Recent developments in the EC policy on Open Science

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Max Planck Digital Library
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What is Open Science and why do we need it?

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
The European Commission in the R&I context

**Policy maker**
- It proposes EU legislation and monitors its implementation
- It works with the two co-legislators (European Parliament and Council)
- It invites Member States to act

**Funder**
- It sets its own rules for scientific research and innovation funded by the European Commission

**Capacity builder**
- It has research facilities (Joint Research Centre) and funds infrastructure that support EC/EU policy
Open Science in Horizon Europe
Horizon 2020 & Horizon Europe

**Horizon 2020: ~ €80bn**

- Excellent Science: €13.5bn
- Industrial Leadership: €17.0bn
- Other: €3.2bn
- Euratom: €1.6bn
- European Institute of Innovation and Technology: €2.7bn
- Societal Challenges: €29.7bn

**Horizon Europe: ~ €95.5bn**

- Excellent Science: €25.8bn
- Global Challenges & Ind. Competitiveness: €52.7bn
- Innovative Europe: €13.5bn
- Strengthening ERA: €2.1bn
- Euratom: €2.4bn

- The Commission invests heavily in Research and Innovation.
- Over 30000 H2020 projects—Projects produce research outputs, data, deliverables, etc.
- It becomes increasingly important to make the best possible use of previous work.
Open Science in Horizon Europe

Evolution of Open Science policies across Framework Programmes

- **2008**
  - FP7
  - Pilot on open access to publications

- **2014**
  - H2020
  - Open access to publications mandatory
  - & Pilot on open research data/DMP

- **2017**
  - H2020
  - Open access to publications mandatory
  - & Open research data/DMP by default (exceptions)

- **H2020**
  - Open access to publications mandatory
  - & Open research data/DMP by default (exceptions)

Under **Horizon Europe (2021)**

- Open Science embedded across Horizon Europe
  - **Evaluation** of proposals (excellence – methodology-, quality & efficiency of implementation)
  - **Grant Agreement, Work Programmes, guidelines**
  - **Reporting**—during the project’s lifetime
  - Strengthening of the open access obligations and focus on responsible research data management in line with the FAIR principles
Open access to publications (1/2)

Beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure:

- at the latest upon publication, deposition of the Author Accepted ManuScript (AAM) or the Version of Record (VoR) in a trusted repository + immediate open access via the repository under a Creative Commons Attribution (CC BY) or equivalent licence. CC BY-NC/CC BY-ND are allowed for long-text formats.

- information via the repository about any research output/tools/instruments needed to validate the conclusions of the scientific publication

Metadata must be open under a Creative Commons Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles and provide information about the licensing terms and persistent identifiers, amongst others.
Open access to publications (2/2)

- Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

- Publication in venue of choosing but publication fees are reimbursable only if publishing venue is full open access (publication fees in hybrids not reimbursed).
Research data management

Beneficiaries must manage the digital research data generated in the action responsibly, in line with the FAIR principles and:

- establish + regularly update a data management plan (‘DMP’) for generated (and/or collected) data

- as soon as possible and within the deadlines set out in the DMP, deposit the data in a trusted repository (federated in the EOSC if required in the call conditions) + ensure open access under CC BY, CC 0 or equivalent, following the principle ‘as open as possible as closed as necessary’

- provide information via the repository about any research output/tools/instruments needed to re-use or validate the data

Metadata must be open under CC 0 or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles and provide information about the licensing terms and persistent identifiers, amongst others.
Additional Open Science practices

• Where the call conditions impose additional obligations regarding Open Science practices,

  the beneficiaries must also comply with those

• Where the call conditions impose additional obligations regarding the validation of scientific publications,

  the beneficiaries must provide (digital or physical) access to data or other results needed for validation of the conclusions of scientific publications, to the extent that their legitimate interests or constraints are safeguarded (and unless they already provided the (open) access at publication
Additional Open Science practices

• Where the call conditions impose additional Open Science obligations in case of a public emergency,

  the beneficiaries must (if requested by the granting authority) immediately deposit any research output in a repository + provide open access to it under CC BY, CC 0 or equivalent

As an exception, if the access would be against the beneficiaries’ legitimate interests, the beneficiaries must grant nonexclusive licenses – under fair and reasonable conditions - to legal entities that need the research output to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions.

This provision applies up to 4 years after the end of the action
Evaluation of proposals and Open Science

“Excellence” criterion
(methodology)

• Evaluation of the quality of open science practices
• Up to 1 page to describe Open Science practices + up to 1 page to describe research data/output management

“Quality and efficiency of implementation” criterion
(capacity of participants and consortium as a whole + list of achievements)

• Explain expertise on Open Science
• List publications, software, data, etc, relevant to the project with qualitative assessment and, where available, persistent identifiers

Publications are expected to be open access; datasets are expected to be FAIR and ‘as open as possible, as closed as necessary’. **Significance of publications to be evaluated on the basis of proposers’ qualitative assessment** and not per Journal Impact Factor
NB on evaluation!

• Evaluation concerns mandatory and recommended Open Science practices, the latter where appropriate.

• When Open Science practices are duly justified as not appropriate for the project, score is not lowered for not addressing those practices or for lack of Open Science expertise.

• All Work Programmes, except for the ERC, evaluate Open Science practices as outlined above (exception with some EIC programmes that for now evaluate under Impact).
Open Science in Horizon Europe explained

• Webinar: How to prepare a successful proposal in Horizon Europe (24 March 2021)
  • Open Science at 00:53:00
  • Q&A (including on Open Science) from 1:09:00

• Webinar: A successful proposal for Horizon Europe: Scientific-technical excellence is key, but don’t forget the other aspects (21 April 2021)
  • Presentation: Open Science
More information at this [link](#)

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Open Science: a crucial part of ERA
Deepening the ERA
The Commission will: (Action 9)

- Launch, via the Horizon Europe Programme, a platform of peer-reviewed open access publishing;

- Analyse authors’ rights to enable sharing of publicly funded peer-reviewed articles without restriction;

- Ensure a European Open Science Cloud that is offering findable, accessible, interoperable and reusable research data and services (Web of FAIR); and

- Incentivise open science practices by improving the research assessment system.

Citizen Engagement
The Commission will: (Action 13)

- Organise with Member States and stakeholders Europe-wide citizen science campaigns to raise awareness and networking, crowdsourcing platforms and pan-European hackathons, in particular in the context of Horizon Europe Missions. The Commission will develop with Member States best practices to open up science and innovation to citizens and youth.
Copyright and open science

Copyright is a bundle of rights that protect authors on their creations + allow copyright holders to determine who, when and how will access and reuse works

Protects and sets the conditions for “dissemination”

An adequate copyright legislative framework and copyright management are key for open science

- The transposition of the Copyright in the Digital Single Market Directive was due on 7 June 2021 (articles 3 & 4 on Text and Data Mining)

- Under the ERA Communication (Action n.9) the Commission will ”analyse authors’ rights to enable sharing of publicly funded peer-reviewed articles without restriction”

- The review of the Database Directive will be part of the upcoming «Data Act »
Have your say!

• The public consultation on the Data Act (including the review of the Database Directive) is open for feedback.
Thank you