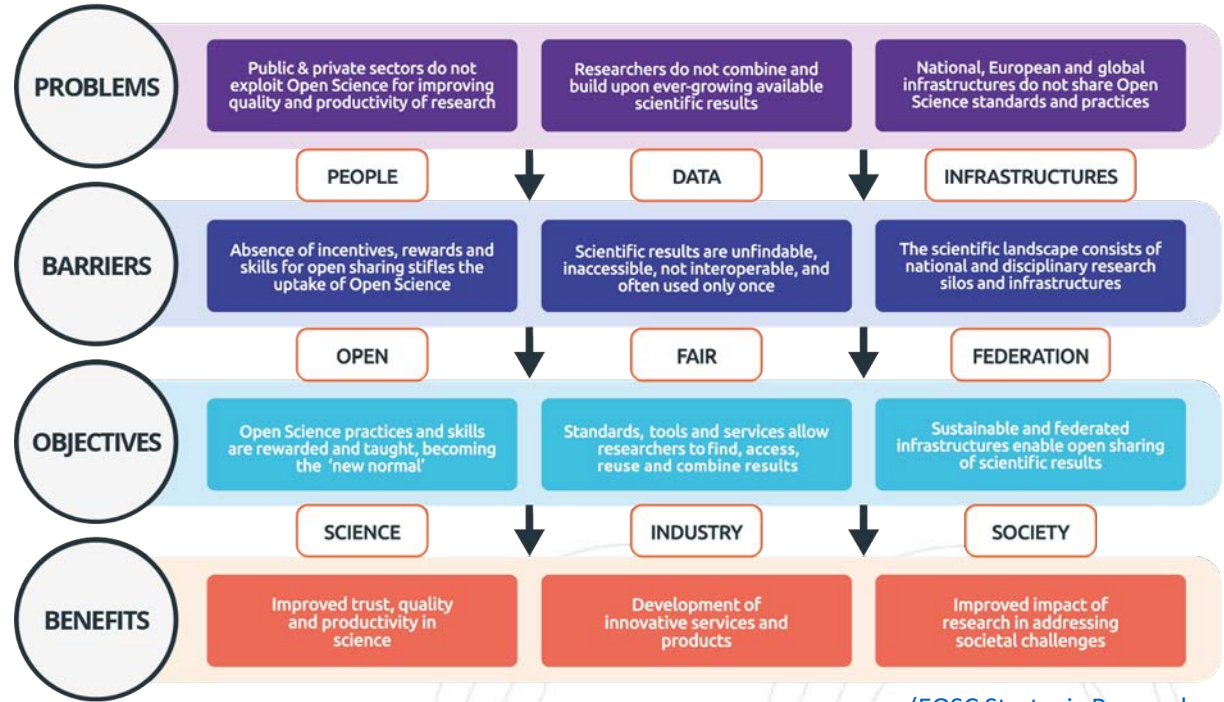


DISCLAIMER: The opinions expressed in this presentation are solely those of the presenter and may not be necessarily endorsed by the EOSC-A.

FNS-Cloud Benefits for user communities: European Open Science Cloud

Ignacio Blanquer

- EOOSC aims to offer a virtual environment for open access to services to store, share, process and reuse research data and other research digital objects, including software.
- EOOSC Strategic Research and Innovation Agenda (SRIA) structures the objectives in three pillars: People, Data and Infrastructures.



[\(EOOSC Strategic Research and Innovation Agenda v1.1\)](#)

EOSC is the European web of FAIR data and related services for research

What

Research data that is easy to find, access, interoperate and reuse (FAIR)
Trusted and sustainable research outputs are available within and across scientific disciplines

Why

Unlock the full potential of research data to accelerate discoveries and innovation

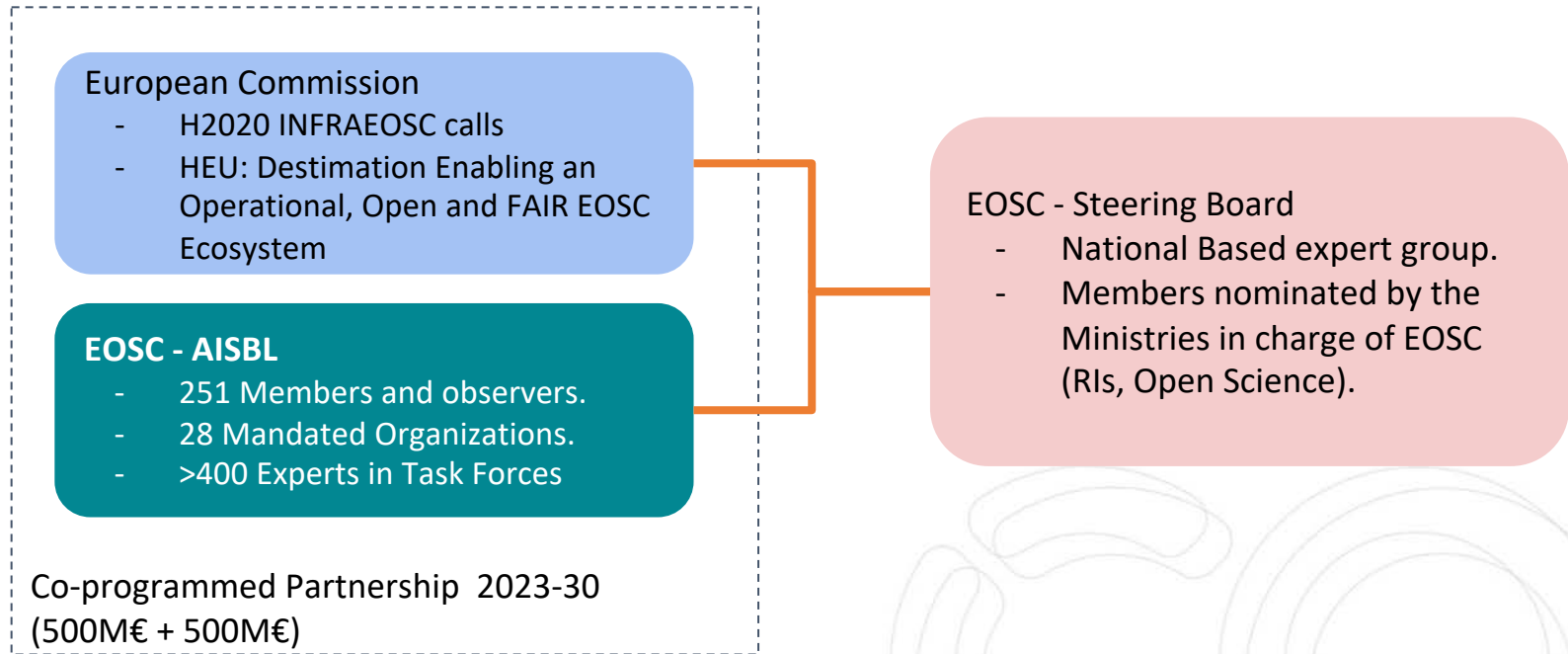
How

- Ensure that Open Science practices and skills are rewarded and taught, becoming the 'new normal'
- Enable the definition of standards, and the development of tools and services, to allow researchers to find, access, reuse and combine results
- Establish a sustainable and federated infrastructure enabling open sharing of scientific results

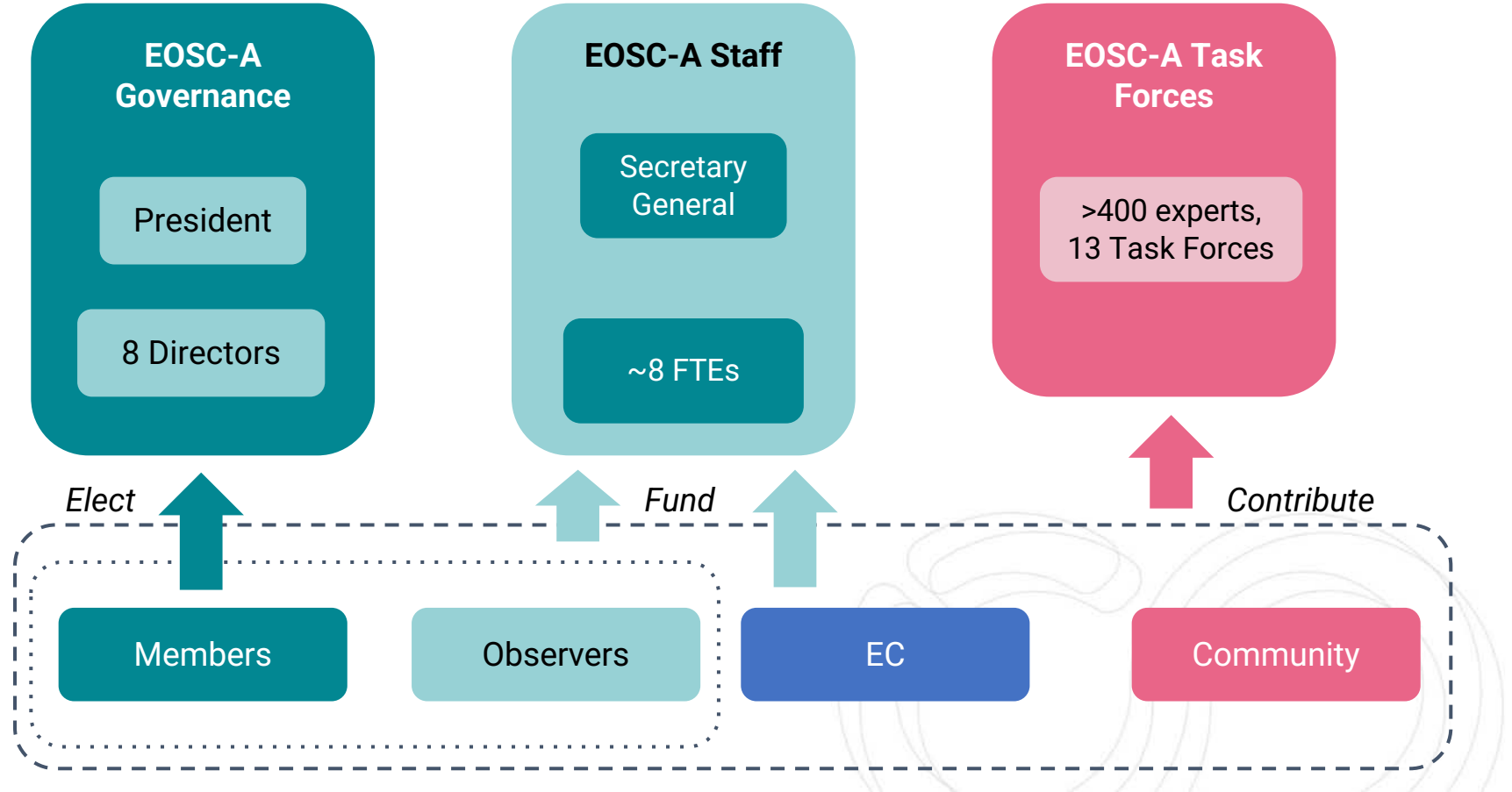


- **EOSC as Open Science (OS) & FAIR culture booster:** Working with policy makers and European initiatives (such as the CoARA coalition), EOSC will support the cultural change towards OS and FAIR principles in the EU countries and institutions.
 - All EU researchers will indirectly benefit from the cultural change brought by EOSC. The EOSC vision aims to have Open Science and FAIR practices fully encouraged, supported and recognised at institutional and national level.
- **EOSC as point of reference for building the new OS / FAIR related skills and career paths:** Working closely with universities and research institutes, EOSC will support the creation of the workforce of the future and of the necessary competence support centers.
 - All EU researchers will benefit from the training material, guidelines and support provided by EOSC.
- **EOSC as web of FAIR data and related services:** The EOSC federation will make available the resources of existing data, research and e-infrastructures across borders and disciplines
 - All the EU researchers will be able to access an extended offer in terms of FAIR data and related services.

Tripartite governance

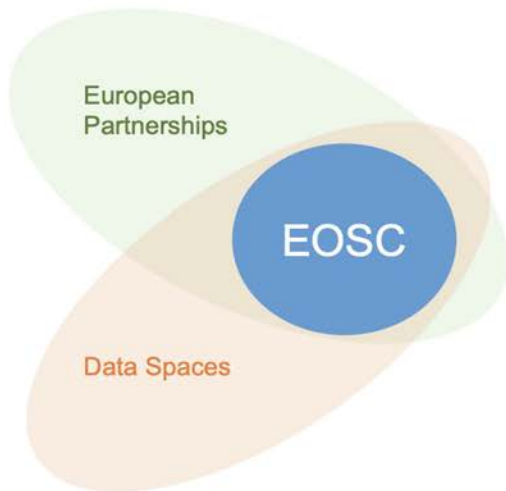


eosc EOSC-A Structure

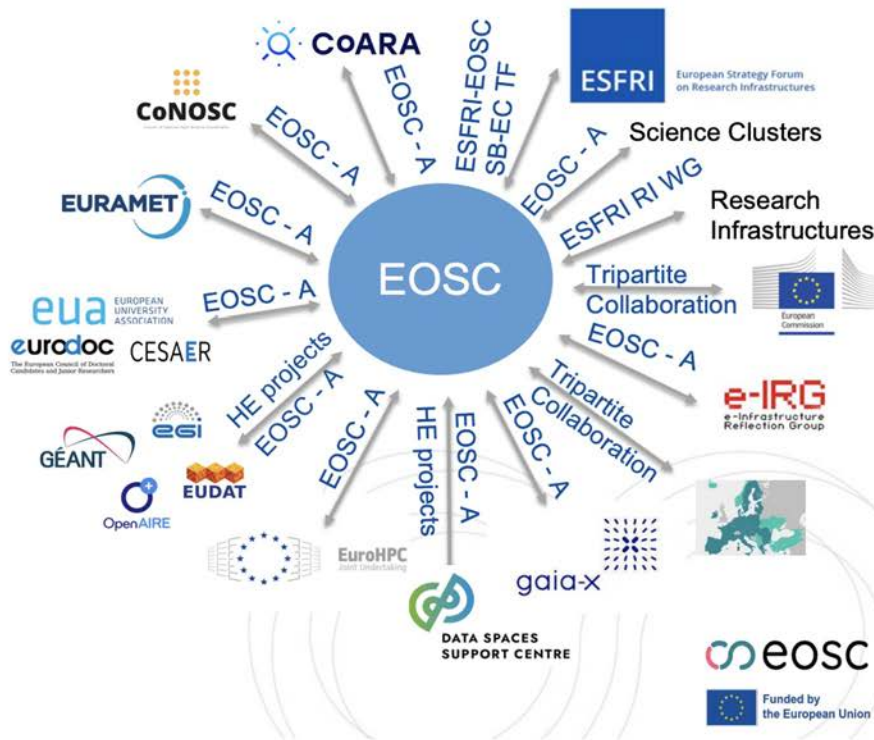


eosc EOSC in the broader context

- EOSC is one of the Horizon Europe Partnerships;
- EOSC is one of the emerging Data Spaces



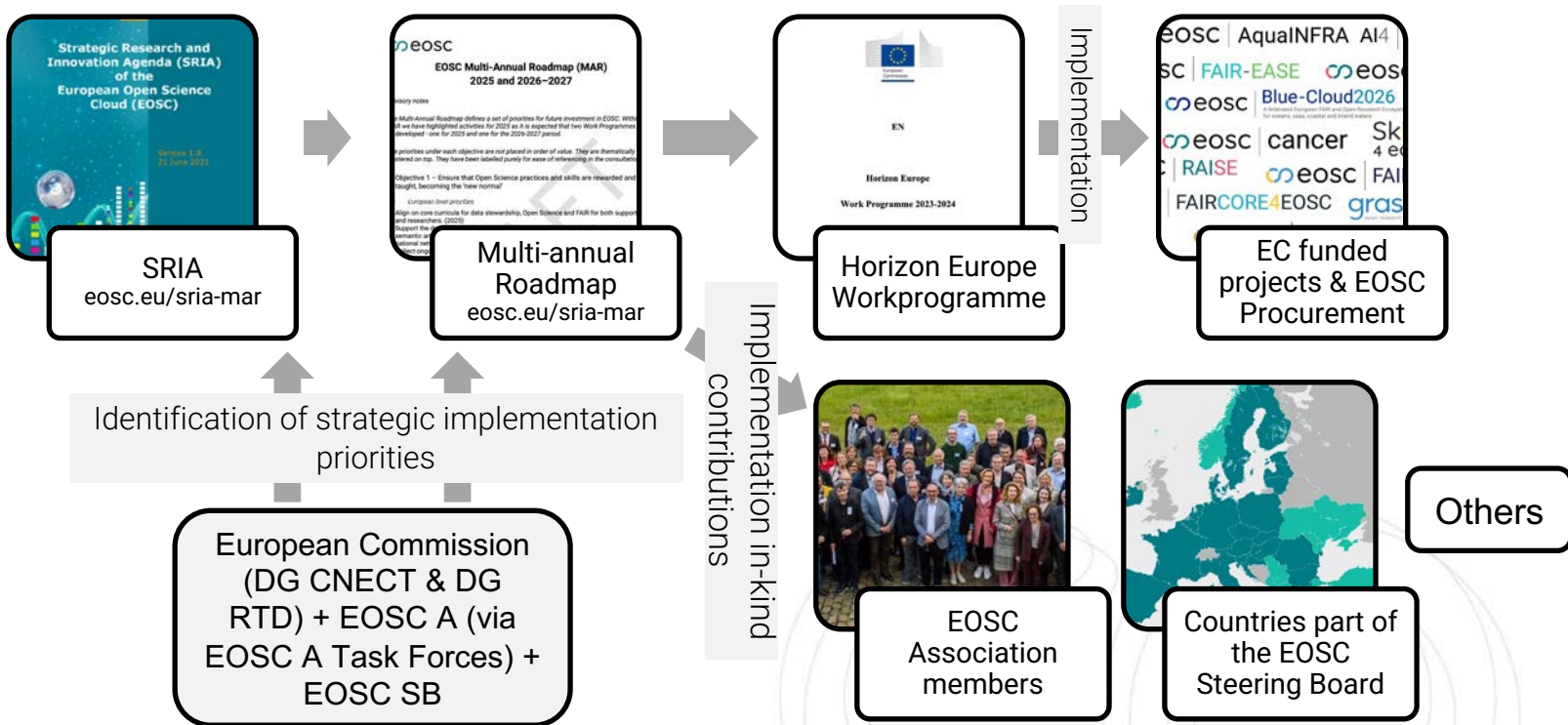
- EOSC in the European Data Strategy landscape



How EOSC is implemented

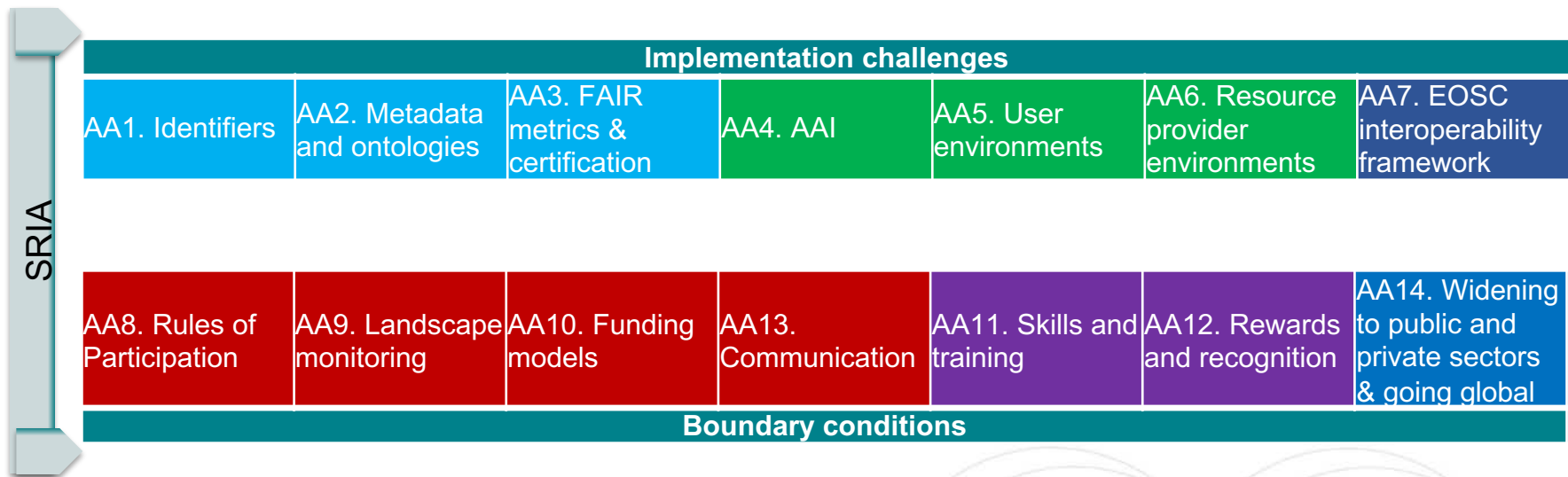
At least until 2028, the EOSC implementation will happen via EC funded projects, the EOSC procurements and in-kind contributions (from the members of the EOSC Association, the countries part of the EOSC Steering Board and others)

EOSC is a huge joint endeavour
 EOSC is not (solely) the EOSC Association



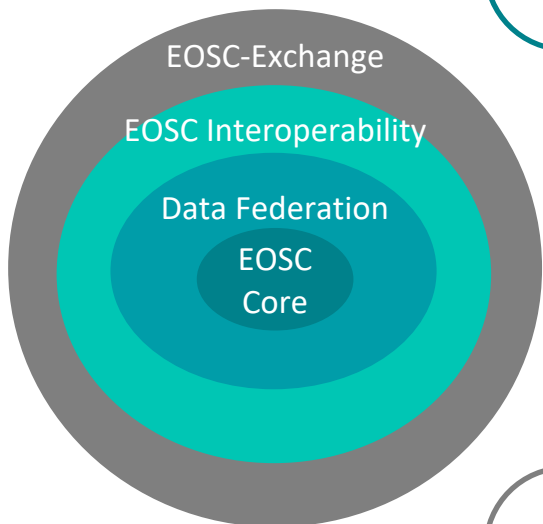
eosc Main implementation areas




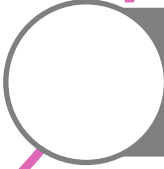
The SRIA identifies 14 action areas considered key to deploy the EOSC ecosystem



The results coming from the different implementation areas contribute to the establishment of the Minimum Viable EOSC (MVE)

The MVE shall deliver on the core SRIA objectives and provide functional support for Open Science in Europe. The MVE is composed by four components:



-  **EOSC-Core**
The prerequisite **service component enabling** the large-scale brokering of research data and services between the participants in the **EOSC Federation**
-  **Data Federation**
FAIR Data need to be federated in such a way that **metadata on research outputs is harvested into a cross-search to enable** greater **discovery and reuse** of data residing in multiple institutional, domain-specific and national repositories across Europe
-  **EOSC Interoperability Framework**
Set of standards and guidelines to support interoperability and composability of resources across borders and disciplines while respecting privacy and security
-  **EOSC-Exchange**
The Exchange is the **pan-European marketplace for the EOSC federated resources**. It enables the **brokering of community services between federation participants** and gives **access to procurement contracts**.

The building elements of the MVE are progressively delivered through the EC funded projects. From September 2023, the MVE prototyping phase will be moved to operation via the “Managed Services for the EOSC Platform” Procurement

eosc Multiple stakeholders, multiple roles

There is no “one-size-fits-all” formula for engagement in EOSC. It depends on your starting point (e.g. your type of work, your type of organisation, your mission and priorities, your level of maturity in terms of FAIR and OS implementation) and on what you want to achieve. Several options are possible

	User	Intermediary to engage the users	Co-developer	Data / Service Provider	Federation enabler	Policy maker	Funder	Supporter*
Researchers	x		x	x				x
RPOs (e.g. Universities, Research Institutes, HEIs, Libraries)	x	x	x	x	x			x
National, Regional, EU RFOs (e.g. EC, Ministries for Research, etc)	x	x	x	x		x	x	x
National, Regional, EU Research Infrastructures	x	x	x	x	x			x
National, Regional, EU e-Infrastructures	x	x	x	x	x			x
National, Regional, EU Data Infrastructures	x	x	x	x	x			x
Commercial entities	x		x	x	x			x
H2020 / HE projects	x		x	x	x			x
....								

* Trainers, Experts, Research Support Staff, Dissemination and Outreach managers, etc.

Different reasons to be engaged

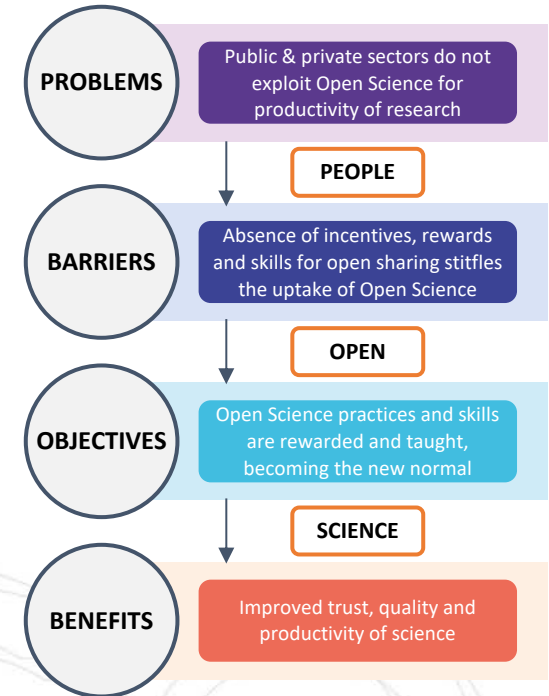
Depending on what is your main interest (EOSC development, operation, governance) the reasons and the way to be engaged in EOSC can change significantly

- Some concrete examples of why to engage in EOSC

EOSC development	EOSC operation	EOSC governance
<p>Researcher perspective: Test the MVE; provide feedback and requirements; co-develop solutions that will enrich EOSC in the future; influence the direction of some developments;</p>	<p>Researcher perspective: Access the resources made available via the EOSC federation</p>	<p>Researcher perspective: Ensure that the user perspective is taken into account</p>
<p>Provider perspective: Test the MVE; provide feedback and requirements; contribute to and test the federation; expose data/services; influence the direction of some developments; co-develop solutions that will enrich EOSC in the future</p>	<p>Provider perspective: Provide services / resources; Operate an EOSC node; Increase the offering for the customers; promote services in EOSC</p>	<p>Provider perspective: Ensure the provider perspective is taken into account</p>

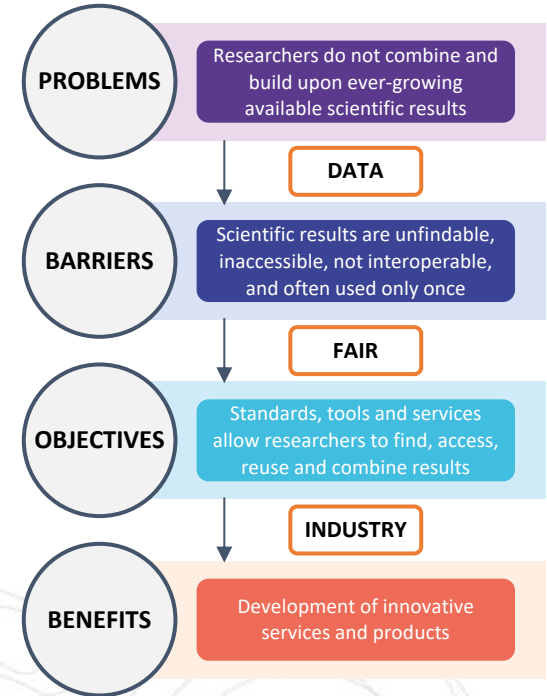
eosc Open Science as the new normal

- A key challenge is the availability of skilled people:
 - o Different Profiles are closely related to EOSC
 - <https://data.europa.eu/doi/10.2777/59065>
 - Holistic Approach (<https://www.skills4eosc.eu>)
 - o Production of training material on EOSC (e.g. EOSC-SYNERGY training catalogue (<https://learn.eosc-synergy.eu/>)).
 - o Uptake of the data Stewards curricula.
- Rewarding and Incentives
 - o Monitoring, definition of metrics, coordination of policies across countries and institutions.



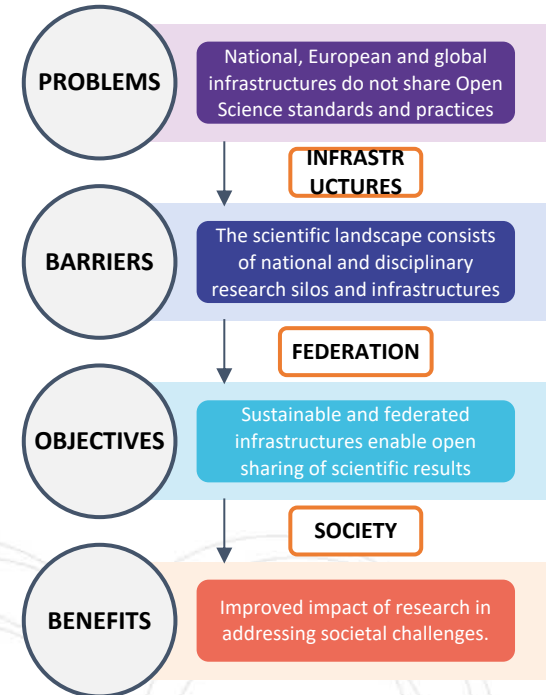
eosc Availability of FAIR Data

- Open Science should be considered “by-design”
 - Compliance to the FAIR principles should be considered since the project planning and should cover all the objects involved.
- A Key development will be the Interoperability Framework
 - It should evolve from a catalogue of standards, specifications, formats and best practices to a set of machine-actionable services for the correlation and discovery of multidisciplinary data.
- EOSC will provide with metrics for quality and FAIR compliance
 - It will foster the consideration of domain-specific metrics.



eosc Federation of e-Infrastructures

- EOSC needs an effective operational environment
 - The vision of a vast web of FAIR data and services is not for the short time.
- DG CNECT is in the process of procuring services for EOSC Core and EOSC Exchange (35M€) - [Managed Services for the EOSC Platform](#).
- EOSC runs on a highly competing ecosystem
 - Data Spaces, Digital Twins, etc. are synergetic initiatives that should work together to speed up achieving the vision.
- Users will find a comprehensive catalogue, data catalogues, customizable scientific environments on demand in a consistent Authentication and Authorisation framework.



- **Funding**
 - INFRAEOSC calls 2025
 - INFRAEOSC calls 2026-2027
- **Technical implementation**
 - Implementation priorities 2025 --> MAR 2025 (June 2023)
 - INFRAEOSC 07 results --> June 2023
 - EOSC Future results / EOSC Procurement operational --> September 2023
 - Implementation priorities 2026 – 2027 --> MAR 2026-2027 (TBD)
 - Results of INFRAEOSC 2021-2022-2023 – continuous
 - SRIA V2.0 (December 2024)
- **Governance**
 - Identification of EOSC governance model post 2027 --> December 2023
 - Set up of governance post 2027 --> January 2024 – December 2027
- **Events**
 - EOSC symposium 2023, 20-22 September 2023 (symposium23.eoscfuture.eu/)
 - National tripartite events & other events (eosc.eu/events)

Conclusions

- EOSC is a federated initiative that aims to promote the production and reuse of open data
 - EOSC is built on and needs researchers, institutions, networks of excellence, research infrastructures and policymakers.
- EOSC has entered a convergence phase in which services developed to publish, access, discover and analyze open scientific data will be operated
 - Combined model of bidding for services with the financing of research projects.
- EOSC transcends technical issues and aims to support methodological change, considering the reuse of data a central axis of the scientific process
 - Training, recognition and the availability of tools as key points.



EOSC Association AISBL

Rue du Luxembourg 3
BE-1000 Brussels, Belgium
+32 2 537 73 18
info@eosc.eu | www.eosc.eu
Reg. number: 0755 723 931
VAT number: BE0755 723 931

Many Thanks

