

# Guidelines on the Implementation of Open Access to Scientific Publications and Research Data in Projects supported by the European Research Council under Horizon 2020

(November 2016)

## Open Access to Publications

According to the ERC Scientific Council's Open Access Guidelines<sup>1</sup>:

*“The mission of the European Research Council (ERC) is to support excellent research in all fields of science and scholarship. The main outputs of this research are new knowledge, ideas and understanding, which the ERC expects its researchers to publish in peer-reviewed articles and monographs. The ERC considers that providing free online access to these materials is the most effective way of ensuring that the fruits of the research it funds can be accessed, read, and used as the basis for further research. [...] The ERC therefore supports the principle of open access to the published output of research as a fundamental part of its mission.”*

Under Horizon 2020, beneficiaries of ERC grants<sup>2</sup> must ensure **open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results**. The detailed requirements on open access to publications are contained in the Horizon 2020 ERC Model Grant Agreement (Article 29.2).

## Research Data Management and Sharing

Concerning **research data**, the ERC Scientific Council's Open Access Guidelines further explain:

*“The European Research Council supports the basic principle of Open Access to research data. It therefore recommends to all its funded researchers that they follow best practice by retaining files of all the research data they have produced and used during the course of their work, and that they be prepared to share these data with other researchers whenever they are not bound by copyright restrictions, confidentiality requirements, or contractual clauses.”*

Beneficiaries of ERC grants funded under the Work Programme 2016 may opt-in, on an individual and voluntary basis, **to the Horizon 2020 Pilot on Open Research Data** in order to facilitate access, re-use and preservation of research data generated during their research work. Beneficiaries choosing this option should carefully check the additional obligations that apply to projects that opt-in to the Pilot as described in Article 29.3 of the ERC Model Grant Agreement under Horizon 2020. As of the Work Programme 2017 the Pilot on Open Research Data is being extended to cover all thematic areas of Horizon 2020 and open access becomes the default setting for the research data generated. The beneficiaries may still opt out at any stage, freeing themselves from any obligations regarding the open access to digital research data generated in the action.

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<sup>1</sup> Open Access Guidelines for research results funded by the ERC (revised February 2016)

<sup>2</sup> except for ERC Low-value Grants

## Implementation

### Open access to peer-reviewed scientific publications

Article 29.2 of the Grant Agreement sets out detailed legal requirements on open access to scientific publications: under Horizon 2020, **each beneficiary must ensure open access – via a repository – to all peer-reviewed scientific publications** relating to the project's results (including not only journal articles but also conference proceedings and long-text publications such as monographs, book chapters, edited volumes, etc.). Access has to be provided either to the published version or the final peer-reviewed manuscript accepted for publication.

To meet this requirement, beneficiaries must ensure that these publications can be read online, downloaded and printed (free of charge, online access to any user). Beneficiaries are also encouraged to provide for further rights that could make them even more useful (e.g., right to copy, distribute, search, link, crawl and mine).

#### **The open access to publications mandate comprises 3 steps:**

1. Depositing publications in repositories (online archive)
2. Selecting the open access route (green or gold open access)
3. Providing open access to publications

These steps are explained in more detail below. They may or may not occur simultaneously, depending on the selected open access route and whether an embargo period applies.

#### **Step 1 – Depositing publications in repositories**

Beneficiaries are required to deposit an electronic copy of the publication in a suitable repository. Publications must be "machine-readable", that is in a format that can be used and understood by a computer. They must therefore be stored in text file formats that are either standardised or otherwise publicly known so that anyone can develop new tools for working with the documents. Thus, scanned versions of printed publications do not fulfil this requirement.

Depositing is mandatory regardless of the open access mode selected. It must be done as soon as possible and at the latest upon publication.

The beneficiary must also aim to deposit at the same time as the publication the research data needed to validate the results presented in the deposited scientific publications ('underlying data'), ideally in a data repository. This is strongly encouraged but not mandatory<sup>3</sup>. Beneficiaries are also invited to grant open access to this data, but they are not obliged to do so.

ERC strongly encourages ERC funded researchers to use discipline-specific repositories for their publications.

- For Life Sciences the recommended repository is Europe PubMed Central. For Physical Sciences and Engineering arXiv is recommended. The ERC is currently not recommending any specific repository for Social Sciences and Humanities.
- The recommended repository for monographs, book chapters and other long-text publications is the OAPEN Library.

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<sup>3</sup> However, note that for projects that take part in the Open Research Data Pilot the deposit and the provision of open access to the data underlying publications IS mandatory. This is explained further down in these guidelines.

- If there is no appropriate discipline specific repository, researchers should make their publications available in institutional repositories or in centralized ones, such as Zenodo.

Venues such as Research Gate or Academia.edu that require users to register in order to access content do not count as repositories. The posting of publications on a personal, institutional or project specific webpage or the deposit in a publically accessible Dropbox account is not sufficient to satisfy the requirements either.

## Step 2 – Selecting the open access route

Beneficiaries select one of the two main routes towards open access to publications, both equally valid:

1. **Green open access (self-archiving):** The published work or the final peer-reviewed manuscript that has been accepted for publication is made freely and openly accessible by the author, or a representative, in an online repository. Some publishers request that open access be granted only after an embargo period has elapsed.
2. **Gold open access (open access publishing):** The published work is made available in open access mode by the publisher immediately upon publication. The most common business model is based on one-off payments by authors (commonly called APCs – article processing charges – or BPCs – book processing charges). The costs of gold open access publications are eligible costs that can be charged against ERC grants, provided the costs are incurred during the duration of the project.

## Step 3 – Providing open access to deposited publications

Beneficiaries must **ensure open access to the deposited version** of their publications via the chosen repository. Open access should be provided as soon as possible and in any case no later than six months after the official publication date. For publications in the Social Sciences and Humanities domain a delay of up to twelve months is acceptable. For publications that have been published in gold open access, open access to the deposited version has to be provided immediately upon publication.

For publications issued after the end of the action, if beneficiaries cannot provide open access within the maximum acceptable embargo period without incurring additional costs for gold open access, green open access with a longer embargo period is accepted.

To be able to easily find the deposited publication, beneficiaries must also ensure open access – via the repository – to the bibliographic metadata that identify the deposited publication. This metadata must include a persistent identifier (such as the Digital Object Identifier, DOI) in order to allow easy and persistent referencing.

The European Commission encourages authors to retain their copyright and grant adequate licences to publishers. [Creative Commons](#) offers useful licensing solutions (e.g. [CC BY](#)). This type of licence is a good legal tool for providing open access in its broadest sense.

## Open access to research data

In Horizon 2020 the European Commission has been encouraging open access to and reuse of digital research data generated by Horizon 2020 projects **through the Open Research Data Pilot (ORD Pilot)**, following FAIR data principles - all research data should be Findable,

Accessible, Interoperable and Reusable (FAIR). Examples of research data include statistics, results of experiments, measurements, observations resulting from fieldwork, survey results, interview recordings and images.

Under the pilot, open access should be provided to the data needed to validate the results presented in scientific publications. Other data is also covered as specified in the data management plan.

**The legal requirements** for projects participating in this ORD Pilot are set out in Article 29.3 of the Grant Agreement: the beneficiary must deposit the data in a research data repository so that it is possible to access, mine, exploit, reproduce and disseminate the data, free of charge for any user. For ERC Work Programme 2016 projects, Article 29.3 will be only included in the Grant Agreement if the beneficiary has opted-in the ORD Pilot. Starting from ERC Work Programme 2017 projects, Article 29.3 will be included in the Grant Agreement as the default<sup>4</sup>.

After the project has started, beneficiaries of the ERC projects participating in the ORD Pilot have to formulate a **Data Management Plan (DMP)**, a brief plan to define what data sets the project will generate or process, whether and how these data will be made accessible, and how they will be curated, stored and preserved. The DMP should also provide information on the measures taken to safeguard and protect sensitive data.

For ERC projects, the data management plan must address following issues:

1. Making data **F**indable,
2. Making data openly **A**ccessible,
3. Making data **I**nteroperable,
4. Increase data **R**e-use,
5. Allocation of resources and data security

The data management plan will also have to specify if certain datasets remain closed and the reasons for not giving access should be given (for instance, if one of the project objectives would be jeopardised by providing open access to certain data or some of the generated data are considered sensitive, etc.).

A first version of the data management plan must be submitted within the first six months of the project implementation. It should be updated and completed (i.e. become more precise) as the project evolves.

**No additional funding** is provided for data management activities for those deciding to participate in the pilot. Costs relating to open access to research data will be eligible as part of the grant, **independent from the participation in the pilot**, provided the general eligibility conditions specified in the Grant Agreement are followed.

**Participants of the Open Research Data Pilot need to take the following three steps:**

1. Deposit research data needed to validate the results presented in scientific publications, including associated metadata, in the repository as soon as possible. Also other data (for instance data not directly attributable to a publication, or raw data), including associated metadata, should be deposited – that is, according to the individual judgement by each project, specified in the data management plan.

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<sup>4</sup> **ERC proof of concept** grants are excluded from the ORD Pilot

2. Take measures to enable third parties to access, mine, exploit, reproduce and disseminate (free of charge for any user) this research data, for instance by attaching a [Creative Commons Attribution Licence \(CC BY\)](#) to the data deposited, or by waiving all interests associated to copyright and database protection using the CC0 tool.

The [EUDAT B2SHARE tool](#) includes a built-in license wizard that facilitates the selection of an adequate license for research data.

3. Provide information via the chosen repository about the tools available in order for the beneficiaries to validate the results, e.g. specialised software or software code, algorithms and analysis protocols. Where possible, these tools or instruments should be provided.

### Opting out of the ORD Pilot

Participation in the ORD Pilot is flexible in the sense that it does not mean that all research data needs to be open, following the approach "as open as possible, as closed as necessary". Furthermore, beneficiaries also have the possibility to opt out of this Pilot completely at any stage (before or after the grant signature), thereby freeing themselves retroactively from the associated obligations. In this case, Article 29.3 will be removed from the Grant Agreement. Beneficiaries of ERC actions are **not required to provide any reasons** for opting out.

### References and support

- Guidelines issued by the ERC Scientific Council: [Open Access Guidelines for researchers funded by the ERC \(revised February 2016\)](#)
- [ERC Model Grant Agreement for frontier research grants](#)
- [Horizon 2020 Annotated Grant Agreement](#) - ERC specific annotations to Articles 29.2 and 29.3 (pages 363 – 365)
- [Open Access section](#) of the ERC website
- Repositories for publications recommended by the ERC Scientific Council:
  - [Europe PubMed Central](#)
  - [arXiv](#)
  - [OAPEN library](#)
  - [Zenodo](#)

On the basis of the experience gained, the ERC Executive Agency will continue to provide guidance via the update of these guidelines. Specific issues may also be covered through dedicated FAQ.

If you have any question on open access or the Open Research Data Pilot in the context of ERC projects, do not hesitate to contact the ERC open access support team at [ERC-OPEN-ACCESS@ec.europa.eu](mailto:ERC-OPEN-ACCESS@ec.europa.eu).