

# Building training and its infrastructure for EOSC

**Organiser:** EOSC Future

**Date:** THURSDAY 17 NOVEMBER

**Time:** 13.30 PM – 15.00 PM

**Room:** KEPLER

# PANEL DISCUSSION – THURSDAY 17 NOVEMBER 2022

**EOSC  
SYMPOSIUM  
2022**



**Helen CLARE**

Jisc



**Shanmugasundaram  
Venkataraman (Venkat)**

OpenAIRE



**Jordi BODERA**

ESRF



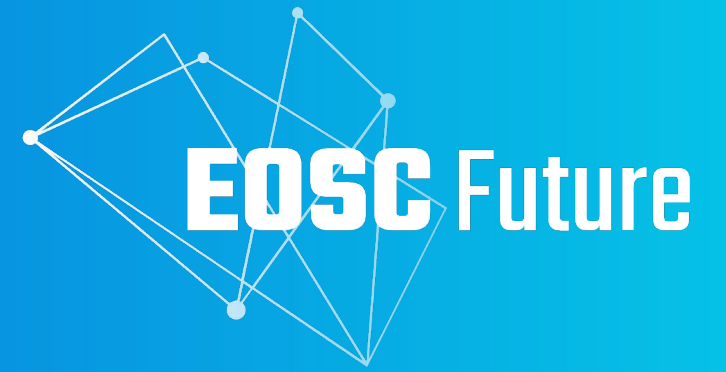
**Pedro Principe**

University of Minho/  
OpenAIRE



**Heinrich WIDMANN**

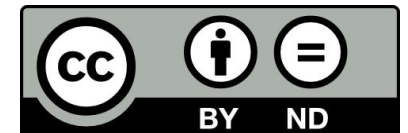
German Climate Computing  
Center (DKRZ)

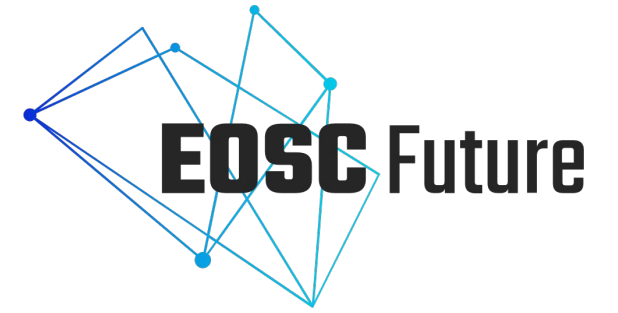


# Building training and its infrastructure for EOOSC

EOOSC Symposium  
17<sup>th</sup> November 2022  
S. Venkataraman

The EOOSC Future project is co-funded by the  
European Union Horizon Programme call  
INFRAEOOSC-03-2020, Grant Agreement 101017536





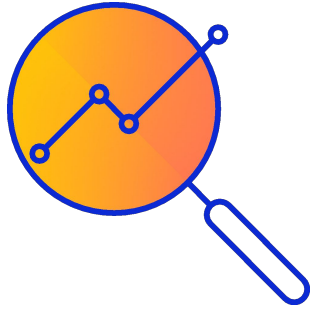
# **EOSC Future in a Nutshell**

# Approach

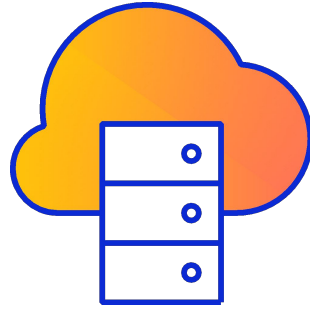




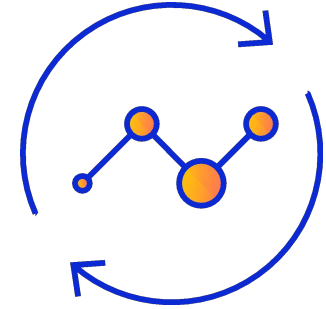
# EOSC Future will provide a user-friendly environment for:



Data discovery



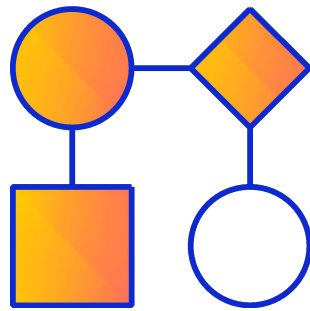
Data storage



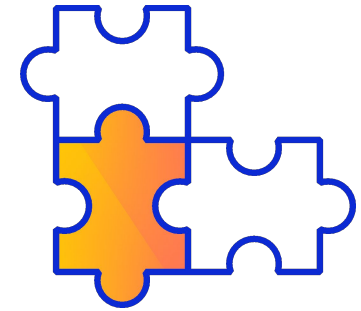
Data recomposition



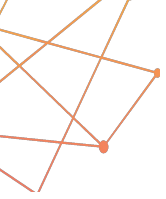
Computing services



Complex workflows



Integratable services



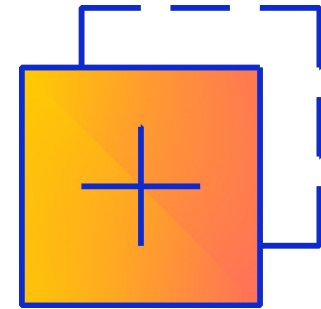
# This way, EOSC Future wants to help make EU research:



More innovative



More streamlined

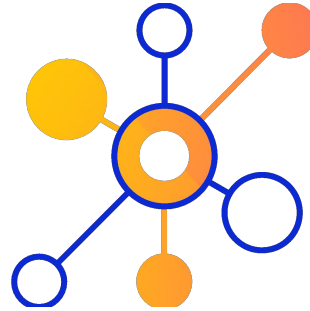


Easier to reproduce

# EOSC Future is structured around six thematic pillars:



Policy and strategy



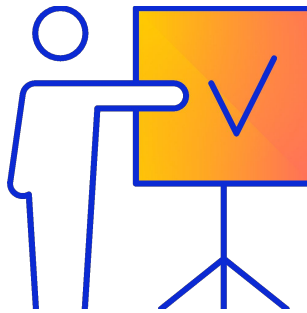
Technology and interoperability



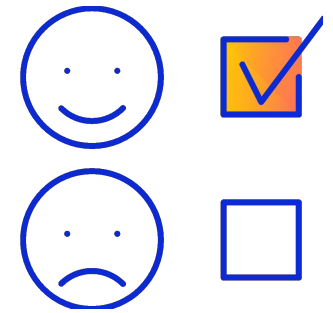
Excellent science



Co-development and procurement

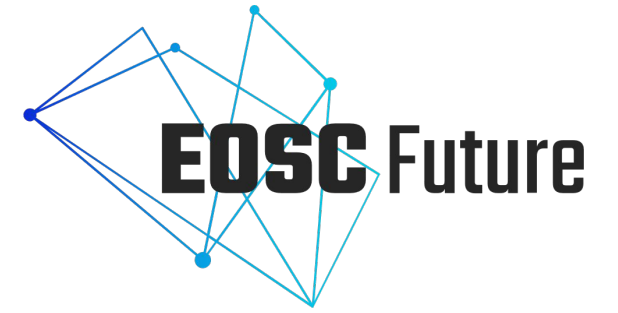


Skills and training



User engagement

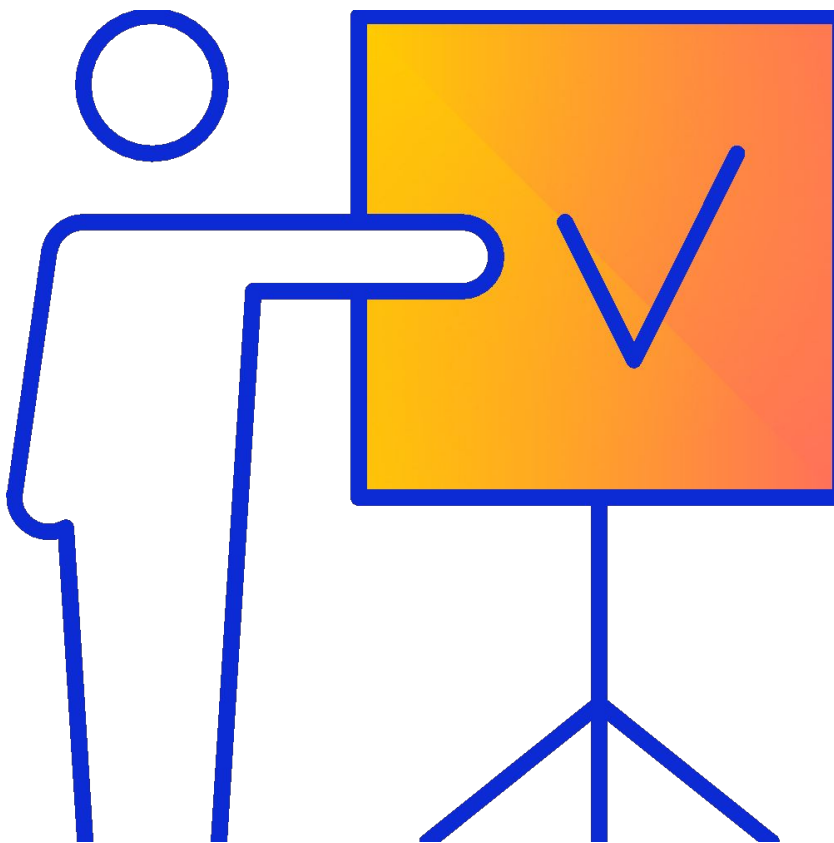




# EOOSC Future Skills & Training



# Skills and Training



To train both users and providers to make the most of the EOSC environment, the project will establish an EOSC Knowledge Hub. The Hub will build a network of expert trainers, and catalogue existing support materials while developing new training courses and documents.

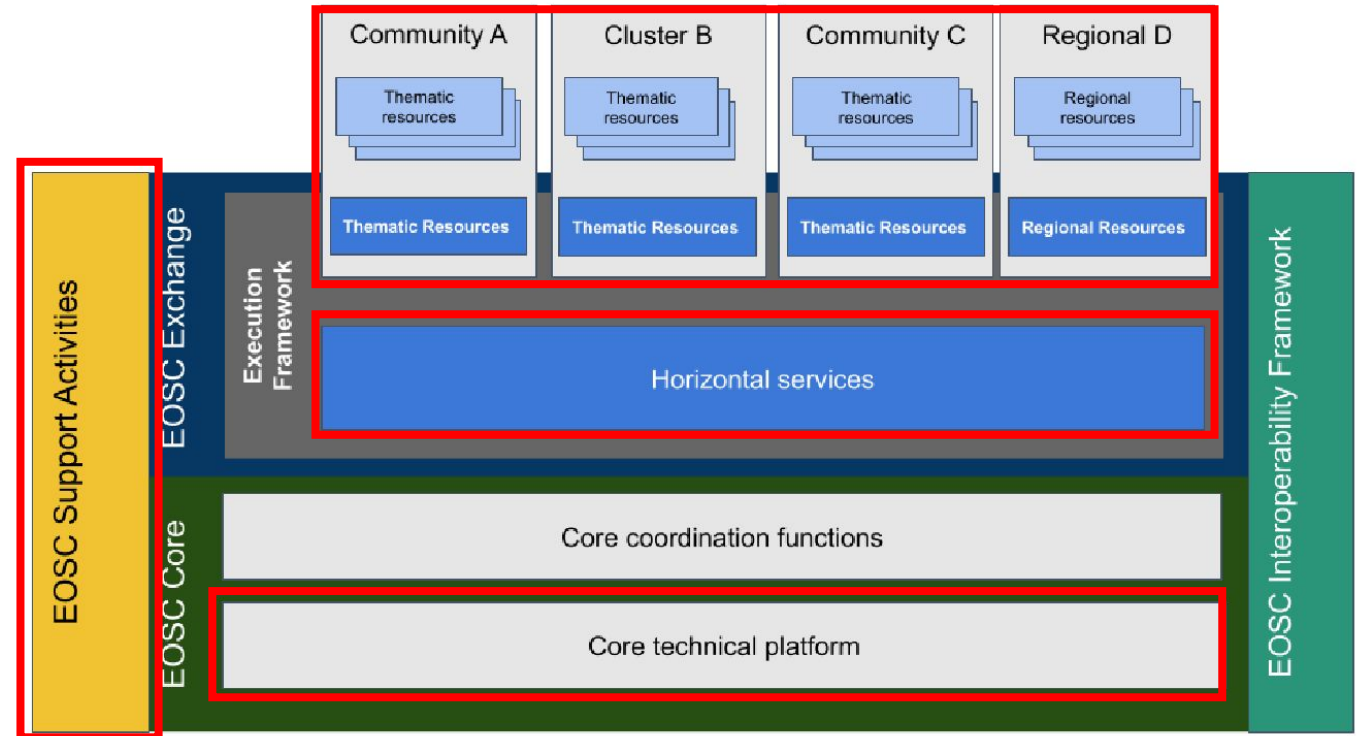
# Skills & Training Objectives

Train stakeholders to become active users and providers of EOSC and increase uptake of resources, and Open Science.

Support providers to add their resources in the EOSC Portal and work with the INFRAEOSC-07 projects and Science Clusters to support users.

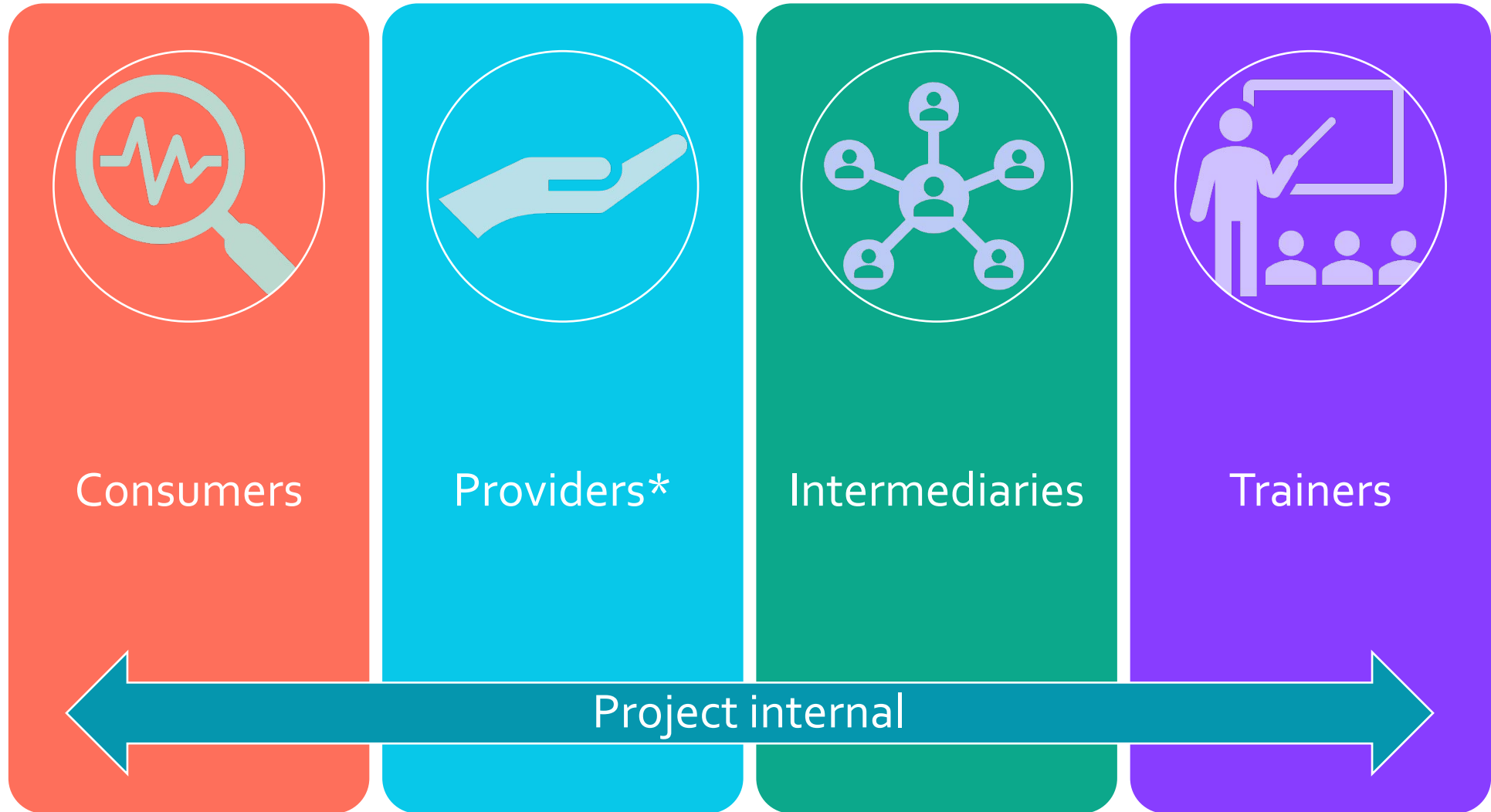
Consolidate the emerging cross-discipline trainer community (including the INFRAEOSC-07 projects) to avoid duplication of effort, focusing on key components of interoperability, service offering, and data provision.

Build and operate a learning management system and training catalogue as integral parts of the EOSC Portal to sustain the EOSC Knowledge Hub.

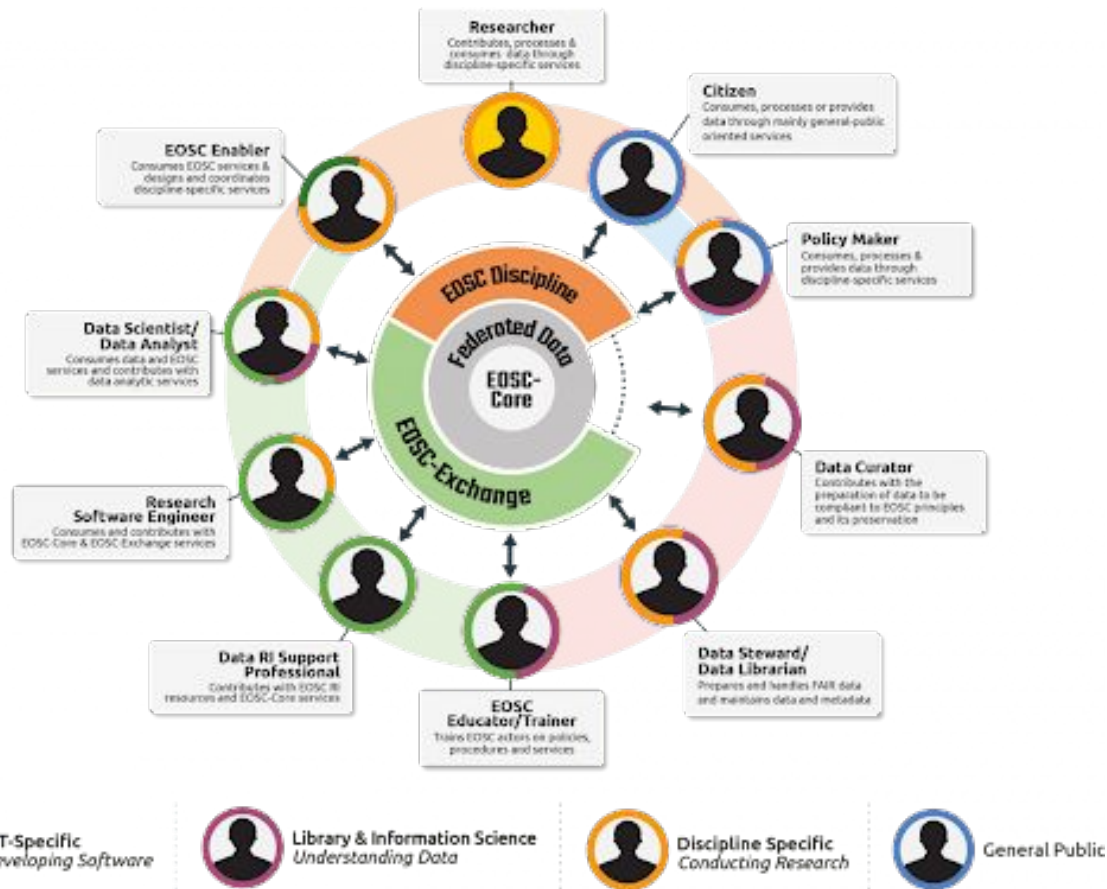




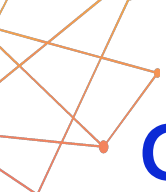
# Learning Resources Development and Delivery



# Learning Paths

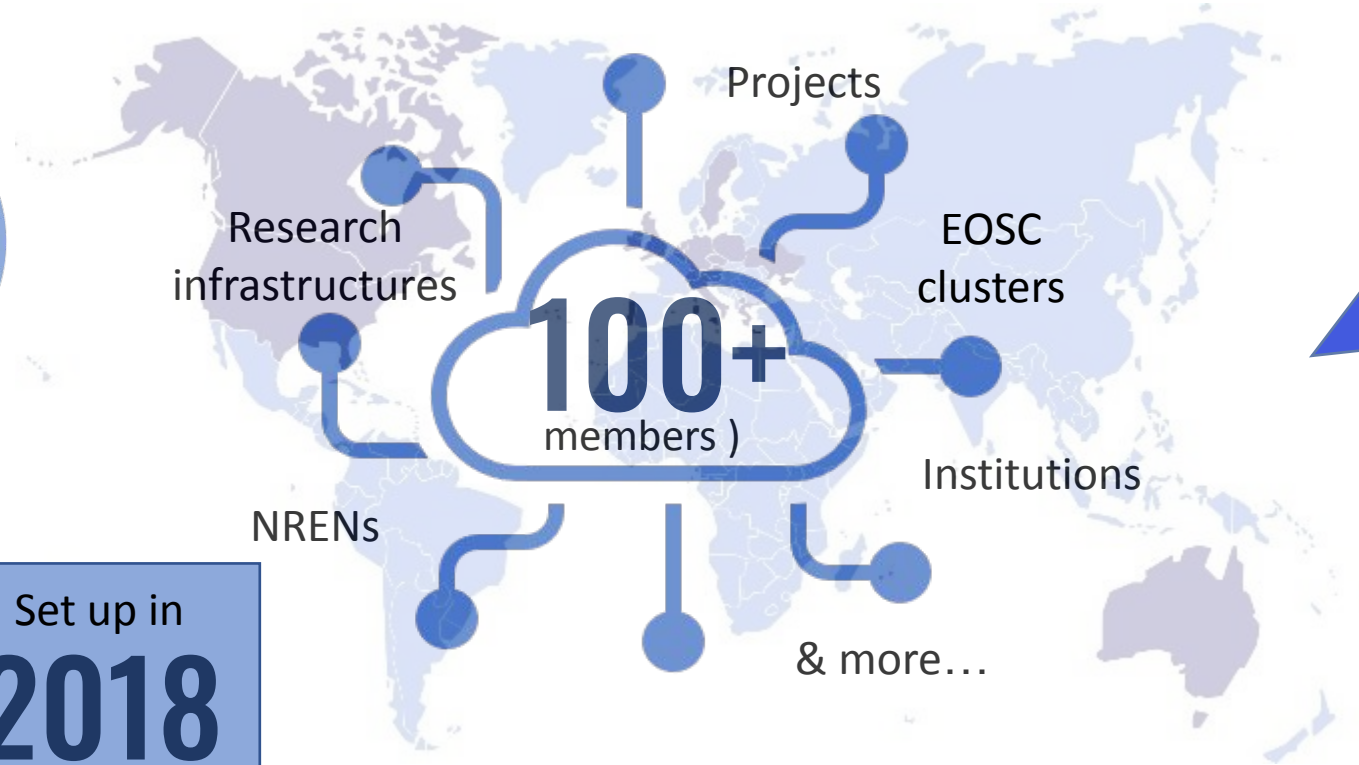


- EOSC Institutional Facilitator
- EOSC Resource Provider
- EOSC User Trainer
- EOSC Research Practitioner
- EOSC Citizen Science Practitioner
- EOSC Accelerator



# Community of Practice of Open Science Training Coordinators

*Owned and driven by members...*



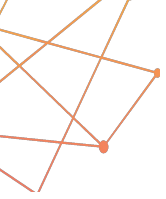
*“The CoP can be regarded as a discipline transcending network of trainers and training organisers. We have built a community. We are exchanging information and best practices.”*  
CoP member, 2020

Set up in  
**2018**

OpenAIRE

[www.openaire.eu/cop-training](http://www.openaire.eu/cop-training)

Map credit: adapted from [AI MacDonald @F1LT3R](#)



# CoP Task Forces

1. Quality assurance of training materials
2. Training in EOSC





# T9.3 - Developing the EOSC KH – minimum metadata

Table 1. Metadata Set for Existing Resources (for the first harvesting process) Table 2. New materials (for registrations directly in the catalogue)

Metadata Field	Mandatory	Recommended (info that if not provided will limit the use of the resource)	Optional
Title	Y		
Description		Y	
Author (s)	Y It must be filled with something. It will come prefilled with the name of the training service provider and it can be updated adding the name of the author		
Language (different resources for different languages)	Y		
Keywords		Y (alert)	
License		Y Extremely relevant for us. Not mandatory field but if the training provider misses on this information will make hard to have further uses of the resources	
Access Rights (open, closed, restricted, with a cost, etc.)	Y		
Version Date(s)	Y		
URL to resource	Y		
Resource URL type			Y
Target Group (Audience)	Y (controlled vocabulary)		
Learning Resource Type		Y (controlled vocabulary)	
Learning Outcome	Y (controlled vocabulary)		
Expertise Level	Y (controlled vocabulary)		

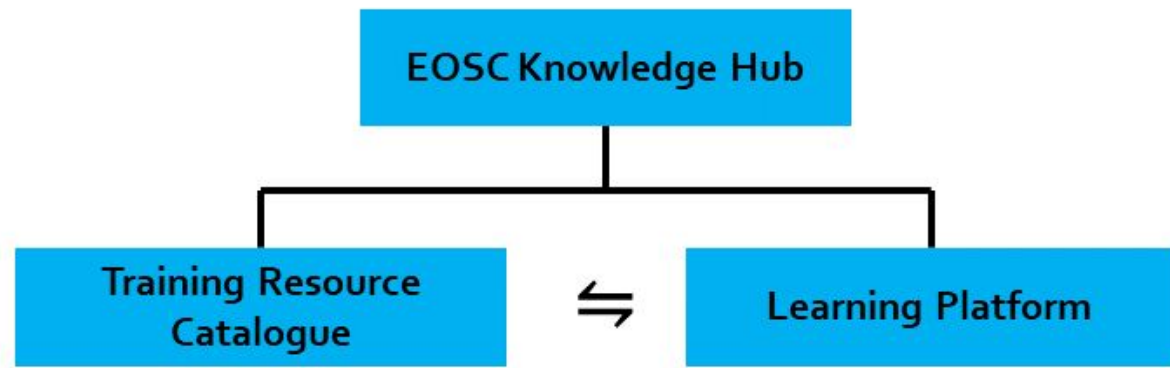


**ETHRD IG**  
output



# What is the EOSC Knowledge Hub (KH)?

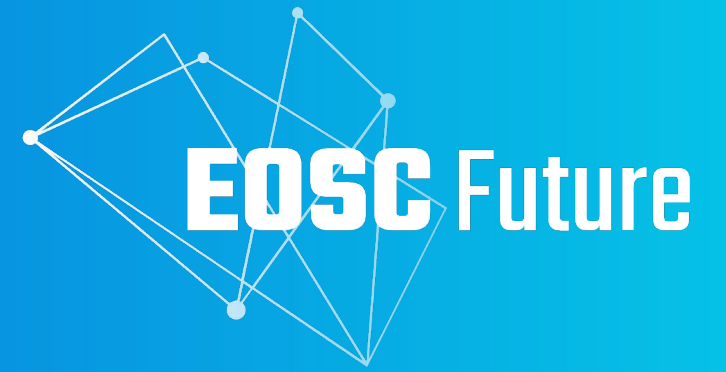
- Composed of a:
  - Learning resource catalogue
  - Learning platform
- Community resource for all things related to EOSC training (and not just EOSC Future!)
- Initial specification completed through a deliverable
- It is aimed at the five principal actors
- 



# Workflow



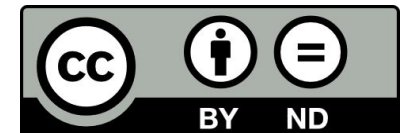
[www.openplato.eu](http://www.openplato.eu)



# EOSC Training Catalogue

Jordi Boderà (ESRF)  
EOSC Symposium  
November 2022

The EOSC Future project is co-funded by the  
European Union Horizon Programme call  
INFRAEOSC-03-2020, Grant Agreement 101017536





# Training Catalog - basics

1. Key outcome of EOSC Future
2. Product of several WPs working together
3. Fits within the Knowledge Hub
4. Will be open to everyone



# Training Catalog - aims

1. To be the place to go for training
2. With so much content
  - a. about the EOSC
  - b. about services offered in the EOSC
3. Easy to use for users and content providers
4. Sustainable



# Training Catalog - where we are

1. Website is online and available, but not finished
  2. Content is very reduced
  3. Sort/Filters still need improvement
    - but the basic idea is there
  4. Dissemination required
- [https://search.eosc-portal.eu/search/training?q=\\*](https://search.eosc-portal.eu/search/training?q=*)

A graphic on the left side of the slide. It consists of a white rectangular box with a yellow top-left corner and a yellow bottom-right corner. The text "TRAIN & support" is centered inside the box. Below the box is a yellow horizontal bar. At the bottom center of the bar is a circular icon containing a lightbulb with circuitry and gears inside it.

**TRAIN**  
& support

# Training resources Catalogue metadata specifications



# Minimal Metadata for Learning Resources

**Metadata set for Existing Resources (for the first harvesting process)**

**Metadata set for New materials (for registrations directly in the catalogue)**

- The RDA minimal metadata set was then taken as an initial reference
- An EOSC-customized version of that set was created.
  - This EOSC-customized set soon appeared not to address in full the concerns of the community
    - it proved to be quite restrictive with regard to the onboarding of existing resources,
    - a series of meetings with the identified Pilot Catalogues (ELIXIR TeSS, SSH Training Discovery Toolkit, DARIAH Campus, EOSC-Pillar) were therefore organized to validate the initial metadata set and compare the solutions adopted by various projects.

[Training Catalogue - Minimal Metadata for Learning Resources - EOSC Future Public - Wiki EOSC Future](#)



# Minimal Metadata for Learning Resources

## New records

onboarding of resources by Providers directly in the catalogue

Name	Definition	Type	Usage notes, allowed values, examples, other constraints
<b>Title</b>	The human readable name of the learning resource.	TEXT (1000)	<p><b>Notes:</b> It should be transcribed from the learning resource itself or the descriptive metadata found on the resource landing page. If no title exists, the provider should create it. If the resource exists in more than one language, a separate record should be created for that version.</p> <p><b>Allowed values:</b> Should be Unicode and allow for diacritics.</p> <p><b>Example:</b> "CESSDA Data Management Expert Guide"</p> <p><b>Constraints:</b> Not repeatable</p>
<b>Abstract/Description</b>	A brief synopsis about or description of the learning resource.	TEXT (2000)	<p><b>Notes:</b> The description can include the relationship of this resource to others, if applicable, e.g., a part within a series or collection, and the existence of translations of the resource into other languages.</p> <p><b>Allowed values:</b> Should be Unicode and allow for diacritics</p> <p><b>Example:</b> "A guide designed by European experts to help social science researchers make their research data Findable, Accessible, Interoperable and Reusable (FAIR)."</p> <p><b>Constraints:</b> Not repeatable</p>
<b>Author(s)</b>	The name of entity(ies) authoring the resource.	TEXT	<p><b>Notes:</b> Authors should be listed in the order presented on the resource or on the descriptive metadata on the landing page of the resource. Multiple authors should be listed with commas between the names. Names should include given or first name and family or surname, and a personal identifier such as an ORCID, if available. Some input systems may offer separate fields for each of these identifying items.</p> <p><b>Allowed values:</b> Should be Unicode and allow for diacritics</p> <p><b>Example:</b> "CESSDA Training Team"</p> <p><b>Constraints:</b> Repeatable</p>
<b>Primary Language</b>	The language in which the resource was originally published or made available.	TEXT (2)	<p><b>Notes:</b> If the resource exists in more than one language, that information can be included in the Abstract/Description term. A second record should be created, if possible, for the other language versions of the resource.</p> <p><b>Allowed values:</b> String composed by a code as defined by the code set ISO 639-1:2002</p> <p><b>Example:</b> "en"</p> <p><b>Constraints:</b> Not repeatable</p>
<b>Keyword(s)</b>	The keyword(s) or tag(s) used to describe the resource.	TEXT (100)	<p><b>Notes:</b> Keywords may be single words or phrases that characterize what the resource is about. Ideally, the keywords come from a controlled vocabulary of terms that are curated and structured to represent the specific nature of the collection of learning resources, e.g., by subject domain, data format and/or data type. In a web or searchable catalogue / web environment for learning resources,</p>

## Existing Resources

Aggregation from training catalogues

Metadata Field	Mandatory	Recommended (info that if not provided will limit the use of the resource)	Optional
Title	Y		
Description		Y	
Author (s)	Y It must be filled with something. It will come prefilled with the name of the training service provider and it can be updated adding the name of the author		
Language (different resources for different languages)	Y		
Keywords		Y (alert)	
License		Y Extremely relevant for us. Not mandatory field but if the training provider misses on this information will make hard to have further uses of the resources	
Access Rights (open, closed, restricted, with a cost, etc.)	Y		
Version Date(s)	Y		
URL to resource	Y		
Resource URL type			Y
Target Group (Audience)	Y (controlled vocabulary)		
Learning Resource Type		Y (Use controlled vocabulary provided by DCMI on the LRMI initiative: <a href="https://www.dublincore.org/specifications/lrmi/concept_schemes/learningResourceType/">https://www.dublincore.org/specifications/lrmi/concept_schemes/learningResourceType/</a> ) By learning resource we mean a persistent resource that has one or more physical or digital representation, and that explicitly involves, specifies or entails a learning activity or learning experience).	
Learning Outcome	Y (controlled vocabulary)		



# EOSC Training Resource Profile - Data Model

- Basic Information
  - Detailed & access Information
  - **Learning Information**
  - Geographical and Language Availability Information
  - Classification Information
- +
- Contact Information
  - **Code Lists, Taxonomies, Classifications**

<https://wiki.eoscfuture.eu/display/PUBLIC/EOSC+Training+Resource+Profile+-+Data+Model>

# EOSC Training Resource Profile - Data Model

## Data Model

Basic Information					
Attribute Name	Definition	Type	Multiplicity	Required	Public
<b>ID</b>	A persistent identifier, a unique reference to the Resource.	ResourceID	1	Mandatory	Yes
<b>Title</b>	The human readable name of the learning resource.	String (100)	1	Mandatory	Yes
<b>Resource Organisation</b>	The name of the organisation that manages or delivers the resource, or that coordinates the Resource delivery in a federated scenario.	ProviderID	1	Mandatory	Yes
<b>Resource Providers</b>	The name(s) of (all) the Provider(s) that manage or deliver the Resource in federated scenarios.	ProviderID	Multiple	Optional	Yes
<b>Authors</b>	The name of entity(ies) authoring the resource.	String (40)	Multiple	Mandatory	Yes
<b>URL to resource</b>	The URL that resolves to the learning resource or to a "landing page" for the resource that contains important contextual information including the direct resolvable link to the resource, if applicable.	URL	1	Mandatory	Yes
<b>Resource URL type</b>	The designation of identifier scheme used for the resource URL. It represents the type of the URL of the resource, that is the used scheme (e.g., Web Address URL, DOI, ARK, etc.).	Controlled Vocabulary	1	Optional	Yes
Detailed & access Information					
Attribute Name	Definition	Type	Multiplicity	Required	Public
<b>Description</b>	A brief synopsis about or description of the learning resource.	String (1000)	1	Recommended	Yes
<b>Keywords</b>	The keyword(s) or tag(s) used to describe the resource.	String (100)	Multiple	Recommended	Yes
<b>License</b>	A license document that applies to this content, typically indicated by URL.	String (100)	1	Recommended	Yes
<b>Access Rights</b>	The access status of a resource (open, restricted, paid).	Controlled Vocabulary	1	Mandatory	Yes
<b>Version Date(s)</b>	The version date for the most recently published or broadcast resource.	Date	1	Mandatory	Yes

## Learning Information

Attribute Name	Definition	Type	Multiplicity	Required	Public
<b>Target Group (Audience)</b>	The principal users(s) for which the learning resource was designed	Enumerated (Resource Target Users)	Multiple	Mandatory	Yes
<b>Learning Resource Type</b>	The predominant type or kind that characterizes the learning resource.	Controlled Vocabulary	Multiple	Recommended	Yes
<b>Learning Outcome(s)</b>	The descriptions of what knowledge, skills or abilities students should acquire on completion of the resource.	String (1000)	Multiple	Mandatory	Yes
<b>Expertise Level</b>	Target skill level in the topic being taught.	Controlled Vocabulary	1	Mandatory	Yes
<b>Content resource type</b>	The predominant content type of the learning resource (video, game, diagram, slides, etc.).	Controlled Vocabulary	Multiple	Recommended	Yes
<b>Qualification</b>	Identification of certification, accreditation or badge obtained with course or learning resource.	Controlled Vocabulary	Multiple	Recommended	Yes
<b>Duration</b>	Approximate or typical time it takes to work with or through the learning resource for the typical intended target audience.	String (40)	1	Recommended	Yes

Background colour : Light grey 100%

## Geographical and Language Availability Information

Attribute Name	Definition	Type	Multiplicity	Required	Public
<b>Language</b>	The language in which the resource was originally published or made available.	Enumerated (Resource Language Availability)	Multiple	Mandatory	Yes
<b>Geographical Availability</b>	Locations where the Resource is offered.	Enumerated (Resource Geographical Availability)	Multiple	Mandatory	Yes

## Classification Information

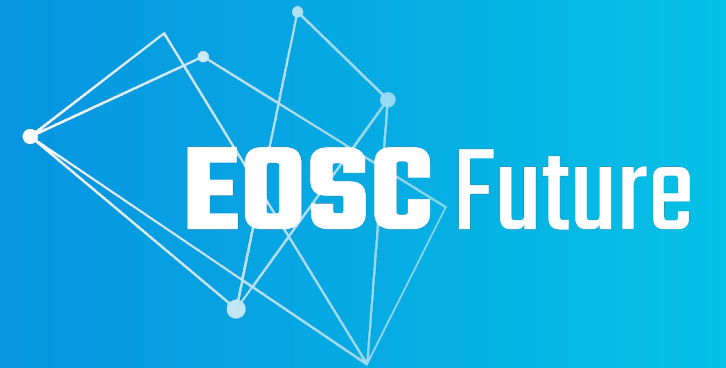
Attribute Name	Definition	Type	Multiplicity	Required	Public
<b>Scientific Domain</b>	The branch of science, scientific discipline that is related to the Resource.	Enumerated (Resource Scientific Domain)	Multiple	Mandatory	Yes
<b>Scientific Subdomain</b>	The subbranch of science, scientific subdiscipline that is related to the Resource.	Enumerated (Resource Scientific Domain)	Multiple	Mandatory	Yes

# Thanks!

Pedro Principe, University of Minho / OpenAIRE

[pedro.principe@usdb.uminho.pt](mailto:pedro.principe@usdb.uminho.pt)

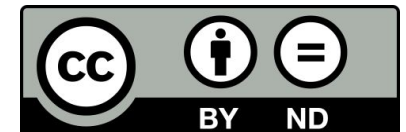




# Training Delivery and Content Integration for EOOSC

- some Highlights and Lessons learned

Heinrich Widmann (DKRZ)  
EOOSC Symposium  
17.11.2022





# T9.2 : Training Delivery and Content Integration for EOSC

Task of EOSC-Future WP 9 'Training and Skills'

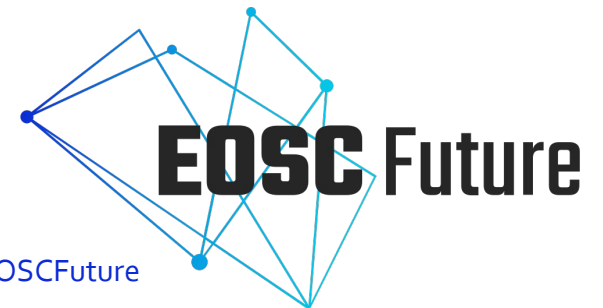
Objectives :

- Create a modular and reusable training program for EOSC
- Build training materials, in particular for self-study and interactive webinars
- Coordinate and organise training events



# EOSC related and target group oriented

- Focus on EOSC related subjects, as
  - EOSC portal services (aligning with core services )
  - Onboarding resources in the EOSC marketplace
- Customise training to the needs of trainees = (potential) EOSC users and stakeholders
  - Outreach to research communities and science projects
  - Targeted to 5 stakeholder (actor) groups (AG) that were presented before

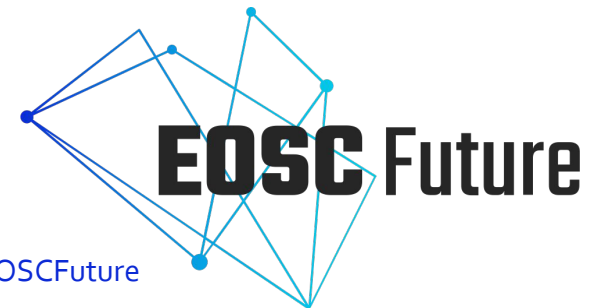






# Five actor groups

- AG<sub>1</sub> : EOSC Consumers
- **AG<sub>2</sub> : EOSC Providers**
- AG<sub>3</sub> : EOSC Intermediaries and facilitators
- AG<sub>4</sub> : EOSC Train the Trainer
- AG<sub>5</sub> : EOSC-Future Internal





# Providing resources to EOSC – some basics

## Who is the target group ?

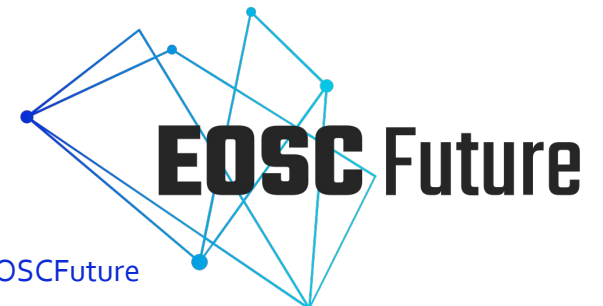
- An **EOSC resource provider** that offers services or content to EOSC

## What is provided ?

- „**Resources**“ are mainly **Services**, but can as well be Data, Software, ...
- + associated documentation, guides and other metadata

## To whom ?

- Uploaded to the **EOSC-Marketplace**





# Providing to EOSC – some basics

## How ?

- **Onboarding via** the interfaces of the **EOSC-Portal**
- Upcoming Training event at beginning of December

## Why ?

- To make your resources **visible, discoverable, accessible on a cross-domain interoperable platform**
- To contribute to **develop EOSC into a rich environment of resources for research.**

# The Actor Group 2 in a nutshell

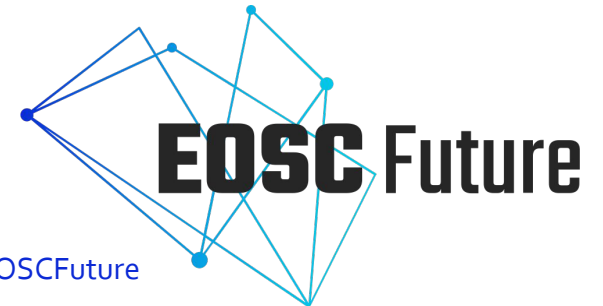
Training for 'EOSC Providers'

## Who are we ?

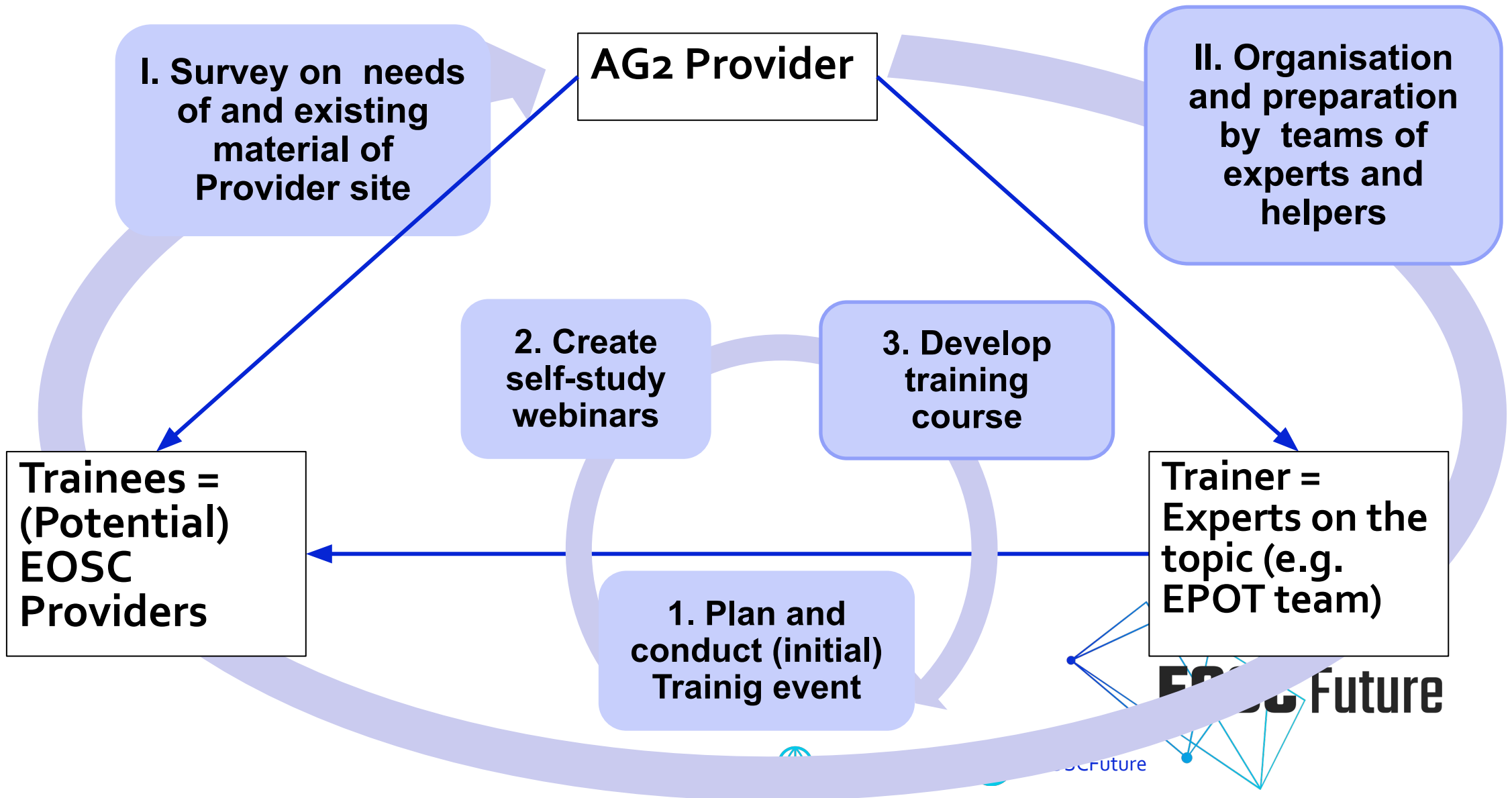
- A sub group of EOSC-Future WP9 T9.2
- Interacting with the other actor groups
- Ca. 10+ people meeting bi-weekly
- Participants changing, depends on upcoming events and work to do

## What we work on ?

- Design pathway for EOSC providers to guide them through the onboarding process
- Coordinate and conduct training events
- Build self-learning courses



# The 'Workflow' of AG2 Provider

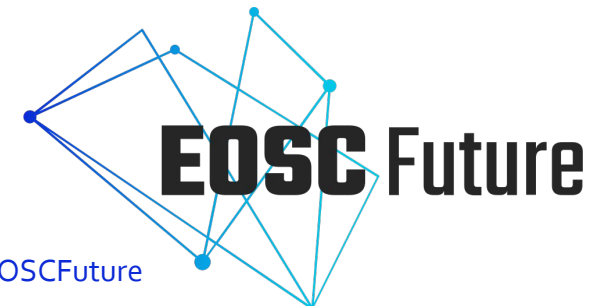




# Service documentation for EOSC providers

## Workshop 1: Describing your service for onboarding

- Conducted on November 9, 2022 by Maggie and team
- Based on a ENVRI-FAIR summer school
- Service documentation: what, why & how
- Work in breakout groups on
  - Exercise 1 : Analyse and discuss Examples of Service Descriptions
  - Exercise 2 : Describe your own service
- Feedback from the participants
  - Hard to create documentation at the right 'technical' level and addressing all target groups
  - Some suggestions for the EOSC-Portal





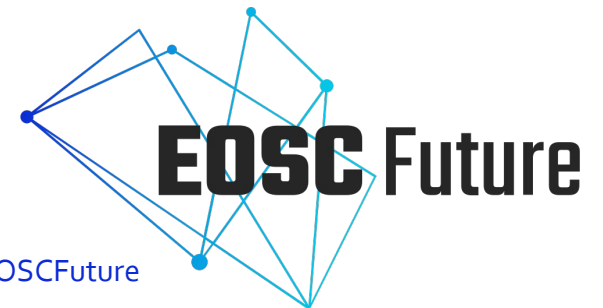
# Next, upcoming and planned training events

- 'Using REST APIs for on-boarding new services'
  - Scheduled for December 5, 2022 and coordinated by EPOT
  - Build on a workshop 'Onboarding Services via the GUI' given in April
  - Announcement will follow on the EOSC websites
- 'Privacy policy and Terms of Use'
  - Scheduled for December 7, 2022
- 'The EOSC data resource catalogue'
  1. 'How to make your data discoverable' (--> AG2 Provider)
  2. 'How to discover data' (--> AG1 Consumer)
- ... and many further ideas and
- maybe wishes from the audience ?!

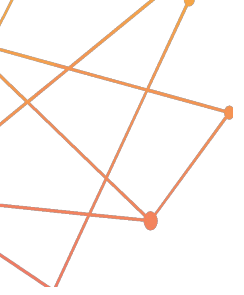


# Outlook and Lessons learned

- Training has to be oriented at providers' needs
- Generation of training material is an iterative and dynamic process
- Contribution and support from all stakeholders is essential
- Feedback from trainees and trainers serve as proposals for improving EOSC portal







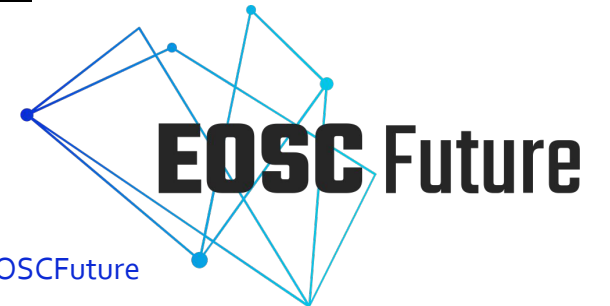
“After the training is before  
the training”

freely after Sepp Herberger

Thank you for your attention



Image Source



**Thank you for joining our  
session!**