

GÉANT and its role in enabling FAIR data in the framework of EOSC

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Key GÉANT services



Network

Europe's essential terabit network for research and education interconnects Europe's NRENs and links them to over 100 countries in every region of the world.



Security

From mitigating DDoS attacks to providing secure VPN services to users, security is vital for research and education.



Community

The GÉANT Community Programme facilitates collaboration and knowledge sharing between NRENs, user organisations, R&E institutions, and the commercial sector.



Trust & Identity

Together with NRENs and other partners, GÉANT develops and delivers solutions for trusted digital identities to provide secure access to online resources and services.



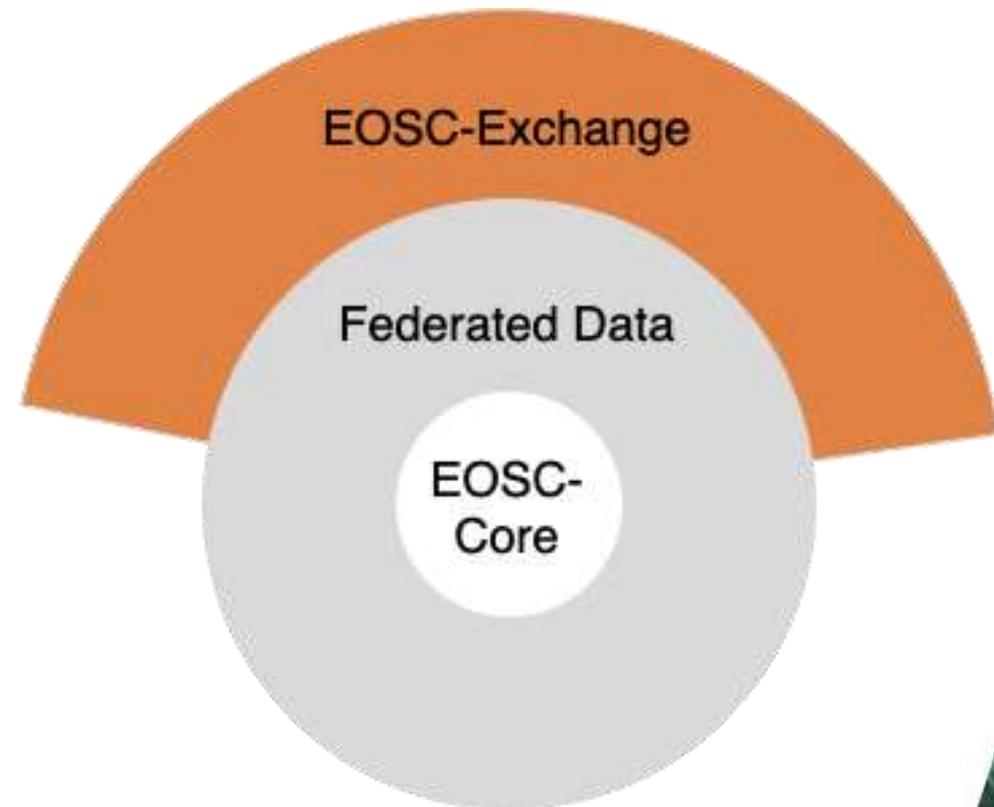
Clouds

GÉANT works with NRENs and commercial providers to provide scalable and relevant services to the higher education community supporting the unique needs of R&E.

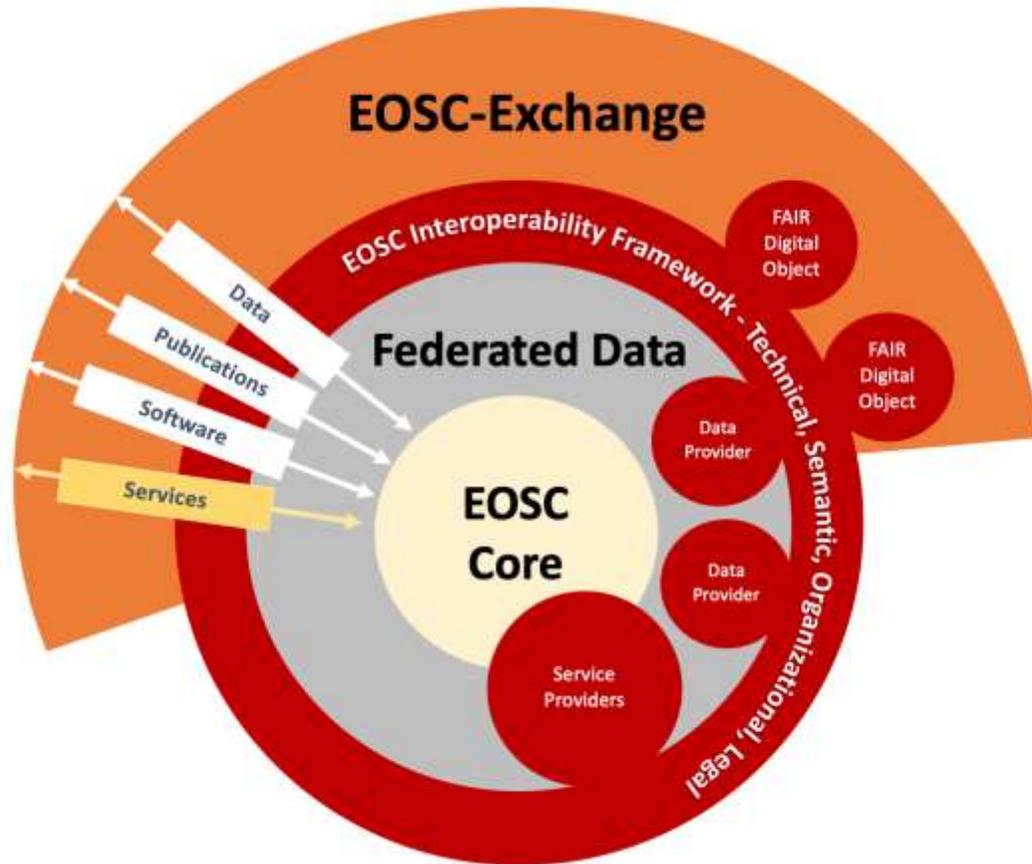
EOSC vision

- A web of FAIR data and services
- Federation of eInfra and Research Infrastructures (RIs) across Europe
- Environment in which data can be brought together with services to perform analyses and address societal challenges

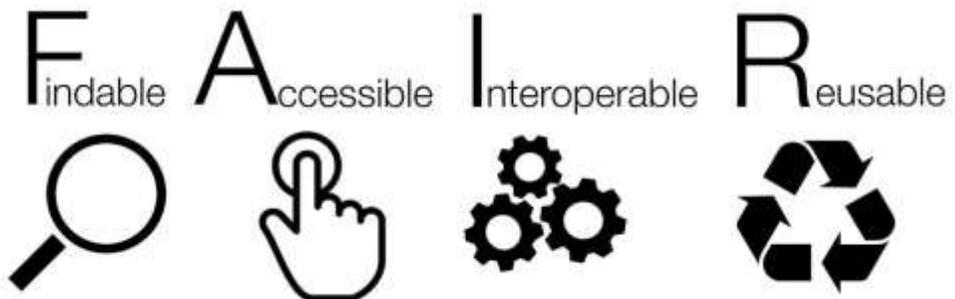
<https://eosc.eu>



FAIR is central to principles in EOSC



- Is the glue that connects data & services
- Requirement for FAIR to support reuse
- Use community standards
- Share all types of output (openly)



FAIR principles in detail

Findable

- F1. (meta)data are assigned a globally unique and eternally persistent identifier.
- F2. data are described with rich metadata.
- F3. (meta)data are registered or indexed in a searchable resource.
- F4. metadata specify the data identifier.

Interoperable

- I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (meta)data use vocabularies that follow FAIR principles.
- I3. (meta)data include qualified references to other (meta)data.

doi: [10.1038/sdata.2016.18](https://doi.org/10.1038/sdata.2016.18)

Accessible

- A1 (meta)data are retrievable by their identifier using a standardized communications protocol.
 - A1.1 the protocol is open, free, and universally implementable.
 - A1.2 the protocol allows for an authentication and authorization procedure, where necessary.
- A2 metadata are accessible, even when the data are no longer available.

Reusable

- R1. meta(data) have a plurality of accurate and relevant attributes.
 - R1.1. (meta)data are released with a clear and accessible data usage license.
 - R1.2. (meta)data are associated with their provenance.
 - R1.3. (meta)data meet domain-relevant community standards.

GÉANT work primarily about delivering trusted access

- Operating a secure and scalable network to transfer data
- Using standard protocols to enable access e.g. http
- Running Authentication and Authorisation Infrastructure so access can be controlled and restricted



EOSC authentication for research communities

Also collaborating with research clusters to enable login. They have compatible AAI, which are being brought under an EOSC AAI Federation



EOSC Interoperability Framework

- Set of guidelines that promote standard and community best practices within the EOSC
- A governance process to manage EOSC promoted guidelines
- A registry to list the guidelines and who supports them





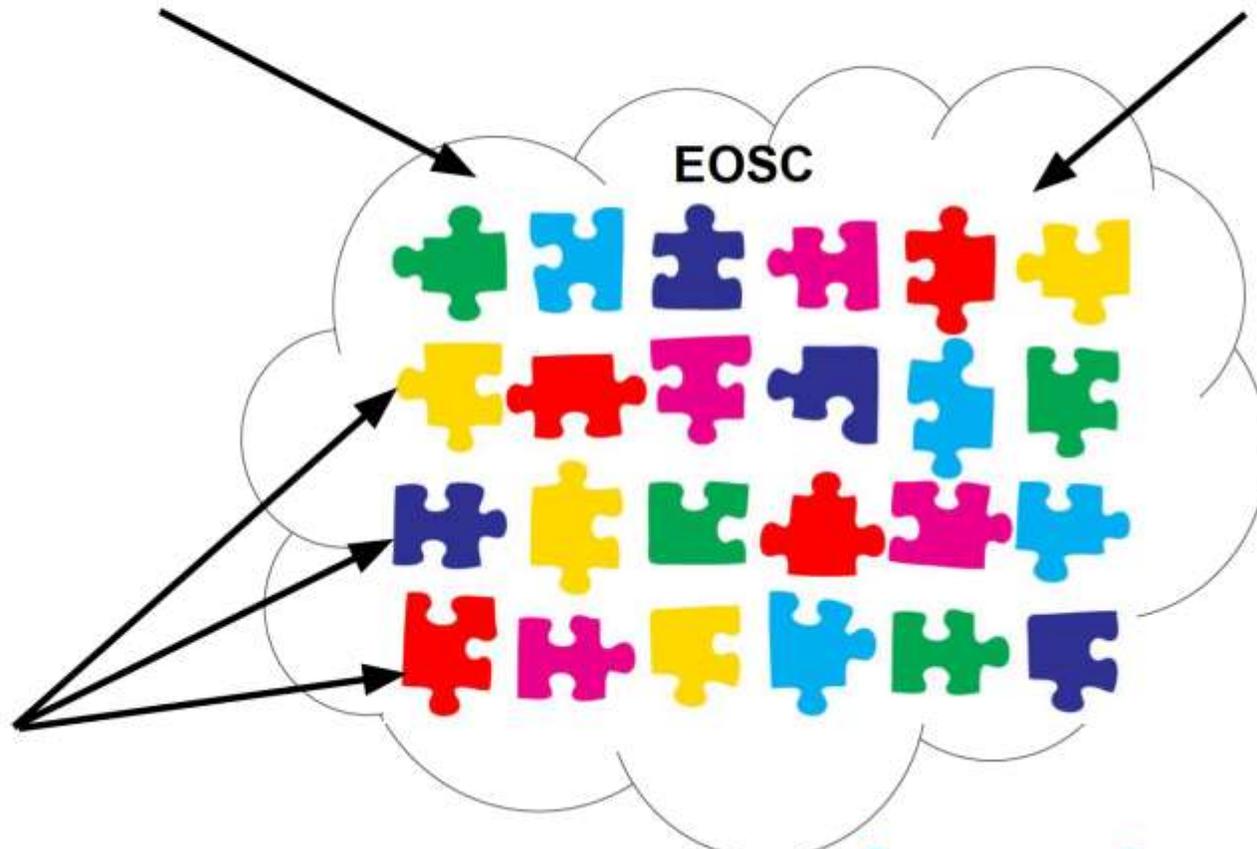
Fostering Interoperability with the EOSC IF

EOSC Resources
(services, datasets, sw, etc.)

EOSC Stakeholders
(providers, communities, researchers, etc.)

A multitude of
different interfaces

No description of
supported
interfaces for
EOSC Resource

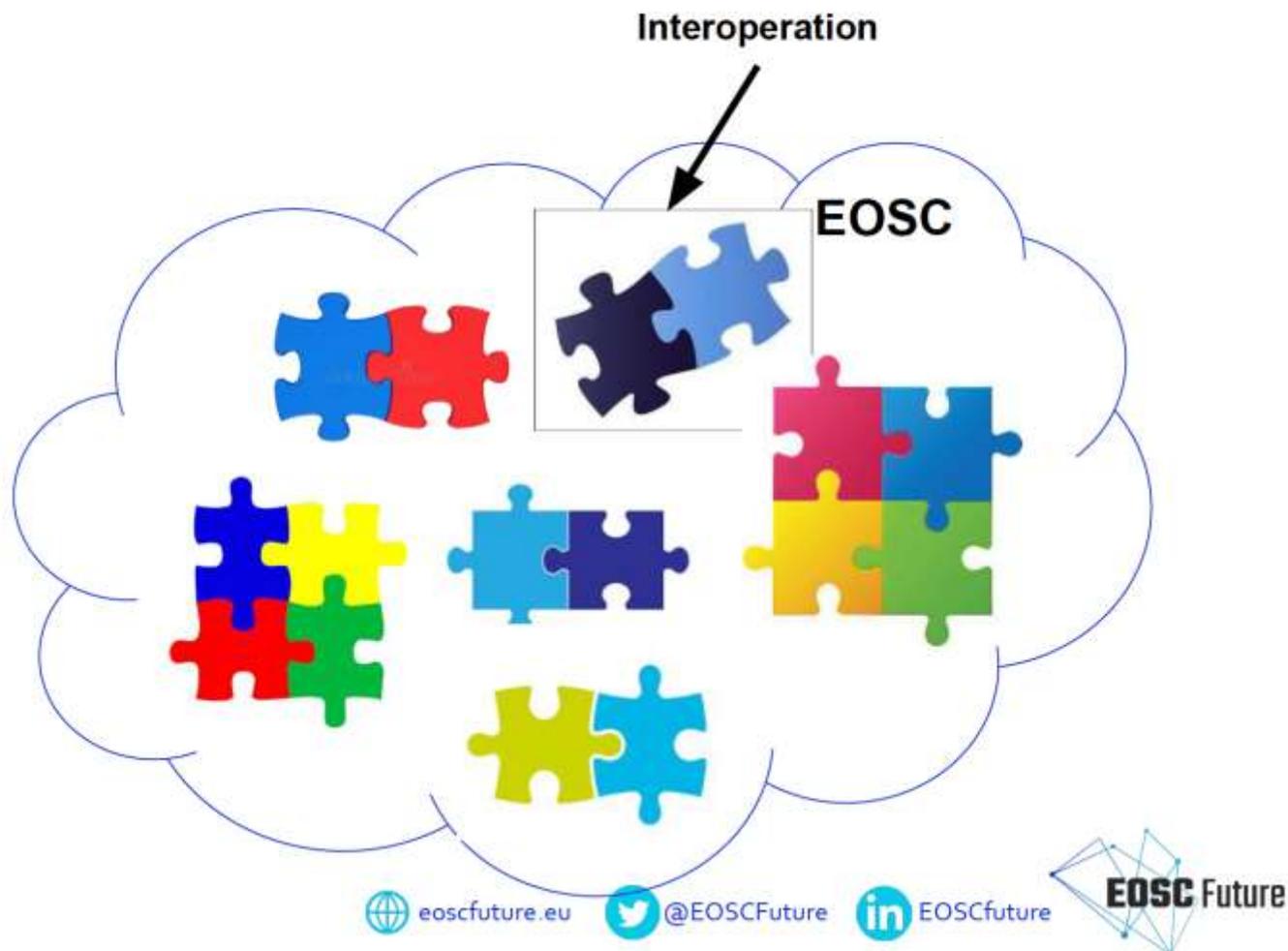


**Interfaces of the
EOSC Resources**



Fostering Interoperability with the EOSC IF

- Promote the adoption of **common standards and interfaces in EOSC**
 - Limited number of selected standards/interfaces
 - Facilitate the interoperation
 - Not reinventing the wheel → adopting already existing standards and community best practices
- Information about **supported interfaces available in the EOSC Resource Catalogue**



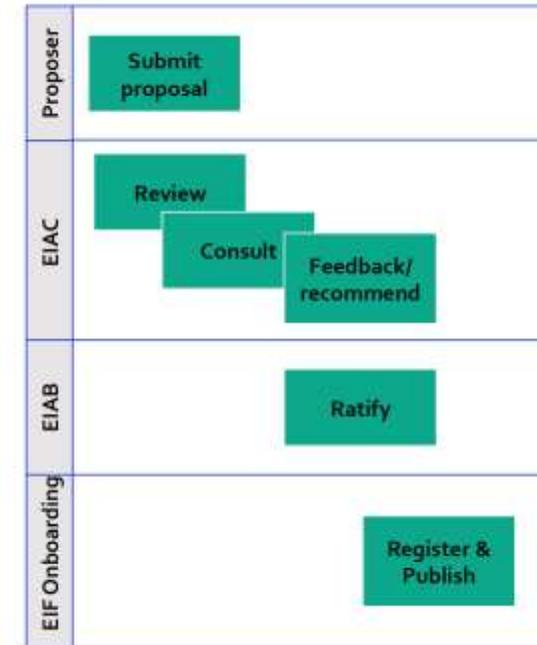
EOSC Interoperability Registry

- Initial scope of registry is output of EOSC Hub, EOSC Enhance, AARC and OpenAIRE projects
- Aims to become a public library of accepted artefacts
- Link / index resources, services and research products to supported guidelines
- Will act as support tool for the governance to track each Guideline through proposal and consultation process

EIF governing bodies

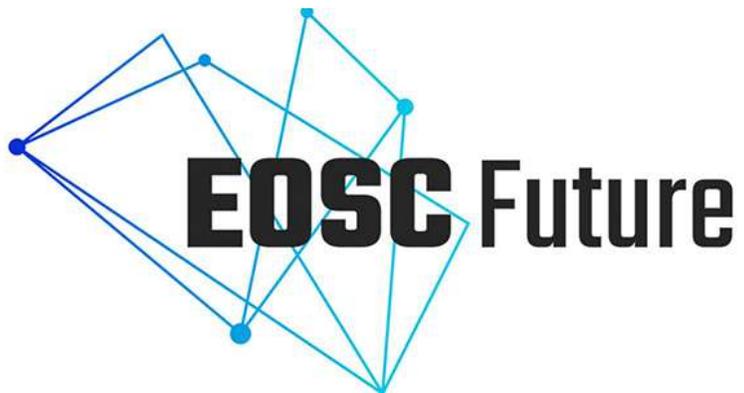
An overarching, independent group that will assess whether requests for inclusion in the EOSC IF are compliant with a minimum set of requirements.

Body	Responsibility	Interim body for duration of EOSC Future project
EOSC Interoperability Advisory Board (EIAB)	Responsible for <ul style="list-style-type: none"> overseeing the EOSC IF; endorsing guidelines, based on the recommendations of the EIAC. 	EOSC Future Technical Coordination Board
EOSC Interoperability Area Chairs (EIAC)	Responsible for: <ul style="list-style-type: none"> performing the initial assessment of the proposed guidelines making recommendations for inclusion to the EIAB. 	EOSC Future WP ₃ task leads (calling in community experts to help with the review process as needed).



<https://wiki.eoscfuture.eu/display/PUBLIC/EIAB+and+EIAC+Charter>

Collaboration with other eInfras & projects to enable FAIR



Enabling data discovery in EOSC

- Using OpenAIRE PROVIDE as tool to onboard research products (data, software, publications) into the EOSC Resource Catalogue
- Guidelines already adopted by 2000+ sources and three platforms (DataVerse, Dspace, eprints)
- Also working with clusters to ensure alignment with community metadata standards – initial pilot done with bioschemas
- Explore tool to search...





EOSC Research Discovery Graph (RDGraph) to deliver advanced discovery tools across EOSC resources and communities.



EOSC PID Graph (PIDGraph) to improve the way of interlinking research entities across domains and data sources on the basis of PIDs.



EOSC Metadata Schema and Crosswalk Registry (MSCR) to support publishing, discovery and access of metadata schemas and provide functions to operationalise metadata conversions by combining crosswalks.



EOSC Data Type Registry (DTR) to provide user friendly APIs for metadata imports and access to different data types and metadata mappings.



EOSC PID Meta Resolver (PIDMR) to offer users a single PID resolving API in which any kind of PID can be resolved through a single, scalable PID resolving infrastructure.



EOSC Compliance Assessment Toolkit (CAT) to support the EOSC PID policy compliance and implementation.



EOSC Research Activity Identifier Service (RAiD) to mint PIDs for research projects, allowing to manage and track project related activities.



EOSC Research Software APIs and Connectors (RSAC) to ensure the long-term preservation of research software in different disciplines.



EOSC Software Heritage Mirror (SWHM) to equip EOSC with a mirror of the Software Heritage universal source code archive.

Thank you

Any questions?

www.geant.org

