National Initiatives for Open Science in Europe

National Open Science Initiative, MoU

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According to the EOSC strategic implementation plan, the components of EOSC, is to “build the necessary trust for wide deployment among a large variety of research communities, so it is essential that the development of EOSC follows principles that will drive its implementation”.

EOSC Vision

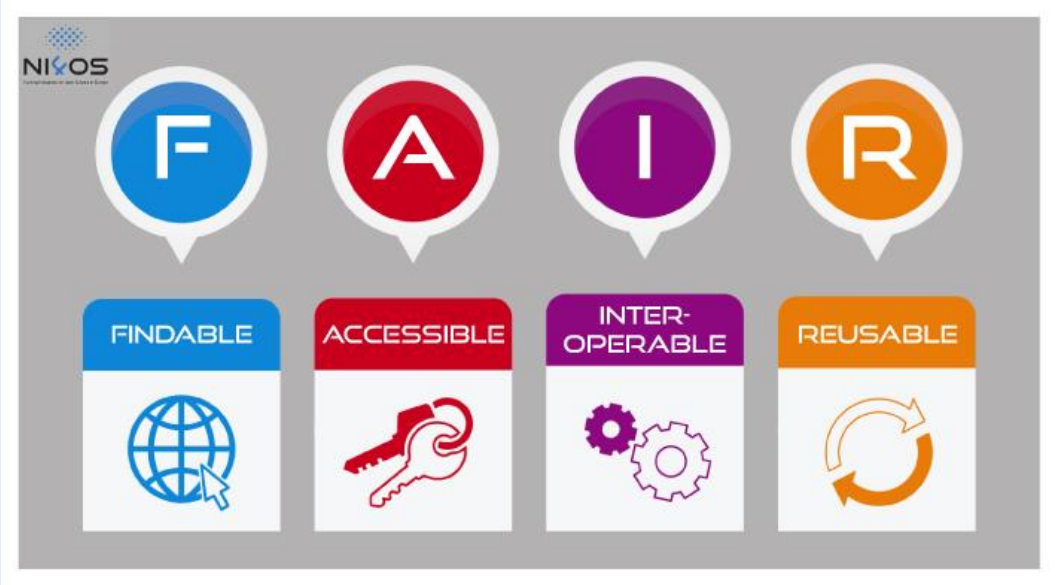
EOSC took shape in 2015 **to federate existing research data infrastructures to** support and develop open science and open innovation.

EOSC brings together national and European stakeholders, initiatives and e-infrastructures to develop an inclusive open science ecosystem in Europe.

Its aim is to develop a **trusted, virtual and federated environment** that cuts across borders to store, share, process and re-use research digital objects following FAIR principles.

Though the world is awash with vast amount of data significant effort is still needed to find the right dataset(s), make sense of them, and use for a new purpose.

FAIR is a set of principles, not a standard, according to which FAIR research data are the data which can be Findable, Accessible, Interoperable, and Reusable.



Today’s data generation is growing exponentially. The vast increase in data production equally applies to the domain of research, whereby researchers are already unable to read or access all relevant digital knowledge in their field.

In particular, the underlying research data remains predominantly unpublished and are thus unfindable and inaccessible.

Findable

The first step in (re)using data is to find them. Data and metadata should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the FAIRification process.

Accessible

Once the users find the required data, they need to know how these can be accessed, possibly including authentication and authorisation.

Interoperable

The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

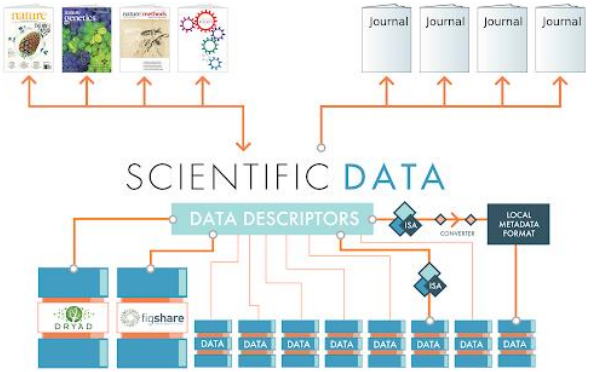
Reusable

The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

Human Machine collaboration is crucial to the future success in the field of research.

Europe is the largest producer of scientific data in the world, but insufficient and fragmented infrastructure means this “plethora of data” is not being exploited to its full potential. Access policies for networking, data storage, computing and processing differ across Europe.

Open data analysis tools and connected computing facilities need to become available for all researchers.



The three major building blocks of OS

- ❑ Open Access
- ❑ Research Data Management
- ❑ Open Research Software

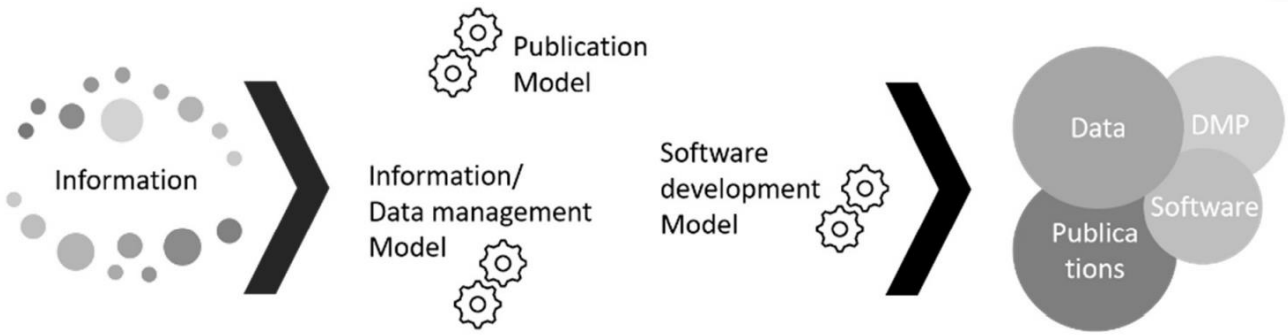


Figure 1: Information flow and Open Science outputs

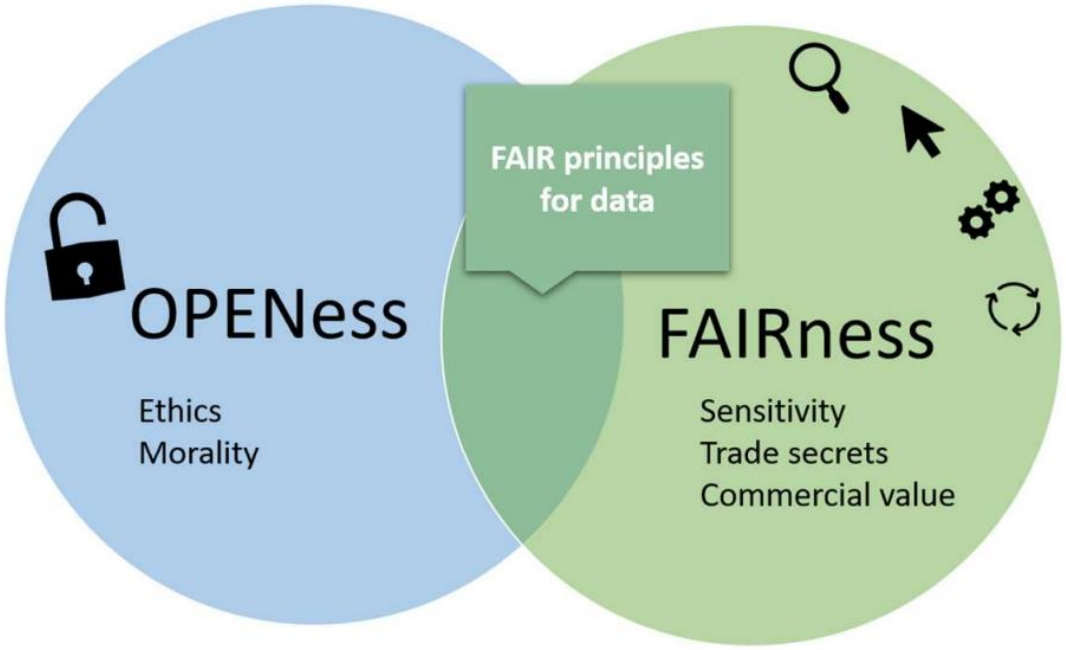


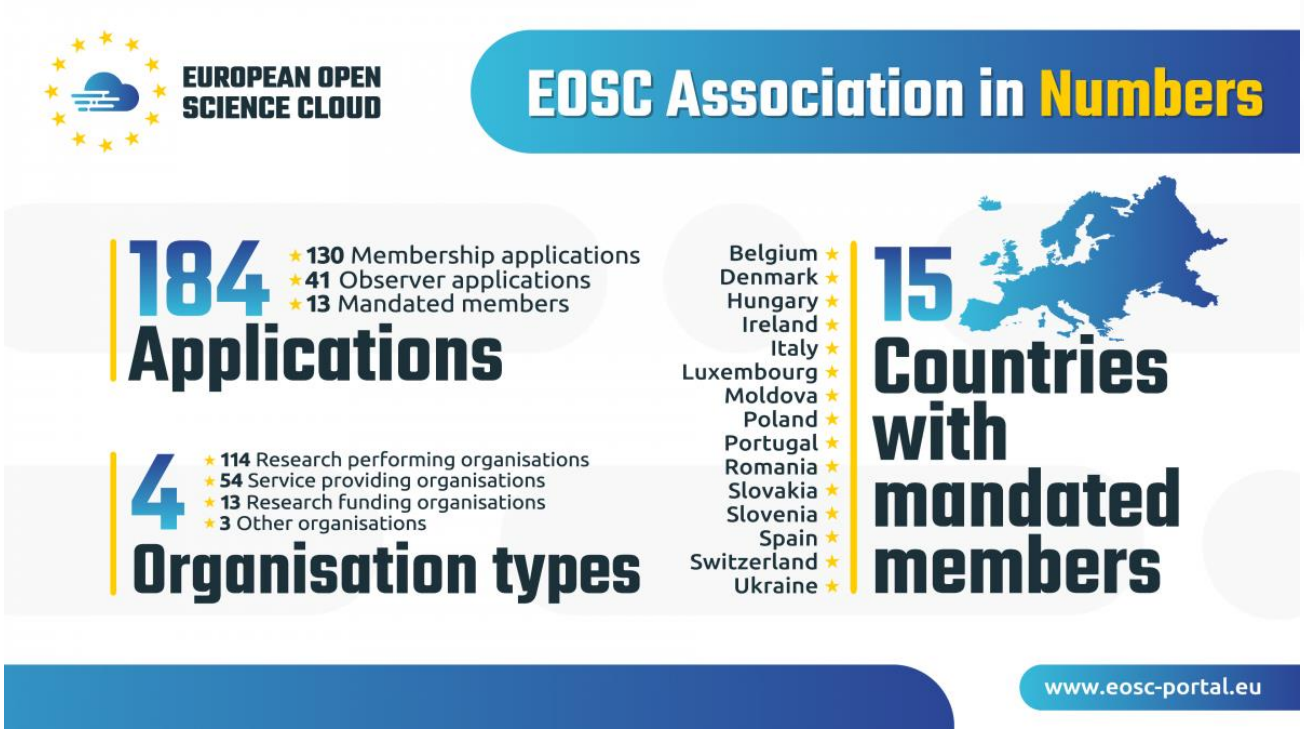
Figure 2: Relation between Open and FAIR data

EOSC Association

On July 29th, 2020 founding members submitted the Deeds of Association of the EOSC Association to the notary public in Brussels which marks an important development towards the sustainability of the European Open Science Cloud (EOSC) initiative.

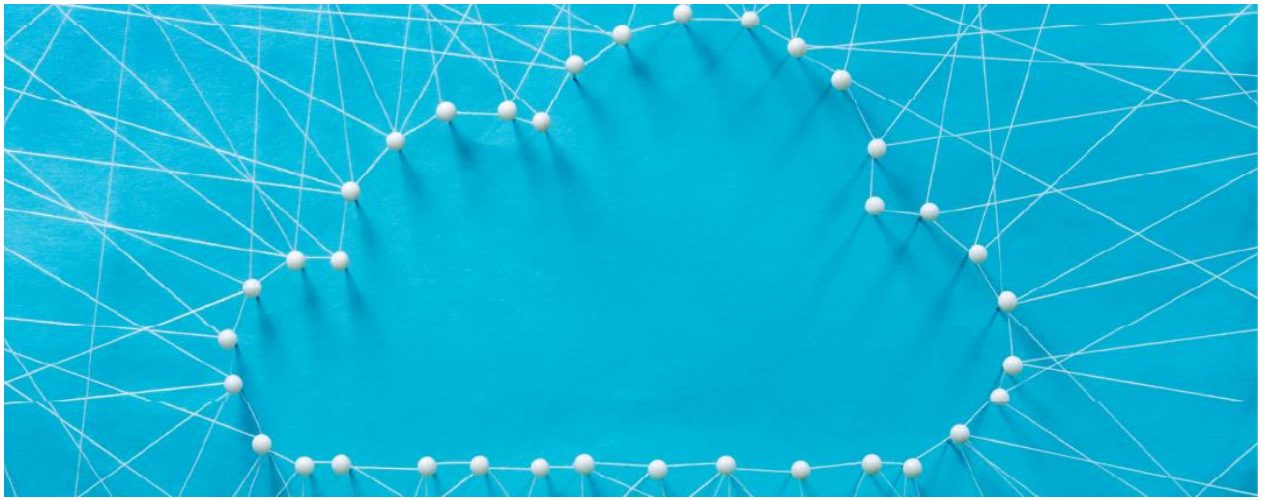
Membership at EOSC Association

- Membership applications
- Observer applications
- Mandated members



Members States and Associated Countries can form a formal National Open Science Cloud Initiative (NOSCI). There are three possible models and the model that can be worked with as “best-case scenario” and adapted to each country as circumstances allow should be chosen.

The model can be further customized by countries and adapted to different types of national initiatives according to the level of complexity and maturity of each country.



Workflows for setting up National OSC Initiatives

Country- or community-specific considerations must be taken into account.

There is no “one solution fits all” with regard the regional support of EOSC.

Figure 7: Options for setting up NOSCI

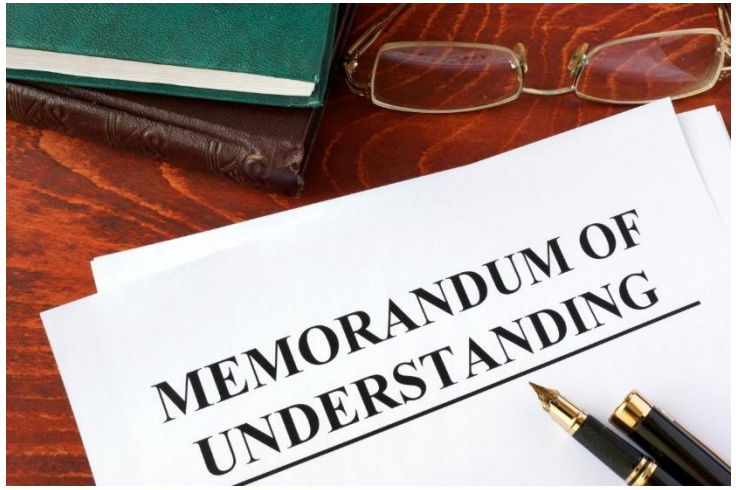
Options for setting-up a NOSCI

1. Top down
   - Initiated by higher authority stakeholders
2. Bottom up
   - Initiative by OSC stakeholders and relevant actors in the country
3. Hybrid
   - Combination of previous two, independently of who initiated it

Bottom-up approach in setting up a NOSCI

The bottom-up approach is the most widely used model.
This model is based on Memorandum of Understanding (MoU) between stakeholders and main steps of its implementation are:

- Identify national organisations that have interest in EOSC
- Make contact with diverse research scientific communities, institutes and organizations interested and active in EOSC
- Approach relevant state organizations with the proposed NOSCI MoU
- Communicate current Open Science Cloud status in the country, inform about the EOSC, its advancements



Purpose of the MoU

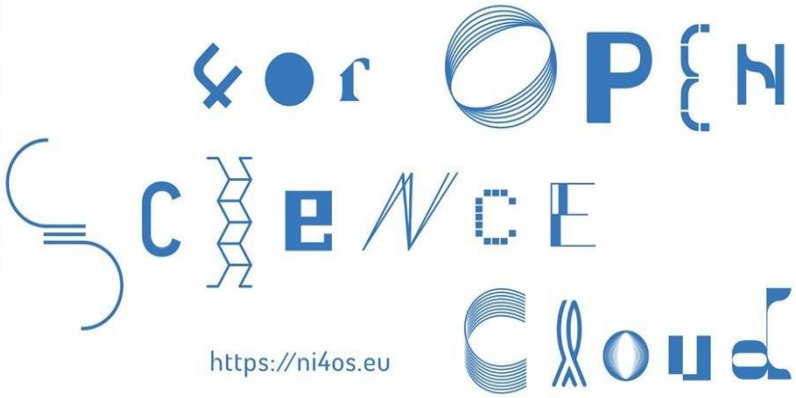
The general objectives are:

- Support development a national strategic vision for the optimization of data services in favor of scientific research and innovation.
- Promote the active participation of Georgian research community in the Horizon Europe calls related to the development of European Open Science Cloud (EOSC) by organizing informational activities and praining programs.
- Promote the inclusion of other national institutions in the development of Georgian Open Science Cloud Initiative.

Activities

- Recognition of digital resources present at national level in terms of available resources and services and related access programs.
- Elaboration of the Open Science methods for accessing and sharing data such as user interfaces, resource federation, authorization and accounting tools.
- Creation of working groups on topics of common interest, such as the one on FAIR data.

Thank you for your attention!



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