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#HorizonEU

THE EU RESEARCH & INNOVATION PROGRAMME

2021 – 2027

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Cluster 6 Coordinators' Day-22/09/2022

Research and Innovation

HORIZON EUROPE CLUSTER 6 COORDINATORS DAY

Open Science in Horizon Europe

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Open Science

Horizon Europe moves beyond open access to open science, for which it features a comprehensive policy implemented from the proposal stage to project reporting.

Definition

Open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process.

Includes the active engagement of all relevant actors, including society.

- ✓ It has the potential to increase the quality and efficiency of research and accelerate the advancement of knowledge and innovation by sharing results, making them more reusable and improving their reproducibility.
- ✓ It makes science more efficient through better sharing of resources, more reliable through better verification and more responsive to society's needs.
- ✓ Is mainstreamed throughout Horizon Europe, from evaluation to implementation. (be aware of differences compared to Horizon 2020!)

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Open Science practices

What?	How?	Mandatory per Grant Agreement / Recommended
Early and open sharing of research	Preregistration, registered reports, preprints, etc.	Recommended
Research output management	Data management plan (DMP)	**Mandatory**
Measures to ensure reproduciblity of research outputs	Access and/or information to research outputs and tools/instruments for validating conclusions of scientific publications and validating/re-using data	**Mandatory**
Open access to research outputs through deposition in trusted repositories	• Open access to publications • Open access to data • Open access to software, models, algorithms, workflows etc.	• **Mandatory** for peer-reviewed publications • **Mandatory** for research data **but** with exceptions (‘as open as possible, as closed as necessary’) • Recommended for other research outputs
Participation in open peer-review	Publishing in open peer-reviewed journals or platforms	Recommended
Involving all relevant knowledge actors	Involvement of citizens, civil society and end-users in co-creation of content (e.g. crowd-sourcing, etc.)	Recommended

- Open science practices are described in the HE Programme Guide (see Resources)
- This is a non-exhaustive list: other open science practices (on top of the four already mandatory ones) may be mandatory per specific work programmes or call conditions (i.e. imposed in case of public emergency)

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1. 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 or Version of Record in a trusted repository + **immediate open access via the repository** under a Creative Commons Attribution license (CC BY) or equivalent (Creative Commons Attribution Non Commercial/Non Derivatives licenses or equivalent 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 their choice but **publication fees are reimbursable only if publishing venue is full open access** (publication fees in hybrid venues are not reimbursed)

- Beneficiaries have the possibility to publish at no costs in **Open Research Europe**, the European Commission open access publishing platform.

Research data management (1/2)

Beneficiaries **must manage the digital research data** generated in the action responsibly, **in line with the FAIR ("Findable", "Accessible", "Interoperable", Reusable")** 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.

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Research data management (2/2)

There are exceptions to open access to research data.

Data may be kept **closed** if:

- providing open access is against the **beneficiary's legitimate interests**, including regarding commercial exploitation;
- it is contrary to **any other constraints**, such as data protection rules, privacy, confidentiality, trade secrets, Union competitive interests, security rules, intellectual property rights or would be **against other obligations** under the Grant Agreement.

Trusted repositories under Horizon Europe

- Trusted repositories are either **certified repositories** (e.g. CoreTrustSeal, nestor Seal DIN31644, ISO16363) and/or **disciplinary/domain repositories** that are commonly used/endorsed by the research communities (e.g. ELIXIR deposition databases).
- **General-purpose repositories** and **institutional repositories** are, in general, also acceptable.
- Trusted repositories share essential properties:
  - Mechanisms to ensure **integrity** and **authenticity** of contents.
  - Offer clear **information** about their **policies/services**.
  - Provide broad, and ideally **open access** to content (consistent with legal and ethical constraints).
  - Assign **PIDs**, ask for detailed **metadata** in a standardized (e.g. Dublin Core) and machine-readable way.
  - Ensure mid- and long-term **preservation** of contents, **expert curation**, **quality assurance**.
  - Meet national and/or international **security** criteria

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**

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)

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

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

Guidance/resources on open science in Horizon Europe

- Horizon Europe Annotated Model Grant Agreement (p.154 ff.)
- Horizon Europe Data Management Plan Template (under reference documents of the Funding and Tenders portal).
- Horizon Europe Programme Guide (p. 38 ff. with extensive analysis of open science practices and the evaluation process; good for POs and for evaluators)
- Proposal Template (instructions on parts A +B also including definition of open science practices and requirements)

Open Research Europe

What is Open Research Europe?

- **A peer-reviewed** publishing platform. Not a repository. Post-publication peer-review model. First you publish, then review takes place. Publication and review reports open access under CC BY licenses. Optional service for our beneficiaries at no cost to them.

Why Open Research Europe?

- **Supports our open access policy** and beneficiary capacity to adhere to it and also enables **publishing post-grant**
- Leading by example in operationalising **open science principles** within scientific publishing, and **enabling the European Research Area**
- Contribute to **transparency** and **cost-effectiveness** and explore **sustainable** open access publishing business models

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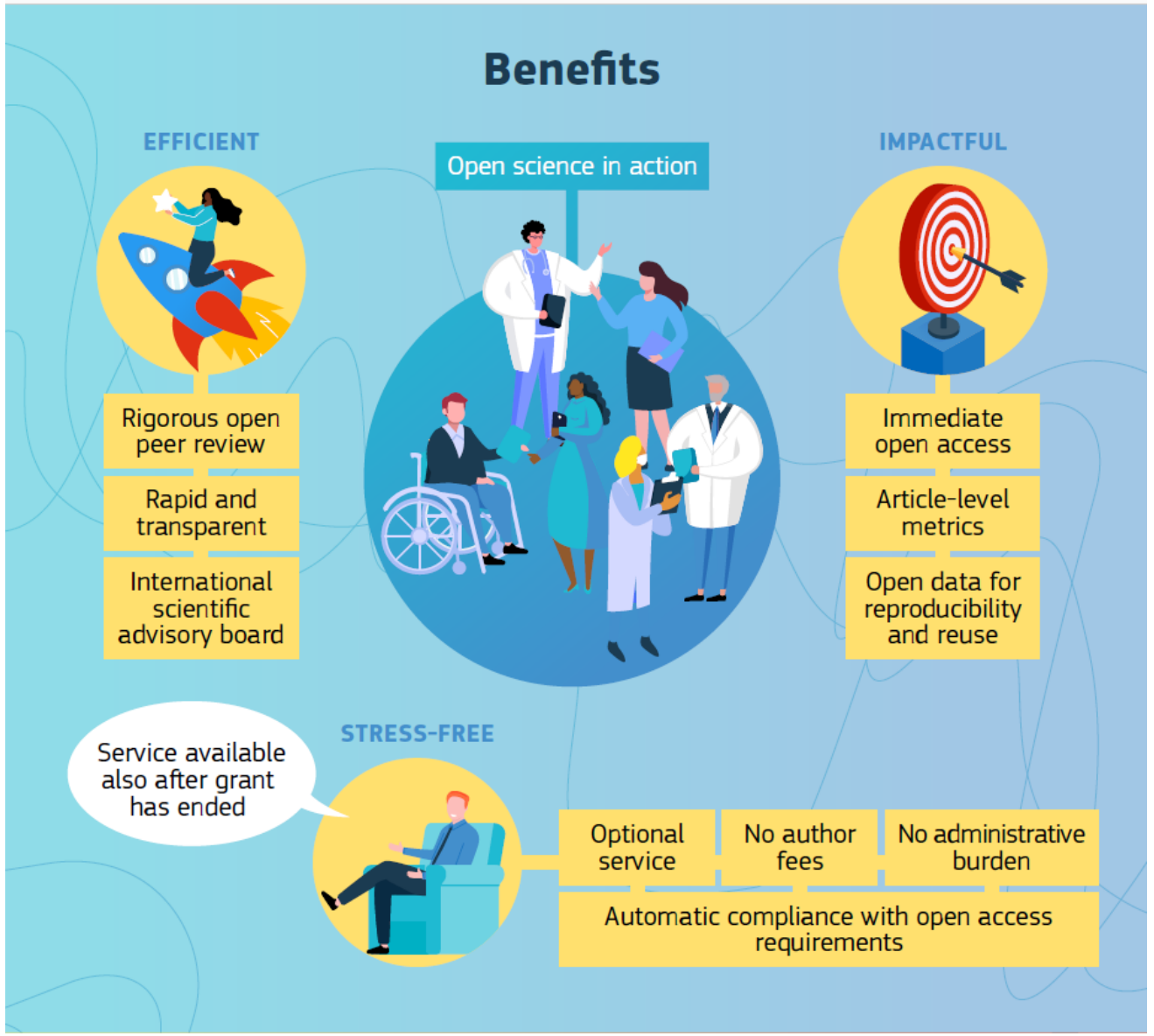
Open Research Europe



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ORE resources

- https://open-research-europe.ec.europa.eu/
  - https://open-research-europe.ec.europa.eu/about
  - https://open-research-europe.ec.europa.eu/faqs
- Open Research Europe infographic
- Open Research Europe playlist in DG R& I Youtube channel
- @OpenResearch_EU Twitter account

Key message

The effort needed to comply with Open Science obligations is easily underestimated

Act since the very beginning to ensure that

- ❑all beneficiaries are aware about their obligations
- ❑Open Access provisions are respected all along the implementation of the project
- ❑continuous reporting is used, adding all the necessary information as soon as available

Checks, requests for clarifications and edits at the reporting phase can produce consistent delays which impact on the payment of prefinancing tranches.

Do not hesitate to contact your Project Officer for any kind of doubt or enquiry!

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Thank you!

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