



Project Overview

Final review, 10-11/05/2021

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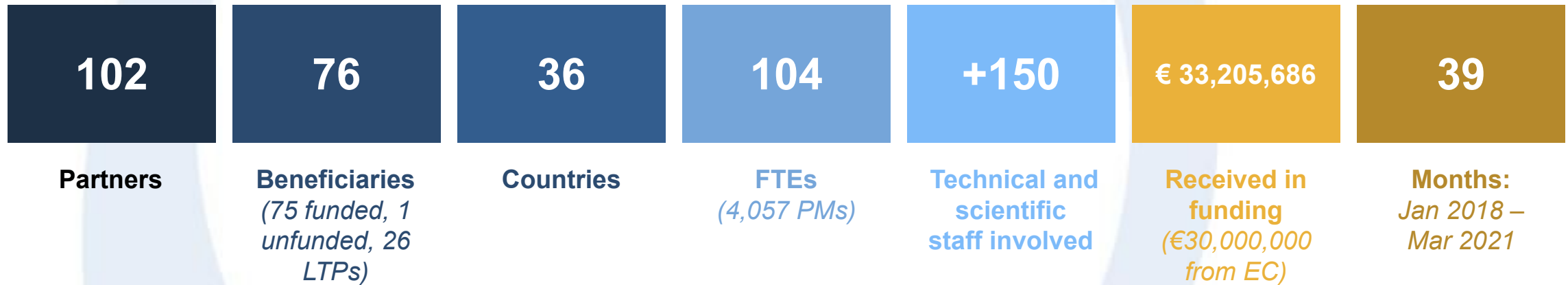


EOSC-hub receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 777536.

- Mission, vision and objectives
- Key exploitable results and contribution to EOSC Implementation (Phase 1)
- Response to PY1 review recommendations
- Sustainability strategies
- Collaborations



— Project highlights





— **Vision**

Researchers from all disciplines have easy, integrated and open access to the advanced digital services, scientific instruments, data, knowledge and expertise they need to collaborate to achieve excellence in science, research and innovation



— Mission

The EOSC-hub project mobilises providers of European relevance offering services, software and data for advanced data-driven research and innovation.

These resources are offered via the Hub – the integration and management system of the European Open Science Cloud, acting as a European-level entry point for all stakeholders.



01. Simplify access to a broad portfolio of products, resources and services through an open and integrated service catalogue

02. Remove fragmentation of service provisioning and access to high-quality digital services in Europe and beyond through the technical integration and adoption of standards for interoperability

03. Consolidate e-Infrastructures by expanding capacity and capabilities and improving service quality – *EGI Federation, EUDAT CDI, Indigo DataCloud*

04. Widen the access to services to all user groups including researchers, high-education, business organizations and expand the user base

05. Provide a knowledge hub

06. Increase innovation capacity of Research e-Infrastructures and beyond

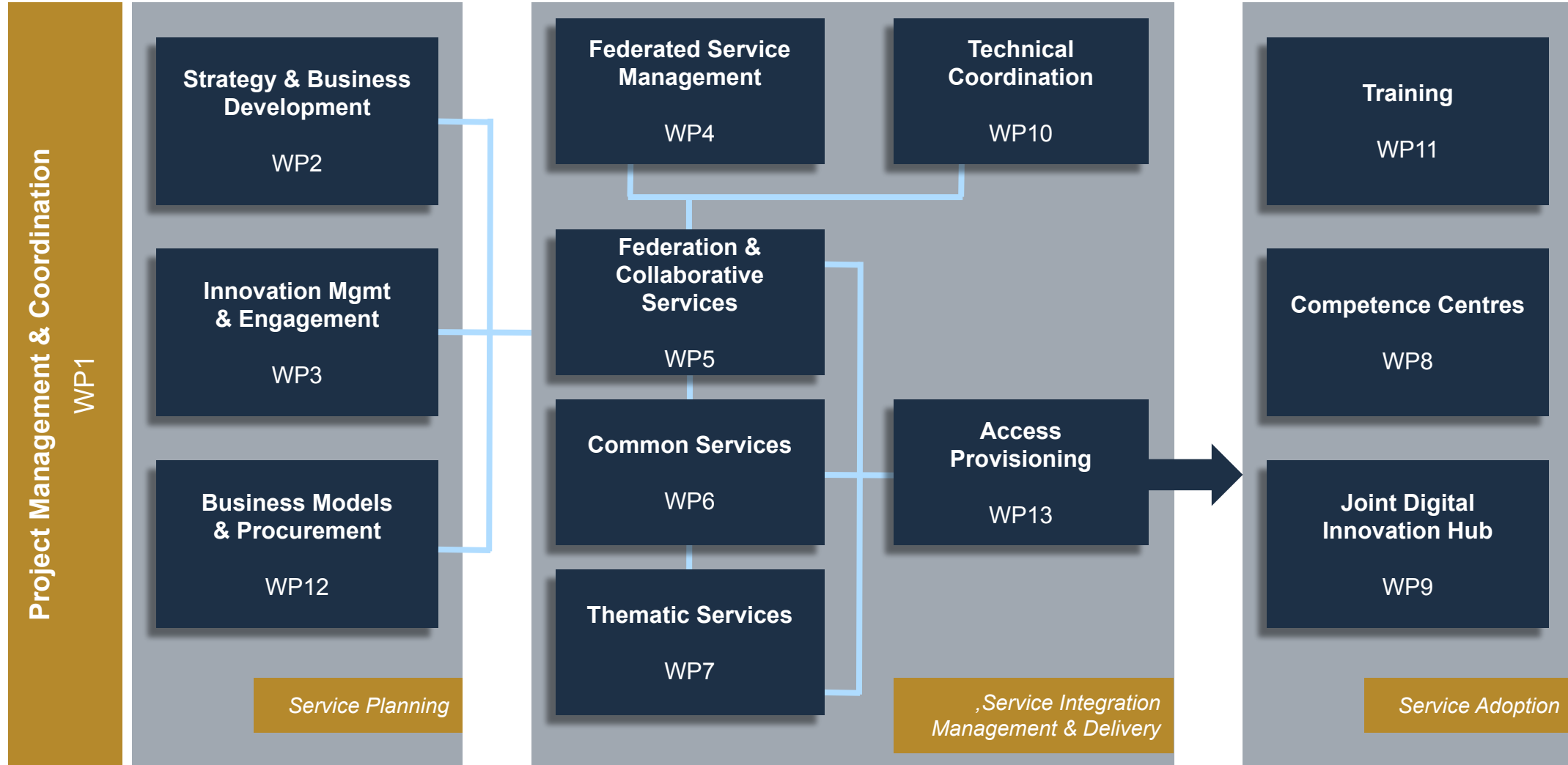
Work Package Structure

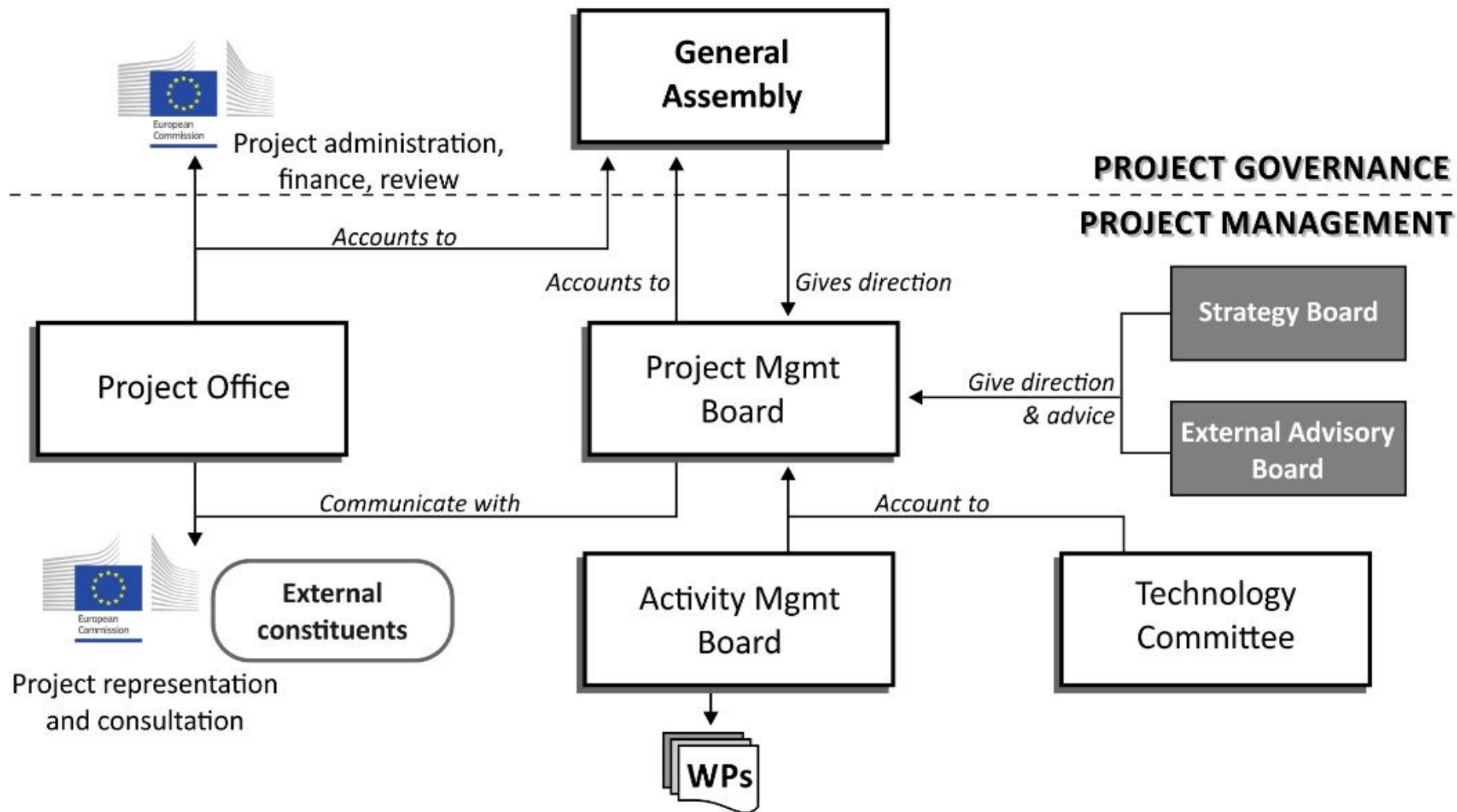
264 PMs (6%)

349 PMs (8%)

2490 PMs (65%)

954 PMs (21%)

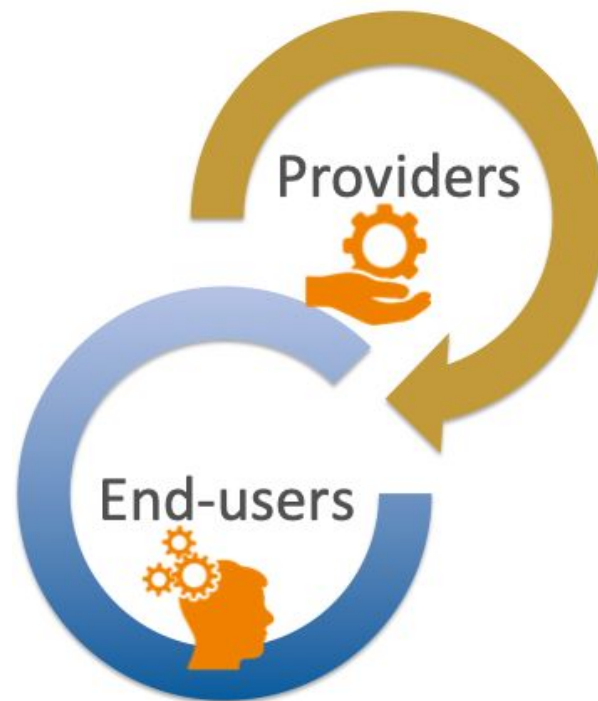




Governance Board	Main responsibilities	Activities
General Assembly	Steered the project direction Supervised and approved changes to work plan	6 meetings held (4 of them face-to face) 4 amendments approved
Project Management Board	Supervised project work plan progress and resources use Provided direction to project amendments	40 meetings held
Activity Management Board	Supported daily management of activity plan Revised the Innovation Management plan and the KERs	73 meetings held
Strategy Board	Aligned the strategies across pan-European stakeholders Provided guidance on the evolution of key outputs	3 meetings held and multiple additional ones to finalize joint position paper (Sept 2020)
Technology Committee	Organized the cross-project technology workshop Responsible for interoperability guidelines publication	20 meetings held

Users

- Discover services through a secure online catalogue with a central access point
- Access services via harmonised access policies and Service Level Agreements. Depending on the customer's needs, access will be provided through a centrally managed credit-based allocation system and/or through long-term resource allocation
- Leverage a large portfolio of generic and thematic services via standard interfaces



Providers

- Contribute to EOSC with services based on a harmonised corpus of access, security and provisioning policies
- Federate services by relying on harmonised processes and tools for service integration and management
- Cross-border procurement and business models



Service/Product providers

- *Pan-European e-Infrastructures*
- *Contribute to the portfolio & Integrate*
- *Promote, Train, Exploit*
- *Manage the Hub*



Early adopters

- *Pilot*
- *Use*
- *CO-design*



Consumers


- *Credit allocation & exploit*
- *Improve with feedback*
- *Get training and expert advice*

Support by discipline

9

Thematic Service providers

Life sciences (3)



Inter/multi-disciplinary (3)



SSH (2)



8

Competence Centres

Physics (7)



Earth and environmental sciences (15)



13

Early Adopter pilots



Key exploitable results and contributions to EOSC Implementation Phase 1

EOSC architecture components

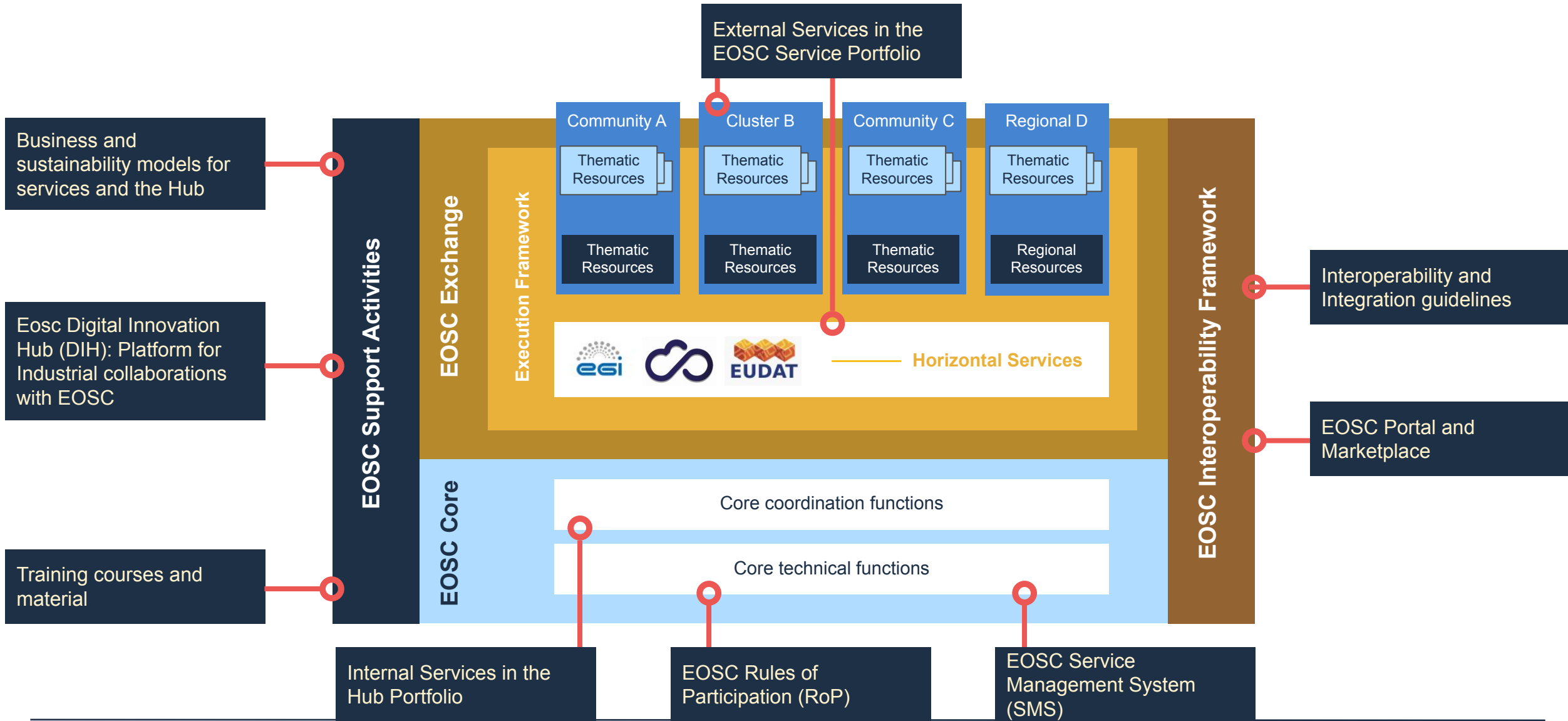


EOSC-Core is defined by the internal services which allow EOSC to operate as a federation

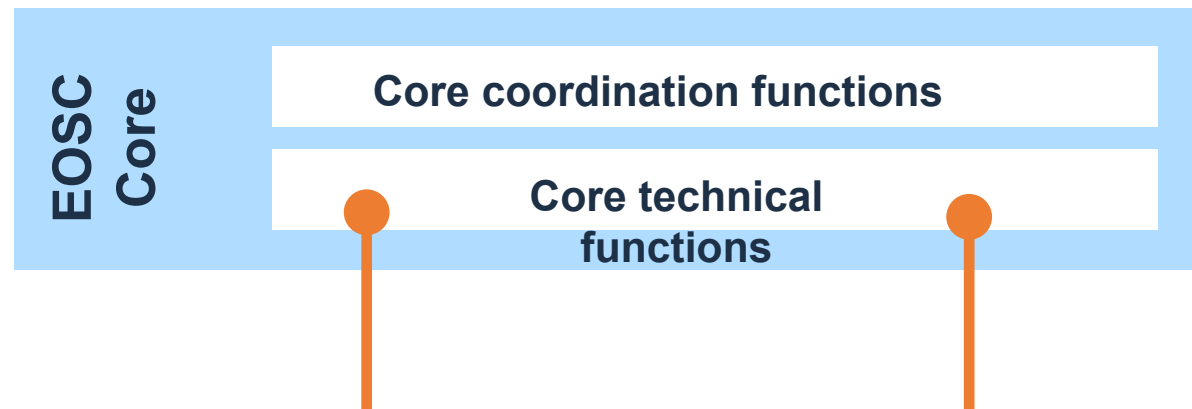
EOSC-Exchange is defined by services and other resources registered into the EOSC to serve the needs of research communities

EOSC Interoperability Framework provides a framework of standards and guidelines to support the interoperability and composability of resources

EOSC Support activities comprise the training, engagement, and other human-centric activities which make EOSC more attractive and easier to use



Contributions to EOSC Core 1/2



Internal Services in the Hub Portfolio

The Internal Services provide basic enabling services for EOSC access and operation, such as access control or accounting, and offer common and standard interfaces to shared tools...

WP5/WP13


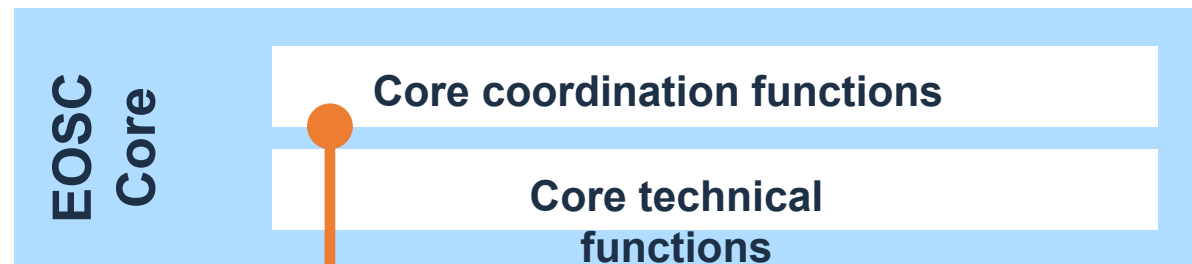


EOSC Rules of Participation (RoP)

A comprehensive and coherent set of rules and policies for service providers to onboard services and make them discoverable and accessible through the EOSC Portal.

WP2-WP4

Contributions to EOSC Core 1/2



Internal Services in the Hub Portfolio

The Internal Services provide basic enabling services for EOSC access and operation, such as access control or accounting, and offer common and standard interfaces to shared tools...

WP4



The diagram shows a central brown box labeled "EOSC Interoperability Framework" with two orange lines extending downwards to two dark blue boxes. The left box is titled "Interoperability and Integration guidelines" and the right box is titled "EOSC Portal and Marketplace".

EOSC Interoperability Framework



Interoperability and Integration guidelines

Interoperability and Integration guidelines, defining the high-level architecture for basic EOSC technical functions and promoting EOSC standards and APIs, will facilitate access to services....

WP5/WP10



EOSC Portal and Marketplace

The EOSC Portal and Marketplace - that have developed into joint efforts with EOSC Enhance project - support the service discovery and access in EOSC.

WP5/WP13

EOSC Support Activities



EOSC Digital Innovation Hub (DIH): Platform for Industrial collaborations with EOSC

The EOSC DIH provides a clear interface for commercial innovation that can be supported by EOSC as part of the broader European Digital Innovation Hub landscape (such as free access trials).

WP8



Training courses and material

The training courses and material encompass a large variety of project results. They range all the way from common and federated services for supporting the whole research life cycle...

WP11


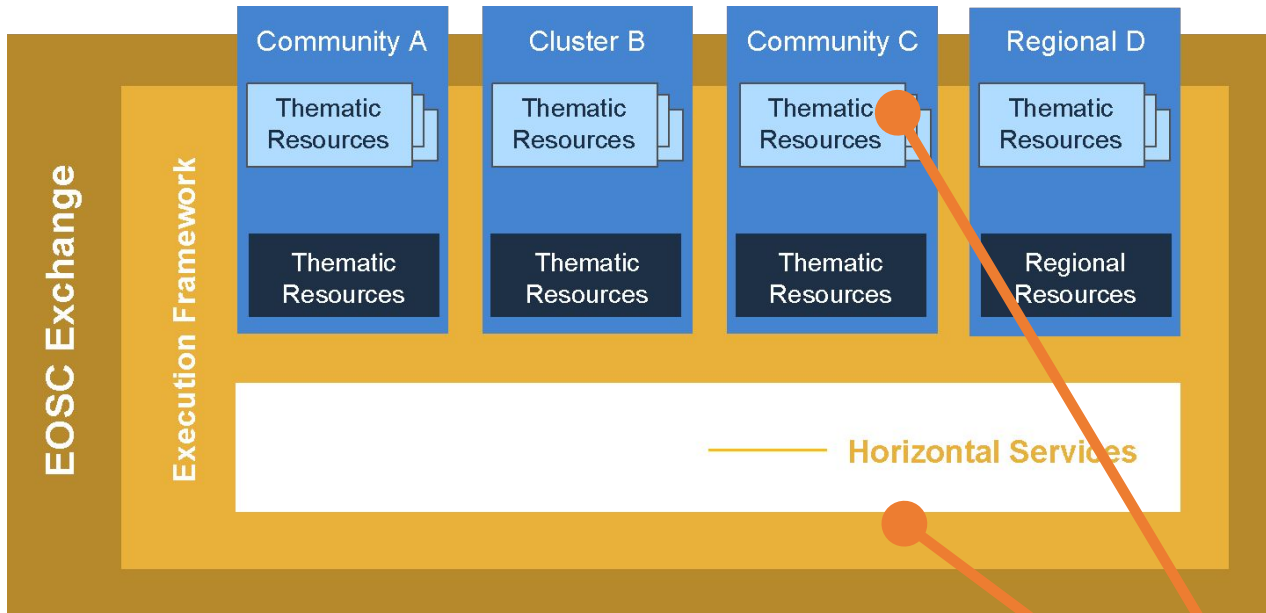
EOSC Support Activities



Business and sustainability models for services and the Hub

Business and Sustainability models are crucial for long-term planning of EOSC. In addition to grounding the discussions about finances, they also provide foundations for ensuring the trust of users and user communities in the continued delivery of services.

WP12



External Services in the EOSC Service Portfolio

EOSC provides a "one-stop-shop" for a range of services and solutions to speed up the research process of the disciplines and enable cross-disciplinary collaboration and reuse of tools and results.



DATA DISCOVERY AND ACCESS

Providing a common data discovery and access layer for EOSC

Off-the-shelf services to support FAIR data

FEDERATED COMPUTE

Provide a multi purpose, federated compute environment

- Cloud Compute
- Container compute
- High Throughput Compute

PROCESSING AND ORCHESTRATION

Provide orchestration services to provision & configure virtual infrastructures across multiple cloud sites, and support deployment onto EOSC compute resources as well as commercial providers (AWS, Azure...)

DATA AND METADATA MANAGEMENT

FAIR data resources with seamless access from EOSC-hub computational resources

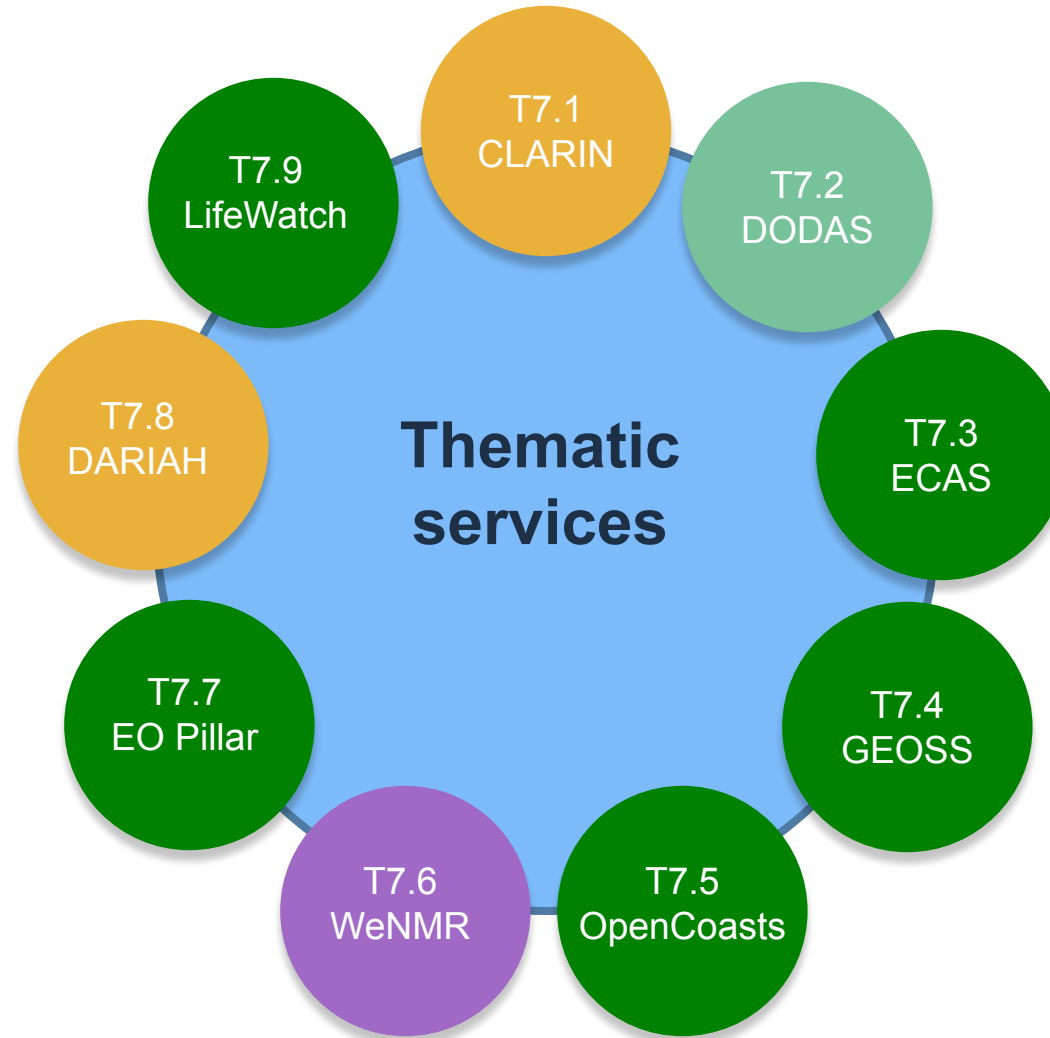
DATA PRESERVATION

Provide a Certified Trusted Digital Repository.
Fully integrated with EOSC FAIR data service

SENSITIVE DATA SERVICES

Off the shelf sensitive data services.
EOSC Integration: Exposing sensitive data services via EOSC FAIR data services.

- Humanities
- Physical science
- Earth sciences
- Biological sciences





Response to PY1 Review recommendations

- A single portal was successfully rolled into production
 - A *content component* (website)
 - A *user component*: the EOSC Portal Catalogue and Marketplace offering a single front-end for discovery and access
 - A *provider component*: a dashboard for service and data providers that provides management features
- Merging of onboarding services and activities – new onboarding joint team
- Single EOSC Provider and Resource Profile 3.0
- Dashboard and statistics
(<https://opsportal.eosc-portal.eu/metricsEOSC/ECReport>)

- EOSC-hub and EOSC Enhance have been collaborating in the context of a joint Collaboration Agreement, also including OpenAIRE Advance, the partnership extended the former EOSC Portal Collaboration with the eInfraCentral project. The joint activity plan was successfully completed.
 - Coordinated software release (EOSC Enhance) and deployment (EOSC-hub)
 - Updated single interoperability profile
 - Merging of onboarding services and activities through a new joint 'onboarding' team
 - Coordinated requirements gathering, promotion and training

More information: KER 1. EOSC Portal & Marketplace/DAY 1



- New EOSC-hub training portal
 - Training materials for the two stakeholder groups are now linked in the EOSC Portal:
 - <https://www.eosc-portal.eu/using-the-portal>
 - <https://www.eosc-portal.eu/using-the-portal/eosc-hub-scientists-and-scientific-communities-training>
 - EOSC portal was technically evolved through the gathering of requirements in the context of webinars and online consultations
- Contribution to the WG on Training and Skill approved by the EOSC Executive Board

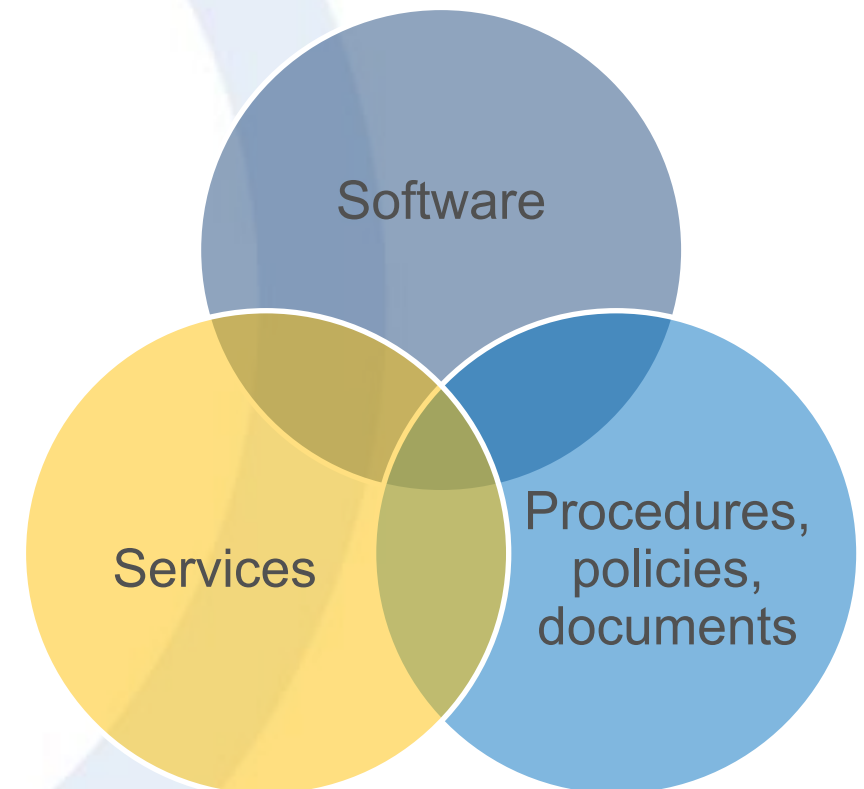
More information: KER 9. Training Courses and Material/DAY2

- Analysis of demand and needs by discipline and region (M3.8 Final Evaluation of EOSC-hub Community and perspective) – Insights shared with EOSC Enhance as well as ESFRI Cluster and EOSC regional projects to coordinate the expansion of the EOSC Portal's user base
- Competence centres for radio-astronomy, atmospheric research and environmental protection completed pilots and registered services in the Portal
- Early adopter programme - Involvement in the demand and the supply sides
- Joint position paper on the EOSC value proposition
- Health and Medical Sciences support COVID-19 research - HADDOC simulation platform promoted and jointly supported with international partners (Open Science Grid/USA) a worldwide success

More information: Community Engagement: The Competence Centres and the EOSC Early Adopter Programme and lightning talks/DAY 2



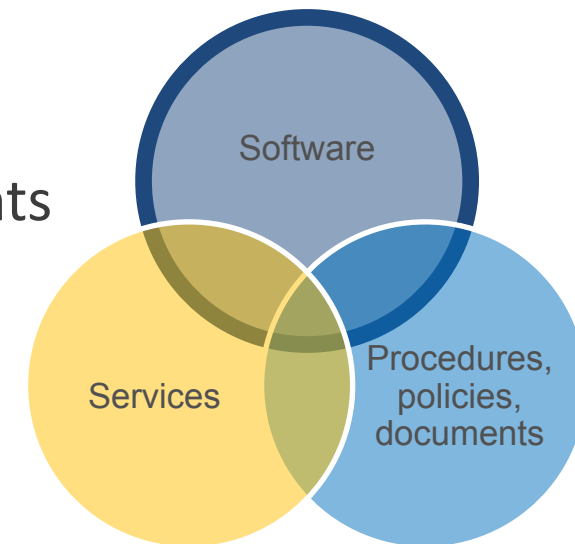
Strategies for the sustainability of project results



- **Adequate software licenses**
 - to maximize exploitation in EOSC and beyond the project lifetime
- **Definition of (joint) intellectual property ownership**
 - for proper attribution of results – critical in case of cross-project results
- **Provisioning of services**
 - Definition of service levels, expectations and obligations through Service Level Agreements
- **Branding**
 - Adoption of EOSC brand for EOSC-specific key exploitable results

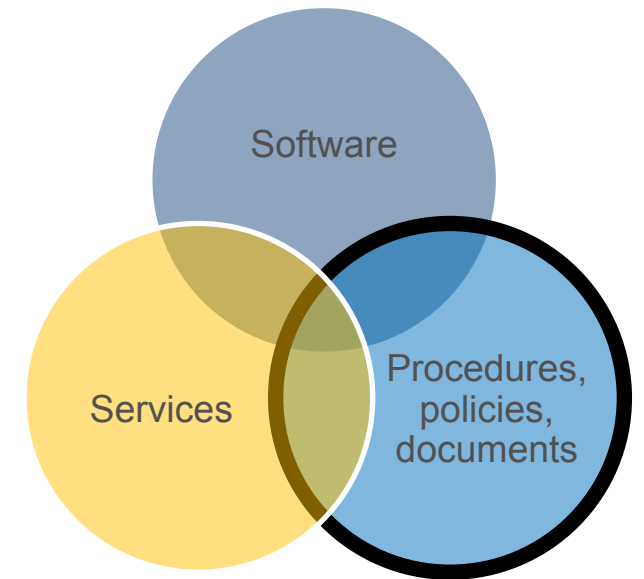


- License
 - Adoption of Open Source Initiative compliant licenses for individual EOSC Portal and Marketplace software components
- Ownership
 - Joint ownership defined involving multiple organizations/projects
- Service Level Agreement
 - Service provisioning by SLA with the EGI Foundation
- Brand
 - Adoption of EOSC logo and visual presence
- EOSC Future / EOSC Enhance will continue software development and service delivery – the service enables the EOSC Exchange

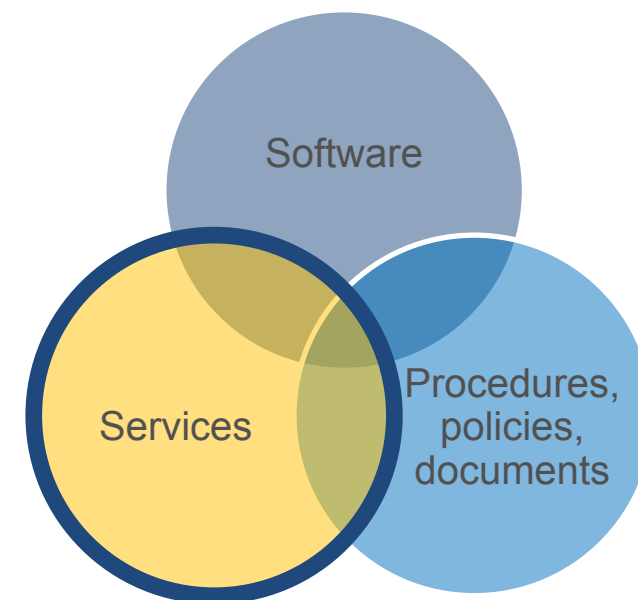


Policies, processes, guidelines: Example: Service Management System

- Lincense
 - *Creative Commons Attribution 4.0 International*
- Intellectual Property
 - IP co-owned by contributors from EOSC-hub
- Brand
 - Expected adoption of EOSC brand by follow-on projects
- Sustained by EOSC Future as component of the EOSC Core



- E-Infrastructures and thematic services continue to be exposed and accessed in the EOSC Portal
 - Each individual provider is in control of the applicable terms of use, access policies and business models
 - Sponsored access further sustained in EC-funded projects such as EGI-ACE, DICE and C-SCALE





Collaborations

Collaboration and Partnerships

- 11 partnerships facilitating cross-project collaboration, 6 during PY2



APRIL — OpenAIRE-Advance: Collaboration Agreement

JULY — GEANT4-2: Collaboration Agreement

2019

AUGUST — OCRE Project: MoU

SEPTEMBER — EOSC-hub / OpenAIRE-Advance / eInfraCentral: EOSC Portal Collaboration Agreement

OCTOBER — Deep Hybrid Data Cloud: Collaboration Partnership

NOVEMBER — CloudSME: Collaboration Partnership

DECEMBER — OpenAIRE: Collaboration for Industry

2020

JULY — FAIRsFAIR: MoU

JULY — FREYA: MoU

SEPTEMBER — EOSC-hub / EOSC Enhance / OpenAIRE Advance: EOSC Portal Collaboration Agreement

- *Policy*

- White paper produced in collaboration of WP2 and OpenAIRE - The paper outlines a common vision for EOSC, service provision, and role in EOSC governance
- Joint position paper 'EOSC – A tool for enabling Open Science in Europe'

- *Training*

- Community of practice group: Informal network of training coordinators and managers composed by over 60 representatives of e- and Research Infrastructures and national training initiatives
- Joint and training activities and workshops

- *Promotion and communications*

- Rich portfolio of jointly organized large events, webinars, promotion materials and communications



Scholarly communication services (sharing, evaluating, monitoring science)

JA1.2.A

OpenAIRE Guidelines: metadata interoperability

JA 1.2.A Promotion/revision of guidelines
JA 1.2.B Adoption of guidelines in EGI/EUDAT services

JA1.2.B

JA1.4.A

AAI

Access to EOSC-Hub and OpenAIRE services via EduGAIN

E-infrastructure (enabling digital services for science)



Data Usage Stats

Participation to RDA Working Group on Make Data Count
EOSC-Hub/OpenAIRE Use cases

JA1.3

Sensitive data

OpenAIRE Amnesia: Integrated solution for sensitive data TSD@University of Oslo

JA1.4.C

Data annotation tools

B2NOTE and OpenAIRE Research Community Dashboard integration

JA1.4.B

Data Management Plans

DMPTool software
OpenAIRE Argos Service

JA1.1

Research infrastructure services
(performing science)

- *FREYA & FAIRsFAIR*
 - Joint webinar programme and workshops resulting in coordinated recommendations to support FAIR data
 - Research data management plans and tools
 - Support to FAIR data
 - Joint final project conference, 800 participants (FREYA)
 - Collaboration for the production of a community paper on the EOSC Federating Core v2.0 (FREYA)
- *OCRE*
 - Collaboration impacted by delays in the OCRE work plan
 - OCRE vouchers promoted in the Early Adopter Programme



- *WG: Training and Skills*
 - Collaboration to joint recommendations
- *WG: Sustainability*
 - EOSC Federating Core v2.0 Briefing Paper
 - Cross-border service procurement Briefing Paper
- *WG: Architecture*
 - AAI, PID
 - Interoperability framework – 18 technical guidelines
- *WG: Rules of Participation*
 - Rules address the key questions from resource providers and catalogue operators



More information: Results, dissemination and impact. Uptake of KERS/DAY 2

**Thank you
for your attention!**

Questions?



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