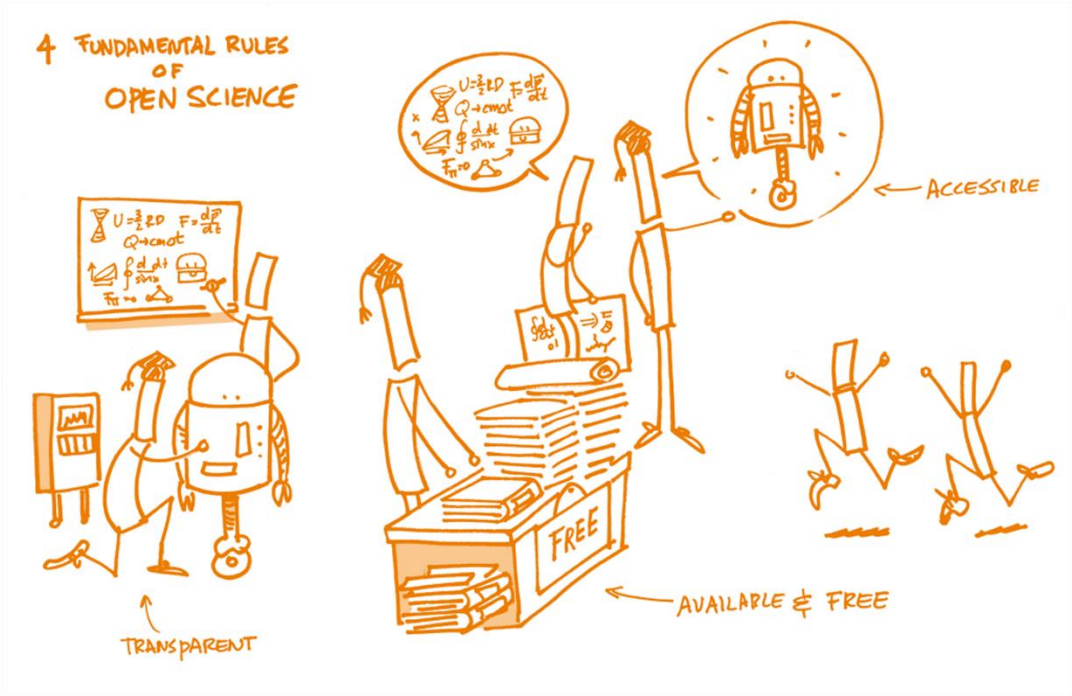


Open research Data. National and European actions

Remedios Melero
7th November 2019
IATA-CSIC

EVERYONE ON THE ROAD TO OPEN SCIENCE

OPEN EDUCATIONAL RESOURCES

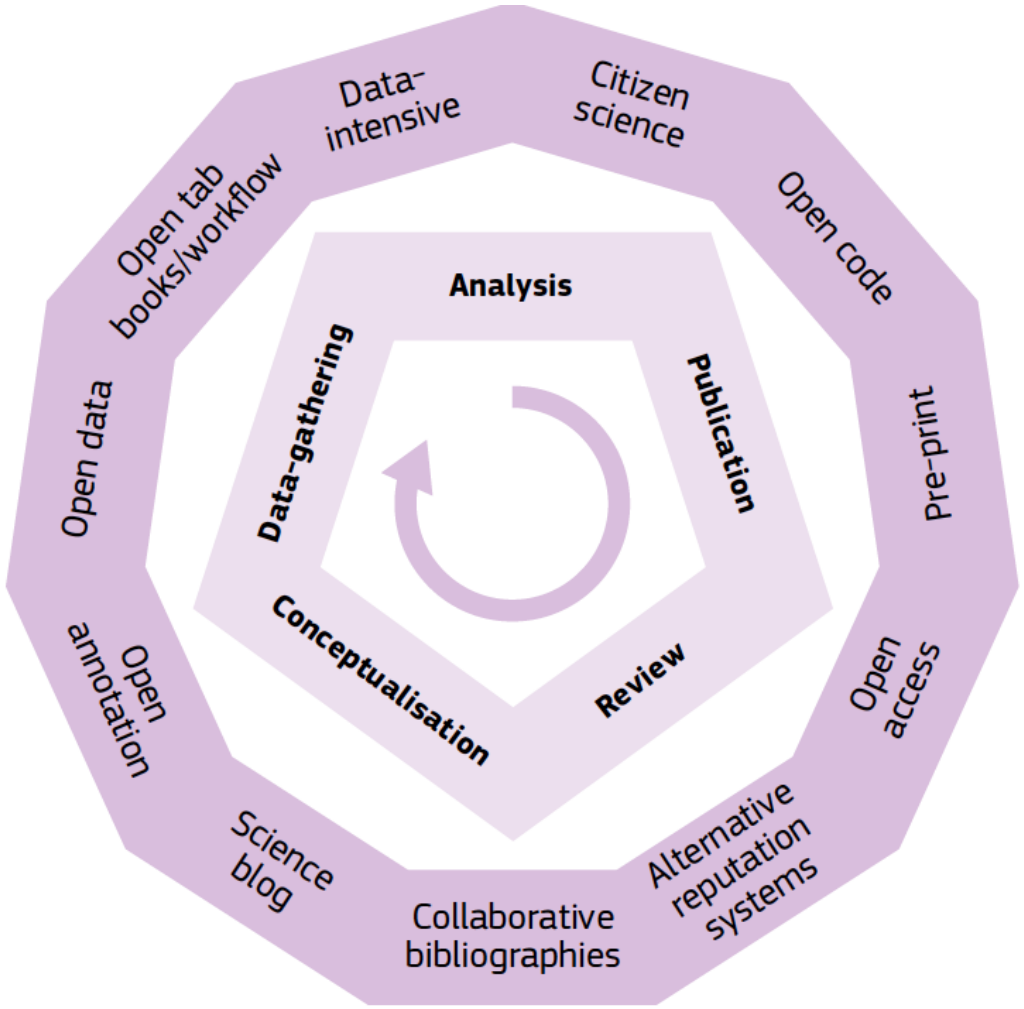
OPEN LICENSE

¿Open Science?

Open Science is the **practice of science** in such a way that others can **collaborate and contribute**, where research data, lab notes and other research processes are **freely available**, under terms that **enable reuse**, **redistribution and reproduction** of the research and its **underlying data and methods**.

[FOSTER, Open Science Definition: https://www.fosteropenscience.eu/foster-taxonomy/open-science-definition]

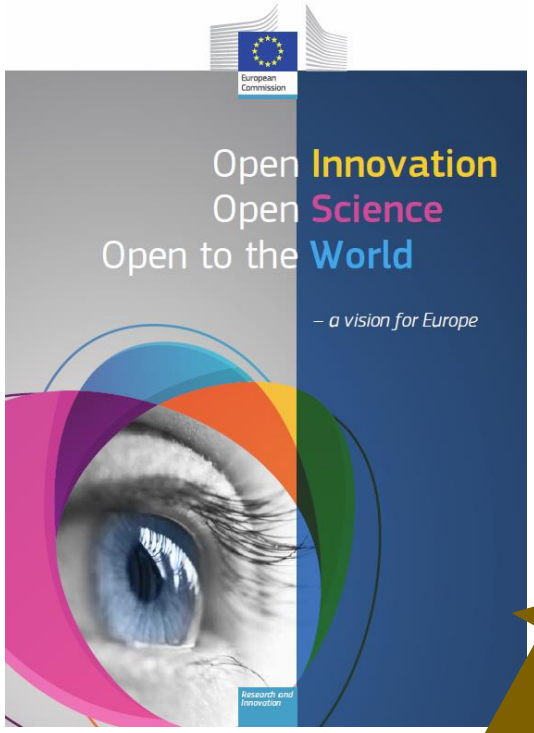
FOSTER define Ciencia Abierta como **la práctica de la ciencia** de tal manera que otros puedan **colaborar y contribuir, donde los datos de investigación, las notas de laboratorio y otros procesos de investigación estén disponibles de manera gratuita**, bajo términos que permitan la **reutilización, redistribución y reproducción** de la investigación y de sus datos y métodos subyacentes.



(2014)

'Science 2.0' (then coined open science) as a ***holistic approach****, therefore, is much more than only one of its features (such as Open Access) and* ***represents a paradigm shift in the modus operandi of research*** *and science* ***impacting the entire scientific process****"*

http://ec.europa.eu/research/consultations/science-2.0/background.pdf



(2015)

From "classic publication" to new ways of sharing

Collaboration

Change to the system

Digital technology

"Open Science represents a new approach to the scientific process **based on cooperative work** and **new ways of diffusing knowledge** by using **digital technologies and new collaborative tools**. The idea captures a **systemic change to the way science and research** have been carried out for the last fifty years: **shifting from the standard practices** of publishing research results in scientific publications **towards sharing** and using all available knowledge at an earlier stage in the research process.

OECDpublishing

Please cite this paper as:

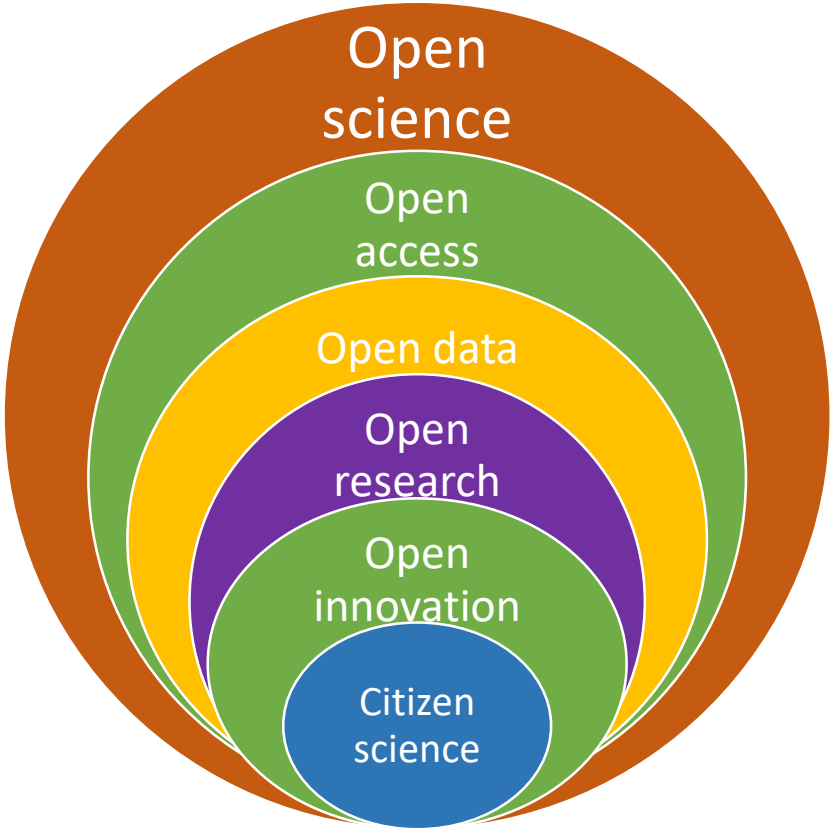
OECD (2015), "Making Open Science a Reality", *OECD Science, Technology and Industry Policy Papers*, No. 25, OECD Publishing, Paris.
http://dx.doi.org/10.1787/5jrs2f963zs1-en

OECD Science, Technology and Industry Policy Papers No. 25

Making Open Science a Reality

OECD

*"Open science commonly refers to efforts to make the **output of publicly funded research more widely accessible** in digital format to the scientific community, the business sector, or society more generally".*



This document is a living document reflecting the present state of open science evolution. It is based on the input of many participating experts and stakeholders of the Amsterdam Conference 'Open Science – From Vision to Action', hosted by the Netherlands' EU Presidency on 4 and 5 April 2016.

Formulated to reach two important pan-European goals for 2020:

1. **Full open access for all scientific publications**
2. **A fundamentally new approach towards optimal reuse of research data**

To reach these goals by 2020 we need flanking policy:

- **New assessment, reward and evaluation systems**
- **Alignment of policies and exchange of best practices**

http://english.eu2016.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science

Council of the European Union

Brussels, 27 May 2016
(OR. en)

9526/16

RECH 208
TELECOM 100

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	8791/16 RECH 133 TELECOM 74
Subject:	The transition towards an Open Science system - Council conclusions (adopted on 27/05/2016)

Science ministers from European Union nations AGREED last month to **make publicly funded research publications freely available by 2020.** Each country will implement its own publication policy.

The Council:

UNDERLINES the principle for the optimal reuse of research data should be: "**as open as possible, as closed as necessary**".

EMPHASIZED that the opportunities for the optimal reuse of research data can only be realised if data are consistent with the FAIR principles (findable, accessible, interoperable and re-usable) within a secure and trustworthy environment

http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf

Amsterdam April 2016

"open access to research results – both publications and research data – is not just a luxury" (N. Kroes, 2012)

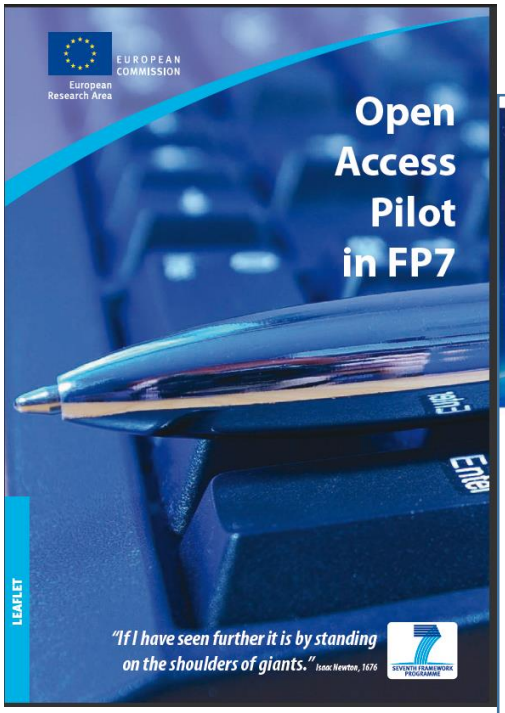
Tallin October 2017

TALLINN CALL FOR ACTION 2017

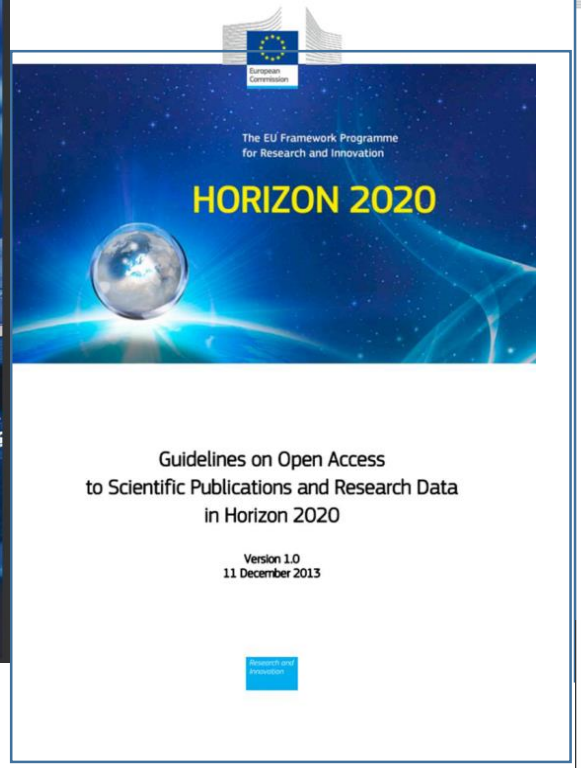
Seize the opportunity now:
research and innovation matter
for the future of Europe

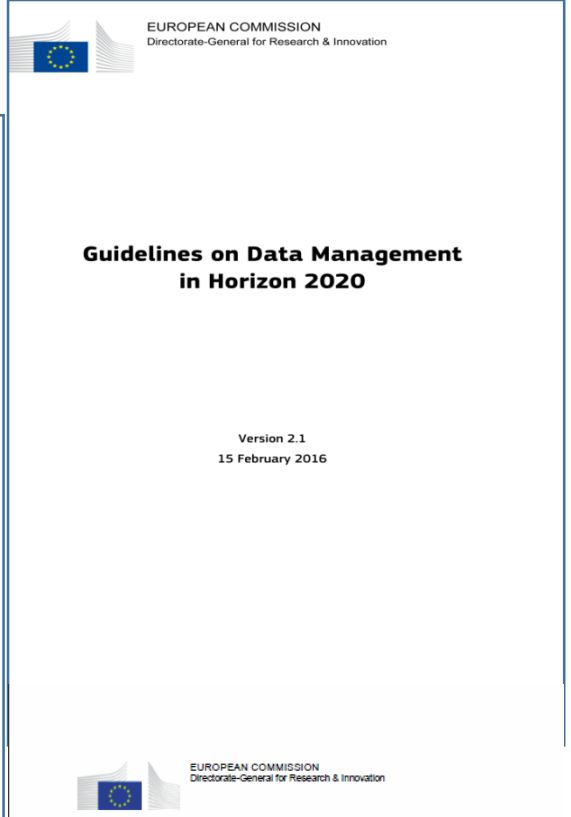
Statement of the Estonian Presidency of the Council of the EU

"**Investing in research and innovation is a necessity for competitiveness, not a luxury (2017)"**



2007-2013





2014-2020

For the 2016-2017 Work Programme, the areas of Horizon 2020 participating in the Open Research Data Pilot are:

- Future & Emerging Technologies
- Research infrastructures
- Leadership in enabling & industrial technologies – Information & Communication Technologies
- Nanotechnologies, Advanced Materials, Advanced Manufacturing & Processing, & Biotechnology – 'nanosafety' & 'modelling' topics
- Societal Challenge – Food security, sustainable agriculture & forestry, marine & maritime & inland water research & the bioeconomy - selected topics as specified in the work programme
- Societal Challenge – Climate Action, Environment, Resource Efficiency & Raw Materials – except raw materials
- Societal Challenge – Europe in a changing world – inclusive, innovative & reflective societies
- Science with & for Society
- Cross-cutting activities – focus areas – part Smart & Sustainable Cities

From 1 January 2017 all areas were included in the Pilot

References to research data management are included in Article 29.3 of the Model Grant Agreement (article applied to all projects participating in the Pilot on Open Research Data in Horizon 2020).

29.3 Open access to research data

***[OPTION for actions participating in the open Research Data Pilot**: Regarding the digital research data generated in the action ('**data**'), the beneficiaries must:*
(a) deposit in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the following:

*(i) **the data, including associated metadata,** needed to validate the results presented **in scientific publications** as **soon as possible**;*

*(ii) other data, including associated metadata, as specified and within the deadlines laid down in the '**data management plan**' (see Annex 1);*

*(b) provide information — via the repository — about **tools and instruments at the disposal of the beneficiaries and necessary for validating** the results (and — where possible — provide the tools and instruments themselves).*

https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

Horizon 2020 already mandates open access to **all scientific publications**

From 2017,
research data is
open by default,
with possibilities to **opt out**

HORIZON 2020

https://ec.europa.eu/research/press/2016/pdf/opendata-infographic_072016.pdf

RESEARCH DATA – OPEN BY DEFAULT

FAIR DATA!

- **A**ccessible
- **I**nteroperable
- **F**indable
- **R**e-usable

HORIZON 2020 GRANTEES ARE REQUIRED

take measures to ensure open access to the **data underlying their scientific publications**

provide open access to **any other research data of their choice**

Horizon 2020 grantees are **encouraged to also share datasets** beyond publication

PROJECTS MUST HAVE

DATA MANAGEMENT PLAN (DMP)

Provides information on:

- the data the research will generate
- how to ensure its curation, preservation and sustainability
- what parts of that data will be open (and how)

Data management costs are fully eligible for funding

No repository imposed: deposit data where you want

AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY

Grantees have the right to **opt-out**, but need to say **why**

Top three reasons for **opt-out**:

- privacy
- intellectual property rights
- might jeopardise project's main objective

The approach has been tested during a Horizon 2020 pilot action

2015

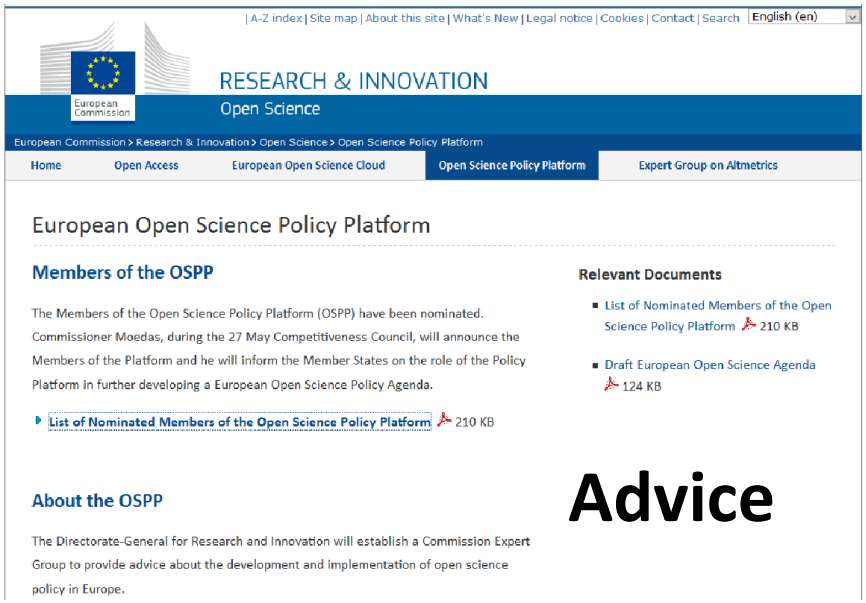
of 431 signed projects

65.4%

opted to share data

from 2017

the current Open Research Data Pilot expands to cover all areas of Horizon 2020, with the same rules



Advice

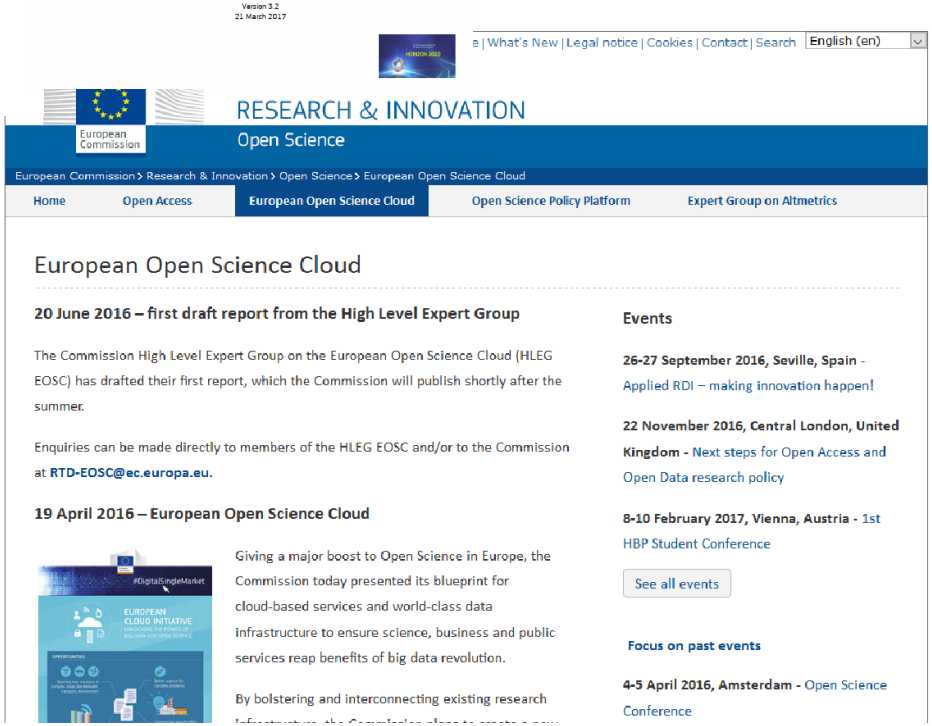
H2020 Programme

Guidelines to the Rules on

Open Access to Scientific Publications
and
Open Access to Research Data
in Horizon 2020

Guidelines

Infrastructure



*http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

The European Open Science Cloud is a supporting environment for Open science and not an ‘open cloud’ for science

EUDAT

Home

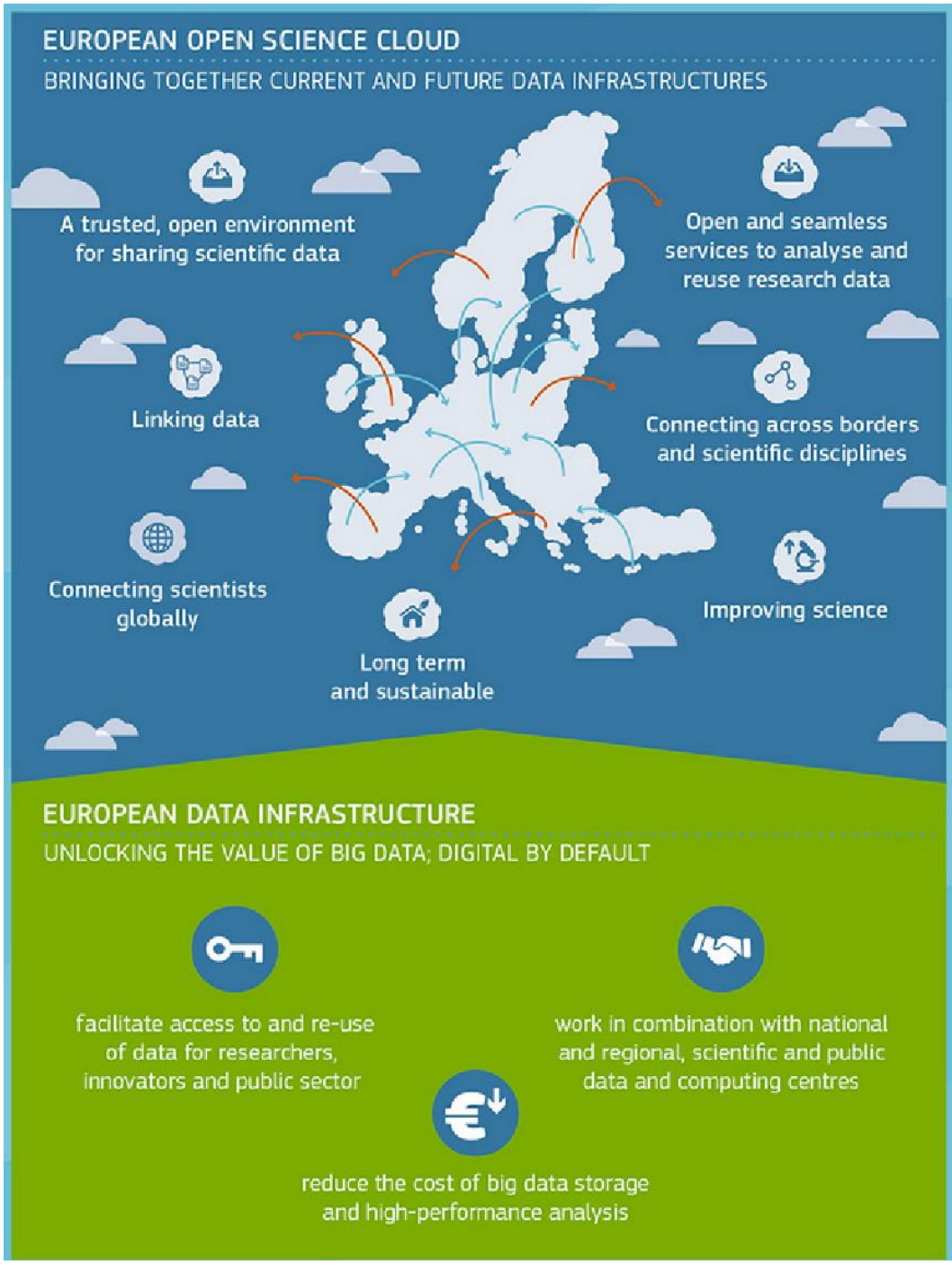
A landmark agreement sustaining the pan European Collaborative Data Infrastructure for the next 10 years

3rd October 2016

16 major European research organisations, data and computing centres *signed an agreement to sustain the EUDAT – pan European collaborative data infrastructure for the next 10 years. The organisations stand together behind a long term sustainability plan and commit to develop, maintain and deploy pan-European research data services and to promote harmonization of research data management practices across centres.*

What does this mean?

Service providers, both generic and thematic, and research communities have joined forces as part of a common framework for developing an interoperable layer of common data services. Known as the EUDAT Collaborative Data Infrastructure (CDI), this is essentially **a European e-infrastructure of integrated data services and resources** to support research. This infrastructure and its services have been developed in close collaboration with **over 50 research communities** spanning across many different scientific disciplines and involved at all stage of the design process. The establishment of the EUDAT CDI is timely with the imminent realization of the European Open Science Cloud[1] which aims to offer open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines.



http://eoscpilot.eu/about/eoscpilot-brief

“The European Open Science Cloud is a supporting environment for Open science and not an ‘open cloud’ for science”

//eoscpilot.eu/science-demonstrators

Science Demonstrators

Science Demonstrators show the relevance and usefulness of EOSC Services and how they enable data reuse, and will drive EOSC development.

The aim of the **EOSCpilot Science Demonstrators** is to show the relevance a **Services** and their enabling of **data reuse**, to drive the EOSC development.

5 Science Demonstrators started at the project outset (listed b included through EOSCpilot Open Calls for Science Demonstrators:

- **Environmental & Earth Sciences** - ENVRI Radiative Forcing Integration to enab across multiple research communities by working on data integration and harm
- **High Energy Physics** - WLCG: large-scale, long-term data preservation and re-u the deployment of HEP data in the EOSC open to other research communities
- **Social Sciences** – TEXTCROWD: Collaborative semantic enrichment of text-bas new software to enable a semantic enrichment of text sources and make it avail
- **Life Sciences** - Pan-Cancer Analyses & Cloud Computing within the EOSC to a on the EOSC and reuse solutions in other areas (e.g. for cardiovascular & neuro-
- **Physics** - The photon-neutron community to improve the community's compu virtual platform for all users (e.g., for users with no storage facilities at their hon

Aim: to show the relevance of services and enabling of data use, to drive EOSC development

Major European Cloud Use-Case in Genomics:

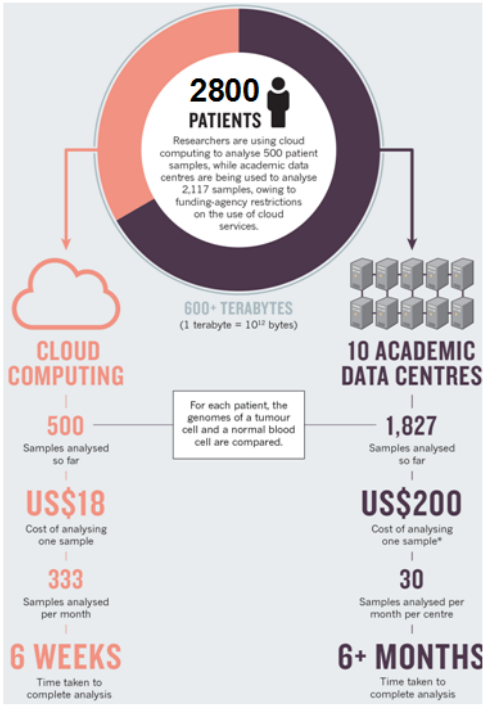
The Pan-Cancer Analysis of Whole Genomes Project (PCAWG)

- **Mission of PCAWG phase I**: joint reanalysis of **2,800 cancer genomes**, 1 Pb of DNA data, using hybrid clouds.
- **Global network** (includes USA, Canada, Japan, Korea, Europe)
- **European leadership** (until recently co-funded by EC / Eurocan-Platform).

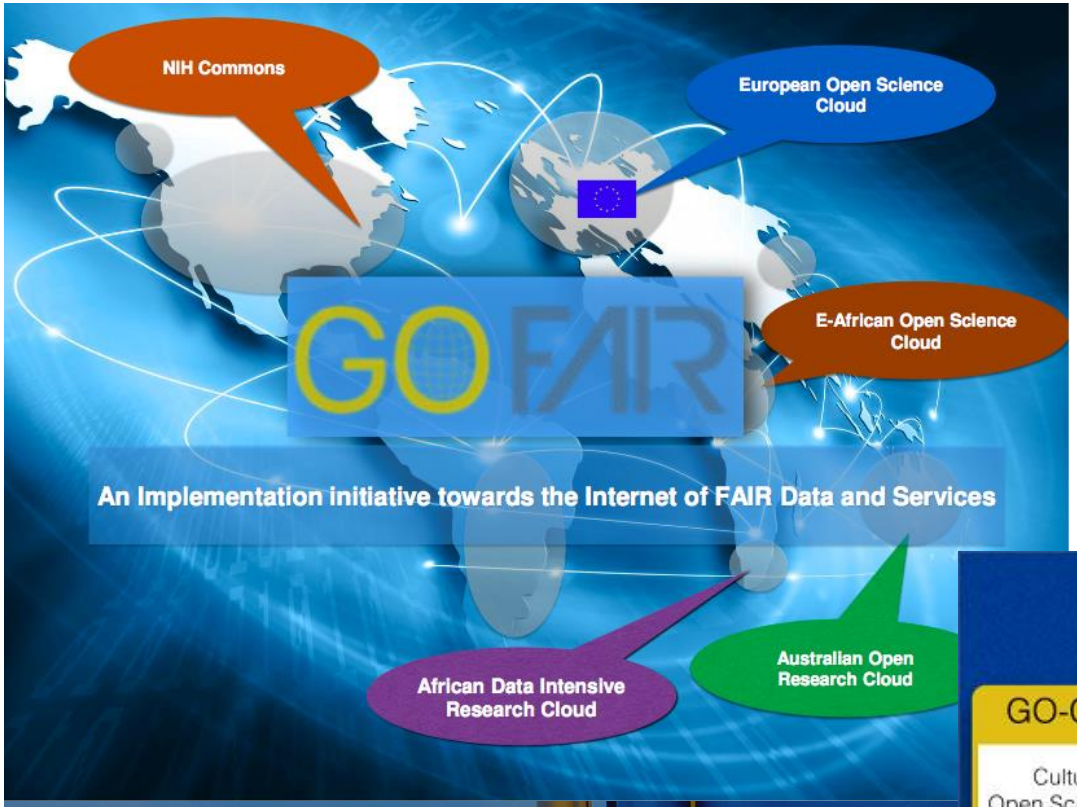
- Our initial focus has been on **standardizing** genomic **data processing**, and data redistribution, **on the cloud**.
- We **aim to make these processes inter-operable for the EOSC**.

- Outcomes of PCAWG phase I are intended to be published in **2017**.

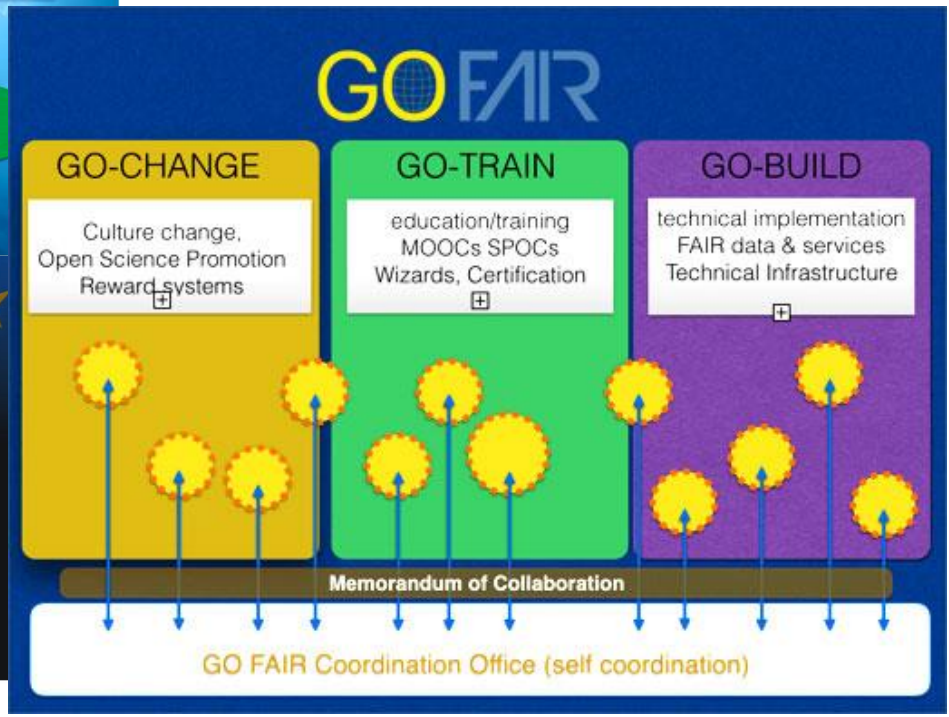
The International Cancer Genome Consortium (ICGC)



Stein, Knoppers, Campbell, Getz & Korbel, *Nature* 2015



"GO-FAIR" is a proposal for the practical implementation of the European Open Science Cloud (EOSC) through a federated approach making optimal use of existing initiatives and infrastructures in the participating Member States

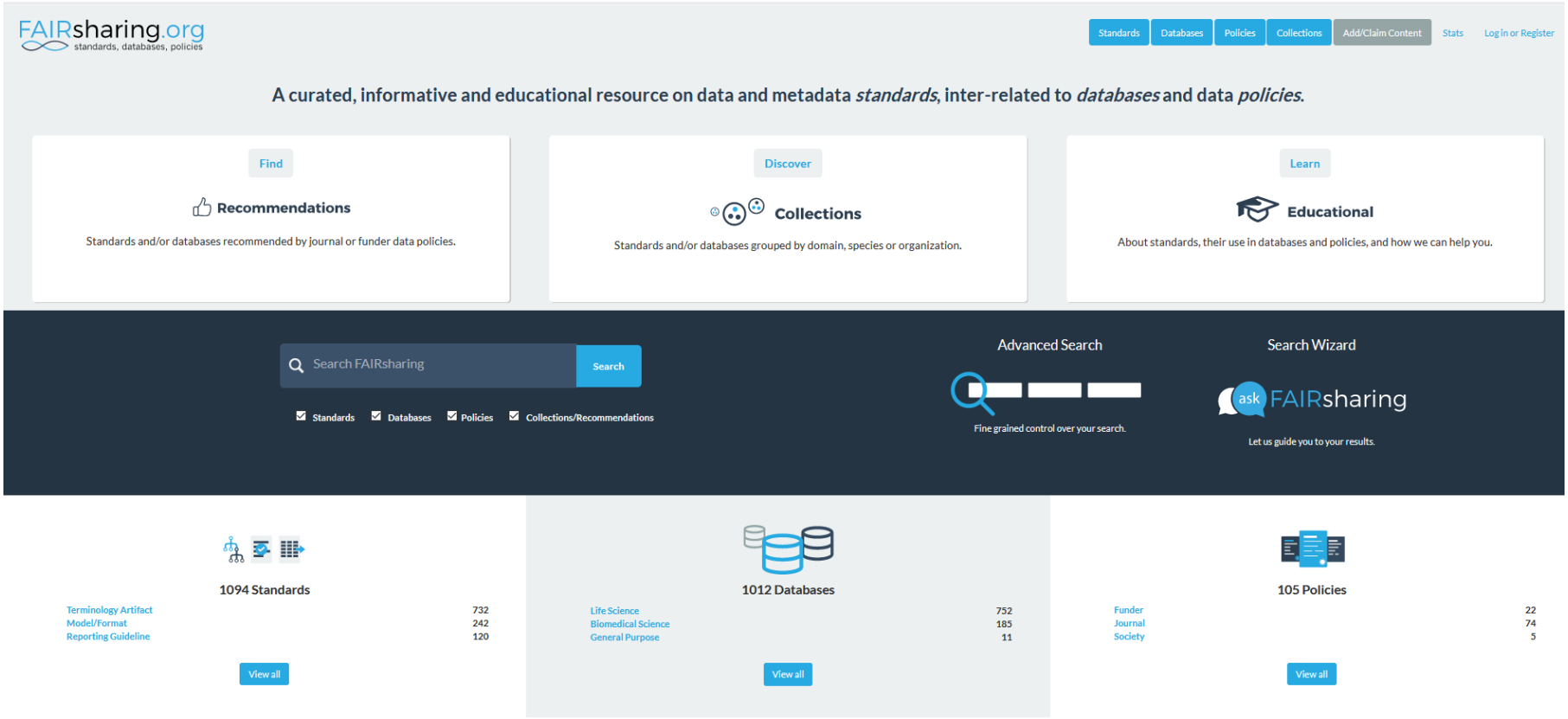


GO-FAIR: A Member States-Up strategy for the EOSC implementation

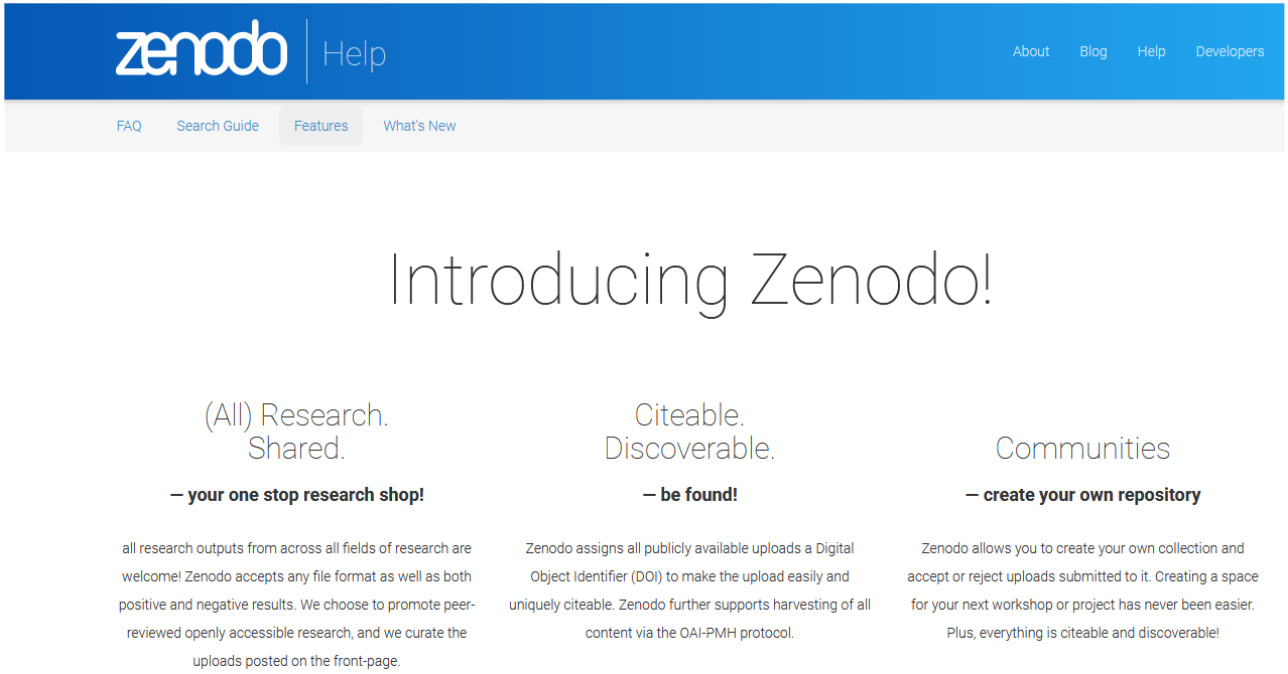
"GO-FAIR" is a proposal for the practical implementation of the European Open Science Cloud (EOSC) through a federated approach making optimal use of existing initiatives and infrastructures in the participating Member States.

https://www.dtls.nl/fair-data/go-fair/

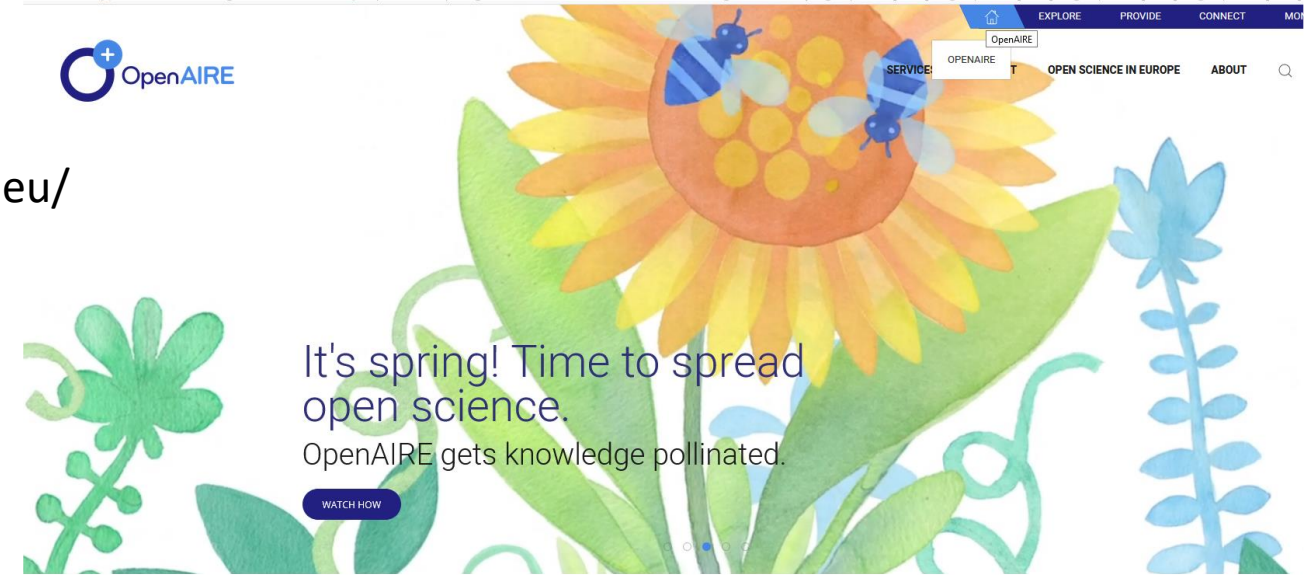
https://fairsharing.org/ (before Biosharing)

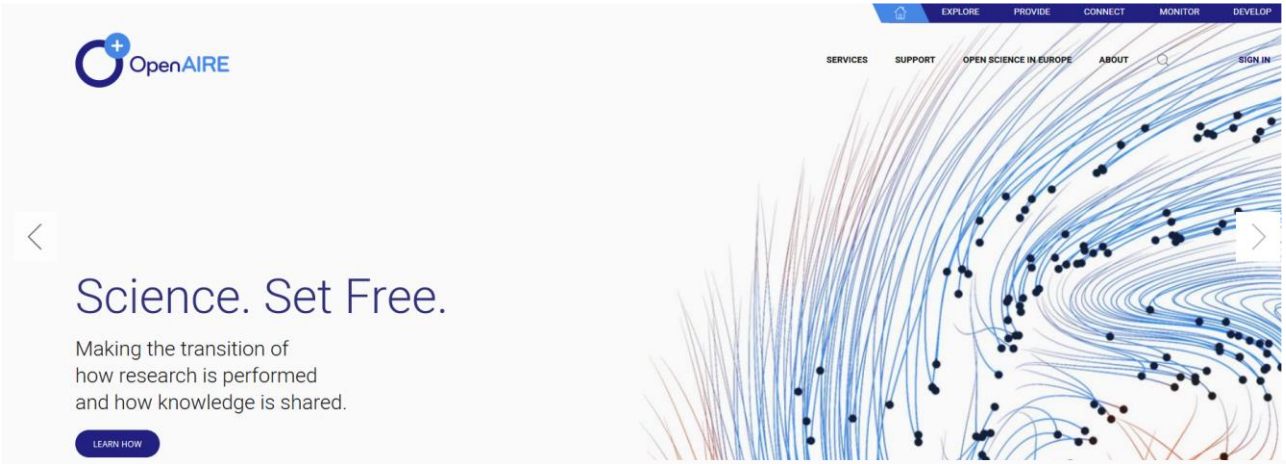


http://help.zenodo.org/features/



https://www.openaire.eu/





Content provider?

Join OpenAIRE, use our tools and make your content more visible around the world.

OpenAIRE.PROVIDE

Research community?

Use a trusted partner to share, link, disseminate and monitor your research.

OpenAIRE.CONNECT

Research manager?

Use our monitoring services and easily track all relevant research results.

OpenAIRE.MONITOR

Developer?

Get access to OpenAIRE data and capitalize on on Europe's open linked research

OpenAIRE.DEVELOP

Horizon
Europe
THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)

Horizon Europe will also introduce several new main features:

- A European Innovation Council (EIC) to help the EU become a frontrunner in market-creating innovation.
- New EU-wide research and innovation missions focusing on societal challenges and industrial competitiveness.
- Maximising the innovation potential across the EU.
- **The principle of 'open science' will become the modus operandi of Horizon Europe, requiring open access to publications and data**.
- A new generation of European Partnerships and increased collaboration with other EU programmes.

The new programme will be implemented through three pillars:

Conclusions OS in Horizon Europe

Horizon Europe Regulation

Open Science as *modus operandi*

- Promote OS: science communication and citizen science, among others, e.g. through a combination of obligations and incentives (possibly also in the evaluation of proposals)
- Sanctions for those grant beneficiaries (e.g. not necessarily the same as researchers) that repeatedly and consistently fail to provide the required OA
- Appropriate metrics for better assessing the impact of research output and engagement in open science

Comunicación participación

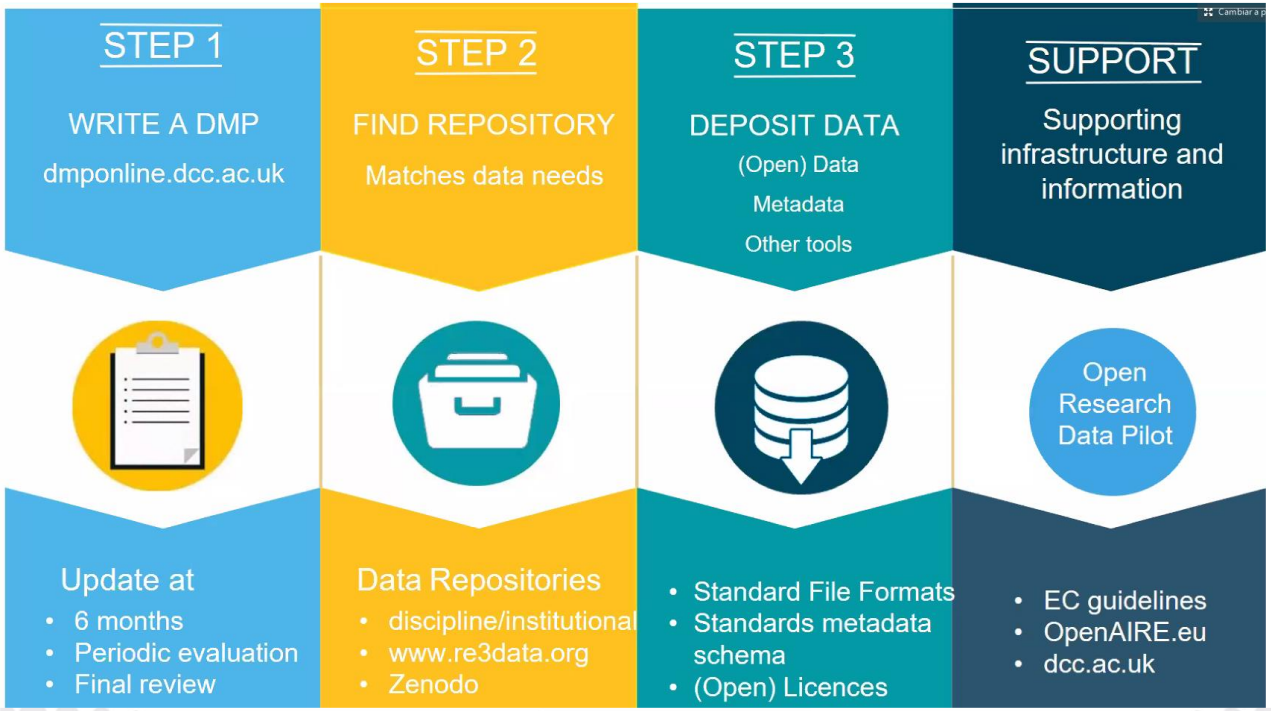
Seguimiento/sanciones

Métricas “adecuadas”

Main elements of Open Science in Horizon Europe

Horizon Europe Regulation

- Open access to publications ensured (=no way around this! ☺)
- Open access to research data: ‘as open as possible as closed as necessary’
- Responsible management of research data: Data Management Planning, FAIR data, long-term preservation of data
- Open science practices promoted and encouraged; may provide additional incentives or obligations to adhere to open science practices
- May require additional obligations to use EOSC for storing and giving access to research data
- Authors/beneficiaries must retain enough rights for open access
- Exceptions to open access for research data described



H2020 policy regarding research data

Proposals for research data in Horizon Europe

Horizon Europe Regulation

Mainstream RDM with mandatory DMP	• For all projects that generate, collect, re-use research data • No exceptions to DMP requirement for such projects
Open by default	• Unless exceptions apply- not an 'opting-out' but an exception, moving beyond the pilot phase!
FAIR research data	• Identifiers, trusted repositories, machine-readable licenses, among other requirements
Use of European Open Science Cloud required	• In some Work Programmes

Horizon Europe policy regarding research data (draft)

COMMISSION RECOMMENDATION (EU) 2018/790
of 25 April 2018 on access to and preservation of scientific information
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0790

- Open access to scientific publications
- Research data management, including open access
- Preservation and reuse of scientific information
- Infrastructures for open science
- Skills and competences
- Incentives and rewards
- Multi-stakeholder dialogue on open science at national, European and international level
- Structured coordination of Member States at Union level and follow-up to this Recommendation

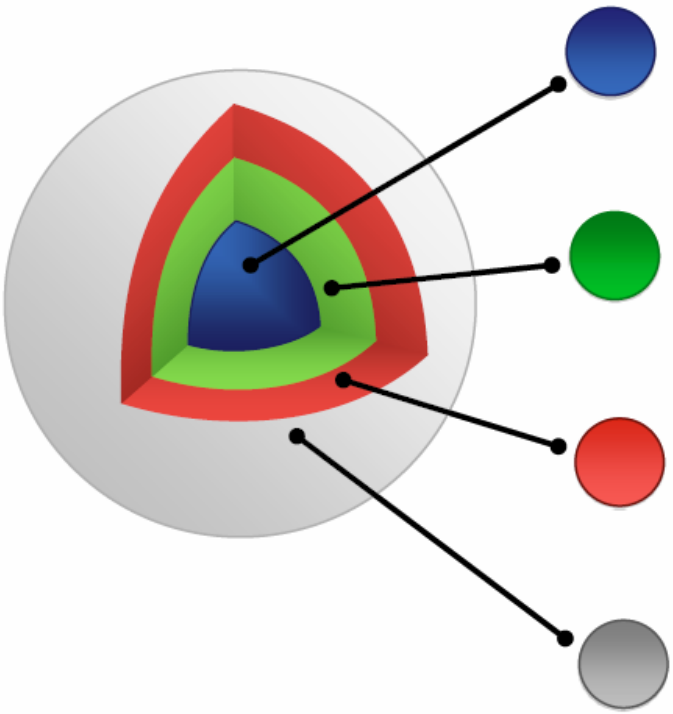
Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information

"…The Commission Recommendation of 25 April 2018 on access to and preservation of scientific information describes, among other things, relevant elements of open access policies. Additionally, the conditions, under which certain research data can be re-used, should be improved. For that reason, certain obligations stemming from this Directive should be extended to research data resulting from scientific research activities subsidised by public funding or co-funded by public and private-sector entities. Under the national open access policies, publicly funded research data should be made open as the default option. However, in this context, concerns in relation to privacy, protection of personal data, confidentiality, national security, legitimate commercial interests, such as trade secrets, and to intellectual property rights of third parties should be duly taken into account, according to the principle 'as open as possible, as closed as necessary'…"

About research data

'any information that has been collected, observed, generated or created to validate original research findings'

Turning FAIR data into reality. Interim report from the European Commission Expert Group on FAIR data



DATA

The core bits

At its most basic level, data is a bitstream or binary sequence. For data to have meaning and to be FAIR, it needs to be represented in standard formats and be accompanied by Persistent Identifiers (PIDs), metadata and code. These layers of meaning enrich the data and enable reuse.

IDENTIFIERS

Persistent and unique (PIDs)

Data should be assigned a unique and persistent identifier such as a DOI or URN. This enables stable links to the object and supports citation and reuse to be tracked. Identifiers should also be applied to other related concepts such as the data authors (ORCIDs), projects (RAIDs), funders and associated research resources (RRIDs).

STANDARDS & CODE

Open, documented formats

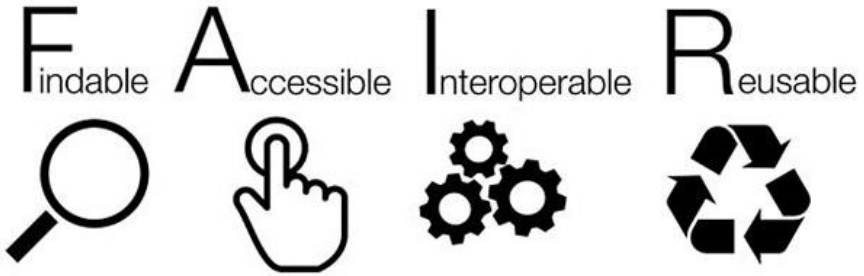
Data should be represented in common and ideally open file formats. This enables others to reuse the data as the format is in widespread use and software is available to read the files. Open and well-documented formats are easier to preserve. Data also need to be accompanied by the code use to process and analyse the data.

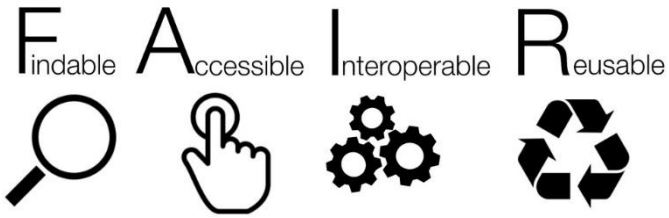
METADATA

Contextual documentation

In order for data to be assessable and reusable, it should be accompanied by sufficient metadata and documentation. Basic metadata will enable data discovery, but much richer information and provenance is required to understand how, why, when and by whom the data were created. To enable the broadest reuse, data should be accompanied by a 'plurality of relevant attributes' and a clear and accessible data usage license.

Model for FAIR data objects





Findable

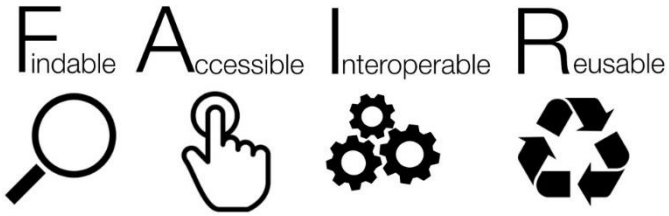
The first step in (re)using data is to find them. Metadata and data should be easy to find for both humans and computers.

F1. (Meta)data are assigned a globally unique and persistent identifier
F2. Data are described with rich metadata (defined by R1 below
F3. Metadata clearly and explicitly include the identifier of the data they describe
F4. (Meta)data are registered or indexed in a searchable resource

Accessible

Once the user finds the required data, she/he needs to know how can they be accessed, possibly including authentication and authorisation.

A1. (Meta)data are retrievable by their identifier using a standardised communications protocol
A1.1 The protocol is open, free, and universally implementable
A1.2 The protocol allows for an authentication and authorisation procedure, where necessary
A2. Metadata are accessible, even when the data are no longer available



Interoperable

The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

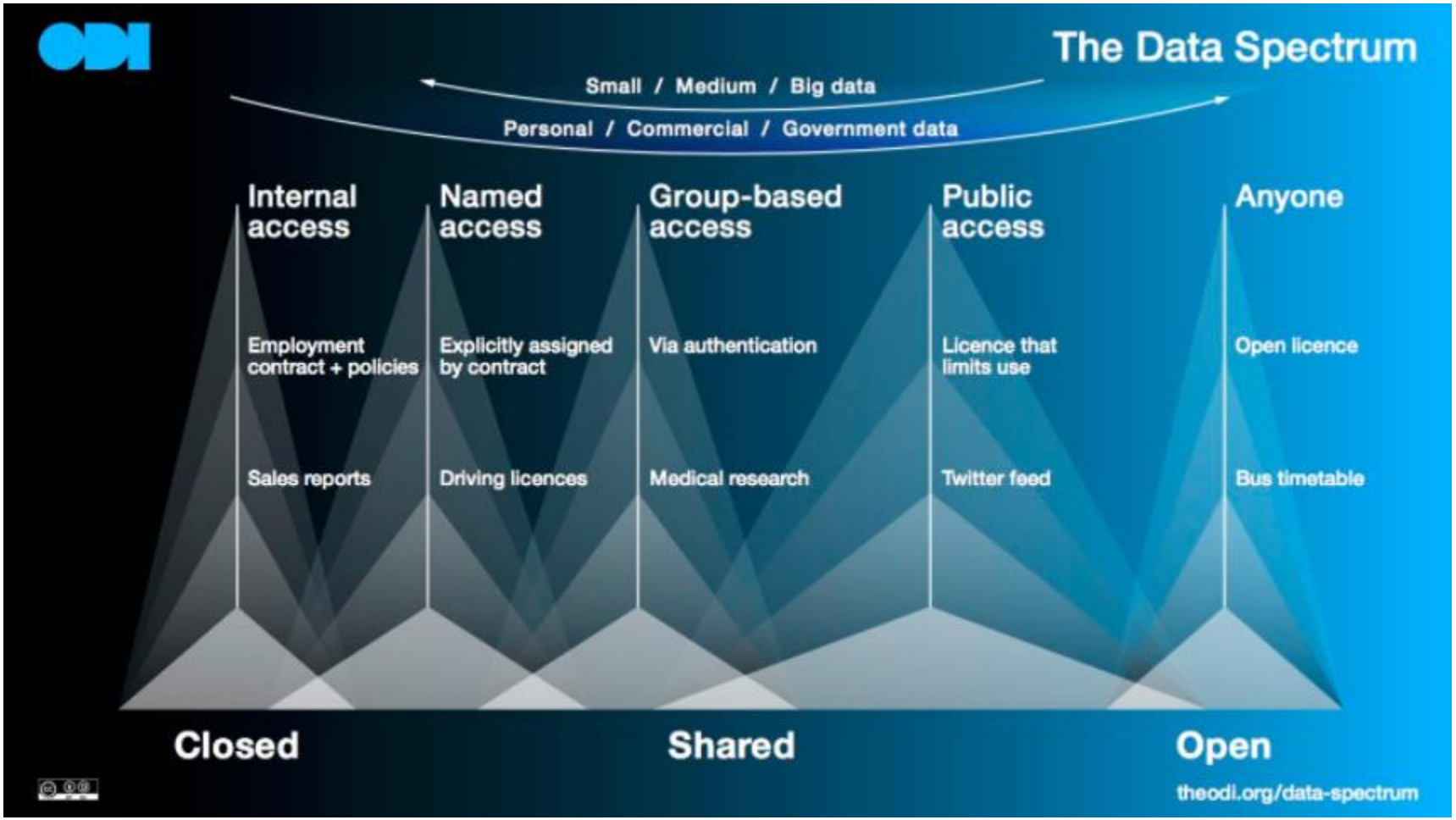
I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (Meta)data use vocabularies that follow FAIR principles
I3. (Meta)data include qualified references to other (meta)data

Reusable

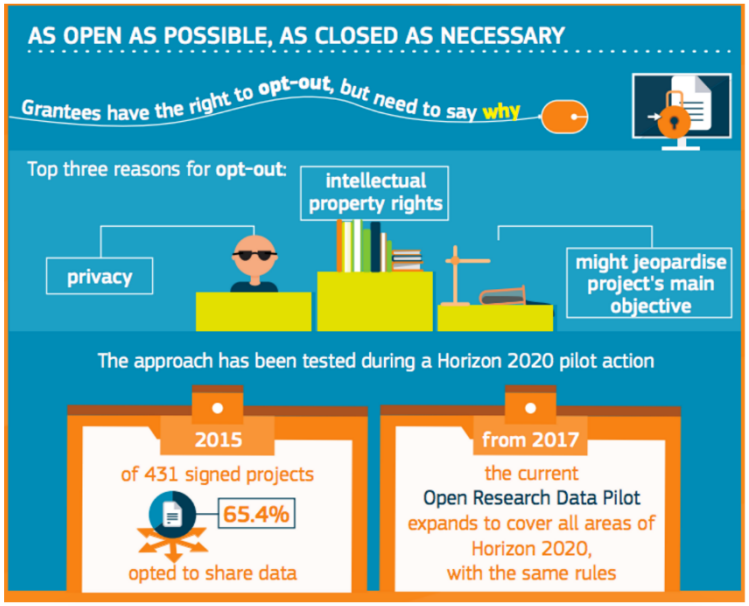
The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

R1. Meta(data) are richly described with a plurality of accurate and relevant attributes
R1.1. (Meta)data are released with a clear and accessible data usage license
R1.2. (Meta)data are associated with detailed provenance
R1.3. (Meta)data meet domain-relevant community standards

https://theodi.org/about-the-odi/the-data-spectrum/



https://amnesia.openaire.eu/

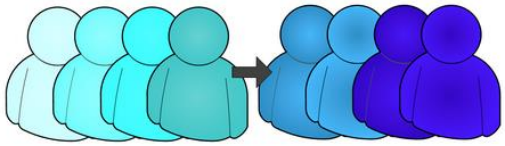


Anonimización de datos

Home Get Amnesia! What is Amnesia? Documentation On-line version About

Amnesia

Amnesia is a data anonymization tool, that allows to remove identifying information from data. Amnesia not only removes direct identifiers like names, SSNs etc but also transforms secondary identifiers like birth date and zip code so that individuals cannot be identified in the data. Amnesia supports k-anonymity and k^m-anonymity.



At national level (Spain) regarding research data

- Open Science/Open access funders' policies
- Open Science/Open Access institutional policies
- Repositories
- Data Management plans
- RDA Spain
- Research working groups

Directiva 2003/98/CE, de 17 de noviembre de 2003, del Parlamento Europeo y del Consejo, relativa a la reutilización de la información del sector público, establece el régimen jurídico general para la reutilización de dicha información. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:345:0090:0096:ES:PDF

Ley 37/2007, de 16 de noviembre, sobre reutilización de la información del sector público (trasposición de la anterior directiva). https://www.boe.es/diario_boe/txt.php?id=BOE-A-2007-19814

Real Decreto 1495/2011, de 24 de octubre, por el que se desarrolla la Ley 37/2007, de 16 de noviembre, sobre reutilización de la información del sector público, para el ámbito del sector público estatal http://boe.es/boe/dias/2011/11/08/pdfs/BOE-A-2011-17560.pdf

Ley 19/2013, de 9 de diciembre, de transparencia, acceso a la información pública y buen gobierno https://www.boe.es/buscar/doc.php?id=BOE-A-2013-12887

Ley 21/2014, de 4 de noviembre, por la que se modifica el texto refundido de la Ley de Propiedad Intelectual, aprobado por Real Decreto Legislativo 1/1996, de 12 de abril, y la Ley 1/2000, de 7 de enero, de Enjuiciamiento Civil: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2014-11404

Directiva 2013/37/UE del Parlamento Europeo y del Consejo, de 26 de junio de 2013, en el régimen de reutilización de documentos del sector público. https://www.boe.es/doue/2013/175/L00001-00008.pdf

Ley 18/2015, de 9 de julio, por la que se modifica la Ley 37/2007, de 16 de noviembre, sobre reutilización de la información del sector público (trasposición de la anterior). http://boe.es/boe/dias/2015/07/10/pdfs/BOE-A-2015-7731.pdf

CRUE (2004). Declaración de la CRUE en apoyo del modelo de acceso abierto.

Consell Interuniversitari de Catalunya (CIC) (2010). "Document marc de mandat d'accés obert de la recerca de les universitats de Catalunya elaborat pel Consorci de Biblioteques Universitàries de Catalunya".
http://crai.ub.edu/sites/default/files/recerca/politiques/mandataccesobert100701_0_1.pdf

Gobierno de España (2011). Ley de la Ciencia, la Tecnología y la Innovación.

https://www.boe.es/eli/es/l/2011/06/01/14/con

FECYT (2014). Recomendaciones para la implementación del artículo 37 Difusión en Acceso Abierto de la Ley de la Ciencia, la Tecnología y la Innovación.
https://www.fecyt.es/en/content/recommendations-implementation-article-37-dissemination-open-access-law-science-technology

FECYT (2017). Hacia un acceso abierto por defecto. Documento elaborado por la Comisión de Seguimiento para la implantación del artículo 37 Difusión en Acceso Abierto de la Ley de la Ciencia, la Tecnología y la Innovación.
https://recolecta.fecyt.es/sites/default/files/contenido/documentos/OA_PorDefecto.pdf

La **Fundación Bancaria "la Caixa**" (a partir del 1 enero de 2018) adopta una política de acceso abierto respecto a la publicación de resultados de la investigación, alineada con las políticas impulsadas por otras agencias de financiación públicas y privadas a escala europea y global.
https://obrasociallacaixa.org/documents/10280/692563/politica_acceso_abierto_es.pdf/b457949e-74b8-4b70-9c5c-e7c317de010d

Principado de Asturias (2009). "Resolución de 2 de febrero de 2009, de la Consejería de Administraciones Públicas y Portavoz del Gobierno, por la que se crea el Repositorio Institucional del Principado de Asturias". Boletín Oficial del Principado de Asturias, 3/2/2009, nº 27, p. 1-4.

Principado de Asturias (2017). "Resolución de 9 de mayo de 2017, de la Consejería de Presidencia y Participación Ciudadana, por la que se regula la organización y funcionamiento del Repositorio Institucional del Principado de Asturias". Boletín Oficial del Principado de Asturias, 25/5/2017, nº 119, p. 1-4.

Comunidad de Madrid (2009). "Orden 679/2009, de 19 de febrero, por la que se establecen las bases reguladoras de ayudas a programas de actividades de I + D entre grupos de investigación de la Comunidad de Madrid y convocatoria en tecnologías cofinanciada con Fondo Social Europeo". B.O.C.M., nº 53, 4/3/2009, p. 13-33.

Comunidad de Madrid (2017). "Orden 2092/2017, de 7 de junio, del Consejero de Educación, Juventud y Deporte, por la que se establecen las bases reguladoras para la concesión de ayudas para la realización de programas de actividades de I+D entre grupos de investigación de la Comunidad de Madrid en tecnologías y en biomedicina, cofinanciadas con fondos estructurales". B.O.C.M., nº 146, 21/6/2017, p. 147. https://www.bocm.es/boletin/CM_Orden_BOCM/2017/06/21/BOCM-20170621-15.PDF Art. 7.3 http://boe.es/diario_boe/txt.php?id=BOE-A-2013-10259

Resolución de la Secretaría de Estado de Investigación, Desarrollo e Innovación y de la Presidencia de la agencia Estatal de Investigación, por la que se aprueba la convocatoria de tramitación anticipada para el año 2017 …..en el marco del **Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016**.
http://www.idi.mineco.gob.es/stfls/MICINN/Ayudas/PE_2013_2016/PE_IDi_Orientada_a_los_Retos_de_la_Sociedad/FICHEROS/CONVOCATORIA-2017-RETOS.pdf

Resolución de la Presidencia de la Agencia Estatal de Investigación, por la que se aprueba la convocatoria del año 2017, de tramitación anticipada, para la concesión de las acreditaciones y ayudas públicas de «**Centros de Excelencia Severo Ochoa» y de «Unidades de Excelencia María de Maeztu**» ….en el marco del Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016.
http://www.idi.mineco.gob.es/stfls/MICINN/Ayudas/PE_2013_2016/PE_Fomento_Investigacion_Cientifica_y_Tecnica_Excelencia/FICHEROS/SE_Fortalecimiento_Institucional/Severo_Ochoa_Centros_Unidades/Convocatoria_Excelencia_Severo_Ochoa_Maria_Maeztu_2017_vf_firmada.pdf

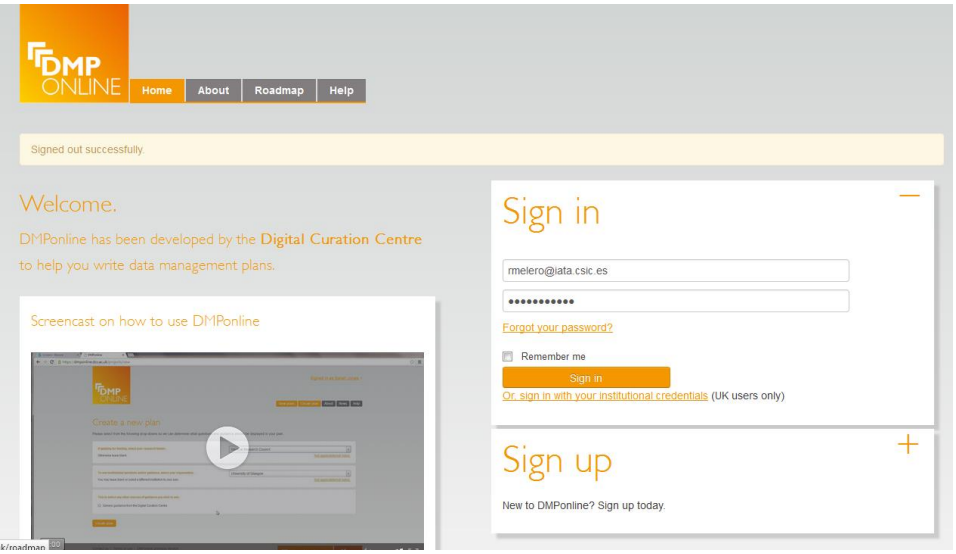
La Estrategia española de ciencia y tecnología y de innovación 2013-2020 contempla el uso coherente de **seis** mecanismos de articulación entre ellas el "acceso abierto a datos y microdatos":

"ACCESO ABIERTO a datos y microdatos, así como a las publicaciones y resultados de la investigación financiada con fondos públicos, incorporando la elaboración de directrices que proporcionen repositorios propios o compartidos"

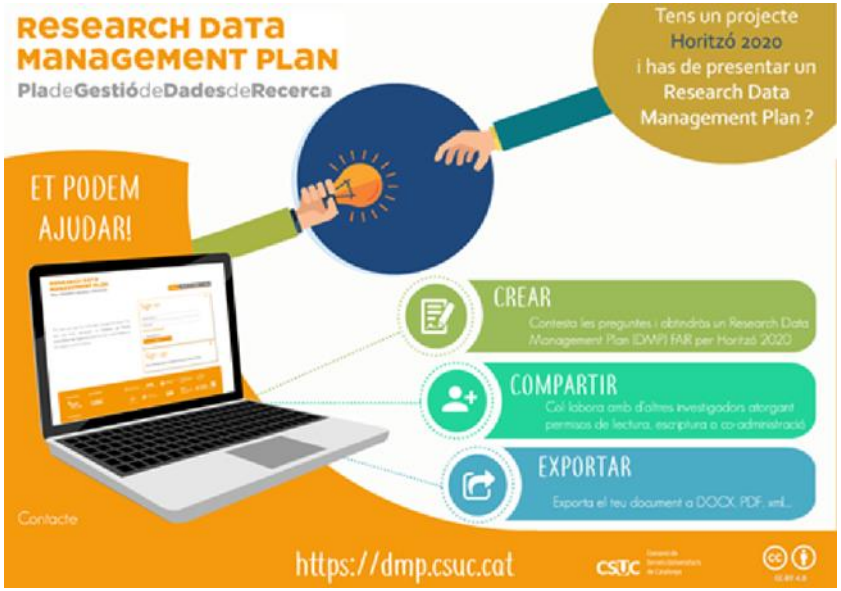
Posteriormente, el Plan estatal de investigación científica y técnica y de innovación 2017-2020 contempla la posibilidad de que los proyectos de I+D+i financiados incluyan, con carácter voluntario, un plan de gestión de los datos de investigación que se depositarán en repositorios institucionales; teniendo en cuenta que, en todo caso, "se respetarán todas las situaciones en las que los mismos han de protegerse por razones de confidencialidad, seguridad, protección, etc. o cuando los mismos sean necesarios para la explotación comercial de los resultados obtenidos".

2. TRANSPARENCIA Y RENDICIÓN DE CUENTAS de las ayudas concedidas y del proceso de concesión de las mismas, incluyendo:

- …
- ACCESO ABIERTO A RESULTADOS Y DATOS DE INVESTIGACIÓN de las actividades de investigación subvencionadas con recursos públicos. **Los trabajos publicados en revistas científicas financiados a través del Plan Estatal se depositarán en repositorios, institucionales y/o internacionales, en abierto** teniendo en cuenta las características específicas de las distintas materias, en cumplimiento de lo establecido en el Artículo 37 de **la Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación y de las recomendaciones vinculadas a la agenda europea en materia de acceso abierto y ciencia en abierto**. Con el fin de impulsar el acceso a datos de investigación, los proyectos de I+D+i financiados **podrán incluir, con carácter optativo, un plan de gestión de los datos de investigación** que se depositarán en repositorios institucionales, nacionales y/o internacionales tras la finalización del proyecto y trascurrido el plazo establecido en las correspondientes convocatorias. No obstante, se respetarán todas las situaciones en las que los mismos han de protegerse por razones de confidencialidad, seguridad, protección, etc., o cuando los mismos sean necesarios para la explotación comercial de los resultados obtenidos. Finalmente, **en la evaluación curricular de los investigadores así como en la evaluación ex post de las actuaciones financiadas se tendrán en cuenta los trabajos publicados en abierto en repositorios institucionales y temáticos, nacionales y/o internacionales, y la puesta de los datos de su investigación en abierto,** de modo que puedan ser utilizados para replicar y reproducir los análisis y resultados de investigación.



DMP online has been developed by the Digital Curation Centre (UK) https://dmponline.dcc.ac.uk/



PGDonline-madroño

http://pgd.consorciomadrono.es/

https://dmp.csuc.cat/

http://opendatamonitor.eu/frontend/web/index.php?r=dashboard%2Fviewcountry&code=ES

http://www.ands.org.au/working-with-data/skills/23-research-data-things

www.uu.nl/rdmtools

Thank you!