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OPEN ACCESS IN PORTUGAL

A State of the Art Report



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ABSTRACT

This report describes the present situation in Portugal concerning Open Access (OA) in scientific publishing. It presents a comprehensive portrait of the Portuguese initiatives related to OA, such as the implementation of open access institutional repositories at various Portuguese universities or research institutes.

This document is commissioned within the [RCAAP project](#) and is a deliverable (D30) of the project. The study of the current situation of OA in Portugal is also related with SELL ([Southern European Libraries Link](#)) initiative, to assess the situation on southern countries, and will primarily function as a basis for discussion at a seminar which the final aim will be to establish a group of actions in the SELL countries (Portugal, Spain, France, Italy, Greece and Turkey) for promoting Open Access to scientific information.

The report starts by providing some contextual background on Open Access and the Portuguese reality related with research and scientific publication. A brief history and evolution of Open Access initiatives in Portugal in the last six years, and the description of the current situation of Portuguese OA repositories and OA journals, constitute the main sections of this reports.

Finally, the report presents some conclusions and recommendations.

INTRODUCTION/BACKGROUND

In the terms of one of the most important declarations of the Open Access (OA) movement, the Budapest Open Access Initiative (BOAI)¹, «*An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. Removing access barriers to this literature will accelerate research, enrich education (...)*»².

According to BOAI, OA can be achieved by two complementary ways or means. The first one, usually called “Gold OA”, is Open Access journals that do not use subscription or access fees and copyright to restrict access to the articles they publish. The second one, usually called “Green OA”, is self-archiving a copy of journal articles in open access repositories.

In brief, Open Access advocates the free dissemination on the Internet of scholarly literature, allowing anyone to read, download, copy, distribute, print, search or reference the full text of documents.

As in many other countries, Open Access initiatives in Portugal are relatively new (See section [Evolution of Open Access in Portugal](#)), with the first initiatives dating from 2003, but only getting general attention after 2006. On top of the factors that are common to most countries, the slow uptake of the Open Access agenda in Portugal can also be explained by the particular conditions and situation of Portuguese research and publications.

In fact, Portugal hadn't a strong scientific tradition and infrastructure before the end of the last millennium. The number of researchers and the number of publications, especially in international peer-reviewed journals, was very small until recently. Just as an illustration, the number of Portuguese articles per year referenced on ISI databases was under 1.000 until 1990 and only after 2003 the number is bigger than 5.000 (see tables 1).

¹ For more information about the *Budapest Open Access Initiative* see at WWW <URL: <http://www.soros.org/openaccess>>.

² *Budapest Open Access Initiative* [online]. 2002. [Consulted at 28 June 2009]. Available at WWW <URL: <http://www.soros.org/openaccess/read.shtml>>.

Table 1: Number of publications* by scientific area

NCR 1981-2007 ⁽¹⁾																		
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
[1] Publications in classified journals	963,00	1.061,00	1.276,00	1.409,00	1.662,00	1.956,00	2.147,00	2.521,00	2.878,00	3.523,00	3.791,00	4.110,00	4.745,00	5.219,00	5.911,00	6.293,00	7.847,00	57.312,00
Physical, Chemical & Earth Sciences	342,00	393,67	434,33	523,33	548,00	598,83	686,33	817,17	898,50	1.121,67	1.200,58	1.454,17	1.584,83	1.579,00	1.968,83	1.882,17	2.458,67	18.492,08
Life Sciences	248,50	252,67	297,33	352,83	437,33	535,50	549,33	650,83	746,17	886,00	895,75	956,33	1.134,00	1.240,00	1.385,00	1.400,33	1.716,83	13.684,75
Engineering, Computing & Technology	154,33	166,33	196,33	180,83	225,00	281,00	352,00	389,67	468,00	588,50	647,08	621,17	699,50	968,50	1.065,50	1.161,83	1.275,33	9.440,92
Agriculture, Biology & Environmental Sciences	98,17	92,67	152,83	147	203	248,83	259,33	309,17	383,83	427,00	466,92	556,00	640,33	718,50	720,67	888,33	1.152,67	7.465,25
Clinical Medicine	80,50	104,83	125,83	135,00	162,83	207,50	180,50	276,33	281,33	363,50	357,33	370,50	516,50	527,00	552,83	693,83	905,33	5.841,50
Social and Behavioural Sciences	32,00	28,33	52,33	53,00	52,83	66,83	92,00	56,33	78,67	99,33	173,33	119,83	135,83	157,00	190,67	236,50	300,17	1.925,00
Arts & Humanities	7,50	22,50	17,00	17,00	33,00	17,50	27,50	21,50	21,50	37,00	50,00	32,00	34,00	29,00	27,50	30,00	38,00	462,50
[2] Publications in non classified journals	7,00	7,00	1,00	6,00	7,00	6,00	4,00	5,00	5,00	2,00	1,00	3,00	4,00	2,00	4,00	35,00	39,00	138,00
Total Publications [1] + [2]	970,00	1.068,00	1.277,00	1.415,00	1.669,00	1.962,00	2.151,00	2.526,00	2.883,00	3.525,00	3.792,00	4.113,00	4.749,00	5.221,00	5.915,00	6.328,00	7.886,00	57.450,00

Source:

GPEARI - Gabinete de Planeamento, Estratégia, Avaliação e Relações Internacionais / Ministério da Ciência, Tecnologia e do Ensino Superior

Finding done by the method of fractional counting* from: ⁽¹⁾Thomson Reuters, National Citation Report for Portugal 1981/2007

On the other hand, library collections, especially journal collections, were very scarce and insufficient (the average number of subscribed journals on academic libraries was around 1.000 in 2003). The creation of the national journal subscription consortium [B-on](#) - Online Knowledge Library, in 2004, dramatically improved the accessibility of scientific journals in Portugal, and eased the access problem to Portuguese libraries and researchers.

Finally, despite the fact that several hundred scientific related publications were published in Portugal in the last decades, there is no really strong tradition of scholarly journals. Most of the publications are connected with scientific societies, many of them have no periodicity, or have severe problems complying with announced periodicity, and some have no real peer-review process. So, if the criteria of periodicity and peer-review are strictly applied, the number of Portuguese scholarly journals published in the last two decades will be probably under 100.

All this contextual background (limited dimension of research and research output, small number of scholarly journals and increased access to scientific literature after 2004) must be taken into account on the analysis of the Portuguese situation.

EVOLUTION OF OPEN ACCESS IN PORTUGAL

In Portugal, the development of Open Access has been mostly carried out by the universities, who have taken different initiatives to further promote access to research information. The first Portuguese Open Access initiatives were initiated by the University of Minho with the creation of [RepositóriUM](#) - its institutional repository which was publicly presented in November 2003. One year later, in November 2004, as a symbolic act to celebrate the university's institutional repository first anniversary, the Rector of University of Minho formally signed the [Berlin Declaration](#).

At the same time, a world pioneering institutional self-archiving policy was established (December 2004) and was implemented in January 2005. Some months later, University of Minho organized the 1st Open Access Conference (May 2005) held in Portugal with the contribution of some of the most prominent protagonists and representatives of various organizations related with Open Access worldwide.

Also in 2005, the first Portuguese initiative concerning open access publication was set up, with the availability of the portal from the Portuguese section of the [Scielo project](#) (March 2005). The Scientific Electronic Library Online (SciELO) is an electronic virtual library covering selected scientific journals collections from Latin America, Spain and Portugal. The library is an integral part of a project being developed by [FAPESP](#) - Fundação de Amparo à Pesquisa do Estado de São Paulo, in partnership with [BIREME](#) - The Latin American and Caribbean Center on Health Sciences Information. The [Scielo Portugal](#) collection results from the efforts of [GPEARl](#) - Gabinete de Planeamento, Estratégia, Avaliação e Relações Internacionais (former OCES) and the [MCTES](#) - Ministério da Ciência, Tecnologia e Ensino Superior to promote quality Portuguese scientific journals and disseminate worldwide the Portuguese scientific publication.

Until the last quarter of 2006, the only two Portuguese Open Access initiatives remained [RepositóriUM](#) and [Scielo Portugal](#). But the situation started to change on the last months of that year, with the launching of [ISCTE repository](#) - Higher Institute of Labor Sciences and Enterprise (October 2006), the Open Access Declaration issued by [CRUP](#) - Conference of Rectors of the Portuguese Universities (November 2006), and the organization by the University of Minho of a very successful 2nd Open Access Conference (November 2006) with the contribution of some of the most prominent protagonists and representatives of various

organizations from Portugal and other countries like Brazil, Spain, United Kingdom, Hungary, Holland, Armenia, Mozambique and Japan.

During the 2nd Open Access Conference, as the result of the debate and contributions presented in the pre-conference Workshop: “*Acesso Livre em Países Lusófonos: Iniciativas e perspectivas*”, aiming to promote Open Access and the creation of new repositories and within the Portuguese speaking scientific community it was produced and submitted to public subscription a commitment named: “*Compromisso do Minho: Compromisso Sobre Acesso Livre à Informação Científica em Países em Lusófonos*”.

In the subsequent months several other Portuguese universities started the installation and creation of open access repositories (namely, [REpositório Institucional da FCT](#) – Faculty of Sciences and Technology – New University of Lisbon; [B-Digital](#) – University Fernando Pessoa; [Repositório Digital](#) – University of Trás-os-Montes and Alto Douro; [Repositório Científico](#) – University of Évora; [Repositório da Universidade de Lisboa](#) – University of Lisbon; [Repositório da Universidade da Madeira](#) – University of Madeira; [Biblioteca Digital](#) – Instituto Politécnico de Bragança), but most of them were not publicly launched, or were made available with a very small number of documents.

At that time, following its declaration endorsing open access, CRUP established a Working Group on Open Access and developed efforts to involve representatives of governmental agencies in the discussions and additionally its President signed the Berlin Declaration (January 2007). The purpose was to promote OA at each Portuguese university, helping the establishment of institutional repositories and the definition of open access self-archiving policies in all of them, as well the creation of a national aggregator for Portuguese repositories. During 2007, a CRUP representative (from Minho University) was also actively involved in the European Universities Association (EUA) Open Access Working Group, contributing for the definition and final writing of [EUA Open Access Recommendations](#).

Earlier 2008, CRUP addressed to the Portuguese Ministry of Science, Technology and Higher Education (MCTES) by resending the CRUP’s Declaration on Open Access and stating its support to the recommendations from the European University Association (EUA) Working Group on Open Access.

In March 2008, [UMIC – Knowledge Society Agency](#) developed some contacts with [FCCN – National Foundation for Scientific Computation](#) and University of Minho, setting the foundations for a project to build a national aggregator for Portuguese repositories and also

promote, help and hosting the establishment of new institutional repositories. That project was named RCAAP (Repositório Científico de Acesso Aberto de Portugal = Portugal Open Access Science Repository) and started in July 2008 as an initiative promoted by the UMIC, in collaboration with the FCCN, offering an advanced service on the Portuguese Network of Science and Education ([Rede de Ciência e Educação](#)). The University of Minho was responsible for the scientific and technical work on the project.

The first phase of RCAAP, from July to December 2008 produced, as planned, three significant deliverables for a short period of time:

- [RCAAP Portal](#): aiming to collect, aggregate and index open access scientific contents from Portuguese institutional repositories, forming a single entry point for searching, discovery and recall of thousands of scientific and scholarly publications;
- SARI (ASP service for institutional repositories): allowing institutions to create and completely “brand” their repositories as desired;
- [Project support website](#): website with information about the RCAAP project, as well several pertinent documentation for different types of audiences (researchers, repository managers, general public).

During this period, the University of Coimbra, the oldest Portuguese university, was also presenting its repository, [Estudo Geral](#), and the University of Porto unveiling its repository, [Repositório Aberto](#), as well as an [institutional self-archiving policy](#).

The main component of the RCAAP project, the national aggregator for Portuguese repositories (<http://www.rcaap.pt>), was unveiled to the public during the 3rd Open Access Conference that took place at University of Minho on the 15th and 16th December 2009.

CURRENT SITUATION OF OPEN ACCESS JOURNALS

In Portugal the publishing of scientific journals is mainly administered by the active scientific societies within each respective research field. In most cases, journal subscription is connected to a membership and is offered as a membership benefit, mostly in printed form.

Some figures about journal publication in Portugal are shown in the tables below obtained from a search in [Ulrich's Periodicals Directory](#), a commercial database of all types of serial publications. Academic and scholarly journals published in Portugal, or published in Portuguese language, have been also searched. The search criteria used are listed in the tables 5-7 below, as well as the results. Ulrich's designation for academic/scholarly journals has been used consistently. Journals with peer review are presented separately.

Table 5: Number of academic/scholarly journals from Ulrich's Periodicals Directory published in Portugal

Academic/Scholarly, active journals published in Portugal (possibly co-published with another country)					
Total number	Online	Online and OA	JCR	JCR and online	JCR, online and OA
203	60	31	4	4	0
Peer reviewed					
30	17	7	4	4	0
Not peer reviewed					
173	43	24	0	0	0

Table 6: Number of academic/scholarly journals from Ulrich's Periodicals Directory published in Portugal with material in Portuguese

Academic/Scholarly, active journals published in Portugal with material in Portuguese (may also contain material in another language)					
Total number	Online	Online and OA	JCR	JCR and online	JCR, online and OA
167	44	21	0	0	0
Peer reviewed					
21	8	4	0	0	0
Not peer reviewed					
146	36	17	0	0	0

These tables show that most of the journals are still published in printed form, and that the number of Open Access journals in Portugal is low.

Concerning the Open Access journals spectrum, the Portuguese section of the Scielo project, [Scielo Portugal](#), currently hosts [26 open access journals](#) published by Portuguese entities. Quality-controlled OA journals within all fields and in all languages are also registered in [DOAJ](#) - Directory of Open Access Journals, which contains 4.248 journals (2009-06-28), and 289.796 are included in the DOAJ service. According to DOAJ, there are [33 scientific Open Access Journals](#) in Portugal (see table 8).

Finally, in Portugal there aren't many examples of institutional memberships for publishing on OA journals. The only two examples registered in recent years were [University of Minho](#) and [Faculty of Medical Sciences - New University of Lisbon](#) that had a membership with [BioMed Central](#) currently discontinued.

Table 8: DOAJ Portuguese journals 2009-06-28 (33)

DOAJ Portuguese journals				
Title	Subject	Publisher	Language(s)	Start year
Acta Médica Portuguesa	Medicine (General)	Centro Editor Livreiro da Ordem dos Médicos, Sociedade Unipessoal	Portuguese	2003
Arquipélago : Life and Marine Sciences	Oceanography --- Biology --- Ecology	University of the Azores	English	1999
Babilónia	Linguistics	Universidade Lusofona de Humanidades e Tecnologías	Portuguese, English, French	2003
Carnets : Revue Electronique d'Etudes Françaises	Languages and Literatures	APEF – Associação Portuguesa de Estudos Franceses	French, Portuguese	2009
Confluências : Revista de tradução científica e técnica	Languages and Literatures	Confluências	Portuguese, English, French, Spanish	2004
Disputatio	Philosophy	Centre for Language, Logic and Cognition of the Portuguese Society	English, Portuguese	1996
E-Fabulations : e-Journal of Children's Literature	Languages and Literatures	Universidade do Porto	Portuguese, English	2007

E-Journal of Portuguese History	History	The University of Porto, Brown University	English	2003
E-topia : Revista Electrónica de Estudos sobre a Utopia	Philosophy	Universidade do Porto	Portuguese	2004
Enterprise and Work Innovation Studies	Social Sciences	Centro de Investigação em Inovação Empresarial e do Trabalho, Universidade Nova de Lisboa	English	2005
Finisterra : Revista Portuguesa de Geografia	Geography	Centro de Estudos Geográficos, University of Lisbon	Portuguese, English, Spanish, French, Italian	1984
Interacções	Multidisciplinary	Escola Superior de Educação do Instituto Politécnico de Santarém	Portuguese, English, French, Spanish	2005
Intercâmbio	Languages and Literatures	Universidade do Porto	Portuguese, French	2007
Jornal de Ciencias Cognitivas	Psychology	Sociedade Portuguesa de Ciências Cognitivas	English, Portuguese	2005
Laboreal	Social Sciences	Universidade do Porto	Portuguese, Spanish	2005
Observatorio (OBS*)	Media and communication	OberCom - Observatorio da Comunicação	Portuguese, English, Spanish, Italian	2007
Península : Revista de Estudos Ibéricos	Languages and Literatures	Universidade do Porto	Portuguese, Spanish	2003
Portugaliae Electrochimica Acta	Chemistry (General)	Sociedade Portuguesa de Electroquímica	English, Spanish, Portuguese, French	2003
Prisma.com	Media and communication	Universidade do Porto	Portuguese, Spanish, French	2005
Revista da Faculdade de Letras : Geografia	Geography	Universidade do Porto	Portuguese	1985
Revista da Faculdade de Letras : Historia	History	Universidade do Porto	Portuguese	1970
Revista da Faculdade de Letras : Línguas e Literaturas	Languages and Literatures	Universidade do Porto	Portuguese	1984
Revista da Faculdade de Letras : Sociologia	Sociology	Universidade do Porto	Portuguese	1991
Revista Lusófona de Educação	Education	Edições Universitárias Lusófonas	Portuguese, English	2003

Revista Portuguesa de Educação	Education	Universidade do Minho	Portuguese	2000
Revista Portuguesa de Pneumologia	Internal medicine	Sociedade Portuguesa de Pneumologia	Portuguese	2006
RevStat : Statistical Journal	Statistics	Instituto Nacional de Estatística	English	2003
Silva Lusitana	Environmental Sciences --- Forestry	Estação Florestal Nacional	Portuguese, English, Spanish	2001
Sísifo : Educational Sciences Journal	Education	University of Lisbon	English, Portuguese	2006
Spaces of Utopia	Philosophy --- Languages and Literatures	Universidade do Porto	English	2006
Via Panorâmica : Revista Electrónica de Estudos Anglo-Americanos	Languages and Literatures	Biblioteca Digital da Faculdade de Letras da Universidade do Porto	Portuguese	2008
Via Spiritus : Revista de História da Espiritualidade e do Sentimento Religioso	Religion	Universidade do Porto	Portuguese, Spanish	2001
Wildlife Biology in Practice	Biology --- Zoology	Sociedade Portuguesa de Vida Selvagem	English	2005

CURRENT SITUATION OF OPEN ACCESS REPOSITORIES

There are 16 public universities in Portugal and combined with polytechnic institutes or smaller private universities that are focused mainly on teaching activities, the number increases about to 40 higher education institutions. As earlier reported the Conference of Rectors of the Portuguese Universities (CRUP), consisting of the rectors of the above-mentioned 16 public universities, has signed the Berlin Declaration on Open Access and recommended that all universities should build an institutional repository and implement a policy for self-archiving.

Prior the RCAAP project 11 repositories, in production or installation phases, were known in Portugal. During the first phase of the RCAAP project, five brand new Portuguese open access repositories were created using the SARI infrastructure ([Repositório Aberto](#) – University Aberta; [Repositório da Universidade dos Açores](#) – University of Açores; [UTL Repository](#) – Technical University of Lisbon; [RIHUC](#) – University of Coimbra Hospitals; [Sapientia](#) – University of Algarve).

So, at the time of writing there are in Portugal 16 scientific open access repositories in a production stage. Altogether, the running IR's, collect almost 25.000 scientific documents (see table 4). The repository software presently most used in Portugal is [DSpace](#) (14) followed by [Digitool](#) (2).

On the working plan of the first semester of RCAAP II project five repositories were created or installed in the SARI service. Three are new institutional repositories (University of Beira Interior, Polytechnic Institute of Leiria, Gulbenkian Institute of Science), one is a renewed version of a previously existing repository (Polytechnic Institute of Bragança) and one (Repositório Comum) is a common infrastructure for researchers working at institutions without their own repository (like the Depot repository in the UK). These five repositories will be unveiled and made publicly available soon.

Table 4: Portuguese institutional repositories in production stage aggregated in RCAAP (2009-06-28)

Institution	Repository name	Platform	Infrastructure	Nr. of docs.	Type of documents							Self-Archiving policy
					article	conferenceObject	book & bookPart	workingPaper	doctoralThesis	masterthesis	other	
Escola Superior de Educação de Paula Frassinetti	Repositório da ESE de Paula Frassinetti	DSpace	Own	153	76%	-	-	-	-	1%	23%	No
Hospitais da Universidade de Coimbra	RIHUC	DSpace	RCAAP SARI	415	91%	4%	2%	-	-	-	3%	No
Instituto Politécnico Bragança	Biblioteca Digital	DSpace	RCAAP SARI	642	57%	15%	10%	1%	5%	4%	8%	Yes
Instituto Superior de Ciências do Trabalho e do Emprego	Repositório ISCTE	DSpace	Own	1107	57%	2%	1%	11%	4%	21%	4%	Yes
Universidade Aberta	Repositório Aberto da Universidade Aberta	DSpace	RCAAP SARI	650	10%	11%	20%	-	5%	43%	10%	No
Universidade da Madeira	Repositório da Universidade da Madeira	Digitool	Own	10	-	-	-	-	70%	30%	-	No
Universidade de Coimbra	Estudo Geral	DSpace	Own	5047	57%	0,5%	0,2%	0,2%	14%	5%	22%	No
Universidade de Évora	Repositório Científico da Universidade de Évora	DSpace	Own	251	46%	4%	10%	0%	2%	1%	37%	No
Universidade de Lisboa	Repositório da Universidade de Lisboa	Digitool	Own	644	2%	0,2%	0,6%	0%	34%	63%	0,2%	No
Universidade de Trás-os-Montes e Alto Douro	Repositório Digital da UTAD	DSpace	Own	83	-	-	-	-	48%	52%	-	No
Universidade do Algarve	Sapientia	DSpace	RCAAP SARI	170	96%	1%	-	-	3%	-	-	No
Universidade do Minho	RepositóriUM	DSpace	Own	8190	33%	41%	4%	2%	6%	10%	4%	Yes
Universidade do Porto	Repositório Aberto da Universidade do Porto	DSpace	Own	6984	32%	12%	1%	-	19%	34%	3%	Yes
Universidade dos Açores	Repositório da Universidade dos Açores	DSpace	RCAAP SARI	97	80%	-	1%	-	10%	1%	8%	No
Universidade Nova Lisboa – Faculdade de Ciências e Tecnologia	REpositório Institucional da FCT	DSpace	Own	579	25%	-	2%	3%	15%	51%	3%	Yes
Universidade Técnica Lisboa	UTL Repository	DSpace	RCAAP SARI	566	15%	12%	1%	12%	9%	36%	15%	No

In the Portuguese IR's community there has been a strong commitment to comply with the [DRIVER Guidelines](#) for future integration on the DRIVER infrastructure, endorsed both by the University of Minho (a DRIVER partner) and by the RCAAP initiative.

The institutional teams and repositories managers have the overall responsibility for the content of the local repositories since the quality assessment of the archived data is very important. The [RCAAP Portal](#) also requires quality metadata and has therefore developed its own OAI-PMH Harvester and validator tool, which daily harvests and validates metadata accordingly to the DRIVER guidelines to ensure the quality of the local repositories. Data differing from the metadata standard are normalized by the repository managers which are contacted with suggestions for corrections. Data coming in from many different sources can then be presented uniformly to the user.

Furthermore, concerning the IR's development, the second phase of RCAAP project, already started on February (2009) to end December (2009), must be mentioned. RCAAP II includes and aims to the following objectives:

- Development of the infrastructure, testing a new version of DRIVER's D-NET, stimulating the creation of new institutional repositories, supporting the development of the existing ones and promoting their interconnection and interoperability;
- Support and stimulating the deposit of national scientific and academic literature in the IR's;
- Support to the development of services based on documents and metadata deposited in these repositories;
- Interconnection with the national Current Research Information System platform [DeGóis](#);
- Interconnection with the [B-on](#) (Online Knowledge Library);
- Interconnection with the [National Library](#) for legal deposition of thesis and dissertations

[RCAAP project support website](#) presently provides information about publishers' policies for self-archiving and refers to the Sherpa/RoMEO database. See at: <http://projecto.rcaap.pt/copyright/>.

It has been a libraries' task to produce instructions, guidelines and templates for agreements regarding self-archiving, yet the available information about Portuguese journals/editors spectrum is scarce or inexistent; many Portuguese journals don't have formal policies or have it only for the printed version. For this reason, in the context of RCAAP, a project lead by [Faculty of Sciences and Technology – New University of Lisbon](#) was engaged with the collaboration of other Portuguese institutions to foster the identification and provide a wider information about Portuguese publishers' policies towards open access.

For what has been seen until now, the main driving factor for engaging with the development and maintenance of IR's in Portugal has been the increasing awareness of the Open Access movement and the need to showcase the institutional research outputs. On the contrary, the main inhibitors are the low level of awareness on Open Access in some scientific areas and institutions and the doubts or fears with regard to the copyright situation for published research output.

CONCLUSIONS AND RECOMMENDATIONS

The universe of Portuguese scientific publication is relatively small, but has been growing consistently in the last two decades. Although there isn't any comprehensive and reliable data on the Portuguese scientific output, we estimate that the number of journal articles published yearly by Portuguese researchers is around 20.000. From those, more than 1/3 are published in ISI referenced international journals and less than 2/3 in other non-ISI referenced international journals or Portuguese journals.

As revealed in this study, the number of Portuguese scientific journals is low, many are still published in printed form, and consequently the number of OA journals is also low. Most of Portuguese journals are from social sciences and humanities, and on some of those areas Portuguese journals and conference proceedings are the main venue for publishing research results. On the contrary, in most of science and technology areas (and even in some social sciences like economy), a big percentage of the Portuguese scientific output is published in international journals. Anyway, in almost all the areas (from humanities to science), there is a growing trend for internationalization of research and research publication.

Concerning institutional repositories, there was a significant progress on the last years. Since 2007 several institutional repositories were created in Portugal. After CRUP's declaration on Open Access, and the creation of CRUP's OA Working Group, the leaderships on most of the Portuguese universities have take action on this matter. At present time almost all Portuguese universities with significant research output have already or are creating their own institutional repository.

The development of Portuguese repositories has been very diverse, from institution to institution. In general, the percentage of the institutional research output archived in those repositories is still relatively small (less than 10%). The most successful repositories, like RepositóriUM, from Minho University, are associated with institutional self-archiving policies, requiring, encouraging and/or rewarding deposition of publications.

From the information collected in this report, there is a clear conclusion that Open Access developments in Portugal have been done mainly by institutional repositories and self-archiving (Green OA), with Open Access publishing (Gold OA) being also important but less significant. Taking into consideration the dimension and weaknesses of Portuguese journals, the growing proportion of research output published in international journals and the limited

financial resources of universities and other research institutions for supporting publication fees, it's natural that in the near future the focus for Open Access progress in Portugal remains repositories and self-archiving.

From these conclusions, some recommendations can be suggested for the development of Open Access in Portugal within RCAAP project:

1. Continue to provide support for the establishment of repositories in research institutions (universities and research centers) where they don't exist yet;
2. Provide guidance and help to the definition and implementation of OA mandates in universities and other research institutions;
3. Provide guidance and help to the definition and implementation of OA mandates for research funding organizations (public and also private), including the possibility to fund Gold OA publication for funded research;
4. Reinforce dissemination and advocacy activities for Open Access repositories and RCAAP portal;
5. Influence B-on negotiations, to include clauses for OA publishing (when that option is available) in the journals subscribed by the consortium, at no extra cost for authors, researchers funders or the consortium itself;
6. Study, analyze and define possible scenarios for RCAAP intervention and collaboration on OA publishing (relation with Scielo, offering OA journal hosting service, etc.).