# **SRIA** consultation

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EOSC Executive Board

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## Strategic Research and Innovation Agenda of the space sector

In order to stay ahead in a dynamically changing global context, marked by growing competition and major technology shifts, the EU space sector requires continued, smart and coordinated investment strategies in cutting-edge technologies, innovation and skills.

The main purpose of this agenda is to provide coordinated guidance and recommendations for the next EU research and innovation framework programme Horizon Europe (2021-2027) on the strategic R&I needs to support the competitiveness of the EU Space Sector and reinforce independent access and use of space. The identification of R&I needs for the Space Programme components (EGNSS, Copernicus, SSA and GOVSATCOM) will emerge from their own governance.

The agenda has been drafted in close consultation with R&I actors including industry (large companies and SMEs), research centres, academia and institutional actors such as national space agencies. ESA has observed the consultation process and provided clarifications related to ESA programmes and ESA-led European processes.



## Strategic Research and Innovation Agenda for EOSC

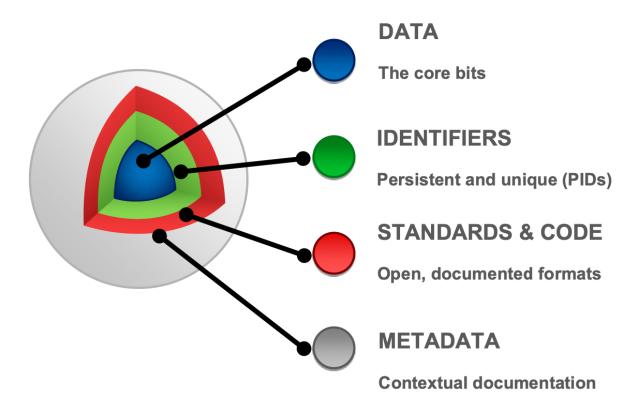
In order to stay ahead in a dynamically changing global context, marked by growing competition and major technology shifts, the EU data domain requires continued, smart and coordinated investment strategies in cutting-edge technologies, innovation and skills.

The main purpose of this agenda is to provide coordinated guidance and recommendations for the next EU research and innovation framework programme Horizon Europe (2021-2027) on the strategic R&I needs to support the competitiveness of the EU Data domain and to enable researchers to use a trusted, virtual, federated environment in Europe to store, share and reuse digital outputs from research across borders and scientific disciplines.

The agenda will be drafted in close consultation with relevant stakeholders, including Research Performing Organisations (RPOs), Research Funding Organisations (RFOs) and Service Providing Organisations.



# FAIR applies to all digital objects



The Web of FAIR data concept is applied broadly to all digital objects, be they datasets, publications, code, workflows...

All research artefacts are covered in the EOSC Open Science vision

Image from the Turning FAIR into Reality Expert Group report <a href="http://doi.org/10.2777/1524">http://doi.org/10.2777/1524</a>



## How will we develop the EOSC SRIA?

- Grounding information taken from Strategic Implementation Plan, EOSC Partnership Proposal.
- Executive Board, together with European Commission and Governance Board have developed the overarching concepts
- EOSC Working Groups have submitted details on priority activities needed in each Action Area



## The Vision

Building the EOSC ecosystem collaboratively with all stakeholders through the EOSC Partnership

Enable
interdisciplinary
research to
address societal
challenges

Support
Open Science
and contribute to
the Digital Single
Market

Offer
EU researchers the
digital resources they
need to practise Open
Science

Reduce fragmentation by federating existing research infrastructures

Stimulate the emergence of a competitive EU cloud sector

Develop a
Web of FAIR Data and
Services (including
publications
and software)

Give Europe a global lead in research data management



# **EOSC** (landscape) objectives tree

Problems	Public and private sectors do not exploit Open Science for improving quality and productivity of research	Researchers do not combine and build upon ever-growing available scientific results	National, European and global infrastructures do not share Open Science standards and practices	
	PEOPLE	DATA	INFRASTRUCTURES	
Barriers	Absence of incentives, rewards and skills for open sharing stifles the uptake of Open Science	Scientific results are unfindable, inaccessible, not interoperable, and often used only once	Scientific landscape consists of national and disciplinary research silos and infrastructures	
	OPEN	FAIR	FEDERATION	
Objectives	Open Science practices and skills are rewarded and taught, becoming the 'new normal'	Standards, tools and services allow researchers to find, access, reuse and combine results	Sustainable and federated infrastructures enable open sharing of scientific results	
	SCIENCE	INDUSTRY	SOCIETY	
Benefits	Improved trust, quality and productivity in science	Development of innovative services and products	Improved impact of research in addressing societal challenges	



# Three overarching objectives (strategic priorities)

- Open Science practices and skills are rewarded and taught, becoming the 'new normal'
- Standards, tools and services allow researchers to find, access, reuse and combine results
- Sustainable and federated infrastructures enable open sharing of scientific results



## **Guiding principles**

- Multi-stakeholder approach
- As open as possible, as closed as necessary
- Towards a web of FAIR data and related services for science
- Federating existing research infrastructures
- Machines and people



#### **Translated for EOSC into 14 Action Areas**

#### Implementation challenges

- 1. Identifiers
- 2. Metadata and ontologies
- 3. FAIR metrics and authentication
- 4. Authentication and Authorisation Infrastructure (AAI)
- 5. User environments
- 6. Resource provider environments
- 7. EOSC interoperability framework

#### **Boundary conditions**

- 8. Rules of Participation
- 9. Landscape monitoring
- 10. Business models
- 11. Skills and training
- 12. Rewards and recognition
- 13. Communication
- 14. Widening to public and private sectors



# Leading to 10 implementation priorities

- 1. Implement the EOSC Persistent Identifier (PID) Policy and develop additional infrastructure required to support the publication, curation and tracking of research outputs.
- 2. Offer a common dataset search to enhance discovery via EOSC.
- 3. Support communities to develop metadata standards & controlled vocabularies to enable all stakeholders to engage equally.
- 4. Implement metrics to assess FAIR digital objects and iterate based on testing.
- 5. Support services to demonstrate they enable FAIR via certification or the definition of assessment frameworks.
- 6. Establish and implement a common framework for managing user identity and access in a highly distributed ecosystem.
- 7. Ensure a **feedback mechanism** to engage with **users** and further develop the EOSC environment to meet their **needs**.
- 8. Implement procedures to ensure services that meet requirements can be federated into EOSC easily and efficiently.
- 9. Promote the **use of open specifications**, where available, **to ensure technical interoperability** when establishing EOSC services.
- 10. Agree and implement a common set of rules to ensure data and services within EOSC support interoperability.



## With 10 boundary condition priorities

- 11. Define the **cooperation framework** enabling **RDIs** to work together more fully and effectively.
- 12. Evolve EOSC by recognising enhanced standards for policy, processes and procedures to provide increasing levels of assurance of quality and trust in the services offered through EOSC.
- 13. Ensure continuous monitoring of the existing readiness of countries to contribute to EOSC.
- 14. Suggest priorities for action based on the monitoring.
- 15. Perform cost assessments.
- 16. Ensure **sustainable financing** for EOSC.
- 17. Develop Open Science training and professionalise associated roles.
- 18. Create a Europe-wide framework for rewards and recognition that includes Open Science.
- 19. Inform stakeholders about the developments of EOSC.
- 20. Widen EOSC stakeholder engagement in a strategic and timely manner.



# To be montored using 10 KPIs (illustrative)

- 1. Researchers performing publicly funded research make relevant **results available**, **as openly as possible**.
- 2. **Professional data stewards available** in research-performing organisations in Europe to support Open Science.
- 3. Researchers are incentivised to perform Open Science.
- 4. The scope of EOSC is widened to serve the public and private sectors.
- 5. Research data produced by publicly funded research in Europe is FAIR by design.
- 6. The EOSC Interoperability Framework supports a wide range of FAIR digital objects including data, software and other research artefacts.
- 7. European research is **increasingly discovered and reused across disciplines** as a result of EOSC.
- 8. EOSC is **operational and provides a stable infrastructure**, supporting researchers addressing societal challenges.
- 9. EOSC is populated with a valuable corpus of interoperable data.
- 10.EOSC is a valuable resource to a wide range of users from the public and private sectors.









# **Key information**

How long is it open? -> Until 31 August 2020

How to respond? ——> Via webform <a href="https://www.eoscsecretariat.eu/open-consultation-eosc-strategic-research-and-innovation-agenda">https://www.eoscsecretariat.eu/open-consultation-eosc-strategic-research-and-innovation-agenda</a> (Remember to login!)

#### Who should respond?—> Anyone with a stake in European research

- Research-performing organisation (e.g. university, institute, research infrastructure, etc.)
- Research-funding organisation
- Service provider for research (e.g. research (e-)infrastructure, library, etc)
- Governmental organisation
- Company / business
- Other



#### Webform structure

- EOSC guiding principles
- Action Areas
- Priorities
- KPIs
- Synergies with other initiatives & programmes
- Alignment of projects
- Role in the EOSC Association
- Additional Comments



## Relevance...

## How relevant are the guiding principles, action areas, priorities, KPIs

Principle	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Multi-stakeholder approach					
As open as possible, as closed as necessary					
Towards a Web of FAIR Data and Related Services for Science					
Federating existing research infrastructures					
Machines and people					



# **Evaluating priorites**

### Relevance → urgency → geographic scope of action

How urgently should each of the identified priorities be addressed?

research outputs.

Action Area	Priority	Before 2024	Before 2026	Before 2028	
AA1-	P1: Implement the EOSC Persistent				
Identifiers	Identifier (PID) Policy and				
	develop additional				
	infrastructure required to				
	support the publication,		l	I	
	curation and tracking of	At which level	should each of t	each of the identified priori	

rities be progressed (first, second or third)?

Action Area	Priority	European	National	Institutional
AA1-	P1: Implement the EOSC Persistent			
Identifiers	Identifier (PID) Policy and			
	develop additional			
	infrastructure required to			
	support the publication,			
	curation and tracking of			
	research outputs.			



# What is missing?

- Missing action areas?
- Overlooked priorities?
- Alternative KPIs? Or ideas of measures to be applied?
- Other general comments you have



## Synergies and alignment

- How can EOSC support Horizon Europe partnerships and missions?
- Connection of EOSC to the Common European Data Spaces
- Alliances with other Open Science organisations
- Links to other programmes
- Alignment of projects



### **EOSC Association**

- Four founding members (CESAER, GEANT, ICDI, CSIC)
- Will be incorporated on Wed 29th July 2020
- Eligible members will be provisionally accepted from 30th July
- First General Assembly planned for September to ratify membership
- Main General Assembly planned for December to elect President, Board of Directors and set budget

https://www.eoscsecretariat.eu/news-opinion/setting-eosc-association-together



# How can you shape the agenda?

- Answer the consultation. Ensure your voice / community is represented!
- Engage in events. Be active in the EOSC stakeholder forum
- Get involved. Join the EOSC Association

https://www.eoscsecretariat.eu/open-consultation-eoscstrategic-research-and-innovation-agenda





# Thank you Any questions?

