

Portugal - Open science country note

Open science and the national context

Disclaimer – Most of the activities reported relate only to Foundation for Science and Technology (FCT, IP), the single scientific public funding body in Portugal.

Portugal has dual initiative in relation to open science. One aspect involves setting up an ecosystem consisting of the Open Access Scientific Repository of Portugal (RCAAP), an infrastructure that houses and aggregates virtually all public higher education and research institution repositories. The second element is to have a mandatory policy of open access to publications set up by the main public science funder of the country, the Foundation for Science and Technology (FCT), IP. Research projects funded by FCT, IP must have their resulting publications deposited in RCAAP and be made open access, preferably at the time of publication.

The main objectives of this dual initiative are to optimise and derive the highest return from public funding in research activities; to maximise the investment made since the early 2000s in digital infrastructures, in particular RCAAP; and to boost the international profile of Portuguese researchers and research institutions. The initiative also aims to help authors retain and value their intellectual property rights; to improve the speed and efficacy of research; to increase the usage and impact of national research; and to enable or facilitate cross-disciplinary research and the application of new methods and techniques – including computation – to research. Eventually, it also targets putting every society member (any professional, business community, interested public) in contact with research so they can also reuse it and benefit from it.

Ultimately, the majority of the objectives can be regarded as enabling innovation, so they can relate to an innovation policy agenda.

Open science research and innovation actors

The following are Portugal's major science and innovation actors involved in open science initiatives.

FCT, IP is the national public science funding agency; it funds and manages RCAAP, the digital repository infrastructure. FCT has adopted a mandatory open access to research publications policy and a research data management and sharing policy statement, currently at the implementation stages. The private funding agencies are Fundação Calouste Gulbenkian, which is present in RCAAP with a repository for the scientific output of its Instituto Gulbenkian de Ciência – IGC; and Fundação Champalimaud, which has also shown interest and participated in open access policy forums, such as the MedOANet national workshop.

The Ministry for Education and Science is responsible for the FCT, IP.

Also involved are the majority of public higher education and research institutions. They are also present in RCAAP through their own repositories, and an ever-increasing number have been issuing open access policy mandates for the output of their affiliated researchers. Some high-profile private higher education and research institutions are also part of the RCAAP consortium.

Policy design - Open data

FCT, IP issued a policy statement on open access and sharing of research data resulting from

publicly funded research, concurrently with the publication of the Policy for Open Access to Scientific Publications. This policy statement:

- leaves to the researchers the decision whether to make available in open access data resulting from their research activities
- encourages researchers to make research data available in open access if and when they judge it possible and appropriate
- recommends that researchers share data resulting from their activities partially or totally funded by the respondent (FCT, IP) with other researchers in a timely manner, while assuring that privileged or confidential information will be released solely in a form that protects the privacy of the subjects involved
- requests that future proposals provide a “Data and Other Products Management Plan” defining the provisions to be adopted in the project on the storage, preservation, sharing and dissemination of data and other products of the research activities to be funded
- states that questions related to privacy, trade secrets, the security of legitimate commercial interests, national security, and the rule of law must be properly addressed before making the research data available.

The policy statement targets all researchers and institutions funded by FCT, IP.

FCT, IP is not establishing a mandatory policy for open access to research data for now. This is regarded as a difficult issue due to the need of developing metadata and norms appropriate to the different types of research areas and research data. Decisions as to which data should or should not be made available deserve more reflection. FCT, IP also wants to make sure that the RCAAP infrastructure is well-prepared to host data repositories with at least a minimum level of quality, and capable of addressing data management needs from all the different research areas before enforcing such a policy. The country's option is therefore to proceed cautiously.

As for the public sector data, among other initiatives there are three portals that provide public sector information (PSI). They are all based on open data principles, although with different scopes:

- Dados.gov – This national data portal gathers data sets and information from government and public administration entities.
- Datacentro-ccdrc.pt – is a regional portal that features several data sets pertaining to the Centre Region of Portugal, with a focus on geographical, social and economic indicators.
- Lisbon's city-level Open Data Lx project, created by the Lisbon Municipality, offers an extensive group of data sets related to many aspects of the city's management and civic life.

Policy design - Open/increasing access to scientific publications

On 5 May 2014, FCT, IP adopted its open access policy, establishing that:

- Researchers shall maximise their opportunities to make the results of their activities available to potential users without any costs;
- All publications subject to refereeing or other types of scientific review or validation (in journals, conference proceedings or other publications) must be made available in open access, through either:
 1. A journal/conference proceedings/etc., assuring immediate open access.

§ In this case, if the publisher requests payment of publication processing charges, such costs are eligible within the funding awarded by FCT, IP for the research activity. However, the payment of these costs is subject to the following conditions:

- Access to the full content of the final version of the scientific publication must be made available on line.
- Immediate deposit of this version in repositories other than the publisher's own repository must be allowed.
- The scientific publication content must be made available through a CC-BY licence or equivalent.
- The amount of the article processing charge will be limited according to international best practices.

Or:

2. Authorising deposit of the publication in an open access repository and its availability in open access.

§ In this case:

- The following maximum embargo periods are allowed:
 - o for doctoral theses – 36 months
 - o for books, book chapters and monographs – 18 months
 - o for any other publications – 12 months for the social sciences, humanities and arts, and 6 months for all other scientific areas.
- The publisher cannot request payment of publication processing charges.
- Authors must deposit their final peer-reviewed versions of such publications, before or as the publication appears in public, in at least one of the institutional open access repositories of RCAAP (more details below). In case (2) above, the publication will be accessible in the repository in open access only after the corresponding embargo period, if such embargo exists. In case (1), this will happen at the time the publication is issued. Authors may additionally make their publications available in other open access repositories.
- Publications shall include reference to how the supporting research materials – data, samples, etc. – can be accessed, without requiring their availability in open access for the time being.
- Conformity with the policy will be monitored and enforced during the project, and will have a potential impact in the evaluation of future proposals.

Regarding the enablers of the policy, there is a long-standing robust strategy for e-science and e-infrastructures whose main lines are the development and sustainability of nationwide technological platforms provided by the National Research and Education Network (NREN), with distributed services, high economies of scale and decentralised management of user services.

The main outcome of the strategy has been the establishment of RCAAP, devoted to open access scientific publications.

Central to the country's national open access strategy is establishing a sound e-infrastructure – RCAAP (www.rcaap.pt/ [1]) – that enables deposit of scientific publications in digital repositories

accessible by anyone with an internet connection. RCAAP coherently integrates all open access institutional repositories of higher education and research institutions in the country with a technological platform managed by the NREN, while leaving the administration of each institutional repository to the institution itself. An institutional repository can be hosted by that institution or in the national technological platform managed by the NREN, free of charge. Scalability is also assured for RCAAP.

The Open Access Scientific Repository of Portugal began operation in November 2008 with 12 institutional repositories, 5 of them created through the RCAAP project itself. According to data reporting dating back to the beginning of 2013, the RCAAP integrated in its nationwide metadata and search system 41 institutional repositories, among which 26 were linked to higher education institutions (including all public universities), 3 to research performing organisations, 4 to hospitals and 8 to scientific journals. It went on to provide open access to over 104 000 documents (up from the 7 300 in the 3 institutional repositories existing before RCAAP). The number of full-text downloads from RCAAP grew from 1.5 million in the academic year 2009/10 to 6.3 million in 2010/11 and to 10 million in 2011/12.

Nowadays, every author linked to any public research institution or university can deposit their publications in one of the repositories integrated at RCAAP.

Following a memorandum of understanding signed by the ministers of science and technology of Portugal and Brazil in October 2009, the search system of RCAAP and that of the repository of the Brazilian Institute of Information Science and Technology (IBICT) of the Ministry of Science and Technology of Brazil) – OASIS.br – were integrated in November 2010. More than half a million documents are now accessible in open access through RCAAP.

The same co-operation agreement led to the creation of the Portuguese-Brazilian Directory of Open Access Repositories and Journals, which in early 2013 included close to 710 Brazilian or Portuguese open access scientific journals.

The e-infrastructures for dissemination of scientific information at the NREN account for about EUR 14 million annually; reinforcement of the infrastructure and the guarantee of its quality and reliability are provided by the network itself.

Support of all stages of the data life cycle – including acquisition, curation, metadata, provenance, persistent identifiers, authorisation, authentication and data integrity – is robustly assured for publication data through RCAAP, though not yet addressed for primary research data.

Skills for open science and open data

Capacity building and empowerment in these areas have been accorded high importance in Portugal since the beginning of 2000. Moreover, given the current financial crisis and high rate of unemployment, Portugal is seeking to invest in training in data-related areas, specifically in courses designed to develop digital skills in big data, data management and business analytics.

Open science and international co-operation

FCT, IP has been active in a multitude of national, European and international multi-stakeholder policy making, strategic and working groups; the focus of these groups is on open access to publications and data, as well as preservation of scientific information and e-infrastructures.

At a bilateral level, an open access conference has been held annually either in Portugal or Brazil since 2008 (as foreseen in the MoU signed by Portugal and Brazil mentioned above); the conference

involves multi-stakeholder dialogue on both publications and research data. In 2015, the conference is scheduled to take place in Brazil.

At the European level, FCT, IP has been active mostly in initiatives organised by the European Commission; in a number of policy-making and e-infrastructure projects of the European Commission's 7th Framework Programme for Research and Technological Development (FP7) such as MedOANet, OpenAIRE, e-Infranet and the Partnership for Advanced Computing in Europe (PRACE); and in forums such as Science Europe and the Global Research Council.

Within Science Europe, FCT is deeply committed to the activities of the Open Access to Publications and Research Data Working Groups.

FCT, IP provides the appointed Portuguese National Point of Reference for Scientific Information (NPR) at EU level and is actively engaged in the work undertaken within the EU network of NPRs. It also represents Portugal in the Task Force on Open Access and Innovation, promoted by the European Research Area Committee (ERAC), the strategic policy advisory body assisting the European Commission and the Council of the European Union. The objective of the task force is to work on the subject of open access to (research) data in relation to innovation policy.

FCT, IP participates at workshops at the IGF - Internet Governance Forum (within United Nations remit) - including those organised by UNESCO and the China Academy of Sciences.

Portugal is also collaborating with UNESCO; with CODATA (the Committee on Data for Science and Technology, an interdisciplinary scientific committee of the International Council for Science (ICSU); and - within the IGF framework - with multinational partners and single organisations from the United States, Turkey, Kenya and China.

The ELIXIR project, part of the European Strategy Forum on Research Infrastructures (ESFRI) process, is a distributed infrastructure for European biological data; the project integrates research data produced by life science experiments from all corners of Europe and ensures a seamless service provision that it is easily accessible to all. Portugal hosts one of the ELIXIR nodes, specifically devoted to woody plants research data.

FCT, IP considers that establishing synergies and achieving mutual benefits from open access to publications and research data, in parallel with developing interoperable e-infrastructures, require wider and more effective policy implementation, both inside and outside Europe.

Source URL: <https://www.innovationpolicyplatform.org/content/portugal-open-science-country-note>

Links

[1] <http://www.rcaap.pt/>