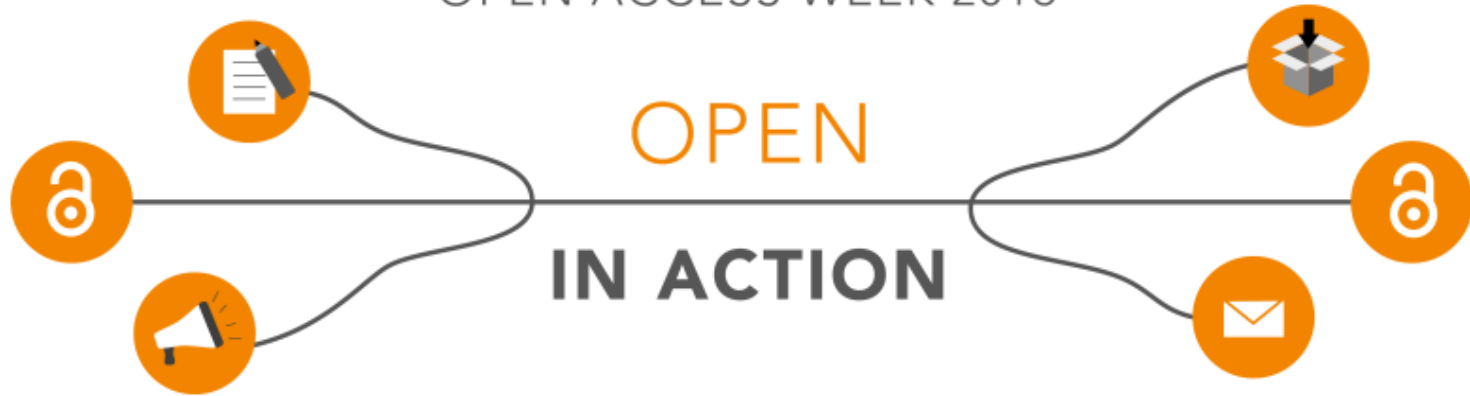


OPEN ACCESS WEEK 2016



## **Jornada *Open in action*: Los datos de investigación, un paso más hacia la Ciencia abierta**

Universitat Politècnica de València, 27 de Octubre de 2016

***“Érase una vez, un año después. Datos abiertos, estado de la cuestión”***

Remedios Melero [IATA-CSIC](#)

Miembro del grupo [Acceso Abierto a la Ciencia](#)

Miembro de la red de excelencia “Red española sobre datos de investigación en abierto”, [Maredata](#)



OPEN  ACCESS WEEK

OCTOBER 24 - 30, 2011 | EVERYWHERE

LEARN. SHARE. ADVANCE.

OPEN  International  
ACCESS WEEK

OCTOBER 21 - 27, 2013 | EVERYWHERE

OPEN ACCESS: REDEFINING IMPACT.

OPEN  International  
ACCESS WEEK  
October 19-25 2015  
Open for collaboration

OPEN  ACCESS WEEK  
OCT 22-28, 2012

Set the Default  
to OPEN ACCESS

be part of  
GENERATION OPEN

October 20-26, 2014  
everywhere. OPEN ACCESS WEEK

OPEN IN ACTION



OPEN ACCESS WEEK 2016

**Abiertos**



**Datos**

**Para  
investigación**

**De  
investigación**

Datos abiertos de la  
administración pública  
(*open data*)

¿Para la investigación?

El marco legal relacionado con el acceso y la reutilización de los open data (datos de la administración)

**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](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>

## Ley de transparencia:

“TÍTULO PRELIMINAR

Artículo 1. Objeto.

*Esta Ley tiene por objeto ampliar y reforzar la transparencia de la actividad pública, regular y **garantizar el derecho de acceso a la información** relativa a aquella actividad y establecer las obligaciones de buen gobierno que deben cumplir los responsables públicos así como las consecuencias derivadas de su incumplimiento.*

## Ley Propiedad Intelectual

Artículo 10. **Obras y títulos originales.**

1. *Son objeto de propiedad intelectual todas las **creaciones originales literarias, artísticas o científicas** expresadas por cualquier medio o soporte, tangible o intangible, actualmente conocido o que se invente en el futuro, comprendiéndose entre ellas:.....*

*Los datos no están al amparo de la ley de propiedad intelectual*

# Ley sobre reutilización de la información del sector público. (Ley 18/2015)

## Obligatoriedad

En primer lugar, la Ley recoge las disposiciones de la Directiva acerca de la **obligación inequívoca** para las Administraciones y **organismos del sector público** de autorizar la **reutilización de los documentos**, con la excepción de aquellos cuyo acceso esté restringido o excluido en virtud del ordenamiento jurídico nacional, o de los que se sometan a las excepciones contempladas en la Directiva.

Se ha ampliado el ámbito de aplicación a las **bibliotecas, incluidas las universitarias, los museos y los archivos**, dado el importante volumen de recursos de información que poseen y los proyectos de digitalización que vienen llevando a cabo.

## Aplicación...

### **Ley sobre reutilización de la información del sector público.**

Artículo 3.

Ámbito objetivo de aplicación.

1. Se entiende por reutilización **el uso de documentos que obran en poder de las Administraciones y organismos del sector público**, por personas físicas o jurídicas, con fines comerciales o no comerciales, siempre que dicho uso no constituya una actividad administrativa pública.

## No será aplicable a ...

g) **Los documentos producidos** o conservados por instituciones educativas y de investigación (incluidas las organizaciones para la transferencia de los resultados de la investigación, centros escolares **y universidades, exceptuando las bibliotecas universitarias**) así como los museos y archivos estatales como agentes de ejecución del Sistema Español de Ciencia, Tecnología e Innovación siempre que sean resultado de una investigación.

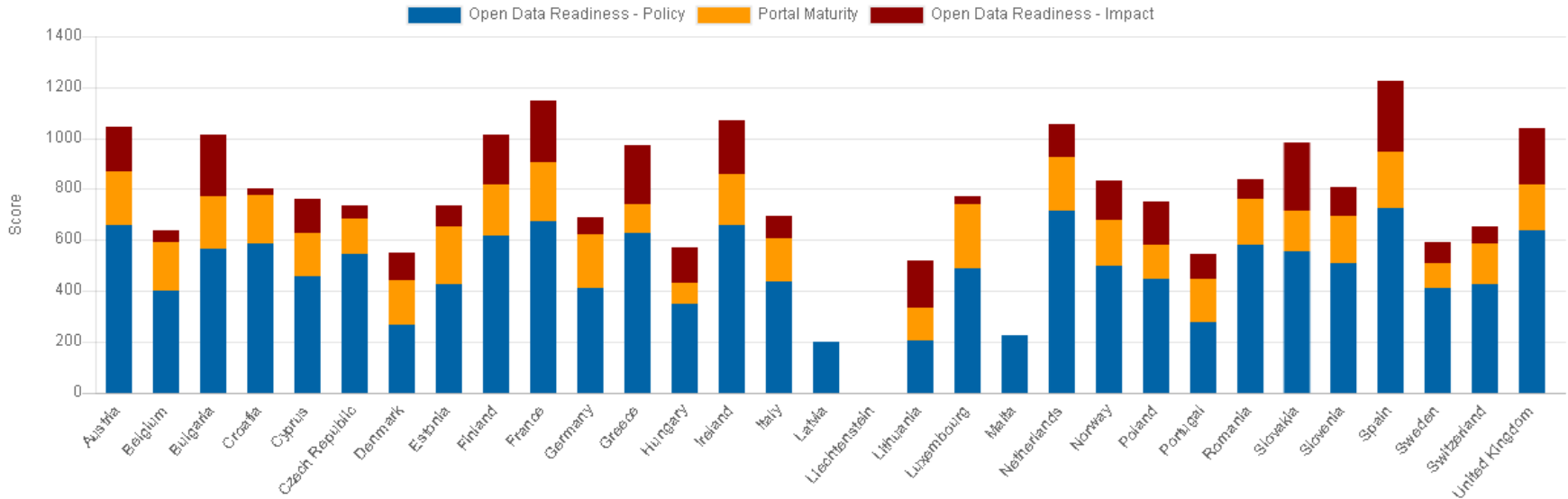


# Definiciones...

A efectos de la Ley 18/2015 se entiende por:

- 1. Datos abiertos:** Son aquellos que cualquiera es **libre de utilizar, reutilizar y redistribuir**, con el único límite, en su caso, del requisito de **atribución** de su fuente o reconocimiento de su autoría.
- 2. Documento:** Toda **información** o parte de ella, cualquiera que sea su soporte o forma de expresión, sea esta textual, gráfica, sonora visual o audiovisual, **incluyendo los metadatos** asociados y **los datos contenidos** con los niveles más elevados de precisión y desagregación. A estos efectos no se considerarán documentos los programas informáticos que estén protegidos por la legislación específica aplicable a los mismos.
- 3. Formato legible por máquina:** Un formato de archivo estructurado que permita a las aplicaciones informáticas **identificar, reconocer y extraer con facilidad datos específicos**, incluidas las declaraciones fácticas y su estructura interna.
- 4. Formato abierto:** Un formato de archivo **independiente de plataformas** y puesto a disposición del público sin restricciones que impidan la reutilización de los Documentos.
- 5. Norma formal abierta:** Una norma establecida por escrito que especifica los criterios de interoperabilidad de la aplicación informática.

## Country overview



| Reset order                                   | Open Data Readiness - Policy |                       |                 |             | Portal Maturity |                      |                               | Open Data Readiness - Impact |        |          | Open Data Readiness - Policy | Open Data Readiness - Impact | Portal Maturity | Total |
|---|------------------------------|-----------------------|-----------------|-------------|-----------------|----------------------|-------------------------------|------------------------------|--------|----------|------------------------------|------------------------------|-----------------|-------|
| Country                                       | Presence Policy              | National Coordination | Licensing Norms | Use of Data | Usability       | Re-usability of data | Spread of data across domains | Political                    | Social | Economic | Open Data Readiness - Policy | Open Data Readiness - Impact | Portal Maturity | Total |
| <a href="#">See details</a>                   |                              |                       |                 |             |                 |                      |                               |                              |        |          |                              |                              |                 |       |
| Spain<br><a href="#">See details</a>          | 320                          | 120                   | 70              | 215         | 60              | 110                  | 50                            | 100                          | 60     | 120      | 725                          | 280                          | 220             | 1225  |
| Sweden<br><a href="#">See details</a>         | 250                          | 40                    | 15              | 105         | 10              | 40                   | 50                            | 30                           | 0      | 50       | 410                          | 80                           | 100             | 590   |
| Switzerland<br><a href="#">See details</a>    | 155                          | 70                    | 70              | 130         | 20              | 90                   | 50                            | 0                            | 0      | 70       | 425                          | 70                           | 160             | 655   |
| United Kingdom<br><a href="#">See details</a> | 280                          | 90                    | 70              | 200         | 40              | 90                   | 50                            | 90                           | 60     | 70       | 640                          | 220                          | 180             | 1040  |

Datos abiertos de la  
investigación.....

## Datos de investigación (research data)

Información cuantitativa o cualitativa recogida por los investigadores en el curso de su trabajo obtenida de:

- La experimentación,
  - La observación,
  - La modelización,
  - Por medio de encuestas o entrevistas, u otros medios
  - .....
- 
- También derivada de la ya existente

Facilitan la información necesaria para apoyar o validar los resultados o conclusiones de la investigación



Open data must be accessible, useable, assessable and intelligible ( extracted from *Science as an Open Enterprise*, 2012 )



Open data  
is about  
MORE  
THAN  
DISCLOSURE  
it must be  
Fair

- Findable
- Accessible
- Interoperable
- Reusable





# Ciencia Abierta: La investigación y los datos científicos accesibles y abiertos a todos los ciudadanos

## Open Science

**Open Repositories**  
Repositorios Abiertos



**Open Access**  
Acceso Abierto

Acceso sin trabas económicas, tecnológicas o jurídicas a las publicaciones científicas

**Open Access Journals**  
Revistas de Acceso Abierto



**Open Reproducible Research**  
Investigación Reproducible en Abierto

Acceso libre a los elementos experimentales para la reproducción de la investigación



**Open Research Data**  
Datos de Investigación Abiertos

**Open Source in Open Science**  
Código Abierto para la Ciencia Abierta



**Open Peer Review**  
Revisión por Pares Abierta



**Open Science Evaluation**  
Evaluación de la Ciencia en Abierto

Evaluación abierta de los resultados de investigación, ampliando la revisión tradicional con la contribución de la comunidad

**Open Metrics and Impact**  
Impacto y Métricas Abiertas



**Open Data**  
Datos Abiertos

Datos que están disponibles en línea de forma gratuita y que se pueden usar, reutilizar y distribuir



**Open Big Data**  
Datos Masivos Abiertos

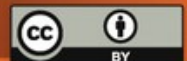
**Open Government Data**  
Datos Gubernamentales Abiertos



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El personal de tu Biblioteca te puede asesorar



# Datos abiertos en un mundo de grandes datos

Un acuerdo internacional  
VERSION ABREVIADA



- La revolución digital y la explosión de los datos
- Los desafíos
- Las oportunidades

## Los principios de Datos Abiertos

### Responsabilidades

- Científicos
- *Las instituciones de investigación y las universidades*
- Editores
- Agencias financiadoras
- *Los organismos de financiación*
- *Las asociaciones profesionales, sociedades científicas y academias*
- *Bibliotecas, archivos y repositorios*

### Los límites de la apertura

- Datos abiertos “por defecto” (excepto casos por privacidad confidencialidad, propiedad industrial, seguridad)

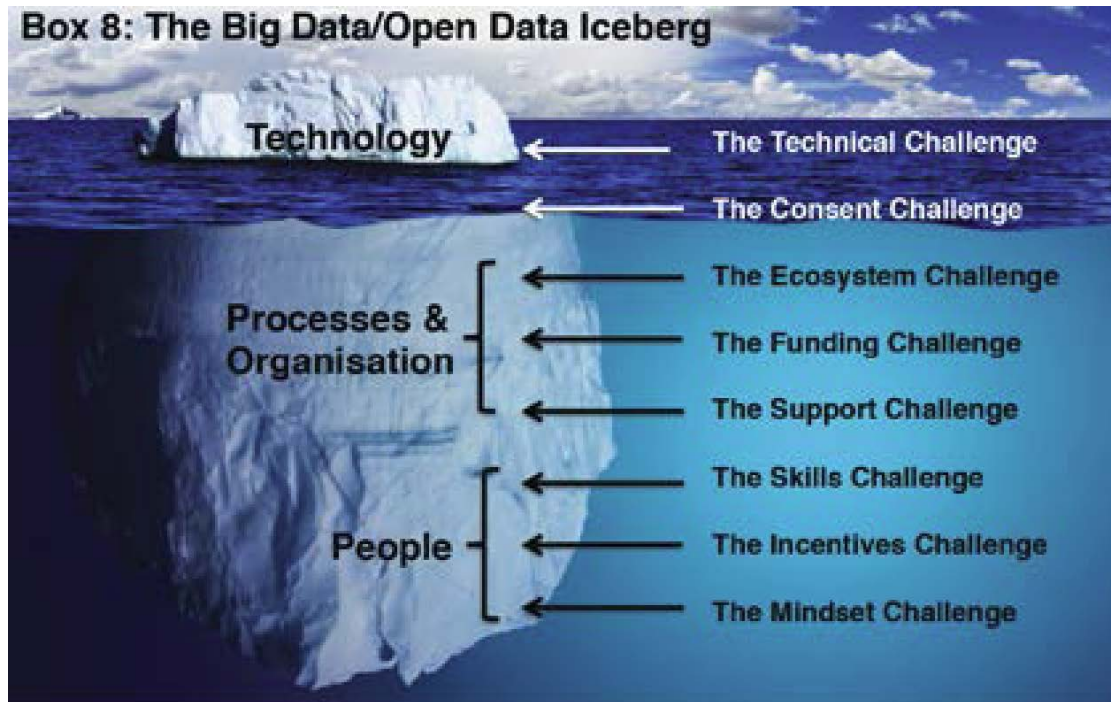
### Hacer posible

- Citación y procedencia
- Interoperabilidad
- Reutilización no restrictiva
- Capacidad de vinculación (*linked data*)

International Council for Science – ICSU, The InterAcademy Partnership – IAP, The World Academy of Sciences – TWAS y el International Social Science Council – ISSC

[http://www.science-international.org/sites/default/files/reports/datos-abiertos-acuerdo\\_short\\_es.pdf](http://www.science-international.org/sites/default/files/reports/datos-abiertos-acuerdo_short_es.pdf)

### Box 8: The Big Data/Open Data Iceberg



Tecnología



Gestión y  
organización

Temas de Personal

Requisitos de una infraestructura para un eficiente entorno de datos abierto



## Data Availability

The following policy applies to all of PLOS journals, unless otherwise noted.

PLOS journals require authors to make all data underlying the findings described in their manuscript fully available without restriction, with rare exception.

When submitting a manuscript online, authors must provide a Data Availability Statement describing compliance with PLOS's policy. If the article is accepted for publication, the data availability statement will be published as part of the final article.

Refusal to share data and related metadata and methods in accordance with this policy will be grounds for rejection. PLOS journal editors encourage researchers to contact them if they encounter difficulties in obtaining data from articles published in PLOS journals. If restrictions on access to data come to light after publication, we reserve the right to post a correction, to contact the authors' institutions and funders, or in extreme cases to retract the publication.

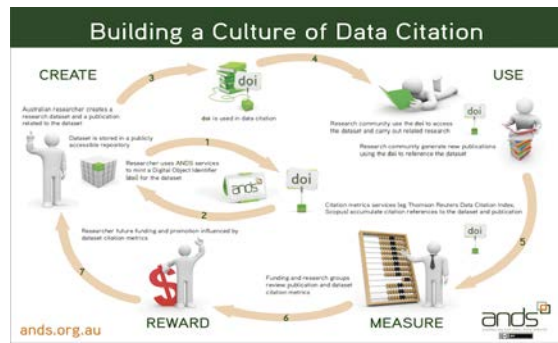
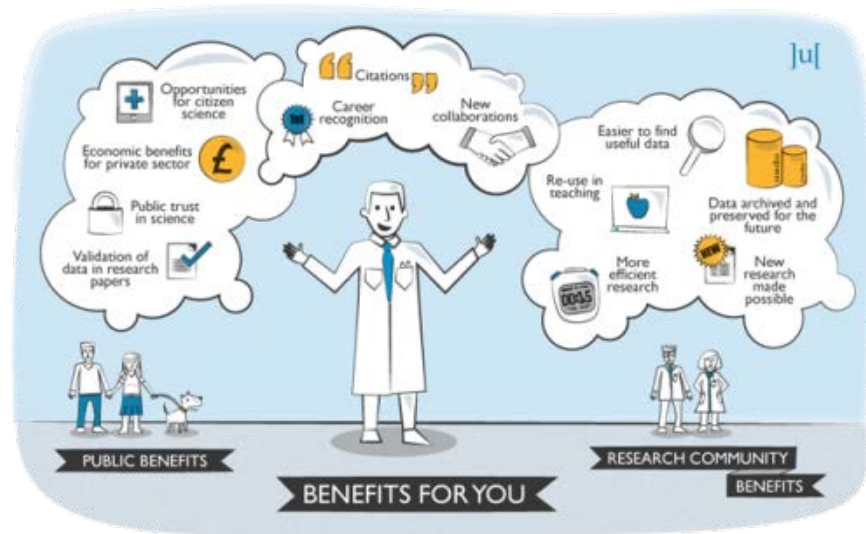
## THE DATA CITATION INDEX™

CONNECTING THE DATA TO THE RESEARCH IT INFORMS

What is it? [VIEW VIDEO](#)



REPOSITORY EVALUATION, SELECTION, AND COVERAGE POLICIES FOR THE DATA CITATION INDEX WITHIN THOMSON REUTERS WEB OF SCIENCE



# Why is DATA ACCESS Important?



## Innovation

Encouraging diversity of analysis and opinion; synthesizing results from individual projects into a larger whole; coordinating the application of scientific, social, and business knowledge

## Collaboration

between related projects and Grand Challenges programs, researchers and institutions, and among diverse disciplines to foster greater productivity and creativity.



## Efficiency

Preventing unnecessary duplication of effort, and enabling secondary analyses and enhancement of existing data, permitting the redirection of resources to maximize the impact of investments.



## Accountability

Encouraging independent verification and analysis, thereby improving data quality and outputs.



## Capacity Strengthening

Facilitating the education of new researchers, and enabling broader access to data for secondary analysis and stimulation of bold and innovative ideas.



[www.grandchallenges.ca/wp-content/uploads/20161006\\_GCC-Open-Access-Guide-for-Innovators\\_EN.pdf](http://www.grandchallenges.ca/wp-content/uploads/20161006_GCC-Open-Access-Guide-for-Innovators_EN.pdf)

Por qué.....

- Innovación
- Colaboración
- Eficiencia
- Responsabilidad
- Transparencia
- Generación de nuevo conocimiento

# From vision to action



**Estrategia en Europa.....**

# Horizon2020 (2014-2020)



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

Version 1.0  
11 December 2013



- OA: verde y dorada, cubre todas las áreas
- Nuevas directrices, nuevas cláusulas (29.2 y 29.3)
- Piloto OA para los datos de investigación (cláusula 29.3, para 7 áreas)
- Se insta a los estados miembros a desarrollar políticas OA +infraestructura
- Embargos: 6 y 12 meses como en el 7FP (vía verde). Depósito inmediato vía dorada
- Apoyo: OpeAire2020 y Zenodo (admite datasets)



# Cómo cumplir con los mandatos sobre gestión y publicación de datos en Horizonte 2020

Programa Horizonte 2020 (art. 29.3)



## A quién afecta

**Investigadores** con proyectos subvencionados por Horizonte 2020



Por razones de confidencialidad, seguridad, explotación industrial... **puede no publicar sus datos**



## Qué obliga a depositar

**Los datos**, incluidos sus metadatos, necesarios para validar los resultados presentados en las publicaciones científicas

**Otros datos**, incluidos sus metadatos, especificados en los planes de gestión de datos de los proyectos de investigación



## Requisitos

**Desarrollar y mantener** un Plan de Gestión de Datos

**Depositar** los datos en un repositorio de datos de investigación

**Indicar** qué herramientas se requieren para usar los datos

**Permitir** el acceso, explotación y disseminación de datos

## Ventajas



- Permiten **validar los resultados** presentados en publicaciones científicas y otras fuentes de información
- Permiten basarse en los **resultados de investigaciones previas**
- **Fomenta la colaboración** y evita la duplicación de esfuerzos
  - **Acelera la innovación**
- Mejora la **transparencia del proceso científico**



Recomendado el uso de licencias Creative Commons



**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).*

# Requisitos del *Open Data Pilot*

- Desarrollar y actualizar un plan de gestión de datos (presentación a los 6 meses, a la mitad del proyecto y en el informe final)
- Depósito de los datasets en un repositorio de datos ( ver *Registry of Research Data Repositories* <http://www.re3data.org/> )
- Facilitar a terceros el acceso, la reutilización, la reproducción y diseminación de los datos, sin coste para el usuario
- Facilitar la información de las herramientas, métodos o instrumentación para validar los resultados (o facilitar las herramientas, si fuera necesario)

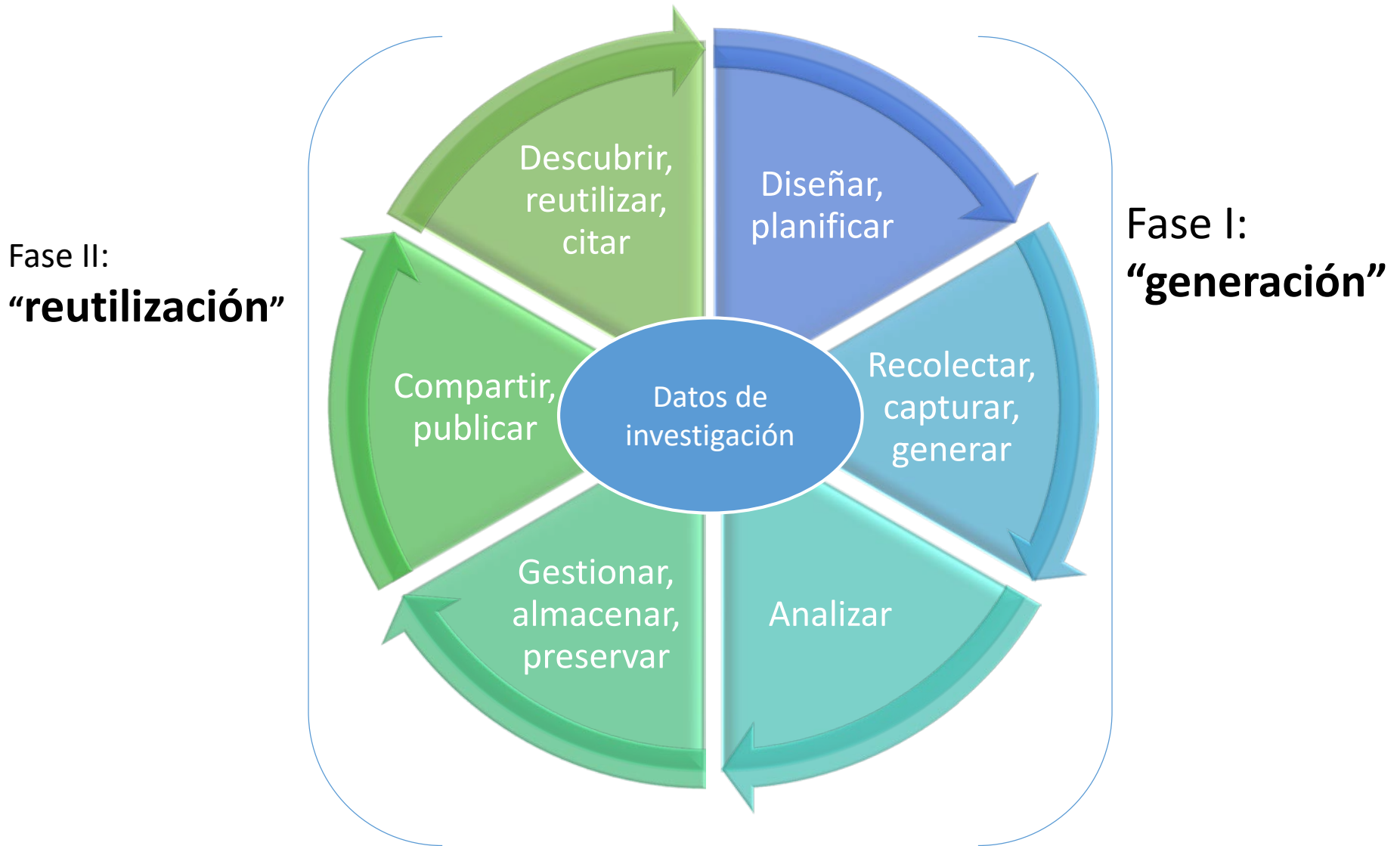
# Posibles exenciones del Piloto

- Si los resultados esperados son susceptibles de ser explotados comercial o industrialmente
- Si existen razones de confidencialidad o de seguridad
- Si la exposición de los datos es incompatible con alguna normativa referente a la protección de datos personales
- Si la exposición de los datos pone en riesgo el desarrollo del objetivo principal del proyecto
- Si el proyecto no prevé la generación o colección de datos
- Si existe alguna otra razón legítima para no participar en el Piloto

**La exención puede expresarse en la solicitud del proyecto o bien durante su ejecución, y deben exponerse las razones en el plan de gestión de datos**



# Ciclo de vida de los datos





# El ciclo de los datos científicos



Ayuda a planificar la investigación



El personal de tu Biblioteca te puede asesorar

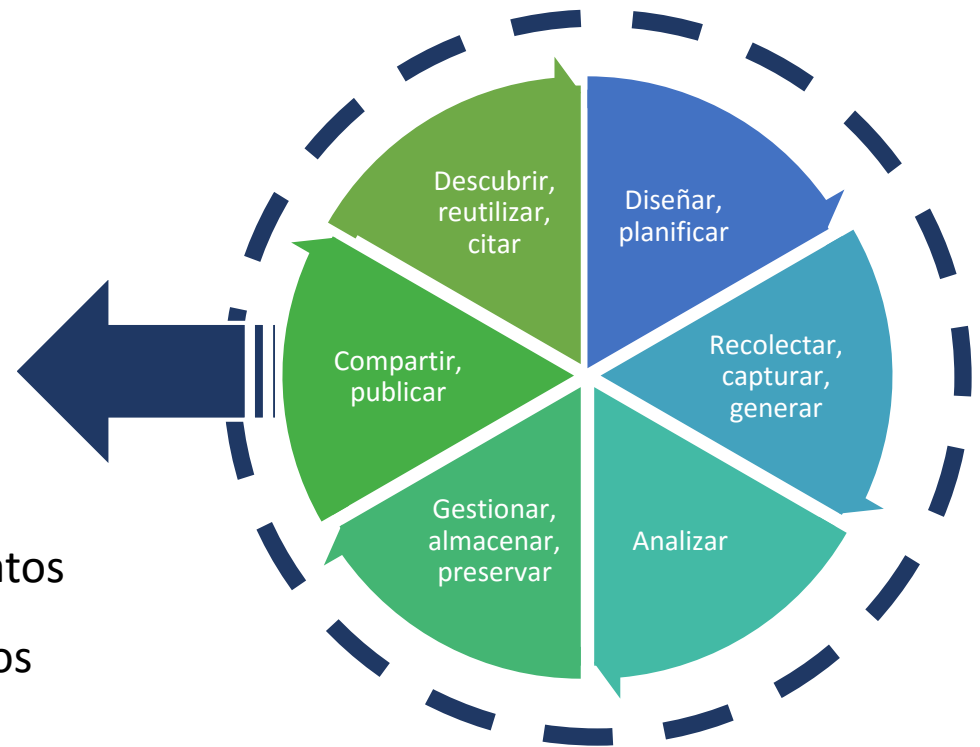


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# ¿Qué debe contemplar un plan de gestión de datos?

(mínimos)

- Descripción de los datos que se van a tomar o crear
- La metodología y estándares para la recolección de datos
- Aspectos éticos y relacionados con la propiedad intelectual, si corresponde
- Vías para compartir y acceder a los datos
- Estrategia para la preservación de datos



**Las instituciones o agencias financiadoras pueden tener especificaciones propias**



# 10 pasos para elaborar un Plan de Gestión de Datos

Un **Plan de Gestión de Datos** (PGD) o Data Management Plan (DMP) es un **documento formal, que debe presentarse al inicio de la investigación, en el que se describe qué**

**vas a hacer con tus datos durante y después de finalizar tu investigación** y que puede modificarse si se producen cambios en el proceso de la misma.

## ¿Por qué?

Es una **buena práctica**, es un **elemento clave de Open Science** y es **obligatorio** en los nuevos proyectos H2020.

## Herramientas gratuitas para elaborar un PGD



PGDonline  
(Consorcio Madroño)  
<http://dmp.consortiomadroño.es/>



DMPonline (Digital Curation  
Centre, UK)  
<https://dmponline.dcc.ac.uk/>



Revisa los **requerimientos** de la entidad financiadora (H2020).



Identifica los **datos**: tipología, procedencia, volumen, formatos y ficheros.



Define cómo se **organizarán y gestionarán los datos**: nombre de los ficheros, control de versiones, software necesario...



Explica cómo se **documentarán los datos**: identifica la información a procesar, consulta si hay estándares o esquemas de metadatos, identifica herramientas que permitan gestionarlos.



Describe los procesos que aseguran una **buena calidad de los datos**.



Prepara una **estrategia de almacenamiento** (durante el proceso) y de preservación de datos (repositorio).



Define las **políticas de datos del proyecto**: cuestiones sobre propiedad intelectual y cómo se tratarán los datos sensibles y personales.



Describe cómo se **difundirán los datos**: dónde, cuáles, cuándo se van a difundir. Si publicarás los datos en un repositorio, como información suplementaria del artículo o como un "data paper".



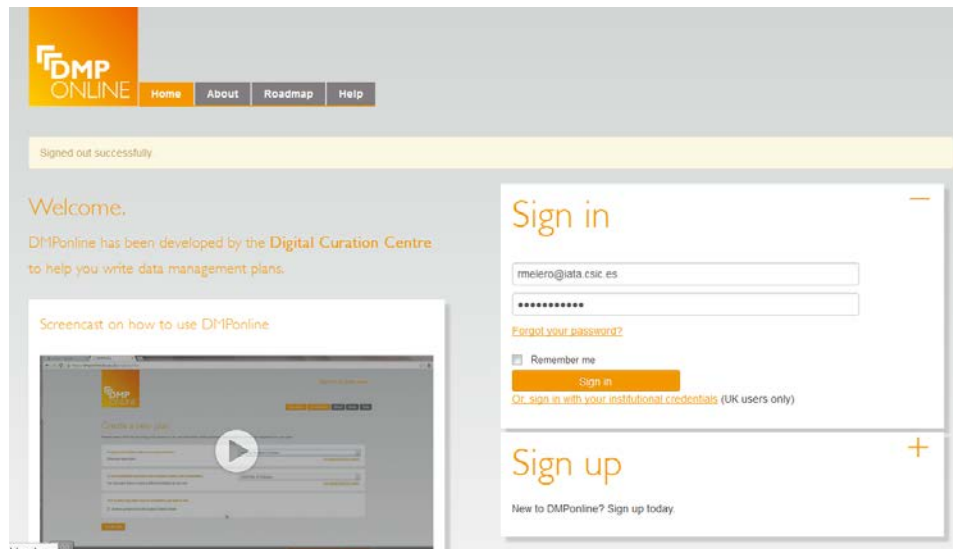
Asigna **roles y responsabilidades** para las personas y organizaciones participantes en el proyecto.



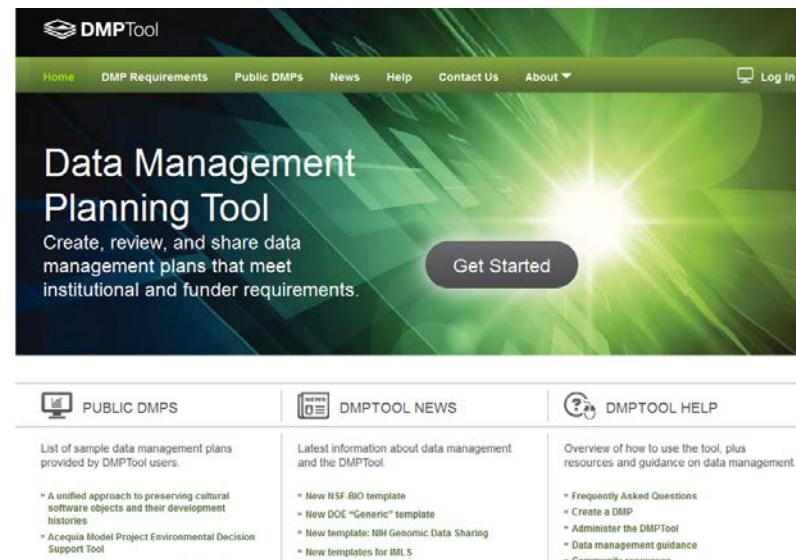
Prepara un **presupuesto realista**: la gestión de datos cuesta tiempo y dinero en términos de software, hardware, servicios y personal.



# Herramientas



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



[DMPTOOL](https://dmptool.org/) has been developed by the University of California Curation Center



## PA GO DA - Plan de Gestión de Datos

### Crear su Plan de Gestión de Datos

El Plan de Gestión de Datos lo solicita un agente financiador como parte de las condiciones del contrato de subvención para un proyecto científico.

El Programa [Horizonte 2020](#) requiere que los proyectos que formen parte del Piloto de Datos de Investigación en Abierto entreguen un Plan de Gestión de Datos completo durante los 6 primeros meses del proyecto.

Los planes de gestión de datos son una parte integral de las solicitudes de subvenciones - no pueden ser una idea de último momento, los revisores buscarán evidencia de que la gestión de datos está incluida en su propuesta, y que forma parte integral de su proceso de investigación. En el artículo 29.3 del [H2020 Model Grant Agreement, Multi-beneficiary General MGA, December 2013](#) se establecen las obligaciones de los participantes en el Piloto de Datos de Investigación en Abierto en lo que respecta a la gestión de los datos.

El documento [Directrices sobre la Gestión de los Datos en Horizonte 2020](#) se dirige a los solicitantes y beneficiarios de los proyectos en el Marco del Piloto de Datos de Investigación en Abierto y su objetivo es proporcionar indicaciones sobre cómo pueden cumplir con sus responsabilidades con respecto a la calidad de los datos de investigación, su intercambio y su seguridad.

<http://www.consorciomadrono.es/pagoda/index2.php>

# Correspondence between Annex 1 from EU and DCC-DMP

## Annex 1: Data Management Plan (DMP) template

The purpose of the Data Management Plan (DMP) is to provide an analysis of the main elements of the data management policy that will be used by the applicants with regard to all the datasets that will be generated by the project.

The DMP is not a fixed document, but evolves during the lifespan of the project.

The DMP should address the points below on a dataset by dataset basis and should reflect the current status of reflection within the consortium about the data that will be produced.

### • Data set reference and name

Identifier for the data set to be produced.

### • Data set description

Description of the data that will be generated or collected, its origin (in case it is collected), nature and scale and to whom it could be useful, and whether it underpins a scientific publication. Information on the existence (or not) of similar data and the possibilities for integration and reuse.

### • Standards and metadata

Reference to existing suitable standards of the discipline. If these do not exist, an outline on how and what metadata will be created.

### • Data sharing

Description of how data will be shared, including access procedures, embargo periods (if any), outlines of technical mechanisms for dissemination and necessary software and other tools for enabling re-use, and definition of whether access will be widely open or restricted to specific groups. Identification of the repository where data will be stored, if already existing and identified, indicating in particular the type of repository (institutional, standard repository for the discipline, etc.).

In case the dataset cannot be shared, the reasons for this should be mentioned (e.g. ethical, rules of personal data, intellectual property, commercial, privacy-related, security-related).

### • Archiving and preservation (including storage and backup)

Description of the procedures that will be put in place for long-term preservation of the data. Indication of how long the data should be preserved, what is its approximated end volume, what the associated costs are and how these are planned to be covered.

Test DMP for OpenAire purposes

Plan details: **Initial DMP** | Mid-term Review DMP | Final review DMP | Share | Export

For each data set specify the following: (3 questions, 3 answers)

The DMP should address the points below on a dataset by dataset basis and should reflect the current status of reflection within the consortium about the data that will be produced.

**Data set reference and name**

TEST\_data\_set\_with\_ID\_2468

EC Guidance: Identifier for the data set to be produced.

**Data set description**

The data will consist of:

- 30 audiovisual files in MPEG4 format, each a one hour interview
- 30 transcriptions in .TXT

EC Guidance: Description of the data that will be generated or collected, its origin (in case it is collected), nature and scale and to whom it could be useful, and whether it underpins a scientific publication. Information on the existence (or not) of similar data and the possibilities for integration and reuse.

**Standards and metadata**

- for each audiovisual file the Dublin Core metadata elements Creator and Data of Creation will be documented

EC Guidance: Reference to existing suitable standards of the disciplines. If these do not exist, an outline on how and what metadata will be created.

DCC guidance on Data Capture Methods

Questions to consider:

- How will the data be created?
- What standards or methodologies will you use?
- How will you structure and name your folders and files?
- How will you ensure that different versions of a dataset are easily identifiable?

Guidance: Outline how the data will be collected/generated



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>

## EC announces Open Science Cloud and open research data by default

Updated on 24 May 2016

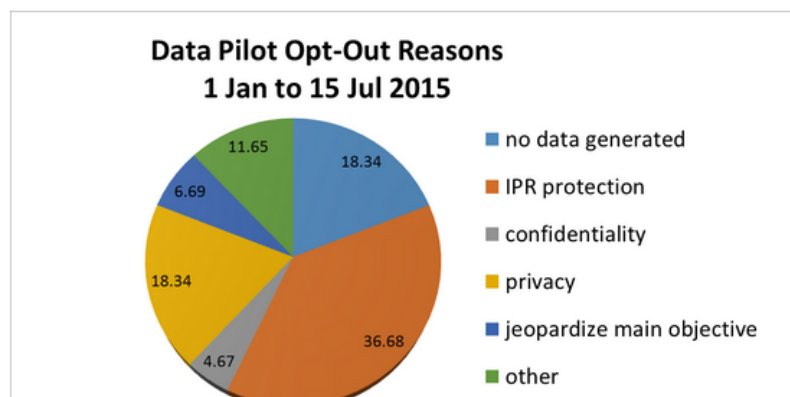


The "European Cloud Initiative – Building a competitive data and knowledge economy in Europe" aims to strengthen Europe's position in data-driven innovation, improve its competitiveness and cohesion, and help create a Digital Single Market in Europe. Towards this the EC will make Open Data the default for funded projects by 2017.

On April 19th the European Commission presented its blueprint for cloud-based services and world-class data infrastructure. The planned European Open Science Cloud (EOSC) aims to create a trusted environment for hosting and processing research data to support EU science in its global leading role. It will give Europe's 1.7 million researchers and 70 million science and technology professionals a virtual environment to store, share and re-use their data across disciplines and borders. It will provide a secure environment where privacy and data protection must be guaranteed by design, based on recognised standards, and where users can be confident concerning data security and liability risks.

To develop the EOSC and take the lead in data-sharing the Commission will make all scientific data produced by Horizon 2020-funded projects open by default by 2017. This will extend the current pilot, whereby projects implement data management plans to make it easier to find, access and re-use research data. However, existing opt-out facilities will be preserved, to take into account for example the sensitiveness of certain data from domains such as security or data that are very close to market.

Introduced at the start of 2015, covering just seven work programme areas, the Horizon 2020 Open Research Data Pilot has been a big success. In the first six months of the pilot, about a third of projects (85.4%, 431 signed grant agreements) that were part of the pilot chose to opt out. The most common reasons for opting out were: (1) concerns over intellectual property (37%), (2) the project did not expect to generate any data (18%), and privacy/data protection concerns (18%). Of those projects that were not originally part of the pilot, 11.9% (3268 projects) nonetheless have voluntarily opted in. For further details, see: <https://open-data.europa.eu/data/dataset/open-research-data-the-uptake-of-the-pilot-in-the-first-calls-of-horizon-2020>





Horizon 2020 already mandates open access to all scientific publications



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

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

### RESEARCH DATA - OPEN BY DEFAULT



### 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



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:



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



## RESEARCH & INNOVATION

### Open Science

European Commission > Research & Innovation > Open Science > Open Science Policy Platform

Home   Open Access   European Open Science Cloud   **Open Science Policy Platform**   Expert Group on Altmetrics

## European Open Science Policy Platform

### Members of the OSPP

The Members of the Open Science Policy Platform (OSPP) have been nominated. Commissioner Maedas, during the 27 May Competitiveness Council, will announce the Members of the Platform and he will inform the Member States on the role of the Policy Platform in further developing a European Open Science Policy Agenda.

[List of Nominated Members of the Open Science Policy Platform](#) 210 KB

### Relevant Documents

- List of Nominated Members of the Open Science Policy Platform 210 KB
- Draft European Open Science Agenda 124 KB

### About the OSPP

The Directorate-General for Research and Innovation will establish a Commission Expert Group to provide advice about the development and implementation of open science policy in Europe.



## Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020

Version 1.0  
11 December 2013



## RESEARCH & INNOVATION

### Open Science

European Commission > Research & Innovation > Open Science > European Open Science Cloud

Home   Open Access   **European Open Science Cloud**   Open Science Policy Platform   Expert Group on Altmetrics

## European Open Science Cloud

### 20 June 2016 – first draft report from the High Level Expert Group

The Commission High Level Expert Group on the European Open Science Cloud (HLEG EOOSC) has drafted their first report, which the Commission will publish shortly after the summer.

Enquiries can be made directly to members of the HLEG EOOSC and/or to the Commission at [RTD-EOOSC@ec.europa.eu](mailto:RTD-EOOSC@ec.europa.eu).

### 19 April 2016 – European Open Science Cloud



Giving a major boost to Open Science in Europe, the Commission today presented its blueprint for cloud-based services and world-class data infrastructure to ensure science, business and public services reap benefits of big data revolution.

By bolstering and interconnecting existing research

### Events

**26-27 September 2016, Seville, Spain** – Applied RDI – making innovation happen!

**22 November 2016, Central London, United Kingdom** – Next steps for Open Access and Open Data research policy

**8-10 February 2017, Vienna, Austria** - 1st HBP Student Conference

[See all events](#)

### Focus on past events

**4-5 April 2016, Amsterdam** – Open Science Conference



## RESEARCH & INNOVATION

### Infrastructures

European Commission > Research & Innovation > Research Infrastructures > ESFRI



### The ESFRI Roadmap 2016

The [ESFRI Roadmap 2016](#) identifies the new Research Infrastructures (RI) of pan-European interest corresponding to the long term needs of the European research communities, covering all scientific areas, regardless of possible location.



The 2016 Roadmap consists of 21 ESFRI Projects with a high degree of maturity - including 6 new Projects - and 29 ESFRI Landmarks - RIs that reached the implementation phase by the end of 2015.

The ESFRI Roadmap 2016 was launched on 10 March 2016, in Amsterdam. The event was organized under the [Dutch Presidency](#) by the Royal Netherlands Academy of Arts and Sciences (KNAW) in close cooperation with ESFRI, the European Commission and the Dutch Ministry of Education, Culture and Science. Discussions focused on strategic roadmapping, long-term sustainability and the socio-economic impact of research infrastructures.

[See Event Agenda](#) and [Live Stream](#)

## ESFRI

### Highlights



An on-line map to locate the ESFRI infrastructures and their partner facilities. About 400 facilities are part of these distributed

**E-INFRASTRUCTURES:  
MAKING EUROPE THE BEST PLACE  
FOR RESEARCH AND INNOVATION.**



Home

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

3<sup>rd</sup> 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 harmonisation of research data management practices across centres.*

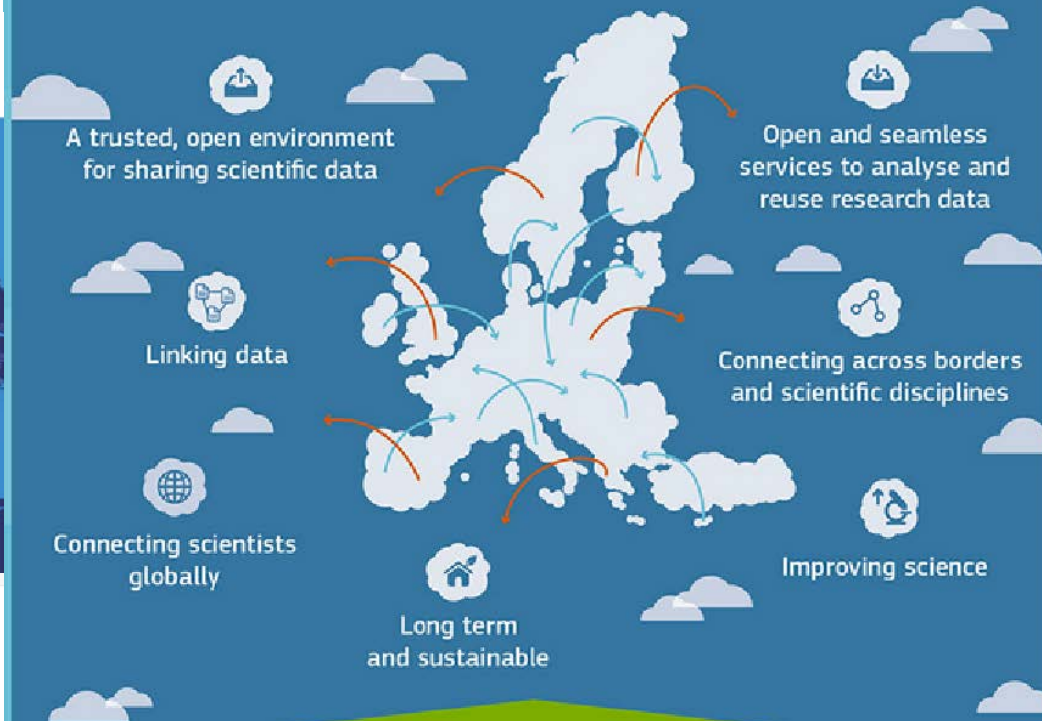


**What does this mean?**

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, which aims to offer open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines.

**EUROPEAN OPEN SCIENCE CLOUD**

BRINGING TOGETHER CURRENT AND FUTURE DATA INFRASTRUCTURES



**EUROPEAN DATA INFRASTRUCTURE**

UNLOCKING THE VALUE OF BIG DATA; DIGITAL BY DEFAULT



facilitate access to and re-use of data for researchers, innovators and public sector



work in combination with national and regional, scientific and public data and computing centres



reduce the cost of big data storage and high-performance analysis

# Servicios de apoyo a los investigadores ....

The EUDAT website features a header with the logo and navigation menu: SERVICES & SUPPORT, COMMUNITIES & PILOTS, WORKING GROUPS, EVENTS, NEWS & PUBLICATIONS, and TRAINING. The main banner reads: "EUDAT: the collaborative Pan-European infrastructure providing research data services, training and consultancy for". Below this are three icons representing Researchers, Research Communities, and Research Infrastructures & Data Centres. A central row of five blue hexagonal service cards is displayed: B2DROP (Sync and Exchange Research Data), B2SHARE (Store and Share Research Data), B2SAFE (Replicate Research Data Safely), B2STAGE (Get Data to Computation), and B2FIND (Find Research Data). Each card includes a "Read more! use" link.

The OpenAIRE website has a header with the logo and navigation menu: PARTICIPATE (DEPOSIT, JOIN), SEARCH (PUBLICATIONS, DATA, PROJECTS), STATISTICS (QA, PROJECTS, TOPICS), SUPPORT (FAQ, HELPDESK, GUIDES), and OPEN ACCESS (IN EUROPE). It also includes social media icons, a NEWSLETTER sign-up, and LOG IN | REGISTER options. The main banner features a background of clouds and the text "Science. Set free."


The Zenodo website has a blue header with the logo and navigation menu: Search, Communities, Browse, Upload, and Get started. Below the header is a search bar.

## Datasets

### Recent Uploads

- 23 March 2016** [Dataset](#) [Open access](#) [View](#)  
**Trophic-meta-analysis: First release of tritrophic meta-analysis data and code**  
Monica Granados  
First release of data and code associated with "Interaction strength and the impact of introduced omnivores: A meta-analysis of introduced aquatic invasive species" manuscript  
Uploaded by Monsauce on 23 March 2016.
- 22 March 2016** [Dataset](#) [Open access](#) [View](#)  
**Huntingtin linker sequence determination by computational methods - correspondence with Alex Holehouse**  
Holehouse, Alex; Pappu, Rohit; Harding, Rachel  
Huntingtin open lab notebook project  
Uploaded by racheljaneharding on 22 March 2016.
- 28 August 2014** [Dataset](#) [Open access](#) [View](#)

[A-Z index] | Site map | About this site | What's New | Legal notice | Cookies | Contact | Search | English (en)



RESEARCH & INNOVATION  
Open Science

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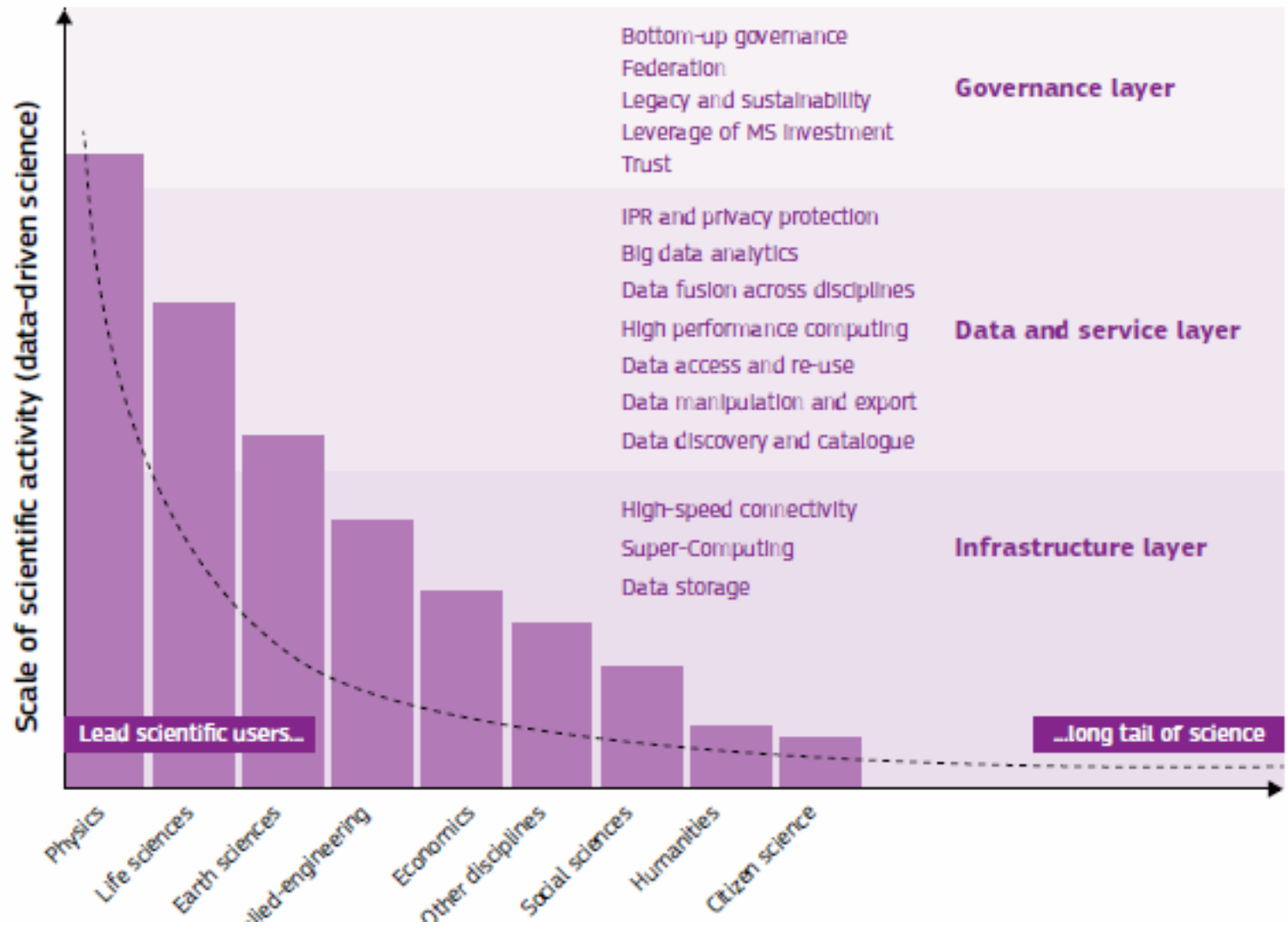
## European Cloud Initiative to give Europe a global lead in the data-driven economy

Brussels, 19 April 2016

Carlos **Moedas**, Commissioner for Research, Science and Innovation, said: *"Our goal is to create a European Open Science Cloud to make science more efficient and productive and let millions of researchers share and analyse research data in a trusted environment across technologies, disciplines and borders. We listened to the scientific community's plea for an infrastructure for Open Science and with this comprehensive plan we can get down to work. The benefits of open data for Europe's science, economy and society will be enormous."*



## Governance of the European Open Science Cloud



La Comisión pondrá en marcha progresivamente la *European Cloud* a través de una serie de acciones, entre ellas:

- A partir de 2016: la creación de **European Open Science Cloud** para los investigadores europeos y sus colaboradores de todo el mundo mediante la integración y consolidación de plataformas de e-infraestructura, la federación de *clouds* e infraestructuras de investigación ya existentes , y mediante el desarrollo de servicios basados en la nube
- En 2017: **apertura por defecto** de los datos generados de los proyectos del H2020 (ya no es piloto) para asegurar que la comunidad científica pueda reutilizar la enorme cantidad de datos que generan.
- En 2018: lanzamiento de una iniciativa para acelerar el **desarrollo de la tecnología cuántica**, base para la próxima generación de superordenadores.
- En 2020: el desarrollo y la implementación a gran escala de una infraestructura europea de computación, de almacenamiento y la red de datos, incluyendo la adquisición de dos **superordenadores** prototipos de nueva generación de los cuales uno podría ubicarse entre los tres primeros en el mundo, al creación de un centro de big data en Europa, y la mejora de la red para la investigación y la innovación (GEANT).



Brussels, 14.9.2016  
COM(2016) 593 final  
2016/0280 (COD)

Proposal for a

**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

on copyright in the Digital Single Market

(Text with EEA relevance)

{SWD(2016) 301}  
{SWD(2016) 302}



The screenshot shows the European Commission website page for the proposal. The header includes the European Commission logo and the text "DIGITAL SINGLE MARKET" and "Digital Economy & Society". The navigation menu includes "The strategy", "Economy", "Society", "Access & connectivity", "Research & innovation", and "DG CONNECT". The main content area displays the title "Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market" and the publication date "Published on 14/09/2016". Below this, there is a summary of the proposal and a "Related Documents" section with a link to the proposal document. A "Share" button is also visible.

[http://ec.europa.eu/newsroom/dae/document.cfm?doc\\_id=17200](http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17200)

Algunas recomendaciones .....

# 10 Simple Rules for the Care and Feeding of Scientific Data

Alyssa Goodman et al. (2013)

<https://www.authorea.com/users/3/articles/3410/> show article

## THE HERALD OF THE STARS

unfolding  
GREAT, and HIGHLY ADMIRABLE  
Sights, and presenting to the gaze  
of everyone, but especially

PHILOSOPHERS, and ASTRONOMERS,

those things observed by

GALILEO GALILEI

PATRICIAN OF FLORENCE

Public Mathematician of the University of Padua

with the aid of a

TELESCOPE

which he has recently devised on THE FACE OF THE MOON, IN-  
NUMERABLE FIXED STARS, THE MILKY WAY, CLOUDLIKE STARS,

and especially comets.

FOUR PLANETS

revolving around the star of JUPITER with unequal intervals and periods,

with wonderful swiftness, which, known to no one up to this

day, the Author most recently dis-

covered for the first time, and

DETERMINED TO NAME

THE MEDICEAN STARS



VENICE, At the place of Thomas Baglioni, 1610.

With the Highest Authoritative Permission, & Authorisation.

### OBSERVATIONS OF THE STARS

stars only presented themselves to view in this position, namely in the same straight line with Jupiter exactly, and the distance of the nearest to the planet was lengthened to 3'; the next was 2' further off, and unless I am mistaken, the two stars previously observed in the middle had come together, and appeared as one.

Jan. 25. At 1 h. 40 m., the stars were grouped thus.

Ori. \* \* ○ Occ.

There were only two stars on the east side, and these were rather large. The star farthest to the east was 5' from the star in the middle, and it was 6' from Jupiter.

Jan. 26. At 0 h. 40 m., the relative positions of the stars were thus.

Ori. \* \* ○ \* Occ.

Three stars were in view, of which two were east and the third west of Jupiter; this one was distant 3' from the planet. On the east side the star in the middle was at a distance of 5' 20", the further star was 6' beyond; they were arranged in a straight line, and were of the same size. At the fifth hour the arrangement was nearly the same, with this difference only.

Ori. \* \* \* ○ \* Occ.

that the fourth star was emerging on the east side near Jupiter. It was smaller than the rest, and was then at a distance of 0' 30" from Jupiter; but was raised a little above the straight line towards the north, as the accompanying figure shows.

Jan. 27. 1 h. after sunset, a single

### RECENTLY MADE

22

star only was in view, and that on the east

Ori. \* ○ Occ.

side in this position. It was very small, and at a distance of 7' from Jupiter.

Jan. 28 and 29. Owing to the intervention of clouds, I could make no observation.

Jan. 30. At the first hour of the night the stars were in view, arranged in the following way.

Ori. \* ○ \* \* Occ.

There was one star on the east side, at a distance of 2' 30" from Jupiter; and there were two stars on the west, of which the one nearer to Jupiter was 3' off the planet, and the other star 1' further. The places of the outer stars and Jupiter were in the same straight line; but the star in the middle was a little above it to the north. The star farthest to the west was smaller than the rest.

On the last day of the month, at the second hour, two stars on the east side were visible, and one on the west. Of the stars east of the planet, the one in the middle was

Ori. \* \* ○ \* Occ.

distant from Jupiter; and the star further to the east was 0' 30" from the middle star; the star on the west was at a distance of 10' from Jupiter. They were in the same straight line nearly, and would have been exactly so, only the star on the east nearest to Jupiter was raised a little towards the north. At the fourth hour, the two stars on the east

Ori. \* \* ○ \* Occ.

**Rule 1. Love your data, and help others love it too.**

**Rule 2. Share your data online, with a permanent identifier**

**Rule 3. Conduct science with a particular level of reuse in mind**

**Rule 4. Publish workflow as context.**

**Rule 5. Link your data to your publications as often as possible**

**Rule 6. Publish your code (even the small bits).**

**Rule 7. Say how you want to get credit.**

**Rule 8. Foster and use data repositories.**

**Rule 9. Reward colleagues who share their data properly.**

**Rule 10: Be a booster for data science.**

# Policy RECommendations for Open Access to Research Data in Europe

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## Policy guidelines for open access and data dissemination and preservation

<http://recodeproject.eu/wp-content/uploads/2015/02/RECODE-D5.1-POLICY-RECOMMENDATIONS- FINAL.pdf>

### Directrices dirigidas a :

- *Agencias financiadoras*
- *Instituciones académicas y de investigación*
- *Gestores de datos*
- *Editores*

# Recomendaciones generales

1. Desarrollar **políticas** alineadas e integrales para el acceso abierto a los datos de la investigación
2. Garantizar la **financiación** adecuada para el acceso abierto a los datos de investigación.
3. Desarrollar políticas e iniciativas que **incentiven** a los investigadores a facilitar el acceso abierto a los datos de alta calidad
4. Identificar las principales **partes involucradas** y fomentar el **trabajo colaborativo** hacia un ecosistema sostenible para el acceso abierto a los datos de investigación
5. Planificar a largo plazo, la **curación y preservación** de los datos de acceso abierto
6. Desarrollar soluciones técnicas y de **infraestructura integral** y de cooperación que permiten facilitar el acceso abierto y la preservación a largo plazo de los datos de investigación de alta calidad
7. Elaborar **estándares de calidad** para los datos de la investigación
8. Requerir el uso de **licencias abiertas** para reutilización de los datos de investigación
9. Abordar sistemáticamente los **temas legales y éticos** derivados del acceso abierto a los datos de investigación
10. Apoyo a la transición para abrir los datos de investigación a través de **planes de estudio y formación**

The League of European Research Universities (LERU) will present its new advice paper "LERU's Interim Evaluation of H2020" in Brussels on 21 October 2016 during a breakfast launch event.

This paper is LERU's contribution to the Horizon 2020 Interim Evaluation. LERU and its members are staunch supporters of Horizon 2020. Based on the expertise the LERU members have gathered through their active engagement in the programme, LERU makes recommendations in this paper to further improve Horizon 2020. During the event on 21 October the paper will be presented and discussed with different stakeholders and the public.

LE  
RU

ADVICE PAPER  
No.21 - OCTOBER 2016

LERU'S INTERIM  
EVALUATION  
OF HORIZON 2020



**LEGAL INTEROPERABILITY OF RESEARCH DATA:  
PRINCIPLES AND IMPLEMENTATION GUIDELINES**

RDA-CODATA Legal Interoperability Interest Group

September 8, 2016

# Realising the European Open Science Cloud

First report and recommendations  
of the Commission High Level Expert Group  
on the European Open Science Cloud

*Drafted by the Commission High Level Expert Group on the European Open Science Cloud*

*Members: Paul Aynis, Jean-Yves Berthou, Rachel Bruce (Rapporteur), Stefanie Lindstaedt, Anna Monreale, Barand Mars (Chair), Yoshihiro Murayama (Observer, Japan), Gaj Södergård, Klaus Tochtermann, Ross Wilkinson (Observer, Australia).*



European Open Science Cloud

11 October 2016 – first report from the High Level Expert Group

**The following Principles on the Legal Interoperability of Research Data focus on all types of data that are used primarily in publicly funded research in government and academia:**

- One:** Facilitate the lawful access to and reuse of research data.
- Two:** Determine the rights to and responsibilities for the data.
- Three:** Balance the legal interests.
- Four:** State the rights transparently and clearly.
- Five:** Promote the harmonization of rights in research data.
- Six:** Provide proper attribution and credit for research data.

# COMMIT TO PUTTING OPEN IN ACTION



## OPEN ACCESS WEEK 2016

This year's Open Access Week theme of "Open in Action" is all about taking concrete steps to open up research and scholarship and encouraging others to do the same. To highlight ideas for taking action and to measure the community's collective efforts, we've created this action portal where you can indicate which steps you'll take to support Open Access. You can find more information and resources to support each action [by clicking here](#)

Select any of the actions below to commit to putting open into action this Open Access Week.

- Make a list of open access journals in my discipline I would consider publishing in and share it with colleagues.
- Start a conversation about Open Access during a research group meeting, journal club, or staff meeting.
- Send at least one manuscript to an open-access journal within the next year.
- Deposit at least one of my articles into an open-access repository during Open Access Week and encourage colleagues to do the same.
- Use the SPARC author addendum on my next publication to reserve rights to make a copy of my work publicly accessible.
- Contribute to a conversation on campus about institutional support for Open Access.
- Sign the San Francisco Declaration on Research Assessment and commit to not using journal-based metrics in evaluation.
- Sign up for ImpactStory and get an ORCID.

First Name

Last Name

Email

Send me emails about Open Access Week

Sign me up!

<http://www.action.openaccessweek.org/>

# Open in action







THE FUTURE?

**iiiiiiGracias!!!!**