



# Initial Proposals for EOSC Federating Core Definition, Governance and Sustainability

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**Dissemination level:** Public



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

- A **key element of the EOSC architecture and organisational structure**, introduced by the EOSC EC Staff Working Document (March 2018), defining what EOSC provides
  - Has **major implications** for the EOSC federation model, operations, delivery channels, and ultimately, the EOSC sustainability
- EOSC-hub issued a **briefing document** on this topic, and the purpose of this webinar is to discuss with you its **main findings**



- Ask questions and provide input during this webinar
- Participate in an online survey
  - <https://www.eosc-hub.eu/eosc-core-governance-and-sustainability-consultation-questionnaire>
- Feedback sought from the EOSC community and in particular from
  - Research Infrastructure managers
  - E-Infrastructure managers
  - Research communities



- The briefing paper is an **initial proposal** and includes a number of recommendations
- We aim at evolving concepts and proposals with EOSC community input
- Next step
  - A **community position paper** on the Federating Core capabilities, policies and activities, with participation from EOSC projects and stakeholders
    - ➔ Input to the Sustainability and Architecture EOSC working groups





## Agenda

Federating Core Proposed Definition

Federating Core Elements

EOSC Service Portfolio

Governance and Sustainability

Summary of Proposals

Consultation and Next Steps



## Federating Core Proposed Definition

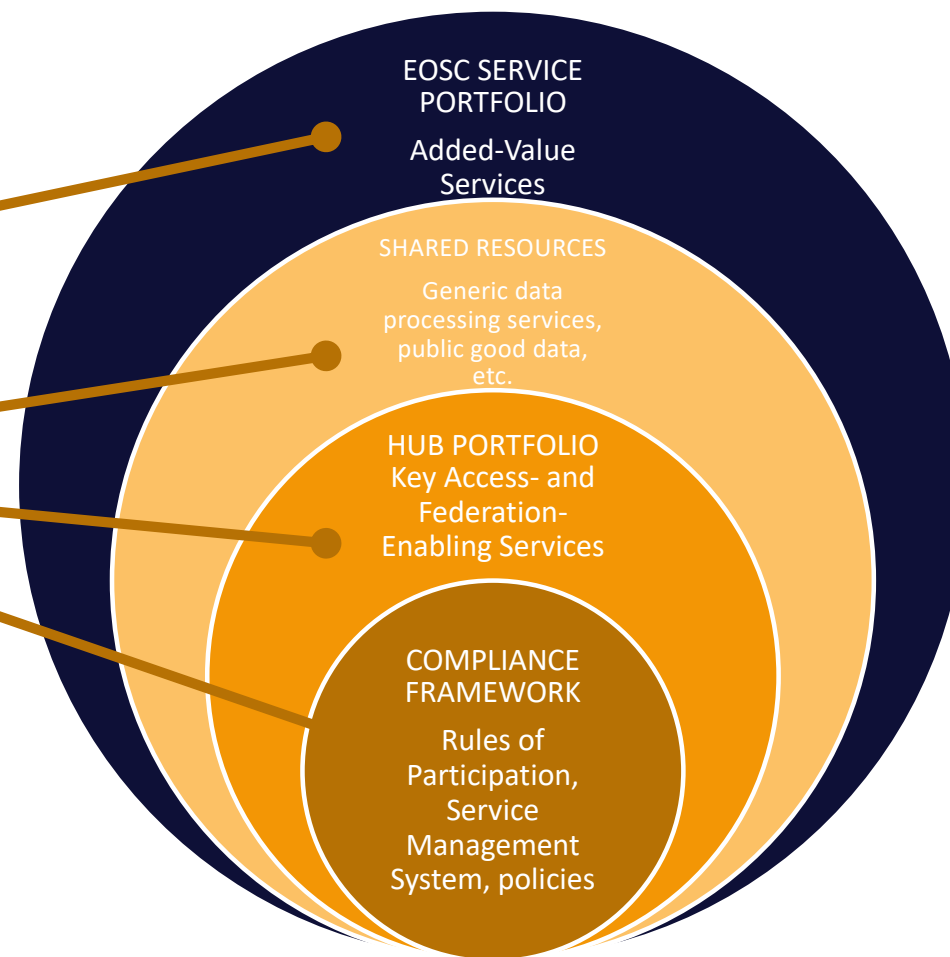
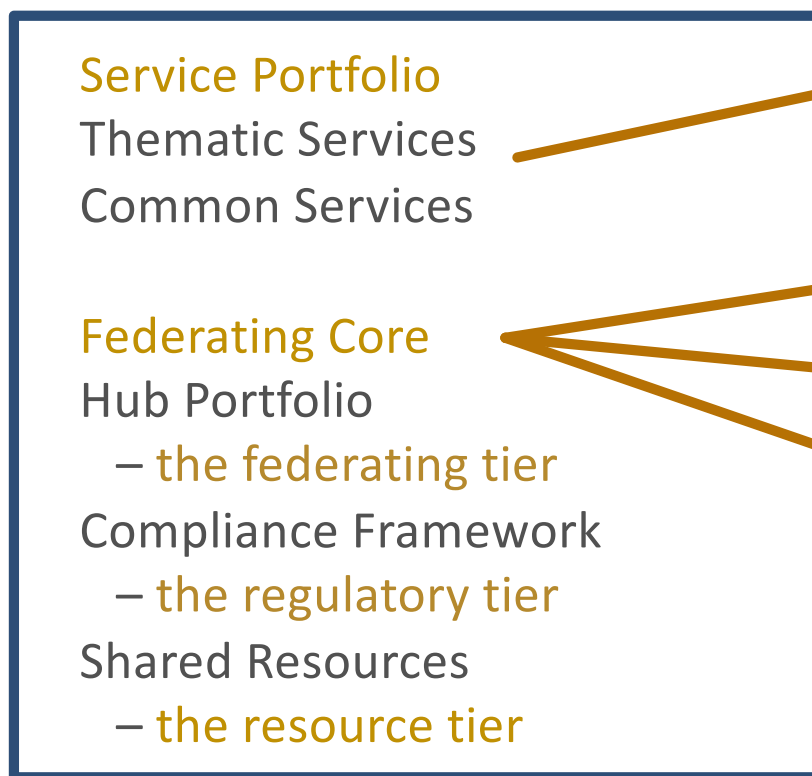
- Proposals based on analysis of
  - Use cases from research communities of EOSC-hub and EOSCpilot scientific demonstrators
  - EC EOSC Implementation Roadmap, March 2018
  - EC EOSC Strategic Implementation Roadmap, May 2018
  - Recommendations from EOSCpilot and the HLEG II final report

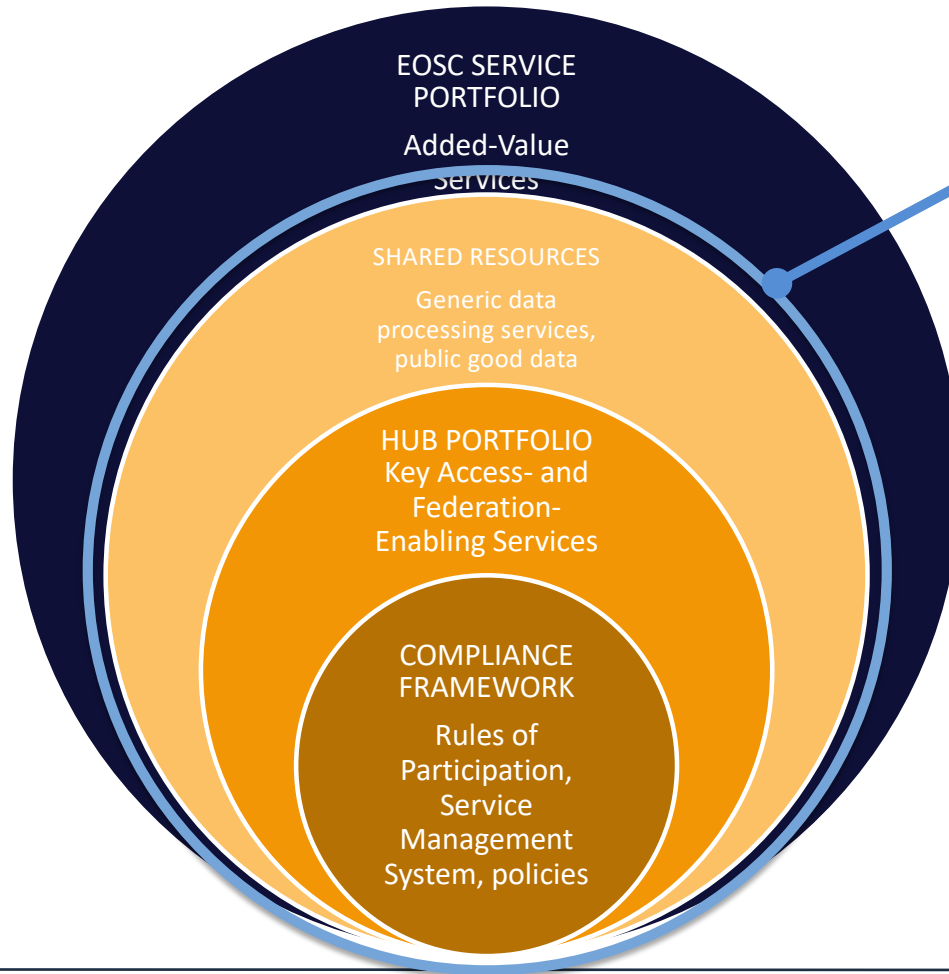




- EC EOSC Implementation Roadmap SWD(2018)83 final (p 9-10)
  - *“...the EOSC would essentially comprise a federating core and a variety of federated research data infrastructures committed to providing services as part of the EOSC”*
- EC EOSC Strategic Implementation Roadmap 2018-2020 (p39)
  - *“Organise and operationalise the components of the EOSC federating core (e.g. EOSC shared resources, EOSC platform, compliance framework), to facilitate, monitor and regulate as appropriate day-to-day transactions across the federation”*
- Federating Core:
  - Shared Resources
  - Platform
  - Compliance Framework
- Platform -> **Hub Portfolio**

Two broad categories of resources:





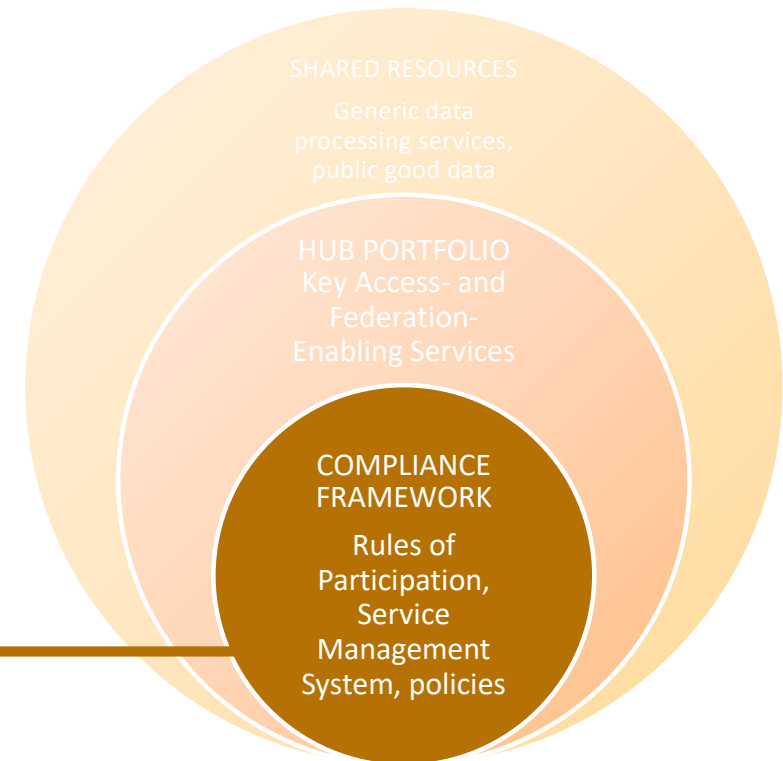
- Fundamental asset proposed to the EOSC
- Elements required to allow the research-targeted services to operate
- Technical, human, policy and resource elements
- Must be maintained over the long term



## Federating Core Elements

### Regulatory Tier

- Defines the policies and processes for the demand side and supply side to engage with EOSC
- Includes the Rules of Participation, the Service Management System, Interoperability Guidelines for thematic and common services, and related policies





Credits: the Radio Astronomy Competence Centre

<https://www.eosc-hub.eu/research-communities/radio-astronomy-competence-center>

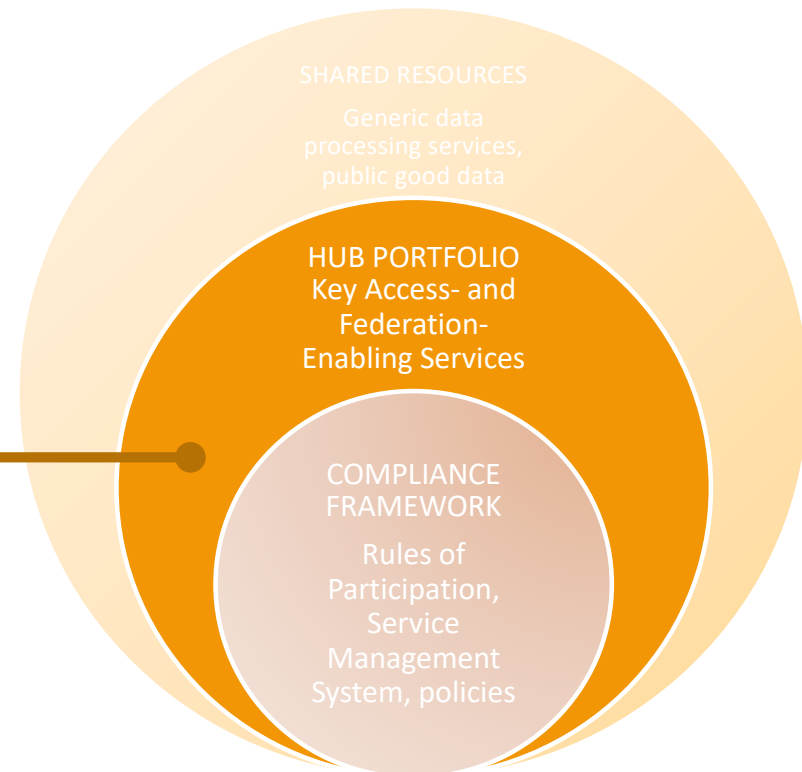
- As a radio-astronomer, the scientist wants to **enter science-grade data products in a science data repository** that supports the FAIR principles to ensure long-term data preservation and attribution of effort.
- This will further improve sharing of data with colleagues and access to data from other science domains.

*“Rules of Participation is a key element of the Compliance framework. It includes FAIR conformance guidelines. It sets out the policies to be adhered to in order to provide thematic or common services through the EOSC Service Portfolio.”*



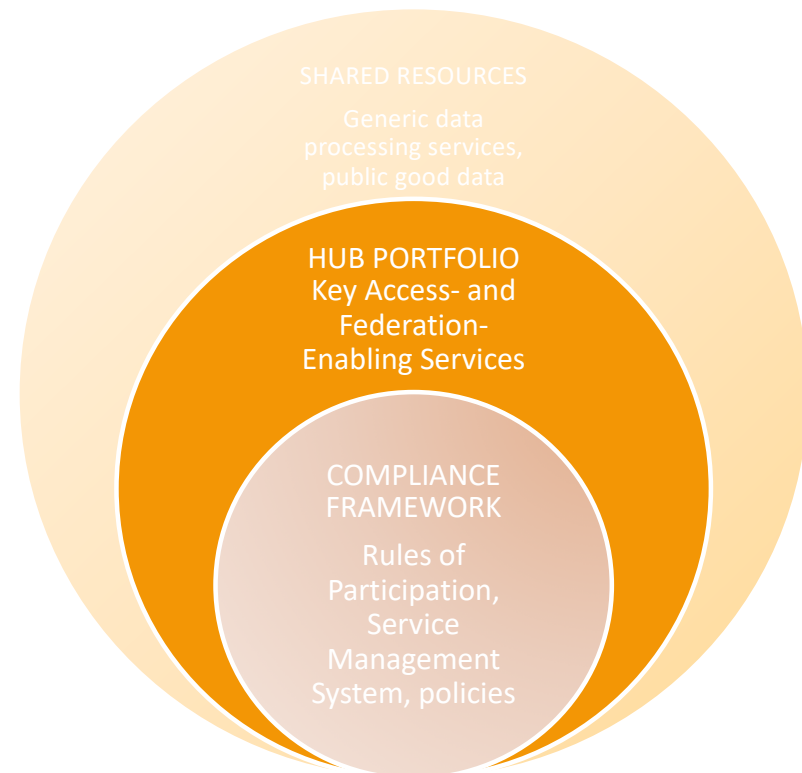
### **Federating Tier** (aka EOSC Platform in some EC documents)

- Activities and tools (technical and human) required to provide coordinated access to and management of resources provided by multiple suppliers (internal and external to the EOSC)



### Examples of Hub Service Portfolio components (to be further expanded)

- EOSC Portal
- Helpdesk
- Support Services
- AAI
- Monitoring
- Accounting
- CMDB
- Collaboration software
- Operations portal



Credits: the EPOS-ORFEUS Competence Centre, EOSC-hub project

<https://www.eosc-hub.eu/research-communities/epos-orfeus-competence-center>

The EOSC AAI enables **seamless access to research data and services** in EOSC in a secure and user-friendly way.

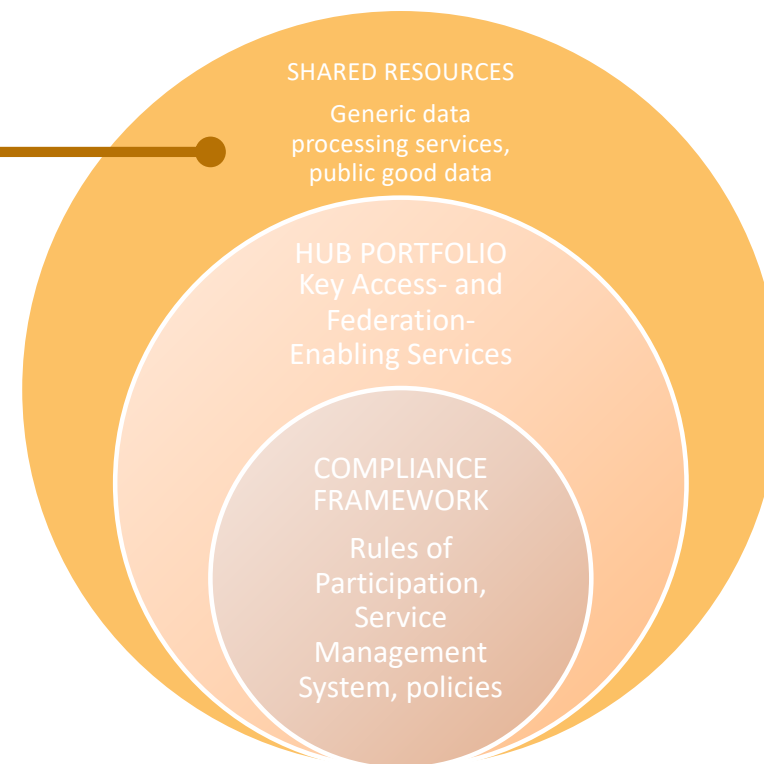
It provides **interoperability across different SP-IdP-Proxy services**, each of which acts as a **bridge** between the community-managed proxies (termed **Community AAs**) managing the researchers' identity and the generic services offered by Research Infrastructures and e-Infrastructures (termed **R/e-Infrastructures or Infrastructures**).

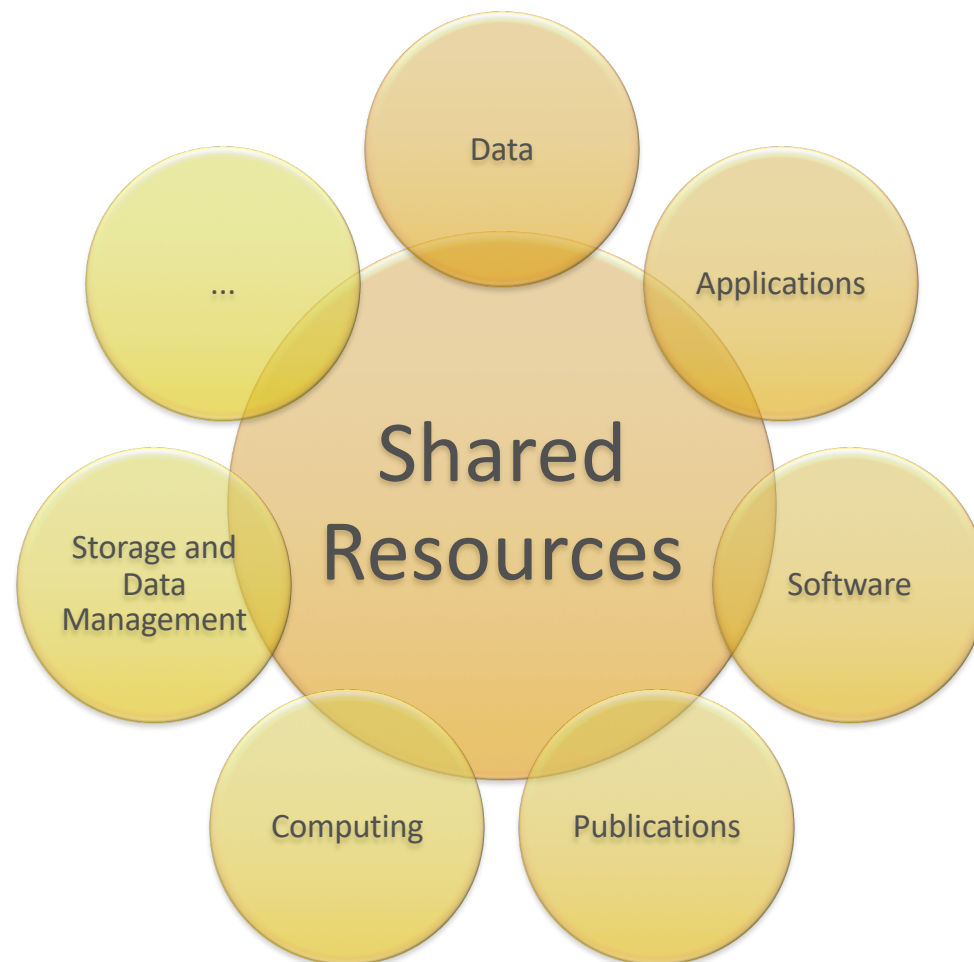
- EPOS use of federated AAI (EOSC-hub EPOS-ORFEUS competence centre)
  - ORFEUS coordinates the seismological waveform services in European Plate Observing System (EPOS).
  - EIDA federates eleven European seismological data centres into a common framework to offer long-term preservation of seismological data and tools to access data and advanced seismological services and products



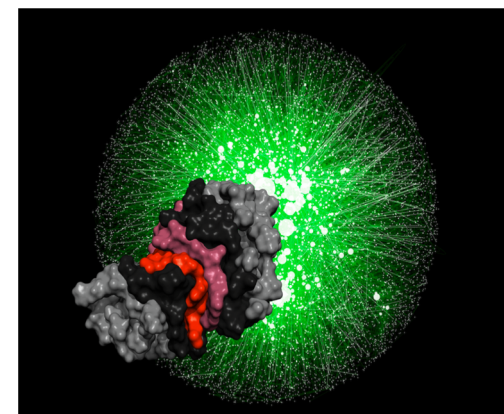
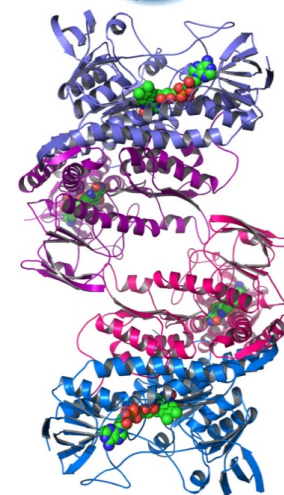
### Resource Tier

- Includes the scientific outputs (data, applications, software, pipelines etc) and the storage and compute hosting platforms needed to deposit, share and process these outputs
  - Precise makeup remains to be defined





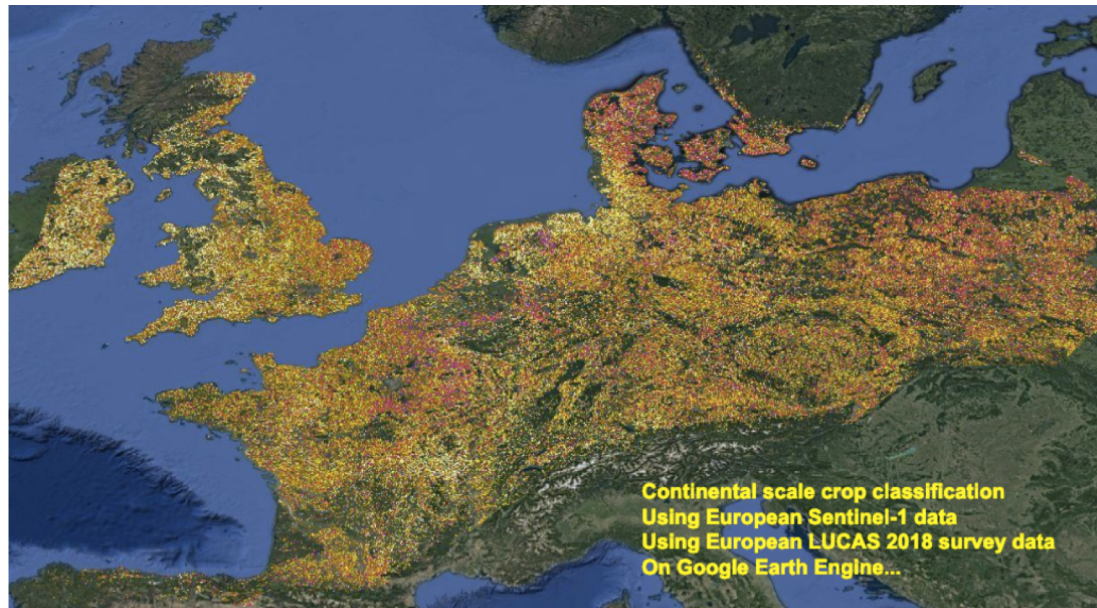
- The structural biology community needs user-friendly tools for its users, hiding the complexity of computing resources and to ensure sufficient resources to operate them.
- WeNMR offers open access to a suit of molecular simulation applications
- Maintaining the quality of WeNMR services and support, together with continuously adapting and improving is key
- WeNMR has a long history of using high throughput computing resources under EGI.
- Access open to > 13,000 users worldwide





Credits:

The European Open Science Cloud for Earth Observation Science Community, G. Lemoine, JRC

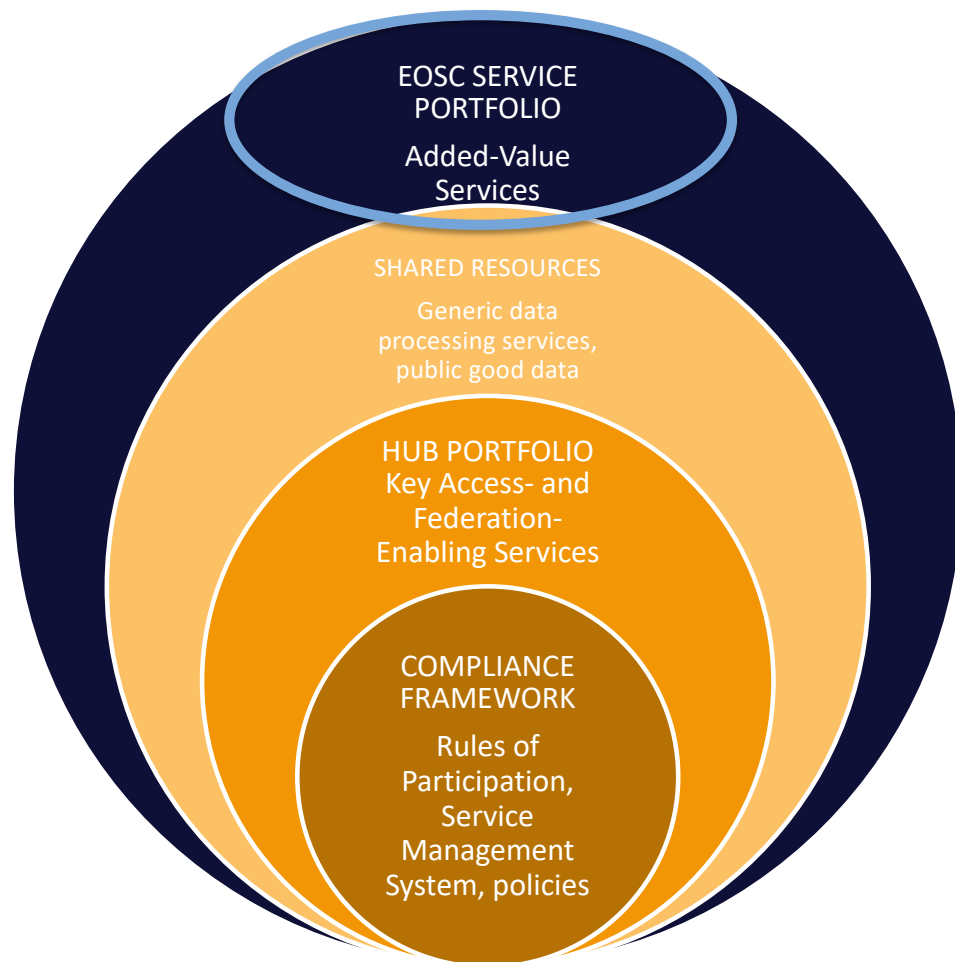


- An obvious “Big Data Analytics” domain, but poorly served by European capacity
- BDA (much) better served by AWS and Google Earth Engine.
- European solutions tends to be fragmented, across thematic use, national audiences, user sectors.
- No concerted science community support.
- European solutions are not state-of-the-art, don't scale well, are not user friendly. Europe does not have a consolidated plan to maintain the full data archive!





## **EOSC Service Portfolio**



### EOSC Service Portfolio

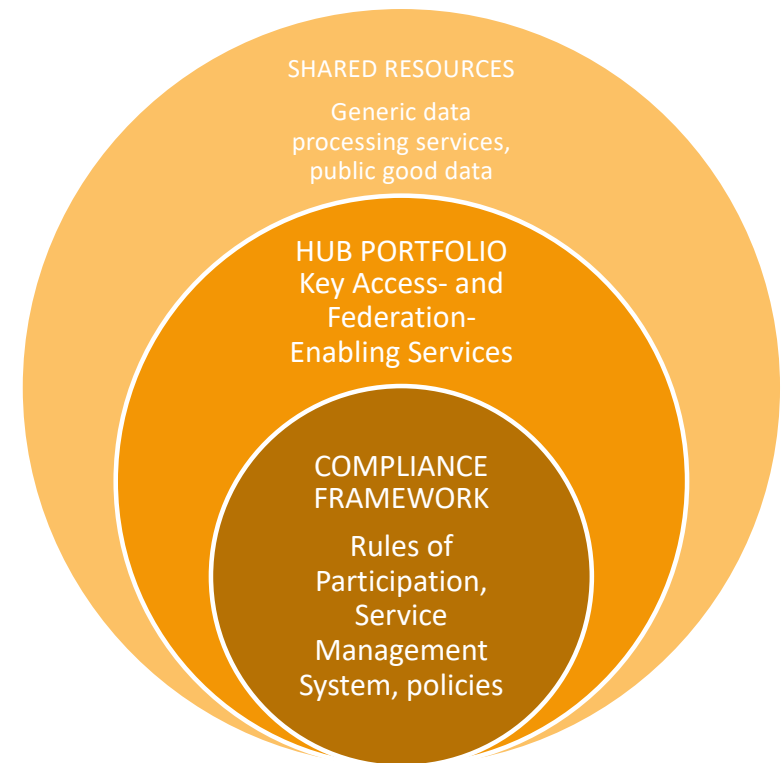
- Added-value resources (**thematic and common**) making use of the EOSC Federating Core and providing complementary capabilities to EOSC users

- Compute
- Data management
- Networking
- Processing & Analysis
- Security & Operations
- Sharing & Discovery
- Storage
- Training & Support



## **Governance and Sustainability**

- The entire Federating Core should be governed by the EOSC
- Funding should sustain the costs of federating existing digital infrastructures
- Funding from member states, EC, international research organisations etc

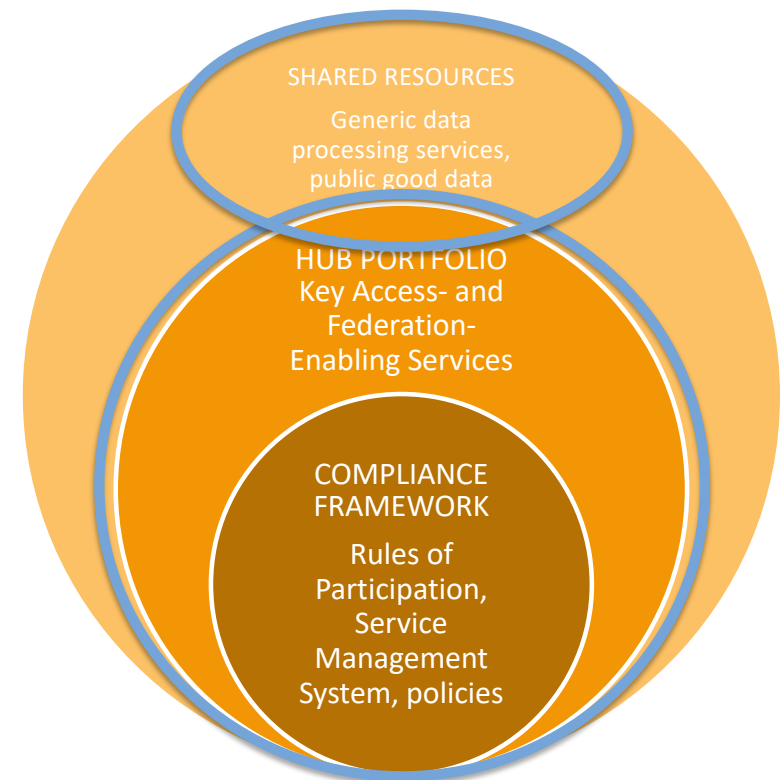


- **Minimum Viable Ecosystem**

- Hub Portfolio, Compliance Framework
- Wide Access mode

- **Shared Resources**

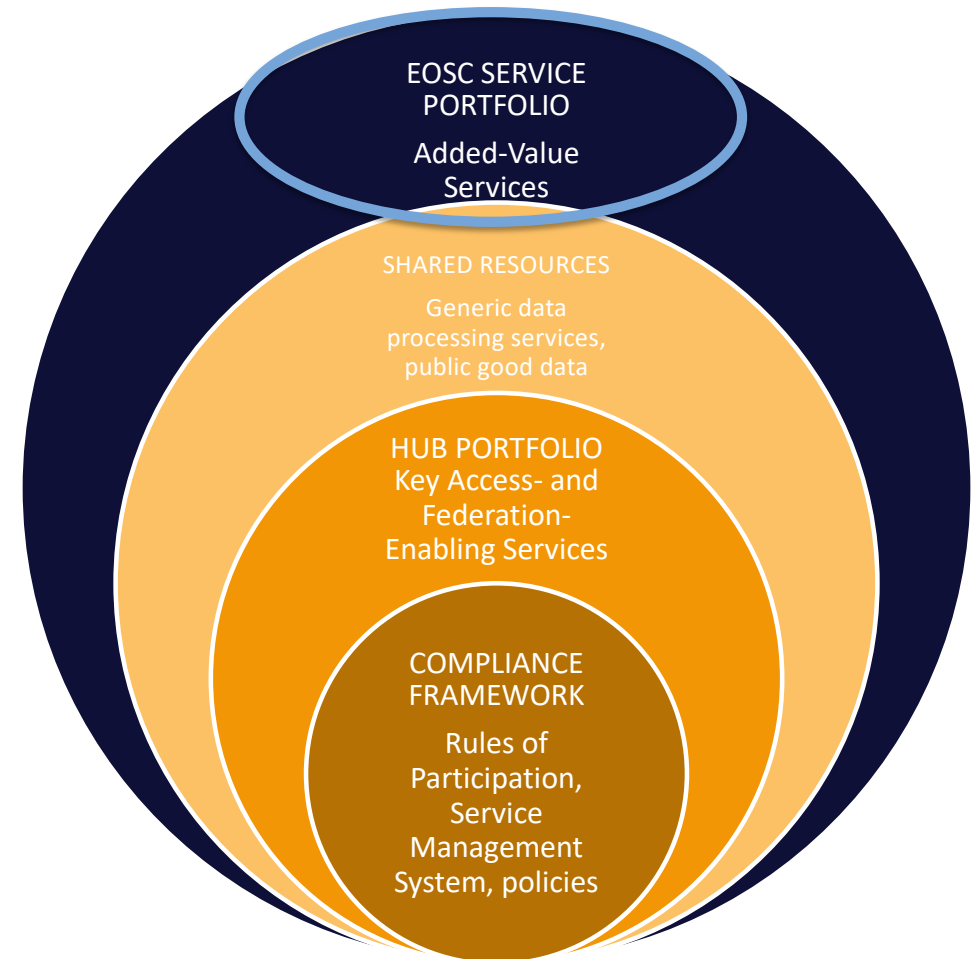
- Excellence-driven and wide-access modes
- Market-driven access for paying customers
  - e.g. research projects, commercial users





## Service Portfolio Governance

- Services independently owned by their respective providers
- Discoverable and accessible through the EOSC portal
- With specific business model and independent delivery channels





## Summary of Proposals

Two broad categories of **EOSC resources**:

### Federating Core

- Hub Portfolio
- Compliance Framework
- Shared Resources

### Service Portfolio

- Thematic Services
- Common Services



### Hub Portfolio (Federating Tier)

- Activities and tools (technical and human) required to provide coordinated access to and management of resources provided by multiple suppliers (internal and external to the EOSC)

### Compliance Framework (Regulatory Tier)

- Defines the policies and processes for the demand side and supply side to engage with EOSC
- Includes Rules of Participation, Service Management System, Interoperability Guidelines for thematic and common services, and related policies

### Shared Resources (Resource Tier)

- Includes the scientific outputs (data, applications, software, pipelines etc) and the storage and compute hosting platforms needed to deposit, share and process these outputs
- Precise makeup remains to be defined

- Added-value resources (thematic and common) making use of the EOSC Federating Core and providing complementary capabilities to EOSC users
  - **Thematic Services**
    - Community-specific capabilities including research core data, data products, scientific software, and pipelines
  - **Common Services (“Horizontal” catalogue)**
    - Provide generic capabilities usable by any science discipline
    - Supporting aspects of the data lifecycle from creation to processing, analysis, preservation, access and reuse

### Federating Core

- The entire Federating Core should be governed by the EOSC
- Funding should sustain the costs of federating existing digital infrastructures
- Funding from member states, EC, international research organisations etc

### Service Portfolio

- Services independently owned by their respective providers
- Discoverable and accessible through the EOSC portal



## Consultation and Next Steps

- Consultation on proposals: please contribute! **Deadline: 25 August**
  - <https://www.eosc-hub.eu/eosc-core-governance-and-sustainability-consultation-questionnaire>
  - These proposals are initial input to assist with the ongoing implementation of the EOSC
  - Evolution of concepts and proposals, in collaboration with other EOSC implementation projects
- Next steps
  - Community activity to discuss and evolve the Federating Core concept
  - > **Community position paper** mapping Federating Core capabilities to activities and services from the EOSC community
  - to contribute, contact [dale.robertson@jisc.ac.uk](mailto:dale.robertson@jisc.ac.uk)

**Thank you  
for your attention!**

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*Questions?*



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