



Open Science in a European context

EU networking: Open Science in Horizon 2020 and Horizon Europe

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Open Science = Systemic transition of science system which affects the way

- research is performed
- knowledge is shared/diffused/preserved
- research projects/results are evaluated
- research is funded
- researchers are rewarded
- future researchers are trained

Affecting the whole research cycle and all its stakeholders





It offers great opportunities 4 science, scientists & society

- **Better Return of the R&I investments:** if all the results of our public research are made reusable, it will follow that better use is made
- **Faster circulation of new ideas:** we have 22 million EU SME's that will have access to top notch research for lower cost!
- **More transparency of the science system**
- **Fit for 21st century science purpose:** all grand societal challenges NEED cross disciplinary research



Top level policy goals



*"As I see it, European success now lies in sharing as soon as possible, (...). The days of **open science** have arrived."*

Speech at "Presidency Conference Open Science", 04 of April, 2016, Amsterdam

Council conclusions in 2016 by Research Ministers supporting open science



Open Science policy @ EC: bottom up & co-design



European Open Science Agenda

- ✓ Broad consensus on five policy lines and 8 Actions
- ✓ Open Science Policy Platform
- ✓ Embedded in the Digital Single Market strategy

New initiatives

- ✓ Research data in the PSI directive
 - ✓ extended to include research data. Member States to adopt national policies. Publicly funded research data open in repositories should be reusable. The re-use shall be free.
- ✓ Open Science in Horizon Europe





2016 - Holistic Policy Agenda: scope & ambitions

... 4 with regard to the use & management of research results and data

- ✓ **Open Data:** FAIR data sharing is the default for funding scientific research
- ✓ **Science cloud:** All EU researchers are able to deposit, access and analyse European scientific data through the open science cloud, without leaving their desk
- ✓ **Altmetrics:** Alternative metrics (next generation metrics) to complement conventional indicators for research quality and impact (e.g. Journal Impact Factors and citations)
- ✓ **Future of scholarly communication:** All peer reviewed scientific publications are freely accessible



... 4 with regard to relations with research actors (researchers, institutions and funders)

- ✓ **Rewards:** The European research career evaluation system fully acknowledges Open Science activities
- ✓ **Research Integrity:** All publicly funded research in the EU adheres to commonly agreed Open Science Standards of Research Integrity
- ✓ **Education and skills:** All young scientists in Europe have the necessary skills and support to apply Open Science research routines and practices
- ✓ **Citizen Science:** CS significantly contribute and are recognised as valid knowledge producers of European science

Policy focus now



Open access to publications

- Implement Plan S
- Increasing uptake to 100% in Horizon 2020 (incentives, 'sanctions')

Open access and research data

- Launch of EOSC in 2018, implementation the next two years
- The Data Management Plans
- Mainstreaming FAIR data across the FPs
- Stimulating a change in scientific culture

Citizen Science

- General agreement on uptake

Metrics and Incentives

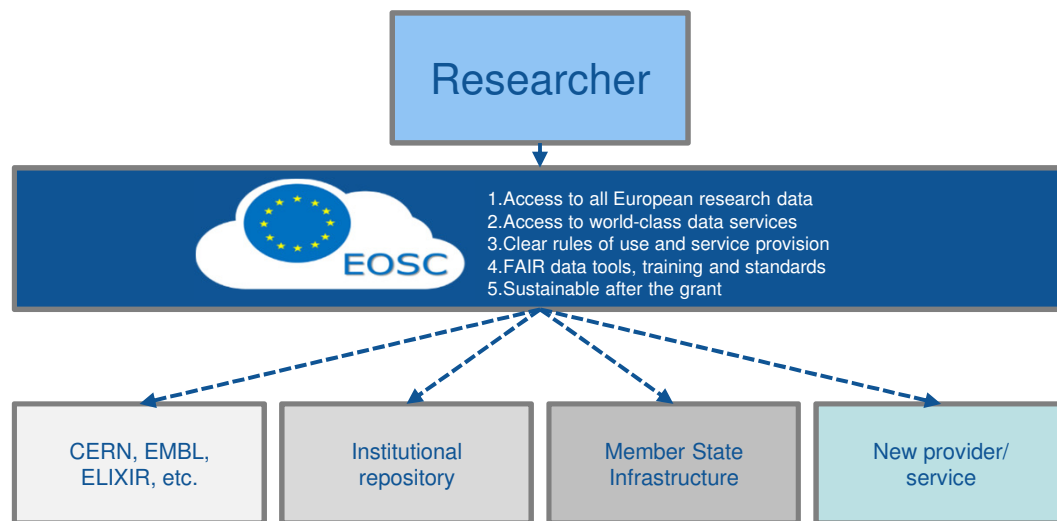
- Next generation metrics



EOSC: a researcher-centric project



EOSC will allow for universal access to open research data and create a new level playing field for EU researchers



- Easy access through a universal access point for ALL European researchers
- Cross-disciplinary access to data unleashes potential of interdisciplinary research
- Services and data are interoperable (FAIR data)
- Data funded with public money is in principle open (as open as possible, as closed as necessary)

Seamless environment and enabling interdisciplinary research



Governance framework

- **SCOPE**

All actions needed for steering and overseeing the initial development of the EOSC (until end 2020) towards the EOSC federated model described in the EOSC Implementation Roadmap

- **EXPECTED DELIVERABLES**

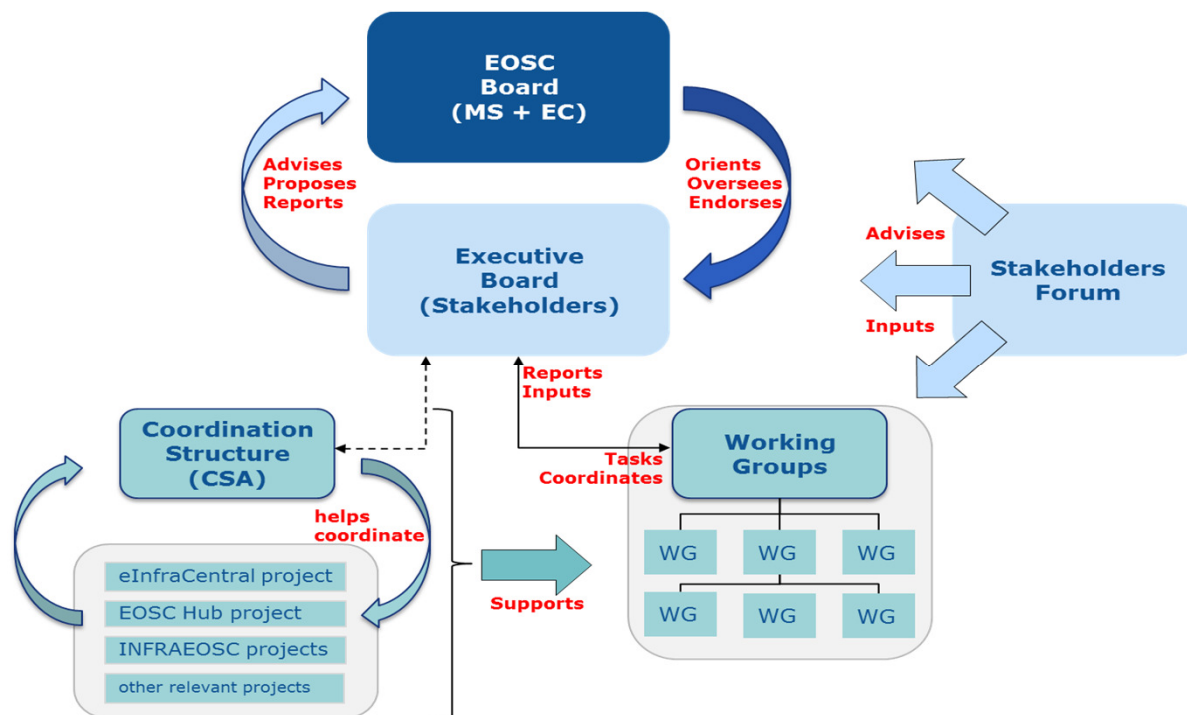
Strategic plan, Annual work plans, FAIR action plan, Rules of participation, mechanism for post-2020 governance, approach to extend user base to industry and public authorities

- **ACTORS**

The governance should rely on the interplay between three components:

- EOSC Board
- EOSC Executive Board
- Stakeholders Forum

Governance framework



Three layer structure as per Horizon 2020 WP 2018-2020

- *EOSC Board* of MS/AC and EC representatives to ensure effective supervision of EOSC implementation
- *Executive Board* of stakeholder representatives to help ensure proper EOSC implementation and accountability
- *Stakeholder Forum* to provide input from a wide range of actors

Further orientations for the set-up and composition of the Governance framework, to inform the consultation of MS without prejudging possible future decisions by the Council and the Commission

Roles

	Membership	Role
EOSC Board	Member States/Associated Countries and EC representatives	To oversee & steer the EOSC strategy and implementation → <i>Review and decide</i>
EOSC Executive Board	Stakeholder representatives and individual experts	To help & support the EOSC strategy, implementation, monitoring and reporting on progress of implementation → <i>Elaborate and propose</i>
Stakeholders Forum	Stakeholders organisations; e.g. scientific/user community, universities, research institutions, research infrastructures, eInfras	To advise the Executive Board and reach-out to the scientific community → <i>Provide input and feedback</i>



EOSC Working Group

- **TASK**

To deliberate on the orientations of the actions funded under Horizon 2020 in support of the implementation of the EOSC

To inform the related exchanges of views in the strategic configuration in the context e.g. of possible work programme updates in those fields

- **ACTIONS**

This will notably include:

- reviewing strategic implementation and annual work plans, and related documents submitted by the European Commission – notably coming from the EOSC Executive Board
- coordinating relevant national and Commission initiatives

Citizen Science



Open science offers opportunities for citizens and scientists together to step up their contribution to science to a scale unthought of even a decade ago.

Barriers and challenges still prevent citizen science from living up to its full potential (OSPP).

Goal: **Ensure maximum recognition and impact of citizen science:**

- Laying out a long-term vision for citizen science in Europe as part and parcel of open science
- Development of guidelines, toolkit or protocol(s) that can be applied across scientific disciplines to ensure, in particular, maximum recognition and use of the data produced by citizen science.
- Have all funders, research performing organizations and universities to agree on it (in co-development)



The Achilles heel of OS: metrics and incentives



Recommendation OSPP (based on Exp groups)

- **Quantitative and qualitative indicators** need to be identified and developed for research assessment that captures the full range of contributions to the knowledge system (e.g. context, discipline dependent)
- Display a broad range of indicators for **all research outputs**.
- Indicators have to **match Rewards** for Open Science
- Do **not use journal brand or IF** for individual researcher assessment as proxy for quality



Thank you!

More information at

<http://ec.europa.eu/research/openscience>

OS monitor

<http://ec.europa.eu/research/openscience/monitor/>