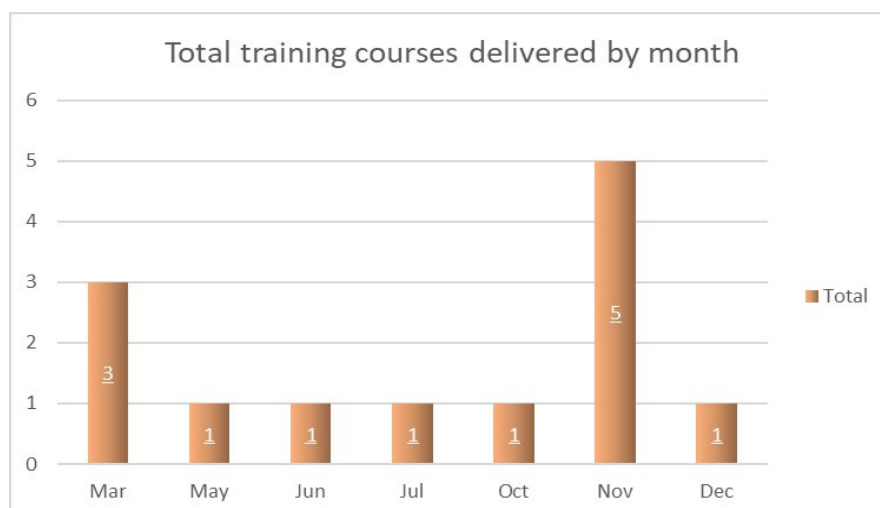


Figure 11 Courses distributed over months

Whereas in Figure 12 are displayed the number of participants that attended a training course grouped by different themes per month.

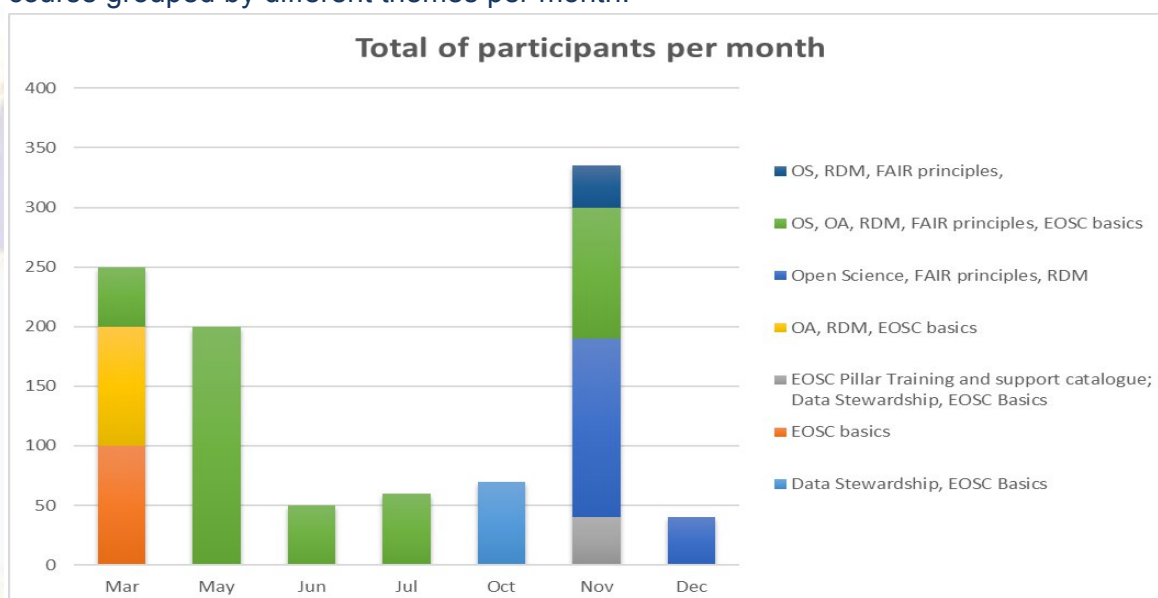


Figure 12 Training attendance by months

To summarize we can conclude the number of participants that were trained on different topics. This is reported in Figure 13.

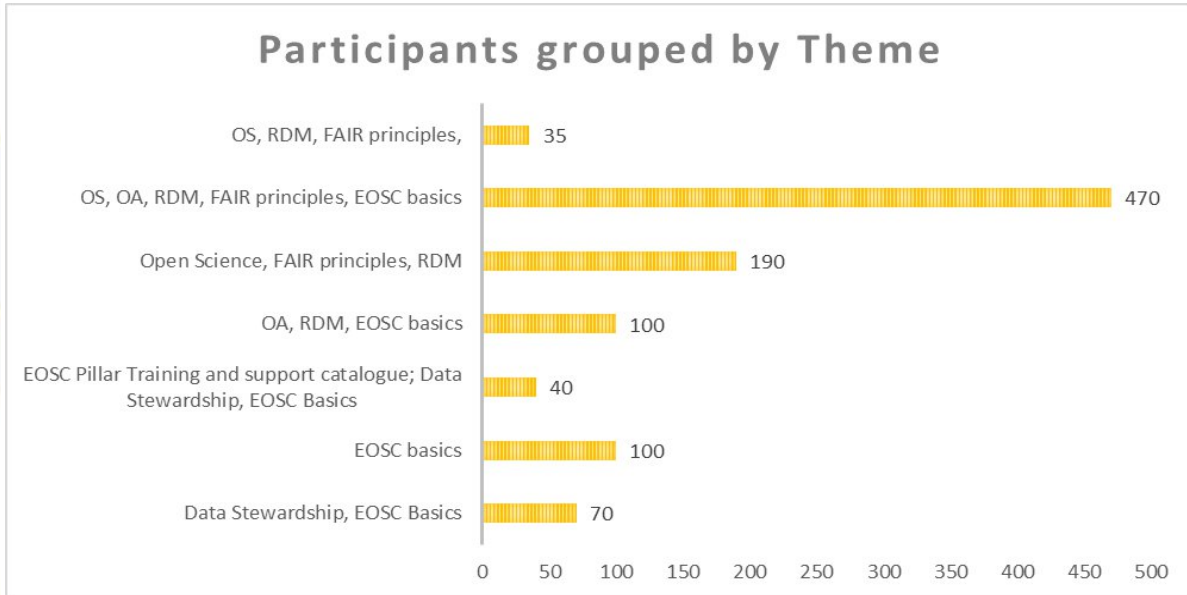


Figure 13 Training attendance grouped by different topics

In the following graph are shown the percentage of the target audience by specific theme they learned during the courses.

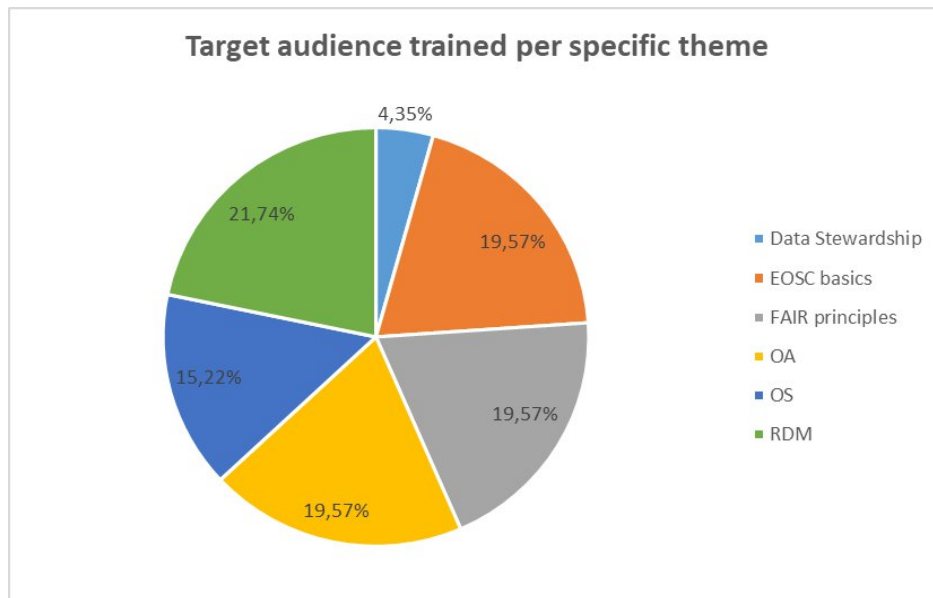


Figure 14 Training target group attendance by different themes

Instead the graph of Figure 15 gives information which target group learned most of the topics.

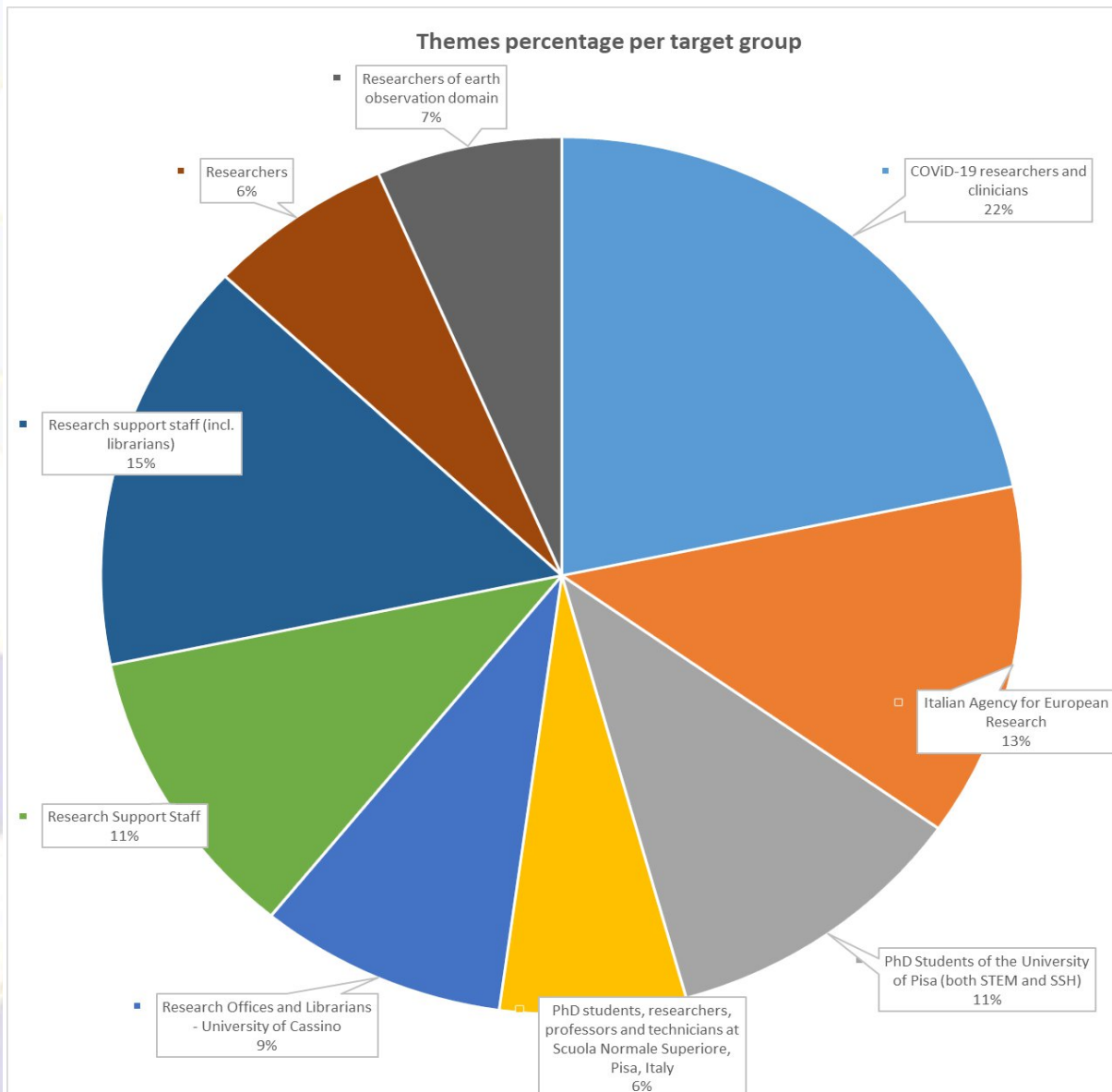
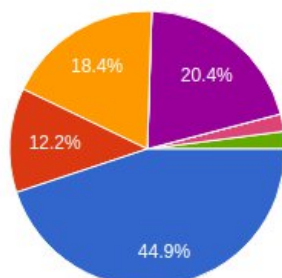


Figure 15 Theme distribution over different target groups

Some questions asked on the questionnaire are summarized in the figure below. They are written in Italian language as the course was offered in this language.

Indichi il ruolo che ricopre all'interno della sua Istituzione

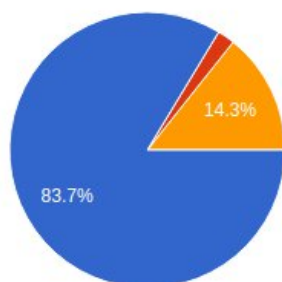
49 responses



- Professore/Professoressa, Ricercatore/Ricercatrice
- Tecnologo
- Studente/Studentessa di Dottorato, Assegnista di Ricerca
- Bibliotecario/a, Personale di supporto...
- Personale tecnico
- Personale ufficio legale/TTO/DPO
- in realtà sono formalmente un tecnico...
- tirocinante CNR

Come ha seguito il corso?

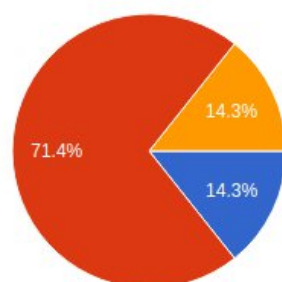
49 responses



- In diretta sulla piattaforma Zoom
- Non ho seguito la diretta, ho consultato il materiale messo a disposizione nella VRE (registrazioni, slide)
- Modalità mista: in parte sulla piattaforma Zoom, in parte consultando il materiale messo a disposizione sulla VRE

Per gli argomenti trattati, il corso è stato:

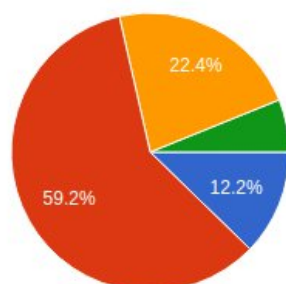
49 responses



- troppo breve
- della giusta durata
- troppo lungo

Conosceva gli argomenti trattati nel corso prima di partecipare?

49 responses



- no
- sì, ma la mia conoscenza era molto limitata
- sì, il mio livello di conoscenza era intermedio
- sì, il mio livello di conoscenza era avanzato

Quali sono i principali aspetti/concetti che le ha lasciato il webinar?

35 responses

i principi FAIR dei dati

La complessità di un mondo che è come un iceberg e di cui pochi hanno conoscenza

I nuovi concetti dell'open science, ancora poco diffusi nell'ambito della ricerca scientifica

Data policy, data management, principi FAIR

Che da anni è necessaria una "rivoluzione copernicana" in questo settore e che, finalmente, dopo anni che se ne parla, questa rivoluzione si sta concretizzando.

fair, open access

FAIR e Data Management Plan-quanto sono importanti

necessità di rendere accessibili i dati

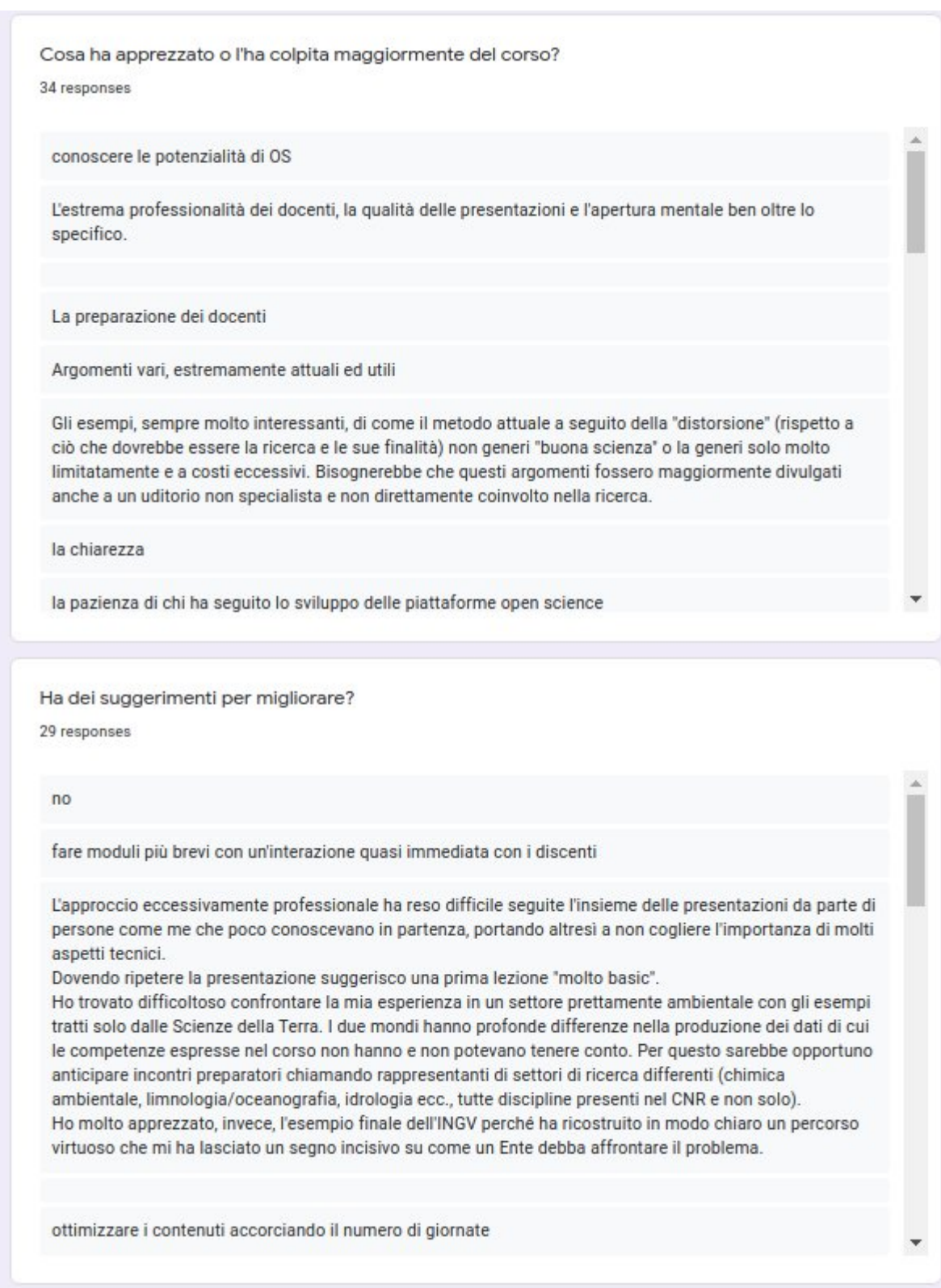


Figure 16 An excerpt of the responses from the questionnaire