Recommendations for the Implementation of Article 37 of the Spanish Science, Technology and Innovation Act: Open Access Dissemination

Co-ordination

Anglada i de Ferrer, Lluís Ma. Consorcio de Servicios Universitarios de Cataluña (University Service Consortium of Catalonia)

González Copeiro del Villar, Cristina. Fundación Española para la Ciencia y la Tecnología (The Spanish Foundation for Science and Technology)

Rico-Castro, Pilar. Fundación Española para la Ciencia y la Tecnología (The Spanish Foundation for Science and Technology)

Contributions

Abadal Falgueras, Ernest. University of Barcelona

Bernal Martínez, Isabel. Consejo Superior de Investigaciones Científicas (The Spanish National Research Council)

Besson Ribas, Carme. Autonomous University of Barcelona

Casaldàliga Riera, Anna. University Pompeu Fabra

Casal Reyes, Mª Isabel. Universidad of Santiago de Compostela and REBIUN (The Spanish Network of University Libraries) representative

Domínguez Aroca, M. Isabel. University of Alcalá

Estupinyà Pinyol, Eva. University of Lleida

Frías, Laura. University of Cantabria

Gómez Castaño, Javier. University of Alicante

González González, Jose Ignacio. Polytechnic University of Madrid

Gracia Ostáriz, Jesús. University of Zaragoza

Labastida i Juan, Ignasi. University of Barcelona

Melero Melero, Remedios. Consejo Superior de Investigaciones Científicas (The Spanish National Research Council)

Nonó Rius, Brigit. University of Girona

Padrós Cuxart, Rosa. Open University of Catalonia

Pinto Molina, María. University of Granada

Ribes Llopes, Inmaculada. Polytechnic University of Valencia

Rovira Fernandez, Anna. Polytechnic University of Cataluña

Salgot Negre, Mireia. University of Vic

Index

1. Introduction

The Spanish Science, Technology and Innovation Act, published June 2011[1], establishes in its Article 37 the main aspects to take into account when disseminating in open access the results of publicly funded research which has been accepted for publication in research journals. However, the doubts that have arisen in the different implementation areas have motivated a reflection exercise that will allow the establishment of the steps the different involved stakeholders should take to successfully comply with the legal framework and facilitate the correct implementation of the article on "open access dissemination".

The goal of this document is to put forward a practical guide that describes the main aspects of the national policy on open access and clears the way to all concerned stakeholders, by specifying the new roles that should be adopted and drafting a series of guidelines for all the groups involved in the production and market management of scientific information.

To draft this document, the FECYT (The Spanish Foundation for Science and Technology), in collaboration with REBUIN (The Spanish Network of University Libraries), has created a working group with national experts and representatives of institutions with an own open-access strategy. In Spain there are currently 26 research institutions[2] that have developed their own institutional policy in favour of open access, whether in the form of an institutional declaration, recommendation or compulsory requirement. FECYT and REBIUN work closely with these institutions through RECOLECTA (Open Science Harvester) and know to different degrees about their experiences.

The aim of this working group has been to take advantage of the experience of some of these institutions, pioneers not only at a national level but also internationally, in order to establish the steps to take, to point out the challenges and difficulties of implementing effectively the requirement established in Article 37 of the Science Act and, to act as a guide to the rest of the institutions for its correct implementation. To this end, they have shared experiences, obstacles and good practices in the process of implementing the institutional requirements.

---

[1] Act 14/2011, of 1 June on Science, Technology and Innovation

[2] The Spanish National Research Council (CSIC), University of Alcalá, University of Alicante, Autonomous University of Barcelona, University of Barcelona, University Carlos III of Madrid, University of Cantabria, University CEU Cardenal Herrera, University Complutense of Madrid, University of Extremadura, University of Girona, University of León, University of Lleida, University of Málaga, Open University of Catalonia, Polytechnic University of Cartagena, Polytechnic University of Catalonia, Polytechnic University of Madrid, Polytechnic University of València, University Pompeu Fabra, University Rey Juan Carlos, University of Salamanca (thesis), University of Santiago de Compostela, University of Valladolid (thesis), University of Vic, University of Zaragoza. SOURCE: http://recolecta.fecyt.es and www.accesoabierto.es [Retrieved: 30 May 2014].

This document first puts forward a chapter explaining in detail the basic concepts that should be dealt with to understand open access policies. Essential aspects such as what is open access, its benefits and the European context are discussed. The document then discusses the legal framework for open access policies in Spain and goes on to describe how open access affects the different stakeholders involved: **R&D public funding agencies, universities and research centres and institutional subscribers to scientific journals.** Finally, a series of guidelines are established to be able to carry out an adequate monitoring and assessment of compliance with the norm and in the last chapter a series of supplementary recommendations are also put forward.

In brief, this document aims to be a useful guide to help each of the groups of stakeholders to understand and organize the new processes they have to put in place to comply with the current legislation, in particular the requirement on open access dissemination of article 37 of the Science, Technology and Innovation Act.

2. Open access: basic concepts

What is open access?

The first definition of open access is included in the Budapest Open Access Initiative (February 2002) and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (October 2003).

When talking about "open access" to scientific literature we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.

Open access to science advocates the removal of barriers restraining access to the results of scientific research, mainly financed with public funds, and is an alternative to the limited access to the results of a research model, which generates high subscription fees for scientific journals. Open access consists of providing online access to all available scientific information (articles, monographs, research data) free of charge for the reader and under licences that allow its use and exploitation on behalf of researchers, companies and citizens, with no economic, legal or technological barriers.

The recent turn of interest worldwide towards open access policies follows many years of work in promoting the concept of open access by researchers themselves and open access advocates. It also follows advances in e-infrastructures, such as repositories and journals, brought forward by developments in information and communication technologies. Improved understanding regarding the benefits of open access by research funders and institutions and the widely supported idea that publicly funded research should be available to all render urgent the development of relevant policies that will secure open access as the standard practice for the dissemination of research.

The benefits

By removing legal, commercial and technological barriers to access of scientific information the research process becomes more efficient and research results more visible. Furthermore, open access prevents duplication, fosters knowledge and technological transfer and promotes innovation.

Different stakeholders in the scholarly communication system benefit from open access to scientific research and research data:

Institutions and authors gain immediate visibility for their research output and thus the dissemination and usage of their results increases. Open access leads to an increase of impact, of international collaboration and it opens ways to new funding sources and opportunities.

Researchers save time seeking articles they cannot access through their libraries. Moreover, they can extract information or data from articles, often across diverse field of research, to create new knowledge by using text and data mining technologies that can only work effectively on open research content.

Funding agencies, universities and research institutions monitor the quality and transparency of the research process, the return on investment on research, and they benefit of increased visibility at a national and at an international level. They can also adopt new models for research assessment thanks to alternative metrics.

Libraries are among the beneficiaries of open access adoption since it enables them to provide their patrons with increased access to scholarly materials without having to burden library budgets. It also offers them the possibility to assume news roles as providers of open access services (managing repositories and/or publishing activities) and advisors for new ways of scholarly communication.

Publishers who adopt open access may obtain more exposure for their publications, they become more transparent in their business models and are more open to new opportunities and focus on providing new added-value services to their community.

Small and Medium Enterprises (SMEs) can greatly benefit from immediate and open access to groundbreaking research results to innovate by developing and introducing new products and services and to increase their competitiveness. Limited access to subscription-based scholarly outputs is an obstacle to innovation by SMEs.

Finally, widened and improved transparency of the scientific process and the consequent access to knowledge leads to **more science-literate citizens**, better capable of thriving in the complexities of the 21st century.

The current European context of policy developments on OA

The European Commission supports open access as the standard way of disseminating publicly funded research in the European Union and includes **open circulation of knowledge as one of the five priorities of the European Research Area** (COM(2012) 392 final). In the summer of 2012 it recommended that Member States develop national policies that will provide open access to publicly funded research and that RFOs and RPOs accordingly develop their own policies, coordinated at the national and European level (C(2012) 4890 final).

Further, the EU in its new Horizon 2020 Framework Programme (2014-2020) requires the open access deposit of all peer-reviewed publications generated in the projects financed under Horizon 2020. The legal text is included in clause 29.2 of the *Grant agreement* subscribed by the beneficiary partners of the projects. This EU decision extends and broadens the pilot project put in place to promote open access by the Seventh Framework Programme in 2008[3].

This firm support towards open access is also reflected in the Horizon 2020 pilot action focused on open access to research data. This area is receiving increased attention, although policies in this field are still at an initial stage.

The most significant developments at the policy level are the growing numbers of research funders and research performing organizations implementing open access policies throughout the world and in Europe. Major public and private funders are instituting mandatory open access policies, thus effectively building the foundations for open access to become the standard way of communicating research and leading research performing organizations also to bring about the necessary changes.

---

[3] This pilot project was only for projects belonging to the fields of energy, environment, health, information and communication technologies, e-infrastructures, science in society and socio-economic sciences and humanities with a *Grant Agreement* signed from August 2008. To provide the pilot project with technological support, the Commission financed the OpenAIRE network with the main aim of creating an electronic infrastructure and the mechanisms to support identification, deposit, access and monitoring of the articles financed by the FP7 and the *European Research Council (ERC).*

As an example of the interest there is for open access in the European Context, the MedOANet project should be mentioned. The results of this project highlighted[4] a need for increased action in the six participating Mediterranean countries to develop relevant policies for funding agencies, universities and research centres.

---

[4] The Mediterranean Open Access Project is a project financed by the FP7 of the European Commission that ended in May 2013. Its aim was supporting the co-ordination of open access strategies, and in particular, the development of policies and infrastructures in the six Mediterranean countries of the consortium: Portugal, France, Spain, Italy, Greece and Turkey. All the results, documents and resources of the project are available on the web page of the project: www.medoanet.eu

3. Legal framework for open access policies in Spain

In Spain the legal framework regulating nationally the open access deposit of scientific publications is the Act 14/2011, of June 1, on Science, Technology and Innovation, which urges researchers to deposit the final digital version of their contributions to journals in an open access repository.

Article 37. Open access dissemination:

1. Public workers of the Spanish Science, Technology and Innovation System will drive forward the development of own or shared open access repositories for the publications of their researchers, and will establish systems allowing their connection to similar national or international initiatives.

2. Researchers whose research is financed mostly with funds from the General Budget of the State will make public a digital final version of the contents that have been accepted for publication in research journals, as soon as possible and no later than twelve months after the official date of publication.

3. The electronic version will be made public in open access repositories recognised in the field of knowledge of the research or in open access institutional repositories.

4. The public electronic version may be used by public administrations in their assessment procedures.

5. The Science and Innovation Ministry will facilitate centralized access to repositories and their connection to similar national or international initiatives.

6. The above is understood without prejudice of the agreements by virtue of which rights over the publications have been conferred or transferred to third parties, and will not be applied when the rights over the results of research, development and innovation are liable to protection.

The national calls for R&D projects carried out within the framework of the National Plan of Scientific, Technical and Innovation Research 2013-2016 are based on this article.

The national legislation is fully in line with the EU mandate (Horizon 2020), with the progress made by some regional governments, such as Madrid, Asturias and Catalonia[5], and with the increasing number of universities and research centres that are making determined steps forward regarding open access.

---

[5] Interuniversity Board of Catalonia. Proposal for the drafting of an order to promote open access in the universities of Catalonia. Approved in Barcelona, 1 July 2010.

4. Recommendations on open access for involved stakeholders

Open access policies concern mainly four types of stakeholders.

Firstly, R&D public funding agencies who draft the guidelines on open access to science and establish the terms under which these should be fulfilled.

Secondly, universities and research centres which apply these mandates, put forward their own institutional policies on open access and maintain the technical infrastructures required to comply with them: institutional and subject repositories. Universities and research centres can also launch open access publication projects.

Thirdly, researchers who have to incorporate new actions and processes to their research work.

Lastly, institutional subscribers to scientific journals, as open access mandates modify the pillars on which the business model of publishers, who publish and do business with scientific contents, is based on.

4.1. Recommendations for R&D public funding agencies

To complete the requirement of the Science Act regarding open access deposit, the Spanish Ministry of Economy and Competiveness should adopt the following measures:

a) **Include an acceptance clause:** The document of acceptance of any public grant to research should include a clause explicitly indicating that the main researcher (and/or the researchers of the team) will observe the obligation to disseminate in open access the outputs of the scientific work financed with the obtained public funds, in agreement with article 37 of the Science Act (see Annex 1).

b) **Extend the monitoring report model:** The monitoring reports and the final reports of projects financed with National Research Plans should incorporate a section which includes the publications resulting from public funding that have been disseminated in open access (see Annex 2).

c) **Establish an indicator measuring fulfilment:** The Ministry should develop an indicator measuring open access fulfilment, taking into account the possible exceptions to open access (see Annex 3).

d) **Create a Monitoring Commission:** It should also create a monitoring mechanism that safeguards the correct implementation of the requirement of open access deposit (see Annex 4).

4.2. Recommendations for universities and research centres

Universities and research centres play an essential role in the implementation of the open access national policy. On the one hand, they are in charge of setting up and maintaining the institutional repositories where the output of researchers will be preserved, whilst on the other, research organisations can promote their own open access policies as established in article 37 of the Science Act.

A correct public policy of access at a national level should promote the following aspects in universities and research centres:

a) **Open access institutional policies:** Universities and research centres should also have open access institutional policies and requirements that guarantee the deposit in the institutional repository of the scientific publications of their research staff. These policies should be coherent with the national policy.

b) **Assessment services:** Universities and research centres should give their researchers information and assess them on publishers' policies and authors' rights and should promote the green route (self-archiving) and the gold route (publishing in open access journals)in their policies.

c) **Infrastructures:** Universities and research centres should lead the setting up and maintenance of institutional repositories for the deposition of scientific publications in open access. These repositories will have to be a part of the national network of repositories of the RECOLECTA platform (http://recolecta.fecyt.es), complying in this way with the national and international interoperability standards.

d) **Identifiers:** Universities and research centres should adopt unique author, institution and article identifiers.

e) **Financing:** Universities and research centres should provide financing to cover the costs of publishing in open access journals (gold route) and to negotiate the deposit in open access repositories with publishers that do not allow to do so.

4.3. Recommendations for researchers

As far as researchers are concerned, it is important to answer the most common questions regarding open access to all publications that are the output of a research project of the National Scientific, Technical and Innovation Research Plan 2013-2016, as required by the Science Act.

a) **What should be deposited in open access repositories?** The Act requires the deposit of a copy in electronic format and legible by machine of the contributions accepted by research journals that are the output of the financed project. Normally this will be the final document in PDF format, or otherwise, the revised manuscript accepted for publication before adapting it to the final format of the publisher (the so called post-print or accepted author manuscript).

b) **Who is required to deposit in open access repositories?** All researchers receiving public funding from the National Scientific, Technical and Innovation Research Plans that have decided to disseminate the results of their research in research journals.

c) **When does the open access deposit of research outputs take place?** As soon as possible and no later than 12 months after the online publication of the work. When depositing embargoed documents, the repository will open them automatically when the embargo period elapses.

d) **How to deposit in open access repositories?** Digital items to be archived should include in their registers, besides bibliographic data, the following metadata: name of the funding organisation, name of the project and/or acronym, and reference number published in the Official Bulletin of the State. This allows monitoring of compliance with article 37 of the Science Act on open access.

e) **Embargoes and author's rights:** With the aim of guaranteeing the future of open access to scientific work, researchers are advised to transfer non-exclusively to publishers only

13

the exploitation rights that are necessary for the publication of the accepted papers in journals or other research publications. To this end, it is advised that, if necessary, they negotiate with publishers the inclusion of an addendum in the publishing contract or license that allows self-archive of the final version in the institutional repository, with the aim of complying with the current Spanish legal framework and the requirements of other funding organisations (see negotiation clauses in point 4.4.).

f) **Where does the deposit take place?** Researchers should archive their publications in an open access institutional or subject repository.

There are three types of repositories:

- *Institutional repositories* allow institutions to manage, preserve and show their scientific work. Repositories are a useful tool in the scientific information system of the institution and its assessment processes, and offers added value services to the scientific community of the organisation itself. Researchers should take into account that, in many cases, their institution will require archive in their repository and to this end, should follow the procedures established by the institution.

- *Subject repositories* gather together the work of certain knowledge areas at an international level. In some thematic fields it is common practice. For example: Arxiv.org, REPEC, PsyDoc, PubMed Central.

- *Centralised repositories* gather together the open access scientific work deposited by researchers of different organisations and from different thematic fields. For example Zenodo is the European repository promoted by the European Commission.

In Spain, open access repositories are grouped in the RECOLECTA platform (http://recolecta.fecyt.es). Through RECOLECTA all the work deposited in national open access repositories (institutional, subject and centralised) can be accessed and work can be added in a centralised way. RECOLECTA also guarantees interoperability of all repositories[6] and provides them with added value services such as visit statistics and downloads.

Authors should take into account the intellectual property policies and embargoes imposed by the publisher where their work will be published. They should check what versions can be published in open access. This information can be checked in existing directories, such as

---

[6] The criteria of RECOLECTA-DRIVER can be checked in the following link (available in Spanish):
http://recolecta.fecyt.es/sites/default/files/contenido/documentos/CRITERIOS_RECOLECTA_DRIVER.pdf

Dulcinea (http://www.accesoabierto.net/dulcinea/) for Spanish journals, Héloïse for French journals (http://heloise.ccsd.cnrs.fr/) and Sherpa/Romeo for international journals (www.sherpa.ac.uk/romeo).

It is recommended that deposit or self-archive in the repository takes place immediately after the work is accepted by the journal, assigning its metadata (title, author, affiliation, funding organisation, name of the journal, etc.) so that the information is openly available from the moment of deposit. Access to the full text will be opened automatically once the embargo has ended.

4.4. Recommendations for institutional subscribers to scientific journals

Institutional subscribers to scientific journals (universities and research centres, consortiums, purchasing groups, etc.) are in charge of negotiating with publishers access to scientific contents. As open access modifies how scientific communication functions, a change in the business model is required, which will affect publishers and their products, especially journals, as we know them today. Therefore, universities and research centres, consortiums and other organisations subscribing to scientific journals are advised to introduce in their negotiations with publishers aspects such as the following:

a) **Including self-archive clauses:** Institutional subscribers should try and achieve the inclusion of clauses in the subscription or acquisition contracts favouring the deposit of works published by authors of the institution in their institutional repository.

   Two model self-archive clauses are put forward here as an example:

   o   "The authors affiliated to the institutions included in this licence and whose contributions are accepted for publication in any of the journals mentioned in Appendix x [note: list of journals subscribed to with this publisher] will retain the non- exclusive right to use their contributions for academic, research and educational aims, including self-archive or deposit in any type of open access repositories."

   o   "The use of the published version of the scientific contributions will preferably be accepted (post-print publisher's version), otherwise, the author's assessed and accepted post-print, and will be openly accessible as soon as possible (with a maximum 12 month embargo after the date of acceptance or the electronic publication of the journal)."

b) **Avoiding non-disclosure clauses:** Institutional subscribers will try to avoid if possible non-disclosure clauses in the user licences of publishers.

c) **The use of metadata:** Institutional subscribers should establish that the identification metadata of the contributions to subscribed journals can be used freely by the contracting institutions, including the use of text/data mining tools.

d) **Avoiding double payment:** Negotiations will include a reduction in the price of the licence that is proportional to the number of articles in open access and the Article Processing Charges paid by the authors. In this way, double payment to publishers ("double dipping") will be avoided. This occurs when researchers have to pay for publishing in certain journals and also their institutions for subscribing to those contents, or when in exchange of reducing the embargo period publishers charge researchers a certain amount.

5. Supplementary recommendations

In this chapter different initiatives are put forward to go beyond what is currently established in article 37 of the Science Act, as well as other actions that could strengthen open access policies and facilitate access to research results, particularly research financed with public funds.

Regarding the current open access policy put forward by article 37, it is proposed:

a) To change the embargo period of 12 months

Point 37.2 of the Act establishes that a final version of the contents will be made public no later than twelve months after the official publication date. This embargo is longer than the one established by other open access policies, such as the European Commission policy in the Horizon 2020 Framework Programme or the one set forth by the European Research Council.

Therefore, it is proposed that the allowed embargo period is changed to make it coincide with the periods established by the Commission policy, that is, maintain it at 12 months for social sciences and humanities, and reduce it to 6 months for experimental, medical and engineering sciences. Equalling these periods would help negotiations with publishers so that they include these embargos in the publishing contracts or licences. Furthermore, in many cases, a publication can be the result of various projects and therefore an equal period would facilitate the dissemination process in a repository.

b) Immediate deposit

It is recommended that funding agencies ask authors to register the metadata of their publications and immediately deposit their files in repositories, regardless of having to respect the deadline established by the embargo period, according to the point above. The mere presence of bibliographic references in repositories facilitates public access to publications.

c) To extend the required cases

Currently point 37.2 of the Act establishes that the requirement for dissemination in open access affects the staff whose research is financed mainly with funds from the General State Budget. This requirement should not be limited only to projects of the National Research Plans and could be extended to any research and therefore all the staff of the public research system, with the only exception of participation in projects financed by private entities. In the same

way, the open access policy could extend to any research results beyond publications, including, for example, research data as foreseen in a Horizon 2020 pilot project.

d) To prepare reports

In June 2012 the Finch report[7], prepared by a group of experts under the instructions of the British government, was published in the United Kingdom with the aim of analysing the access achieved to research outputs. The conclusions of this report were used to modify open access policies in the United Kingdom. It would be advisable to prepare a similar report in Spain that acts as a reference regarding the consequences of open access on the Spanish research system and the socioeconomic benefits for the innovation business sector. It would also be interesting to carry out an economic report on the different scientific publishing systems, such as the one carried out by Professor Houghton in Holland, Denmark and United Kingdom[8].

e) Unique and persistent identification

A system to identify people, organisations or projects should be established at a national level on the basis of internationally recognised models or schemes, such as for example, the CERIF model (*Common European Research Information Format*)[9]. This will help to monitor the outputs of research and their connection to financed projects, with the aim of verifying compliance with article 37. Some institutions are already adopting identification systems such as ORCID[10], but a co-ordinated identification system is required at a national level.

---

[7] http://www.researchinfonet.org/wp-content/uploads/2012/06/Finch-Group-report-FINAL-VERSION.pdf
[8] http://www.knowledge-exchange.info/Default.aspx?ID=316
[9] http://www.ukoln.ac.uk/rim/documents/Introduction_to_CERIF_1.0.pdf
[10] http://orcid.org/

Annex 1: Acceptance clause

Beneficiaries of the National Research Plan funds receive a letter with a provisional resolution and hearing process proposal for the awarding of funds to carry out research projects. In the chapter of the letter *General information regarding implementation and proof* when it establishes that "*fund awarding will be subject to the following requirements*", the next clause should be included:

Publications in journals that may result from the financed project are subject to the legal framework established by Act 14/2011 on Science, Technology and Innovation 14/2011, and therefore, must be disseminated in open access according to article 37 of the Act.

Annex 2: Monitoring report

The principal researchers of projects funded by the National Research Plans should fill in *monitoring reports and final reports.* It is proposed that within the chapter *Dissemination of the results of the project or sub-project,* where researchers are asked to list the results of the co-ordinated project or sub-project, the form also requires the object identifier in the repository where it has been archived. In this way R&D funding agencies will be able to check their availability in open access.

As an example:

C1. Technical and scientific publications (peer-reviewed) resulting from projects and patents
Authors, title, publication reference, URI locating the document in the open access repository where it is archived...

C2. Attendance to congresses, lectures or workshops related to the project
Name of the congress, type of communication (guest, speech, poster), authors and, if applicable , URI locating the document in the open access repository where it is archived...

C3. Completed doctoral theses related to the project
Name of the Doctor, thesis Director, title, grade, organisation, and if applicable, URI locating the document in the open access repository where it is archived...

C4. Other publications resulting from collaborations held during the implementation of the project that may relevant to it and awareness articles, books, lectures
Authors, title, publication reference and if applicable URI locating the document in the open access repository where it is archived...

These reports will be taken into account when carrying out the ex-post assessment of research projects funded by the National Research Plans.

Annex 3: Indicator measuring fulfilment

All stakeholders involved in open access (managers, institutions, researchers, etc.) require a method to measure effectively compliance with article 37 of Act 14/2011. To this end, the following indicator is put forward. Even though the Act allows open access deposit in any type of repository, for operational reasons this indicator focuses only on institutional repositories.

The indicator is defined as the index obtained by dividing:

- The number of contributions in scientific journals resulting from R&D national project calls, deposited in the repository of an institution from the entry into force of the Science Act, in open access or with a maximum embargo period of 12 months from the date of electronic publication.

- And the number of contributions in scientific journals resulting from R&D national project calls produced by the researchers of the institution.

The indicator measuring fulfilment is expressed as a percentage. The Ministry may assess the degree of compliance with article 37 of the 14/2011 Act on the basis of this fulfilment index. This assessment will be carried out individually for each project.

Data

Information on the number of contributions in scientific journals resulting from an R&D national project should be obtained from the **institutional repository** of each institution, on the basis of the official code of the project (published in the Official Bulletin of the State). To this end, RECOLECTA will guarantee that the repository has a specific field for this code, as well as the rest of metadata deemed necessary. Using the official code, the publications of a project that have been deposited at the institutional repository will be checked. Their availability in open access or with a maximum embargo of 12 months will also be checked.

When researchers do not deposit their publications in the institutional repository but in subject repositories, the researcher's institution must verify that the researcher indicates in the institutional repository, using metadata that is easy to check, the name of the repository where the publication is disseminated and its URL. The same will occur with collaborations, if the publications of a researcher are archived in the repository of the co-authors, researchers should indicate this in their institutional repository in the same way.

If researchers sign an addendum with a publisher to reduce the embargo period to a maximum of 12 months, the maximum period established by law, they should indicate this in the repository. Researchers should also archive in their repository works published in open access journals (gold route) indicating this aspect.

Frequency

The indicator should be calculated on an annual basis, both for open and finalised calls. However, this measurement of the degree of compliance should be approximate and illustrative, and in any case, is not definitive due the progressive opening of contents that embargo periods produce.

The final degree of compliance should be calculated for each project once it has finished and within 24 months after its finalisation, allowing the inclusion of the last publications made in the framework of the project and their opening after possible embargoes.

Calculation

The following calculation should be made:

$$(A \times 100) / B$$

Where:

- o A = number of contributions in scientific journals resulting from R&D national project calls, deposited in the repository of an institution from the entry into force of the Science Act, in open access or with a maximum embargo period of 12 months (from the date of electronic publication).

- o B = number of contributions in scientific journals resulting from R&D national project calls produced by the researchers of the institution.

Annex 4: Monitoring Commission

The creation of a Monitoring Commission is necessary to safeguard compliance of the open access deposit mandate of the Science Act.

The Commission will be made up of eleven members:

- 3 representatives of the Spanish Ministry of Economy and Competiveness
- 2 institutional representatives of universities and/or research centres
- 2 representatives of library services of universities and/or research centres
- 2 researchers
- 1 representative of the university consortiums to purchase scientific resources
- 1 representative of The Spanish Foundation for Science and Technology (FECYT), who will carry out technical secretariat tasks

Among the functions of the Commission the following should be mentioned:

- Analysing fulfilment of article 37 of the Science Act
- Proposing corrective measures for possible breaches
- Promoting correct implementation of the measures proposed in this document
- Monitoring implementation of open access policies in Europe and the rest of the world.

Bibliography

- MedOANet Guidelines for implementing open access policies for research performing and research funding organizations.
http://www.medoanet.eu/sites/www.medoanet.eu/files/documents/MED2013_GUIDELine_dp_EN_ws.pdf

- Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020. Version 16 December 2013 (European Commission).
http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

- Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación (*Act 14/2011, of 1 June, on Science, Technology and Innovation*, available in Spanish).
https://www.boe.es/buscar/doc.php?id=BOE-A-2011-9617

Supplementary bibliography

- Abadal, E.; Ollé Castellà, C.; Abad-García, F.; Melero, R. (2013). Políticas de acceso abierto a la ciencia en las universidades españolas (*Open access policies to science in Spanish universities*, available in Spanish). Rev. Esp. Doc. Cient., 36 (2): e007, doi:
http://dx.doi.org/10.3989/redc.2013.2.933

- Casal Reyes, M., M. D. Borgoños Martínez, A. Casaldáliga, J. Gómez Castaño, C. Guijarro, E. Ortiz Uceta, A. Pascual del Pobil Valdenebro, F. Rodríguez Junco, I. Terroba Pascual (2013). El acceso abierto en las universidades españolas: estado de la cuestión y propuestas de mejora. Métodos de información (MEI) (*Open access in Spanish universities: state of the issue and improvement proposals. Information methods,* available in Spanish) , II, Vol. 4, nº 6, p. 55-90,
http://www.rebiun.org/documentos/Documents/IIIPE_2020_LINEA2/IIIPE_Linea2_acceso_abierto_univ_espa%C3%B1olas_REBIUN_2013.pdf

- REBIUN (2013): Elaboración de un estado de la cuestión sobre el acceso abierto en las universidades españolas, a partir del análisis de la encuesta realizada (*Drafting of a state of the issue on open access in Spanish universities from an analysis of the developed survey,* available in Spanish) .
http://www.rebiun.org/documentos/Paginas/Documentaci%C3%B3n-generada-por-la-L%C3%ADnea-2.aspx

Examples of other policies to take into account

- Open Access Pilot in FP7. General description: http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1300

- Various documents:

- o http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1403
- o FAQ: http://europa.eu/rapid/press-release_MEMO-08-548_en.htm?locale=en
- o Horizon 2020: «Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020» http://bit.ly/1bNq3jr
- o H2020 - Model Grant Agreement http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-mono_en.pdf

Recommended readings (assessment)

- Commission recommendation on access to and preservation of scientific information (July 2012) http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf

- Budapest Open Access Initiative/ Ten years on from the Budapest Open Access Initiative: setting the default to open (September 2012) http://www.budapestopenaccessinitiative.org/boai-10-recommendations

- San Francisco Declaration on Research Assessment (December 2012) http://www.ascb.org/dora-old/files/SFDeclarationFINAL.pdf

- Impact – Nature's Viewpoint: comments on special issue 502 (7471) (October, 2013) http://blog.scielo.org/en/2013/11/05/impact-natures-viewpoint-comments-on-special-issue-502-7471-17th-october-2013/#.Uo9FyCfSuSo

- New system for assessing the quality and scientific excellence of research of HEFCE in the United Kingdom (finalisation beginning 2014) http://www.ref.ac.uk/media/ref/content/pub/panelcriteriaandworkingmethods/01_12.pdf

Reference documents and websites

- https://wiki.library.ucsf.edu/pages/viewpage.action?pageId=321127808

- https://repinf.pbworks.com/w/page/13779413/Copyright-and-licensing

- https://www.coar-repositories.org/files/COAR_Licensing_Case_Study_Germany_May2012.pdf