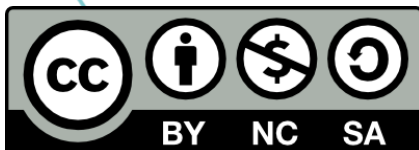


# CIENCIA ABIERTA Y ACCESO ABIERTO

Taller de preparación de propuestas  
EIC Pathfinder  
17 de marzo de 2025

**Laura Valeria Bonora**

Fundación Española para la Ciencia y la Tecnología (FECYT)



# 1. Ciencia Abierta

– Aspectos generales –



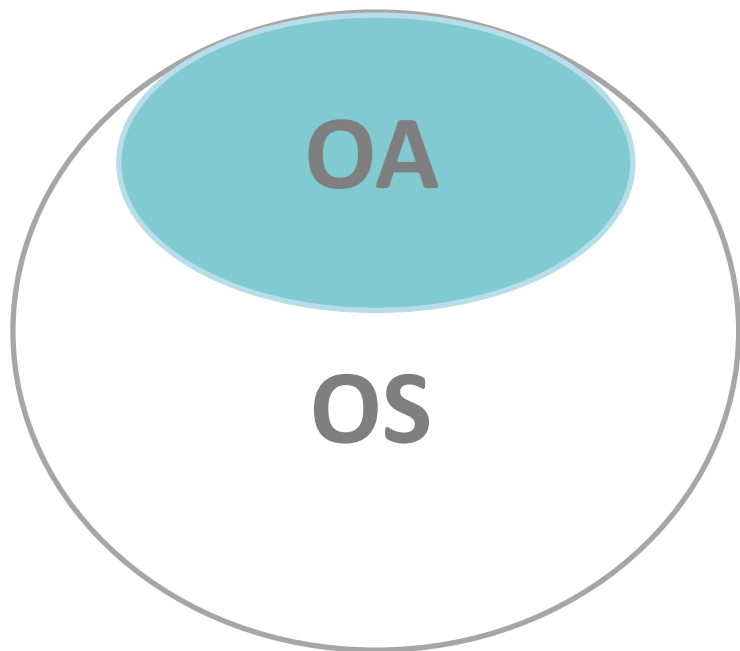
# Open Access ≠ Open Science

1. Acceso libre y gratuito a:

- Publicaciones científicas
- Datos de investigación

1. Acceso libre y gratuito a:

- Publicaciones científicas
- Datos de investigación



2. Software libre

3. Ciencia ciudadana

4. Recursos educativos en abierto

5. Open *peer review*

6. Nuevas formas de medir el mérito investigador

# ¿Qué es el acceso abierto?

## ¿En qué consiste?



El acceso abierto consiste en proveer de acceso on-line a toda la información científica disponible (artículos, monografías, datos de investigación, etc.) de forma gratuita y bajo licencias que permitan su uso y explotación por los usuarios y las usuarias finales, sin barreras económicas, legales ni tecnológicas.

## Elimina barreras que impiden el acceso a resultados de la investigación científica



Aboga por la eliminación de las barreras que impiden el acceso a los resultados de la investigación científica, mayoritariamente financiada con fondos públicos, y constituye una alternativa al sistema de acceso a resultados de investigación más extendido en el mundo, basado en el pago de elevadas tasas de suscripción a revistas científicas sufragadas por las universidades y centros de investigación.

## No interfiere con la explotación comercial de los resultados



No interfiere con la decisión de explotar comercialmente los resultados de investigación (ej. patentar), porque la obligación de depositar en acceso abierto se produce una vez se ha tomado la decisión de publicar.

## No afecta a la calidad de las publicaciones



No implica que las publicaciones sean de menor calidad, ya que están sometidas al mismo proceso de revisión por pares que las publicaciones de acceso comercial.

# Acceso abierto: definición del problema

## TRIPLE GASTO PÚBLICO

- Dinero público paga la investigación
- Dinero público paga publicar
- Dinero público paga acceso a la información generada con financiación pública

## PÉRDIDA DE INFORMACIÓN CIENTÍFICA

- La información que no se publica vía editores privados se pierde
- Tesis, datos de investigación, ponencias, revistas científicas no comerciales, etc. suponen gasto público y no se explotan lo suficiente.

## INEXISTENCIA DE INFRAESTRUCTURA de INFORMACIÓN CIENTÍFICA

- La información científica no se ofrece como un TODO accesible a toda la comunidad científica
- Información DISPERSA y no organizada SISTEMÁTICAMENTE

## EXCESIVA DEPENDENCIA PROVEEDORES

- Las instituciones dependen de proveedores privados **para acceder** a la información
- Evaluación parcial y sesgada de la producción científica

# El sector comercial de la publicación académica

## 28.000 M€ Facturación anual mundial

**16K** Editoriales

**48K** Revistas

**4M** artículos año



**95.500 M€**  
2021-2027  
40 Estados



**≈90.000 M€**  
2012-2025



**655 M€**  
Proyectos de Generación de  
Conocimiento 2023

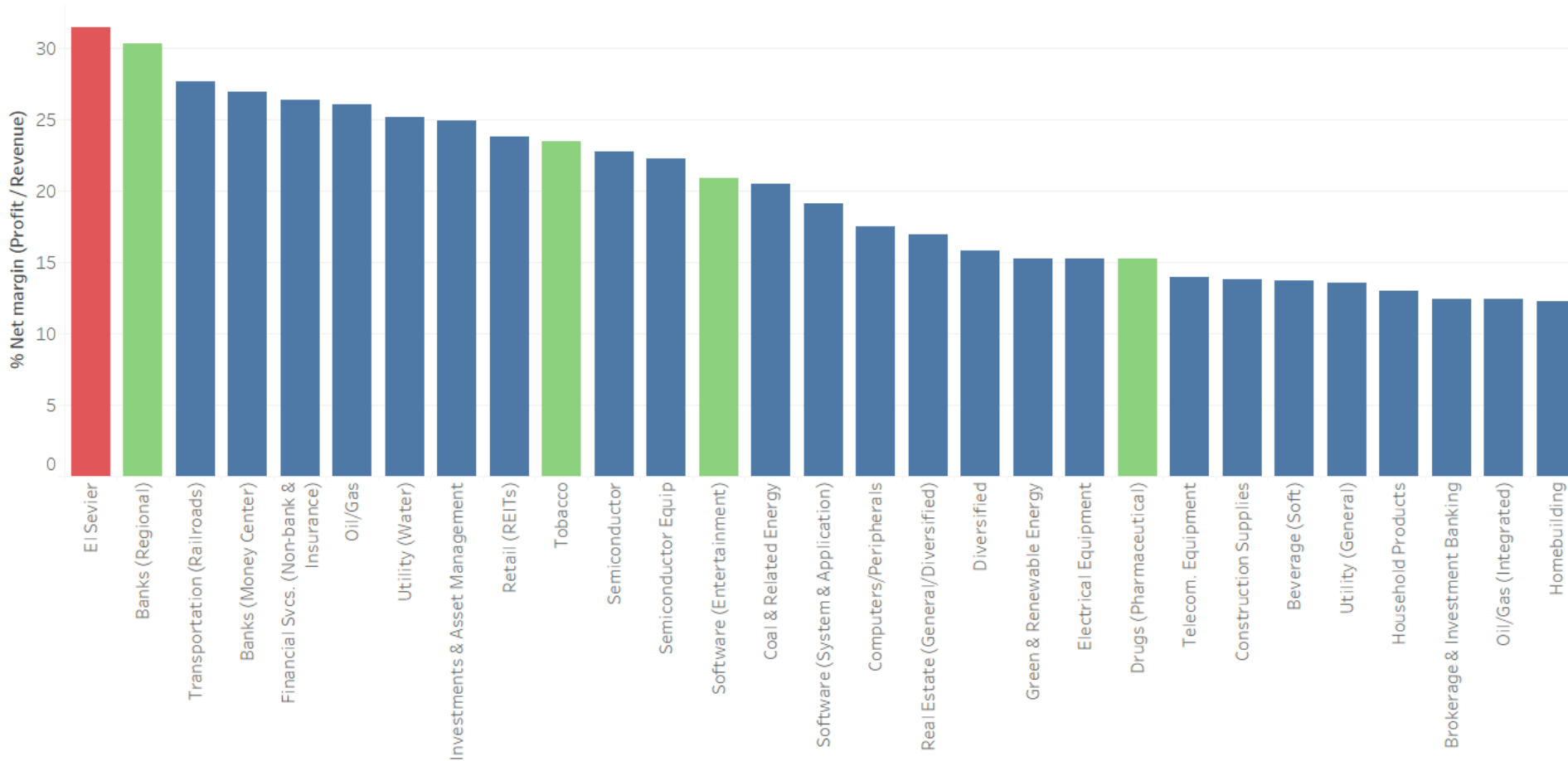
### Fuentes:

- STM Report 2022. 2022\_08\_24\_STM\_White\_Report\_a4\_v15.pdf (stm-assoc.org)
- [https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europa\\_en](https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europa_en)
- <https://oig.nasa.gov/docs/IG-20-012.pdf?tpcc=TCspacenewsletter> / <https://www.xataka.com/nuevo/artemis-mision-espacial-informacion>
- <https://www.aei.gob.es/>



# El sector comercial de la publicación académica

Elsevier is more profitable than any industry  
Top industries ranked by profitability



Fuentes: <https://www.relx.com/investors/annual-reports/2022>

[http://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/margin.html](http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/margin.html) (Datos EEUU, enero 2023)

# ¿Por qué la Ciencia Abierta es excelente?



- Investigación mejor y más eficiente



- Intercambio temprano y abierto de resultados



- Transparencia y reproducibilidad de la investigación



- Amplia colaboración en la investigación

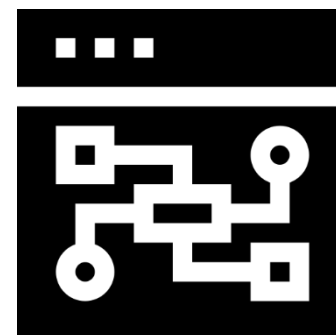


- Trabajo interdisciplinar y en colaboración



- Participación en la investigación de agentes relevantes de la sociedad

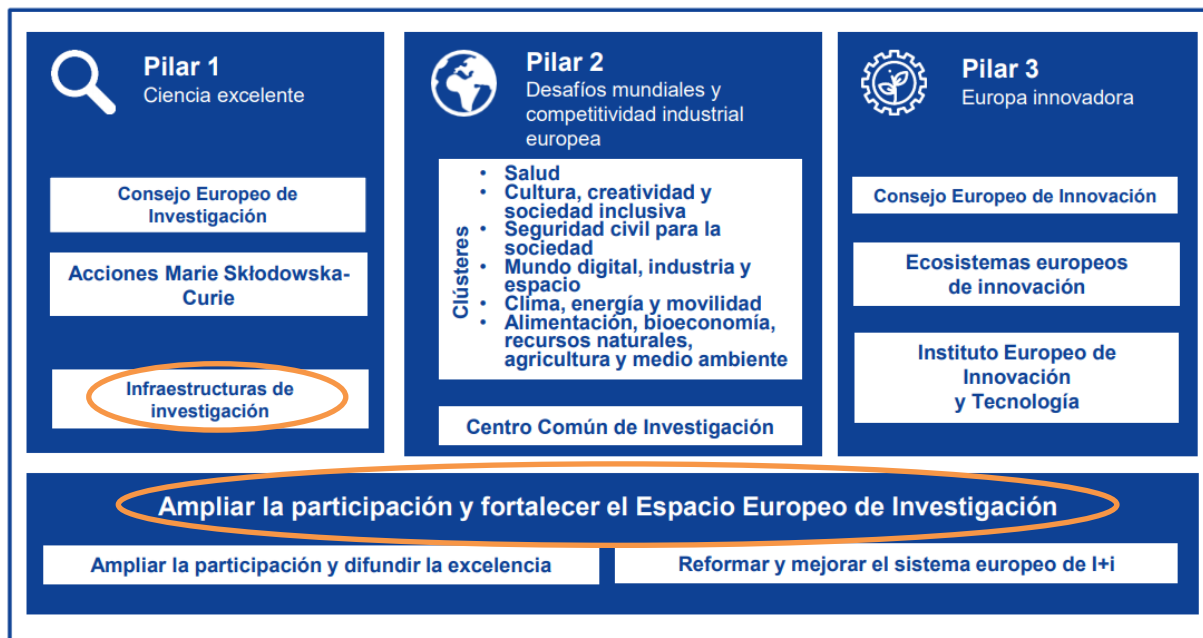
# 2. Requerimientos, obligaciones y mandatos de Ciencia Abierta



# Ciencia abierta en Horizonte Europa



- Open Science como actividad a financiar:



- Open Science como forma de trabajar:
  - Fase de elaboración de propuestas
  - Obligaciones específicas en el Grant Agreement



# HOW DO I PREPARE MY PROPOSAL?

## Part A: Application form

List of up to 5 publications, widely-used datasets, software, goods, services or any other achievements relevant to the call content

## Part B: Project proposal – Technical description

### 1. Under 'Excellence' – '1.2 Methodology'

- Open science
- Research Data Management and management of other research outputs

### 2. Impact

- Measures to maximise impact. Dissemination, exploitation and communication'

### 3. Under 'Quality and efficiency of the implementation'

- Work plan and resources' and
- Capacity of participants and consortium as a whole'



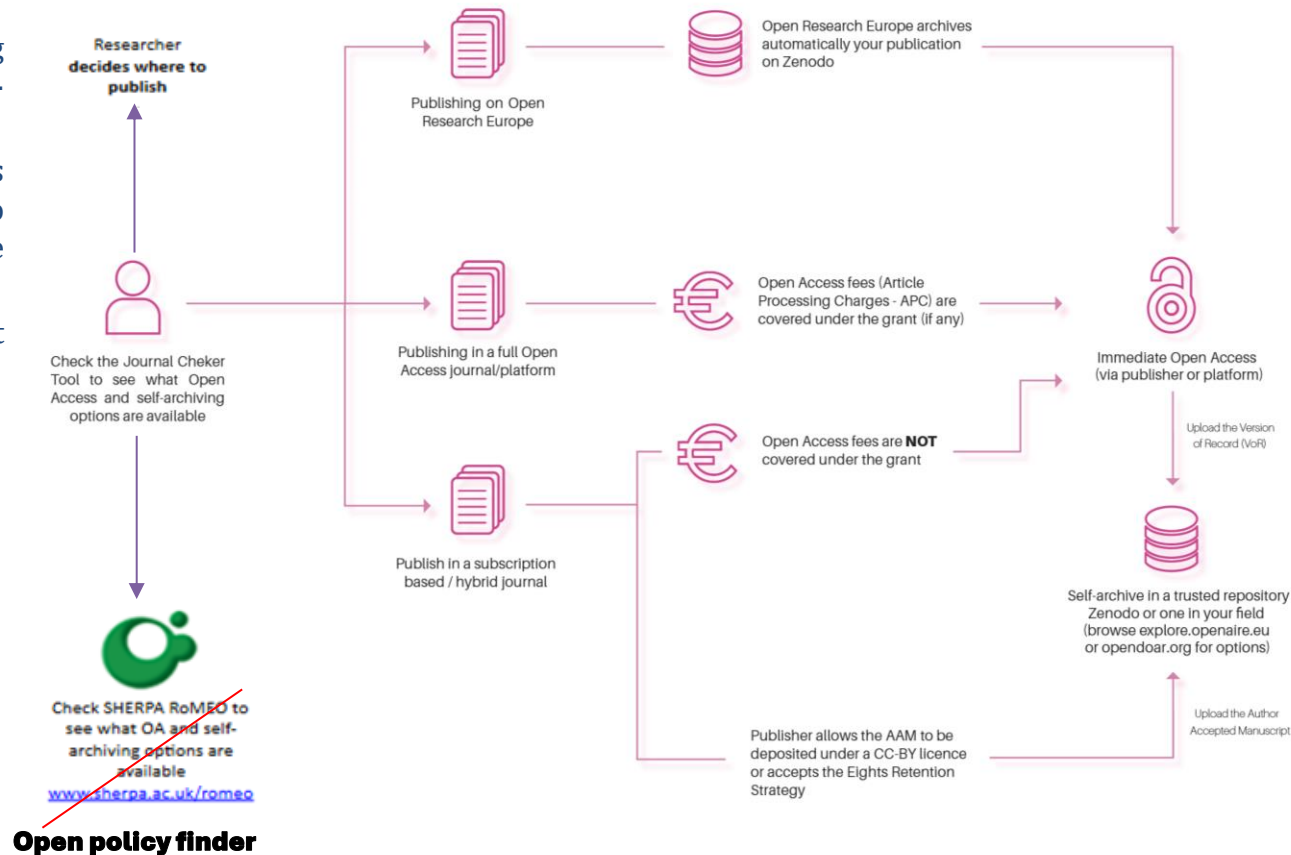
## Requirements

- Peer-reviewed manuscript (AAM or VoR) in a **trusted repository**
- **No embargo period** (i.e. immediate OA)
- Authors retain their rights by having the AAM and/or the VoR under a **CC-BY 4.0** licence
- Information about research outputs or tools/instruments needed to validate the conclusions of the publication
- Add the acronym/code of the project within

## Specificities

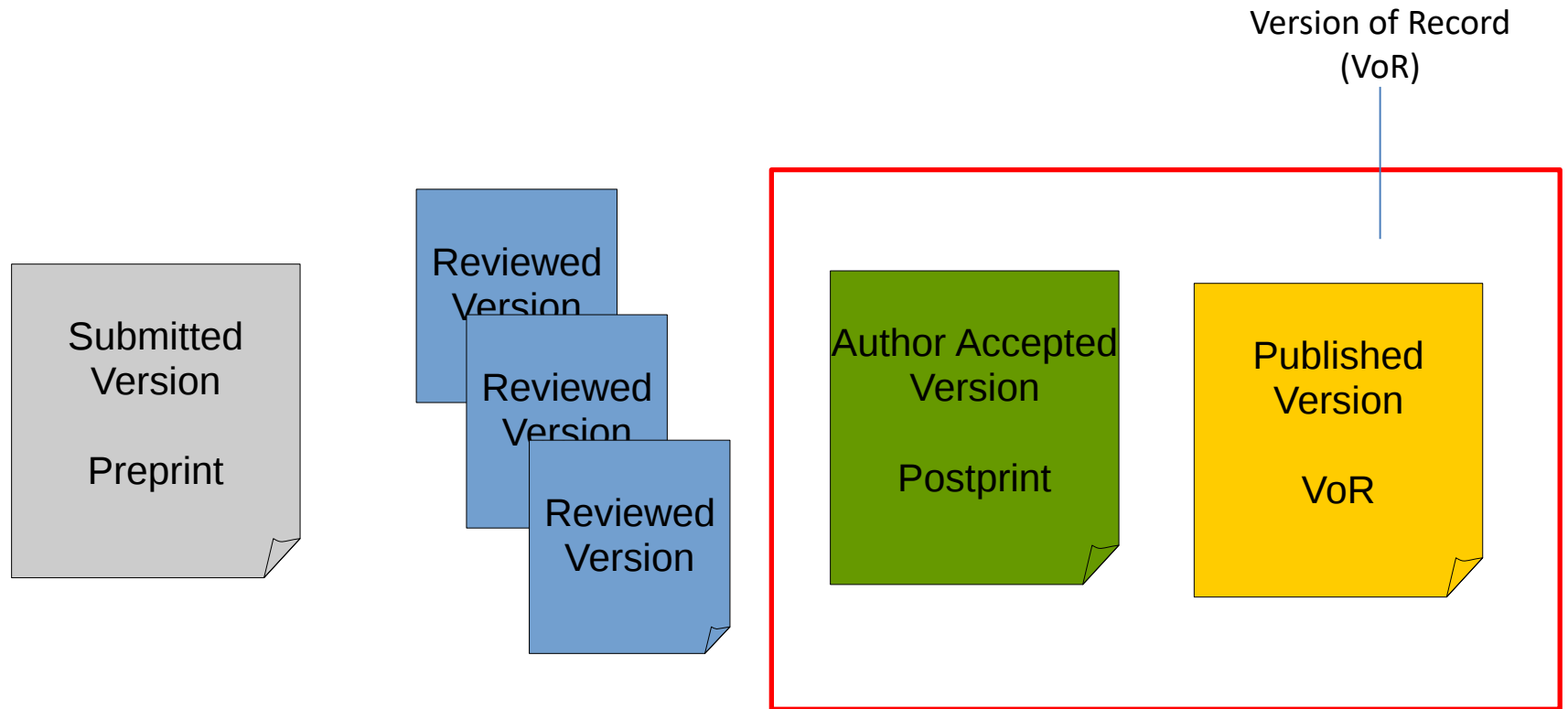
- Publication fees (Article Processing Charges) are **reimbursable** if the venue is full OA
- **No restrictions** on where to publish (journal doesn't have to be full OA), but APCs for hybrid journals are not covered
- CC BY-NC/BY-ND allowed for long-text formats (e.g. monographs; a chapter in an edited book is not eligible)

## Horizon Europe



Source: England & Malaguarnera 2022. [10.5281/zenodo.7324364](https://doi.org/10.5281/zenodo.7324364) under CC-BY 4.0

# Scientific article's versions



### 3. Datos de investigación. ¿Qué tengo que hacer con los datos de mi investigación?

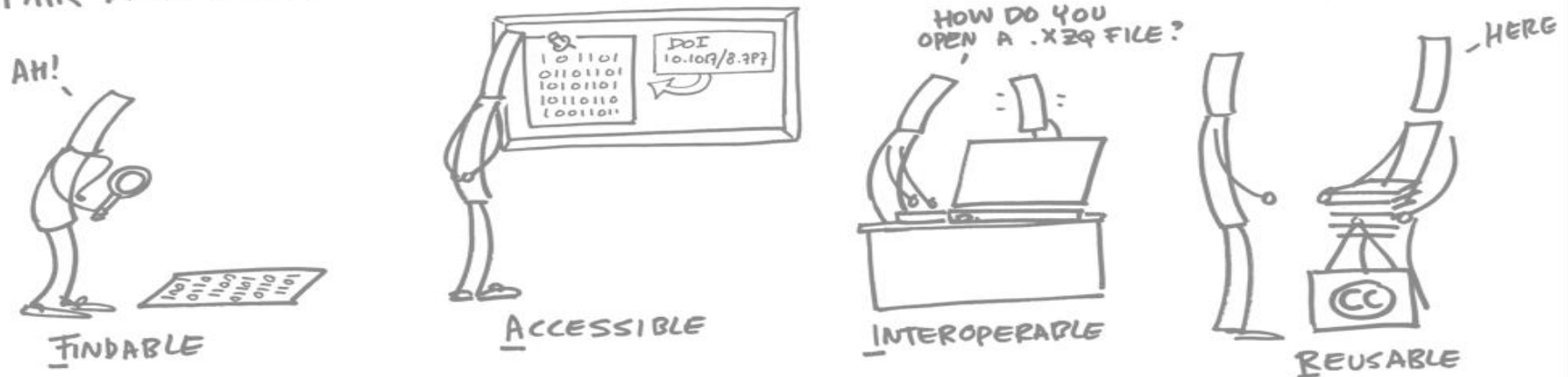


# RESEARCH DATA - OPEN BY DEFAULT



Los datos y sus metadatos deben ser **gestionados de manera que sea posible su reutilización**

## FAIR DATA PRINCIPLES



Fuentes:

[http://ec.europa.eu/research/press/2016/pdf/opendata-infographic\\_072016.pdf](http://ec.europa.eu/research/press/2016/pdf/opendata-infographic_072016.pdf)

<https://open-science-training-handbook.gitbooks.io/book/content/>



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DE ESPAÑA

MINISTERIO  
DE CIENCIA, INNOVACIÓN  
Y UNIVERSIDADES



# Encontrables

- **Identificadores persistentes** : DOI, ORCID. Nos permiten citar nuestros datos de investigación.
- **Normas y metadatos**: ¿De qué tratan mis datos? ¿Quién los ha recopilado y por qué? ¿En qué formatos están disponibles mis datos? Los metadatos responden a estas preguntas para que nuestros datos de investigación puedan encontrarse e interpretarse.
- **Keywords**, nomenclatura armonizada de los archivos, versiones bien identificadas.

# Accesibles

- **Archivar y conservar** a largo plazo nuestros datos de investigación, beneficiándonos de un repositorio :
  - Re3data [www.re3data.org](http://www.re3data.org)  REGISTRY OF RESEARCH DATA REPOSITORIES
  - Zenodo [www.zenodo.org](http://www.zenodo.org)  Research. Shared.
  - Repositorio institucional <https://repositorio.uam.es/> 
- **Compartir datos:** utilizar protocolos de intercambio de información

# Interoperables, Reusables

- Permita el acceso, la descarga, la explotación y la **reproducibilidad** de los datos de investigación.
- Especificar los **derechos de autor** de forma clara.
- **Anonimizar** y cifrar los datos.
- **Especificar restricciones, embargos** y normas de acceso a sus datos de investigación.

- ✓ Recommended Open Licenses: CC-BY
- ✓ Open Licenses Guide: <http://www.dcc.ac.uk/resources/how-guides/license-research-data>

# 4. Herramientas para **cumplir** con los **requerimientos** nacionales e **internacionales**



# ¿Qué es OpenAIRE y qué servicios ofrece?



A search engine to discover, navigate and link different types of research outputs.

zenodo

A general purpose repository to share open and FAIR research outputs.

argos

A Data Management Plan service. On the cloud, or locally deployed. Customisable to your needs.

OpenPlato

A collaborative Moodle platform that hosts material and courses for Open Science.

OPENSOURCE OBSERVATORY

A European observatory measuring Open Science practices and uptake.

CONNECT

On demand portals to collect and track your community's open research outputs.

amnesia

Anonymisation engine for research data, enriched with latest technologies. Embedded in local workflows.

MONITOR

On demand monitoring dashboard to track research outputs and monitor openness, collaborations, trends, impacts.



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INNOVACIÓN

# ARGOS

[HTTPS://ARGOS.OPENAIRE.EU](https://argos.openaire.eu)



ABOUT

RESOURCES

CONTACT

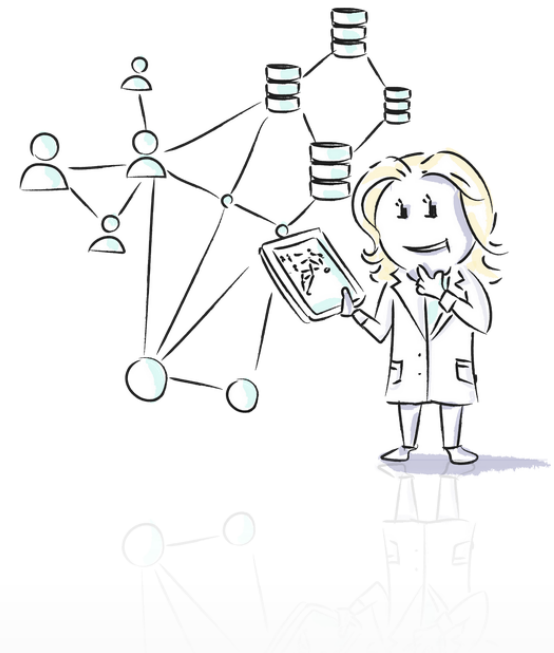
LOG IN

## Plan and follow your data

**Create** machine actionable DMPs.  
**Configure** to best fit your discipline.  
**Link** to EOSC components out of the box.  
**Share** easily in your repository.

Bring your Data Management Plans closer to where  
data are generated, analysed and stored.

Start your DMP



# ZENODO



Zenodo (<https://zenodo.org>) is an open repository for all scholarship, enabling researchers from all disciplines to share and preserve their research outputs, regardless of size or format. Free to upload and free to access, Zenodo makes scientific outputs of all kinds citable, shareable and discoverable for the long term.



# OPEN RESEARCH EUROPE (ORE)

Introducing

## Open Research Europe

Launching early 2021

An Open Access publishing platform offering fast publication and open peer review exclusively for research conducted by Horizon 2020 beneficiaries.

Powered by  
F1000 Research



### Who?

The European Commission will provide a high-quality, reliable open access publishing option for Horizon 2020 beneficiaries to publish quickly, at no cost, and in compliance with the Horizon 2020 OA mandate.



### Why?

By giving researchers the option to publish open access and in multiple formats from standard research articles to data notes, from new insights to confirmatory or negative results, the European Commission aims to remove the barriers to scientific discovery and facilitate progress towards securing Europe's global competitiveness in innovation.



### When?

The platform is due to launch in early 2021.

Find out more here:  
[shorturl.com/xxx](https://shorturl.com/xxx)  
or scan this QR code:



F1000 Research

eurodoc  
The European Council of Doctoral  
Candidates and Junior Researchers



<https://explore.openaire.eu/>

**OpenAIRE** | **EXPLORE**

SearchDepositLinkData sourcesFunders

# Discover open linked research.

A comprehensive and open dataset of research information covering 191m publications, 62m research data, 397k research software items, from 141k data sources, linked to 3m grants and 320k organizations.  
*All linked together through citations and semantics.*

Advanced search

Try browsing by:

 SUSTAINABLE DEVELOPMENT GOALS (SDGs) →

 FIELDS OF SCIENCE (FOS) →



## EC Participant Portal -> Reporting -> Publications (OpenAIRE)

**Grant Management**

**Project Continuous Report**

240153 (240153 RIZOSKO...)

HORIZON...

Call: HORIZON-ERC-2021-VICECHAIRS-IBA

Topic: HORIZON-ERC-2021-VICECHAIRS-IBA

Project Summary

Researchers involved in the project

Deliverables

Milestones

Critical Risks

**Publications**

Results

Dissemination activities

Standards

Patents (IPR)

Communication Activities

Datasets

Beneficiaries Feedback

Impact

Other Results

Publications

SAVE

☐ This project does not currently have any scientific publications

Suggested publications from OpenAIRE (10 pending publications and 0 discarded publications)

|    | Type               | Title                                     | Authors       | Title of the Journal or equivalent       | Month and Year of publication | PID (Publisher version of record) | PID of the deposited publication | Actions |
|----|--------------------|-------------------------------------------|---------------|------------------------------------------|-------------------------------|-----------------------------------|----------------------------------|---------|
| 1  | Chapter in a Book  | Pebbling mountain ranges and its applic   | Kurt Mehlhorn | Automata, Languages and Programming      | 25-02-2012                    | 10.1007/3-540-10003-2_89          |                                  |         |
| 2  | Chapter in a Book  | Algorithms on Graphs                      | Kurt Mehlhorn |                                          | 02-11-2012                    | 10.1007/978-81-322-0750-4_5       | 10.1007/978-3-642-69897-2_1      |         |
| 3  | Chapter in a Book  | Algorithms for Equilibrium Prices in Line | Kurt Mehlhorn | Algorithms and Computation ISBN: 9783    | 17-01-2014                    | 10.1007/978-3-319-04657-0_1       |                                  |         |
| 4  | Chapter in a Book  | Algorithmic Paradigms                     | Kurt Mehlhorn | Data Structures and Algorithms 1 ISBN: 4 | 28-07-2012                    | 10.1007/978-3-642-69672-5_4       | 10.1007/978-3-642-69897-2_4      |         |
| 5  | Chapter in a Book  | NP-Completeness                           | Kurt Mehlhorn | Data Structures and Algorithms 2 ISBN: 4 | 28-07-2012                    | 10.1007/978-3-642-69897-2_3       |                                  |         |
| 6  | Chapter in a Book  | The Engineering of some Bipartite Matc    | Kurt Mehlhorn | Algorithms and Computation ISBN: 9783    | 09-08-2007                    | 10.1007/3-540-46632-0_1           | 10.1007/3-540-46691-6_36         |         |
| 7  | Chapter in a Book  | The Reliable Algorithmic Software Chall   | Kurt Mehlhorn | Experimental and Efficient Algorithms I  | 30-11-2007                    | 10.1007/3-540-44867-5_18          |                                  |         |
| 8  | Article in Journal | Bracket-languages are recognizable in li  | Kurt Mehlhorn |                                          | 26-07-2002                    | 10.1016/0020-0190(76)90013-2      | 10.22028/d291-26081              |         |
| 9  | Book/Monograph     | Datenstrukturen und effiziente Algorith   | Kurt Mehlhorn | Crossref                                 | 04-03-2012                    | 10.1007/978-3-322-86786-5         |                                  |         |
| 10 | Chapter in a Book  | Sets                                      | Kurt Mehlhorn | Data Structures and Algorithms 1 ISBN: 4 | 28-07-2012                    | 10.1007/978-3-642-69672-5_3       |                                  |         |

Project publications (0 publications)
 

Show/Hide Filters

Clear Filters

Export to Excel

Add Publication

| Type | Title | Authors | Title of the Journal or equivalent | Number | Peer-reviewed | Was the publication available in open access through the repository at the time of publication | PID (Publisher version of record) | PID of deposited publication | Actions |
|------|-------|---------|------------------------------------|--------|---------------|------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------|---------|
|------|-------|---------|------------------------------------|--------|---------------|------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------|---------|

\* `open access` means the practice of providing online access to research outputs resulting from actions funded under the Programme, in particular scientific publications and research data, free of charge to the end-user

Validate

Source: <https://zenodo.org/record/7324364#.ZDVoinZBxPY>

# AMNESIA

High accuracy Data Anonymization.



**1.** Import the original data



**2.** Create the generalization hierarchies



**3.** Ready? Go



**4.** Choose the solution you like

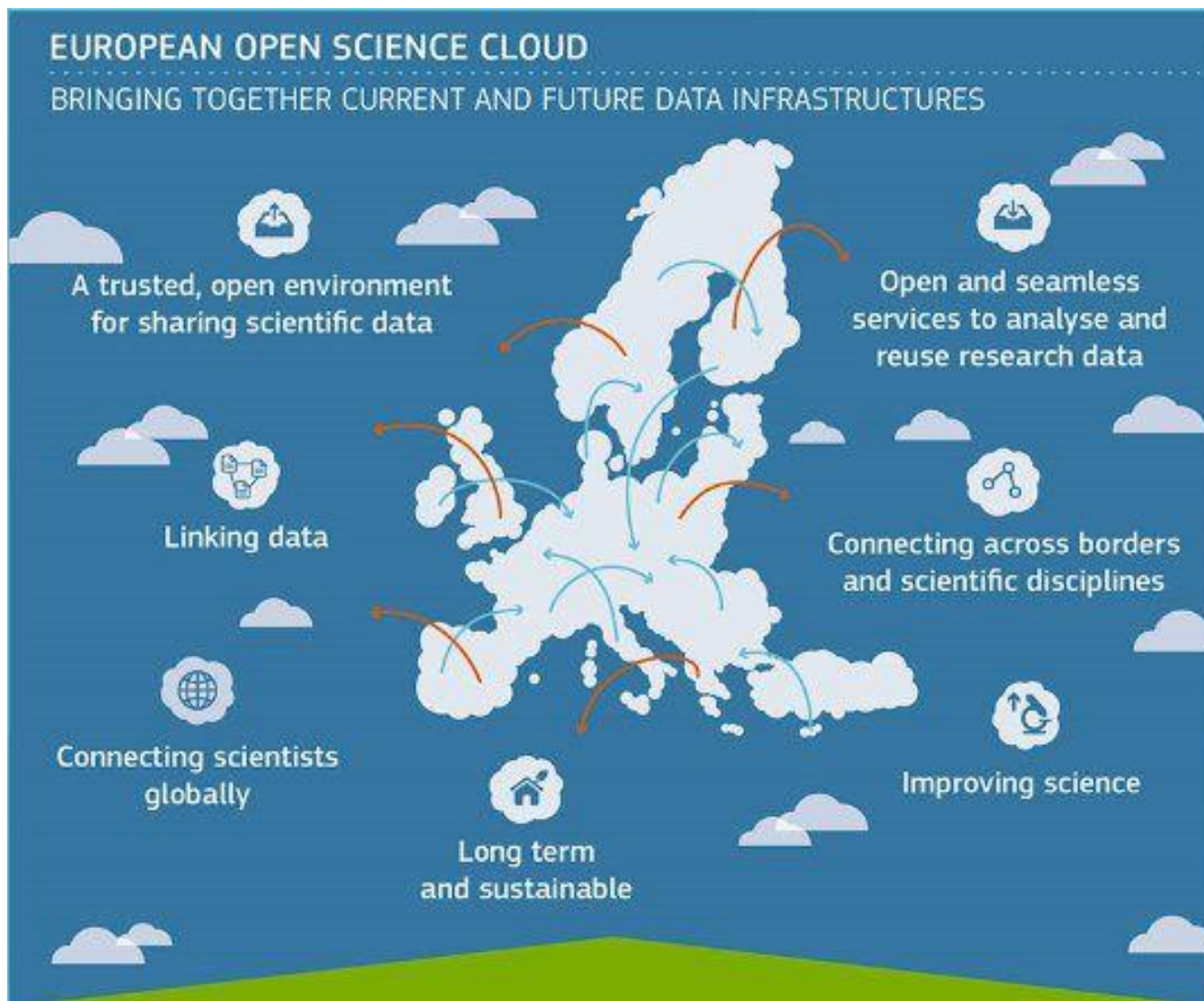


**5.** You are ready!



<https://amnesia.openaire.eu/>

# The European Open Science Cloud (EOSC)



**EUROPEAN OPEN  
SCIENCE CLOUD**



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Y UNIVERSIDADES

**FECYT**  
INNOVACIÓN

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[shorturl.com/xxx](https://shorturl.com/xxx)  
or scan this QR code:



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eurodoc  
The European Council of Doctoral  
Candidates and Junior Researchers



# WEAKNESSES



- SECTION : **EXCELLENCE**
- **Open science is not appropriately addressed.**
- **Not enough detail** is presented on the **strategy for targeting open science practices.**
- Open science practices are **not discussed in sufficient detail** and **do not ensure general access** to the data generated **during the proposal's lifetime.**
- The approach of **open science practices as an integral part of the proposed methodology is not included** in an adequate manner.
- **Open science practices are not sufficiently implemented in the methodology.** The proposal **does not convincingly address real Open Science practice aiming data and results sharing.**
- The quality of the **open science practices** is not fully demonstrated, especially with regards to e.g. **pre-registration or pre-print actions.**
- **Open science practices** are briefly presented, in a **very generic way.**

# WEAKNESSES

- SECTION : **IMPACT**

Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities. Strategy for the management of intellectual property, foreseen protection measures

- The exploitation and management of IP and related protection measures have not been sufficiently detailed. Moreover, the **potential conflict between open access publishing and patenting** of results has **not** been **adequately addressed**.
- The **strategy for the management and protection of intellectual property** is **not** described in **sufficient detail**.
- **Management** of the intellectual property of the results (i.e. possible **patents**) is not described in sufficient detail.
- There is **no sufficient information** about the **IP management**, in the context of possible **comercialisation** activities.
- The proposal **insufficiency describes** the plans to protect intellectual property. For example, it refers to the possibility to **commercialise the technology** but details regarding **existing IP rights and how novel IP rights can be protected** are largely missing. This is particularly critical given the involvement of **different hosts**.
- **Plans for exploitation** of results of the research project are not fully elaborated. In that respect, **specific issues** related to **IPR sharing and management** are not sufficiently considered for this action, which involves a **secondment institute**.

# Gracias

***Laura Bonora***

***Punto Nacional de Contacto (NCP, por sus siglas en inglés) del  
programa de Infraestructuras de Investigación y Widening  
(Acceso Abierto) de Horizonte Europa***

**Fundación Española para la Ciencia y la Tecnología (FECYT)**

**<https://www.fecyt.es/>  
[openairespain@fecyt.es](mailto:openairespain@fecyt.es)**