



EOSC-Life: Building a digital space for the life sciences

D9.3 Final report on EOSC-Life training activities and their impact

WP9 – Dissemination and Outreach

Lead Beneficiary: EATRIS, ELIXIR/EMBL-EBI

WP leader: Rebecca Ludwig (EATRIS), Kim Gurwitz (EMBL-EBI)

Contributing partner(s): EMBL-EBI, EATRIS, BBMRI-ERIC (UMCG), Instruct, Charité, UOXF, Abo, VU, UGent, UNICAM

Authors of this deliverable: **Rebecca Ludwig, Lauranne Duquenne** (EATRIS), **Kim Gurwitz, Anna Swan, Daniel Thomas Lopez, Marta Lloret Linares** (EMBL-EBI), **Claudia Delgado** (UGent)

Contractual delivery date: **30 June 2023**

Actual delivery date: **26 June 2023**

H2020-INFRAEOSC-2018-2

Grant agreement no. 824087

Horizon 2020

Type of action: RIA

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Executive Summary

This document outlines the training activities that have been completed since the beginning of the grant and their impact. The EOSC-Life training programme is built on the training needs analysis, which was presented in *D9.1 Final report of analysis of the training needs of different EOSC-Life users* in month 12. EOSC-Life training is aimed at two target communities that have distinct needs and different roles towards establishing a European Open Science Cloud (EOSC): (i) the Research Infrastructures (data) staff and (ii) the end-user of the (data) services offered.

The deliverable gives an overview on the wide range of training offers completed, which highlight that EOSC-Life managed extremely well to ensure cross WP involvement and adapted the training to remote offers during the pandemic restrictions. Since the training activities described in *D9.2 Review of EOSC-Life training activities, their impact and potential adaptations*, our focus has been on developing and publishing the e-learning materials, while activities around courses, workshops and open calls continued. In total, since the beginning of the project we have supported over 1000 participants with in-person/virtual training and over 6000 participants with e-learning.

Training in EOSC-Life has been organised in a top-down as well as bottom-up approach; top-down training activities have been organised by the technical work packages in EOSC-Life as well as the training work package, while the Training Open Call process allows for training activities organised by the EOSC-Life community to receive EOSC-Life support. All training activities relate to the needs analysis. Three rounds of the Training Open Call have been completed, in total we received 22 applications and 15 proposals received funding.

In conclusion, EOSC-Life training activities were a driver and sustainer of the EOSC-Life community and an important pillar in reaching external audiences.

Project Objectives and Introduction

The objectives of WP9 are to develop and deliver training to enable effective data access and preservation for immediate and future sharing, and re-use, of data in the Biological and Medical Sciences (BMS). The training addressed two target communities that have distinct needs and different roles towards establishing an European Open Science Cloud (EOSC): (i) the Research Infrastructures (data) staff and (ii) the end-user of the (data) services offered.

(i) For Research Infrastructure staff, it provides skills training in:

- Deployment of data resources in selected EOSC-Life cloud environment
- Workflow composition, deployment and execution in selected EOSC-Life cloud environments
- Data stewardship, architecture and operation of data services within EOSC-Life
- How to support cloud deployment and long-term FAIR data management for the cluster RIs

(ii) For EOSC-Life end-users, WP9 provides hands-on training and expertise in:

- Using EOSC-Life data resources, analytical workflows and other services developed in the project
- Effective re-use of publicly available data
- Best practices that users should adopt in managing their own data



Training needs analysis for EOSC-Life was delivered in *D9.1 – Final report of analysis of the training needs of different EOSC-Life users* (M12).

1. Training Open Call

1.1 About the Call

The EOSC-Life Training team offered funding to support training activities and provided expertise and guidance to help organise successful and impactful training through the EOSC-Life Training Open Call.

This call is for training on topics relevant for EOSC-Life. Proposals could be submitted for funding to support the following activities (not mutually exclusive):

- **Development of new courses or other training activities**

Funding was available for personnel developing new training activities or adapting existing training to the needs of EOSC-Life and could include face-to-face courses, e-learning courses, or stand-alone content such as a video/podcast.

- **Delivery of courses or other training activities**

Funding was available for venue-related costs such as catering and room rent and some support for the travel of trainers.

- **Capacity building**

Funding was available for any activity that would support expanding the reach of existing courses, share best practice and knowledge exchange, and/or coordinate activities with other EOSC-related projects. This could include training new trainers or staff visits between Research Infrastructures. Funding could be provided for venue-related costs such as catering and room rent or some support for travel.

1.2 Terms of Submission and Privacy Policy

Terms of submission and privacy policy for the Training Open Calls are described in *D9.2 Review of EOSC-Life training activities, their impact and potential adaptations* and these documents are also linked from the EOSC-Life Training Open Call webpage¹.

1.3 Application and review process

The application and review processes are described in *D9.2 Review of EOSC-Life training activities, their impact and potential adaptations* and were carried out for all three open call rounds. As for the first two rounds, in the third round (2022-2023) a review panel comprising EOSC-Life members was chaired by the WP9 co-leaders to make a final decision.

¹ <https://www.eosc-life.eu/services/open-call-training/>

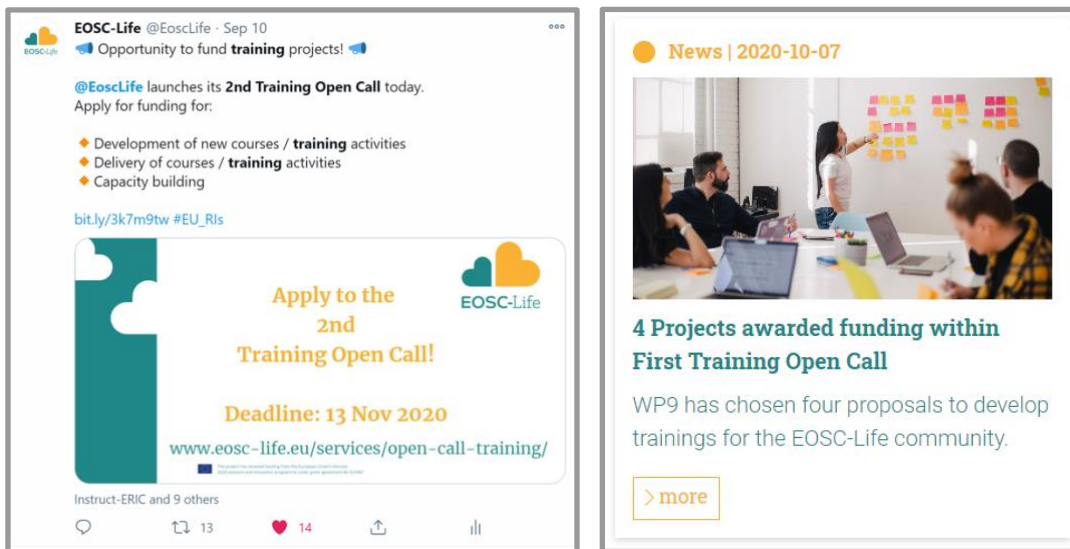


1.4 Advertisement of the Training Open Call

The EOSC-Life Training Open Call was advertised in collaboration with WP10 through various channels listed below. In addition, the EOSC-Life Training Open Call webpage² was reformatted to highlight the training activities and sustainable outcomes from all three rounds of the open call.

- EOSC-Life website
 - Round 1: 403 pageviews
 - Round 2: 902 pageviews
 - Round 3³: 224 pageviews
- Newsletter
 - Round 1: 179 opens
 - Round 2: 179 opens
 - Round 3: 150 opens
- Internal newsflash to all Consortium members
- EOSC-Life RIs asked to distribute among their Nodes/members
- Twitter:
 - Round 1: 7170 total impressions, 185 engagements across multiple tweets
 - Round 2: nearly 3000 impressions, 153 engagements on single tweet
 - Round 3: nearly 2500 impressions, 31 engagements across multiple tweets

Subsequently the announcement of winners and the resulting upcoming training was advertised online and on social media channels (Figure 1). We also collaborated with WP10 to create a series of news stories highlighting successes of the open call projects.



² <https://www.eosc-life.eu/services/open-call-training/>

³ Round 3 advertising stats were collected after 16 March 2023, which is the date of the news item for the third Training Open Call.





Figure 1: Examples of tweet (upper left image) advertising the EOSC-Life 2nd Open Call, website news announcement about the successful projects from the 1st Open Call (upper right image), and tweet (lower left image) advertising the selection of successful projects from the 3rd Open Call.

1.5 Outcomes of the Training Open Calls

Table 1 provides a summary overview of the outcome of the three rounds of the EOSC-Life Training Open Call.

Table 1: High level summary of the Training Open Call.

	Training Open Call 1	Training Open Call 2	Training Open Call 3
Number of submitted proposals	4	11	7
Number of funded projects	4	4	7
Number of organisations participating	15	>57	>50
Funding awarded	€36,642	€35,174.90	€95,260.0

Funded projects from the three rounds of the EOSC-Life Training Open Call are listed in Table 2 below. The sustainable outcomes of the projects are highlighted on the EOSC-Life Training Open Call webpage⁴.

⁴ <https://www.eosc-life.eu/services/open-call-training/>



Table 2: List of funded EOSC-Life Training Open Call projects. (1) Training Open Call round 1, (2) Training Open Call round 2; (3) Training Open Call round 3. *EOSC-Life RIs who expressed an interest in joining the proposal after the summary was published.

Title of funded project	Participating EOSC-Life RIs	Status
Climate Science Workflows and Training on EOSC-Life Infrastructure (1)	ELIXIR	Complete
Learning to make one's own model of COVID-19 epidemics (1)	ISBE, ELIXIR	Complete
Training Open Science Community Ambassadors with Open Life Science Principles (1)	ELIXIR	Complete
Teaching researchers and clinicians how to share COVID-19-related data and software: a series of dedicated webinars and tutorials (1)	ELIXIR (EATRIS*, ERINHA*)	Complete
Defragmentation: bringing BioImage Analysts to the cloud! (2)	EuroBioImaging, ELIXIR, Emphasis, ISBE	Complete
Exchange of experience workshop to develop remote access, virtual teaching and remote training in research infrastructures (2)	Instruct-ERIC, EuroBioImaging	Complete
Galaxy Admin Training on EOSC-Life infrastructure (2)	ELIXIR	Complete
Training Infrastructure as a Service (TaaS) (2)	ELIXIR	Complete
Multi-omics: Technologies, Quality Assessment, FAIRification and Data Analysis (3)	EATRIS	Ongoing
Open Phytoliths Community Training Workshops and E-learning Courses (3)	Universitat Pompeu Fabra, Historic England, ELIXIR, EuroBioImaging	Ongoing
FAIRifying Sensitive Data: Technical, Legal and Practical Considerations in the Biomedical Field (3)	ECRIN, BBMRI, ELIXIR	Ongoing
Defragmentation TS2: Bringing Image Analysts to the Cloud! (3)	EuroBioImaging, ELIXIR, EMPHASIS	Ongoing
Integration of the Sex and Gender Dimension in Life Sciences Research (3)	ELIXIR, BBMRI, EATRIS	Ongoing
Galaxy Single Cell Training for Researchers (3)	ELIXIR	Ongoing
FoRR Reuse – Fundamentals of Reproducible Research E-learning Reuse (3)	EATRIS, ELIXIR	Ongoing



1.6 Evolution of the Training Open Calls and incorporating lessons learnt from earlier rounds

A number of lessons were learned after each iteration of the EOSC-Life Open Call, these were used to improve the process and associated documentation. *D9.2 Review of EOSC-Life training activities, their impact and potential adaptations* provides an overview of the lessons learned grouped by the following categories: general observations, training open call text improvements, application process and application template, review process. In addition to those listed in the *D9.2 Review of EOSC-Life training activities, their impact and potential adaptations*, which focus mostly on the first and second open call, for the third open call we encouraged cross-RI collaborations, which is evident in the number of RIs involved as listed in Table 2 above.

2. Training offered

Based on the training topics described in the GA and complemented by topics identified during the training needs analysis or identified by EOSC-Life Work Packages, a wide variety of training activities were offered. This includes e-learning (see below). Of the two training series, the translator series was targeted to project participants (see below), the remote training series was open to external participants (see below). Last but not least several live courses and workshops (both remote and in-person) were offered (see below).

2.1 eLearning

eLearning courses were created in EMBL-EBI's on-demand platform and the University of Ghent's Ocean Training platform, both of which are open to anyone. Each course created is listed on EOSC-Life's Training page⁵ in the eLearning section.

Until June 2023, WP9 launched the following seven eLearning courses:

Course name	Date of release	Users (until 31/05/2023)
Resops: Cloud-native tools and technology for researchers (EMBL-EBI)	15/12/2020	470
COVID-19 Data Portal: Quick tour (EMBL-EBI)	07/04/2021 (major update 07/07/2022)	945
Nextflow: An introduction (EMBL-EBI)	13/06/2022	2,578
Workflows: Combining tools for data analysis (EMBL-EBI)	31/10/2022	2,056
FAIR, Open Data and Open Science: an introduction (UGhent)	01/05/2022	2

⁵ <https://www.eosc-life.eu/services/training/>



Standard Vocabularies (UGhent)	01/05/2022	2
Data interoperability (UGhent)	01/05/2022	2

Each eLearning course on the EMBL-EBI platform included a short, optional feedback form at the end. A small number of feedback forms were completed for some of the courses:

Course name	Rating (nb. of forms)	Feedback quotes - What did you like about the course?
COVID-19 Data Portal: Quick tour (EMBL-EBI)	Excellent (3), Good (2), Satisfactory (1)	'The clear structure' 'Short and simple'
Nextflow: An introduction (EMBL-EBI)	Very good (1)	'Well organized, rich in resources and concepts clearly explained'
Workflows: Combining tools for data analysis (EMBL-EBI)	Excellent (1), Very good (1), Good (1)	'Links for all the tools and requirements are provided for elaborate learning and the main theme of everything is discussed well.' 'Concise and very informative'

Two further e-learning courses, Biomedical data: Ethical, legal and social implications and "Fundamentals of robust research" are planned for release before the end of the project.

Three live webinars were also run by EMBL-EBI and the recordings were made openly available afterwards on EMBL-EBI's Training website and Youtube:

Course name	Date of webinar	Live webinar attendees	Recording watches (until 31/05/2023)
An introduction to the COVID-19 Data Portal	22/06/2022	78	234
MICHA - Minimal information for Chemosensitivity Assays	9/11/2022	7	95
Non-invasive phenotyping to quantify the dynamics of plant-environment interaction	08/03/2023	98	194

2.2 Translator Series

Bringing the different WPs and RIs together is the objective of a dedicated training series called the "Translator group". This group of LS RI Staff translates between the needs of the involved RIs and the activities implemented within the WPs. The first activity took place on 16 January 2020 in Utrecht and looked at the challenges EOSC-Life WPs are addressing and the solutions they offer as a service to the RIs. As a follow-up, the translators organised an interactive workshop, the "world café" during the AGM in March 2020. Seven topics such as "Why is the cloud valuable for my RI" or "Tools & workflow collaboratory for dummies" were identified that would profit most from an



exchange with non-specialists from the involved RIs. Each topic was assigned a WP expert and a facilitator as café host, the discussions were documented to be used in the preparation of outreach material. The translator activities continued in 2021 by transferring the world café series to a remote setting due to the pandemic.

These remote activities were kickstarted with a translator meeting in January 2021, where translators and WP representatives discussed translator activities for the retreat and AGM.

During the EOSC-Life retreat in May 2021 the translators led two sessions, the first EOSC-Life remote world café as well as a workshop on communication, “Cross-promoting RIs through project activities with EOSC-Life case study”. The world café collected input on the current design of the EOSC-Life e-learning course “EOSC-Life: A Beginners Guide” specifically on the basic questions that should be addressed, what are common misunderstandings with respect to EOSC and a call for case studies. The communication workshop consisted of two breakout activities. In the first activity, the participating RIs identified EOSC-Life results and activities relevant for their RI and in the second activity they selected results or activities and drafted communication messages.

The objective of the world café in September 2021 was to have all EOSC-Life members understand why and how EOSC-Life should feed into the Strategic Research and Innovation Agenda (SRIA⁶) of the European Open Science Cloud (EOSC-SRIA) and how it links to their WP/task/RI/institute and to prepare in-depth discussion via WP leads, experts, and RI heads. After an introductory presentation, a moderated “ask-me-anything” Q&A session followed. During the discussions two key needs of the EOSC-Life community were identified, namely understanding how to contribute to EOSC-SRIA and the need for impact stories. Therefore, the process to generate impact stories to demonstrate the impact of EOSC-Life services was started and the EOSC task forces and their membership process were explained to the consortium.

During the AGM in March 2022, another EOSC-Life face-to-face world café took place and addressed two topics 1) how to identify and communicate the impact of EOSC-Life and 2) how to sustain EOSC-Life resources. The AGM in 2022 was organised as a hybrid meeting and the EOSC-Life translator group managed to facilitate 6 zoom break-out rooms and 6 groups at the venue. This session was rated very well by the participants and provided solid input for the collection and refinement of impact stories, the identification of resources to sustain EOSC-Life, and related opportunities and challenges.

The translator series proved to be a key activity in supporting the execution of EOSC-Life in a truly cross RI and cross WP manner.

2.3 Remote training

In the first months of 2020 the project and RIs had to rapidly transfer their face-to-face training activities to an online format. To support training organisers in this process, WP9 hosted in July 2020 an exchange of experience workshop on how to adapt training to a remote setting. As mentioned in D9.2 *Review of EOSC-Life training activities, their impact and potential adaptations* (M24), due to the success regarding workshop attendance (60 participants from 13 RIs) and positive feedback received (89% of respondents rated the workshop as excellent or very good), the workshop was the kick-off to a series of “*Remote training*” sessions centred around the

⁶ <https://op.europa.eu/en/publication-detail/-/publication/f9b12d1d-74ea-11ec-9136-01aa75ed71a1>



organisation of online training. The sessions were mainly opened to partners of the EOSC-Life project, RIs staff, other relevant projects, and external professionals that expressed interest. The sessions were announced through the EOSC-Life channels⁷ and an *ad hoc* mailing list for those not receiving the newsletter. The sessions were recorded and shared internally with the community through an unlisted YouTube playlist.

Most of the sessions in the series were informal 1-hour monthly sessions that included one or two presentations on organising an virtual training event and/or using online resources and platforms, followed by questions, opinions and knowledge exchange on the topic. Most sessions had a stable audience of 15 to 20 participants.

Additionally, two one-day workshops were organised as part of the Remote Training series. The first one on “Remote Access and User Training” was run in April 2021. The second workshop was on “Hosting hybrid events” (July 2021), a topic that had been detected as of high interest for the community, as a format that combines face-to-face and remote attendance and has been more frequently adopted since the decline of the COVID-19 pandemic.

The full list of sessions, to date, can be found in Table 3.

Table 3. Overview of the Remote Training series sessions

Date	Title and speakers	Approx. number of attendees	Duration (including Q&A)
07/07/2020	Informal Exchange of Experience workshop: Transferring face-to-face courses to remote delivery. Various trainers	60	1 day
20/11/2020	A Virtual course for PhD and postdocs. Rebecca Ludwig (EATRIS)	20	0,5 hours
20/11/2020	A virtual General Assembly that contributed to Community building. Belén Martín Míguez (EMBRC)	20	0,5 hours
11/12/2020	Live demo of Gather, a spatial networking tool. Daniel Thomas López, Marta Lloret and Michelle Mendonca (EMBL-EBI)	20	1 hour
15/01/2021	Using PowerPoint for pre-recording lectures. Rebecca Ludwig (EATRIS)	17	0,5 hours
15/01/2021	Experience from "Modelling COVID-19 epidemics" workshop. Stefania Astrologo (ISBE.NL)	17	0,5 hours
12/02/2021	How to host online events using Remo. Dana Cernoskova (Scientifika) and David Lloyd (EMBL-EBI)	8	1 hour
12/03/2021	Pre-mortem session: what do you want to know about hybrid events? Preparation of a one-day workshop. Vera Matser (EMBL-EBI)	20	1 hour
09/04/2021	What does a course handbook look like? Marta Lloret, Juanita Riveros and Meredith Willmott (ELIXIR-EBI); Saskia Hiltmann and Helena Rasche (Erasmus MC)	14	1 hour
14/04/2021	Remote Access and User Training ⁸ . Various trainers	124	1 day

⁷ <https://www.eosc-life.eu/news/informal-workshop-series-optimising-your-remote-training/>

⁸ <https://www.eosc-life.eu/news/workshop-remote-access-and-user-training/>



07/05/2021	Platforms for virtual / hybrid events beyond Zoom. Dana Cernoskova (Scientifika)	15	1 hour
02/07/2021	Hosting hybrid workshops ⁹ . Various trainers	67	1 day
24/09/2021	Follow up of the Workshop on Remote Access to RI and User Training. Johanna Bischoff (EuroBioimaging)	14	0,5 hours
24/09/2021	Experience preparing a virtual microscopy course. Martin Schorb (EMBL)	14	0,5 hours
22/10/2021	The evolution of a Galaxy project for running hybrid events. Helena Rasche (Erasmus MC)	10	1 hour

Overall, the EOSC-Life remote training series contributed to the development of a community of practice in the topic that eventually connected with the training organised in other projects, such as the joint training on Facilitation and Moderation skills organised together with the EOSC Future project. The results of the Remote training series were presented as a poster at the ISMB conference 2021, with a short report available on YouTube¹⁰, and a news article¹¹ was published. Additionally, the Remote Training series was shown as part of the EOSC-Life training activities at ECCB 2022.

2.4 Live courses and workshops offered by WP9 and in collaboration with other work packages

28 live courses and workshops have been offered during the project. Table 4 lists those training activities and provides information on the dates, Work Packages involved and number of participants as well as the target audience. A significant number of completed training activities have been targeted to both EOSC-Life RI (data) staff and EOSC-Life service end users. This is a direct outcome from the training need analysis (D9.1) in that these audiences are overlapping and not mutually exclusive (see figure 2). An individual can be employed by a LS RI as a specialist for e.g. cloud deployment and at the same time can be an end user and/or trainee for another topic such as sensitive data.

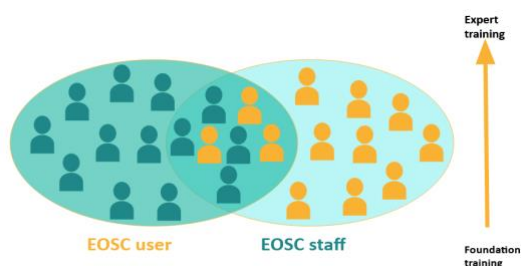


Figure 2: Graphic representation of EOSC-Life training target audience

⁹ <https://www.eosc-life.eu/news/eosc-life-hosts-a-successful-knowledge-exchange-workshop-on-hosting-hybrid-events/>

¹⁰ <https://www.youtube.com/watch?v=5xx8uOgaMCg>

¹¹ <https://www.eosc-life.eu/news/eosc-life-presents-the-remote-training-series-at-ismb-2021/>



Table 4: Overview of EOSC-Life live courses and workshops (sorted by training dates)

Training activities	Date	Involved WPs	# Participants	Target audience
Cloud deployment	11/2019	WP1, 2, 3, 7	46	Staff
Translator workshop	01/2020	WP9, all WPs	22	Staff
Pseudo/Anonymised health data	01/2020	WP4, 1, 2 3, 6, 7	30	Staff
Guidance & tips: impactful training	03/2020	WP9, 10, 11	55	Staff & User
Practical Tips: Science Communications	03/2020	WP10, 11	100	Staff & User
Best practice in training & communication	04/2020	WP9, WP10, 11	29	Staff & User
Workflow platforms	04/2020	WP2	50	Staff
How to adapt training to remote setting	07/2020	WP9, all WPs	60	Staff & User
Tools packaging workshop	07/2020	WP2	20	Staff
User experience design	09/2020	WP9,4	15	Staff
EOSC-Life LifeScience Login (2 events)	11/2020	WP5, WP10	42+10	Staff
Image data: sharing in cloud & repositories	01/2021	WP1, WP2	48	Staff & User
EOSC-Life Digital Life Sciences Open Call Orientation meeting	09/2021	WP3, all WPs	56	Staff
EOSC-Life FAIR Hackathon Background session	12/2021	WP1/WP2/WP3/WP6/WP9	28	Staff
EOSC-Life FAIR HACKathon	02/2022	WP1/WP2/WP3/WP6/WP9	26	Staff
EOSC-Life and EOSC Future Training on facilitation and moderation skills	07/2022	WP9	9	Staff & User
Green Events Workshop – Assessing and Reducing the Environmental Impact of Your Training	09/2022	WP9	38	Staff & User
AI & ML in personalised Medicine	10/2022	WP9/WP8	25	Staff & User
Gamification and playful learning training - online workshop	02/2023	WP9	30	Staff & User
Exchange of Experience and Training on Impact Assessment	03/2023	WP9	15	Staff & User
Biolmaging and the European Open Science Cloud	04/2023	WP9	85	Staff & User
Gamification and playful learning training - face-to-face	04/2023	WP9	7	Staff & User
FAIRification of Training Materials – An Introduction	05/2023	WP9	24	Staff & User



Bridging the gap between researchers and LS RIs - showcasing EATRIS, BBMRI, and ELIXIR tools & resources	06/2023	WP9	tba	Staff & User
Gamification and playful learning training - part 2	08/2023	WP9	upcoming	Staff & User

Table 4 shows that EOSC-Life dates of the training activities continued during the pandemic (see dates of table above) were well spread across the period, showing that the project managed to transform training activity demonstrating that the project managed to move to remote offers extremely fast. The overview also shows that EOSC-Life has a strong involvement in training across WPs, demonstrating the impact of training in bringing different WPs and RIs together.

3. Assessing training impact

An important dimension in any training provision is the ability to report on the “success” of the training delivered. A successful training event for EOSC-Life is one that is of high quality in the way it is organised and delivered; and is of high impact for both the project and the individual trainees. EOSC-Life collects several types of data to measure the reach of the training activities through audience demographics, the quality of training events through post-course surveys and the impact that the training events have on the participants and others through long-term feedback surveys sent between six months and one year after the course. The methodology for the collection and recording of this data was described in deliverable *D9.2 - Review of EOSC-Life training activities, their impact and potential adaptations*.

The training activities organised by EOSC-Life have reached over 1000 people with in-person/virtual training and over 6000 people with elearning.

The post-course surveys that are sent to participants at the end of the activities focus mostly on the quality of the specific event and provide information about how specific sessions ran, the length of the workshop or the balance between practical and theoretical content during the event. The information gathered in those surveys is mostly used to work on the constant improvement of the training offer and future editions of the specific course. Overall, EOSC-Life training events are well received by the respondents to the surveys. EOSC-Life has collected quality data from fourteen events, and, on average the majority of respondents rate them as ‘Excellent’ (30%) or ‘Very Good’ (45%). In addition, most of them, 80%, would recommend the activities to others. This data does not include surveys collected at the end of webinars, as they are usually shorter and do not ask for the same information.

To assess the impact of the training programme activities, we are interested in the benefits obtained by participants in their research or career and in the use that they make of the tools and skills that were introduced to them during the training event. This is captured better some time after the event, so EOSC-Life sends long-term feedback surveys between 6 months and 1 year after the event to collect information on how they use what they learned, whether the training activity led to any collaboration, publication or grant, and whether they have taught others. As these surveys are sent some time after the event, the response rate is lower than for the post-course surveys. For very short events online, the information might not be reliable after such a long time, as people do not know exactly what was part of the event or what has been an effect



of that. Therefore, we only send these surveys for longer events. For events that happened after Summer 2022, there has not been time to collect this type of data. EOSC-life has collected long-term feedback from five events, with feedback response rates ranging from 7% to 44%, as shown in table 5.

Table 5: Response rate for long-term feedback surveys.

Training event	Response rate
Workflow platform training	10%
EOSC-LIFE Cloud Training event	25%
EOSC-Life Remote Training Series - Exchange of experience workshop on How to adapt from f2f to remote setting*	7%
EOSC-Life and EOSC Future Training on facilitation and moderation skills	44%
EOSC-Life workshop on hosting hybrid events	22%

* This survey also included some questions about the EOSC-Life Remote Training Series.

As we get a low number of responses for each event and the questions are quite general, we present a combined analysis of these five surveys. Not all questions in the survey require an answer, so not all respondents replied to all the questions.

A direct impact that the training activities can have is that participants use what they learned in their own work and that it leads to improvement in how they work, so we ask the following questions:

- *How often do you use the tool(s)/resource(s)/ideas covered in the training, after having attended the training?*
- *Are you now able to use the tool(s)/resource(s)/ideas covered in the training?*
- *How did the training help with your work?*

We can see that most people use what they learned and that they report an improvement in some aspects of their work thanks to the training (Figures 3 and 4).

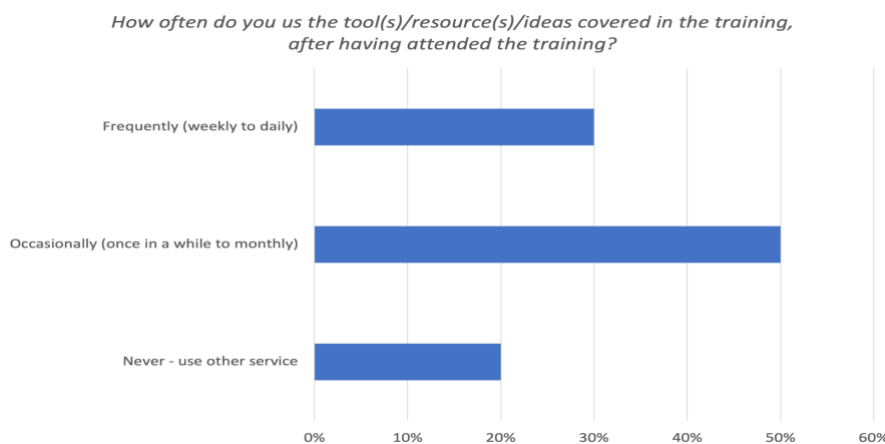


Figure 3: Percentage of respondents choosing the indicated answers to the question “How often do you use the tool(s)/resource(s)/ideas covered in the training, after having attended the training?”



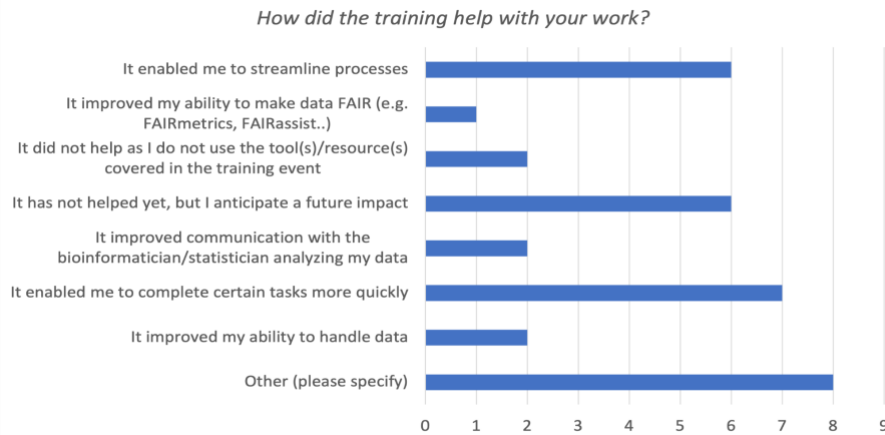


Figure 4: Number of respondents choosing the indicated answers to the question “How did the training help with your work?” Note that several answers could be chosen for this question.

In figure 4, we can see that a few respondents indicated “other”. In that case, they could add text. The responses added talk about incorporating the facilitation skills or the learnings regarding organising hybrid workshops into their own work. There’s also one response that refers to the training activity as a place to meet others: “It introduced me to new tools and resources that I am now using and helped me identify people encountering the same challenges”. The survey created for the workshop on how to adapt from f2f to a remote setting included different possible answers, and we can observe that the most chosen ones are: “It introduced me to new tools/resources, or functionalities of tools that I was not aware of, that I have used in my work” (6 respondents), “It has provided me with a network where I can discuss and ask questions about how to organise my remote training” (4 respondents) and “I learnt about how to prepare an event to a point that I feel confident in organising it” (4 respondents).

We also ask participants whether the training event led to a specific outcome, such as collaboration, publication of work or change in career. This is the case for several respondents, with “useful collaboration(s) with other participants/trainers from the training event” being the most chosen outcome (figure 5).

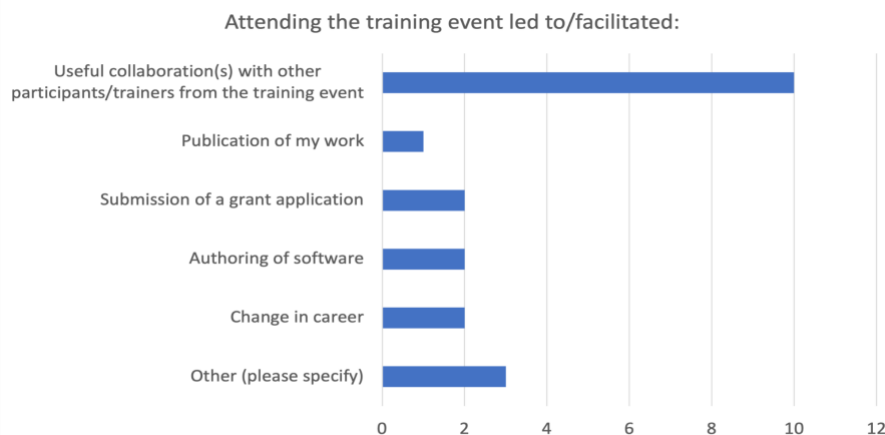


Figure 5: Number of respondents choosing the indicated options to complete the sentence “Attending the training event led to/ facilitated”. Note that several options could be chosen.



Participants in EOSC-Life training events can further increase the impact of these events if they teach others. To collect data about this, we ask the following two questions:

- *Do you feel that you are able to explain to others what you learnt in the training?*
- *How many people have you shared the skills and/or knowledge that you learned during the training with?*

Most respondents, 57%, feel that they are able to explain what they learnt in the training and only 7% responded “no” to that question. The rest chose “maybe” or “other”. Most respondents had already shared the acquired knowledge or skills when they received the long-term feedback survey and some intend to do so in the future (figure 6), which means that the reach of EOSC-Life training events goes beyond the participants that attend the actual event.

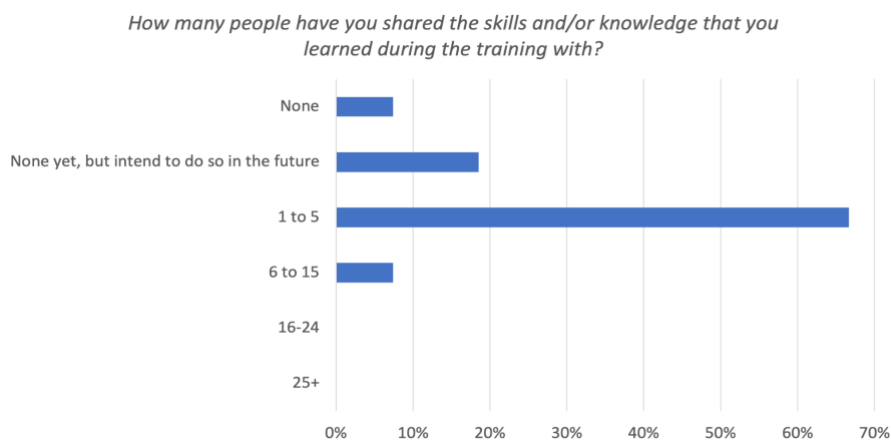


Figure 6: Percentage of respondents choosing the indicated answers to the question “How many people have you shared the skills and/or knowledge that you learned during the training with?”

A clear measure of success for training events is that participants recommend them to others. In the post-course feedback survey, we already ask about this, but it cannot have happened yet. When we ask the question *Would you recommend the training to others?* a few months after an event has happened, we include the option “Yes, I already have”, so that we can check whether there have been some recommendations. Nobody answered “no” to that question, 50% of respondents answered “yes, I would” and 32% answered “yes, I already have”. These numbers are a very good indicator that participants consider the training events provided interesting and useful.

In addition to the questions with given options, the impact surveys included open-ended questions where participants can elaborate on the impact that the training event had on their work. The responses obtained there provide information about how they are using their skills, or how the training activity changed their way of thinking, for example: “It was an eye-opener about how useful exchange of experience can be and encouraged me to use the same approach for other training events”; “it keeps reminding me of possible facilitation approaches and the necessity to plan for these”; “it has helped me to develop skills to engage better with collaborators, ensure I get what I need from them in a constructive and collaborative way, and how to overcome blockers”; “helped take a decision regarding which software(s) to use regarding containerisation and the core theory behind dockerisation.”



Apart from the impact that is registered in the feedback surveys, there is impact that we have observed at following events or that participants have shared. The remote training series allowed trainers in EOSC-Life to adapt to remote events with suitable tools to make training more efficient. The remote access and user training workshop run in 2021 formed the basis to develop and run the eRImote project¹².

4. Sustainability

We have worked to ensure that the training resources are accessible beyond the EOSC-Life project. For example, the eLearning courses were created in EMBL-EBI's on-demand platform and the University of Ghent's Ocean Training platform, both of which are open to anyone and are maintained by the respective organisations. These are also findable through the EOSC-Life Training webpage¹³ and TeSS, ELIXIR's Training eSupport System. For the outputs from Training Open Call projects, we are collecting and linking to materials from the EOSC-Life Training Open Call webpage¹⁴.

In order to empower EOSC-Life partners and the wider community to have a sustainability plan for the training resources, we organised a workshop on 'FAIRification of training materials: an introduction' in May 2023. There were 24 attendees comprising both staff and users from the wider community.

WP9 also contributed to the EOSC-Life white paper on the sustainability of FAIR Life Science Resources¹⁵ and made the case for training as a driver and sustainer of the EOSC-Life community. Training is a community driver and not only provides technical expertise enabling researchers to improve the handling of their data (e.g. data management, analysis, annotation) in a sustainable manner, but also reinforces the expertise.

References

D9.1 Final report of analysis of the training needs of different EOSC-Life users -

<https://zenodo.org/record/3692068#.Xp8xL8gzaUk>

D9.2 - Review of EOSC-Life training activities, their impact and potential adaptations -

<https://zenodo.org/record/4562143#.YED75mhKiUk>

Sustainability of FAIR Life Science Resources and Projects: Lessons Learned from EOSC-Life Research Infrastructures. In Sustainability Sciences (1.0). Zenodo.

<https://doi.org/10.5281/zenodo.8059831>

¹² <https://erimote.eu/home>

¹³ <https://www.eosc-life.eu/services/training/>

¹⁴ <https://www.eosc-life.eu/services/open-call-training/>

¹⁵ <https://doi.org/10.5281/zenodo.8059831>



Delivery and Schedule

The delivery is delayed:

No delays

Adjustments

Adjustments made:

None

