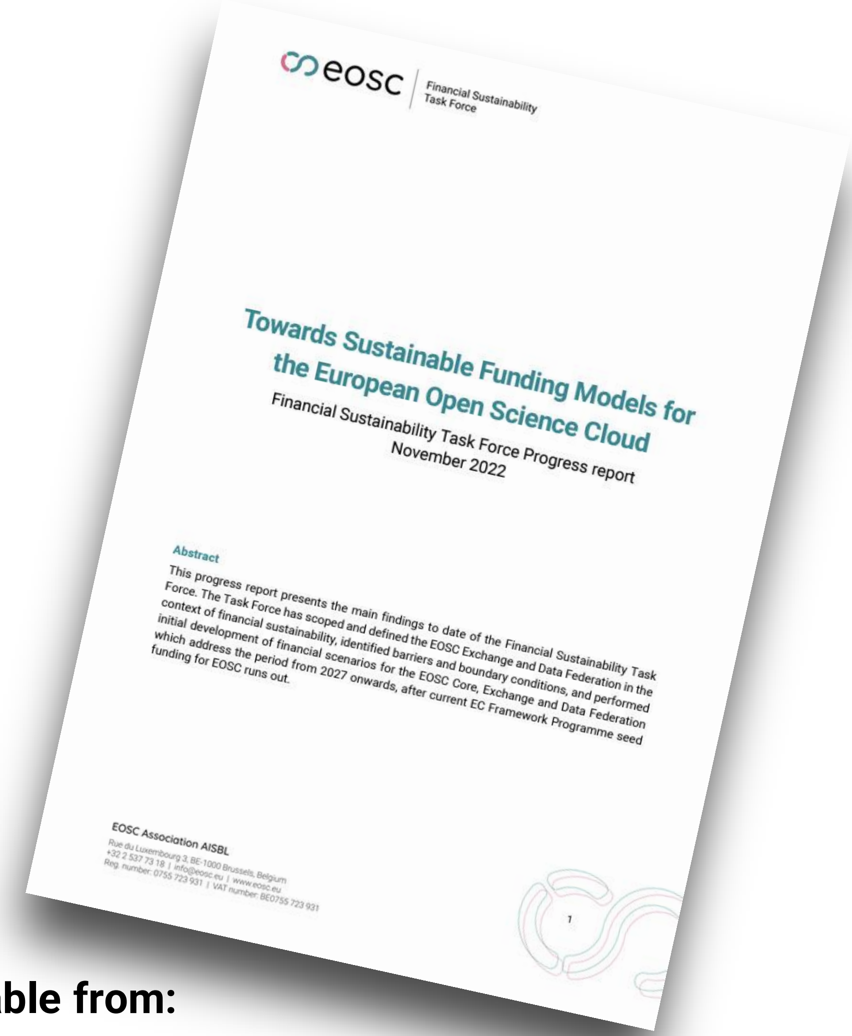
Financial Sustainability Task Force

Financial Sustainability Task Force
Interim progress report

eIRG Workshop, Prague
Monday 12 December 2022

Jan Meijer, Sikt, Norway
Dale Robertson, EGI



Financial Sustainability Task Force

Towards Sustainable Funding Models for the European Open Science Cloud

Financial Sustainability Task Force Progress report

November 2022

Abstract

This progress report presents the main findings to date of the Financial Sustainability Task Force. The Task Force has scoped and defined the EOSC Exchange and Data Federation in the context of financial sustainability, identified barriers and boundary conditions, and performed initial development of financial scenarios for the EOSC Core, Exchange and Data Federation which address the period from 2027 onwards, after current EC Framework Programme seed funding for EOSC runs out.

EOSC Association AISBL

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Now available from:

[www.eosc.eu -> advisory groups -> sustainability -> financial sustainability -> TF outputs (upper right hand)](www.eosc.eu)

https://www.eosc.eu/advisory-groups/financial-sustainability

https://www.eosc.eu/sites/default/files/2022-11/financial-sustainability-tf-progress-report-nov-2022.pdf

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Financial Sustainability
Task Force

TF Financial Sustainability

Advisory Group Sustaining EOSC

Task Force Long-Term Data Preservation

Task Force Financial Sustainability

Chairs

Jan Meijer
SIKT

Dale Robertson
EGI

Board Liaison

Bob Jones
CERN

Members

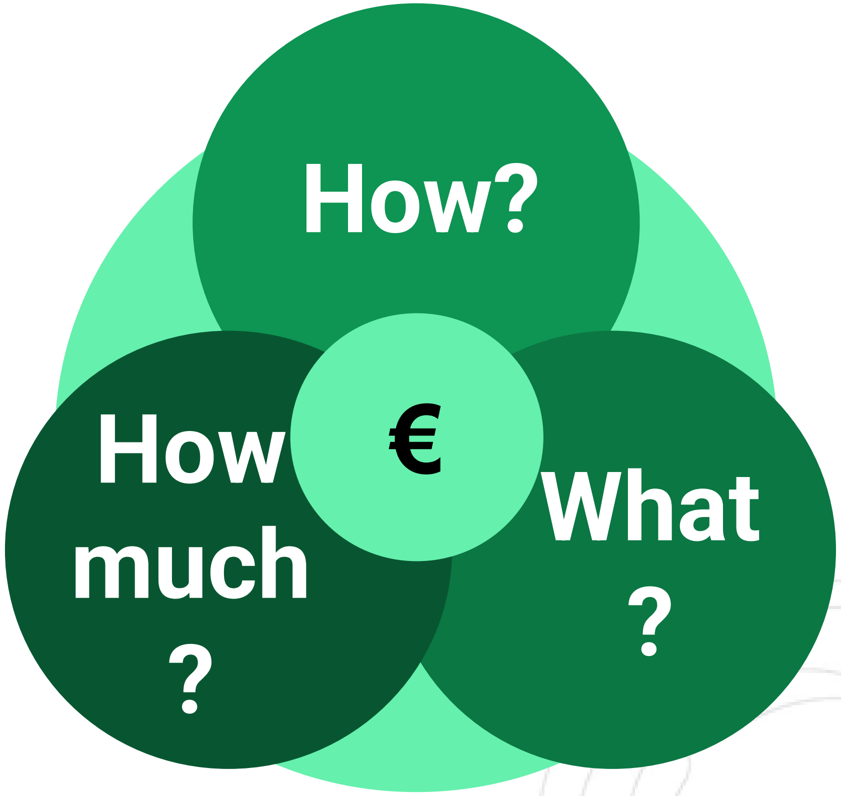
Belso, Rene DeiC	**De Giacomo, Ornela** CERIC-ERIC	**Hacque-Cosson, Françoise** CEA	**Haley, Natalie** Instruct-ERIC
Hrušák, Jan Czech Academy of Sciences	**Ilijasic Versic, Ivana** ELIXIR	**Kaczmirek, Lars** University of Vienna	**Kraker, Peter** Open Knowledge Maps
Kurowski, Krzysztof Poznan Supercomputing and Networking Center	**Kvatadze, Ramaz** GRENA	**Lecarpentier, Damien** EUDAT	**Lueck, Rupert** EMBL
Matyska, Luděk CESNET	**Mergen, Patricia** Meise Botanic Garden	**Muscella, Silvana** Trust-IT Services	**Nordh, Valter** SUNET
Perez, Alberto Red.es	**Proudman, Vanessa** SPARC Europe	**Rey Mazón, Miguel** Graz University of Technology	**Roi, Arnaud** DARIAH ERIC
Szprot, Jakub University of Warsaw	**Klemeier, Jessica** EMBL	**Vilotte, Jean-Pierre** CNRS	

Direction of work

Objective

Proposal for long term (2027+) financial sustainability of main EOSC building blocks:

- EOSC-Core
- EOSC-Exchange
- Federation of Data



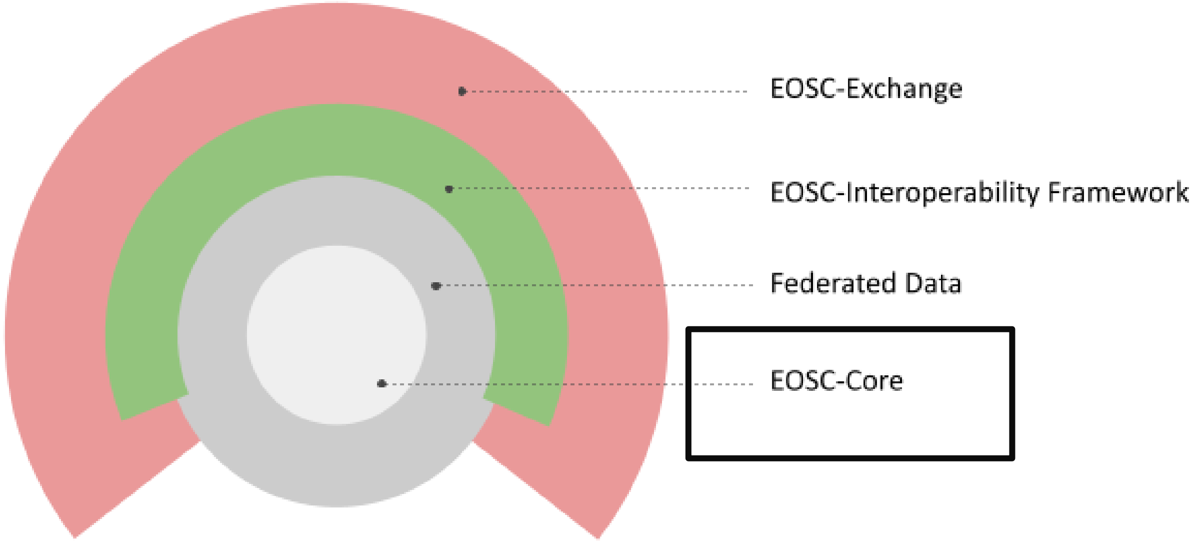
! Interim Report !
reflects current status

TF mandate 2023

- Institutional
- National
- **European**

basis for targeted consultation

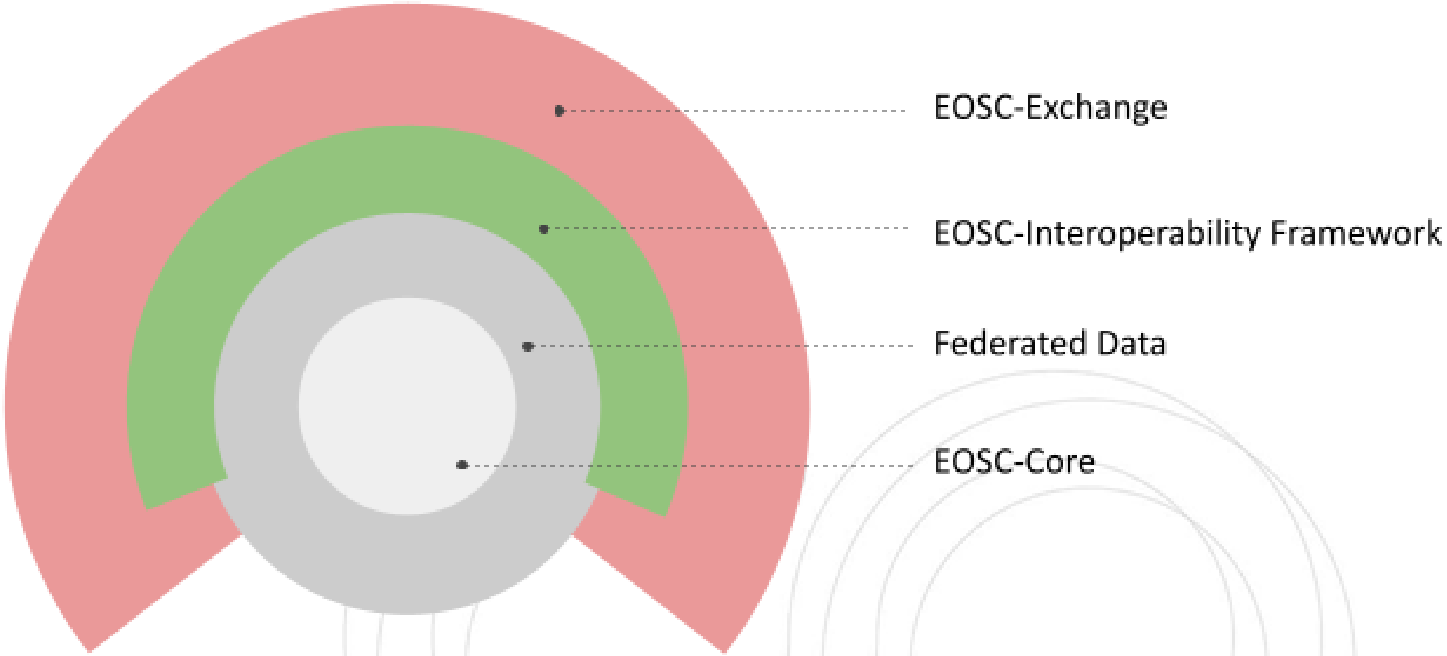
Financial Sustainability - EOSC Core



Layers diagram of EOSC
Source: EOSC Association

Scoping Core in financial context

- EOSC vision: 'Web of FAIR Data and Services' for science in Europe
- Deployment of a trusted, virtual, federation of existing infrastructures in Europe to store, share and reuse FAIR research outputs across borders and scientific disciplines also called the "**EOSC Federation**"
- Core:
  - Technical underlay on which researcher-facing resources can be federated, integrated and used
  - one single element with minimal set of services, without which EOSC cannot exist as operational reality
  - MVE Procurement: < €35 million



no Core, no EOSC

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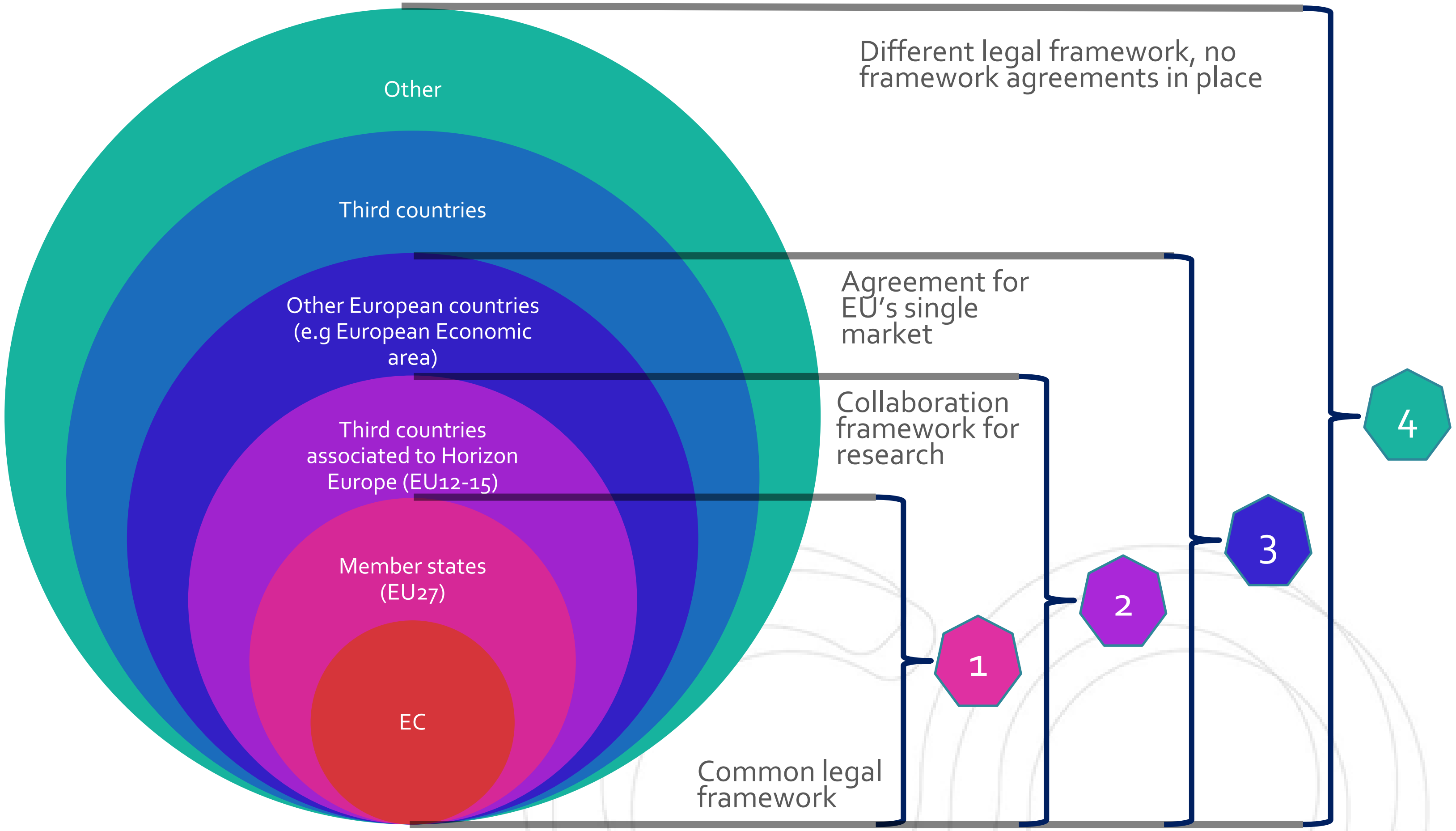
Joint control = joint payment

- **Joint EC+MS responsibility to make EOSC work**
- **Access for all researchers**

- The operational cost of the EOSC Core is to be funded jointly by the EC and Member states for the core to be sustainable (Area 1)
- Associated Countries should be able to contribute financially to the Core (Area 2)
- Financial contributions from third countries and others should be considered as additional sources of revenue (i.e. non-essential for operating the Core) (Areas 3 and 4)
- In-kind contributions may be considered but do not confer the right to be exempted from the financial contribution



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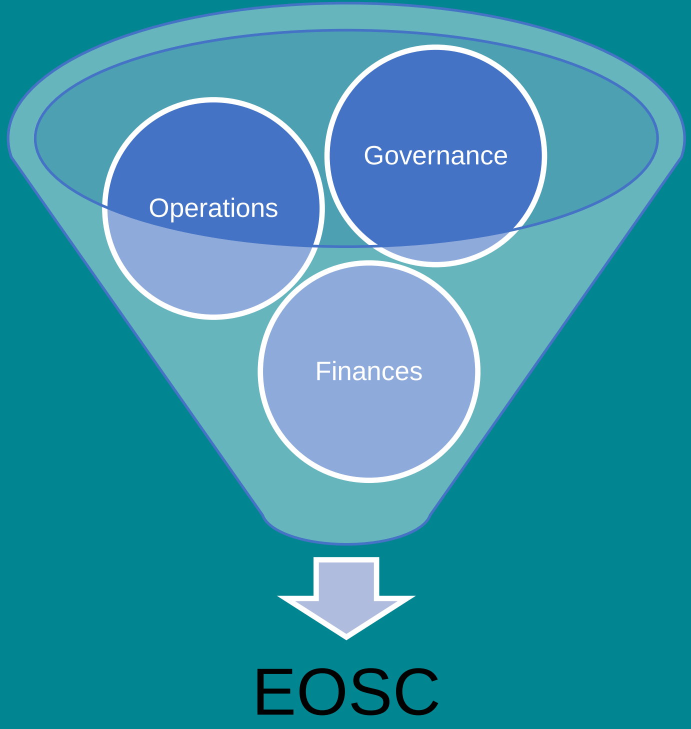
Financing just one part



EOSC Association GA #5

Paper M: Reflection Paper

"EOSC operations and evolution post-2027"

1. Agenda Item:	Item 07: Up-date on the Tripartite Collaboration
2. Meeting:	5th General Assembly
3. Date:	28-29 November 2022
4. Purpose of the Paper:	To inform about the discussions on the future of EOSC (post-2027) in the framework of the Tripartite Collaboration.
5. Context:	Following an informal brainstorming by representatives of the three parties (EC, EOSC-SB, EOSC-A) in Brussels on 04 July 2022, the European Commission together with EOSC-A Board and Secretariat drafted this so-called Reflection Paper that was discussed with the EOSC Steering Board members in the closed session of the Tripartite Event on 14 November 2022.

Questions supporting the strategic discussion by the EOSC tripartite

Q1) What governance do we need for the EOSC federation post-2027?

Q2) What funding sources and tools to cover what EOSC operations/development?

Q3) Do we need to evolve the current partnership in FP10?

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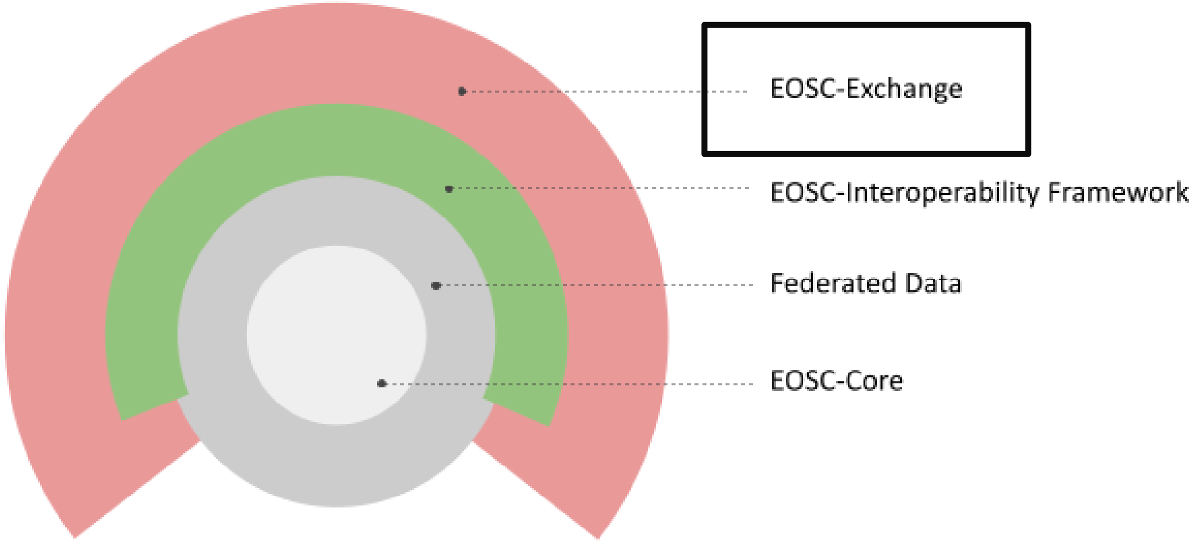
Financial Sustainability - EOSC Exchange



TF FinSust Proposals for the EOSC Exchange

Definition/Scope of EOSC Exchange in context of financial sustainability

- Currently insufficient definition required TF to do further work before diving into the question of potential financial models
- TF's assumption on EOSC Exchange: The Exchange as EOSC's pan-European marketplace for research services
  - Assumption: **Researchers should have freedom of choice to use the services from the Exchange that best fit the researcher's problem**
  - Exchange has to facilitate cross-border service consumption, contribute to better services emerging through competition, and provide a fertile ground for niche services
  - enables the brokering of horizontal and thematic services between providers and researchers

Current situation

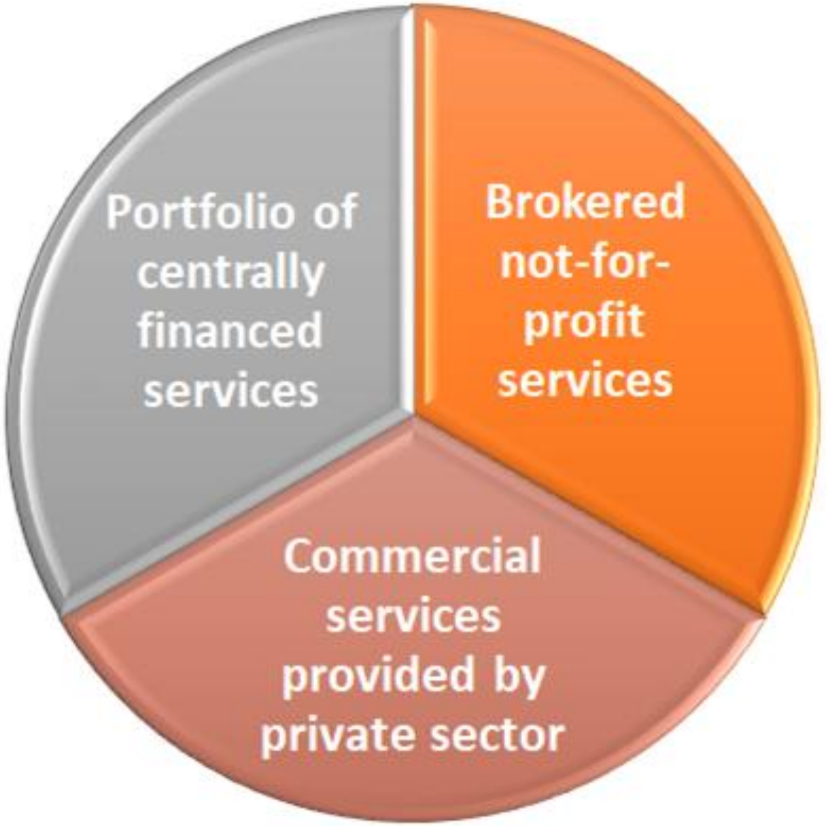
- complex funding landscape
- mismatch of national & European funding
- grant funding hinders sustainability of services
- national providers lack mandate to provide services outside established borders
- political, legal, policy and cultural barriers

Consequences

- Researchers aren't really able to use the services that best fit their challenges, unless those services are available in a national portfolio
- For providers, difficulty to scale up their services beyond the initial pool of users
- Duplication of services, leading to loss of efficiency, additional costs, etc.
- Barriers to engage in cross-border service building are too high

TF FinSust Proposals for the EOSC Exchange

Three types of services



- EOSC Exchange encompasses a very heterogeneous set of services which makes a "one size fits all" funding model an inadequate solution
- no distinction between horizontal and thematic services

Centrally financed services	Financed by EOSC, selective portfolio of essential services (horizontal and thematic)
Access to commercial services	Procurement-compliant access to contracts with research-relevant commercial services
Brokered not-for-profit services	Largest and most dynamic category. Not-for-profit services brokered between the thousands of organisational participants in EOSC

Who is the customer? Long tail vs. "well serviced"?
What is the channel to customer? Direct delivery, via national/institutional providers?

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TF FinSust Proposals for the EOSC Exchange

Boundary conditions

Mandate	No current mandate for national service providers and institutions to provide or purchase community-services outside well-established boundaries – might even face legal restrictions
Political funding choices	Cultural and political incentives effectively restrict national and institutional funding to be used only on national and institutional service production, very few exceptions
Protectionism and cultural change	Changing national service provisioning for research after building it for 30 years will require strong national top-down commitment, e.g. to address protectionist incentives, as well as time
Procurement	Absence of exemption public procurement rules for public sector consumption if brokered through the EOSC Exchange hinders cross-border service provisioning against payment in practice
VAT	In absence of VAT-exemption, clear guidance for providers on how to deal with cross-border VAT + practical facilitation of VAT-payments, should be offered by EOSC, adding value to the Exchange
Transaction support	Open questions remain: Should EOSC Exchange provide full logistical support for transactions? Should a central actor be involved in invoicing all transactions? Should B2C transactions be supported?
Ownership	Future ownership of EOSC Exchange (portal) is closely linked to decisions on the future EOSC legal entity and may have consequences for transactions, invoicing, VAT calculation and other dues and taxes

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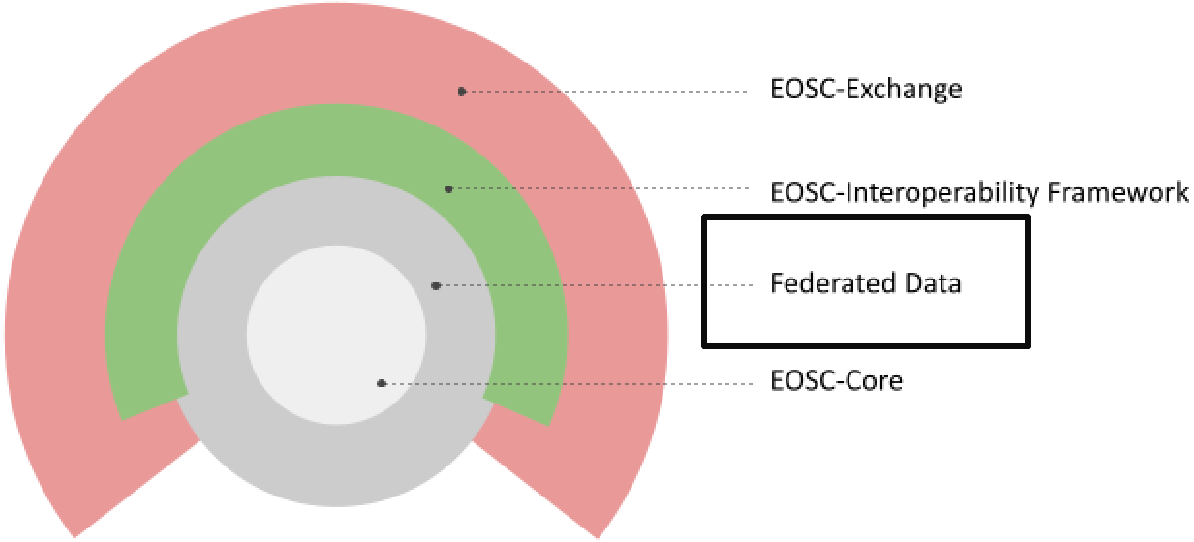
Financial Sustainability - Data Federation



Data Federation in EOSC

Definition & Current situation

- TF's view: EOSC DF must enable researchers to find and acquire data from multiple sources available at any level of aggregation (local/institutional, national, thematic, EU, international) through attribute-based discovery
- Principle of data federation: *[federated architecture]: loosely coupled or decentralised cooperating components, interconnected in a way that allows interoperability and information sharing*

  https://en.wikipedia.org/wiki/Federated_architecture
- SRIA definition of EOSC DF: *EOSC will be primarily a federation of existing data and services where data remain in their current repositories and EOSC provides a means to make those data more broadly discoverable and interoperable* (SRIA)

Problem: Costs associated with federating data, FAIRification or EOSC-compliance frequently not included in research budgets

Lessons learned from use cases

Blue-Cloud
Piloting innovative services for Marine Research & the Blue Economy

cessda

DiSSCo
Distributed System of Scientific Collections

COVID-19 Data Portal

⇒ **Data and services must go together** but have different financial requirements

⇒ **Interoperability** required

⇒ **Rely on existing repositories and (FAIR) federations** and on all levels and make them discoverable

⇒ **Use existing infrastructures** and thematic ecosystems to avoid duplicating efforts

⇒ Connect with **European Common Data Spaces, Gaia-X, Global Open Science Cloud**

⇒ **Establishing EOSC globally** will help encourage funding through increased competitiveness and international visibility

Data Federation in EOSC

Additional Cost Categories

Different architectures give different financial scope

Solution	Main characteristics
Overlay Intermediary software layer in addition to any federation layers existing in a scientific domain or geographical area	Centrally managed and maintained by EOSC Enables data discovery from any provider Ensures data interoperability to the highest degree possible
Metadata catalogue System to track metadata organised into a catalogue	Strong contribution to interoperability
Catalogue of data providers and platforms Compilation of providers, platforms, and how to access them	**Less likely** to achieve interoperability
Natural evolution Default solution in the absence of EOSC	Existing data infrastructures remain as go-to sources Convergence expected to still occur but uncoordinated and slow; involves significant costs

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Wrap-up and Next Steps

Consultation

- Initial evaluation of proposals with selected stakeholder groups
  - Nov-Dec 2022
  - primarily the EOSC Tripartite Governance, EOSC Association mandated organisations and Task Forces, and relevant experts such as those in EOSC projects, ESFRI RIs and clusters, and European e-Infrastructures
- Results analysis (Jan 2023) will inform workplan for remainder of 2023
- Further proposals (scenarios) as per charter (milestone dates may alter)
- Further consultation expected later in 2023 to validate proposals

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Support Requested from EOSC Focus

To be discussed further with EOSC Focus

- Manage consultation exercise with key stakeholders to gather feedback on the proposals in the progress report, including analysis of the responses
- Two pieces of specialist advice relating to the legal entity chosen for the Exchange
  - advice of a tax expert on the EU VAT consequences of the choice, and
  - advice of a lawyer on the public procurement requirements which would apply to the Exchange owner(s) and users
- Specialist analysis and advice on facilitation and remuneration mechanisms for brokered services in the Exchange and whether they will always require a central EOSC entity
- Based on consultation feedback and under the direction of the Task Force, conduct studies to estimate the implementation and operation costs of one or more architecture models for the EOSC Data Federation.