

Introduction to EOSC

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Consiglio Nazionale delle Ricerche — CNR — Italy EOSCSecretariat.eu Supporting EOSC Governance and its stakeholders





Outline

- What is EOSC
- The role of EOSCSecretariat.eu
- EOSC Stakeholders
- Resources





A step back to understand why...

- 6 May 2015: Adoption of the <u>Digital Single Markets strategy</u>, the Commission announced the of a cloud for research data the 'research open science cloud'.
- June 2015: at the <u>ERA of Innovation Conference</u>, in June 2015, Commissioner Carlos Moedas first flagged the initiative. Oettinger and Moedas joint <u>blogpost</u>: EOSC 'will combine existing and future data infrastructures, offering secure and seamless access to European researchers for storing, managing and processing data from different sources
- 27 October 2015: Franco-German Conference on Digital President Juncker speech: «Our ambition is to provide Europe with powerful technical capabilities in terms of infrastructure, processes, analysis and data storage. Only the data that will be processed efficiently and securely will create wealth for our society.»
- September 2015: The Commission appointed a <u>High Level Expert Group</u> on the European Open Science Cloud to advise on the scientific services to be provided on the cloud and on its governance structure.

EOSC gets supported...

- January 2017 <u>European Parliament Resolution</u> on the European Cloud Initiative
- May 2016 <u>Council Conclusions (May 2016)</u> EOSC is fully supported by the European Council
- ■12 June 2017: Brussels, Belgium: <u>EOSC</u>
 <u>Summit</u> and <u>Declaration</u>, EOSC receives supported of the European scientific community
- It also received favourable opinions from the <u>Economic and Social Committee (September</u> <u>2016)</u> and from the <u>Committee of the Regions</u> (October 2016).

From vision to action...

- 30 November 2015: Stakeholder Workshop on the European Open Science Cloud, Brussels.
- 29 June 2016: Workshop Governance and funding of the EOSC, Brussels.
- April 2016: publication of the <u>Communication: European Cloud</u> <u>initiative</u> (COM(2016)178), and start of extensive and conclusive consultation process.
- 14 March 2018: the EC adopted the <u>Implementation Roadmap for the European Science Cloud</u> (Staff Working Document SWD(2018) 83), 6 actions lines for the implementation of the EOSC (architecture, data, services, access & interfaces, rules and governance)
- 24 May 2018: EOSC strategic implementation roadmap, a detailed presentation to introduce, illustrate and update with the latest developments the information presented in the Staff Working Document SWD(2018) 83 published on 14.3.2018.



Going more into practice...

- 20 November 2018: Prompting an EOSC in practice Report of the Commission 2nd High Level Expert Group on the European Open Science Cloud (EOSC 2nd HLEG)
- 20 November 2018: Turning FAIR into reality Report of the Commission FAIR Data Expert Group (FAIR Data EG)
- 25 July 2019: EOSC strategic implementation plan, the first report of the EOSC Executive Board



November 23, 2018: Commission launches European Open Science Cloud



«With the Open Science priority, we set out to change the way European science works. And the launch of the first Cloud portal today is a major milestone on that journey. The Cloud will give Europe a global edge in reaping the full benefits of data-driven science. Thanks to the commitment of scientists, the industry and the EU member states we have seen an idea become reality in less than three years.»

Carlos Moedas, Commissioner for Research, Science and Innovation



EOSC Vision and Values

as federated
infrastructure that can
enhance value-based open
trusted, user centric digital services
across borders within the Digital Single
Market
(Vienna Declaration)

EOSC Common values:

- Focussed on research needs
- Community driven
- Inclusive and respectful of diversity
- Transparent and trustworthy

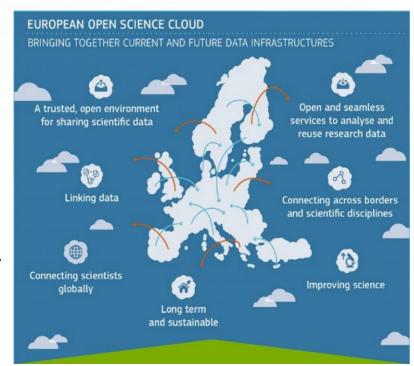


The Vision

EOSC will provide 1.7m EU researchers an environment with free, open services for data storage, management, analysis and re-use across disciplines.

EOSC will join existing and emerging horizontal and thematic data infrastructures, bridging todays fragmentation and ad-hoc solutions.

EOSC will add value and leverage past infrastructure investment (10b per year by MS, two decades EU investment).



A platform for European research

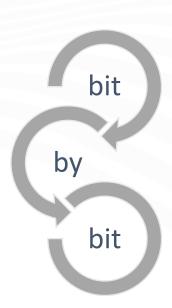
- Federation of existing services
- Web of FAIR research data (and services)
- Virtual space where science producers and consumers come together
- •An open-ended range of content and services
- •Quality mark « Data made in Europe »





EOSC design principles

- Co-creation
- Research-led
- Community-driven
- Flexible by design
- Extensible / scalable
- Incremental and iterative
- Hands-on and participatory
- Continuous engagement, consultation & user testing





EOSC is here to stay

EOSC aims at creating a **virtual research environment** to access and interoperate research
data and other research otputs in Europe across the
different disciplines.



First phase of EOSC: 2018-2020

H2020 EOSC-related projects: ca. €600 million

Address six roadmap action lines:

- ◆ Data ◆ Services ◆ Architecture
 - ◆ Access ◆ Rules ◆ Governance

Current EOSC governance tasks:

- steer initial implementation
- ◆ involve all R&I stakeholders
- ◆ transition to 2nd stage 2020+

"Start of the second phase of the implementation is dependent on an evaluation by the Commission and the Member States of the first phase and without prejudice to the Multiannual Financial Framework after 2020"

The Current EOSC Governance

EOSC is currently governed by three constituent bodies, as defined by the European Commission Staff Working Document Implementation Roadmap for the European Open Science Cloud:

- The <u>Executive Board</u>, a body tasked to ensure implementation and accountability. Chaired by Karel Luyben (European Association of Universities of Technology – CESAER) and Cathrin Stöver (GÉANT)
- The <u>Governance Board</u>, gathering representatives from the Member States, Associated Countries and the Commission to ensure effective supervision of the implementation
- The <u>Stakeholder Forum</u>, organised by the EOSC Secretariat, is formed by a group of representatives from a wider range of actors, tasked to provide input and recommendations through events and online consultation mechanisms



EOSC governance structure

Advise on/inform the implementation

Steer the implementation Contribute to the implementation

Stakeholder Forum

Users, service providers, Public sector, Industry, SMEs, etc...

Governance Board

MS/AC delegates and the European Commission

Reviews Endorses Orients

> Proposes Monitor Reports

Working Groups

Executive Board

EU stakeholder organisations and individual experts **EU-funded projects**

Nationally-funded projects and initiatives

Other projects and initiatives

Extended Coalition of Doers

Supports

EOSCsecretariat.eu | Coordination and support action

EOSC Governance Board

- The EOSC Governance Board is tasked with:
 - approving the list of the <u>Executive Board</u> members;
 - deciding the strategic orientations for the EOSC (based on the advice of the Executive Board) and approving an annual work plan;
 - assessing the progress of the EOSC implementation;
 - ensuring coordination with relevant Member States/Commission initiatives;
 - discussing new activities in support of the EOSC, including its long-term sustainability.
- All 28 Member States and 10 associated countries have delegates sitting in the GB (82 as of today).



EOSC Governance Board Country delegates

Delegate	Affiliation	
Karavangeli Vassiliki	General Secretariat for Research & Technology (GSRT)	
Sartzetakis Stelios	Athena Research & Innovation Center	
Epaminondou Evgenios	Directorate General for European Programmes	
Poeti Maria	Directorate General for European Programmes	
Ancheva Hristiyania	Ministry of Education and Science	
Zherkova Yanita	Ministry of Education and Science	
Kodzhayumer Yumer	Ministry of Education and Science	
Maric Ivan	University Computing Centre, University of Zagreb	
Mohacsi Janos	Governmental Information Technology Development Agency	
Barbu Dragos	Ministry of Communications and Information Society	
Constantinescu Sorin	Ministry of Communications and Information Society	
Mihail Iulia	Ministry of Research and Innovation	
	Karavangeli Vassiliki Sartzetakis Stelios Epaminondou Evgenios Poeti Maria Ancheva Hristiyania Zherkova Yanita Kodzhayumer Yumer Maric Ivan Mohacsi Janos Barbu Dragos Constantinescu Sorin	



EOSC Governance Board Country delegates

Country	Delegate	Affiliation
Slovenia	Javorsek Jan Jona	Jožef Stefan Institute
Serbia	Crnojevic Vladimir	Institute BioSense
Albania	Kamberi Geron	Ministry of Education & Sport
Bosnia- Herzegovina	Vacant	
FYR of Macedonia	Vacant	
Montenegro	Undisclosed	
Republic of Moldova	Undisclosed	
Armenia	Vacant	
Georgia	Vacant	

EOSC Executive Board

The **EOSC Executive Board** is formed by 8 representatives of Pan-European research e-infrastructures plus 3 individual experts, nominated by the EC

- Provide advice and support on the strategy, implementation, monitoring and reporting on the progress of the implementation of the EOSC as set out in the Staff Working Document on the Implementation Roadmap (SIP) for the EOSC, notably in the form of:
 - a strategic implementation plan and annual work plans, and of a proposed mechanism for overseeing and steering the implementation of the strategic and annual work plans, and for monitoring and reporting on progress;
 - rules for participation to guide service provision and an action plan for scientific data interoperability to operationalise the FAIR principles.
- Provide recommendations on the appropriate mechanisms and possible forms for the EOSC governance after 2020 including business models and modes of financing, and on how the user base of the EOSC could be extended to the public sector and the industry.



The main objectives and the timeline for the EOSC Executive Board and Working Groups in 2019-2020 are defined in the following 2 documents:

- EOSC Strategic Implementation Plan
- EOSC Workplan





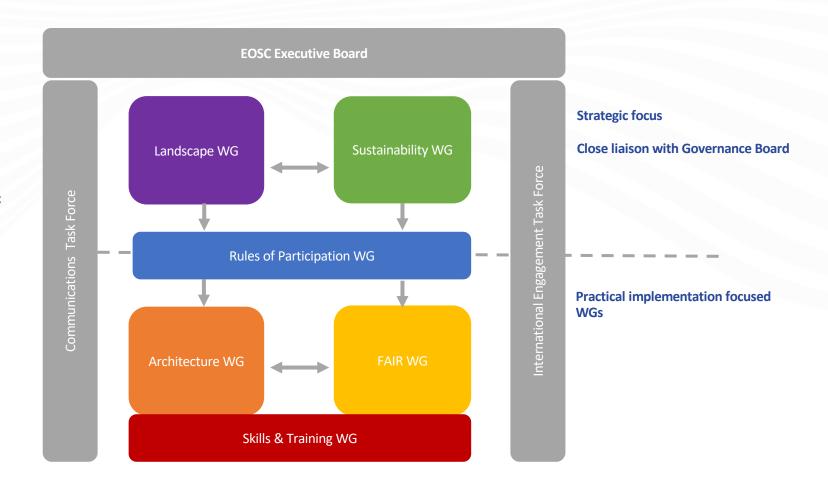
EOSC-EB Working Groups and Task Forces

6 Working Groups

On 6 Strategic Priority Areas for EOSC

> 150+ WG Members

10 Active WG Task Forces





Working Groups in numbers

Landscape 15 male 9 female

RoP 11 male 8 female

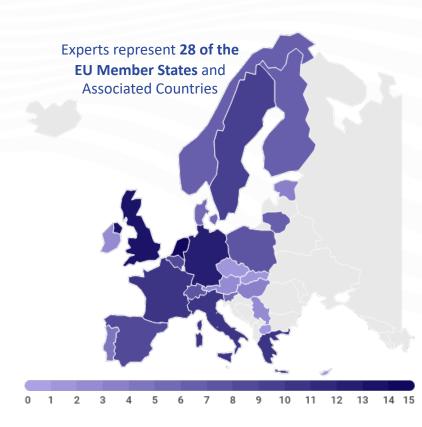
Architecture
39 male
3 female

FAIR
16 male
11 female

Sustainability 10 male 8 female

Skills11 male
21 female





A first iteration of EOSC by end 2020

- Agreed and tested Rules of Participation
- Analysis of the existing national infrastructures and policies
- Financing model, legal entity & post 2020 governance structure
- Functioning federated core
- Initial set of EOSC data and services
- EOSC Interoperability Framework
- Persistent Identifier policy
- Metrics for FAIR data and certified services





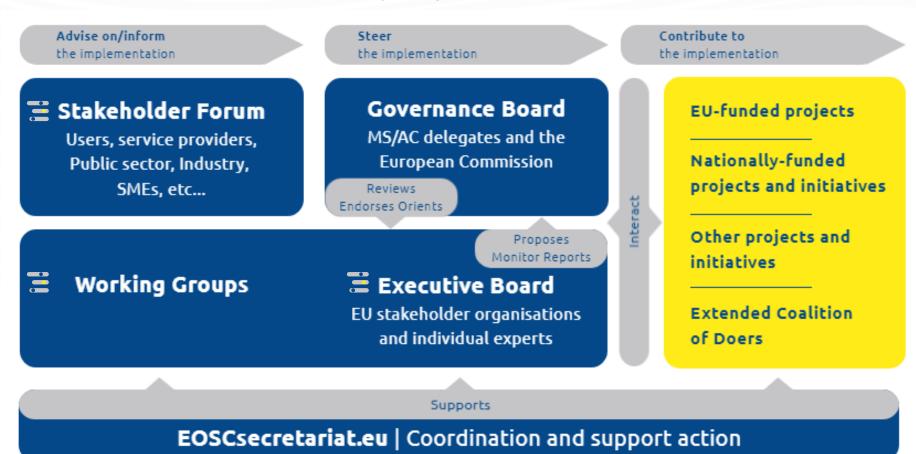


Setting the scene for 2021+

- •The EOSC Secretariat, effectively delivers 360° support to the EOSC Governance (Executive Board and its Working Groups), and works openly and inclusively together with communities to co-create an allencompassing European Open Science Cloud
- Interim character (2019/20), enabling and advisory approach
- Working for and under the supervision of the Executive Board and supporting the Governing Board
- Supporting a user-centric EOSC implementation, with the Co-creation budget at the command of the EB



EOSCsecretariat.eu facilitating the EOSC Governance & EOSC projects



Supporting the EOSC Executive Board and Working Groups

The **EOSC Executive Board** is formed by 8 representatives of Pan-European research e-infrastructures plus 3 individual experts, nominated by the EC

The EOSCsecretariat.eu provides support the EOSC Governance by:

- Organising monthly EB meetings and periodical team building meetings with the EOSC Executive Board
- Regularly publishing and disseminating results and outputs
- Collecting feedback from the EOSC Stakeholders
- Organising EOSC Stakeholder events to engage the community
- Disseminating results and informing the broader public about developments in the EOSC

FOSC Executive Board FORM STATE FORM STATES FORM STATES





The main objectives and the timeline for the EOSC Executive Board and Working Groups in 2019-2020 are defined in the following 2 documents:

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- EOSC Workplan



How can you contribute to the EOSC Working Groups?

- Submit your project outputs to the EOSC WGs
 - Contact the EOSCsecretariat at info@eoscsecretariat.eu
 - Liaise with the EOSC Governance through your project representatives in the <u>allprojects@eoscsecretariat.eu</u> mailing list
 - Directly contact the WG at their public emails
 - Inform the WGs about the most relevant contacts in your project/organisation
- Join the EOSC Working Groups
 - Nominate a project representative to join the Architecture or Skills&Training WGs
 - Join a WG meeting as invited contributor
- Join the EOSC Stakeholder Forum events as the EOSC Symposium
- Provide feedback on open consultations on the WG outputs
- Discuss Horizontal topics through the EOSC Interest Groups

The Architecture and Skills & Training WG are currently accepting nominations from the EOSC Projects



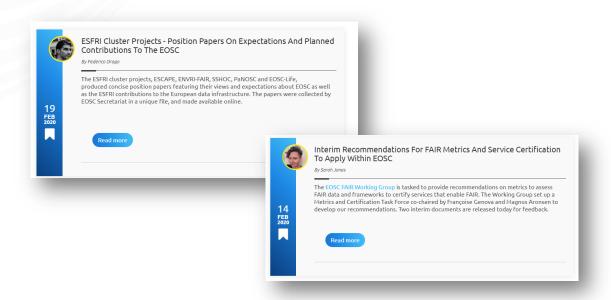
Read more in this blog post by EOSC FAIR WG Chair Sarah Jones on the EOSC secretariat.eu website

WG Documents out for Consultations

- EOSC FAIR WG
 - Initial PID Policy
 - Metrics & Certification
- EOSC RoP WG
 - Draft EOSC Rules of Participation
- EOSC Sustainability WG
 - Tinman report "Solutions for a Sustainable EOSC" Will be shared with a wider public in the next round of consultations
- EOSC & HPC:
 - Exploring cooperation opportunities between HPC & EOSC: a survey for HPC projects

Engage with the community

The <u>EOSC Liaison Platform</u> an online discussion environment that allows the collection of input and provision of feedback to EOSC governance bodies.





Contribute with your specific Experties

The **EOSC Interest Groups** were created to give the EOSC related community the opportunity to collaborate, share information, and discuss EOSC related topics.

They are supported by **online collaborative and open environments** for discussion. Each one is facilitated by a member of EOSCSecretariat.eu

EOSC Researcher Engagement and Use cases EOSC Service and Research Product Catalogues

EOSC Federating Core

EOSC Glossary



EOSCsecretariat Funding Opportunities for the Co-creation of EOSC

Do you have an idea that will help co-create the EOSC? Take the chance to get funding for your activity!

Three ways to apply:









Open Calls

Learn more in the latest video from the EOSCsecretariat.eu







Contributions from our different stakeholders to the EOSC

Researcher engagement

Video: EOSC - The New Frontier of Data-Driven Science



Interviews



Workshops



Engagement with International Initiatives

The international Research Data Community
Contributing to EOSC





ESFRI Cluster projects
- Position Papers



EOSC Symposium 2019 - Highlights



Building the European Open Science Cloud



HPC Assets and Contributions to the EOSC

EOSC Regional Projects -Coming Soon

EOSC 5b projects (Regional)

zenodo

EOSCsecretariat.eu just launched its Zenodo community, where all publications will be collected, in a collaborative and curated manner.



Stakeholder Engagement Opportunities

 EOSC Executive Board Consultation Day @EOSC-hub week, 18 May 2020, Karlsruhe, Germany





EOSC Symposium 2019

+300 participants

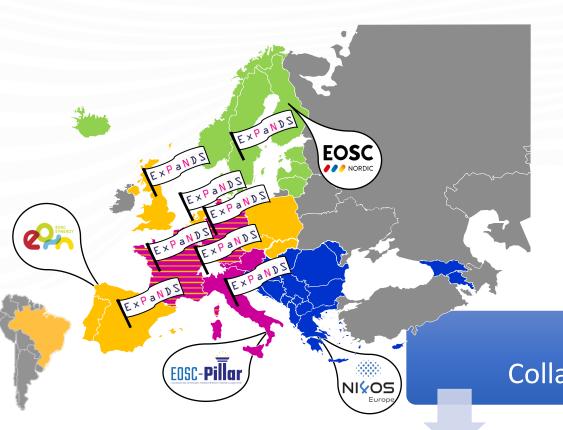
37 Countries represented

49% from Academia /Research

- EOSC Symposium 2020, October 2020, Germany
- Final policy event, December 2020, Germany



EOSCSecretariat.eu and INFRAEOSC2019-2020 Call5 projects



Workshop in Turin

Cross-project
Collaboration Agreement

Cross-Project
Collaboration Board

6 Task forces



Workshop in Turin - EOSC Jam Session: Shaping the EOSC ecosystem synergies

- Objective: gather together the regional and thematic projects and research infrastructure to plan the work ahead for the co-creation of EOSC
- 35 participants among INFRAEOSC-05 projects (EOSCSecretariat.eu, EOSC-Nordic, EOSC-Pillar, EOSC-Synergy, ExPaNDS, NI4OS Europe, & ESFRI representatives/Cluster Projects)
- Representatives of the EOSC Executive Board Working Groups and European Commission joined as observers
- Outcomes: start the process for the signature of a collaboration agreement among INFRAEOSC-05 projects, design the Task Forces work, plan the collaboration with ESFRI cluster and the EOSC-EB WGs



Cross-project Collaboration Agreement

- Call 5 projects CA
 - Version 1.0 September 2019
 - Version 2.0 October 2019
 - Version 3.0 December 2019 (signed)





INFRAEOSC-05 Cross-project Collaboration Board

- 1 participant + 1 deputy for each project
- Coordinates and advises on projects specific collaboration activities
- Ni4OS members: Ognjen Prnjat, GRNET and Eleni Toli, ATHENA (deputy)



INFRAEOSC-05 Task Forces

Landscaping

- Started in september 2019.
- 25 participants
- Chair: Federica Tanlongo (EOSC-Pillar)
- 1 f2f meeting with Landscape WG and 2 calls
- Email exchanges: 38

FAIR Data and Infrastructure

- Started in september 2019.
- 15 participants
- Chair: Marjan Grootveld, (FAIRsFAIR)
- 1 f2f meeting with FAIR WG and 3 calls
- Email exchanges: ??

• Started in november 2019.

Natl Policies and Governance

- 16 participants
- Chair: Eleni Toli, (NI4OS-Europe)
- 3 calls
- Checked with EOSC RoP WG on policies requirements
- Email exchanges: 15

Service Onboarding

- Started in november 2019.
- 21 participants
- Chair: Dusan Vudragovic, (NI4OS-Europe)
- X calls
- Email exchanges: ??

Training and Skills

- Started in november 2019.
- 14 participants
- Chair: Emma Lazzeri, (EOSC-Pillar)
- 2 calls
- Email exchanges: 22

Communication and Events

- Started in november 2019.
- 17 participants
- Chair: Nicholas Fergusson, (EOSCSecretariat.eu)
- 2 calls
- Email exchanges: 26



INFRAEOSC-05 TFs Status & next steps

LANDSCAPING

activities are on-going, delivery timeline has been planned, use of Zenodo to share data was agreed and on how to contribute to the Landscape WG activity was largely

FAIR DATA & INFRASTRUCTURES

everyone needs repository certification and automatic FAIR validation and monitoring, strong collaboration with FAIRsFAIR is planned

SERVICE ONBOARDING

status of activities and common plans were shared, common issues were identified and priorities were established, some issues require EOSC-governance level decisions

NATIONAL POLICIES & GOVERNANCE

plans were shared, information on national open science and research data policy activities were collected. Is a baseline set of policies on the national level required before entering EOSC?

TRAINING & SKILLS

The creation of a Joint
Catalogue of training resoures
was agreed, a map of expertise,
a list of planned events and a
shared event calendar, including
common webinars will be jointly
produced.

DISSEMINATION & EVENTS

newspiece and animated video on the collaboration between the 5b projects; google doc where projects can upload and update news about their events, webinars, workshops, etc., ESOF 2020 Workshop EOSCsecretariat will send information on the workshop organised there.

The EOSC related projects

- September 2019: Concertation meeting organised by the European Commission in Brussels
- November 2019: EOSC Coordination Day, organised by the EOSCSecretariat.eu in Budapest
 - A single channel for communication among projects was created (allprojects@ mailinglist): 2 representatives for each EOSC related project
 - Four Interest Groups were created to collaborate on specific topics







EOSC Stakeholders as defined in the EOSCSecretariat.eu Engagement Plan

Infrastructure initiatives in the Member States

EU infrastructure related initiatives

International initiatives

Industry

Researchers



Infrastructure initiatives in the Member States

- Currently, their level of development in the different Member States varies quite a lot both in terms of composition, formal agreements and sustainability.
- Members of these initiatives are usually Research Performing Organizations, Research Agencies, Universities, National Infrastructure Consortia, National Data Centers, Research Infrastructures, etc., that are in many cases publicly funded since they respond to researchers needs.
- They host, use, hold, manage, guarantee the integrity of scientific data and offer services supporting the entire research lifecycle, from basic ones, like connectivity, storage and processing, to data archiving and curation till data management, often community specific, and research outcomes publishing and linking.

Call INFRAEOSC 2019-2020 Call5b: Ni4OS-Europe



Infrastructure initiatives in the Member States: Main motivation for engagement

- They:
 - provide services;
 - bring consumers;
 - contribute to the coordination with national funders across Europe to ensure support for EOSC implementation.

EU infrastructure related initiatives

- They represent an important stakeholder group both as potential users and providers in EOSC.
- This stakeholder group includes EU Research Infrastructures, EU e-infrastructures, EU agencies, ESFRIs, ESFRI clusters & other EOSC related initiatives, ERICs, Research Performing Organizations & Agencies, e-Science Groups, HPC Initiatives, European Research Organizations and Operational Agencies (e.g. ESA, JRC, etc.).



EU infrastructure related initiatives: Main motivation for engagement

They:

- provide services;
- bring consumers;
- are fundamental in the definition of the EOSC rules of participation and architecture;
- can contribute to shape the EOSC framework with their expertise and skills.

International initiatives

- Initiatives like the Research Data Alliance (RDA), CODATA, GO FAIR, COAR, OECD Global science forum and WDS address the needs of the global community of researchers.
- They foster policy, technical and nontechnical developments compatible with EOSC in order to develop a global internet of FAIR data & services.
- Alignment and harmonization between these initiatives and EOSC is essential to make the European Open Science cloud a reality in a global context.
- This stakeholder group also includes Global Coordination Fora & Organizations, Standards Development Organizations (SDOs); International Organisations (e.g. the Food and Agriculture Organisation of United Nations); Research Data Organizations as well as EOSC related projects (e.g. RDA Europe).



International initiatives: Main motivation for engagement

They:

- are fundamental to provide the international perspective to EOSC;
- support the enablement of the EOSC ecosystem to function (e.g. with standards, good practices).

Industry

- The EOSC governance structure currently has no defined mechanism for engaging with the private sector/industry.
- The EOSC Governance Board and Executive Board have been formed and there is no representative in these boards who has a specific mandate to represent the private sector.
- •This target group includes commercial service providers, business organizations, SMEs clusters, European Cluster Observatory, Enterprise Europe Network, EU Associations of SMEs and EOSC related projects.



Industry: Main motivation for engagement

- They:
 - deliver services/technologies that can be relevant for inclusion in EOSC.

Researchers

- Researchers are the first and ultimate target group of EOSC.
- Their role within the EOSC is two-fold: they will primarily be users of the EOSC services, but they can also offer their assets (research output such as data, software and other tools) to the EOSC.
- Not formed in homogeneous networks.
- It is therefore necessary to think of channels that get the message through by other means.
- Many individual researchers may not (yet) be aware about the EOSC or may be sceptical about it.
- Need to reach out to mediate target groups may include rectors, research networks, funding bodies or funders' associations, research support units or other representatives of researchers. Among these are "intermediators" and "ambassadors"



Researchers: Main motivation for engagement

They:

- are the main beneficiaries and users of EOSC services and infrastructures
- can help to shape EOSC so that it fits their needs and visions for future, digitalized, data-driven R&D..





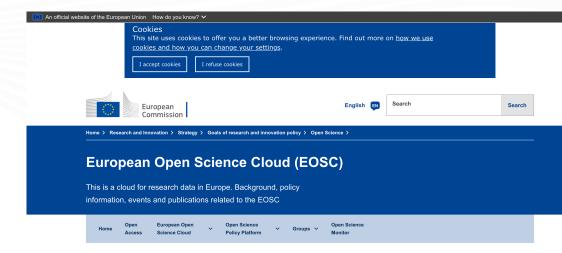






Official Page on EC website

Find here updated news on official European Commission documents and steps towards the creation of EOSC



EOSC strategic implementation plan published

The first report of the Executive Board of the EOSC presents the activities that will contribute to the implementation of the EOSC, with action lines and timelines for the period 2019-2020. Whist this document is primarily intended for use by stakeholders engaged into building EOSC, future documents will be developed and made public for use by research communities which will be the primary users of EOSC capabilities

· EOSC strategic implementation plan

The reports "Prompting an EOSC in practice" and "Turning FAIR into reality" have been published

20 November 2018

In the perspective of the launch of the European Open Science Cloud (EOSC) implementation phase 2018-2020, two important reports are being published by the Commission that constitute major sources of strategic orientations and concrete actions for the new EOSC governance structure

- · Prompting an EOSC in practice Report of the Commission 2nd High Level Expert Group on the European Open Science Cloud (EOSC 2nd HLEG)
- . Turning FAIR into reality

Report of the Commission FAIR Data Expert Group (FAIR Data EG)

The report "Prompting an EOSC in Practice" covers on a number of crucial elements of the EOSC, from defining the Minimum Viable Research Data Ecosystem, to establishing the main Rules of Participation; also paying attention to issues as Governance and possible Business Models. The report analyses various aspects of how the EOSC can effectively interlink People, Data, Services and Training, Publications, Projects and Organisations and presents a set of detailed practical recommendations - for implementation, engagement and steering - which will

Events

9-10 September 2020, Rome, Italy - ICSD 2020: 8th International Conference on Sustainable Development

See all Events

Workshops

- . Governance and funding of the EOSC, 29 June 2016
- Stakeholder workshop, 30 November 2015

Documents

- · Factsheet: Open science
- EOSC Governance Board delegates 1/2 545 KB
- EOSC Declaration 🍌 118 KB
- EOSC Action List 🍌 54 KB
- · List of institutions endorsing the EOSC Declaration № 341 KB
- To and from the EOSC Declaration 100 KB

Publications

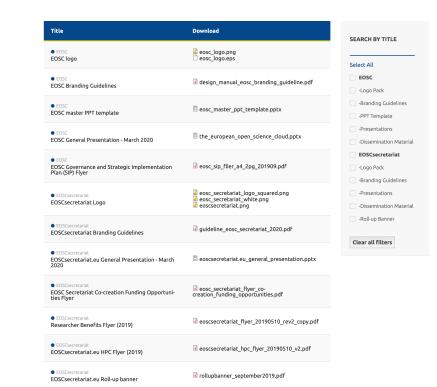
- EOSC main background documents 🍌 161 KB | Overview 🍌 650 KB
- · Prompting an EOSC in practice



EOSCSecretariat.eu public documents

 A collection of official material realised also in collaboration with the EOSC Executive Board



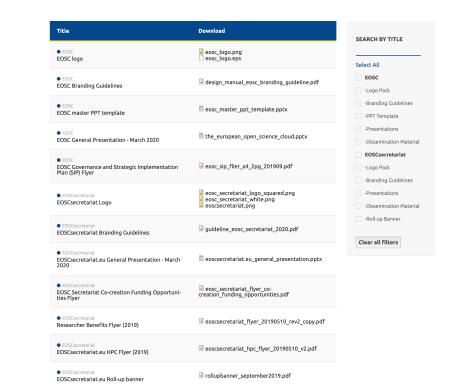




EOSCSecretariat.eu Zenodo Community

 A <u>Community</u> has been recently created in Zenodo with the aim to collect





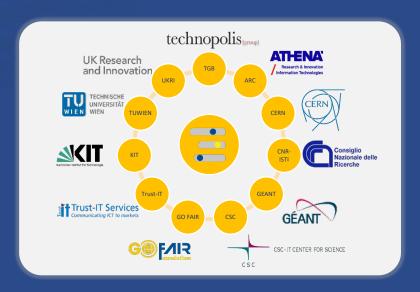
EOSC Video

- https://www.youtube.com/watch?v=3Hgnle1Xu8l
- Researchers perspective (with expert interviews)





Engage with the EOSCsecretariat.eu and Contribute to help Co-Create EOSC!



Get in touch with us!

- info@eoscsecretariat.eu
- www.eoscsecretariat.eu
- @EoscSecretariat
- **EOSC Secretariat**



