



Open Science @EC: open access and open data

Victoria Tsoukala, PhD, DG RTD B.2
CRUE-CRUP meeting, Brussels, 11th April 2019

Who are we?

A policy maker

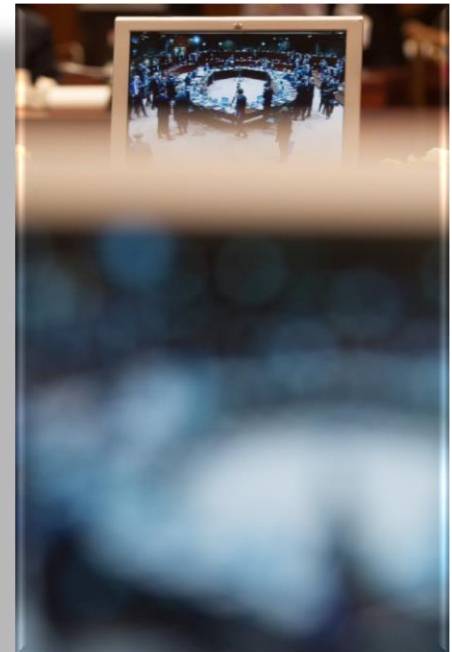
- We propose EU legislation
- We legislate with other Community institutions (European Parliament, Council...)
- We invite Member States to act

A funding agency

- We set our own rules for EC-funded scientific research and innovation

A capacity builder

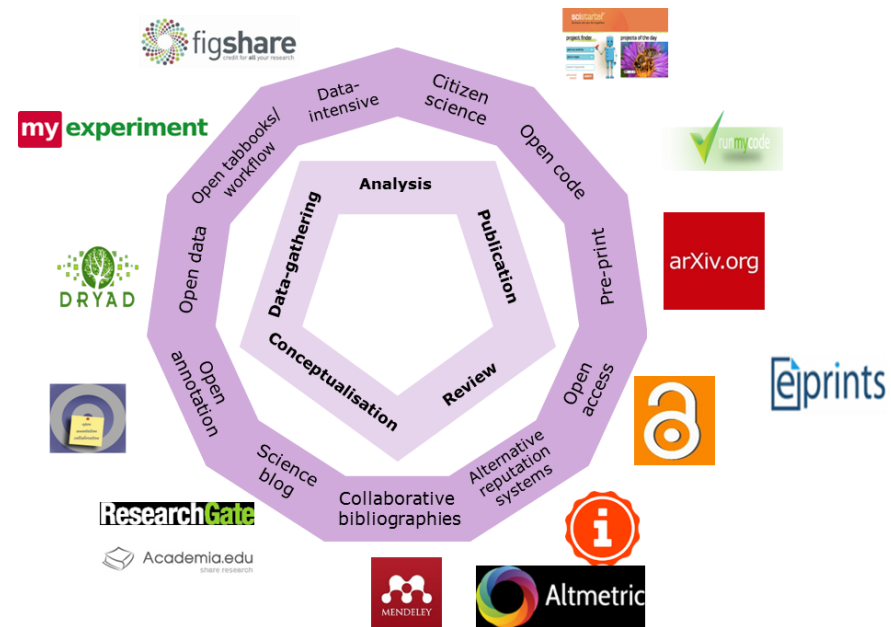
- We fund projects that support our policy



How to describe Open Science?

There are many definitions but maybe Open Science is:

- A system of practices that moves towards a more open, collaborative, data-intensive and networked way of doing research and sharing research results, enabled by developments in ICT and related infrastructures and the increasing proliferation of data.



Or Open Science is:

- ***Just science done right!***



Why is Open Science so important?

It's good for science: efficiency, verifiability, transparency, interdisciplinarity

It's good for the economy: access to and re-use of scientific information by industry, innovation

It's good for society: broader, faster, transparent & equal access for citizens, increased societal impact of science and research



Scope & ambitions by 2020

Use & management of research results and data

- ✓ **Open Data**
- ✓ **European Open Science
Cloud**
- ✓ **Altmetrics**
- ✓ **Future of scholarly
communication**

Research actors (researchers, institutions and funders)

- ✓ **Rewards**
- ✓ **Research Integrity**
- ✓ **Education and skills**
- ✓ **Citizen Science**

Enable systemic transition to Open Science!



Open Science in FPs



Scientific publications in H2020 (Art. 29.2 MGA)

Mandatory open access to peer-reviewed
publications through repositories

What to do?

Deposit + open access



Research data in H2020

(Art. 29.3 MGA)

a.k.a. the Open Research Data Pilot (ORDP)

Two important clarifications:

1. Not a pilot any more. By default in, unless exception in WP
2. It is not only about open access to research data, but:



Addresses two things at once:

- **Research Data Management (RDM)** as a standard practice through **Data Management Plans (DMPs)**- required as deliverable
- **Open access to research data**- as open as possible, as closed as necessary!

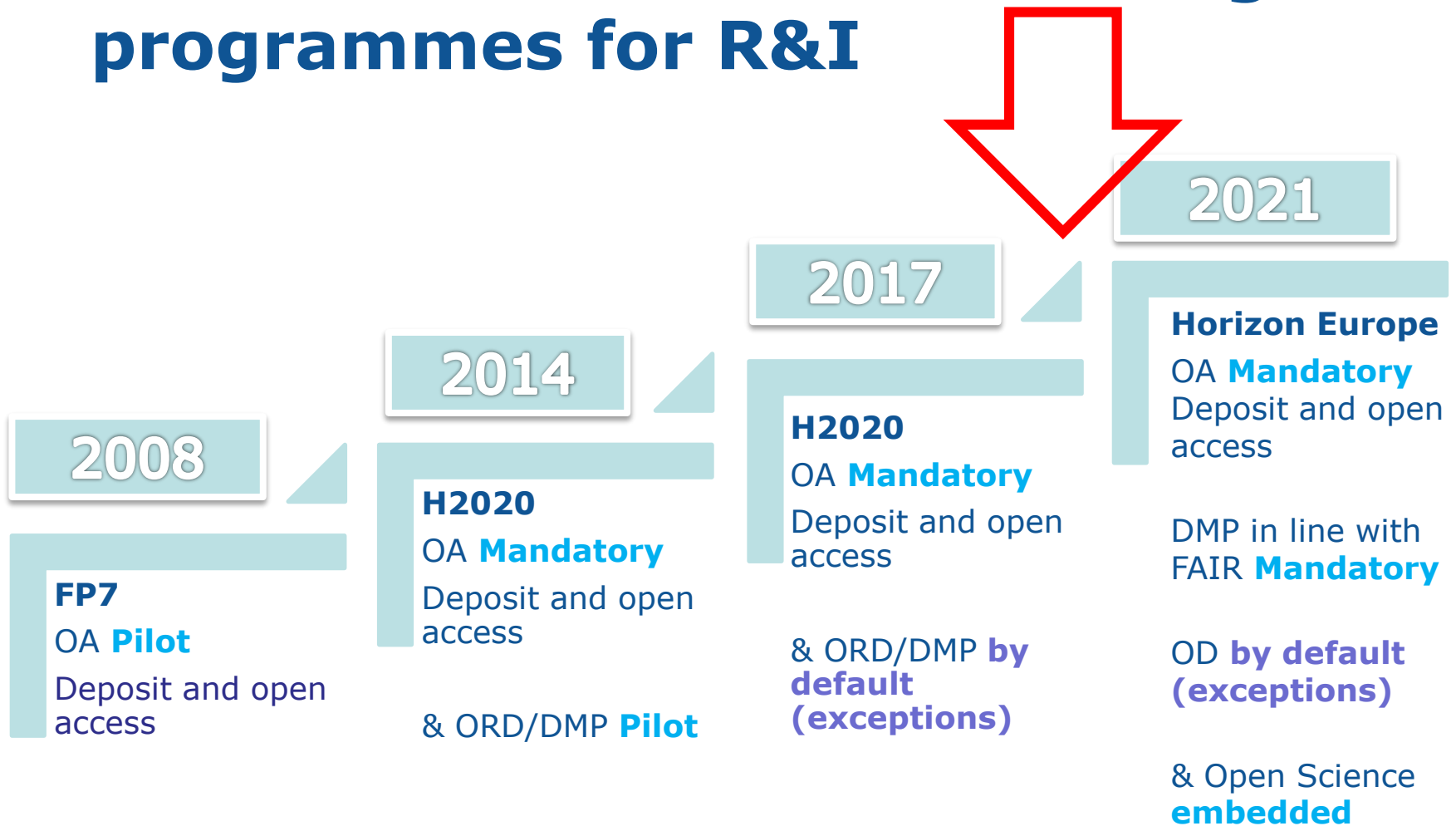
Costs for open access to research data fully eligible during the duration of the project

Which types of data?

- **'underlying data'** (the data needed to validate the results presented in scientific publications), **including the associated metadata** (i.e. metadata describing the research data deposited), **as soon as possible**

- **any other data** (for instance curated data not directly attributable to a publication, or raw data), **including the associated metadata, as specified and within the deadlines laid down in the DMP** – that is, according to the individual judgement by each project/grantee.

The evolution of the EU funding programmes for R&I





Horizon Europe goes beyond OA (publications & data)

to embrace & incentivise Open Science as *modus operandi* for science



- Clarifies and strengthens the **OA obligations**;
- **Empowers the authors** of scientific publications;
- Is home of **FAIR data sharing** while complying with IPR rules and exploitation obligations set in the GA;
- Encourages **Open Access to other research output**;
- Promotes compliance with '**Open Science principles**' through a combination of obligations and incentives;
- Implements **sanctions** for those beneficiaries that repeatedly and consistently fail to provide the required open access, requiring institutions to assume responsibility for their intellectual output;
- Introduces the use of '**new generation**' **metrics** for better assessing the impact of research output and the engagement in Open Science.

Articles setting Open Science obligations in Horizon Europe

Article 2 defines open access and open science

Article 10 sets the obligations for Open Science with regard to Open Access, RDM, FAIR and other open science practices. It also sets the principle of reciprocity in Open Science.

Article 35 foresees further obligations in terms of IPR, Data Management Plans, FAIR and use of European Open Science Cloud and certain exceptions (“as open as possible as closed as necessary”)

Article 10- Open science

1. The programme shall encourage open science as an approach to the scientific process based on cooperative work and diffusing knowledge, in particular in line with the following elements:

- **open access to scientific publications** resulting from research funded under the Programme;
- **open access to research data**, including those underlying scientific publications.

These elements shall be ensured **in accordance with Article 35(3) of this regulation**. The latter shall also be in line with the principle '**as open as possible, as closed as necessary**';

Article 10- Open science

1a. The principle of reciprocity in open science shall be promoted and encouraged in all association and cooperation agreements with third countries, including agreements signed by funding bodies entrusted for indirect management of the Programme.

2. Responsible management of research data shall be ensured in line with the principles 'Findability', 'Accessibility', 'Interoperability' and 'Reusability' (**FAIR**). Attention shall also be paid to the long-term preservation of data.

3. Other open science practices shall be promoted and encouraged, including for the benefit of SMEs.

Article 35- Exploitation and dissemination

3. Beneficiaries shall ensure that **open access to scientific publications** applies under the terms and conditions laid down in the grant agreement. In particular, **the beneficiaries shall ensure that they or the authors retain sufficient intellectual property rights** to comply with their open access requirements.

Open access to research data shall be the general rule under the terms and conditions laid down in the grant agreement, ensuring the possibility of exceptions **following the principle 'as open as possible, as closed as necessary'**, taking into consideration the legitimate interests of the beneficiaries including commercial exploitation and any other constraints, such as data protection rules, privacy, confidentiality, trade secrets, Union competitive interests, security rules or intellectual property rights.

The work programme may provide for **additional incentives or obligations to adhere to open science practices.**

Article 35- Exploitation and dissemination

4. Beneficiaries shall manage all research data generated in a Horizon Europe action **in line with the FAIR principles and in accordance with the terms and conditions laid down in the grant agreement and shall establish a Data Management Plan.**

The work programme may provide, where justified, for **additional obligations to use the European Open Science Cloud (EOSC)** for storing and giving access to research data.



Possible Implementation of Plan S in HE (decisions pending)

- **Immediate open access through repositories or open access publishing:** no embargoes accepted (now 6/12 months)
- **Funding for hybrid journal publishing not eligible** (already announced in Horizon Europe's Impact Assessment)
- **Copyright retention and open license:** copyright retention already in the HE Regulation. Open license to be required in MGA
- **Reinforcement of the requirements of journals, platforms and repositories:** in line with the « compliance » requirements of Plan S

Other important activities:

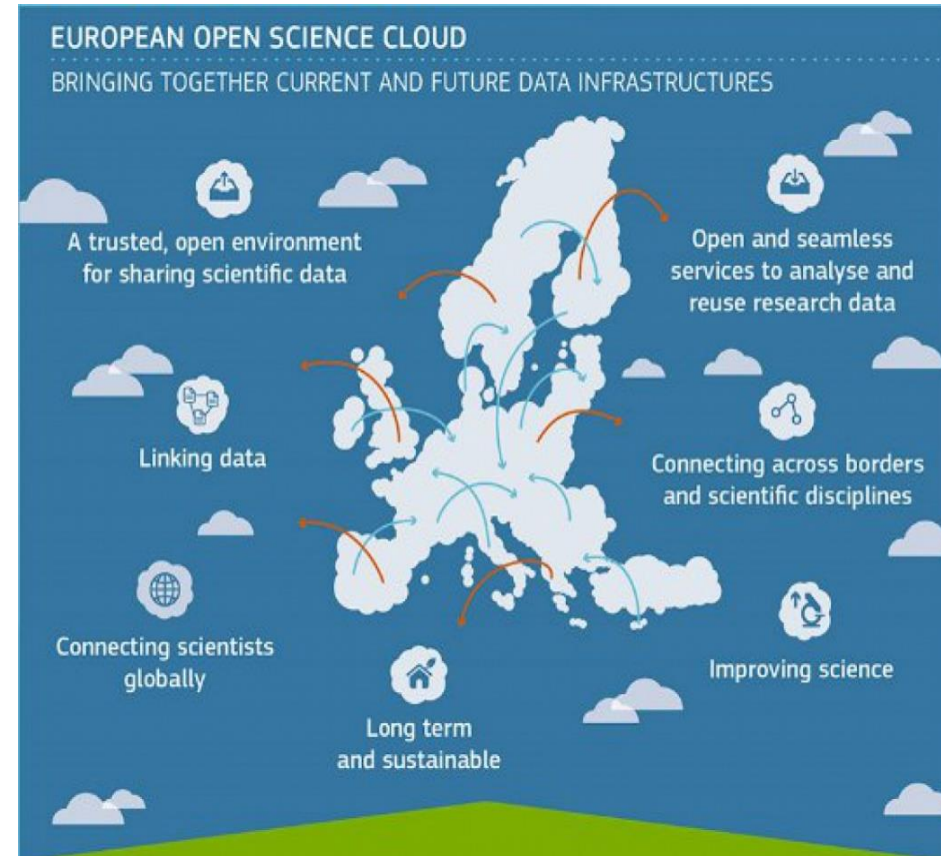
European Open Science Cloud

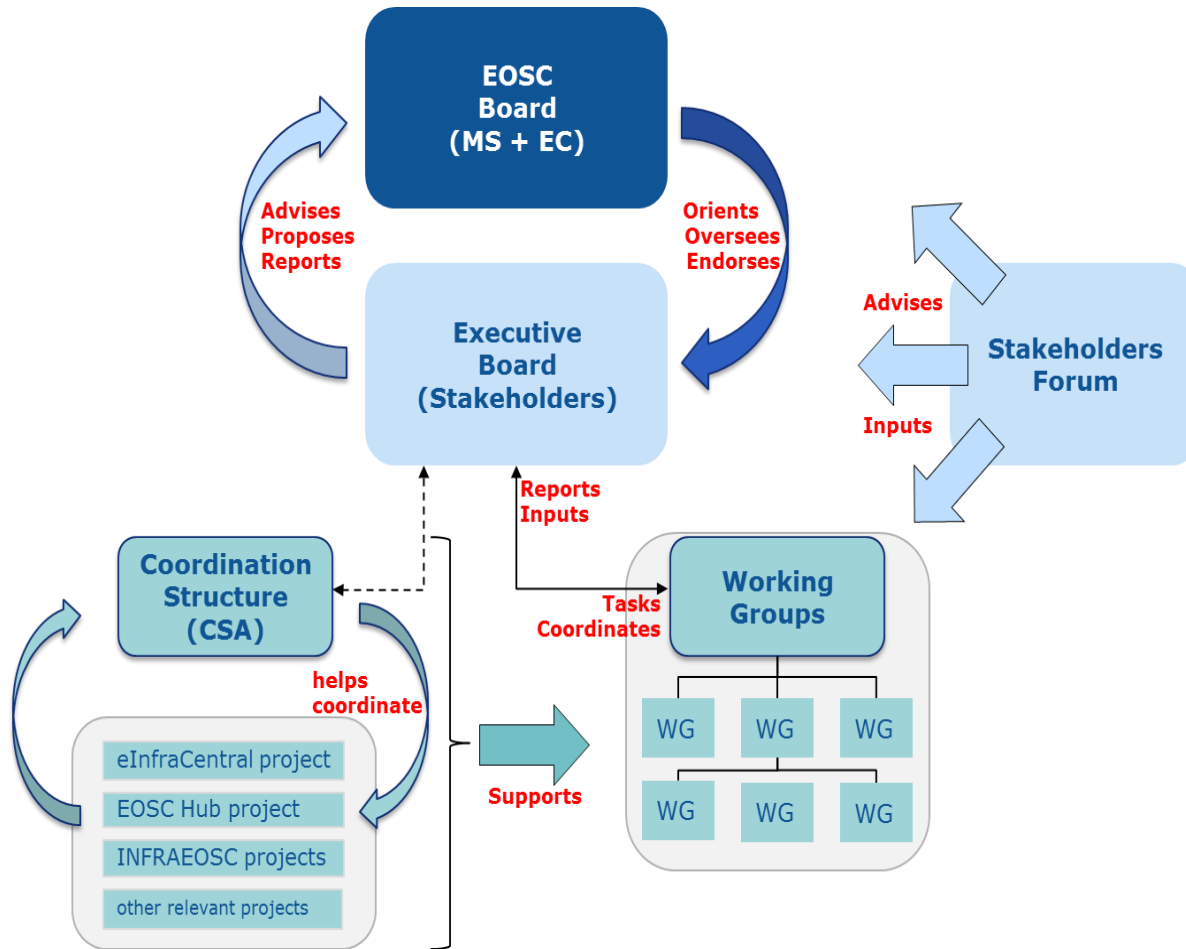
EC data package

Open research publishing platform



- **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 today's fragmentation and ad-hoc solutions
- **EOSC will add value** (scale, data-driven science, inter-disciplinarity, faster innovation) and leverage past infrastructure investment (10b per year by MS, two decades EU investment)





Three layer structure

- ***EOSC Board of MS/AC and EC representatives*** to ensure effective supervision of EOSC implementation
 - ***Working Group of the strategic configuration of the Programme Committee***
- ***Executive Board of stakeholder representatives*** to help ensure proper EOSC implementation and accountability
 - ***Commission expert group***
- ***Stakeholder Forum*** to provide input from a wide range of actors
 - ***Self-organised with EC support***



Public sector and
publicly funded data



Private sector data



Research data

Proposal for a
revision of the
Directive on the
reuse of public
sector information

Draft Guidance on
private sector data
sharing in B2B and
B2G contexts

Update 2012
Recommendation
on access to and
preservation of
scientific
information

2018 DATA PACKAGE

Different policy instruments for different types of data



The Open Research Europe publishing platform

- Help H2020 beneficiaries and their researchers comply with the open access mandate without paying APCs during and after the grant
- Improve uptake of OA in H2020
- Promote OA as THE mode for publishing from now on
- Support open science and lead by example
 - ✓ Early sharing of research (pre-prints + peer-reviewed articles)
 - ✓ Open peer-review+ post publication commenting
 - ✓ New generation metrics
- Explore business models in OA publishing and sustainability
- Non-award decision- New call to be published soon



Thank you!

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