TRA 2022 - Strategic Session 4.2 « Open Science
in Transport Research Around the World »
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EOSC - European Open Science Cloud

for Research & Innovation

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European Commission

DG Research & Innovation
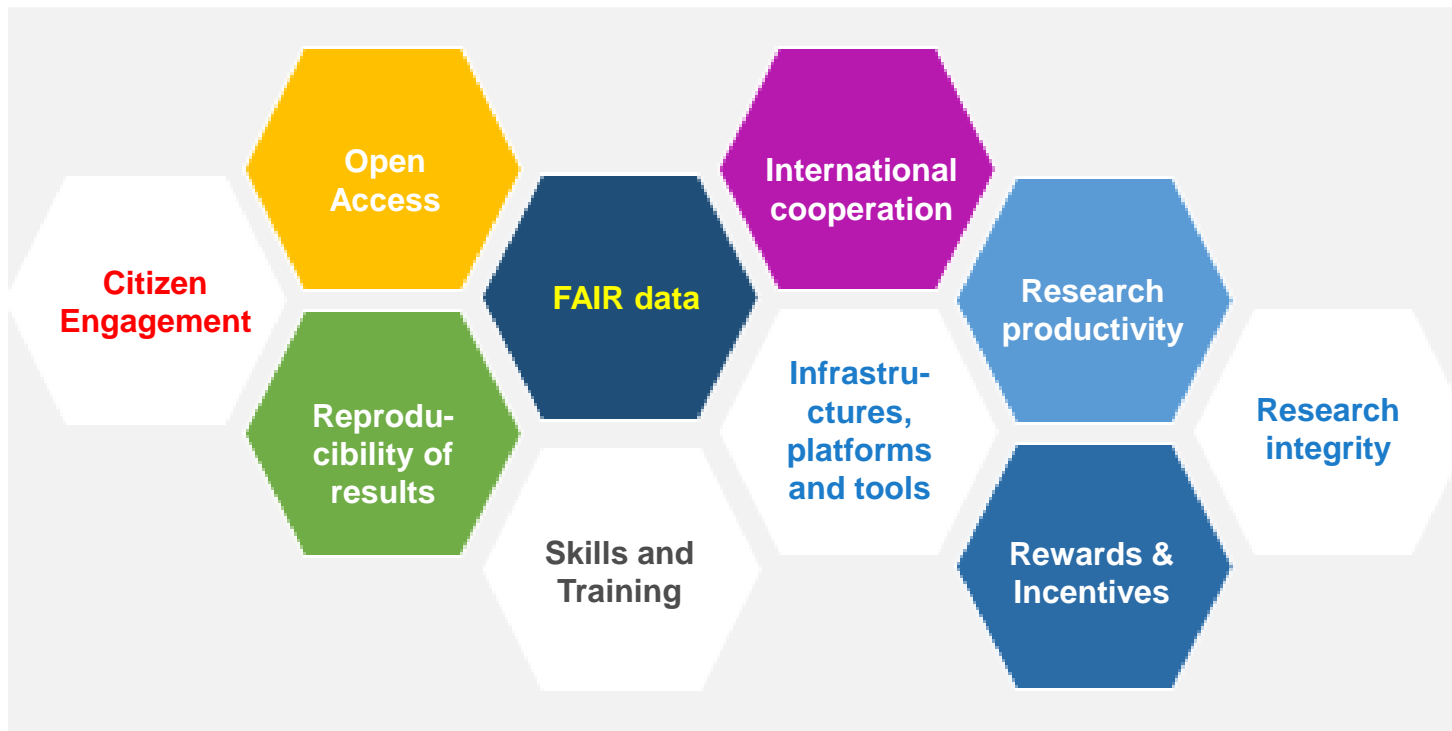
Why do we need Open Science?

> ***Open science:*** sharing knowledge, data and tools as early as possible in the research process in open collaboration with all relevant knowledge actors

- Open science has the potential to increase:

  - **Quality & efficiency of R&I**, if all the produced results are shared, made reusable, and if their reproducibility is improved

  - **Creativity**, through collective intelligence and cross-disciplinary research that does not require laborious data wrangling

  - **Trust** in the science system, by engaging both researchers & citizens

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Main challenges and priorities for Open Science

Improve the practice of research and innovation

- Openly accessible scholarly publications
- Early sharing of all research outputs
- All data FAIR, RDM
- Reproducible results
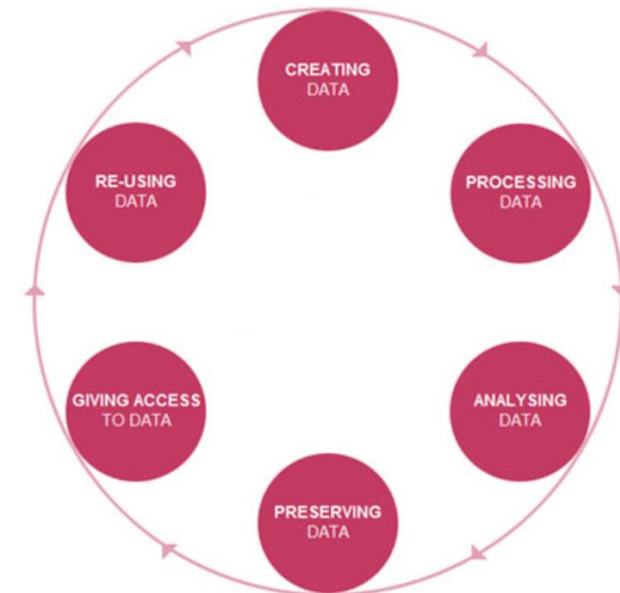- Societal engagement and responsibility

Develop proper enablers

- Rewards and incentives to adopt Open Science practices, with appropriate metrics

- Appropriate skills and education, including for research integrity

- Open Research Infrastructures including the European Open Science Cloud (EOSC)

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What is EOSC?

- Trusted, **federated** and multi-provider **environment** that cuts across borders and scientific disciplines to enable **Open Science** and **FAIR data management** practices.

- Brings together institutional, national and European stakeholders, initiatives and infrastructures

- Vision: a "**Web of FAIR Data and Services for Science**".

- It will enhance the possibilities for researchers to **find, share and reuse research outputs** like publications, data, and software leading to **new insights** and innovations, higher research **productivity** and improved **reproducibility** in science.

EOSC across disciplines

EOSC in research

EOSC Science Clusters

ENVRI-FAIR
for environmental research

ESCAPE
for astronomy and particle physics

EOSC-Life
for life sciences

PANOSC
Multidisciplinary research Photon and Neutron

SSHOC
social sciences and humanities

Other Thematic Clouds

Be-Open
Transport research OS cloud

Blue-Cloud
Marine research

Horizon Europe EOSC calls in support to the Missions

Horizon Europe future calls - Cloud for Cultural Heritage

EOSC is also among the common European Data Spaces (EU Data Strategy)

Health | Industrial & Manufacturing | Agriculture | Finance | Mobility | Green Deal | Energy | Public Administration | Skills

EOSC: a crosscutting data space for Research and Innovation

Synergies and support to interoperability to unlock the potential of intra and interdisciplinary use of data

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EOSC in the international context of Open Science

EOSC is global in scope and European by focus

- EOSC is a multilateral initiative involving <u>more than 40 participating countries</u> including the EU member States and countries associated to Horizon Europe

- EOSC can be seen as a <u>European contribution to a global open research commons</u>:
  - ➤ EOSC operates in a global ecosystem to avoid the creation of Open Science silos;
  - ➤ EOSC interoperability options are inspired from or validated with the international research community including through the Research Data Alliance (RDA).

- EOSC is a European contribution to Open Science initiatives in the **G7, United Nations and CODATA-WDS** context.

- EOSC will enshrine a number of **principles regarding international cooperation** including:
  - ➤ <u>Openness</u>: third-country participants participate voluntarily in EOSC as users or service providers in compliance with EOSC rules of participation;
  - ➤ <u>Digital sovereignty</u> in compliance with relevant EU/national legislation;
  - ➤ <u>Interoperability</u> in compliance with the FAIR principles;
  - ➤ <u>Reciprocity:</u> access to other commons to enhance the free flow of data and services.

Thank you !

HorizonEU

http://ec.europa.eu/horizon-europe

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