



Open Science in Horizon Europe

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Why do we need Open Science?

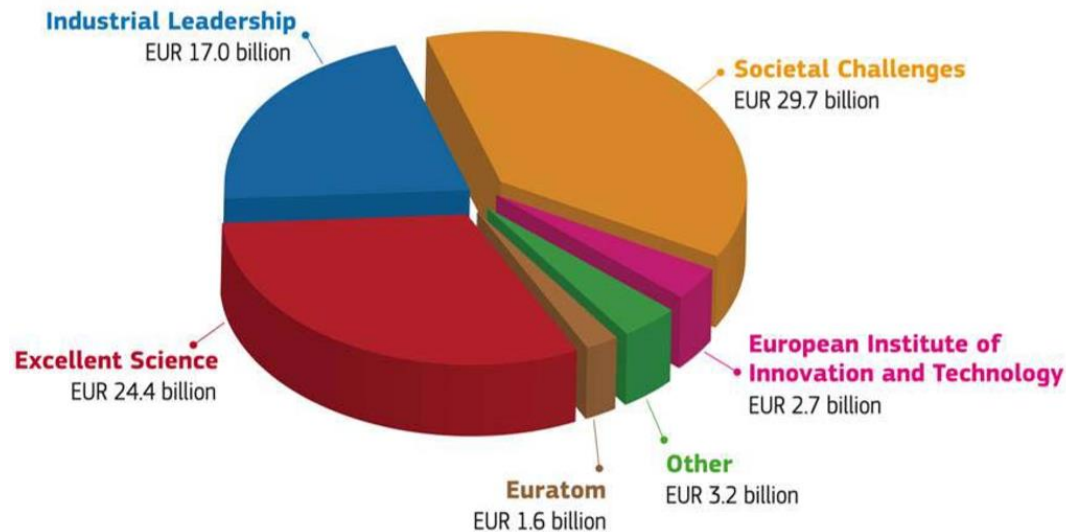
“Open Science” means an approach to the scientific process based on open cooperative work, tools and diffusing knowledge

(Horizon Europe Regulation and Model Grant Agreement)

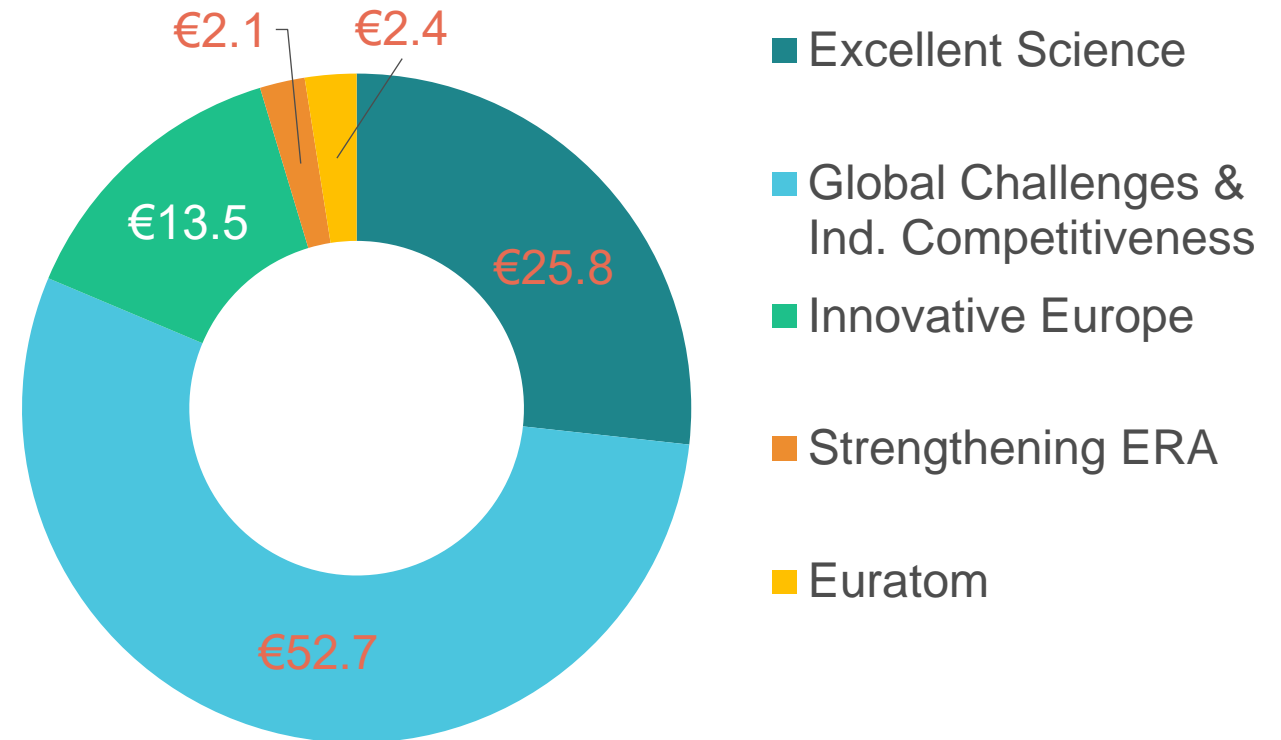
- Open Science has the potential to increase
 - **Quality & efficiency of R&I**, if all the produced results are shared, made reusable, and if their reproducibility is improved
 - **Creativity**, through collective intelligence and cross-disciplinary research that does not require laborious data wrangling
 - **Trust** in the science system, by engaging both researchers & citizens

Horizon 2020 & Horizon Europe

Horizon 2020: ~ €80bn



Horizon Europe: ~€95.5bn

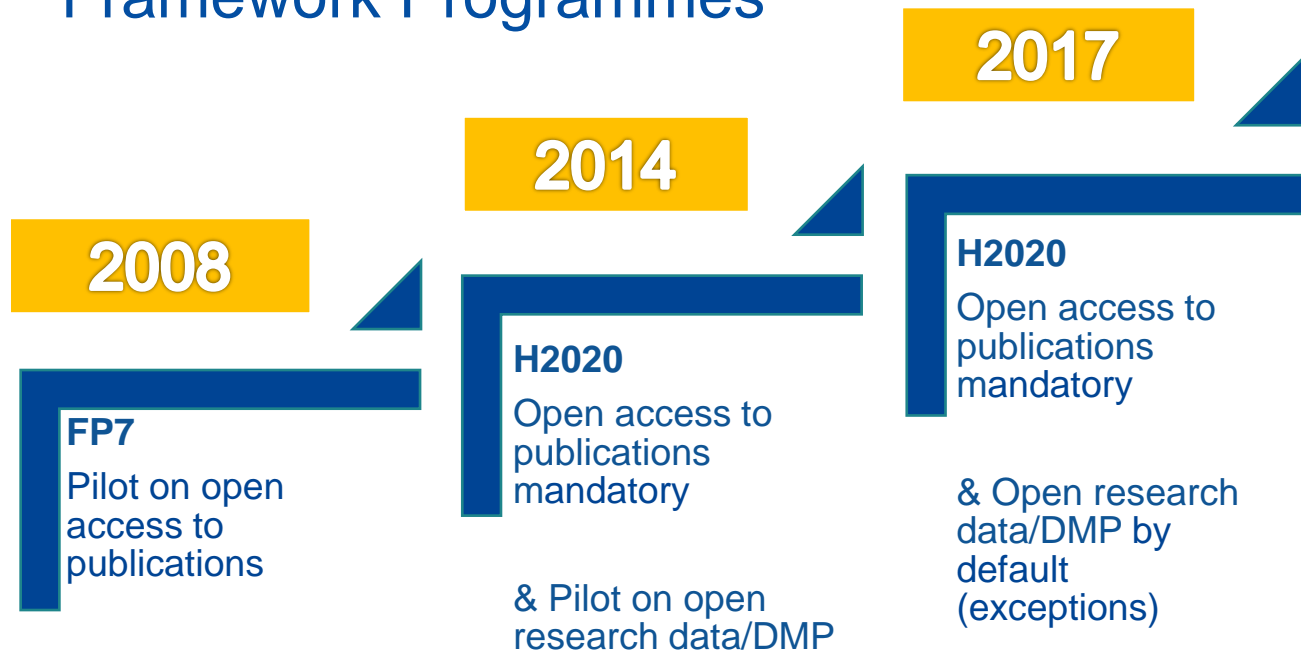


- Excellent Science
- Global Challenges & Ind. Competitiveness
- Innovative Europe
- Strengthening ERA
- Euratom

- 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



Under **Horizon Europe (2021)**

- Open Science embedded across Horizon Europe
- Strengthening of the open access obligations and focus on responsible research data management in line with the FAIR principles

Evaluating open science in Horizon Europe proposals

Open Science practices

What?	How?	Mandatory in all calls/recommended
Early and open sharing of research	Preregistration, registered reports, preprints etc.	Recommended
Research output management	Manage responsibly in line with FAIR; Data management plan (DMP)	Mandatory
Measures to ensure reproducibility of research outputs	Information on outputs/tools/instruments and access to data/results for validation of publications	Mandatory
Open access to research outputs through deposition in trusted repositories	<ul style="list-style-type: none"> Open access to publications Open access to data Open access to software, models, algorithms, workflows etc. 	<ul style="list-style-type: none"> Mandatory for peer-reviewed publications Mandatory for research data but with exceptions ('as open as possible...') 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

Evaluation of proposals and Open Science

“Excellence” criterion (methodology)

- Evaluation of the quality of open science practices
- E.g. 1 page to describe Open Science practices + 1 page to describe research data/output management [RIA,IA]

“Quality and efficiency of implementation” criterion

(capacity of participants and consortium as a whole + list of achievements)

- Explain expertise/track record 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

Model Grant Agreement requirements

1. Open access to scientific publications
2. Research Data Management
3. Additional open science practices

1. Open access to publications (1/2)

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

- at the latest upon publication, **deposition** of the AAM or VoR in a **trusted repository** + ensure **open access via the repository** under **CC BY** or equivalent;
 - CC BY-NC and CC BY-ND are allowed for long-text formats (monographs, other types of books)
- information via the repository about any research output/tools/instruments needed to **validate the conclusions of the scientific publication**

Metadata must be open under **CC 0** or equivalent, in line with the FAIR principles and provide information about the licensing terms, amongst others.

1. Open access to publications (2/2)

- Beneficiaries (or authors) **must retain sufficient intellectual property rights** to comply with the OA requirements
- Freedom to publish in venue of choice but **publication fees are reimbursable only if publishing venue is full open access** (publication fees in hybrids not reimbursed)
- Beneficiaries will have the possibility to publish at **no costs (during & post grant)** in [Open Research Europe](#), the European Commission open access publishing platform.

2. 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**, amongst others.

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

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.

3. Additional Open Science practices

- Where the call conditions impose **additional obligations** regarding OS practices:
 - the beneficiaries must also comply with those
- All projects have additional **obligations regarding the validation of scientific publications** which must be complied with.
 - 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)

3. Additional Open Science practices- Public emergency

- If imposed by the call conditions 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, beneficiaries **must grant non-exclusive licenses** — under fair and reasonable conditions — **to legal entities that need the research output to address the public emergency + commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions.**

This provision applies up to four years after the end of the action.

Programming period

2021-2027 ▾

Horizon Europe (HORIZON) ✕

Clear filter

Reference Documents

Grants

This page includes reference documents of the programmes managed on the EU Funding & Tenders portal starting specific actions.

Please select the programme to see the reference documents.

Procurement

Reference Documents related to tendering opportunities are published on TED eTendering in the calls for tenders.

Filter

- + Legislation
- + Work programme & call documents
- + Grant agreements and contracts
- + Guidance
- + Templates & forms
- + Funding & Tenders Portal

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON>

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](#)

Thank you!



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