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Abstract: This document is a comprehensive strategy for the project's activities and tools to build expertise among user communities. It provides a framework for SSHOC training activities, which aim to empower the SSHOC network to a greater level of expertise in Open Science for SSH, utilizing the SSHOC services, tools and data throughout the research lifecycle and according to the FAIR Principles.

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Executive Summary

Following D6.2 - SSHOC Community Engagement Strategy¹ and building upon it, the SSHOC project has created this Building Expertise Strategy. It describes an initial plan for the project's activities and tools to be used in order to build expertise among user communities. Moreover, it provides a framework for SSHOC training activities that aim to empower the SSHOC network to a greater level of expertise in Open Science for SSH, utilizing the SSHOC services, tools and data throughout the research lifecycle and according to the FAIR Principles.

In this sense, in collaboration and coordination, when possible and appropriate, with raising awareness activities, SSHOC is building its plan around three major tasks and certain types of activities: i) empowering users through existing and new training materials and online learning paths, ii) building expertise through the SSHOC Training Network2 and related tools (the SSHOC Train-the-trainer Toolkit, a recommended trainer directory, etc.) and activities (SSHOC train-the-trainer bootcamps, supporting training organizations in delivering national-level train-the-trainer workshops, identification of regional nodes, etc.) and iii) coordinating targeted training in the Social Sciences and Humanities, with the aim of developing a data-sharing culture following the FAIR principles.

Through building expertise and empowering its network, SSHOC aims to provide its community with the necessary knowledge, skills, and expertise required to appropriately, effectively, and efficiently use and contribute to the SSHOC resources - both from disciplinary and cross-disciplinary perspectives.

In this first phase of the project, we identified the major actors and audiences to be targeted, taking into account that (due to the nature of the project) the majority of the community is involved in SSHOC. At the same time, we identified, contextualized and (in many cases) established contact with training activities relevant for the project, especially in the cases where project partners either participate in these initiatives as partners or as experts/external actors, thus leveraging existing connections. Gaps and initiatives belonging to this category have been identified as well. In the course of the project, collaboration, coordination and/or colocation of activities will be established.

As the activities under WP6 - Fostering Communities, Empowering Users and Building Expertise run horizontally in the project, a procedure has been set up to spread training activities across the project. This procedure accounts for geographic and disciplinary distribution, as well as expertise levels and training needs of the audience, available resources and activities of other WPs (WP3, WP4, WP5, WP8 and WP9 in particular), in order to set KPls. The general format of activities has been agreed, with flexibility allowed in terms of formatting each training activity as this will allow WPs to adapt to specific training needs and current developments.

- 1 https://sshopencloud.eu/d61-sshoc-community-engagement-strategy
- 2 https://www.sshopencloud.eu/join-ssh-training-community



By working closely with WP2 - Communication, Dissemination and Impact and WP7 - Creating the SSH Open Marketplace, WP6 will ensure that the outcomes of this strategy become an integral part of the overall SSHOC environment/platform/infrastructure and will be communicated widely.

Abbreviations and Acronyms

EOSC	European Open Science Cloud
GA	Grant Agreement
KPI	Key Performance Indicator
OS	Open Science
SSHOC	Social Sciences and Humanities Open Cloud
WP	Work Package



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1.Introduction

1.1 Scope and objectives of the deliverable

The overall objective of the Social Sciences and Humanities Open Cloud (SSHOC) project is to realize the social sciences and humanities' part of the European Open Science Cloud (EOSC). The project will provide a significant contribution towards achieving the vision put forward by the European Cloud Initiative that was set up by the European Commission in 2016. 3

The project aims at realizing the transition from the current landscape with disciplinary silos and separated e-infrastructure facilities into a cloud-based infrastructure where data are FAIR, and tools and training are available for scholars from those domains in the social science and humanities (SSH) that have adopted a data-driven scientific approach and that have an interest in the innovation and integration of their methodological frameworks.

A key focus of *Task 6.1 - Mapping the landscape and developing strategies to foster communities & build expertise* of the SSHOC project is to develop a coherent and effective strategy to empower user communities with the necessary knowledge, skills, and expertise required to appropriately, effectively, and efficiently use and contribute to the SSHOC resources - both from disciplinary and cross-disciplinary perspectives. This document, written by Task 6.1 partners, helps realize this goal by identifying and contextualizing training initiatives, gaps and target audiences and by developing a data-driven training strategy which outlines training methodologies and planned training-related activities. KPIs are included to ensure continuous monitoring and assessment of progress throughout project work. Activities have been allocated to WP6 partners according to their expertise, network and connections, which the project and this specific task can leverage on.

Moreover, WP6 is ensuring coordination with other WPs (in particular WP3, WP4, WP5, WP8 and WP9) and gather training needs and available specialized resources, especially tools and services to provide training for.

 ${\tt 3https://ec.europa.eu/digital-single-market/en/news/communication-european-cloud-initiative-building-competitive-data-and-knowledge-economy-europe}$



2. SSHOC training strategy

2.1 Objectives

The core goal of SSHOC training activities is to share knowledge so that SSHOC user communities can make use of SSHOC services, tools and data throughout the research lifecycle and according to the FAIR principles by improving related skills, knowledge and competencies.

2.2 Target audiences

Users of SSHOC span many categories. They include scholars from the broader SSH domain, data producers, open-source communities (developers and users); industry players well beyond the consortium (start-ups, SMEs and large companies); EU-funded projects and SSH clusters; public administrations and public services (libraries), to enable socio-economic impact. *Figure 1* presents the priority stakeholders for the SSHOC output.



FIGURE 1: SSHOC STAKEHOLDERS

In terms of capacity building, SSHOC will target all the stakeholders as identified in the figure above. These members will be engaged for the following groups that build up the training network.

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Trainers

The SSHOC Training Network will build upon already existing expertise and strengthen existing networks of **trainers** and enablers who are equipped with the right skills and training materials to deliver trainings related to SSHOC. It will give trainers the skills and knowledge they need to act as multipliers.

Trainees

SSHOC will extend its training to all users of SSHOC services and tools as well as SSH data producers, data experts, and data users in general using targeted training and/or a train-the-trainer approach. The project will both focus on specific trainee categories and foster knowledge exchange through interaction between them. Examples:

Researchers at disciplinary and interdisciplinary levels

Trainers and intermediaries such as research librarians, university staff, professors, academic and research associations' representatives

Developers such as research data infrastructure project managers, ICT architects, senior managers with responsibility for research IT services, developers, data managers, data engineers, and data scientists

Policy makers and research funders such as the EU's specific research funding bodies and national agencies responsible for research and innovation

Related initiatives that SSHOC interacts with under the EOSC ecosystem

Private sector and industry players including commercial service providers and service consumers with whom SSHOC tools and services for cross-national research could be shared

Civil society and citizen scientists

TABLE 1: SSHOC TRAINING NETWORK

2.3 Training methodology

WP6 has identified several training methodologies in order to effectively train the identified target audiences and maximize the results of these activities within a wide geographic and disciplinary range.



The following training methods will be used:

- Workshops
- Webinars
- Train-the-trainer bootcamps
- Online and face-to-face focus group meetings

WP6 partners carry out both targeted trainings and awareness-raising activities in the form of **face-to-face workshops**, organized around specific topics identified in the Grant Agreement. These workshops will introduce and promote SSHOC tools and services developed by the project and increase users' knowledge of how to use them. Workshops will both informative and interactive, including group discussions, live polling sessions and knowledge cafes. Attendees will have a chance to ask questions, comment and flag their needs, while SSHOC will gather input on the topic at hand.

Many **webinars** will be organised throughout the project. Given the wide range of stakeholders based across Europe, this method is a good way to reach all SSHOC stakeholders regardless of their geographical location. Webinars are also a cost-effective way to provide both generic and service-specific training to a wide range of audiences. Most webinars will apply a format consisting of a session where speakers can cover a few topics, followed by a discussion session during which participants can comment and ask questions.

Using the **train-the-trainer method**, SSHOC will also strengthen existing networks of trainers and enablers by equipping them with the skills and knowledge to deliver SSHOC-related training and to promote and act as ambassadors of SSHOC and EOSC in their organizations and/or network. This training method has the multiplier effect that is essential given the size of SSHOC and EOSC. Training potential instructors and topic experts will enable them to train others in their institutions, which will result in reaching a greater number of people and expanding on the project's overall impact. Furthermore, this method supports the efforts towards reaching SSHOC users and researchers at national and institutional level and helps sustain knowledge transfer beyond the project's duration.

Responding to the needs of other WPs in SSHOC, WP6 will also support the organization of smaller online meetings (10-15 participants). These **online focus and face-to-face group meetings** will be carried out by an instructor and specific topic-experts will be invited. These meetings will take a very interactive form, where participants' active contribution is essential to meet the objectives set before the meetings.

During the course of the project, WP6 will provide continuous support to other WPs in organizing training events and finding the right format for their activities.

2.3.1 Gathering feedback

In order to deliver effective training that suits the needs of target audiences, project partners will continuously gather feedback from SSHOC stakeholders on their training needs, expectations and available resources. To build and deliver this building expertise strategy, WP6 has already consulted a wide range of stakeholders on



their needs and expectations. At three different workshops organized by SSHOC - LIBER Annual Conference⁴ in June in Dublin, Research Data Alliance 14th Plenary Meeting⁵ in October in Helsinki and EOSC Symposium⁶ in November in Budapest - workshop organizers used live polling sessions (Mentimeter) to gather feedback from the audience. The questions asked during these polling/feedback sessions included:

- Who are you (type of organization / position)?
- Are you interested in training around SSHOC/EOSC?
- What kind of training initiatives and training materials do you know of that are useful for your work and domain?
- What type of training would you expect from the SSHOC project?
- In your opinion, what kind of training tools and formats are effective?
- What kind of activities would you like SSHOC to organize to reinforce the SSH Training Network?
- How do you find training or training materials?
- How could this discovery process be improved?
- Could you suggest an organisation to act as SSH training node in your region?



FIGURE 2: MENTIMETER SESSION AT LIBER 2019

⁴ https://sshopencloud.eu/news/social-sciences-humanities-open-cloud-what%E2%80%99s-it-research-libraries

⁵ https://sshopencloud.eu/news/register-join-eosc-services-collaborations-and-rda

⁶ https://www.eoscsecretariat.eu/eosc-symposium2019/social-cultural-data-taking-users%E2%80%99-perspective



The questions of the sessions were tailored to the audience and sometimes made more domain specific, such as the session at the EOSC Symposium, where the focus was cultural and social data and most of the participants had a data management background. Below are a few snapshots from the Mentimeter sessions and feedback.



FIGURE 3: FIGURE 3: MENTIMETER SAMPLE 1

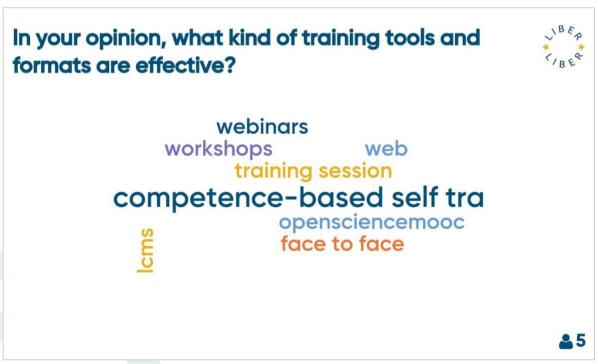


FIGURE 4: MENTIMETER SAMPLE 2



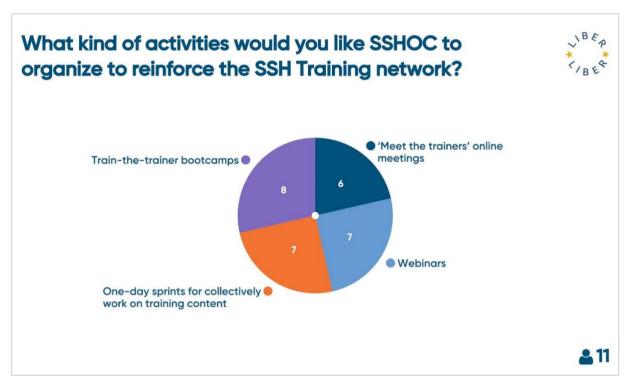


FIGURE 5: MENTIMETER SAMPLE 3

2.4 SSHOC training activities

2.4.1 Training materials

Given the large amount of training materials already produced in various contexts, the first task within *Task 6.3* - *Empowering Users: Training Materials and Online Learning Paths* is to generate a systematic, comprehensive overview of these materials. To this end, around 30 online resources in the broad domain of SSH as well as in the context of e-Infrastructures and EOSC have been identified which offer training material of any kind, from short tutorials, to extensive e-learning courses. These sources are being closely examined with respect to their scope, expected audience, topics covered and depth of coverage. The findings will be compiled into a dedicated deliverable - *D6.7. Inventory of existing learning materials*. This work will serve as input for WP7 as it builds the SSH Open Marketplace — the primary discovery application for information about digital tools and methods in the SSH. Here the pointers and structured description of the training materials will be collected, contextualized and made searchable.

The topic overview compiled in D6.7 will also fuel a gap analysis to identify which topics are insufficiently covered. Based on this, Task 6.3 will (in cooperation with other WPs and in coordination with the corresponding training events) develop new training materials in the second half of the project.

2.4.2 Building a SSHOC Training Network

The **SSHOC Training Network** is a key SSHOC deliverable and a fundamental contribution to the EOSC vision to build digital and Open Science skills through a coordinated, pan-European training infrastructure. Building



this network is not only about building a network of trainers in the social sciences and humanities. It is also about collecting and developing training materials, bootcamps, and workshops, and about making the outcomes of these trainings and training materials publicly available. The SSHOC Training Network will build expertise while at the same time making the best possible use of resources which already exist within the SSHOC partner network.

At the Open Science Fair in Porto in September 2019 the SSHOC Training Network⁷ was launched⁸. Advantages of participating in this training community are that the trainers can easily engage with other SSHOC trainers and share (cross-disciplinary) training experiences, they can quickly become aware of new training materials, bootcamps, workshops and webinars, and they can volunteer to host SSHOC training workshops.

So far 22 members have joined (SSH trainers and representatives of organizations). The goal for the coming period is to expand this network. Trainers can join the network by signing up via https://www.sshopencloud.eu/join-ssh-training-community. Trainers who sign up will have automatic access to new training materials, exercises and practical case studies. By listing their institute as a training hub, members will qualify to host train-the-trainer bootcamps and will be invited to participate in an ongoing series of online webinars.

The support materials should be openly available and reusable. It should be clear to the users where to find material, and where to find the services they can use for their needs. Cataloguing of training with rich metadata for sustainable access and Open Science in practice is necessary.

The SSHOC Training Network will be realized through the following activities:

- Identify organizations to become the initial nodes of the SSHOC Training Network and assess their training capabilities/potential
- Develop a SSHOC Train-the-trainer Toolkit
- Organize and deliver three geographically distributed SSHOC train-the-trainer bootcamps to national training organizations
- Support training organizations in delivering national-level train-the-trainer workshops with partner participation and with the use of the SSHOC Train-the-trainer Toolkit
- Develop a recommended trainer directory

Besides developing new materials, the SSHOC Training Network will build upon existing expertise. There is already a lot of training done by current training hubs, where all kinds of training materials can be found. Examples are training hubs on RDM and Open Science, like OpenAIRE9 and Foster10, training hubs in the social

- 7 https://www.sshopencloud.eu/training.
- 8 https://sshopencloud.eu/news/launch-sshoc-training-community-0
- 9 https://www.openaire.eu/support
- 10 https://www.fosteropenscience.eu/resources



sciences and humanities like CESSDA training $_{11}$, Parthenos Training Suite $_{12}$, DARIAH-Campus $_{13}$ or #dariahTeach $_{14}$, and in other e.g. life sciences like TeSS $_{15}$ or general hubs like the training section at the EOSChub website $_{16}$.

A draft overview of all training hubs and materials has been made, in cooperation with Task 6.3. *Task 6.4 - Building Expertise: the SSHOC Training Network* looks at synergies and commonalities in SSH training. A list of training materials (workshops, courses etc.) and topics (RDM, GDPR, FAIR, Open Science, analysis, programming etc.) from each hub has been made. This information will be used to cluster themes in the bootcamps.

In addition, Task 6.4 will develop a **SSHOC Train-the-trainer Toolkit** that will serve as a framework for training organisation and delivery. Typical elements of the toolkit are training resources, exercises, guidance for setting up a training and a standard evaluation form.

The **SSHOC train-the-trainer bootcamps** will be organized around specific topics for people dealing with data-related social sciences and humanities, including FAIR data, RDM, GDPR, TEI and Python. In these bootcamps the Train-the-trainer Toolkit and the materials will be used. The bootcamps will address how to set up training events with the use of the available materials, how to improve a training (more interactive elements, preparations, evaluations, developing learning objectives), and how to develop new training materials based on gaps and on new services in the SSHOC marketplace. There are plans for at least three bootcamps in the project: two in 2020 and one in 2021.

2.4.3 Targeted trainings

Task 6.5 - Coordinating targeted training in the Social Sciences and Humanities - activities support the educational role of SSHOC: showing users how to leverage SSHOC resources with the ultimate goal of facilitating research in the SSH domain. More specifically, targeted training activities focus on the practices of working with the SSHOC data, tools and services. This contributes to greater methodological and technical expertise among researchers maximizing their ability to benefit from SSHOC. Furthermore, T6.5 events put great emphasis on the development of cross-disciplinary skills and collaboration between SSH researchers.

Target training under T6.5 are being conducted in the form of six workshops and six webinars, covering six predefined topics. The combination of in-person and online training boosts networking as well as ensure broad coverage. Despite the predefined topics, the training activities allow for two-way communication, including hands-on sessions and time for open discussion. Active participation is encouraged and suggestions for SSHOC partners are gathered during each training event. Time-permitting, T6.5 will also try to organize additional

- 11 https://www.cessda.eu/Training
- 12 http://www.parthenos-project.eu/portal/trainingsuite
- 13 https://campus.dariah.eu/
- 14 https://teach.dariah.eu/
- 15 https://tess.elixir-europe.org/
- 16 https://www.eosc-hub.eu/training-material



training events in the form of masterclasses and focus groups as deemed useful and necessary for SSHOC dissemination purposes by the T6.5 partners. WP6 partners have also agreed to follow a flexible approach regarding the formats and number of workshops to be able to cater for the training needs of stakeholders and possible training opportunities with other WPs. However, this flexibility will not affect the initially agreed number of people to be trained.

The main aim of T6.5 activities is to maximize the impact of SSHOC especially for the following stakeholder categories: researchers, research networks and communities; research libraries and archives; universities and research performing institutions. Other stakeholder categories such as private sector and industry players are neither excluded from the T6.5 endeavours nor the focus of this task's work.

TARGETED TRAINING WORKSHOPS

By organizing topic-specific medium-size workshops, T6.5 aims to bridge the gap between the wide system of SSHOC resources and various research communities facing concrete challenges. Workshops address the specific needs of the targeted research communities by offering the relevant skills and practical knowledge needed to exploit the resources that are part of the SSHOC. The specific topics and target audiences are being determined in cooperation with all project WPs, especially the WP6 partners who cover different fields in the SSH domain and have first-hand knowledge regarding the needs of scientific communities. This initial step was performed with great care for the promotion of cross-disciplinarity. T6.5 aims to maximize outreach of activities by co-locating the workshops with main field-specific events and by targeting research networks such as COST Actions. The international structure of such networks ensures a wide spread of expertise across Europe while their specific problem orientation helps define the best scope for knowledge transfer. Featuring experts from SSHOC community helps build a network of users inside the SSHOC community. This further promotes and consolidates the use of SSHOC services among different stakeholders.

To date, the following two workshops have been organized under T6.5's activities:

- Working with interview data: SSHOC workshop on a multidisciplinary approach to the use of technology in research₁₇, Digital Humanities 2019 Conference, Utrecht, 9-12 July 2019
- Using corpora for implementing validation: SSHOC masterclass on workflows that combine quantity and quality 18, CLARIN Annual Conference 2019, Leipzig, 30 September 2 October 2019

After each workshop, T6.5 partners published a blog post (see links in footnotes), which provide further information on the topics discussed and useful links and materials from the workshops.

17 https://sshopencloud.eu/news/working-interview-data-sshoc-workshop-multidisciplinary-approach-use-technology-research

18https://sshopencloud.eu/news/using-corpora-implementing-validation-sshoc-masterclass



TARGETED TRAINING WEBINARS

The topics of the webinars reflect the topics of the face-to-face workshops, so practically speaking, webinars serve as follow-ups in terms of the content. This has primarily two purposes: offering a continuation of the topics discussed at the workshop and serving as an informative teaser for those who did not attend the workshop. The webinars offer either a close-up of a feature presented at the workshop or a condensed overview of the topic with helpful guidance to relevant resources integrated into SSHOC.

2.4.4 Awareness-raising workshops, webinars, SSHOC Stakeholder Forum and Final Conference

Giving users the information, they need to use SSHOC tools and services is essential to maximising the use of the SSHOC. For this reason, *Task 6.2 - Fostering Communities: Engaging New & Existing Users* aims to have SSHOC stakeholder groups contribute directly to the development of SSHOC tools and services. This will be achieved via **engagement workshops**, **awareness-raising webinars** as well as the Stakeholders Forum and Final Conference. These activities will help SSHOC stakeholders to build their knowledge and skills around SSHOC and its tools and services, and will allow SSHOC partners to gather information so that these tools and services can be shaped according to their needs and expectations.

To reach a diverse audience, workshops and webinars will be organized by the following criteria:

- Geographical distribution (workshops) and a good geographical spread of participants (webinars) across Europe
- Covering different disciplines in SSH (the humanities perspective, the social science perspective and cross-disciplinary)
- Target specific profiles such as data producers, data users, data experts, "non-savvy researchers", librarians, secure data facility professionals but also policy makers and civil society

To map the possible topics for these events, Task 6.2 partners agreed to follow the work of other WPs (by collecting information via interviews and surveys) and gather their input as they have the best overview of tools and services that are being developed and also the knowledge of possible training activities and events covering SSH disciplines and relevant topics.

Besides the workshops, webinars and conferences organized, Task 6.2 partners will develop relevant materials and **information sheets** based on the topics identified for the workshops and webinars. The materials will be produced in a way that they can later be adopted to local context and are ready to be used after the events for awareness raising and knowledge dissemination purposes.

Task 6.2 in collaboration with WP2 is also responsible for the organization of the **SSHOC Stakeholder Forum** and the **SSHOC Final Conference**. These major SSHOC events will showcase project progress and achievements, build participants' knowledge on the developed tools and services, address relevant skills that are needed to utilize these products and engage with a broader range of SSHOC stakeholders and other European initiatives. The events will be co-located with larger events where SSHOC stakeholders will be present.



2.5 Identification of training opportunities within SSHOC: Extending training based on training needs

WP6 will collaborate with other SSHOC WPs on supporting the delivery of additional training activities. Each Task 6.2 partner has been assigned to a SSHOC WP to follow the progress on the development of tools and services in these WPs and identify opportunities to support training initiatives. The initial mapping of training needs is still ongoing, however, some of the WPs already indicated an interest in collaborating with WP6. The below table describes the activities that have been identified so far.

Work Package	Opportunity to collaborate	Responsible T6.2 partner	
WP3 Lifting Tools to the	T3.1 - Awareness workshop at ELREC	CLARIN/UL-FF	
Cloud	T3.1 - Meeting for a smaller group of experts with a hands-on session		
	T3.3 and T3.4 - Targeted trainings		
	Contributing to Stakeholder Forum and Final Conference by reporting on achievements		
	Smaller expert meetings		
WP4 Innovations in Data Production	T4.3 - Workshop to present tools and processes developed	CESSDA / ADP	
	T4.7 - workshop on ontologies build for SS and H		
	T4.7 - Train-the-trainer bootcamp on how to make ontologies and on how to use best practices to develop ontologies		
	T4.7 - webinar		
WP5 Innovations in Data Access	T5.2 - Train-the-trainer workshops and research- oriented webinars in collaboration with WP6 on how to use the new service build upon the Dataverse software. (Defined in GA)	CESSDA / GESIS	
	Training on the first release of biomarker data with specialist audience		
	T5.2 - webinar/expert forum		
	T5.6 - training event on FAIR for archaeological data		



WP7 Creating the SSH Open Marketplace	June 2020 MS42 - alpha release of Marketplace: Hackathon - mid-project Stakeholder Forum	TRUST-IT
	Between June 2020 and December 2020: 1-2 event(s) around curation/population/community aspects (ratings, comments)	
	December 2020 MS43 - beta release of Marketplace: linked to an EOSC event	
	Between December 2020 and December 2021: consolidating involvement of communities by a series of events	
	December 2021 MS44 - final release of Marketplace: official launch	
WP8	T8.1 - Training activity targeting research libraries	LIBER
Governance/Sustainability/ Quality Assurance	T8.1 - Possible contribution to the train-the-trainer bootcamp during the LIBER2020 Annual conference	
	T8.1 - SSHOC Stakeholder Forum: contribution with the topic of SSHOC governance and sustainability model and link to EOSC governance	
WP9 Data Communities	T9.2 - Training session in the context of the IMISCOE conference (June 2020 and June 2021)	LIBER
	T9.2 - Train-the-trainer workshop directed at university lecturers and professors about how to improve data depositing and archiving among students and researchers (at Sciences Po in coordination with Progedo)	
	T9.2 - Showcase the EMM Survey Registry that is being completed in the context of the SSHOC project at the SSHOC Stakeholder Forum	
	T9.2 - Training sessions around how to deposit, archive and preserve survey data files	

TABLE 2: OPPORTUNITIES FOR ADDITIONAL TRAINING ACTIVITIES IN COLLABORATION WITH OTHER SSHOC WPS



3. Activity plan

To gain an overview of the SSHOC training activities, WP6 has developed a spreadsheet with a list of planned activities and a timeline. This is updated regularly by all WP partners. As we advance in time, a more concrete plan of the training and awareness workshops and webinars will be available as well as additional activities. This depends on the training activities delivered by other WPs. *Figure 6* shows the timeline, which is also available here 19.

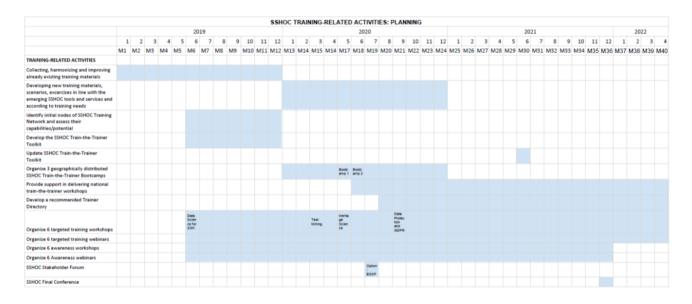


FIGURE 6: SSHOC TRAINING-RELATED ACTIVITIES - PLANNING

A significant activity of WP6 in the sense of creating a sound Building Expertise Strategy was to identify and contextualize already existing training initiatives. Through this activity, and by periodically updating the strategy in the course of the project, WP6 keeps track of current training activities related to SSHOC and the EOSC, and identifies synergies with other training initiatives, possible gaps and progress in reaching the targeted audiences. Furthermore, this overview of existing training activities helps with alignment and colocation of activities, as well as avoiding overlaps and duplication in the planning of events, as well as production of new training materials.

The need for such an overview was identified due to the nature of the project, being one of the EOSC cluster projects and port of EOSC's complex environment as well as the fragmented SSH landscape. The identification of the main existing training initiatives was based on network connections, level of engagement, and

19https://docs.google.com/spreadsheets/d/1s9h7hccBYeeVLHh5QMxTh0XnYoe2Hc7JmbVRGNFfFfo/edit#gid=0



participation level of SSHOC partners. The overview can be found in *Annex 1 - Overview of already existing training initiatives*.

3.1 Monitoring and assessment of SSHOC WP6 training activities

In order to facilitate continuous monitoring and assessment of work throughout the SSHOC training activities delivered by the various WP6 tasks and project partners involved, the strategy identifies the following Key Performance Indicators (KPIs) for the planned training activities. These KPIs will be monitored periodically to ensure timely and effective delivery of the listed activities.

Training Activity	Key Performance Indicators
Collecting, harmonizing and improving already existing training materials	Around 30 training sources collected
Developing new training materials, scenarios, exercises in line with the emerging SSHOC tools and services and according to training needs	10 new training materials developed
Identify initial nodes of SSHOC Training Network and assess their capabilities/potential	10 training nodes identified and assessed Regions/countries covered - wide geographical coverage around Europe
Develop the SSHOC Train-the-trainer Toolkit	Broad range of training materials collected and developed, available via the Train-the-trainer Toolkit
Organize geographically distributed SSHOC train-the-trainer bootcamps	3 bootcamps Regions/countries covered - wide geographical coverage around Europe (1 South, 1 North, 1 East)
Provide support in delivering national train-the-trainer workshops	20 workshops supported
Develop a recommended Trainer Directory	>22 trainers available (wide geographical coverage around Europe) and for broad scope of themes
Organize targeted training workshops	6 targeted workshops organized 25 participants per workshop Audiences targeted: data users, data producers, data experts Themes addressed: Data Protection and GDPS; Data Stewardship and RDM in theory and practice; Data Citation principles and practices; Data Science for the Social Sciences and Humanities; Text Mining for the Social Sciences and Digital Humanities
Organize targeted training webinars	6 webinars organized

21



	20 to 100 participants per webinar, number depended on kind of webinar
	Audiences targeted: data users, data producers, data
	experts
	Themes addressed: Data Protection and GDPS; Data
	Stewardship and RDM in theory and practice; Data
	Citation principles and practices; Data Science for the
	Social Sciences and Humanities; Text Mining for the
	Social Sciences and Digital Humanities
Organize awareness/engagement workshops	6 workshops organized
	Approximately 20 people
	Geographically distributed workshops
	Different target audiences addressed: data producers,
	data users, data experts, non-savvy researchers, librarians,
	secure data facility professionals, policy makers, civil society
	Scope of the workshops: 1 Humanities perspective, 1
	Social Sciences perspective, 4 cross-disciplinary
Organize awareness webinars	6 webinars organized
	50 webinar participants per webinar
SSHOC Stakeholder Forum	Between 100 and 200 attendees
	Wide stakeholder representation
SSHOC Final Conference	Between 100 and 200 attendees
	Wide stakeholder representation

Table 3: SSHOC training activities and KPIs

4. Evaluation of training activities organized by WP6

Training activities carried out by, and in collaboration with, WP6 will follow a standardized evaluation process. To facilitate this, WP6 and WP2 have worked together to develop a web form for post-event evaluation. The web form will be put in place by year end. Some questions have already been used for events organized earlier in 2019. The SSHOC post-event evaluation form will gather feedback from participants on the following:

- On a scale of 1 to 10, how would you rate the workshop overall? (with 10 being the best possible score)
- Where did you learn about the workshop?
- What did you hope to gain from the workshop?
- Did the workshop meet your expectations?
- Do you see this workshop having a positive impact on your work and how?
- What did you like most about the workshop?



- What did you miss or could be done better at the workshop?
- Is there anything else you'd like to share about your experience (your suggestions/needs for expansions on the topic, etc.)?
- How well organized was the workshop (in terms of time management, length, venue)?
- Is there anything that would in terms of organisation make you more comfortable during the workshop?

Besides the evaluation form, after each training activity, an event report will be prepared (for internal use) and a blog post will be drafted to be published on the SSHOC website and promoted via other communication channels. WP2 and WP6 have developed *Workshop Reporting Guidelines 20* to guide project partners on reporting on the delivered events and writing a blog post for promotion purposes.

5. Risks and mitigation

Project complexity due to a high number of consortium partners, collaborating organisations, work packages and deliverables, **delay in development of SSHOC services might affect training schedule** and **specialized training to be delivered by partners outside WP6 due to their expertise**. These risks are tackled by WP6 by establishing clear contact with all project WPs and tasks and monitoring project activities of interest for training. WP6 uses an overview of the various tasks, and targeted activities and audiences for each task, to minimize overlaps and ensure all relevant stakeholders are addressed and involved. The overview table is updated periodically. Furthermore, an internal survey and a first round of internal interviews have been carried out, as well as connections established between WP6 and all other WPs. WP6 participants act as link partners for each WP/task and follow developments, to ensure the successful monitoring of project activities, identify opportunities and potential speakers/trainers for the project's engagement, community building and training activities.

Stakeholder landscape complexity. The SSH community landscape is highly fragmented. Researchers and other end-users are active in numerous SSH disciplines. Furthermore, they are part of institutions with different internal structures and management policies. This makes it difficult to reach them properly and/or involve them in the process individually. To overcome this challenge, the project targets groups rather than individuals in terms of training user communities, in combination with a comprehensive communications and outreach plan.

Overlaps and duplication of work when it comes to training activities and production of training materials, as the training environment regarding EOSC and SSH is extensive. For this purpose, WP6 created an overview of relevant training initiatives (see *Annex 1*). These initiatives, their activities, tools and training materials are being taken into account by the when developing and delivering training activities to uncover synergies and avoid overlaps and duplication.

20 https://docs.google.com/document/d/1LCMiwxTb7oU-bSmMPMfJBPYU_JugC3qsVlhBLq0WUIo/edit



EOSC complexity as concept and continuous developments, simultaneous to the SSHOC activities. This has been taken into account in the building this strategy by the level of flexibility in terms of event formats and number of events organized.

Geographical distribution of partners not sufficient to ensure European coverage for national training nodes. This risk is being addressed by interaction with SSHOC stakeholders that participate in the SSHOC Training Community and can propose organizations that can assume the role of training nodes outside of the project consortium.



Annex 1: Overview of already existing training initiatives

ARIADNE Legacy Training Materials

The ARIADNE Legacy Training Materials²¹ is a series of presentations covering topics relating to effective data management, data sharing and interoperability, alongside an introduction to some of the services made available to researchers through the original ARIADNE project (2012-2015).

CESSDA Training

CESSDA facilitates teaching and learning for the social sciences through its Training Working Group, "responsible to support continuous learning and training of its Service Provider staff and the social science user community" 22. A dedicated training page 23 exists on the CESSDA website for training purposes and updates.

CLARIN Training

CLARIN provides an on-line collection of training materials, case studies and expert contacts from the entire CLARIN network, CLARIN for Researchers₂₄, that "are aimed at researchers and students of all stages who are working in the fields of Digital Humanities and Social Sciences and are interested in analyzing language data and using text processing tools that are available in the CLARIN infrastructure."

DARIAH Training

Training and Education is one of DARIAH's four strategic pillars₂₅. Not only does a dedicated Training and Education Officer position exist at DARIAH, but a discovery framework and a hosting platform, DARIAH-Campus₂₆ is also provided by the infrastructure. In addition, DARIAH supports about 20 working groups, including one dedicated to #dariahTeach₂₇ and its eponym Moodle-based platform₂₈.

- 21 http://legacy.ariadne-infrastructure.eu/training-materials/
- 22 https://www.cessda.eu/About/Working-Groups/Training.
- 23 https://www.cessda.eu/Training
- 24 https://www.clarin.eu/content/clarin-for-researchers
- 25 https://www.dariah.eu/2019/08/19/dariah-publishes-a-strategic-plan-for-2019-2026/
- 26 https://campus.dariah.eu/
- 27 https://teach.dariah.eu/
- 28 https://www.dariah.eu/activities/training-and-education/



FitSM Trainings

FiTSM trainings²⁹ delivered by EGI (a federated e-Infrastructure set up to provide advanced computing services for research and innovation) are designed to provide participants with the necessary training on the fundamentals of IT service management and how to implement FitSM in organizations through a combination of lessons and examples.

ELIXIR Training Platform

ELIXIR Training³⁰ is organized through its Training Platform, a European network of trainers - experts in their scientific domains and in adult learning, managed by the Platform leadership team, supported by the Training Coordinators Group (TrCG).

EOSC Hub

EOSC hub provides information on training material31 and events32 through its website.

EOSC Nordic

The EOSC-Nordic project₃₃, one of the EOSC 5b projects, will consolidate and expand a distributed network of experts and service operators at local and national levels. A distributed team will be created involving experts within and from outside the consortium to deliver training and technical support to new service providers and communities willing to engage with EOSC, during and after the project lifetime.

EOSC Pillar Project FAIR Training Courses and Toolkit

EOSC-Pillar₃₄, one of the EOSC 5b projects, will coordinate national Open Science efforts across Austria, Belgium, France, Germany and Italy, and ensure their contribution and readiness for the implementation of the European Open Science Cloud (EOSC). The project will deliver FAIR training courses and toolkit.

EOSCpilot Project

The EOSCpilot project engaged with a broad range of stakeholders, crossing borders and communities, to build the trust and skills required for the adoption of an open approach to scientific research. Important resources related to training are Skills landscape analysis and competence model₃₅, a catalogue of EOSC skills training

- 29 https://www.egi.eu/services/fitsm-training/
- 30 https://elixir-europe.org/platforms/training
- 31 https://www.eosc-hub.eu/training-material
- 32 https://www.eosc-hub.eu/training-events
- 33 https://www.eosc-nordic.eu
- 34 https://www.eosc-pillar.eu
- 35 https://eoscpilot.eu/content/d71-skills-landscape-analysis-and-competence-model



and educational materials₃₆, a Skills and Capability Framework₃₇, the report on EOSCpilot training workshops₃₈ and a Strategy for Sustainable Development of Skills and Capabilities₃₉.

EOSC Synergy Project

The EOSC synergy project₄₀, one of the EOSC 5b projects, aims to expand the capacity and capabilities of EOSC by leveraging the experience, effort and resources of national publicly funded digital infrastructures. The project will expand the EOSC training and education capabilities through the introduction of an online platform aimed at boosting the development of EOSC skills and competences.

EOSC Working Group on Skills and Training

SSHOC will aim to collaborate as much as possible with the future EOSC working group41 on Skills and Training.

ESS Training Courses

ESS training 42 courses focus on key aspects of the survey lifecycle from a comparative, cross-national perspective. The specific aim is to equip researchers with the skills and knowledge they need to improve the rigour and equivalence of cross-national survey research in the European context. All ESS training courses are now administered by the SERISS project (see point below).

EUDAT Training Programme

The EUDAT Training Programme⁴³ is "a training and education service for European research communities, infrastructures and data centers on how EUDAT services support and facilitate research data management".

FAIRsFAIR

The FAIRsFAIR project⁴⁴ "aims to supply practical solutions for the use of the FAIR data principles throughout the research data life cycle". In its course the project will aim to develop a capability maturity model towards FAIR certification, set up a FAIR competence center for all communities and embed FAIR data education in university programmes.

- ${\tt 36\ https://eoscpilot.eu/content/d72-interim-report-and-catalogue-eosc-skills-training-and-educational-materials}$
- 37 https://eoscpilot.eu/content/d73-skills-and-capability-framework
- 38 https://eoscpilot.eu/content/d74-report-training-workshops
- 39 https://eoscpilot.eu/content/d75-strategy-sustainable-development-skills-and-capabilities
- 40 https://www.eosc-synergy.eu
- 41 https://www.eoscsecretariat.eu/eosc-working-groups
- 42 https://www.europeansocialsurvey.org/learning/training_courses.html
- 43 https://eudat.eu/training
- 44 https://www.fairsfair.eu/



FIT4RRI Project

The FIT4RRI Project₄₅ works towards fostering improved training tools for responsible research and innovation and "is intended to help mainstream RRI & OS in RFPOs through transforming them into a set of strategies and means simplifying their current tasks".

FREYA

The FREYA project, aiming to "extend the infrastructure for persistent identifiers (PIDs) as a core component of open research, in the EU and globally", provides learning materials on persistent identifies through its Knowledge Hub₄₆ integrated into the PID Forum.

GO TRAIN

GO TRAIN is one of the GO FAIR 47 implementation networks. GO TRAIN 48 aims to "create a scalable, stakeholder-driven framework to rapidly train large numbers of competent, certified data stewards".

IASSIST Trainings

IASSIST (The International Association for Social Science Information Services and Technology) 49 is an international organization of professionals working in and with information technology and data services to support research and teaching in the social sciences. It provides a collection of various learning materials and online training courses via its website, conferences and quarterly publications.

ICPSR

ICPSR (Inter-university Consortium for Political and Social Research) is a membership organization seeking research data and pertinent documents from researchers, including PIs, research agencies, and government entities. They process, preserve, and disseminate the data and documents. ICPSR also provides education, training, and instructional resources to help users understand and analyze research data. It offers Summer Program in Quantitative Methods of Social Research 50 and learning resources created especially for undergraduate faculty and students.

- 45 https://fit4rri.eu/
- 46 https://www.pidforum.org/c/knowledge-hub
- 47 https://www.go-fair.org/
- 48 https://www.go-fair.org/go-fair-initiative/go-train/
- 49 https://iassistdata.org/resources
- 50 https://www.icpsr.umich.edu/icpsrweb/content/sumprog/courses.html



INOS Project

INOS 51 is an Erasmus+ KA2 project aiming to integrate Open and Citizen Science into active learning approaches in Higher Education.

IPERION CH

IPERION CH₅₂ is a consortium of 24 partners that aims at establishing a unique European research infrastructure for restoration and conservation of Cultural Heritage. It offers training and access to a wide range of high-level scientific instruments, methodologies, data and tools for advancing knowledge and innovation in the preservation of Cultural Heritage. IPERION CH is part of E-RIHS ESFRI proposal.

LIBER Working Group on Digital Skills for Library Staff and Researchers

LIBER, the leading voice of European Research Libraries provides several training activities to its member libraries, however, a Working Group is dedicated to digital skills for library staff and researchers53 having as main priority to develop an educational programme on digital skills for its target groups. In this context, the working group has collaborated on a shared workshop54 with the SSHOC project and the LIBER Working Group on Digital Humanities and Digital Cultural Heritage55 during the LIBER 2019 Conference. Further Working Groups' resources and work are relevant for SSHOC, such as those of the RDM56 and Citizen Science57 working groups.

NI4OS Project

The NI4OS projects, one of the EOSC 5b projects, aims to provide a full-blown training programme for prospective providers and users in the area to ensure take-up of core EOSC services/functions in the community. As well as provide capacity building trainings on service management, federation, interoperability, FAIR, certification, and technical/organizational/legal aspects of ORDM. NI4OS aims for the Harmonization of training material (all other projects), FAIR uptake (5b projects, FAIRsFAIR).

- 51 https://libereurope.eu/our-activities/projects/inos/
- 52 http://www.iperionch.eu
- 53 https://libereurope.eu/strategy/digital-skills-services/digitalskills/
- 54 https://libereurope.eu/blog/2019/07/11/open-science-essentials-towards-a-skill-set-and-showcases-at-liber-2019/
- 55 https://libereurope.eu/strategy/digital-skills-services/digitalhumanities/
- 56 https://libereurope.eu/strategy/research-infrastructures/rdm/
- 57 https://libereurope.eu/strategy/innovative-scholarly-communication/citizenscience/
- 58 https://ni4os.eu/overview/



OpenAIRE Advance and CoP for Training Coordinators

OpenAIRE provides training⁵⁹ on how to practice Open Science, including webinars⁶⁰ and workshops⁶¹ and the Task force RDM of OpenAIRE produces useful training materials⁶². Furthermore, it supports and hosts the webpage of the Community of Practice⁶³ for training coordinators, an informal network to share training experiences.

OPERAS Project and Co-OPERAS Implementation Network

OPERAS₆₄ is the European Research Infrastructure for the development of open scholarly communication in the social sciences and humanities. CO-OPERAS₆₅ – open access in the European research area through scholarly communication – IN "aims to build a bridge between SSH data and the EOSC, widening the concept of "research data" to include all of the types of digital research output linked to scholarly communication that are, in SSH, part of the research process".

Parthenos Training

The PARTHENOS cluster of humanities research infrastructure project provides a series of training modules and resources for researchers, educators, managers, and policy makers who want to learn more about research infrastructures and the issues and methods around them. It organises its training modules and resources as well as those of associated project under its training website66.

RDA Interest Group on Education and Training on Handling of RDM

This RDA Interest Group₆₇ has as main goal to "exchange of information about existing developments and initiatives and promotion of training/education to manage research data throughout the data lifecycle".

RDA Interest Group on Libraries for Research Data

23 Things: Libraries for Research Data68, the endorsed output of this RDA Interest Group provides an overview of practical, free, online resources and tools that you can begin using today to incorporate research data

- 59 https://www.openaire.eu/support
- 60 https://www.openaire.eu/frontpage/webinars
- 61 https://www.openaire.eu/workshops-page
- 62 https://www.openaire.eu/task-forces-in-openaire-advance
- 63 https://www.openaire.eu/cop-training
- 64 https://operas.hypotheses.org/
- 65 https://www.go-fair.org/implementation-networks/overview/co-operas/
- 66 https://training.parthenos-project.eu/
- 67 https://www.rd-alliance.org/groups/education-and-training-handling-research-data.html
- 68 https://www.rd-alliance.org/group/libraries-research-data-ig/outcomes/23-things-libraries-research-data-supporting-output



management into your practice of librarianship from the Libraries for Research Data Interest Group of the Research Data Alliance. The document is available in 12 languages.

SERISS Project

The SERISS project (closed in August 2019)69 provides information and resources to those who are interested or working in cross-national social science research. Several tools have been developed during the project to provide training on data management, data handling and harmonisation, as well as on statistical analysis to a wider social science community. By sharing resources and skills, the project has delivered training materials in a more cost-effective and comprehensive way than would have been possible as individual infrastructures.

The FOSTER Portal

The FOSTER portal is an e-learning platform that brings together the best training resources addressed to those who need to know more about Open Science or need to develop strategies and skills for implementing Open Science practices in their daily workflows. Significant resources that can be found through the FOSTER portal are the FOSTER taxonomies 70, courses 71, the FOSTER toolkit 72, the Open Science Training Handbook 73, the Trainers Directory 74 and the Open Science Trainer's Corner 75.

TRIPLE project

TRIPLE (Transforming Research through Innovative Practices for Linked interdisciplinary Exploration) 76 was launched on 7 October 2019. TRIPLE will help SSH research in Europe to gain visibility, to be more efficient and effective, to improve its reuse within the SSH and beyond, and to dramatically increase its societal impact. TRIPLE will be a dedicated service of OPERAS77, the European Research Infrastructure for the development of open scholarly communication in the social sciences and humanities (SSH).

- 69 https://seriss.eu/training/training-overview/
- 70 https://www.fosteropenscience.eu/resources
- 71 https://www.fosteropenscience.eu/courses
- 72 https://www.fosteropenscience.eu/toolkit
- 73 https://www.fosteropenscience.eu/node/2219
- 74 https://www.fosteropenscience.eu/trainers-directory
- 75 https://www.fosteropenscience.eu/trainers-materials
- 76 https://www.cessda.eu/About/Projects/Current-projects/TRIPLE
- 77 http://operas-eu.org/



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