OPERAS

open access in the european research area through scholarly communication

OPERAS Design Study

July 2017

CONTENTS

OPERAS Website: http://operas-eu.org

Full Design Study with annexes: http://operas-eu.org/design-study

Contact: pierre.mounier@openedition.org

FOREWORD

The following report, OPERAS Design Study, has been composed thanks to the OPERAS-D project, in its first stage. The report joins four studies that explore the landscape of OPERAS' field of activity, establish the technical mapping of the OPERAS Consortium, survey users' needs regarding scientific communication and academic publishing, and finally look ahead to the development of the governance structure and business model of the future infrastructure within the ESFRI framework.

One word can synthesize what these studies and reports tell us about OPERAS' field of work: fragmentation. Hence, the OPERAS vision and mission, which arises naturally from this finding: integration.

THE STRUCTURE OF RESEARCH IN SOCIAL SCIENCES AND HUMANITIES

Fragmentation, as evidenced by the Landscape Study in this report, is one of the major characteristics of the communication and publication sector in humanities and social sciences: an impressive number of small size players of different types operate across the European Research Area to offer communication and publication services to researchers. The reasons behind this situation can be analysed at multiple levels, but those reasons shouldn't overshadow the most important one: the scientific community they serve is itself highly fragmented.

Many studies and authors have explored and revealed the fragmentation of the research landscape in the humanities and social sciences (see the Scientific Case), across multiple disciplines and sub-disciplines, as well as in small research units, and, of course different languages. To take a striking example, the recent INTERCO-SSH project, that studies internationalization of SSH found that, despite the growing importance of English as a communication language in social sciences and even humanities, the need for academic publications in native languages remains central in many cases. According to the same project findings, most of the time internationalization of SSH doesn't mean going from local to global, rather it goes through what is described as transregional integration which reflects the structure of scientific networks that connect researchers across national boundaries and not always globally.

Therefore, the particular structure of the publishing sector in social sciences and humanities, composed of small and many players serving local scientific communities and specializing in narrow fields of research, cannot be considered as a flaw, but in fact more as a feature, an adaptation to the reality of the scientific ecosystem in these disciplines. The flaw emerges, however, when the actors playing in the field operate as isolated beings, unaware of what others are doing, reinventing the wheel in their own corner or even competing through unfair practices. In such circumstances, fragmentation turns into disintegration and the scientific community which needs efficient partners to circulate ideas and research findings across borders could be negatively impacted. The flaw is also apparent when the whole system experiences a global change in which all players need to redefine and renew their mission, the services they deliver, and consequently their workflow, business model and tools. The global change experienced by everyone is well known: the digital turn and its consequence: Open Science.

OPEN SCIENCE IN PRACTICE

Open Science has so far mainly been debated as a principle. And as a principle, a growing part of research funders – funding agencies, ministries and the European Commission – seem inclined to adopt it. In 2016, the Dutch government took the opportunity of its European presidency to push for a new stage in the development of Open Science, from principle to reality, resulting in the The Amsterdam call for action on Open Science. But, as mentioned in the document, to put Open Science into practice requires strong coordination between the different stakeholders of the scientific community: researchers, funders and national authorities, libraries and finally…publishers. That's why the implementation of Open Science in humanities and social sciences is a specific challenge for a sector that is currently loosely connected and highly fragmented.

As it appears from the Technical Mapping study undertaken during the OPERAS-D project, the structuration of OPERAS partners in terms of technologies used, types of services offered to the community but also and may be even more importantly, the business models and workflows, is heterogeneous. Therefore, to increase integration in terms of interoperability and complementarity through cooperation across different institutions and European countries with their particular academic cultures, requires a particular effort which is, in many cases, beyond their reach on their own as resources are limited for each of them. Yet, the same study reveals that divergence is not total, particularly at a technical level, with most partners having chosen more or less the same technological bases, adopting more or less the same standards, and aiming more or less at the same practices. The whole challenge resides in this 'more or less' that reflects on the one hand the need for flexibility that fits local contexts, but on the other hand presents serious obstacles to practical integration. For decades, players in the scholarly communication field haven't felt a particular motivation to become more integrated.

Cooperation between scholarly communication players locally or nationally, often remains loose, and limited to exchange of information during scientific and professional conferences (such as Elpub, APE, ALPSP), and exchange of rights during book fairs (such as Frankfurt, London, Turin). In the print era and at the very beginning of the digital turn, networking was enough. But the recent development of Open Science changes everything, and at a fast pace, especially when it comes to putting into practice the goal of the European Commission to set up a European Open Science Cloud within a few years. For this purpose, networking is not enough anymore and integration must be achieved in reality for disciplines that would otherwise risk being left behind. Indeed, if SSH disciplines do not integrate with the Open Science Cloud, the entire scientific ecosystem will fail to reach its full potential since it will be missing the publications and other research outputs from half of the scientific disciplines.

THE 'LONG TAIL SCIENCE' MODEL

How can many small collections of materials provided by many small teams integrate in practice? OPERAS, as a Research Infrastructure project, aims to provide a sensible and practical answer to this question. The intellectual model that governs the way the OPERAS project is structured, and the main choices that have been made to plan its development, has been aptly summarized by a European Commission officer during an informal conversation about EOSC and how OPERAS could contribute to it: The main challenge OPERAS wants to tackle is the integration of 'long tail science' into the Open Science framework. This long tail model operates at two levels: the definition of services the future infrastructure will offer, and the type of structuration it will adopt for its operation.

The plan adopted by OPERAS for its services and their structuration is the result of numerous studies undertaken by OPERAS partners (see the Bibliography in this report), individually or collectively, and of seminars, workshops and conferences attended together where a continuous conversation was fed and progressively structured. For the record, the original idea of setting up an infrastructure for open scholarly communication in SSH came from a workshop organized by Victoria Tsoukala (EKT), Emmanuelle Corne (AEUP), Pierre Mounier (OpenEdition), Eelco Ferwerda (OAPEN) and Brian Hole (Ubiquity Press) during the Elpub conference in 2014. From that starting point and those five original participants, representing a variety of situations and experiences, to today with more than 30 partners from 11 countries participating in the project, the important work of designing the infrastructure has taken place.

DESIGNING THE SERVICES

The design of future OPERAS services has culminated in an online survey to test OPERAS' proposition against users' needs, in particular those of researchers, libraries and publishers, the most important stakeholders for OPERAS. The main principle that has emerged from this Design Phase is the need to define future OPERAS services at several levels and distribute them following a principle of subsidiarity.

FIRST LEVEL: SHARED SERVICES

At a first level, the partners offer communication and publication services to their community, whether it is regional, national or limited to a specific language. At this level, what OPERAS proposes is not to merge the existing services into a pan-European one, but on the contrary to support the partners to improve and upgrade the services they already offer to their own users. During the Design Phase it was identified that specific support is needed in the following three key areas:

– The definition and adoption of best practices that allows for a common level of quality and compliance with Open Science principles
– Research and development activities aimed at developing publishing tools and technologies that partners can use from a shared toolbox in their adoption of common best practices and to support the redefinition of their workflows
– Support for innovative open access business models by developing shared components such as a common market place, a journal flipping mechanism and a funding model that involves libraries in supporting open access.

As such, OPERAS services have been designed as 'Shared Services' between partners, aimed at supporting and improving their existing activity, not replacing it.

SECOND LEVEL: EOSC INTEGRATION

A second level of more integrated services then had to be defined, to prepare content to be accessed and used through the EOSC. This level of services was more difficult to design because EOSC is in its first stage of development and has not yet been put into practice. It was decided that the best way to prepare for future integration is to upgrade existing dissemination platforms in the OPERAS Consortium with rich metadata and machine-readable content allowing for efficient text and data mining from third parties. We started with a specific project within the H2020 framework programme,

focusing on open access books platforms which required specific development, as books are the most difficult objects to integrate considering their specificities. The HIRMEOS project allows for the implementation of standard identifiers such as DOI, ORCID and Fundref for books, but also other more innovative types of metadata, such as reader annotation and new usage metrics.

More importantly, HIRMEOS was used to test and deploy a common methodology that enables different partners operating platforms based on different software and technologies to implement common standards. Based on a uniform definition of implementation levels, and a governance framework that commands distribution of work among partners, the HIRMEOS method will be used in the future development phase of OPERAS to extend standards implementation beyond the project, beyond the five dissemination platforms participating in it, and of course beyond the books themselves.

Considering the specificities of SSH content and the importance of its distribution across several languages rather than one, it was clear to OPERAS partners that special attention should be paid to multilingualism to facilitate the process of integration into the EOSC. In the development of the infrastructure, it is therefore planned to undertake specific work, first on the alignment of metadata describing content with ontologies in several languages, and second to support metadata translation that improves content discoverability.

THIRD LEVEL: OPERAS PLATFORMS

Finally, the most important services to be delivered at European level, which are meant to address all stakeholders' needs across the European Research Area and across different languages:

- Research funders and libraries need a certification service to implement their open access policies for the former and to deliver good quality content to their users for the latter. This service has to be delivered globally because certification needs to be independent from local constraints and free from local interests; in all cases, certification must come from external authorities.
- Researchers need an open and efficient Discovery platform to find content relevant to their research topics. Since SSH researchers read if not write in several languages, the platform should be able to support multilingual content, which is a sufficient reason to set it up globally, and index different types of content: publications of course, but also primary data and other grey literature content. The Discovery platform will also serve as the main interface with the EOSC.
- Society and different types of socio-economic actors (media, citizen, administrations and SMEs) need more than just access to academic content. In the context of citizen science which is implied by the definition of Open Science, they need a common framework to collaborate with research teams to achieve research projects that tackle their specific concerns, namely societal challenges. Therefore, OPERAS will prepare and deploy a Research for Society platform that addresses those needs that will be open to be used across all disciplines, including both SSH and STM, in a multidisciplinary perspective.

PLANNING OPERAS DEVELOPMENT

The promise to deliver three pan-European platforms by the OPERAS project could be considered too ambitious, potentially exceeding the Consortium's resources and capability. This might be true if the aim of OPERAS was to build those platforms from scratch and to develop them at the same time.

However, the method adopted during the Design Phase was to identify existing platforms provided by OPERAS partners and to upgrade them with the new functions they will need to deliver and scale up to the European level. The maturity of the three chosen platforms is different, which will allow for smooth development phasing across the Design, Preparation and Construction stages of the infrastructure:

– The certification platform is the first to be developed. Based on the existing Directory of Open Access Books (DOAB: http://doabooks.org), operated by OAPEN and OpenEdition, its main development is currently supported through the HIRMEOS project to upgrade the structuration of the platform in terms of workflow organization and technical capability. The development of DOAB as OPERAS' certification platform is currently supported across the Design and early Preparation Phase of OPERAS within the HIRMEOS project.

– The Discovery platform is based on the very mature Isidore platform (http://rechercheisidore.fr) developed by the French Research Infrastructure Huma-Num. Launched in 2011, Isidore has proved its sustainability at least at national level, and, with more than a million visits a year, it is clearly meeting researchers' needs. From a technological perspective, Isidore meets much more than the minimal criteria to be compliant with a state-of-art digital delivery platform. Following the principles of the web of data, Isidore enriches indexed content with metadata aligned across several scientific vocabularies and provides access to data through several means, including a Sparql Endpoint. The planned development of the Discovery platform will extend Isidore to a wide array of different languages from French, English and Spanish which are currently supported, and will be delivered during the Preparation Phase.

– The Research for Society platform is the less mature of the three platforms. Its main development will take place during the Construction Phase after prototyping during the Preparation phase. Its envisaged starting point will be the Hypotheses platform which, as an academic blogging platform is completely mature. With more than 2,000 active blogs, and a structured user community in several of the most important European languages (French, English, German, Spanish, Portuguese, Italian), the Hypotheses platform, operated by OpenEdition, has already reached a pan-European scope. Nonetheless, many components are still to be developed to set up a real usable environment to support collaboration across academic boundaries.

STRUCTURE THE INFRASTRUCTURE

SET UP THE GOVERNANCE SCHEME

Having defined the services OPERAS will provide and planned the timeline along which they will be implemented, the last component that had to be designed was the structure of the infrastructure supporting the services, including its governance scheme and future business model. The plans resulted from a specific study achieved during the OPERAS-D project and included in the report. Here again, the structure adopted reflects the particular landscape of the SSH community. For such a community, a centralized infrastructure wouldn't address the complexity of SSH activity, but given its fragmentation, the risk that the infrastructure could lose its direction was taken into consideration. In this matter, the experience of other European Research Infrastructures, close to OPERAS in their scope and the users they serve, was enlightening and helped us to ensure a delicate balance between centralization and federation. The principles that have been adopted to prevent loss of guidance and lack of integration are, first, to rely on a strong hub for coordination, supported by one institution

and the Coordinator, and, second, to create a legal entity early in the course of the development, to prepare final incorporation into an ERIC.

The choice of OpenEdition as Coordinator and host of the hub, results from its position in the Consortium, its size and, of course the commitment coming from its supporting institutions and national authorities for the development of OPERAS. Placed in Aix-Marseille University, the management team will be strongly embedded in the OpenEdition team (50–60 persons), will benefit from OpenEdition's supporting institutions (Aix-Marseille University, CNRS, EHESS, Avignon University) and will be located in the Technopole of Chateau-Gombert, an institution that incubates a large number of high technology companies and scientific laboratories. OpenEdition's capacity to coordinate such a project was assessed through an evaluation exercise performed in June 2017 by an external audit company (the executive summary of the report is included in this Design Study).

Lessons from other infrastructures were also learnt, showing that to prepare and set up a pan-European entity is a long and difficult process. On the other hand, infrastructures which are not incorporated as a legal entity and perpetuate only through projects can lose consistency and drift in different directions following the divergent opportunities defined by the projects they run through. Therefore, OPERAS aims at preparing for ERIC incorporation through an intermediary stage, the creation of an international association that on the one hand will reflect the current organization of the project, and on the other will prepare for the organization of the future ERIC, and ensure a progressive transition towards implementation and start operating the functions of the infrastructure: project management through the hub, independent scientific monitoring, political representation of the Member States and executive participation of the partners.

COMMUNITY MANAGEMENT

To be effective and change the landscape of scholarly communication in Europe, OPERAS must be able to gather a high number of partners, and manage and coordinate them. For this reason a light commitment scheme was defined, allowing small size partners, with few resources, to participate in the project through thematic Working Groups that align with the structuration of the services OPERAS will deliver. The Working Groups will be used to prepare the future H2020 projects that will support the development of the infrastructure.

With a large community composed of many partners, a more complex structuration is needed. A Core Group was created during the Design Phase, gathering the partners willing to commit more than the others, to organize their national community and manage the Working Groups. In the future, the Core Group will transform into an Executive Assembly and gather National contact points as well as other representatives. The management office installed in the hub will support the work of the different groups and ensure effective coordination between partners at different levels.

OPERAS also coordinates with other ESFRIs such as DARIAH, CLARIN, CESSDA, and e-infrastructures such as OpenAIRE, as well as other projects that complement OPERAS' core activity such as ENRESSH, and international partners such as Scielo.

BUSINESS MODEL

Finally, we had to define a business plan to finance the development of the infrastructure, that reflects its structuration. The funding of the hub and the project management team is ensured by the Coordinator, OpenEdition is supported by French authorities, and the development of the services will

be funded through projects. The participation of the partners in Working Groups and Core Groups is self-sustained through in-kind contribution.

When the infrastructure is in operation after the creation of the ERIC, another business plan will be adopted, relying on Member States' annual contribution to fund the hub and project funding to develop new services. OPERAS platforms will be operated by identified partners who will support the operational costs of the platforms. They will be funded through a mix of upfront funding and commercialization of premium services.

CONCLUSION

OPERAS' name epitomizes in many ways the mission that guides its development plan. First and foremost, OPERAS stands for 'open access in the ERA through scholarly communication'. This name is not only an astute way to align keywords in a single sentence; it means something more. It means that for the partners of this common effort, open access to publication shouldn't be defined outside and independently from the scientific community. Since the Second World War, scientific publication has been progressively outsourced to commercial entities by scientific institutions, which seemed a good solution in the first place to improve quality by professionalization. But control was progressively lost by the scientific community over a strategic part of its activity, the part that conditions its very existence as a community: communication. Some forward-thinking scholars and librarians in the 1980s started to become alarmed by the situation and considered the path that had been taken during the previous decades to be a tragic mistake. Different initiatives were taken from there, scarce and small at the beginning, to allow the scientific community to take back control over its own communication system. This movement took different forms, from the creation of new university presses to the commitment of research libraries to content dissemination from their institution, and all these took another dimension when Internet became the standard. Then the open access movement started and led to a new and more complete concept, Open Science. But all this evolution shouldn't overshadow its origins and its original meaning: the need for the scientific community to reclaim its own communication system.

That is why we, the OPERAS partners, consider that the best way to achieve open access movement in Europe, is to do it *through* scholarly communication, which simply means *from within* the scientific community, by close cooperation between its different stakeholders and always considering primarily its specific needs over all other considerations, in particular commercial. That is why when we tried to define our initiative, to put a name on what we were aiming at, it came to us very naturally that we were on the course of creating an infrastructure, but more importantly, a *Research* Infrastructure that should stand by the researchers and operate *inside* the scientific community to support an essential part of its activity: scholarly communication.

OPERAS is also a metaphor, of course. Opera is one of the most sophisticated and complex performance arts, because it involves so many different components, symphonic music, lyrical art, drama, and even visual art through scenery and costumes. To perform it correctly, it requires thorough understanding between all the different performers, strong coordination and close cooperation. And then, after a long preparation, when the time for the performance has arrived, the complex machinery must become invisible and serve the artwork smoothly and gently as if it was all natural. An inspiring model, certainly.

Pierre Mounier
OPERAS Coordinator

SCIENTIFIC CASE MAIN FINDINGS

The vision of Open Science is premised on a paradigmatic shift in research practices and scholarly communication. In its multidisciplinary scope, with a focus on social sciences and humanities (SSH), OPERAS addresses those disciplines that are particularly in need of a major initiative to perform the transformation towards Open Science and evolve their innovative potential[1]. The challenges facing scholarly communication in the SSH have been well documented in various studies and academic conferences in recent years[2].

SCIENCE AS COMMUNICATION

The traditional approach for the representation of scholarly communication, which separates publication from research and considers publications as a subsequent output and manifestation, is based on a flawed communication model. This misinterpretation affects the approach of open access as it entails the implementation of global models that are detached from the reality of research as a communication practice. For a long time, several researchers, such as Latour and Woolgar[3], Garvey[4], Galison[5] and more recently Nielsen[6] have evidenced on the contrary how science should be literally conceived as a communication practice. Furthermore, as a social activity involving a wide range of interactions, the continuous model of communication in scholarship[7] requires infrastructure to serve as dynamic and interactive networks. The concept of an extensive scholarly record[8] including innovative methods and formats demands a framework of fluid but identifiable, distributed but interlinked units[9]. OPERAS adopts these concepts throughout its full research lifecycle support and the synergies build on the connection of distributed infrastructures, institutions and entities.

THE SPECIFICITY OF SOCIAL SCIENCES AND HUMANITIES

SSH scholarly communication practices differ substantially from STM, which has been exposed even more in electronic publishing, culminating in the primary publication format of journal articles in STM versus monographs in the SSH. The monograph format reveals other specificities in terms of episteme, workflow, collaboration, relationship between theory and fieldwork, and elaboration and construction of the argumentation based on evidence in those disciplines[10]. Academic books are poorly integrated

---

[1] Crane, Gregory, Alison Babeu, and David Bamman. “eScience and the humanities.” International Journal on Digital Libraries 7.1 (2007): 117–122

[2] See landscape study section in OPERAS Design Study

[3] Latour, Bruno, Steve Woolgar, et Michel Biezunski. La vie de laboratoire. Paris: La Découverte, 2005

[4] Garvey, William, D. « Chapter 1 – The Role of Scientific Communication in the Conduct of Research and the Creation of Scientific Knowledge ». In Communication: the Essence of Science, 1–39. Pergamon, 1979. doi:10.1016/B978-0-08-023344-4.50006-4.

[5] Galison, Peter. Image and Logic: A Material Culture of Microphysics. University of Chicago Press, 1997.

[6] Nielsen, Kristian H. « Scientific Communication and the Nature of Science ». Science & Education 22, nº 9 (1 septembre 2013): 2067–86. doi:10.1007/s11191-012-9475-3.

[7] Borgman, Christine L. Scholarship in the digital age: Information, infrastructure, and the Internet. MIT press, 2010. See also: Hjartarson et al.: Modelling Collaboration in Digital Humanities Scholarship: Foundational Concepts of an EMiC UA Project Charter, in: Brown, Susan. Cultural Mapping and the Digital Sphere: Place and Space. University of Alberta, 2015.

[8] Lavoie, Brian, et al. The Evolving Scholarly Record. OCLC Research, Dublin, Ohio, 2014.

[9] Van de Sompel, Herbert and Carl Lagoze: All Aboard: Toward a Machine-Friendly Scholarly Communication System, in: Hey, Tony et al.: The Fourth Paradigm: Data-Intensive Scientific Discovery. Microsoft Research, 2009.

[10] Geoffrey Crossick, Monographs and Open Access, 2015, http://www.hefce.ac.uk/pubs/rereports/year/2015/monographs/. Eve, Martin Paul. Open access and the humanities. Cambridge University Press, 2014.

in commercial databases and the format of monographs is often excluded from OA policies, initiatives, and copyright exceptions[11]. The evaluation of research outputs in areas with very low uptake of bibliometric and scientometric evaluation (such as SSH) is currently a major issue at European level[12]. In addition, more studies and reports suggest that the scholarly communication ecosystem is currently suboptimal, lacks the transition to Open Science and doesn't support enough innovation[13] while changes are prevented by few commercial players[14]. OPERAS encounters these barriers in its efforts to strengthen scholarly-led initiatives, publicly funded research institutions and infrastructure service providers, who are developing domain-specific models for scholarly communication and implementing tailor-made services in order to close the gap in the research fields of SSH as an immediate impact while fostering the evolution of open scholarly communication practices in the long run.

SSH research is frequently grounded in specific cultural areas, which implies communication in native languages and not only in English as the scientific lingua franca[15]. The approaches towards internationalization of the humanities and transregional research has lead to international collaborations and communication networks but has not resulted in few core publication organs as in STM, since national books and articles in the native languages remain dominant, as evidenced by the recent INTERCO-SSH project[16]. As a result most SSH communication and publication service providers are not working at global level, but rather at national or regional level, leading to the fragmented landscape already described. A connection of the distributed publication and communication infrastructures with the implementation of a multilingual discovery service will provide a direct, beneficial impact on the outreach and internationalization potential of SSH research.

ENGAGEMENT WITH SOCIETY

The impact of SSH research on society has been a rising topic in the academic and the public sector[17]. While SSH research is fundamental to the production of knowledge, it also contributes to the economic domain, although the centre of its impact lies in the increase of civic capital[18]. However, SSH clearly has the potential for a more intense engagement with the public[19]. An adequate framework for

---

[11] For an extensive review of Open Access policies in Europe, see: http://www.pasteur4oa.eu/

[12] Ochsner, Michael, Sven E. Hug, et Hans-Dieter Daniel. « Humanities Scholars' Conceptions of Research Quality ». In Research Assessment in the Humanities, edited by Michael Ochsner, Sven E. Hug, et Hans-Dieter Daniel, 43-69. Springer International Publishing, 2016. doi:10.1007/978-3-319-29016-4_5.

[13] The Amsterdam Call for Action on Open Science: https://english.eu2016.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science p. 22–23

[14] Larivière V., Haustein S., Mongeon P. (2015) "The Oligopoly of Academic Publishers in the Digital Era". PLoS ONE 10(6): e0127502. doi:10.1371/journal.pone.0127502

[15] Barbara Cassin, « Les intraduisibles », Revue Sciences/Lettres [Online], 1 | 2013, http://rsl.revues.org/252; DOI: 10.4000/rsl.252

[16] Sivertsen, Gunnar. "Patterns of internationalization and criteria for research assessment in the social sciences and humanities." Scientometrics 107.2 (2016): 357–368. doi: 10.1007/s11192-016-1845-1 and Johan Heilbron, Thibaud Boncourt, Rafael Schögler, Gisèle Sapiro. European Social Sciences and Humanities (SSH) in a Global Context. Preliminary findings from the INTERCO-SSH Project. February 2017 http://interco-ssh.eu/wp-content/uploads/2017/02/European-Social-Science-in-a-Global-Contextv2.pdf

[17] Benneworth, Paul, Magnus Gulbrandsen, and Ellen Hazelkorn. The impact and future of arts and humanities research. Springer, 2016.

[18] Assessing the impact of arts and humanities research at the University of Cambridge, Ruth Levitt, Claire Celia, Stephanie Diepeveen, Siobhán Ní Chonaill, Lila Rabinovich, Jan Tiessen, Rand Report, 2010 http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR816.pdf

[19] Belfiore, Eleonora. '"Impact", "value" and "bad Economics": Making Sense of the Problem of Value in the Arts and Humanities'. Arts and Humanities in Higher Education 14.1 (2015): 95–110, DOI: 10.1177/1474022214531503. Bate, Jonathan, ed. The public value of the humanities. A&C Black, 2011.

open scholarly communication adopting the models for collaboration and participation, as proposed in OPERAS, will serve for different stakeholders including the non-academic sector and citizens. Based on engagement, research and public will be able to collaborate during the research period. While ideas and concepts of innovative scholarly communication have been discussed broadly[20], implementations at a larger scale remain a desideratum. Finally, the iterative and discursive process in hermeneutic methods, which have truncated the SSH from developments in the publishing system, as well as the bond to local communities in native languages, which has decelerated the internationalization of the SSH, now hold an immense potential for an inspiring model of Open Science with direct societal impact, based on continuous communication.

OPERAS AND THE DIGITAL HUMANITIES

OPERAS achieves the implementation of Open Science in the SSH community. As such it integrates digital humanities (DH) programmes that aim at renewing research practices in the humanities and social sciences through intensive use of digital technologies[21]. The diversity of the fields of SSH make it impossible to cover it in its entirety by a single infrastructure. In the humanities, DARIAH focusses on digital methods for analysis and data-centered lifecycles. CLARIN specializes in text and language data and its processing. CESSDA connects the digital archives of the social sciences contributing to a rich data pool at a European level which also includes the European Social Survey and SHARE. The focus on data-driven research of all these ERICs reflects the fundamental importance of open data and digital source material in the SSH as a catalyst for innovative research[22]. OPERAS cooperates with these consortia on several levels for exchange of knowledge, and connects to the underlying infrastructures for exchange of data, but addresses the gaps from a more general, wider scope through substantial additions to the infrastructure landscape: from digital methods and open data towards digital scholarship and Open Science.

However, the transition to Open Science and the adoption of open innovation principles relies not only on open data sources but also on open communication and participatory processes[23] Thus, in addition to the computer-aided analysis, the sharing of findings through scientific conversation, the quality assurance and review processes, the editing and writing workflows, the tracking and acknowledgement of core research activities, i.e. the 'scholarly primitives'[24], also have to be supported and integrated in the Research Infrastructure landscape.

---

[20] Fitzpatrick, Kathleen. "Beyond metrics: Community authorization and open peer review." Debates in the digital humanities (2012): 452–459, http://dhdebates.gc.cuny.edu/debates/text/7

[21] or a comprehensive view on digital humanities, see Schreibman, Susan, Siemens, Ray and Unsworth, John . A New Companion to Digital Humanities. 2 edition. Chichester, West Sussex, UK: Wiley-Blackwell, 2016. Dacos, Marin. Read/Write Book: Le livre inscriptible. OpenEdition Press, 2010. http://books.openedition.org/oep/128. Mounier, Pierre. Read/Write Book 2: Une introduction aux humanités numériques. OpenEdition Press, 2012. http://books.openedition.org/oep/226.

[22] "Riding the wave. How Europe can gain from the rising tide of scientific data". Final report of the High level Expert Group on Scientific Data. A submission to the European Commission, October 2010, http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=707

[23] European Commission, ed. Open Innovation, Open Science, Open to the World: A Vision for Europe. Luxembourg: Publications Office of the European Union, 2016, DOI: 10.2777/061652

[24] Unsworth, John. "Scholarly Primitives: What Methods Do Humanities Researchers Have in Common, and How Might Our Tools Reflect This?" Institute for Advanced Technology in the Humanities, 2000, http://www.iath.virginia.edu/~jmu2m/Kings.5-00/primitives.html

LANDSCAPE STUDY

CONTEXT

The Landscape Study is a deliverable for Work Package 2 (WP2), 'Developing network and e-infrastructure strategy' of OPERAS-D project, which has the following objectives:

- To identify and examine existing and emerging policies and practices in open access SSH publishing within the OPERAS network and beyond it, in particularly in Europe.
- To identify the key stakeholders involved in open access SSH publishing in Europe and beyond.
- To explore ways of optimizing e-infrastructure investments for OPERAS members and of creating complementarities.
- To explore avenues for the creation of a long-term e-infrastructure strategy and community building.
- To develop the OPERAS Design Study and implementation roadmap.

METHODS

To reach these objectives, the OPERAS-D team has conducted an analysis of academic and grey literature to identify and examine existing and emerging practices in open access publishing in the SSH, map the key stakeholders and outline key challenges in the open access publishing landscape and potential issues to be addressed by the OPERAS infrastructure. The study focuses primarily on the European environment, but also presents international initiatives of interest to the current analysis. The core findings of this desk review are in turn expected to feed into the Design Study and the roadmap that will define Governance models, structures and scientific and technical concepts for future services and the requirements for long-term sustainability, as well as the design of the business model that will address the purpose and economic logic of OPERAS.

MAIN FINDINGS

The study comprises desk research and identifies recent developments and challenges within the scholarly communication framework. In particular, it sketches the landscape of academic publishing in the SSH, with special reference to existing and emerging open access models within the OPERAS infrastructure and beyond. To this extent, the report examines important initiatives in Europe, the USA, Australia and elsewhere, in terms of operational and business models, stakeholder participation, current recommendations and good practice. Special attention is given to assessing the use and impact of open access publications, and indicating the goals and needs yet to be met.

Reference is also made to international initiatives that stand out in the open access movement, as well as policy frameworks and mandates introduced by the European Commission and/or at national level. Thus, this report highlights long-term commitments undertaken by key stakeholders towards the development of digital infrastructures, the implementation of sustainable funding models for open access publishing and the enhancement of scholarly communication processes.

As part of the ongoing debate on the dissemination of scientific output, there is an increasing demand for open access (to publications and research data), which is becoming increasingly adopted as the main practice for communicating the results of publicly funded research. A variety of complementary

initiatives have been launched to this end: among these, emphasis is placed here on the opening up of the academic publishing ecosystem to new business models that enhance further the impact of open access journals and monographs in the social sciences and humanities.

In examining all emerging trends in journal and monograph publishing, the report outlines key challenges and potential issues to be addressed by future initiatives. Recently introduced and experimental models (such as scholar-led publishing bodies, and new university presses) share common orientations towards increased participation of researchers in the publishing process and overcome certain deficiencies of the commercial publishing model.

Notwithstanding the importance of such initiatives, as the Report concludes, fragmentation (both in terms of the size and nature of publishers and of their business models) is a key characteristic in the academic publishing landscape. In this context, the main challenge in adopting effective open access publishing practices is to identify and assess current needs and limitations that permeate the academic publishing landscape, in operational as well as communication terms.

The Landscape Study confirms that successful research relies primarily on unrestricted access to high quality scientific output and cross-disciplinary, international collaboration. Shared and remotely accessed digital infrastructures constitute an important feature of the realisation of the European Research Area, and OPERAS aspires to be actively engaged in the implementation of a new mode of science that overcomes fragmentation and enables unrestricted access to high quality scientific output.

Read the Full Report: http://operas.hypotheses.org/files/2017/08/OPERAS-Landscape-Study.pdf

TECHNICAL MAPPING

CONTEXT

The technical mapping is a deliverable of WP3, 'Technical and services requirements' of OPERAS-D project which has the objective to identify the services the OPERAS Consortium would have to develop in the future and the method of implementing them in a fully distributed infrastructure. To achieve this objective, OPERAS must first know better its own technical environment, which is very diverse and uneven and then involve users to identify clearly what services are needed by the stakeholder communities.

The technical mapping of the OPERAS environment is meant to provide a global description of the technical, organisational and information systems within the OPERAS Consortium. More precisely, the mapping has collected detailed information about workflows, softwares, development languages, data and metadata management, dissemination and distribution tools.

METHODS

The technical mapping has been done through a questionnaire sent to the different partners. Each of them has been sent a table structured alongside the most common types of digital publishing activities. As digital publishing is not standardized enough yet, a draft has been proposed to various individuals and profiles from the Consortium and then collectively validated. Ten OPERAS members have answered the questionnaire.

This work represents a first identification of practices, workflows and tools within the OPERAS Consortium. It is mainly a basic inventory. The categories used in the survey are going to be improved during the second semester 2017 through a collaborative process.

MAIN FINDINGS

PRELIMINARY REMARKS

This work represents a first identification of practices, workflows and tools within the OPERAS Consortium. The categories used in the survey can and must be improved later through a collaborative process. The responses are detailed and represent a reliable collection of all the information needed. Nevertheless, some answers indicate that the categories used for the survey were somehow too loose or too abstract. For instance, the questions about publishing on one hand and workflow on the other created some confusion and the same response could be found in each field. The metadata questions were difficult to classify because of their different types and use, but this aspect has to be better formalized in order to have a better description of the data management process within the Consortium. Compared to this first attempt, the main activities of the partners should therefore be defined anew in order to offer a better articulation between concepts and real practices.

For these reasons, we have decided not to follow the tables progression but to reorder the content of this report on the basis of the schema in Annex 1. This schema represents in a circular way the various activities and missions of the digital publishers involved in the OPERAS Consortium.

The sections below are an adaptation of this schema to our technical content (see table 'Functional architecture' in Annex 2). We will present the various functions from the more technical to the more abstract.

INFORMATION SYSTEM

Development language, Database, Size limit, Hardware

Leaving aside the front-end languages (HTML, CSS, JS), the general information collected regarding the development languages is two-fold:

– A first group of participants benefits from an external IT system managed by their organization or a partner and don't have information on the topic;

– Another group is characterized by an in-house IT, that is an independent IT department or an operational autonomous set of IT skills (EKT, OAPEN, OBP, OE, SHARE, UGOE, UP).

In this second group, it will be useful, when many languages are involved, to understand better the usages of each language. In this way, it will be easier to identify potential collaborations.

It is interesting to note, however, that a majority of partners are PHP/MySQL users. With the exception of MWS (Python/Zope Object Database) and UGOE (XML publishing of Cocoon-Apache), all the others are using PHP alone or in combination with other languages.

The database and data size limit give us information about the present data management status and its possible evolution. For books and/or journals only, here are the database sizes:

– Less than 1 GB (OBP, SHARE books, UGOE)
– Around 2 GB (SHARE journals)
– Around 15 GB (OE Books)
– around 30 GB (EKT, OE journals)
– 100 GB (MWS), 240 GB (UP)

This data should nevertheless be completed with additional information on the destination of the database and the existence or not of many databases for each DBMS.

Some partners indicated a data size input limit (EKT, OAPEN, UGOE, UP), ranging from 20 MB to 4 GB, and it could be interesting to know if it affects their practices and in which way.

As for the hardware, here is the essential distribution:

– Virtual Machines: OBP (2 VMs)
– Servers: MWS (2 rented servers), SHARE (3 servers), UGOE (1 server), UP (6 servers)
– Servers and VMs: EKT (2 servers, n VMs), OE (21 servers, 40 VMs)

DATA AND METADATA PROCESSING

Indexing, Search functionality, Reference sets, Metadata standards, Identifiers

The processes which will create access points to the content or allow for its referencing are gathered in this section.

The indexing of the content is mainly handled in an automated way by the participants. A certain number of them use the full-text search provided by their publishing tool or repository application: OJS, OMP, E-prints or DSpace (EKT, SHARE, UniTo). Others are using a specific search engine like Solr (OE, UGOE) or Lucene (OAPEN). Some manual indexing is nevertheless used for completing the work of the application (UGOE, OBP) or for specific purposes (SHARE for Worldcat). Automated indexing also allows for a faceted search, but another set of questions could be useful in assessing the quality

of the search functionality, especially by evaluating the results for each facet. In fact, one participant indicates some poor results of the embedded search functionality of OJS/OMP.

A minority of participants also enrich their content with referenced subject headings: BIC, BISAC, VLB, LCSH (OAPEN, OE, UCL, UGOE). It is hard to assess how much these reference sets help the discoverability and if they are easy to maintain but more information on this question will be sought from the relevant partners.

Despite the similarities one would expect, the standard metadata used by participants are present with some variations (no one is using exactly the same set of standards); this will be looked at more closely from an interoperability perspective. As we are lacking information on the way these metadata are generated, it is hard to tell how difficult an adjustment would be; it is worth mentioning, though, some publishing tools that allow for this generation (e.g. OJS). The main generated standards are: DC, MARC, ONIX – rarer are DCQ and MARC XML. Alternative standards are: METS, NLM, RFC1807, ESE and PICA XML. Leaving aside the various functions of the standards (DC for PMH, ONIX for distribution, etc.), it might be appropriate to give some more information about the specific use for each standard to check how much they are effectively interoperable.

Identifiers are another kind of metadata and we wish to outline the rather wide use of interoperable identifiers. Alongside the HIRMEOS group (EKT, OAPEN, OE, UGOE) where DOI, ORCID and Funding registry are being implemented, others already have DOI (soon MWS, OBP, OLH, SHARE, UCL, UniTO, UP) or ORCID (OLH, SHARE, UniTo, UP).

On a related topic, which could have been investigated in the survey, it is interesting to mention that one partner is providing persistent URLs for its content (MWS).

PUBLISHING

Types, Number of documents, Printed copy, Publishing tools, Single source publishing

This section gathers the various elements of the OPERAS Consortium central activity of digital publishing.

The majority of the participants publish more than one type of document. Far from being limited to the more traditional journals and monographs, the types of documents handled by the participants cover almost the whole range of academic production. Even if all the different kinds of documents are not taken care of in the same way, it is interesting to note, in the perspective of the scholarly communication evolution, that some participants have expertise with different sorts of data. Alongside conference proceedings, textbooks and theses, we also find blogs, images, audio/video files, software or, potentially, any kind of data. It should be noted that sometimes the different types are handled with specific software, but this seems more related to the size of the organization (e.g. SHARE, UniTo).

The overall published content of the participants clearly gives a strategic position to the OPERAS Consortium. One partner remains isolated by its size and its variety (OE), but it would be interesting to know the trends and perspectives of each partner.

Print-on-demand services among the participants are more present than one might have expected (OBP, SHARE, UCL, UGOE, UniTo). If needed, this could allow for collaborative work or counsel.

As for the publishing tools, the first observation is the rather wide use of PKP's software (OJS, OMP) among the partners (EKT, SHARE, UCL, UniTo and soon MWS). This also obviously opens the possibility

of collaborations and it already does for some of them. As some participants in this group are not using only PKP's software for all their contents (UniTo, MWS) and others are using also different tools for their content (Lodel and Wordpress for OE), it might be interesting to investigate more in detail the relations tool/purpose and the reasons for the choices.

Another important aspect regarding the publishing tools is the development. Two partners are managing an entire publication process with their own software: OE (Lodel), UP (Rua/Jura). Others have a strong development activity (OBP) or have produced plugins (EKT, MWS). This could lead to fruitful technical collaborations useful to the OPERAS Consortium.

The publishing tools analysis can also include the single-source-publishing question. If it seems easier to have a single pivot format with only one publishing software (XML-TEI / Lodel for OE), other participants are also using as a pivot format the XML (MWS) or the PDF (UGOE). This aspect couldn't be detailed within the survey table but it surely must be developed by these partners.

The final observation to be clarified in the future: it wasn't always easy to tell what was the use made by the participants of each software or application. Detailed benchmarking in this area would help to understand the different uses better.

DISSEMINATION

Distribution, Referencing, Harvesting, Metrics

The majority of the participants are using their own platform(s) to achieve their content's distribution (EKT, MWS, OAPEN, SHARE, UGOE, UniTo, UP). A smaller group is using other channels and, apart from one (OLH), it seems directly or partly related to their sales activity (OBP, OE, UCL, UP). In the last case (OBP, OE, UP), the number of distribution channels is logically very high. Even if of minor importance, we can note that the latter (OE) is externalizing the distribution process to electronic bookstores.

As for the referencing, it is more difficult to identify specificities. The main referencing entities among the partners are: DOAJ, DOAB, EBSCO. Nevertheless, not every participant has its contents referenced in each one and some referencing is sometimes more limited (MWS, UCL, OLH). Moving towards more uniform referencing throughout the Consortium would bring clear benefits.

On the other hand, almost every participant is maintaining an OAI repository for harvesting protocol. Even if differences obviously exist between the sets or the standards used, this remains a solid basis for an effective interoperability.

The situation regarding metrics appears rather disparate, even if some synergies seem possible. A certain number of partners is using or will use Google Analytics (OBP, OLH, SHARE, UCL, UP). Others are providing COUNTER statistics (EKT, OAPEN, OE, UniTo) – but some more information could be useful here as the production of COUNTER is rather complex for OE, while it seems automatic for UniTo with OJS. Some partners, finally, are using other applications: Piwik (MWS, OE, UP), Awstats (OE – soon completely replaced by Piwik), ALM metrics (SHARE).

EDITING

Peer-reviewing, Proofreading, Typesetting

We put together in this 'editing' section peer-reviewing, proofreading and typesetting as being parts of the traditional publishing activity. Although not always directly involved in this editing work, most

of the participants have it integrated to their own workflow. The situations are quite diverse, and present two extremes: from the participants who are not involved in editing (UniTO) to those who are traditional publishers (OBP and UCL). In between, we can find different levels of involvement.

As for the peer-reviewing, we can observe that the publishers amongst the participants, perform more or less directly peer-reviewing (UGOE, UCL, OBP). In the other cases (dissemination platforms), the peer-reviewing is a requirement or a recommendation (OE, EKT) – the difference between these will have maybe to be clarified in future surveys. The peer-reviewing of journals and books tend to be the same (e.g. two academic referees) but this also may need to be confirmed by each concerned participant.

Proofreading and typesetting are mainly undertaken by the editor and the author. Nevertheless, the same participants involved in the peer-reviewing also do the proofreading and the typesetting (OBP, MWS), but some also outsource these activities (UCL, OLH).

WORKFLOW

Process steps, Formats management, Access rights

Even though the status, services and organization of the Consortium partners is very different, the workflows used by the partners cannot be exactly similar. It was in fact difficult to give a clear and schematic representation of this section. Nevertheless, it should be possible to identify the tasks defining their mission, and more precisely their types, number and complexity.

The answers led to a first observation: those partners who use PKP publication tools (OJS, OMP) are heavily helped to structure and formalize their workflow. Although this gives a clear representation of the workflow, it is mainly 'author-oriented' and doesn't really focus on the digital publisher's work (the 'layout editor' in the OJS schema) Even if such a schema isn't necessary for the OPERAS Consortium, a short list of the main publishing activities would be useful to better assess the strengths and weaknesses of the partners' workflows. This list could be more or less the list of sections used in this report and is reflected by the various answers. For a better focus on the 'who does what when?', the list can be summarized in these specific digital publishing steps:

– Editing: peer-reviewing (partly effectuated, verified, requested?); copy-editing/typesetting (outsourced or not?); linear or circular process; access rights to the platform for authors or editors?
– Admission: document taken as it is sent; document modified (another format? Which one(s) with which tool?).
– Enrichment: adding metadata (for search, for dissemination, for archiving?).
– Dissemination: production of the output formats for the platforms; specific tasks related to the distribution outside the platform.

These various aspects can of course be amended or completed, but they would give some sound elements to evaluate the length, the complexity and the efficiency of the digital publishing process and would be useful for the training programs of the infrastructure which help new publishers to set up their press.

ORGANIZATION

Status, Funding, Budget

Although these activities are strictly speaking outside the perimeter of technical mapping, organizational characteristics have technical implications: IT autonomy and size, ability to change of scale, HR availability, etc. Essentially, one dominant organizational model emerges from the survey: public status with institutional funding.

However, there are a few exceptions:

– OAPEN: a not-for-profit foundation with public institutional funding;

– OLH: a charitable company whose funding comes from library subscriptions;

– OpenEdition: a public organization which receives institutional funding and freemium sales revenue;

– OBP: a CIC (specific UK status allowing profits for public good) funded by grants, membership and sales;

– UP: Private Limited company (APC/BPC and fees for books and journals financing)

The information on budgets was rather poor and this will be collected in full on another occasion as it was somewhat peripheral to the technical investigation.

PROSPECTS

A last set of questions tried to identify the interest of the partners in each other's features and tools or outside the OPERAS Consortium. It was probably a bit too soon to ask the participants which technical interactions were possible for them with or within the OPERAS Consortium; this report might help to identify possible collaborations.

Among the few suggested collaborations, however, we can note the interest for the HIRMEOS implementations: identification, annotation, entity recognition (OBP, SHARE, UniTo). A partner would be interested in changing its method of publication by using OJS (OBP), which is already used by other partners. As another potential development for the entire OPERAS Consortium, some participants would like enrich their system with data mining or text analysis (SHARE, UGOE).

Read the full Report: http://operas.hypotheses.org/files/2017/08/OPERAS-Technical-Mapping.pdf

USAGE SURVEY

CONTEXT

The online survey was a deliverable of WP3 'Technical and services requirements' and more precisely of task 3.3, 'User-driven design for future services', the objective of which was to identify current practices and services OPERAS will have to develop and implement for the future. The purpose of the survey was to identify current practices and services that should be developed or invented. It will serve as a basis for defining the future infrastructure of OPERAS.

METHODS

The survey was addressed to five different audiences, all stakeholders in various capacities in open access: publishers, researchers, libraries, funders and the general public. It collected information and suggestions mainly about common standards, good practices, new features, new integrated services, and multilingualism. The survey was disseminated through the OPERAS networks of partners and lasted for about one month. The surveys did contain closed and open questions, in order to collect both quantitative and qualitative answers. Participation was about a hundred on average, with the highest response of 164 for the researchers' survey.

MAIN FINDINGS

The usage survey achieved during the first phase of the OPERAS-D project has already allowed the OPERAS Consortium to validate many of the assumptions that were made during the preparation of the infrastructure project regarding the future services that would have to be deployed:

- The need for rich and multilingual metadata, SSP tools and an open access business model market place is recognised by most of the answers coming from researchers, libraries, publishers.
- The utility of the services developed by HIRMEOS (PIDs, rich indexes, annotation, alternative metrics) is also acknowledged.
- The importance of open access in researchers' publishing strategies is obvious today, but a lack of information and transparency is also to be noted. This reveals the need for dedicated and integrated actions on this question and OPERAS infrastructure has to be highly effective in this regard.
- The need for the three platforms OPERAS wants to deploy appears clearly from the survey with very useful details coming from open answers.

Some limitations however exist: representation between the different ERA countries is not well balanced. More answers are needed, particularly from libraries. The questionnaire and the dissemination strategy have to be completely reworked for socio-economic actors and funders. The survey will continue to be refined and complemented by specific action during the year to come, and probably further into the future. This survey needs to be understood as the first step of a continuous process enabling the OPERAS infrastructure to collect feedback from its user community about the relevance of the services it offers.

Read the full Report: http://operas.hypotheses.org/files/2017/08/OPERAS-Usage-Surveys-May-June-2017.pdf

OPERAS BUSINESS AND GOVERNANCE MODEL AND LONG-TERM STRATEGY

INTRODUCTION

OPERAS aims to establish a distributed Research Infrastructure for open access (OA) publishing in the social sciences and humanities (SSH) across Europe. This plan presents the business and Governance model for OPERAS. It is part of the OPERAS Design Study, and presents the outcome of ongoing work to develop an overall business plan for OPERAS. It is developed within the framework of the OPERAS application for the ESFRI Roadmap 2018[25], and builds on other work which was carried out as part of the Design Study, within the dedicated Horizon 2020 INFRASUPP-03-2016 project OPERAS-D: a Landscape Study, a Technical Mapping, a Services Survey, and a study of the ESFRI landscape.

The framework for OPERAS, its concept, vision, business case, and basic organisation, were already in place when this business and Governance model was developed. The core ideas for OPERAS as a distributed infrastructure within the ESFRI framework were developed ahead of the ESFRI Roadmap 2016. The application process for the ESFRI Roadmap 2016 was used as a test-run before the launch of the OPERAS project. OPERAS was presented at the OASPA conference in 2015 in Amsterdam. It was further developed in preparation of two Horizon 2020 projects: the aforementioned OPERAS-D project, and HIRMEOS, a Shared Services project for OPERAS partner platforms dedicated to monographs, which serves as proof of concept for part of OPERAS' development in the Design and Preparation Phases.

The business and Governance model consists of three main elements: a plan for the sustained provision (developing, operating and sharing) of services; a Governance model to ensure the needs of the community are served, that it is supported by its members, that it is responsive to changing needs and demands; and the legal framework, to establish OPERAS as a legal entity.

This plan was presented to and approved by the Core Group and the OPERAS partners within the OPERAS-D project, during the OPERAS-D Validation workshop held in Amsterdam, on 26 and 27 June 2017.

OPERAS FRAMEWORK

LANDSCAPE

OPERAS tackles the challenge of renewing scholarly communication practices in the humanities and social sciences (SSH) in the digital age and in the context of Open Science (OS). The landscape in this domain reveals an important array of initiatives (presses, library projects, platforms, service providers, researchers networks), innovative and with disruptive potential for some of them, but mostly small-size, localized, addressing small communities' needs, fragmented, not very collaborative and communicating poorly with their peers. The players populating the scholarly communication landscape, particularly in Europe and particularly in SSH are therefore very fragile, and lack resources (in terms of skills, know-how and funding) to efficiently manage the digital turn and their integration in the European Open Science Cloud.

[25] ESFRI: European Strategy Forum on Research Infrastructures, see http://www.esfri.eu/roadmap-2018

The current publishing system in the social sciences and humanities is still late in exploiting the full potential of the open web. The landscape, as mentioned above, is dotted with myriads of small enterprises, some of them being adaptive to the new web environment, some of them still devoted to the paper format and suspicious about online diffusion, a feeling often shared with many researchers in these domains. It's also to be considered that, in such a fragmented environment, the quality of the editorial workflow and the tools to provide quality assurance can range from innovative online features to no features at all, a situation that also negatively affects the research evaluation systems.

When looking for scientific information, researchers still have to perform multiple, time-consuming queries on each of the single, small platforms of their reference publishers or on each library catalogue or institutional repository. In some cases , we are talking about closed-access platforms, giving access to very narrow disciplinary works. When submitted to national or local research assessment exercises, researchers struggle to demonstrate the value of their research outputs, of the serious editorial workflow behind their work, and of the real impact of their books.

In such a picture, it's difficult to think in terms of interdisciplinarity, internationalisation, or, even of the visibility of research which, in most of the cases, is funded by public money.

There is a number of initiatives dedicated to SSH scholarly communication in Europe that follows the guidelines of Open Science (such as OAPEN, OpenEdition, Ubiquity Press, Share Press, Perspectivia, UC Digitalis among others). They need to synergize at the level of the continent and improve their sustainability in terms of structural funding. They need to reach a critical mass together to be able to change the global landscape and drive other smaller and less advanced players onto the path to Open Science.

VISION

The challenges facing scholarly communication in the SSH have been well documented in various studies and academic conferences in recent years[26]. It has generally been accepted that SSH disciplines require specific approaches to address the needs of all stakeholders and make the transition to digital practices and Open Science. In SSH, research and authorship are deeply connected and research and publication are linked through the editing process. Therefore, the lack of a specific model for humanities and social sciences based on open scholarly communication prevents a large part of the scientific community to integrate with the Open Science framework due to inadequate modelling.

There is currently no European infrastructure designed to support open scholarly communication in the humanities and social sciences. There are, however, a number of projects of various sizes whose organisational, technical, and financial sustainability is not guaranteed. This infrastructure project responds to this need for coordination at a European level. ERA needs to have all players of the field committed in a structural initiative to drive them onto a converging path. Other types of organization are too weak and give too little incentive to prevent the different players from diverging, experimenting in their own way without coordinating, and reinventing the wheel several times: this is the situation we are facing now. Professional associations (OASPA), networks (Going for Gold) and national infrastructures providing OA publishing services (OpenEdition, OAPEN, Hrcak, EKT, UC Digitalis) already exist but alone they are unable to restructure the landscape in the long term at European level.

[26] See our bibliography: http://operas-eu.org/bibliography-links

The different partners already work together on bilateral basis on specific projects[27]. If OPERAS was only a cooperation network it would be unable to move to a wider and more global level of integration. The objective is to set up an operational framework for cooperation that drives players to global cooperation. Given the very fragmented landscape of academic publishing in Europe, especially concerning SSH, the sector obviously needs a major initiative that engages the players more effectively than a loose network and more permanently than a project. It has to provide concrete benefits of cooperation with all the infrastructure services such as those described in the OPERAS project . Moreover, while cooperation networks and projects can provide benefits to participating partners, they are unable to change the landscape of a sector. What is needed is a common set of technologies, standards, services and models shared by a large number of players (several thousands of publishers, researchers, libraries, aggregators), across ERA countries in order to defragment the sector and build a common space allowing the development of open scholarly communication in SSH.

In most cases, players in the field tend to focus on their immediate environment. There is a lack of collaboration between north and south Europe and western and central Europe that can be reduced only through the building of a common infrastructure across ERA.

As a distributed Research Infrastructure, OPERAS aims at opening the many locks that prevent the sector from upgrading their practices and integrating into the Open Science paradigm. OPERAS will provide a pan-European platform dedicated to open scholarly communication including publications. OPERAS will enable important actors from across Europe to work closer together in a joint vision that will strengthen their investment and work in the future. At the same time, it is envisioned that this Research Infrastructure (RI) will attract a significant pool of European researchers who will benefit from its services and collaborate in future innovative research and communication initiatives.

GOAL, OUTCOME, MISSION

Main goal: To coordinate and pool university-led scholarly communication activities in Europe, particularly in the social sciences and humanities (SSH), in view of enabling Open Science as the standard practice

Outcome: A more efficient, fair, inclusive and sustainable scholarly communication ecosystem for European researchers

Mission: OPERAS aims to provide a pan-European infrastructure for open scholarly communication

STRATEGY

The SSH scholarly communication is particularly fragile. Scattered among multiple small-scale actors and far from user friendly, its academic and editorial output varies in quality and is poorly funded, inaccessible and poorly referenced. This is exactly the contribution that this infrastructure project can offer, not by supplanting actors but by reinforcing their presence, initially by providing coordination and a distributed service infrastructure.

OPERAS will coordinate services, practices and technology across main actors in the SSH scholarly communications in Europe to provide joint services; to align activities of strategic actors and stakeholders (research institutions, libraries, platforms, publishers, funders) in their transition to Open

[27] See HIRMEOS project to have examples: www.hirmeos.eu

Science, and in particular scholarly communication; to develop common good practice standards for digital open access publishing, infrastructures, services, editorial qualities, business models and funding streams, explore alternative measurements of impact in the SSH; offer sustained training along common standards to researchers and other stakeholders on all of the above.

The OPERAS organization and operation follows the principle of subsidiarity adopted by European Union: it means that each partner provides publication and communication services to their own scientific community, but collaborate and share their technologies, know-how, practices and efforts to:

1) Align their activities to increase the quality of services
2) Integrate into the European Open Science Cloud (EOSC) in particular to achieve interoperability
3) Provide integrated services at European level when there is a clear and defined added value

1. Regarding the first level (Shared Services), OPERAS partners provide services all along the research life cycle and provide altogether a federated open scholarly communication platform: The added value of OPERAS is to provide support to the partners regarding their current activities: information, training, adoption of best practices, sharing of tools and research and development, and improve their specialization and complementarity in terms of services and business models. The outcome of the proposed pooling of resources and coordination will be a much more efficient, fair, inclusive and sustainable scholarly communication ecosystem for European researchers, as well as an innovative one.
2. Regarding the second level (EOSC Integration), OPERAS drives the partners to adopt common standards (PIDs, metadata, content structuration and communication protocols) and to upgrade their technical infrastructure to be able to interconnect with other parts on the EOSC. At European level, OPERAS increases connectivity and achieve collaboration with infrastructures at a lower level (GEANT) and with complementary infrastructures (DARIAH, CLARIN, CESSDA, OpenAIRE). The outcome will be a better integration of SSH disciplines in the common effort towards Open Science and will make the resources available for the development of innovative services.
3. Regarding the third level (OPERAS platforms), OPERAS develops integrated services at European level for certification, discovery and citizen science that cannot be local only. The three services will build on existing infrastructures that have proved their value and soundness, but currently lack resources to scale up:
   - The Certification platform will be based on the Directory of Open Access Books (DOAB) developed by OAPEN Foundation in collaboration with DOAJ: it will provide particularly to funders and research libraries an international list of SSH open access publications that meet minimal quality criteria regarding peer-reviewing, licensing and information.
   - The Discovery platform will be based on Isidore developed by Huma-Num. It will allow all European researchers in SSH to discover open access resources (data, publications and other materials) relevant to their research. The service added value consists of its ability to describe resources alongside disciplinary ontologies and to align them across several languages. The discovery service will then develop across Europe and enable researchers to find relevant publications and data in multiple languages.
   - The Research for Society platform will be based on Hypotheses, currently the largest academic platform in the world with more than 2000 blogs. The service will develop social networking

functionalities around Hypotheses to facilitate collaboration between researchers and socio-economic actors on research projects. The Research for society service offers a disruptive model for citizen science that complements impact with engagement. This service will be multidisciplinary and will convey STM disciplines as well as SSH to address societal challenges identified by the European Union.

BUSINESS MODEL

The main objective of OPERAS is to build and maintain a sustainable infrastructure of partners and services, all tackling open access publishing in the humanities and social sciences. OPERAS as a consortium will put special effort in setting up standards for the involved e-infrastructures. As publishing is usually deeply rooted within disciplinary and national cultures, it will be important to have a de-centralized e-infrastructure that is nevertheless bound together by common standards, mutually trusted networks and a high level of common understanding. Standards to be implemented in the networked infrastructure will cover data modeling (metadata schemes, enabling for linked open data, protocols, etc.), interoperability (metadata, content, interfaces etc.), service level agreements, expected performance rates, concepts of long-term archiving, storage policies, security and access rights. OPERAS is implementing a working group consisting of partner's delegates and external experts (members of advisory board or stakeholder board) to agree on common standards, monitor standards and consult partners and stakeholders who, especially at the beginning, are having difficulties in meeting those standards.

The central e-infrastructure services (Certification Platform, Discovery platform, Research for Society platform) will be provided by the partners, supported by their institutions. They will be developed through specific projects (HIRMEOS, INFRAEOSC, SWAFS and INFRADEV). The three integrated services provided by OPERAS will contribute to the EOSC ensuring effective integration of SSH publications and other documents.

1. OPERAS Certification platform will provide information about the quality of data (peer-reviewing and FAIR principles).
2. OPERAS Discovery platform, which is to be developed during the Preparation Phase, will connect publications, data, researchers and projects to increase their discoverability, impact and re-use in the research community.
3. OPERAS Research for Society platform will contribute to the citizen science aim of the EOSC providing an effective framework for collaboration between researchers and socio-economic actors.

OPERAS STAKEHOLDERS

Geographical: all ERA countries

Disciplinary: SSH and multidisciplinary

Types of stakeholders: academic institutions (scholarly communication services), publishers, publishing platforms, service providers, research libraries, library consortia, researchers, socio-economic actors.

KEY OPERATING CHARACTERISTICS

The business model reflects the key operating characteristics[28]:

- Audiences: the audiences or client segments that derive value from the service.
- Value proposition: the value that the service delivers for which a specific client segment is willing to pay (financial or in-kind).
- Core activities and resources to produce the service and support the funding model.
- Resource streams: the mechanisms by which the service generates income.

Audiences

The audiences for OPERAS can be divided into participating entities and target audiences:

Participating entities are OPERAS partners and supporting countries (through ESFRI). OPERAS partners consist of the Core Group members (including coordinating partner) and other partners.

Target audiences are OPERAS stakeholders (these can also be partners) and the research community:

- Academic institutions (scholarly communication services), research libraries
- Publishers
- Infrastructure services (platforms, service providers, consortia)
- Research community
- Socio-economic actors

Value proposition

The value proposition for each of the audiences differs:

- Partners: by collaborating within the OPERAS framework, partners are able to improve their performance in various ways. Benefits include: Extending reach and capacity; Developing new services for target groups; Building market position; Improving mission impact; Developing competitive advantage. These benefits are more pronounced for partners in relation to their level of involvement.
- Coordinating country: the coordinating country has a specific advantage in the aim to achieve a transition to Open Science in SSH, by providing the hosting role. Leading the transition to OS in SSH; Building position in EOSC; Creating scale.
- Supporting countries: supporting countries support the transition to OS in SSH and strengthen the position of national partners through OPERAS.
- Academic institutions: for academic institutions, OPERAS provides a pan-European platform for the transition to OS, providing central and distributed OS services for researchers.
- Infrastructure services: for infrastructure services that are not an OPERAS partner, OPERAS provides a framework to support OS, through awareness, standards, training, etc.
- Publishers: for publishers that are not an OPERAS partner, OPERAS supports the transition to OS and provides new services through its partner platforms.

[28] see Raym Crow – The collective provision of OA resources: http://www.academia.edu/17342423/The_Collective_Provision_of_Open_Access_Resources

– Research community: for SSH researchers, OPERAS provides a dedicated and comprehensive platform for open scholarly communication.
– Socio-economic actors: this is a very diverse audience, but socio-economic actors benefit from OPERAS by gaining increased access to research outputs and in particular from the Research for Society service, which provides a platform for exchange and collaboration with the research community.

Resource streams

Each of the audiences contributes resources to OPERAS in certain ways:

– Partners: the lead partner provides coordination of the development and eventual RI, and provides most of the in-kind support; Core Group partners support the coordination, support ESFRI process and provide in-kind support; the other partners also provide in-kind support.
– Coordinating country: the coordinating country provides hosting and helps fund the development and operation of the RI.
– Supporting countries: provide funding for the operation of the RI.
– Academic institutions: provide access to research community, contribute through premium services.
– Infrastructure services: extend distributed infrastructure, contribute through premium services.
– Publishers: provide publications, contribute through premium services.
– Research community: for the research community, all services are open and free to use. But researchers do contribute value to OPERAS through their usage of the services provided. One could argue that the researchers are the primary target audience and create the central value to OPERAS.
– Socio-economic actors: provide value through exchange and collaboration within the Research for Society service.

Table 1: OPERAS key operating characteristics

Audiences		Value proposition	Contribution	Funding streams
Partners – lead	OpenEdition	– Extending reach and capacity – Developing new services for target groups – Building market position – Improving mission impact – Developing competitive advantage	– Coordination – 2 FTE in-kind support	
Partners – core	Core Group/ representing countries/MoU		– Support – 0,2 FTE in-kind support	
Partners – other	LoS		0,1 FTE in-kind support	

(continued)

Audiences		Value proposition	Contribution	Funding streams
Coordinating country	France	– Leading transition to OS in SSH – Building position in EOSC – Creating scale	Host	Funding
Supporting countries-	Countries with EoS	Supporting transition to OS in SSH	Support	Funding
Researchers	All – SSH	Dedicated OS platform for SSH	– Usage – Attention	
Publishers	All – SSH	Providing new services	Publications	Contribution through premium services
Academic institutions	Europe	– Platform for transition to OS – OS Services for researchers	Access to researchers	Contribution through premium services
Infrastructure services	Europe	Framework supporting OS	Extending distributed infrastructure	Contribution through premium services
Socio-economic actors	Europe	Research for society service	– Usage – Attention	
Funders	Europe	– Vehicle for transition to OS – OS Services for researchers	Access to researchers	Contribution through premium services
EU	Europe	Contributing to EOSC	Support	Project funding

BUSINESS COSTS

OPERAS is an initiative gathering a large number of scholarly-led partners across Europe, most of them supported by public universities, particularly research libraries, with a few exceptions. As mentioned in the scientific case, most of them can sustain their own activity but lack resources to upgrade their technical infrastructure and/or develop new innovative services, or to scale them up to the European level. OPERAS will not directly fund partners activity, which should remain supported by the regional or national communities they serve based on their own cost-benefit analysis. The infrastructure will support them indirectly by helping them improve the quality of service they offer through R&D and coordination projects.

On the other hand, OPERAS infrastructure has to fund its own construction up to its incorporation as an ERIC and then support its own operational costs for coordination. It is planned that OPERAS operational costs after Preparation and Construction Phases will remain extremely low. The business case for each of the three integrated services is that they will be independent and self-sustaining.

Therefore OPERAS costs can be divided into four parts:

1. Operational costs of the partners
2. Projects development cost and Infrastructure construction costs
3. Infrastructure operational costs
4. Integrated services operational costs

1. OPERAS partners operational costs

Each partner will remain independent regarding the funding of its activities. A large majority of OPERAS partners provide public infrastructure services to their regional or national scientific community. Their activity is therefore funded structurally by the public institutions supporting them. A minority of them are SMEs or not-for-profit independent organisations. The following table summarizes the economic model of the Core Group members, largely reflecting the situation of the Consortium at large.

Table 2: Core Group partners and their business models

Name	Type	Institution/Organization	Business model
OpenEdition	Public	– CNRS – University of Aix-Marseille – University of Avignon – Ecole des Hautes Etudes en Sciences Sociales	Structural funding, freemium revenues, projects public funding
OAPEN	Not-for-Profit foundation	– University of Amsterdam – University of Leiden – University of Utrecht – Netherlands Academy of Science – National Library of the Netherlands – Amsterdam University Press	– Revenues from services – Projects funding – https://www.OAPEN.org/content/about-annual-report-2015
Max Weber Stiftung	Public foundation	Federal Ministry of Education and Research	– Public funding – Projects public funding
EKT	Public foundation	National Hellenic Research Foundation	– Public funding – Projects public funding
UCL Press	Public	University College London (Library)	– Public funding and commercial revenues
IBL PAN	Public	Polish Academy of Science	– Public funding – Projects public funding
UC Digitalis	Public	Coimbra University	– Public funding – Projects public funding
Unito Sirio	Public	University of Torino	– Public funding – Projects public funding

2. Infrastructure development

The infrastructure development is planned to be funded through projects (INFRAEOSC and INFRADEV calls) and Coordinator funding coming from the French national investment plan (2019–2026)[29], and structural funding. It is expected that FP8 (H2020) and FP9 EC funding will cover collaborative and R&D projects as well as the development of the integrated services. Coordinator funding will cover the Central Hub costs in terms of personnel costs and physical hosting. As stated in the MoU, Core Group partners will support the development of the infrastructure in kind through 20% FTE each.

3. OPERAS infrastructure operational costs

After Preparation and Construction Phases, the operational costs will be divided between coordination costs supported by the Member States contributing to the ERIC, Coordinator specific funding (for physical hosting) and the project funding supported by future EC calls within FP9.

[29] http://www.gouvernement.fr/pia3-5236

4. OPERAS integrated services operational costs

The operation of the three Central Platforms for integrated services will be supported by mixed funding composed of public funding coming from operators, sponsoring and commercialization of premium services (freemium model):

The Certification platform (DOAB) will be supported by OpenEdition (CNRS and Aix-Marseille University) and OAPEN as a joint venture through an independent, non-profit foundation. The operational costs of DOAB will be supported by shareholders contributions, sponsoring and income from premium services.

The Discovery platform (Isidore) will be supported by public funding through Huma-Num infrastructure.

The Research for Society platform (Hypotheses) will be supported by public funding through OpenEdition infrastructure with additional revenues coming from premium services.

More details can be found in the investment plan below. The overall principle that governs the OPERAS business case is similar to its structuration: modularity. Its sustainability is ensured by the conjunction of different streams of funding and a diversity of models used (local funding, structural funding, project funding, commercial revenues)

Financial target

The financial target for OPERAS is 'cash-flow self-sufficiency'[30], by which we mean that external income covers all incremental operating expenses, but without covering fully loaded overhead costs and without recovering development investment.

'Cash-flow self-sufficiency' requires subsidy from the host institution:

– Host institution provides in-kind overhead subsidy.
– Initial development capital either grant- funded or subsidized.
– Future capital investment subsidized by host institution or external funding.

Overall funding

The overall figures are as follows:

DESIGN:	€2.4 M (real)
PREPARATION:	€8.6 M (estimated)
CONSTRUCTION:	€9.2 M (estimated)
AVERAGE ANNUAL OPERATING COSTS:	€1.6 M (estimated)

Cost details per phase

In this section, we present the cost details per phase. Personnel costs are estimated on average at 50K a year. All evaluations are in Euro.

[30] see Raym Crow – The collective provision of OA resources (p 19)

Costs for the Design Phase (2015–2017): 2.4 M

- Central Hub: 1 coordinator, 1 project manager: 300K
- National nodes (Core Group) participation (since 2015): 20% FTE per partner (5 partners): 100K
- Other partners participation (since 2015) (20 partners): 10% FTE par partner: 200K
- Central Platforms (Certification service): OAPEN investment and HIRMEOS: 400K
- EOSC Integration: HIRMEOS (Books integration): 220K
- Shared Services development: HIRMEOS (PIDs and Entities recognition): 270K and FairOA: 530K
- Design Study: OPERAS-D: 400K

Costs for the Preparation Phase (2018–2022): 8.6 M

- Central Hub: 1 coordinator, 1 project manager, 1 technical officer, 3 project officers (from 2020), 1 communication officer (from 2020), 1 administrative officer (from 2020): 1.1 M
- National nodes (Core Group) participation: 20% FTE per partner (7 partners): 280K
- Other partners participation: 10% FTE per partner (25 partners average): 500K
- Central Platforms: Certification: 270K; Discovery service: 1.1M; Research for Society prototype: 700K
- EOSC Integration: HIRMEOS (annotation and metrics): 1M; SSH Output integration: 1.5M
- Shared Services: (Tools/R&D, best practices, business models): 2.2M
- Preparing legal entity: 20K

Costs for the Construction Phase (2022–2026): 9.2 M

- Central Hub: 8 staff members (see preparation): 1.6 M
- National nodes (Core Group) participation: 20% FTE per partner (10 partners): 400K
- Other partners participation: 10% FTE per partner (30 partners average): 600K
- Central Platforms: Certification service: 360K; Discovery service: 1.6M; Research for society service: 1M
- Shared Services: (Tools/R&D, best practices, business models): 1.7M
- ERIC incorporation: 120K

Annual operating costs: 1.6 M/year

- Central Hub: 8 staff members (see above): 400k/year
- Travel costs: 50K/year
- National nodes participation: 100K/year
- Other partners participation: (more than 30 partners) 200K/year
- Central Platforms operation: 330K/year
- Shared Services operation: Integration & innovation projects: 500K/year

OPERAS budget

In this section we present the rationale and structure of the OPERAS budget. The OPERAS development is divided into four main elements:

- Core infrastructure: all the support functions dedicated to the management of the infrastructure;
- Shared Services: the services that help the partners to improve and upgrade their own activities;

– EOSC integration: the developments needed to integrate OPERAS partners' content into the EOSC;
– Central Platforms: the three pan-European platforms that OPERAS will provide.

Core infrastructure

Design Study: achieved in Design Phase (D). Costs were covered by OPERAS-D project.

Consortium building: costs are partners' time to participate in the Consortium groups: unstructured (D), in Working Groups and projects preparation in Preparation Phase (P), in Special Interest Groups in Construction Phase (C). Costs are calculated through in-kind contribution model (0.1FTE per partner).

Governance and Legal Framework: constitution of the Core Group (D) (calculated by in-kind contributions from members, 0.2FTE per partner), continuing in (P) and (C). Legal consulting costs will be added in (P) for the preparation of the AISBL and in (C) for the preparation of the ERIC.

Management and logistical work: Personnel costs in all phases (2FTE in (D), 8 in (P) and (C). Siting costs are not declared as they are part of OpenEdition offices.

Shared Services

Tools Research and Development: the establishment of the proof of concept was achieved through HIRMEOS project (D). The development of a toolbox (P) and the supporting documentation and training (C) will mainly generate salary costs, as well as marginal printing, distribution and travel costs.

Best Practice: consulting will be required in (P) to establish the guidelines and a fund will be constituted to be attributed through annual tender calls to partners in (P) and (C) who present projects to reconfigure their workflow in order to implement the guidelines.

Business models: the modules (journals flipping, library based BM, market place) have done design studies and experimentations during (D) but the costs are only partially available. Journal flipping development in (P) and (C) is phased by discipline. Costs are mainly to cover APCs during transition phases and support management and marketing activities (salaries). The development of the market place and the library-based business model in (P) will generate IT development, management and marketing costs in salaries and subcontracting. The development of the three modules will be supported during a transition period during (P) and/or (C) depending on the case, but will be sustainable afterwards (no operating cost for OPERAS).

EOSC integration

Books integration: costs are supported by HIRMEOS project that started during (D) and will continue during (P) (IT developments).

SSH output integration: will be done first through the constitution of a standards list (P) (consulting costs) and implementation on partners' platforms in (C) (IT development); then by the integration of the Discovery platform into EOSC (P) (IT development). A specific action on multilingualism will develop in two parts: first through alignment of ontologies on the Discovery platform during (P), then through a fund distributed to partners to support metadata translation through annual tender calls (C).

Central platforms

Certification platform: development costs in (D) and (P) covered by HIRMEOS project. Operating costs (P) and (C) in subcontracting for hosting, salaries for management.

Discovery platform: mainly salaries (P) for the development of the platform in IT, management, Information Science, communication.

Research for Society platform: rough estimations in (P) and (C).

Annual operating costs

Core Infrastructure: eight persons full time salaries and travel costs.

Platforms: hosting costs and platform management in salaries.

Shared Services: ongoing integration and innovation projects.

The table below presents the overall budget for OPERAS.

Table 3: OPERAS budget

	Design	Preparation	Construction	Operation
Total budget	**2015–2017**	**2018–2022**	**2022–2026**	**annual**
Core infrastructure	**€ 1,000,000**	**€ 1,900,000**	**€ 2,720,000**	**€ 750,000**
Central hub	€ 300,000	€ 1,100,000	€ 1,600,000	€ 400,000
National nodes	€ 100,000	€ 280,000	€ 400,000	€ 100,000
Partners	€ 200,000	€ 500,000	€ 600,000	€ 200,000
Design study	€ 400,000			
Legal development		€ 20,000	€ 120,000	
Travel				€ 50,000
Hosting	in kind OE	in kind OE	in kind OE	in kind OE
Shared services	**€ 800,000**	**€ 2,222,000**	**€ 1,770,000**	**€ 500,000**
Tools/R&D	€ 270,000	€ 505,000	€ 600,000	
Best practises		€ 200,000	€ 200,000	
Business models	€ 530,000	€ 1,517,000	€ 970,000	
Integration & innovation				€ 500,000
EOSC Integration	**€ 220,000**	**€ 2,450,000**	**€ 1,800,000**	
Books integration	€ 220,000	€ 1,000,000		
SSH output integration		€ 1,450,000	€ 1,800,000	
Central Platforms	**€ 400,000**	**€ 2,070,000**	**€ 2,940,000**	**€ 330,000**
Certification	€ 400,000	€ 270,000	€ 360,000	€ 90,000
Discovery		€ 1,100,000	€ 1,580,000	€ 120,000
Research for Society		€ 700,000	€ 1,000,000	€ 120,000
Total	**€ 2,420,000**	**€ 8,642,000**	**€ 9,230,000**	**€ 1,580,000**

Investment plan

As already outlined, the investment plan relies on different sources of funding:

– An important contribution from the Coordinator to operate the Central Hub (coordination staff) funded by 'Programmes Investissement d'Avenir' (PIA 2 and 3).

– Moderate contribution in-kind from partners depending on their level of commitment (Core Group or partners in Working Groups).

– FP8-9 funding to develop the infrastructure services and platforms.

The **Consortium development** activities (Working Groups, Projects Preparation Consortia, Special Interest Groups, Core Group) costs are covered through in-kind contributions from partners: 0.1FTE per partner, 0.2FTE per Core Group member. OPERAS-D project (started in 2017, 400,000 euros) provides additional support to these activities.

The **Central Hub** is funded by the Coordinator, OpenEdition. In the Design Phase (D), the PMT was composed of two personnel holding permanent positions. The growth of the PMT up to eight persons in the Preparation (P) and Construction (C) phases will be funded through the highly strategic French investment programme for the priority equipment 'Programme Investissements d'Avenir' stage 2 (PIA2 – 2012–2017: €7,000,000) and stage 3 (PIA3 – 2019–2029): €18,000,000.

The **Siting of the Hub** is ensured by OpenEdition in their premises at Aix-Marseille University (1000 sq. meters) from September 2017.

The **development of OPERAS activities** (Shared Services, EOSC Integration and Central Platforms) will be funded through H2020 and FP9 projects, namely:

– *HIRMEOS* project (started 2017, end in 2019) : €2,000,000 to support Shared Services and EOSC Integration activities;

– *SwafS-15-2018-2019*: Exploring and supporting citizen science (starting 2018, end in 2021): up to €2,000,000 to support the development of the Research for Society prototype;

– *INFRAEOSC-02-2019* (starting 2019, end in 2023): Prototyping new innovative services: €6,000,000 to support EOSC Integration and Discovery platform development;

– *INFRADEV-02-2019-2020*: Preparatory phase of new ESFRI projects (Starting 2019, end in 2023): €4,000,000 to support the development of Shared Services and the Certification platform in (P) and first year of (C)

– *Second INFRADEV* in FP9 (starting 2024, end in 2028): €4,000,000 to support all dimensions of the Infrastructure Construction: Central Hub, Shared Services, EOSC Integration, Central Platforms. The INFRADEV funding in (C) will prepare the creation of the ERIC and support its operation in the first two years (2026–2028)

Table 4: Overview of costs and funding sources

Phase	Timeline	Costs	Funding sources	Specific Funding
Design	2015–17	2.4 M	OpenEdition 0.3 M Core Group 0.1 M Partners 0.2 M EU project 1.3 M (Various 0.5 M)	PIA2 OPERAS-D (INFRASUPP) HIRMEOS (EINFRA)
Preparation	2018–22	8.6 M	Hosting country 1.1 M National nodes 0.3 M Participants 0.5 M EU projects 6.7 M	PIA3 HIRMEOS (EINFRA) INFRAEOSC-02-2019 INFRADEV-02-2019-2020 SWAFS-15-2018-2019
Construction	2022–26	9.2 M	Hosting country 1.6 M National nodes 0.4 M Partners 0.6 M EU project 6.7 M	PIA3 INFRADEV-2-2019-2020 INFRADEV2 Revenues from services
Operation	2026–	1.6 M (annual)	Hosting country 0.4 M National nodes 0.1 M Partners 0.2 M Members	ESFRI INFRADEV2 Revenues from services

WORK BREAKDOWN STRUCTURE

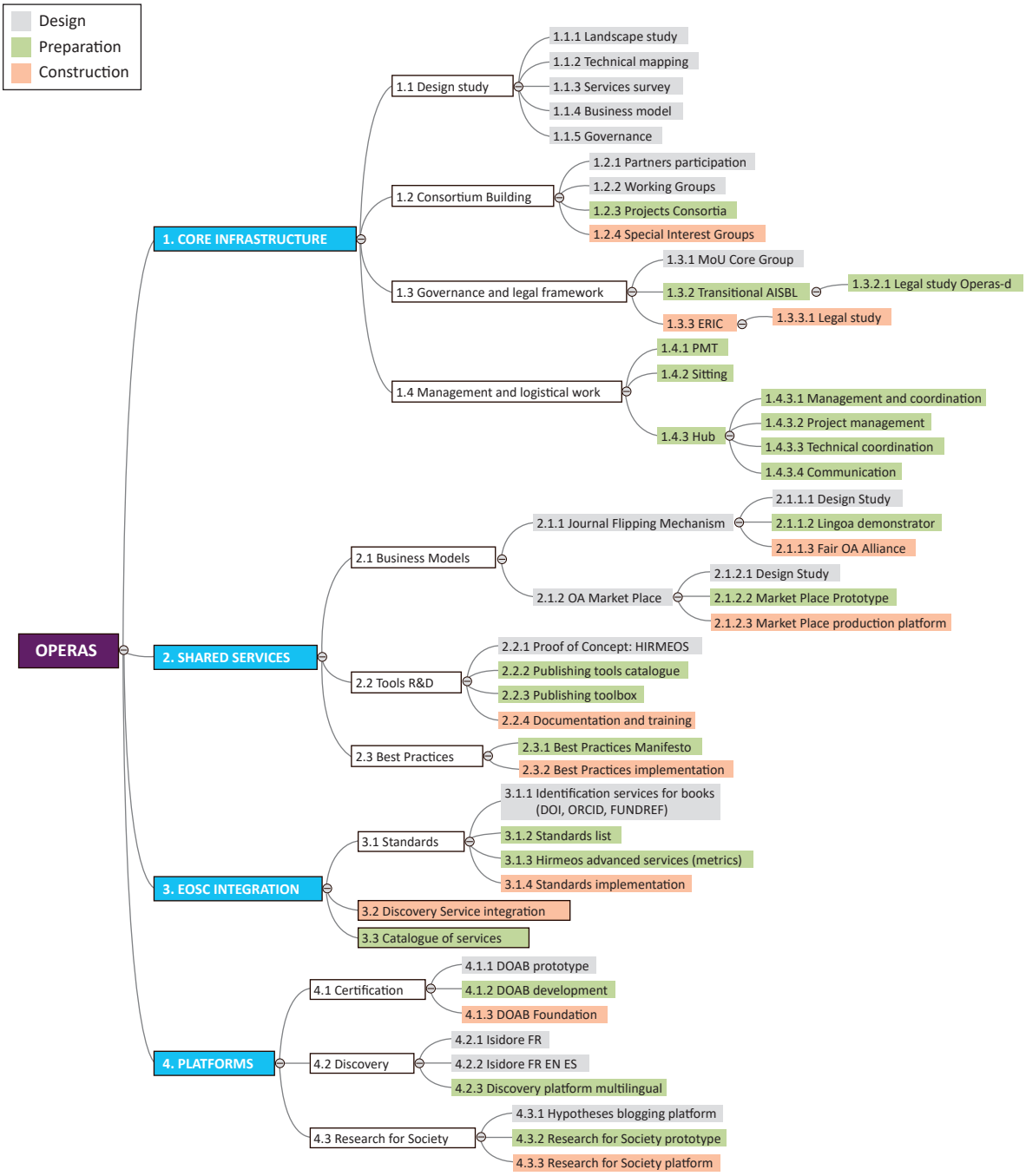
The table below presents the main project tracks (apart from the Core Infrastructure), in relation to ESFRI development and funding sources.

Table 5: OPERAS project tracks

Phase	Timeline	Shared Services	EOSC Integration	Central Platforms	ESFRI	Specific Funding
Design	2015–17	Bilateral projects; Working Groups; Proof of concept: HIRMEOS; Tools: Entities recognition	Books integration: PIDs (DOI, ORCID, Fundref)	Development of DOAB (2012), Isidore (2010), Hypotheses (2008); Certification service	Letters of support from institutions; Core Group MoU; Design Study; Countries EoS	HIRMEOS (EINFRA) OPERAS-D (INFRASUPP)
Preparation	2018–22	Toolbox; Best practices; Business models: Journal flipping model; Library based model; Services market place	Books integration: Open annotation and (Alt) Metrics. SSH output integration: Standards; Discovery; Multilingual systems	Discovery Service; Research for Society service: prototype	ESFRI Roadmap; Association; National nodes	PIA3 HIRMEOS (EINFRA) INFRAEOSC-02-2019 INFRADEV-02-2019-2020 SWAFS-15-2018-2019
Construction	2022–26	Toolbox; Best practices; Business models: Journal flipping model; Library based model; Services market place	SSH output integration: Standards; Discovery; Multilingual systems	Research for Society service	ERIC	PIA3 INFRADEV-2-2019-2020 INFRADEV2

The figure below presents the work breakdown structure. There are four main project tracks: Core infrastructure; Shared Services; EOSC Integration; Central Platforms. Each of these is subdivided into work packages and tasks. The tasks are colour coded to indicate the project phase within overall ESFRI development.

Figure 1: Work Breakdown Structure



MONITORING PROGRESS, KEY PERFORMANCE INDICATORS

Progress of development is monitored in annual reporting and work plans, and measured through Key Performance Indicators. The table below presents the main KPIs (excluding administrative, financial and project management KPIs).

Table 6: Project phases and Key Performance Indicators (to be completed)

Area	Activity	KPI	Metrics	Design	Preparation	Construction
Consortium	LoS	partners	number (no.)	23	30	40
	MoU	core group partners	no.	9	11	13
	EoS	supporting countries	no.	3	5	7
	National nodes	partners	no.	9	12	20
Cooperation	Associated partners	Global partners	no.	1	4	8
	Research infrastructures		no.	2	3	4
Central platforms	Certification	platforms	no.	5	8	15
		publishers	no.	100	150	200
		publications	no.	5000	10000	15000
	Discovery	unique visitors	GA			
		searches	GA			
		downloads/views	GA/COUNTER			
		impact	Altmetrics/ citations			
	Research for Society	research projects	no.		pilot	
		blogs	no.			
		media coverage	Docs			
		unique visitors	GA			
		impact	Altmetrics/ citations			
EOSC Integration	Pids	implementation/platforms	no.	4	8	15
	Enitities recognition	implementation/platforms	no.	4	8	15
	Annotation	implementation/ documents	no.			
	Metrics	implementation/platforms	no.	4	8	15
	Best practices	projects/implementations	no.		4	8
	Multiligualism	projects/implementations	no.		2	4
	Standards	implementations	no.			
Shared services	Tools	implementations	no.			
	Multiligualism	platforms	no.		8	15
Business models	Flipping journals OA	journals	no.		4	8
		library base	no.		100	350
	Marketplace	services	no.		10	20
		customers (library base)	no.		300	450

GOVERNANCE MODEL

The Governance model describes how OPERAS is run, to ensure that the needs of the community are served, that it is supported by its members, that it is responsive to changing needs and demands. OPERAS will develop a cooperative Governance model, which means that the main contributors own and control the service on a collective basis, and provide input into all aspects of service development, operating policies and strategic direction[31].

[31] see Raym Crow – The collective provision of OA resources (p.30)

ORGANISATION

At the start of the Preparation Phase, the infrastructure will be coordinated by the **Management Office** that undertakes the daily work.

It is composed of:

1 Coordinator (OpenEdition) who is responsible for the coordination between partners and committees and for project coordination. The Coordinator leads the management team:

1 Project Manager (OpenEdition): general management of the project, communication and management of specific tasks and assistant for administrative and financial tasks.

1 Chief Technical Officer (OpenEdition): coordination of technical Working Groups and the Core Group.

Communication is organised through the **Core Group** partners with support from OPERAS-D project until 2018: 1 FTE.

The **Core Group** is composed of representatives from formally committed partner institutions (the contributors to the service). The Core Group oversees tasks, takes major decisions and supports the Management office. In addition, the individual representatives are expected to secure support in their own countries. The Core Group may invite other partners to join the group, based on their specific contribution (to ongoing projects, overall infrastructure, geographical representation). The Core Group meets three times per year.

Steering Committee (to be constituted in the course of the Preparatory phase) is composed of representatives of the ministries of the Supporting countries. The Steering Committee meets once a year. It monitors the implementation and global coherence of the project. The Steering Committee approves annual budgets and work plans. The representative of the Coordinating country chairs the Committee.

Scientific Advisory Board (to be constituted in the course of the Preparatory phase): is responsible for independent scientific monitoring of the project. The Scientific Advisory Board will be nominated by the Core Group and appointed by the Steering Committee. The Scientific Advisory Board elects a chair, who will attend Core Group meetings. The Board reviews annual work plans ahead of the Steering Committee, and gives advice on scientific matters to the Core Group. The Coordinator attends meetings of the Board.

Ongoing activities within key areas of interest are organized through **Working Groups**, led by a representative of the Core Group and consisting of representatives of all OPERAS partners.

OPERAS partners take part in projects (Shared Services and EOSC Integration activities), provide services, and participate in Working Groups.

TRANSITION TO LEGAL ENTITY

During the Preparation Phase, OPERAS aims to set up as a legal entity. The aim is to prepare the ERIC as the final legal structure. The preferred interim legal entity is the AISBL, the international non-profit association under Belgian law. It is organised to mirror as far as possible the final ERIC.

With the establishment of the AISBL, the following changes occur:

The Steering Committee will transition into a **General Assembly (GA)**, consisting of National representatives of Supporting countries. The GA has the same role and responsibilities as the Steering

Committee. The Coordinating country chairs the GA. The Director also appoints the Coordinator after consultation of the GA.

The **Director** is appointed as legal representative of the AISBL and is in charge of the OPERAS project. The Director chairs the Executive Assembly and prepares the annual work plan and budget. The Director appoints a **Coordinator** after consultation of the Executive Assembly. The Coordinator manages daily operations, leads the management team and coordinates projects.

The Core Group becomes the **Executive Assembly (EA)**. The EA consists of representatives of **National nodes**, the Chair of the Scientific Advisory Board, and Coordinators of the Central Platforms. The EA takes major decisions and is responsible for annual work plans and budgets. The EA can propose changes to the bylaws of the AISBL, to be approved by the GA. The EA can appoint specific representatives: **National contact points** (for countries that do not support OPERAS); and **Institutional contact points** (who act as liaison with specific RIs). These representatives are invited to attend EA meetings as observers. The EA can also invite **International partners** (important partners from outside Europe) to attend EA meetings.

National nodes are the former Core Group members. They are appointed by their Supporting countries. National nodes coordinate the OPERAS partners within their countries.

Working Groups become **Special Interest Groups (SIG)**. SIGs are chaired by members of the EA or EA observers, appointed by the EA.

After the establishment of the AISBL, two other changes occur:

1. The EA establishes **Stakeholder Committees (SC)**. Stakeholder Committees are established to coordinate key stakeholder groups across Europe. They consist of OPERAS partners and invitees from the respective stakeholder groups. Planned SCs are: the Academic Committee, the Publisher Committee, the Library Committee, and the Intermediary Committee. SCs are chaired by EA members and appointed by the EA.
2. The AISBL will introduce a procedure for **Prospective member countries** to become OPERAS members. Prospective members apply for membership through their Ministry and the application is reviewed by the GA, after consultation of the EA. Prospective members are invited to appoint a representative in the GA as observer, and a National contact point as observer in the EA. Upon acceptance and signature, they are bound by the bylaws and provisions for OPERAS members.

DECISION STRUCTURE FOR IMPLEMENTATION

Decision for implementation will be reached at three levels:

The Executive Assembly: representing institutions committing funding and support to OPERAS infrastructure

Scientific Advisory Board: representing the user community across Europe (to be constituted during Preparation Phase)

General Assembly: representing countries of the Core Group institutions (to be constituted during the Preparation Phase)

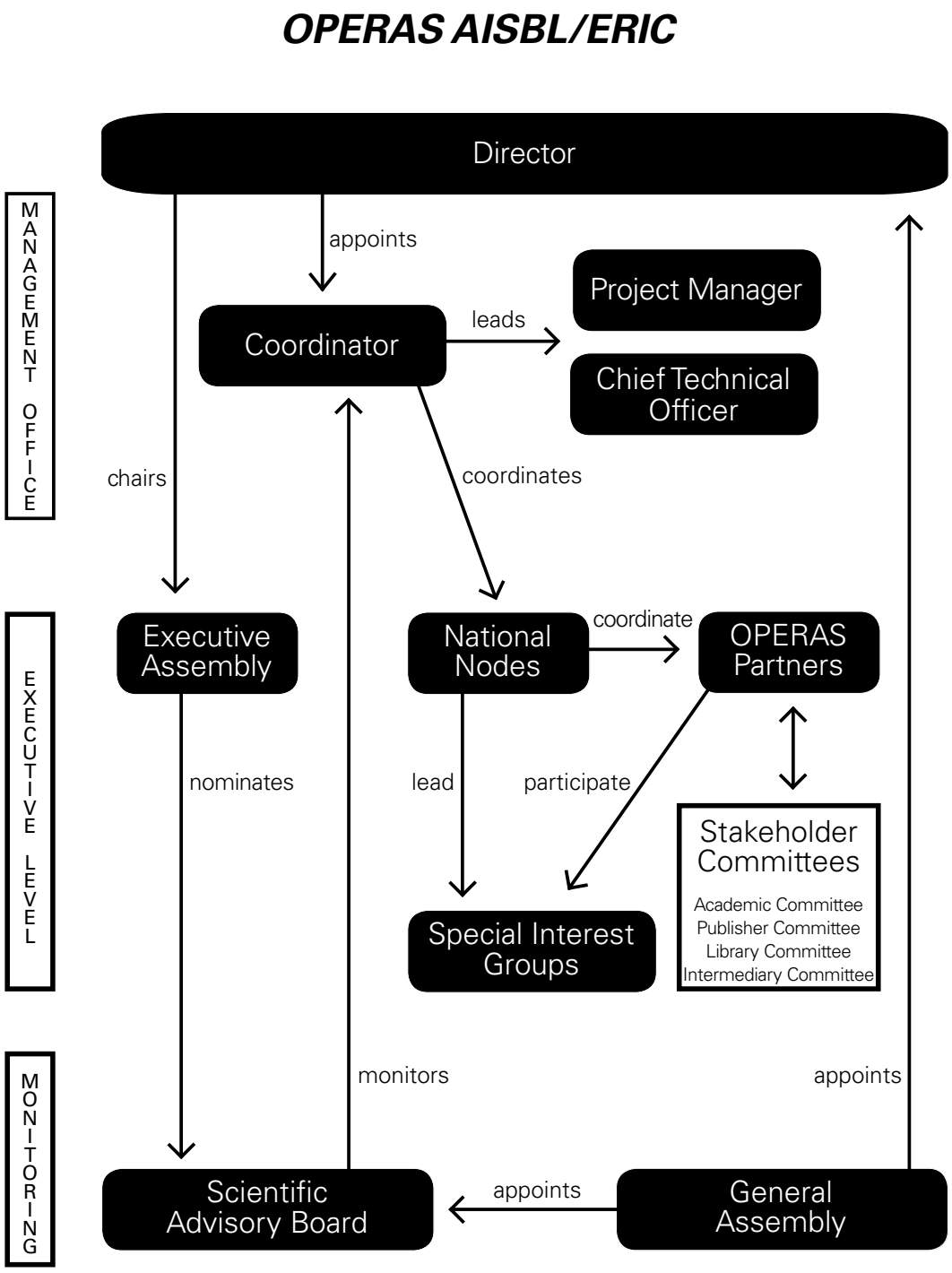
Currently, nine countries are represented in the Core Group. It is planned that nine to 12 countries will participate in the Executive Assembly and General Assembly at the end of Construction Phase.

Decision for implementation will be taken in 2024 by a concurring vote of the three Committees.

FUTURE GOVERNANCE MODEL

The final Governance model will to a large extent be a continuation of the Transitional model. However, the Governance will be established within an ERIC. The model will consist of a General Assembly (representatives from Member States); a management office (Director, Coordinator and management team); an Executive Assembly (Director, Coordinator, representatives of the National nodes, Chair of the Scientific Board, Coordinators of the Central Platforms); Stakeholder Committees; Special Interest Groups.

Figure 2: OPERAS AISBL-ERIC



The General Assembly appoints the Director (ERIC obligation) and approves annual work plans and budgets. Strategic decisions are made by the Executive Assembly, as outlined above. The EA is responsible for annual work plans and budgets. The Director chairs the Executive Assembly.

National nodes are member of the EA and can chair Special Interest Groups and/or Stakeholder Committees. They are appointed as chair by the EA. They represent OPERAS partners within their country and have a role in coordinating activities for OPERAS within their country.

Stakeholder Committees coordinate key partners across Europe. EA members will normally join the SC that represents their institution.

Special Interest Groups (SIG) are working groups for key subject areas that can have a temporary or more permanent status, depending on the subject. They are installed by the Executive Assembly and can submit resolutions or propose actions to the EA. SIGs are open to any interested party or individuals, and parties can propose a SIG or respond to a call from OPERAS on a specific subject.

The Scientific Advisory Board (SAB) is consulted by the Executive Assembly on strategic decisions and for evaluating specific projects. The SAB monitors OPERAS on scientific matters and can propose actions to the EA. The SAB is consulted about annual work plans and budgets ahead of the GA meeting.

OPERAS will work closely with funding agencies to provide services that meet their requirements, but it is expected that there will not be an SC for research funders.

In addition to the governance structure, OPERAS will set up a network of National contact points for communication and coordination purposes. National contact points will be invited to attend meetings of the EA as observer.

LEGAL STRUCTURE

The final structure will be an ERIC as the standard legal structure of ESFRI infrastructures and an effective instrument to ensure involvement of the Member States. The transition towards ERIC will be managed through an association combining legal structuration and flexibility and agility in terms of governance.

The final decision about the legal entity for the transition period is foreseen in 2018, as part of ongoing work within the OPERAS-D project, but the aim is to establish a Belgian international not-for-profit association (AISBL), as established by some other ESFRI projects.

Main characteristics of the AISBL:

- The location in Belgium considering the neutrality of this country towards the partners of the RI
- Constitute a suitable transitional legal structure on the way to ERIC
- No initial capital needed
- Flexibility when defining the Articles of Association
- Limited liability
- Full legal personality
- Tax exemption
- Fast creation/foundation process (about two months after submission to Belgian Ministry)
- International image and European character
- Flexible governance structure, reallocation of shares, non-profit status and benefits

- Personnel regulations that can be applied to all kinds of employees and allow for staff prerequisites
- Needs a statute in French language
- Head address must be in Belgium
- Not suitable for big investments
- Members may not receive monetary benefits from the association

In the last phase of OPERAS-D, legal council will be sought, to prepare the decision about establishing a legal entity, and to draft legal documentation to support the Preparation Phase. This will result in a final decision regarding the Transition phase. If the decision is to establish an AISBL, the legal documentation will include the bylaws, and include provisions for supporting countries and the application procedure to accept new countries that are to become OPERAS members. If the decision is against establishing a legal entity, the legal structure will be to create a Consortium Agreement. In either case, the objective is to establish the Governance structure for the Transition phase outlined above. The final legal framework is planned to be delivered in June 2018, as part of the OPERAS-D project.

Legal framework

In the table below, the legal framework is outlined, in the transition from the Preparation Phase to the establishment of the ERIC.

Table 7: OPERAS legal framework

Preparation 2018	Transition 2019–2020	Construction 2026	Role
LoS, MoU, EoS	AISBL	ERIC	
Steering Committee	General Assembly (GA)	General Assembly (GA)	Representatives of Supporting countries and Prospective countries (observer status) Chair GA is the Coordinating country (FR) Approves annual work plans and annual budgets Appoints Director (ERIC)
Coordinator	Director, Coordinator	Director, Coordinator	Director is Legal representative of AISBL/ERIC Director Chairs EA, Prepares annual work plans and budgets. Coordinator manages daily operations Leads MT, coordinates projects
Management team (MT)	Management team (MT)	Management team (MT)	Administrative, technical and legal operations Communication Project Management
Core Group (MoU)	Executive Assembly (EA)	Executive Assembly (EA)	Representatives of National nodes (and National contact points as observer) Chair of SAB, Coordinator of Central Platforms Annual work plans Annual budgets Major decisions
	Scientific Advisory Board (SAB)	Scientific Advisory Board (SAB)	Nominated by EA Appointed by GA Independent scientific monitoring Advise EA on scientific matters Advise on annual work plans

(continued)

Preparation 2018	Transition 2019–2020	Construction 2026	Role
Working Groups	Working Groups	Special Interest Groups	Ongoing activities within key areas of interest Chaired by EA members or observers, appointed by EA
	Stakeholder Committees (SC)	Stakeholder Committees (SC)	Coordinate key stakeholder groups Chaired by EA members or EA observers, appointed by EA
	National nodes	National nodes	Appointed by Supporting country Coordinate national partners Member of EA
	Coordinators of Central Platforms	Coordinators of Central Platforms	Member of EA
	National/institutional contact points/International partners	National/Institutional contact points/ International partners	Invited by EA to: Represent non-supporting country/ Liaise with other RIs Coordinate national partners Attend EA as observer
	Prospective member countries	Prospective member countries	Prospective countries preparing to become Supporting country. Attend GA as observer
Partners (LoS)	Partners (LoS)	OPERAS Members	Participant in SIGs Can join SC Can be invited to join projects Can take part in Shared Services and EOSC Integration activities

Read ESFRI Lansdcape Study Report: http://operas-eu.org/files/2017/08/OPERAS-ESFRI-Landscape-Study.pdf

EVALUATION OF THE COORDINATOR (OPENEDITION)

Evaluation of OpenEdition – An analysis of Strengths, Weaknesses, Opportunities, and Threats to Inform OpenEdition's future strategy. Report commissioned by: Aix-Marseille University, on behalf of the stakeholders in Cléo.

Report authors: Rob Johnson, Mattia Fosci, Andrea Chiarelli www.research-consulting.com

Contact: rob.johnson@research-consulting.com

Report dated: July 2017

INTRODUCTION

OpenEdition brings together four platforms dedicated to electronic resources in the humanities and social sciences, including OpenEdition books, with over 4,000 titles, and Revues.org, with almost 500 journals. In order to inform its future development and strategy, the University of Aix-Marseille commissioned an evaluation of OpenEdition on behalf of its four partners. The evaluation was undertaken by Research Consulting, a UK consultancy specialising in the management and dissemination of research, and provides an external perspective on OpenEdition's development over the next 5–10 years.

METHODOLOGY

The evaluation of OpenEdition was approached through four steps:

- Review of usage, performance, and operating model: We reviewed the relevant operational data and processes used at OpenEdition by meeting key staff members and other stakeholders. We also discussed the Lodel publishing platform.
- Review of the competitive landscape: We reviewed the relevant literature on the landscape where OpenEdition operates, considering both the French and the European open access policies. We also studied competitors and comparator services, which were then validated through a discussion with Cléo staff.
- Stakeholder consultation: We interviewed nineteen international stakeholders and then coded their comments to build a SWOT analysis to inform OpenEdition's future strategy.
- Feedback and reporting: We gathered our findings in the present report and then discussed with OpenEdition staff for validation. We then finalised our report based on all feedback received.

OPENEDITION'S POSITION IN THE OPEN ACCESS MARKET

- OpenEdition is a major player in the international open access (OA) landscape. Despite strong year-on-year growth, the OA book market is still less than 1% of all scholarly and professional e-book publishing: according to some estimates there were only around 10,000 titles in 2016, with humanities and social sciences (HSS) accounting for almost three quarters of all OA books published. Within this market, OpenEdition has cemented a leading position with a catalogue of over 4,100 e-books, most of which are open access. Competitor platforms in the HSS have much smaller catalogues, ranging from a few hundred to just over 2,000.

– Similarly, with 461 journals and over 100,000 articles, OpenEdition is almost unique as publicly-funded platform delivering a high volume of open access journal content within the social sciences and humanities. Large digital libraries in HSS, such as JSTOR, only publish a small proportion of their large catalogues in open access. By contrast, pure open access platforms typically have much smaller catalogues of HSS content, ranging from Hrcak's 200 titles to the Open Library of Humanities' 16 journal titles.
– Comparative data is more difficult to locate for Hypotheses and Calenda, but we are not aware of any other academic blogging platform which comes close to the 2,000+ blogs hosted by OpenEdition.

ANALYSIS OF STRENGTHS AND WEAKNESSES

Drawing on the outcomes of our stakeholder consultation, we have prepared an analysis of strengths, weaknesses, opportunities and threats. Key strengths included:

– OpenEdition's technical capability
– The freemium model
– The increased visibility OpenEdition offers to small publishers
– A strong 'niche' offer

The most significant weaknesses were:

– Poor communication of editorial quality to the international market
– Weak international profile
– A perceived lack of interoperability for librarians
– Poor usability for publishers

OPPORTUNITIES AND THREATS IN THE OA MARKET

– Our consultation highlighted a wide range of opportunities and threats for OpenEdition. The importance of the English-language market is widely acknowledged, and increasing English content is highly desirable, but likely to be difficult in practice. Most stakeholders instead saw greater opportunities for expansion in Germany and/or Eastern and Southern Europe. We also note the existence of opportunities to source content from Latin America and Africa, but these regions were not within the scope of our consultation. With regard to disciplines, there may be scope for limited expansion, but this should not compromise OpenEdition's primary identity as a platform for social science and humanities.
– Finally, there are clear opportunities for OpenEdition to play a leading role in the harmonisation of metadata, development of open source software, and establishment of European OA infrastructure. The OPERAS project, which is led by OpenEdition/Cléo, represents an important step in this direction. OpenEdition is highly regarded by the other project partners, and its involvement in the project should help to consolidate its position as a provider of critical Research Infrastructure, in partnership with other European players.

STRATEGIC OPTIONS

OpenEdition's future development is limited by three main factors:

1. Low levels of awareness outside France
2. Predominance of francophone content
3. Focus on the social science and humanities

The consensus view from our work is that addressing the first two of these should be a priority, and that this is best achieved by:

– Developing OpenEdition's identity as a European multilingual platform for the social sciences and humanities.

– Promoting the OpenEdition brand as a clear badge of quality for content on the platform.

– Redefining OpenEdition as one platform with four inter-related services.

– There may also be scope for some expansion of content into interdisciplinary areas, but it would be inadvisable to pursue international expansion, an increased range of languages and additional disciplines simultaneously.

– Finally, we note that OpenEdition occupies a unique position in the publishing landscape, being aligned neither with the dominant Anglo-Saxon publishing world, nor the Global South. There may be opportunities for OpenEdition to capitalise on this position in order to play an important bridging role between these two worlds.

OPERATIONAL RECOMMENDATIONS

We recommend that OpenEdition's management and Steering Committee consider the value of the following actions to improve its operational activities:

1. Communicate quality – Take steps to communicate the quality of its content and editorial controls more effectively to an international audience
2. Increase efficiency – Conduct a business process mapping and redesign exercise to identify and address delays and inefficiencies in the publishing process
3. Improve usability – Improve usability and support for the Lodel tool for existing publishers, potentially as part of the ongoing 'Lodel 2' development
4. Adopt a modular approach – Explore opportunities to extend and scale the platform via a modular approach to new features and services (for example 'OpenEdition sources')
5. Open up metadata for discovery – Improve distribution of metadata and uptake of the freemium model by libraries via a three-step process:
    a. Deliver metadata to library discovery tools/library catalogues at no cost to facilitate discovery of OpenEdition's content
    b. Capture IP address information to allow identification and tracking of usage (potentially on a free trial basis)
    c. Promote adoption of the freemium model
6. Pursue partnerships – Explore partnerships with other European OA publishers and platforms, to present a collective proposition to North American/Northern European libraries

7. Gather feedback – Review and enhance processes for obtaining structured feedback from publishers and libraries of the platform, in order to monitor quality of service and relationships.
8. Improve transparency – Improve transparency around the freemium model, and take steps to articulate its value to publishers more clearly
9. Extend international reach – Evaluate possible mechanisms to obtain ongoing input from international stakeholders, for example via an international advisory board and/or the development of 'OpenEdition Ambassadors'.

BIBLIOGRAPHY: OPEN ACCESS RESEARCH STUDIES AND PUBLICATIONS OF THE OPERAS CONSORTIUM

INTRODUCTION

OPERAS partners have been involved in a number of research projects and international events to gain experience with and develop models for the OPERAS distributed Research Infrastructure (RI). They have more than ten years of experience in open access (OA) publishing and related research studies and publications.

This part is comprised of two sections. The first section summarizes the research studies and publications of the OPERAS Consortium. The second one lists the events and meetings they have organized.

1. RESEARCH STUDIES AND PUBLICATIONS

The first section of this part considers research studies and publications of the OPERAS Consortium from 2009 to 2017. The studies and publications in this bibliography are not exhaustive but represent the extensive work of the OPERAS Consortium. While the OPERAS Consortium has been active in the field for much longer, the bibliography only covers findings from the last decade. It pays special attention to research from the OPERAS Core Group, as they have been most active in this field, and introduces their studies with short abstracts.

The research studies and publications of the OPERAS Consortium focus on the SSH and digital OA publishing, as well as on the need for OA publishing and the impacts that derive from it. OpenEdition/ Cléo, in particular, has offered the academic community four international-scale publication and information platforms in the SSH since 1999: Revues, OpenEdition Books, Calenda, and Hypotheses. These platforms host more than 400 journals and 1,800 books, as well as academic blogs and scientific programs. EKT, the Greek national institution for documentation, is actively involved in issues regarding OA to scientific publications and research data. IBL PAN manages two electronic platforms for dissemination of research results and scholarly communication: New Panorama of Polish Literature and Polish Studies Newsletter. The Consortium's research also looks at best practices, case studies, and policy recommendations, e.g. for coordinated OA policies in Europe and business models. UCL Press is the first fully OA university press in the UK and has done a lot of research on best practices and policy recommendations. UC Digitalis, operating the three digital libraries Alma Mater, Pombalina and Impactum, has undertaken research on threats and opportunities of OA publishing. The OPERAS Consortium's research more specifically considers the special case of OA monographs and considers OA journals. OAPEN is particularly dedicated to open access to scholarly monographs and operates the OAPEN Library, a platform for hosting, dissemination and preservation of open access books, and the Directory of Open Access Books (DOAB), a service for OA books. MWS, on the other hand, focuses on journals. It operates its journals (Francia-Recensio, Discussions, Essays of the Forum Transregionale Studien, Friedrich300, Joachim-Lelewel-Gespräche, Kulturgeschichte Preußens, Orient-Institut Studies, Recensio Moskau and many more) on its publication platform perspectivia.net. The University of Zadar is also very active in this field and operates HRCAK, a portal of Croatian scientific journals.

While many research studies and publications were published in English, a lot of studies are only available in their national language, stressing the great need for a coordination of university-led scholarly communication activities in the SSH in Europe.

1.1 SSH AND DIGITAL OA PUBLISHING

IBL PAN – Maryl, Maciej. 'Literary Life Online: Writers, Institutions and Readers Facing Technological Changes'. Warszawa: Wydawnictwo IBL. 2015.

This study concerns the ways in which new communication technologies have reshaped literary life, understood as the social institution of producing, publishing, reading and evaluating literary texts. The field of online literary life remains unexplored in literary scholarship. This situation seems to stem from the lack of an adequate methodology – one that would allow for a more or less equal treatment of both actual and virtual literary worlds. Such a methodology should target not only the novelty but also the continuity of cultural phenomena. Online literary life does not exist in a vacuum, far removed from the 'traditional' communication patterns of print (sender-institution-receiver). On the contrary, it has become an indispensable component of literary communication today. In this work I propose an anthropological approach to literary practices, which, I argue, helps us bridge the gap between those two worlds.

EKT – Tsoukala, Victoria; Panagopoulou, Alexia; Stavrou, Giorgos; Angelidi, Eleni; Sachini, Evi; and Alexandros Nafpliotis. 'Developing the Greek Reference Index for the Social Sciences and Humanities'. *Let's Put Data to Use: Digital Scholarship for the Next Generation: Proceedings of the 18th International Conference on Electronic Publishing*, 59–67. 2014. ISBN:978-1-61499-409-1. helios-eie.ekt.gr/EIE/handle/10442/14318**.**

The ways in which research data is used and handled continues to capture public attention and is the focus of increasing interest. Electronic publishing is intrinsic to digital data management, and relevant to the fields of data mining, digital publishing and social networks, with their implications for scholarly communication, information services, e-learning, e-business and the cultural heritage sector. This book presents the proceedings of the 18th International Conference on Electronic Publishing (Elpub), held in Thessaloniki, Greece, in June 2014. The conference brings together researchers and practitioners to discuss the many aspects of electronic publishing, and the theme of 2014 was 'Let's put data to use: digital scholarship for the next generation'. As well as examining the role of cultural heritage and service organisations in the creation, accessibility, duration and long-term preservation of data, it provides a discussion forum for the appraisal, citation and licensing of research data and the new developments in reviewing, publishing and editorial technology. The book is divided into sections covering the following topics: open access and open data; knowing the users better; researchers and their needs; specialized content for researchers; publishing and access; and practical aspects of electronic publishing. Providing an overview of all that is current in the electronic publishing world, this book will be of interest to practitioners, researchers and students in information science, as well as users of electronic publishing.

EKT – Wessels, Bridgette; Finn, Rachel L.; Linde, Peter; Mazzetti, Paolo; Nativi, Stefano; Riley, Susan; Smallwood, Rod; et al. 'Issues in the Development of Open Access to Research Data', 49–66. 2014. doi:10.1080/08109028.2014.956505**.** tandfonline.com/doi/abs/10.1080/08109028.2014.956505**.**

This paper explores key issues in the development of open access to research data. The use of digital means for developing, storing and manipulating data is creating a focus on 'data-driven science'. One aspect of this focus is the development of 'open access' to research data. Open access to research data refers to the way in which various types of data are openly available to public and private stakeholders, user communities and citizens. Open access to research data, however, involves more than simply providing easier and wider access to data for potential user groups. The development of open access requires attention to the ways data are considered in different areas of research. We identify how open access is being unevenly developed across the research environment and the consequences this has in terms of generating data gaps. Data gaps refer to the way data becomes detached from published conclusions. To address these issues, we examine four main areas in developing open access to research data: stakeholder roles and values; technological requirements for managing and sharing data; legal and ethical regulations and procedures; institutional roles and policy frameworks. We conclude that problems of variability and consistency across the open access ecosystem need to be addressed within and between these areas to ensure that risks surrounding a data gap are managed in open access.

OAPEN – Adema, Janneke; and Eelco Ferwerda. 'Publication Practices in Motion: The Benefits of Open Access Publishing for the Humanities'. *New Publication Cultures in the Humanities: Exploring the Paradigm Shift,* 131–146. Amsterdam University. 2014. academia.edu/12282828/Publication_Practices_in_Motion_The_Benefits_of_Open_Access_Publishing_for_the_Humanities**.**

This paper will show how open access publishing can aid humanities scholars in transition – from the English professor who hardly touches a computer (except for the occasional email or to search for something in an online library catalogue) to the digital humanist building collaborative virtual environments to present and communicate the newest version of her (and her groups') data sets. In particular, open access publishing will serve the scholar that finds himself positioned somewhere in between these two extremes: the scholar who occasionally reads and browses a book that her communication with her peers is increasingly taking place in an online environment; the same scholar who is afraid that her work might be stolen or plagiarized in the online world and who is skeptical about how authority, quality and integrity can be maintained in digital publishing; and who, moreover, is all too aware that tenure and promotion committees still judge a book by its (printed) cover.

OpenEdition/Cléo – Mounier, Pierre. 'Internet Governance and the Question of Legitimacy (Chapter 8) – Governance, Regulation and Powers on the Internet'. *Governance, Regulations and Powers on the Internet, Cambridge University Press*. 2012. doi:10.1017/CBO9781139004145.011. cambridge.org/core/books/governance-regulation-and-powers-on-the-internet/05E4340987B5F57F3D376B37A2EB1861

Digital technologies have prompted the emergence of new modes of regulation and governance, since they allow for more decentralized processes of elaboration and implementation of norms. Moreover, the Internet has been raising a wide set of governance issues since it affects many domains, such as individual rights, public liberties, property rights, economic competition, market regulation, conflict management, security and the sovereignty of states. There is therefore a need to understand how technical, political, economic and social norms are articulated, as well as to understand who the main actors of this process of transformation are, how they interact and how these changes may influence international rulings. This book brings together an international team of scholars to explain and

analyse how collective regulations evolve in the broader context of the development of post-modern societies, globalization, the reshaping of international relations and the profound transformations of nation-states.

OpenEdition/Cléo – Mounier, Pierre. *Read/Write Book 2 : Une introduction aux humanités numériques*. OpenEdition Press. 2012. books.openedition.org/oep/226**.**

Qu'est-ce que les humanités numériques ? Apparue en 2006, l'expression connaît depuis un véritable succès. Mais au-delà du slogan à la mode, quelle est la réalité des pratiques qu'il désigne ? Si tout le monde s'accorde sur une définition minimale à l'intersection des technologies numériques et des sciences humaines et sociales, les vues divergent lorsqu'on entre dans le vif du sujet. Les humanités numériques représentent-elles une véritable révolution des pratiques de recherche et des paradigmes intellectuels qui les fondent ou, plus simplement, une optimisation des méthodes existantes ? Constituent-elles un champ suffisamment structuré pour justifier une réforme des modes de financement de la recherche, des cursus de formation, des critères d'évaluation ? L'archive numérique offre-t-elle à la recherche suffisamment de garanties ? Quelle place la recherche « dirigée par les données » laisse-t-elle à l'interprétation ? Telles sont quelques-unes des questions abordées par ce deuxième opus de la collection « Read/Write Book ». Ces dix-huit textes essentiels, rédigés ou traduits en français par des chercheurs de différentes nationalités, proposent une introduction aux humanités numériques accessible à tous ceux qui souhaitent en savoir plus sur ce domaine de recherche en constante évolution.

OpenEdition/Cléo – Mounier, Pierre; and Marin Dacos. 'Electronic Publishing'. *Communications No 88*/1, 47–55. 2012. doi:10.3917/commu.088.0047**.** cairn.info/revue-communications-2011-1-page-47.htm**.**

Electronic publishing is gradually gaining its independence from traditional publishing. This booming sector can be broken down into three distinct areas: digitization reproduces printed publications in the digital environment; native digital publishing occurs when the editing process is exclusively grounded in the digital format and doesn't undergo the printing process; network publishing takes advantage of the opportunities for collaborative writing allowed by the Internet. Starting at different times in the history of electronic publishing, these three approaches now coexist within the same environment centered around the notion of text.

OpenEdition/Cléo – Dacos, Marin. *Read/Write Book : Le livre inscriptible*. OpenEdition Press. 2010. books.openedition.org/oep/128**.**

En entrant dans l'ère de l'informatique en réseau, le livre devient inscriptible. Son développement ne suit plus la ligne droite de la traditionnelle chaîne du livre, mais se diffuse par ramifications réticulaires. Comme un oignon, il se pare de multiples couches d'informations, ajoutées par différents métiers, mais aussi par les lecteurs. Ensemble, ils participent à une vaste entreprise d'enrichissement documentaire qui multiplie les grilles de lecture du texte et en fait miroiter les multiples sens. Inscriptible, le livre s'insère désormais dans un système d'information riche, polymorphe, mouvant et encore très fragile. C'est le Read/Write Book.

OpenEdition/Cléo – Dacos, Marin; and Pierre Mounier. 'Les carnets de recherche en ligne, espace d'une conversation scientifique décentrée' ***Lieux de savoir, T.2, Gestes et supports du travail savant*****. Albin Michel.** 2010. archivesic.ccsd.cnrs.fr/sic_00439849.

Le carnet de recherches produit un décentrement des lieux d'écriture vers des espaces moins codifiés et moins formels que les espaces de publication traditionnels, prenant ainsi le relais de formes plus volatiles et moins individuelles de conversation. Ce qui est en jeu est moins une économie de l'écriture que de la lecture. En jetant les bases d'une nouvelle relation au lectorat, le carnet de recherche offre l'opportunité de réinventer l'écriture scientifique autour du paradigme de la conversation, renouant ainsi avec une vieille tradition de débat scientifique, tout en se dotant d'une rhétorique adaptée au nouvel espace qui se met en place.

OpenEdition/Cléo – Mounier, Pierre. L'édition électronique : un nouvel eldorado pour les sciences humaines ? ***OpenEdition Press.*** **2010. doi:**10.4000/books.oep.169**.**

En guise d'introduction, il me semble nécessaire de faire le point sur un certain nombre de questions qui ont structuré les débats sur l'édition électronique depuis dix ans. À mon sens, ces questions sont aujourd'hui largement obsolètes.

OpenEdition/Cléo – Mounier, Pierre; and Marin Dacos. 'Sciences et société en interaction sur Internet. Éléments pour une histoire de l'édition électronique en sciences humaines et sociales'. ***Communication & languages*****, 159, 123–35. 2009.** archivesic.ccsd.cnrs.fr/sic_00439828**.**

The rise of digital networks is a critical time in the complicated history of the relationship between science and society, both in terms of technological development and its impact on scientific communication. The example of humanities and social science highlights their mediating role in the relationship between science and society.

Further research and publications

- Göttingen UP – Beucke, Daniel. 'Ursprünge und Entwicklung von Open Access', Praxishandbuch Open Access. Söllner, Konstanze; and Bernhard Mittermaier. de Gruyter, 12–20. 2017. doi:10.1515/9783110494068-002. degruyter.com/view/books/9783110494068/9783110494068-002/9783110494068-002.xml.
- OLH – 'The New Open Access Environment: Innovation in Research, Editing and Publishing'. Edwards, Caroline. MLA Commons. 2016. hcommons.org/deposits/item/mla:583.
- OLH – Eve, Martin Paul. 'A Brave New World of Open Access Publishing'. Institute of Development Studies. 'Transformation of Scholarly Communications'. Research Library Issues, No. 287. 2016. ids.ac.uk/opinion/a-brave-new-world-of-open-access-publishing.
- Göttingen UP – Horstmann, Wolfram; Jahn, Najko; and Birgit Schmidt. 'Der Wandel der Informationspraxis in Forschung und Bibliothek'. *Zeitschrift für Bibliothekswesen und Bibliographie, 62/2, 73–79.* doi:10.3196/186429501562223. zs.thulb.uni-jena.de/receive/jportal_jparticle_00333686.
- Göttingen UP – Bargheer, Margo. 'Gute wissenschaftliche Praxis'. Handbuch CoScience/ Version 2.0. 2015. doi:10.2314/COSCV2. handbuch.tib.eu/w/Handbuch_CoScience/_Version_2.0.

- OLH – Eve, Martin Paul; Willinsky, J.; Coble, Z.; and A. Ho. 'Open Access in Humanities and Social Sciences: Visions for the Future of Publishing'. *College and Research Libraries News 76/2*. 2015. crln.acrl.org/index.php/crlnews/article/view/9262/10312.
- Göttingen UP – Birgit Schmidt; Bargheer, Margo; and Norbert Lossau. 'An Update on Open Access Development in Germany'. *OSI News*. 2014. osinitiative.org/community/an-update-on-open-access-developments-in-germany.
- SciELO – Packer, A.L.; *et al*. 'SciELO – 15 Years of Open Access: an Analytic Study of Open Access and Scholarly Communication'. Paris: UNESCO. 2014. doi:10.7476/9789230012373. scielo.org/php/level.php?lang=en&component=42&item=31.
- Huma-Num – Pouyllau, Stéphane.'Web de données, big data, open data, quels rôles pour les documentalistes ?' *Documentaliste – Sciences de l'Information, ADBS, 50, 32–33.* 2013. rechercheisidore.fr/search/resource/?uri=10670/1.v60ozw.
- UniTo – Giglia, Elena. 'Open Access to Scientific Research: where are we and where are we going? Facts and Figures on the Occasion of the 2010 Open Access Week'. *European Journal of Physical and Rehabilitation Medicine, 46/3, 461–469.* 2010. minervamedica.it/en/journals/europa-medicophysica/article.php?cod=R33Y2010N03A0461.

1.2 THE NEED FOR OA PUBLISHING

OpenEdition/Cléo – Dacos, Marin; and Pierre Mounier. 'Le livre numérique est dans l'impasse, faisons le choix de l'édition électronique ouverte !'. *Le Monde.fr*. 2017. lemde.fr/2uRbxZi**.**

Après plus de dix ans d'attentisme et d'aveuglement, il s'agit de proposer un livre numérique lisible, manipulable et citable.

IBL PAN – Dallas, Costis; Chatzidiakou, Nephelie; Maryl, Maciej; et al. 'European Survey on Scholarly Practices and Digital Needs in the Arts and Humanities'. Highlights Report. 2016. doi:10.5281/zenodo.260101. zenodo.org/record/260101**.**

The highlights of the European survey on scholarly practices and digital needs in the arts and humanities carried out by DARIAH Digital Methods and Practices Observatory WG (DiMPO). This research is the outcome of collaborative work of European researchers from different countries, working within the DiMPO Working Group. It has been designed as a multiregional longitudinal survey, to be conducted online across European countries and to be repeated every few years. Its aim is to provide an evidence-based outlook of scholarly practices, needs and attitudes of European humanities researchers towards digital resources, methods and tools across space and time. Results of the first run of the survey (completed in March 2015) are presented in a multi-authored report, which includes comparative and consolidated analyses, as well as five country profiles.

OAPEN – 'Researcher Survey 2012'. 2012. oapen-uk.jiscebooks.org/research-findings/researchersurvey**.**

This presentation reports on the findings of our survey of humanities and social science (HSS) researchers. We carried out the survey between February and May 2012, and achieved 690 usable responses. The survey covers issues including attitudes to open access publishing and Creative Commons licensing, researchers' preferences and priorities as both authors and readers, and their

views of the overall aims of the scholarly communications system. The survey will be used to shape our work in the third year of the OAPEN-UK project, as we begin to consider some of the cross-cutting issues such as licensing regimes, discoverability and formats which are likely to affect an open access business model for HSS monographs.

OpenEdition/Cléo – Mounier, Pierre. 'Le libre accès : entre idéal et nécessité'. 2010. doi:10.4267/2042/38634. documents.irevues.inist.fr/handle/2042/38634.

Much of the current debate on the open access issue has been akin to ideological warfare, using militant language registers around the concept of public common goods. The high level of visibility of the debate masks two important points that could change perceptions on its real impact. Our analysis of the development of open access initiatives shows that the political dimension of the issue is by no means predominant in all disciplines and varies considerably among different communities. Furthermore, the profound changes in scientific communication practices brought about by the expansion of digital networks could lessen the relevance of the militant approach to open access. The proliferation of documents, the relative blurring of boundaries between different forms of publishing and the fact that barriers to access to publications are being lowered are lessening the perceived influence of systems that artificially manufacture rarity, and the scientific communication system is gradually being forced to conform to the attention economics. This makes it possible to anticipate changes in scientific publishing comparable to those in the press and music publishing sectors.

Further research and publications

- OLH – Havergal, Chris; and Martin Paul Eve. 'Two-thirds of UK Academics Back Open Access, Survey Finds'. *Times Higher Education*, 2016. bit.ly/292WE98.
- Göttingen UP – Adema, Janneke; and Birgit Schmidt. 'From Service Providers to Content Producers: New Opportunities for Libraries in Collaborative Open Access Book Publishing'. *New Review of Academic Librarianship, 6/S1, 28–43*. 2010. goedoc.uni-goettingen.de/goescholar/handle/1/6372.
- ISCTE-IUL – Amante, Maria João; and Teresa Segurado. 'A gestão do conhecimento nas Universidades: o papel dos Repositórios Institucionais'. 2010. repositorio.iscte-iul.pt/handle/10071/1650.

1.3 THE IMPACT OF OA PUBLISHING

OAPEN – Snijder, Ronald. 'Do Developing Countries Profit from Free Books?: Discovery and Online Usage in Developed and Developing Countries Compared'. *Journal of Electronic Publishing, 16/1.* 2013. doi:10.3998/3336451.0016.103. quod.lib.umich.edu/j/jep/3336451.0016.103?view=text;rgn=main.

For years, Open Access has been seen as a way to remove barriers to research in developing countries. In order to test this, an experiment was conducted to measure whether publishing academic books in open access has a positive effect on developing countries. During a period of nine months the usage data of 180 books was recorded. Of those, a set of 43 titles was used as control group with restricted access. The rest was made fully accessible. The data shows the digital divide between developing countries and developed countries: 70 percent of the discovery data and 73 percent of online usage data come from developed countries. Using statistical analysis, the experiment confirms that open access publishing enhances discovery and online usage in developing countries. This strengthens the

claims of the advocates of open access: researchers from the developing countries do benefit from free academic books.

OAPEN – Snijder, Ronald. 'The Profits of Free Books: An Experiment to Measure the Impact of Open Access Publishing'. *Learned Publishing, 23/4*, 293–301. 2010. doi:10.1087/20100403**.** bit.ly/2w1AdwD**.**

This article describes an experiment to measure the impact of open access (OA) publishing of academic books. During a period of nine months, three sets of 100 books were disseminated through an institutional repository, the Google Book Search program, or both channels. A fourth set of 100 books was used as control group. OA publishing enhances discovery and online consultation. Within the context of the experiment, no relation could be found between OA publishing and citation rates. Contrary to expectations, OA publishing does not stimulate or diminish sales figures. The Google Book Search program is superior to the repository.

Further research and publications

- ISCTE-IUL – Rodrigues, Maria Eduarda Pereira; Amante, Maria João; Pais, Clarisse; Lopes, Susana; Segurado, Teresa; and António Moitinho Rodrigues. 'Os Repositórios Das Instituições de Ensino Superior Portuguesas : Estudo Comparativo'. *Cadernos BAD*, 0/2, 71–79. 2016.
- Göttingen UP – Horstmann, Wolfram; Brase, Jan; and Najko Jahn. 'Libraries and Data – Paradigm Shifts and Challenges'. Bibliothek Forschung und Praxis, 40/2. 2016. doi:10.1515/bfp-2016-0034. degruyter.com/view/j/bfup.2016.40.issue-2/bfp-2016-0034/bfp-2016-0034.xml.
- OLH – Adelia Grabowsky. 'The Impact of Open Access Publishing on Collection Management'. Virginia Libraries, 61/1. 2015. ejournals.lib.vt.edu/valib/article/view/1325/1794.
- University of Turin – Giglia, Elena. 'Open Access to Research Data as a Driver for Open Science'. JLIS. 2015. jlis.it/article/view/11130/10369.
- ISCTE-IUL – Amante, Maria João. 'Acesso Aberto @ISCTE-IUL'. Universidade do Minho, Serviços de Documentação. 2013. hdl.handle.net/10071/6497.
- ISCTE-IUL – Segurado, Teresa; Marçal, Bruno; Amante, Maria João; and Carina Cunha. 'Os Investigadores e a Sua Relação Com o Acesso Aberto à Produção Científica: O Caso Do ISCTE-IUL'. 2013. repositorio.iscte-iul.pt/handle/10071/5569.
- Huma-Num – Pouyllau, Stéphane. 'Les moteurs de recherche profitent aussi de la sémantique'. *Documentaliste – Sciences de l'Information, ADBS, 48/4, 36–37*. 2012. rechercheisidore.fr/search/resource/?uri=10670/1.oodgbq.
- UniTo – Giglia, Elena. 'The Impact Factor of Open Access Journals: Data and Trends'. ELPUB 2010 Conference Proceedings, 16–39. 2010. dhanken.shh.fi/dspace/bitstream/10227/599/72/2giglia.pdf.

1.4 BEST PRACTICES, CASE STUDIES, AND POLICY RECOMMENDATIONS

UCL Press – Speicher, Lara. 'UCL Press: a New Model for Open Access University Presses'. *Positioning and Power in Academic Publishing: Players, Agents and Agendas, Proceedings of the 20th International Conference on Electronic Publishing, IoS Press*. 2016. doi:10.3233/978-1-61499-649-1-99**.** ebooks.iospress.nl/publication/42902**.**

UCL Press was relaunched at UCL in June 2015, as the UK's first fully open access university press. It publishes scholarly monographs, textbooks, edited collections, scholarly editions and journals. All publications are made freely available online in open access form and print books are also sold via retailers at an affordable price. UCL authors are funded to publish open access with the Press. This article describes its activities in more detail and offers the model as one that other institutions can follow.

UCL Press – Speicher, Lara. 'A Fully Open Access University Press'. *BookBrunch*. 2016. bookbrunch.co.uk/page/free-article/a-fully-open-access-university-press**.**

Lara Speicher argues that open access publishing can disseminate knowledge to an extent impossible under traditional models.

UCL Press – Lockett, Andrew; and Lara Speicher. 'New University Presses in the UK: Accessing a Mission'. *Learned Publishing, 29/S1*, 320–29. 2016. doi:10.1002/leap.1049**.** onlinelibrary.wiley.com/doi/10.1002/leap.1049/abstract**.**

In the space of just a year, five new university presses were launched in the UK. Although very different in size and stages of development, all but one were launched first and foremost as open access presses, based in or supported by their university's library. Why should there have been such a significant flurry of activity in such a short space of time, and what can the stated objectives and activities of these presses tell us about the current UK scholarly publishing environment? To answer some of those questions, this article looks back to the original mission of the founding university presses, examines the policy and funding environments in which the new presses are operating, looks at overseas developments in recent years for comparison, and concludes with a review of the challenges these young presses face as well as the benefits all university presses, but particularly open access ones, can confer to their institutions.

UCL Press – Ayris, Paul; and Lara Speicher. 'UCL Press: The UK's "First Fully Open Access" University Press'. *Insights* 28/3. 2015. doi:10.1629/uksg.257**.** insights.uksg.org/articles/10.1629/uksg.257**.**

The purpose of this article is to set in context the launch of University College London Press (UCL Press), which describes itself as the UK's first fully open access (OA) university press. The drivers for this launch are bound up with the global movement towards open access and Open Science – developments in which UCL is acknowledged as a European leader. The first part of the article looks at these movements and relates them to the relaunch in May 2015 of the UCL Press imprint as an OA imprint. This analysis has been undertaken by Dr Paul Ayris, Director of UCL Library Services and Chief Executive of UCL Press. The second half of the article is a personal account by Lara Speicher, Publishing Manager at UCL Press, of the relaunch of the Press. This section looks at staffing structures, business models, technical infrastructures, publishing programmes and content. In the final part of the article, Paul Ayris draws some conclusions from the history of the relaunch of UCL Press and sets these in the context of the global Open Science discussion.

UC Digitalis – Leão, Delfim. 'Academic Publishing in Portugal: Threats and Major Opportunities'. *Insights,* 28/1. 2015. doi:10.1629/uksg.179**.** insights.uksg.org/articles/10.1629/uksg.179**.**

This article begins with an analysis of the current state of scientific publication in Portugal, with reference to the impact of the open access (OA) policies of commercial and academic publishers. It

then explores the relationship between academic publishing and institutional repositories, discussing the way they should complement one another, taking as reference the activities of the Portuguese Association of Higher Education Publishers (APEES). Final remarks deal more specifically with the UC Digitalis project from Coimbra University Press (CUP), and the way it is committed to the goal of fostering science produced in Portuguese-speaking countries.

IBL PAN – Szleszyński, Bartłomiej; Niciński, Konrad; and Agnieszka Kochańska. 'How to Communicate Scholarly Knowledge on the Internet: Remarks on the "PrusPlus" Collection'. *New Panorama of Polish Literature, 21.* 2015. napis.edu.pl/pdf/Napis021_artykuly/NAPIS-2015_SERIA-XXI_s348–359_Bartlomiej-Szleszynski_Konrad-Nicinski_Agnieszka-Kochanska.pdf**.**

Nowa Panorama Literatury Polskiej (The New Panorama of Polish Literature, NPLP.PL) is a platform for the presentation of research results in the digital environment. It is a part of the Digital Humanities Centre at the Institute of Literary Research of the Polish Academy of Sciences. It consists of separate collections, each telling a different 'scientific story' and using a different form to present content. The interdisciplinary team of the New Panorama of Polish Literature includes literary and culture researchers, graphic designers and typographers.

OpenEdition/Cléo – Newton, Hazel; Dacos, Marin; Mounier, Pierre; and Yrsa Neuman. 'Snapshots of Three Open Access Business Models'. *Insights: The UKSG Journal, 27, 39–44.* 2014. doi: 10.1629/2048-7754.118**.** insights.uksg.org/articles/10.1629/2048-7754.118**.**

Following on from Eelco Ferwerda's introduction to different OA monograph business models (http://dx.doi.org/10.1629/2048-7754.46), Hazel Newton (Palgrave Macmillan), Marin Dacos and Pierre Mounier (OpenEdition Books) and Yrsa Neuman (Åbo Akademi University) explain the different OA business models that they are currently working with.

UC Digitalis – Leão, Delfim. 'Imprensa Universitária: oportunidades e desafios'. *RUA-L: Revista da Universidade de Aveiro. Letras 0/3, 51–55*. 2014.

The paper starts by analyzing the situation of scientific publication in Portugal, taking as reference the activities of the Portuguese Association of Higher Education Publishers (APEES); it then explores the relation between academic publication and institutional repositories, discussing the way they should complement themselves, in connection with the impact of open access policies over commercial and academic publishers. (Publication in Portuguese)

UCL Press – Ayris, Paul; McLaren, Erica; Moyle, Martin; Sharp, Catherine; and Lara Speicher. 'Open Access in UCL: A New Paradigm for London's Global University in Research Support'. *Australian Academic & Research Libraries*. 2014. tandfonline.com/doi/abs/10.1080/00048623.2014.956462**.**

Open Access provides an opportunity for researchers to disseminate their research globally, but it comes with challenges. This article looks at the various ways in which UCL (University College London) has addressed those challenges, by investing in open access activities at the university.

EKT – Nafprliotis, Alexandros; Tsoukala, Victoria; Houssos, Nikos; Kalaitzis, Andreas; and Evi Sachini. 'EKT EPublishing: Developing an Open Access Publishing Service for the Greek Research Community'. *Let's Put Data to Use: Digital Scholarship for the Next Generation: Proceedings of the*

***18th International Conference on Electronic Publishing*, 112–18. 2014. doi:**10.3233/978-1-61499-409-1-112**.** ebooks.iospress.nl/publication/36556**.**

The present contribution concerns a case study of open access scholarly publishing in Greece, its history and effect in helping the local researcher community transition from a print-only mode of work to online working environments and in rendering Greek publications and scholarship more relevant to the international scholarly community. The paper elaborates on the goals of the project and the challenges that were encountered and addressed during its implementation. The project, which started in 2007 with the transition of three print journals in the humanities to an online and print format and online working environment, culminated in the development of an online platform that provides access to content and services from a single point in the web, ePublishing.ekt.gr. As part of the National Documentation Centre (EKT)'s services, we systematize and upgrade the journals' policies according to international standards, provide an online working platform and training, digitize and release in open access academic articles (more than 3,000 articles in established journals, published by small, non-profit, academic/scholarly society publishers, so far), provide DOIs, as well as concentrate on electronic books and conference proceedings – also to include purely online books in the future, starting with a born-digital monograph in a Humanities subject (onlineBook). In a nutshell, we have focused on providing publishers of scientific journals a range of comprehensive services which are constantly updated and improved in the light of the developments in scholarly communication, and which foster the internationalization, visibility, and preservation of research in these fields.

EKT – Tsoukala, Victoria; and Evi Sachini. 'MedOANet: Facilitating Coordinated Open Access Policies and Strategies in Mediterranean Europe'. *Uma Decana de Acesso Aberto Na UMinho e No Mundo*. 2013. helios-eie.ekt.gr/EIE/handle/10442/13731**.**

The Mediterranean Open Access Network supports the development of coordinated policies aligned to the European Commission's policies on access to and preservation of scientific information in Greece, Turkey, Italy, France, Spain and Portugal. In two years of work the project mapped the open access landscape by performing surveys among research funders, researcher performing organizations and publishers; it developed the Open Access Tracker, an online tool that profiles countries on the basis of their available open access policies and initiatives. The project facilitated the coordination of action and policy development in each country through engagement with policymakers and coordination events and facilitated coordination at the regional level among the six countries. Finally, MedOANet developed guidelines for policy implementation directed to policymakers of the six countries.

OAPEN – Ferwerda, Eelco; and Caren Milloy. 'Europe Needs a Unified Approach to Open-Access Books'. *Research Europe.* 2013. researchresearch.com/news/article/?articleId=1338074**.**

The first European-level meeting on open access monographs revealed important national differences in publishing and funding cultures. But there is still a scope and need for international cooperation, argue Eelco Ferwerda and Caren Milloy.

UC Digitalis – Leão, Delfim; and Carla Marques. 'As revistas da Universidade de Coimbra. Dinâmicas de produção científica e cultural'. *Rua Larga, 38.* 2013. digitalis.uc.pt/en/artigo/revistas_da_universidade_de_coimbra_din%C3%A2micas_de_produ%C3%A7%C3%A3o_cient%C3%ADfica_e_cultural**.**

Short presentation of the aims and scopes of the scientific journals published at the University of Coimbra (Publication in Portuguese).

IBL PAN – Bolecki, Włodzimierz; Maryl, Maciej. 'The Web of the Senses – Online Methods of Presenting Academic Research Results.' ***Polish Academy of Sciences, Annual Report, 25, 26–27.*** **2013. doi:** 10.5281/zenodo.837254**.** zenodo.org/record/837254**.**

Institute of Literary Research, PAS has developed a multimedia website containing several hundred articles on the representations of the senses in Polish culture. This interdisciplinary project is the first of its size within the Polish humanities to employ online presentation of academic research results (digital humanities). It must be pointed out, however, that the method does not merely consist in uploading the text, but in applying Internet logic to the arrangement and organization of research data, which facilitates users' access to the desired content. The website is an outcome of a research and development project entitled Sensuality in Polish Culture: 'Representations of the Human Senses in Language, Literature, and Art from the Middle Ages to the Present' (NCBiR No. 17 0005 06/2009), conducted between 2010 and 2012 by the Department of Historical Poetics of the Institute of Literary Research, PAS.

OpenEdition/Cléo – Mounier, Pierre. 'Revues.org : une plateforme d'édition électronique au service des sciences humaines et sociales'. ***Bulletin de psychologie Numéro 511/1, 55–56*****. 2011.** cairn.info/revue-bulletin-de-psychologie-2011-1-p-55.htm**.**

Revues.org est une plateforme d'édition électronique qui diffuse aujourd'hui plus de 280 revues et collections de livres en ligne dans toutes les disciplines des sciences humaines et sociales. Il s'agit d'une initiative du Centre pour l'édition électronique ouverte (Cléo). Le Centre est soutenu par quatre établissements français de recherche et d'enseignement supérieur : le CNRS, l'École des hautes études en sciences sociales, l'université de Provence et l'université d'Avignon.

OpenEdition/Cléo – Mounier, Pierre. 'Freemium as a Sustainable Economic Model for Open Access Electronic Publishing in Humanities and Social Sciences'. ***Information Services and Use*** **31/3. 2011.** content.iospress.com/articles/information-services-and-use/isu652**.**

Between the two paths of open access – green and gold – the latter is the harder to develop and has the least support from the research community. The main difficulty is finding a sound economic model. Open access journals usually depend on two funding sources: subsidies and/or donations from institutions and publication fees from research units in the author-pays model. These two ways of funding open access journals and books have proved effective in some cases (Plos), but are not flawless. The Center for Open Electronic Publishing, a French initiative for open access publishing in humanities and social sciences, has recently developed a new economic model based on 'freemium' for its full open access journals and books series, in order to address two issues: improve their economical soundness and give them more visibility in libraries. Freemium, the contraction of 'free' and 'premium', preserves open access to information together with the marketing of premium services.

Further research and publications

– Göttingen UP – Tenopir, Carol; Talja, Sanna; Horstmann, Wolfram; Late, Elina; Hughes, Dane; Schmidt, Birgit; et al. 'Research Data Services in European Academic Research Libraries'. *LIBER*

Quarterly. 27/1, 23–44. 2017. doi:10.18352/lq.10180. liberquarterly.eu/article/10.18352/lq.10180/.

- University Ca'Foscari – Cappellato, Linda; 'Studio e realizzazione di una piattaforma di archiviazione di contenuti digitali per l'Università di Padova'. 2017. dspace.unive.it/handle/10579/9559.
- Göttingen UP – Schmidt, Birgit; Orth, Astrid; Franck, Gwen; Kuchma, Iryna; et al. 'Stepping up Open Science Training for European Research'. *Publications, 4/2, 16.* 2016. DOI:10.3390/publications4020016. mdpi.com/2304-6775/4/2/16.
- Huma-Num – Pouyllau, Stéphane. 'Isidore Suggestion, des recommandations de lecture pour les blogs de science'. *ADBS.* 2016. rechercheisidore.fr/search/resource/?uri=10670/1.5penin.
- OLH – Graf, Klaus. 'OLH – der diamantene Weg zu Open Access'. Archivalia. 2016. archivalia.hypotheses.org/57879.
- OLH – Edwards, Caroline. 'The "Gold Route" to Open Science'. *scilog: Blog of The Austrian Science Fund (FWF)*. 2016. scilog.fwf.ac.at/en/article/4482/the-gold-route-to-open-science.
- University Ca'Foscari – Buzzoni, Marina. 'A Protocol for Scholarly Digital Editions? The Italian Point of View'. OpenBooks Editions, Digital Scholarly Editing: Theories and Practices. 2016.
- ISCTE-IUL – Amante, Maria João; Seguado, Teresa; Marçal, Bruno; and Susana Lopes. *Recursos de informação numa IES: o repositório institucional, PontodeAcesso 9/3, 48–73.* 2015.
- Göttingen UP – Schmidt, Birgit; and Jens Dierkes. 'New Alliances for Research and Teaching Support: Establishing the Göttingen eResearch Alliance.' Program Electronic Library and Information Systems, 49/4, 461–474. 2015. emeraldinsight.com/doi/abs/10.1108/PROG-02-2015-0020.
- OLH – Wexler, Ellen; and Martin Paul Eve. 'What Open-Access Publishing Actually Costs'. Chronicle of Higher Education. 2015. researchgate.net/publication/291936422_What_Open-Access_Publishing_Actually_Costs.
- OLH – Smith, Adam. 'Alternative Open Access Publishing Models: Exploring New Territories in Scholarly Communication'. Report on the Workshop held on 12 October 2015 at the European Commission Directorate-General for Communications Networks, Content and Technology. 2015. bit.ly/2uUph3L.
- SciELO – Packer, Abel. 'The Metrics Used in the Development of the SciELO Network Model'. *Open Access Indicators and Scholarly Communications in Latin America*, *81–96.* 2014. goo.gl/teHwbp.
- ISCTE-IUL – Amante, Maria João. 'O bibliotecário como gestor do conhecimento: o caso dos repositórios'. *Revista Eletrónica de Comunicação, Informação & Inovação em Saúde, 8/2, 243–54*. 2014. arca.fiocruz.br/handle/icict/17100.
- ISCTE-IUL – Amante, Maria João; Lopes, Susana; Marçal, Bruno; and Teresa Segurado. 'A interoperabilidade entre o Repositório e um sistema CRIS: o caso do ISCTE-IUL'. *Cadernos BAD, 2, 83–93.* 2014.
- ISCTE-IUL – Rodrigues, Maria Eduarda Pereira; Amante, Maria João; Pais, Clarisse; Segurado, Teresa; and Susana Lopes. 'Avaliação de repositórios institucionais: análise comparativa'. *Cadernos BAD, 15–28.* 2014.

- Göttingen UP – Schmidt, Birgit; and Kathleen Shearer. 'Licensing Revisited: Open Access Clauses in Practice'. *Liber Quarterly, 22/3, 176–189.* 2012. goedoc.uni-goettingen.de/goescholar/handle/1/8410.
- Huma-Num – Pouyllau, Stéphane; Minel, Jean-Luc; Kilouchi, Shadia; and Laurent Capelli. 'Bilan 2011 de la plateforme ISIDORE et perspectives 2012–2015'. *Comité de pilotage du TGE Adonis, 1–23*. 2012. rechercheisidore.fr/search/resource/?uri=10670/1.bqexsj.
- Huma-Num – David, Sophie; Minel, Jean-Luc; and Stéphane Pouyllau. 'Documenting Some Uses of the Isidore Platform.' 2011. rechercheisidore.fr/search/resource/?uri=10670/1.lbc7dv.
- Huma-Num – Maignien, Yannick. 'ISIDORE, de l'interconnexion de données à l'intégration de services'. 2011.rechercheisidore.fr/search/resource/?uri=10670/1.k9lck9.

1.5 OA MONOGRAPHS

OAPEN/KU Research – Ferwerda, Eelco; Pinter, Frances; and Niels Stern. 'A Landscape Study on Open Access and Monographs: Policies, Funding and Publishing in Eight European Countries'. Knowledge Exchange 2017. 2017. doi: 10.5281/zenodo.815932**.** knowledge-exchange.info/event/open-access-monographs**.**

The monograph is one of the most prestigious publication outlets – a hallmark of reputation, a tool for career progression and a means of disseminating fundamental ideas of scholarship. Open access policies from funders, publishers and institutions have been relatively quiet on monographs and other long form publications, predominantly focusing on journals. However the beginnings of a transition to open access for monographs has commenced and there are several projects and initiatives exploring and experimenting in this area. The primary goal of the Landscape study was to assemble comparable data and analysis from Germany, Finland, Denmark, United Kingdom, The Netherlands, Norway, Austria and France. This includes the costs of OA books; the fees being charged for OA books; the range of non-BPC models; the adoption of OA policies for books by funders (both public and private), universities, and publishers. An overview of OA book publishing along with a review of policies and mandates highlights the various national differences as well as similarities. The report also presents a number of proposals for all stakeholders to consider.

OAPEN – Milloy, Caren. 'Investigating OA Monograph Services – Final Report'. *Jisc Scholarly Communications.* 2017. scholarlycommunications.jiscinvolve.org/wp/2016/10/11/investigating-oa-monograph-services-final-report**.**

This report presents the main activities and results of the 'Investigating OA monograph services' project. It starts with a brief description of the Project Preparation Phase and continues with the Project execution, covering each of the original work packages with a description of activities. The final section presents recommendations for next steps in the ongoing effort to establish the necessary infrastructure and services to support OA monograph publishing.

OAPEN – Snijder, Ronald. 'The Influence of Open Access on Monograph Sales: The Experience at Amsterdam University Press'. *LOGOS: The Journal of the World Book Community, 25/3, 13–23.* 2014. doi:10.1163/1878-4712-11112047**.** booksandjournals.brillonline.com/content/journals/10.1163/1878-4712-11112047**.**

The hybrid model of Amsterdam University Press (AUP) combines monograph sales with open access publishing. This paper investigates the effects of open access publishing on the sales of monographs, taking into account the influence of: commercial potential; frontlist and backlist; and language. The data set contains sales figures of 513 books, spread over 36 months: 2010 to 2012. Over 70 per cent of those books are published on open access and are distributed through the OAPEN Library. Each influence is relevant, which makes it harder to single out the effects of apen access. The large difference between frontlist sales figures and those of the backlist leads to a separate analysis. The frontlist sales are affected by a combination of commercial potential and language; open access publishing has no effect in this situation. For the backlist, open access publishing is a significant influence on sales only in the subset of books whose print run is between one and 2000. No significant effect on books with a print run of zero, or on books with a print run between 2001 and 3000 could be measured. The hybrid model does not lead to more sales of open access monographs, and the loss of sales is negligible. The data suggest that a hybrid model is not an option to improve the sustainability of monograph publishing.

OAPEN – Snijder, Ronald. 'Modes of Access: The Influence of Dissemination Channels on Open Access Monographs Use'. *Information Research, 19/3*. 2014. informationr.net/ir/19-3/paper638.html**.**

This paper studies the effects of several dissemination channels in an open access environment by analysing the download data of the OAPEN Library. Download data were obtained containing the number of downloads and the name of the Internet provider. Based on public information, each Internet provider was categorised. The subject and language of each book were determined using metadata from the OAPEN Library. Quantitative analysis was done using Excel, while the qualitative analysis was carried out using the statistical package SPSS. Almost three quarters of all downloads come from users who do not use the Website www.oapen.org, but find the books by other means. Qualitative analysis found no evidence that channel use was influenced by user groups or the state of users' Internet infrastructure; nor was any effect on channel use found for either the language or the subjects of the monographs. The results show that most readers are using the 'direct download' channel, which occur if the readers use systems other than the OAPEN Library website. This implies that making the metadata available in the user's systems, the infrastructure used on a daily basis, ensures the best results.

OAPEN – 'Researcher Survey 2014: Survey of Use of Monographs by Academics – as Authors and Readers'. 2014. oapen-uk.jiscebooks.org/research-findings/researcher-survey-2014**.**

This paper reports the findings of the second OAPEN-UK researcher survey, carried out in early summer 2014. In collaboration with the HEFCE open access and monographs project, we surveyed UK humanities and social science researchers and achieved 2,231 usable responses. The survey explores the role of the monograph for researchers, as both authors and readers. It looks at issues around publishing, including what motivates researchers to change publisher and how they handle rights issues. It also looks at researcher preferences when reading books, including how and why they read them, and explores how desirable and realistic they consider open access to be.

OAPEN – Ferwerda, Eelco. 'Open Access Monograph Business Models'. *Insights, 27/0.* 2014. doi:10.1629/2048-7754.46. insights.uksg.org/articles/10.1629/2048-7754.46**.**

In recent years, a number of business models have been developed for open access (OA) monographs in the humanities and social sciences (HSS). While each model has been created in response to specific circumstances and needs, some commonalities can be observed. This article outlines some of the main types of model to support the costs of publishing OA books and provides examples of these models across the world. It is followed by three short sketches providing more depth on: firstly, a traditional publisher's OA monograph offer; secondly, a licensing-based model which draws from existing library budgets; and finally, an experiment with delayed open access for books in philosophy.

OAPEN – Snijder, Ronald. 'Measuring Monographs: A Quantitative Method to Assess Scientific Impact and Societal Relevance". *First Monday, 18/5.* 2013. firstmonday.org/ojs/index.php/fm/article/view/4250/3675**.**

In the Humanities and Social Sciences (HSS), the monograph is an important means of communicating scientific results. As in the field of STM, the quality of research needs to be assessed. This is done by bibliometric measures and qualitative methods. Bibliometric measures based on articles do not function well in the field of HSS, where monographs are the norm. The qualitative methods which take into account several stakeholders are labour intensive and the results are dependent on self-assessment of the respondents, which may introduce bias. In the case of humanities, the picture becomes even less clear due to uncertainties about the stakeholders. This article describes a method that may complement the current research on scientific impact and societal relevance. This method measures the usage of online monographs and identifies the internet provider involved. The providers are categorized as academic; government; business; non-profit organisations and the general public. The usage is further categorised in national and international. Combining this data makes it possible to assess the scientific impact and the societal relevance of the monographs. The method is quantitative, which makes the results easier to validate. It is not necessary to know the stakeholders in advance: the readers are identified through the method. The used data set consists of over 25,000 downloads by more than 1,500 providers, spread over 859 monographs. More than two thirds of the usage can be categorised, and almost 45% of all usage comes from non-academics. This might indicate that the monographs have an relevance in society. Two possible influences on monograph usage were analysed: subject and language. Most of the subjects that received a higher than average number of downloads come from the field of the social sciences; the humanities were less 'popular'. Books in English – the 'lingua franca' of science – were downloaded the most. Languages such as Dutch were read much less outside of national borders that Italian or German. A Dutch or Belgian scholar would need a translation in order to have more influence abroad; this applies far less for Germans or Italians. While further research is needed, the results are promising and the proposed method could be used as an addition to the existing tools to measure the scholarly impact and societal relevance of the field of HSS.

OAPEN – Ferwerda, Eelco; Snijder, Ronald; and Janneke Adema. 'OAPEN-NL: A Project Exploring Open Access Monograph Publishing in the Netherlands. Final Report', 2013. bit.ly/2uRqkD8**.**

This final report presents the results of OAPEN-NL. Chapter 5 aims to give an overview of open access for monographs, looking at the benefits of open access, the motives for the transition to open access and early examples of open access book publishers, the various open access publication models and examples of policies supporting open access monographs and a short description of emerging open access business and funding models. The main outcomes of the project are presented in chapter 6,

OAPEN-NL: Research Outcomes. The first section of chapter 6 provides an analysis of the qualitative aspects of the OAPEN-NL project, looking at the experiences and needs of users with respect to open access books and the project as a whole, as well as their expectations and requirements with respect to the OAPEN-NL publication fund and model. The following section investigates the costs of publishing a monograph in the Netherlands and discusses the implications for funders. The last section describes the effects of open access publishing on book sales, discovery, online consultation and citations. The final chapter collects the recommendations for open access monographs, drawn from both OAPEN-NL and developments elsewhere. In this report we use the term open access (OA) as defined by Peter Suber, as literature that is digital, online, free of charge, and free of most copyright and licensing restrictions (Suber, 2012). We use the term monographs (sometimes called research monographs, or academic books, or simply books) for peer reviewed academic books. This report does not deal with other genres, such as dissertations, textbooks, reference works or trade books.

OAPEN – Adema, Janneke. 'Overview of Open Access Models for Ebooks in the Humanities and Social Sciences: OAPEN Project Report.' 2010. project.oapen.org/images/documents/openaccessmodels.pdf**.**

This research has looked at a variety of initiatives and specifically at their publishing models, business models and publishing processes. Within these divisions, special attention has been paid to the nature of the content, the level of open access provided, the peer review and copyright policies and, finally, the strategies of collaboration. The open access book publishing initiatives analyzed in this report have been classified according to their publishing models, they have thus been categorized into commercial publishers, presses established by societies or academies, presses established by libraries, library-university collaborations, university presses, presses established by academics and press-commercial publisher partnerships.

OAPEN – Ferwerda, Eelco. 'Open Access Monographic Publishing in the Humanities'. *Information Services & Use,* 30/3–4, 135–41. 2010. doi:10.3233/ISU-2010-0611**.** content.iospress.com/articles/information-services-and-use/isu611**.**

In recent years, it has become widely recognized that in the case of monographs, the traditional business model for books is losing its sustainability. Academic publishers have been forced to become more selective in the books they publish, and authors, in particular young researchers and first time authors, have found it harder to find a press willing to publish their work. In response to the economic restraints of printed monographs, many publishers and academic institutes, in particular research libraries, have started to experiment with digital and open access publication of monographs. OAPEN is the first international project to develop an open access model for publishers and stakeholders in scholarly communication. OAPEN stands for Open Access Publishing in European Networks.1 It is a 30 month project co-funded by the European Union,2 to develop and implement an open access (OA) publication model for peer reviewed academic books in the Humanities and Social Sciences (HSS).

Further research and publications

– KU Research – 'Landscape Study on Open Access Monographs, Policies, Funding, Publishers'. Ferwerda, Eelco; and Niels Stern. 2017 (forthcoming).

- KU Research – 'The Academic "Book" of the Future and its Function', The Academic Book of the Future. Lyons, R; and S Rayner. Palgrave. 2016.
- Göttingen UP – Horstmann, Wolfram; Bargheer, Margo; and Andrea Rapp. 'Monographien und ihr digitales Potenzial in der Forschung des 21. Jahrhunderts'. Bibliothek der Zukunft. Zukunft der Bibliothek, 92–104. Degkwitz, Andreas. 2016. doi:10.1515/9783110464016-009. degruyter.com/view/books/9783110464016/9783110464016-009/9783110464016-009.xml.

1.6 OA JOURNALS

OpenEdition/Cléo – Langlais, Pierre-Carl. 'Critical Study of the New Ways of "Editorialising" Open Access Scientific Journals. Steering Committee: Bauin, Serge; Corne, Emmanuelle; Lafait, Jacques; and Pierre Mounier. 2017. hal.archives-ouvertes.fr/hal-01399286**.**

This report commissioned by BSN 4 and BSN 7 for the French Ministry of Research is concerned with the new ways in which open access journals can be editorialised. The transition to open access has accelerated in recent years. Several countries have established a legal framework to secure the depositing of articles in open archives (in France, a provision of this type is included in the Digital Bill). In May 2016, the Council of the European Union called for open access to be made a 'default option' in all Member States by 2020. While the conversion of scientific publishing to open access distribution appears to be a given in the short term, the ways and means remain uncertain: is the process confined to simply transferring budgets from subscription to the payment of publishing rights, without fundamentally changing the existing publishing structures ('journal flipping')? Or does it entail new models that reconfigure the existing parameters as a whole (review procedures, writing practices, business models, governance)? This dynamic of change opens up the prospect of large-scale reforms. The initial remit of the present study falls into this framework: what publishing forms can the state encourage in a digital age that is witnessing the transformation of scientific publishing and the failure of scientific peer review? This report maps four aspects of the emerging practices and initiatives: publishing tools, writing forms, peer review and economic models. The different 'dimensions' we have mapped are interdependent and raise common issues, addressed in the final part. In an ecosystem as "interdependent" as digital scientific publishing, this reform would imply the implementation of infrastructure policies which, above and beyond supporting specific usages and tools, would define the convergent linkages between mechanisms, actors and practices.

EKT – Tsoukala, Victoria; and Evi Sachini. 'E-Journal and Open Access Journal Publishing in the Humanities: Preliminary Results from a Survey among Byzantine Studies Scholars. 2011. helios-eie.ekt.gr/EIE/handle/10442/8755**.**

This paper presents the preliminary results of a survey conducted by the National Documentation Centre/NHRF in the fall of 2010 among specialists in Byzantine Studies. The survey sought to assess needs and satisfaction with the electronic version of the journal 'Byzantina Symmeikta' and to assess scholarly attitudes about and practices in publishing in e-journals and open access journals among scholars in Byzantine Studies. The paper focuses on the latter part. Survey result suggest that scholars in Byzantine Studies increasingly rely on e-journals to carry out their research, they are predominantly positively disposed towards electronic publishing and open access, but most of them have not published in an electronic journal. Use of e-journals, experience with publishing in e-journals and open access journals and positive attitudes toward the above are especially high among younger scholars.

EKT – Sachini, Evi; Tsoukala, Victoria; Houssos, Nikos; Stathopoulou, Rania; Paschou, Christina; and Aggeliki Paraskevopoulou. 'Open Access in the Humanities: A Case Study of Developing Three Open-Access Electronic Journals in Greece'. 2009. helios-eie.ekt.gr/EIE/handle/10442/13355**.**

The international movement for open access to scientific content along with advances in information and communication technologies and the Internet are bringing about revolutionary developments in scholarly publishing and communication: the availability of e-infrastructures supporting the management and exchange of the research output in digital format leads to the transformation of existing processes. It allows new ways of collaboration among researchers and facilitates the widespread dissemination of research results. Pioneering applications related to these trends have first appeared in scientific fields that inherently have a closer relationship with technology like natural sciences, engineering and medicine. However, significant relevant activities in the Humanities are also beginning to emerge worldwide. The present contribution concerns a case study of open access publishing in the Humanities, in particular a project that created freely accessible electronic versions of three pre-existing print-only journals of this subject area published in Greece but with international participation and perspectives. The paper provides Greek context in scholarly communication with an emphasis on the Humanities; it elaborates on the goals of the project and the challenges that were encountered and addressed during its implementation. One of the main reported successes of the project was the increased awareness among Greek researchers in Humanities of the capabilities and potentials of modern scholarly communication systems and the creation of a demand originating from the corresponding research community itself for the continuation and expansion of similar activities in the future.

Further research and publications

- OLH – Matthews, David; and Martin Paul Eve. 'Open Library of Humanities Aims to 'Flip' Journals to Open Access'. *Times Higher Education.* 2015. timeshighereducation.com/research-intelligence/open-library-humanities-aims-flip-journals-open-access.
- SciELO – Meneghini, R. 'Internationalizing a Prestigious Brazilian Scientific Journal'. *Journal of the Brazilian Chemical Society, 25/5, 798–798.* 2014. doi: 10.5935/0103-5053.20140081. scielo.br/scielo.php?script=sci_arttext&pid=S0103-50532014000500001&lng=en&nrm=iso&tlng=en.
- SciELO – Meneghini, R. 'Emerging Journals: the Benefits of and Challenges for Publishing Scientific Journals in and by Emerging Countries'. *EMBO reports, 12/2, 106–108*. 2012. doi:10.1038/embor.2011.252. embor.embopress.org/content/13/2/106.
- SciELO – Menghini, R. 'Publication in a Brazilian Journal by Brazilian Scientists whose Papers have International Impact'. *Brazilian Journal of Medical and Biological Research, 43/9, 812–815.* 2010. doi:10.1590/S0100-879X2010007500073. scielo.br/scielo.php?script=sci_arttext&pid=S0100-879X2010000900001&lng=en&tlng=en.

2. EVENTS

The second section of the bibliography and events part considers meetings, such as conferences, workshops, seminars and lectures, which the OPERAS Consortium has organized since 2012.

Partners of the OPERAS Research Infrastructure have long been organizing events relating to OA in general, and to OA in the SSH in particular. EKT, for instance, has hosted the Open Access Week in

2016 and the University of Zadar the Open Access Week Croatia in the same year. UC Digitalis has co-organized a panel on the impact of OA in the scientific community as part of the International Congress on the University Library, stressing the strong need for and effect of OA on the SSH, while UCL Press has presented OA publishing options at the Open Access Week 2015 and IBL PAN has co-organized a workshop on public humanities in 2017. The OPERAS Consortium has been especially involved with organizing and hosting events on best practices and case studies, as well as policy recommendations for OA publishing. E.g. OpenEdition/Cléo has been discussion leader for a workshop on non-profit OA ventures of significant scope in Europe in the framework of the 18th International Conference on Electronic Publishing. OAPEN in particular has focused on OA monographs, organizing a conference on that topic in 2013.

2.1 SSH AND DIGITAL OA PUBLISHING

- UCL Press – "University Press Redux Conference 2018", The British Library Conference Centre, 13–14 February 2018 (forthcoming)
- University Ca'Foscari – "COAR Annual Meeting 2017", Biblioteca Digitale di Ateno, 8 May 2017, coar-repositories.org/community/coar-annual-meeting-2017
- University Ca'Foscari – "Proprietà Intellettuale e Open Access nei Progetti Europei", Biblioteca Digitale di Ateno, 1 February 2017, unive.it/pag/fileadmin/user_upload/SBA/documenti/BDA/1_Locandina.pdf
- Ubiquity Press – Eve, Martin Paul, "Open Access in the Humanities, Or: The Internet is not Going Away", Open Access at UWE, University of the West of England, 18 January 2017, eprints.bbk.ac.uk/17961/
- University Ca'Foscari – "New Roles in Open Science and Data Stewardship", Biblioteca Digitale di Ateno, 25 November 2016, phaidra.cab.unipd.it/detail_object/o:306049
- EKT – Open Access Week 2016, 24–27 October 2016, ekt.gr/el/events/203333
- University of Zadar – "Open Access Week Croatia", 25 October 2016, www.openaccessweek.org/events/open-access-week-croatia
- Ubiquity Press – Eve, Martin Paul, "The Universal Library: Open Access and Why It Is So Hard", Electronic Visualization and the Arts Pre Conference Symposium, British Computer Society, 11 July 2016, eprints.bbk.ac.uk/15739
- Göttingen UP – "Conference: ELPUB 2016 – 20th International Conference on Electronic Publishing", Niedersächsische Staats- und Universitätsbibliothek Göttingen, 7–9 June 2016
- Ubiquity Press – Eve, Martin Paul. "Open Access: The State of Play, or why it should be easy but why it isn't...", DARTS 5, Dartington Hall, 2–3 June 2016, eprints.bbk.ac.uk/15427
- IBL PAN – "Open Access to Scientific Publications", Workshop co-organised with Platform for Open Science (PON), Warsaw, 17 May 2016
- AISA – "Nostra res agitur: la scienza aperta come questione sociale", 22 October 2015, aisa.sp.unipi.it/attivita/i-convegno-annuale-aisa/programma
- UniTo – "Open Science: Horizons and Tools", Open Access Week, 22 October 2014

2.2 THE NEED FOR OA PUBLISHING

- IBL PAN – "Public Humanities Workshop", Co-organised as a DARIAH-EU funded project with Trinity College Dublin and the University of Ghent, Dublin, 23–24 May 2017, calenda.org/402650
- Ubiquity Press – Eve, Martin Paul, "Open Access in the Humanities: What, Why, and How", CHASE Arts and Humanities in the Digital Age Winter School, Goldsmiths, University of London, 11–13 January 2017, eprints.bbk.ac.uk/17909
- Ubiquity Press – Eve, Martin Paul, "Open Access and the Humanities: Contexts, Controversies and the Future", Interdisciplinary Seminar, UEA, 2 March 2016, eprints.bbk.ac.uk/15029/
- Ubiquity Press – Eve, Martin Paul, "Open Access: What it is and why it matters", IDS Bulletin Launch Event, The British Library, 2 February 2016, eprints.bbk.ac.uk/14235/
- UniTo – "Humanities and Social Sciences and Open Access: an Opportunity", Open Access Week, 22 October 2013

2.3 THE IMPACT OF OA PUBLISHING

- Ubiquity Press – Paul, Martin Paul; D'Oca, Gino; and Katy Shaw, "What does Open Access to Research Mean for the Humanities?", The Future of the Humanities, Centre for Culture & the Arts, 4 July 2016, eprints.bbk.ac.uk/15693/
- Ubiquity Press – Edwards, Caroline, "The Transformative Impact of the Open Agenda", SCONUL Annual Conference, 22–24 June 2016, sconul.ac.uk/event/sconul-summer-conference-and-agm-2016
- UC Digitalis – "The Impact of Open Access in Scientific Community", International Congress on The University Library: Permanence and Metamorphosis, Coimbra University Library, Co-organizer of the panel, 18 January 2014

2.4 BEST PRACTICES, CASE STUDIES, AND POLICY RECOMMENDATIONS

- UC Digitalis – "Challenges in Implementing the National Policy of Open Science", Coimbra University, Institute of Interdisciplinary Investigation, Workshop Co-organizer, 14–16 June 2017
- LingOA – "Eve, Martin Paul; Rooryck, Johan; and Saskia de Vries, "The Transition to Open Access: the State of the Market, Offsetting Deals, and a Demonstrated Model for Fair Open Access with the Open Library of Humanities", ELPUB 2017, 6–8 June 2017
- LingOA – "Rooryck, Johan, "A Model for the Transition from Subscription to Fair Open Access", Workshop Boosting Engagement of Serbian Universities in Open Science – BE-OPEN, 17–19 May 2017, lingoa.eu/wp-content/uploads/2015/10/Transition-to-FOA.pptx
- LingOA – "Rooryck, Johan; and Saskia de Vries, "Towards Fair Open Access. Science Europe Working Group on Open Access to Research Publications Workshop", Challenging the Current Business Models in Academic Publishing – Accelerators and Obstacles to the Open Access Transition, 26–27 April 2017, lingoa.eu/wp-content/uploads/2015/10/Saskia-de-Vries-def-Science-Europe-workshop-Open-Access-Apr-2017.pptx
- IBL PAN – "Much More than Infrastructure: Working together to Connect Research – Workshop on Persistent Identifiers and Best-practices", Co-organised with Crossref and Project THOR, Warsaw, 24 April 2017, biuletynpolonistyczny.pl/events/949/details

- LingOA – "Rooryck, Johan, "A Fair Open Access publishing model", The Fiesole Collection Development Retreat Series, Université de Lille Sciences et Technologies, 19–21 April 2017
- LingOA – "Rooryck, Johan, "Fair Open Access: LingOA and Beyond", Workshop: A Transition to Fair Open Access, Leiden University, 7 April 2017, lingoa.eu/wp-content/uploads/2015/10/Fair-Open-Access-7-april.pptx
- Ubiquity Press – Eve, Martin Paul, "Open Publishing Models for the Humanities", Open in Practice, University of Reading, 30 March 2017, eprints.bbk.ac.uk/18407/
- LingOA – "Rooryck, Johan; Saskia de Vries, "A Transition to Fair Open Access: LingOA, MathOA, PsyOA", 13th Berlin Open Access Conference: Building Capacity for the Transformation, 21–22 March 2017
- LingOA – "Rooryck, Johan, "Open Access Models for the Humanities and the Social Sciences", LERU Social Sciences and Humanities Policy Group Meeting, 13–14 February 2017
- Ubiquity Press – Eve, Martin Paul, "Open Access in the Humanities and the Open Library of Humanities", MA Publishing Programme, Kings College London, 9 February 2017, eprints.bbk.ac.uk/18103
- Ubiquity Press – Eve, Martin Paul, "Open Access in the Humanities and a New Funding Model", 7ª Conferência Luso-Brasileira Sobre Acesso Aberto, Instituto Politécnico De Viseu, 1–3 November 2016, eprints.bbk.ac.uk/16600
- Ubiquity Press – Eve, Martin Paul, "A New Model for Open Access: The Open Library of Humanities One Year On", University of London, 27 October 2016, eprints.bbk.ac.uk/16472
- Ubiquity Press – Eve, Martin Paul, "Open Access and the Open Library of Humanities", Publishing Now, Birkbeck, University of London, 18 October 2016 eprints.bbk.ac.uk/16391/
- LingOA – Rooryck, Johan, "LingOA: a Roadmap to Fair Open Access", Workshop Open Science – Knowledge for All, Ministério da Ciência, Tecnologia e Ensino Superior, Lisbon, 29 March 2016
- Ubiquity Press – Eve, Martin Paul, "Open Access and its Politics", Media, Film and Screen Studies Seminar, Brighton University, 25 April 2016, eprints.bbk.ac.uk/15031/
- UCL Press – "Open Access Publishing Options", Open Access Week 2015, 21 October 2015
- University Ca'Foscari – "Open Access@Ca'Foscari", Biblioteca Digitale di Ateno, 9 October 2015, phaidra.cab.unipd.it/detail_object/o:68371
- Göttingen UP – "Workshop: Nachhaltige Absicherung von Open-Access-Publikationsfonds", Niedersächsische Staats- und Universitätsbibliothek Göttingen, 15–16 June 2015
- OpenEdition/Cléo – Mounier, Pierre, "Non-profit Open Access Ventures of Significant Scope in Europe", 18th International Conference on Electronic Publishing, Discussion Leader, 17 June 2014, elpub2014.teithe.gr/index.php/programme/workshops?showall=&start=2

2.5 OA MONOGRAPHS

- OAPEN – "Open Access Monographs in the Humanities and Social Sciences Conference", The British Library, 1–2 July 2013, bit.ly/2uTAOAb
- Göttingen UP – "National Workshop on Open Access for Scholarly Monographs", 2012

2.6 OA JOURNALS

- LingOA – Rooryck, Johan, “How and what to Choose: Journal Categories and Open Access”, Workshop International Quality Standards in Publishing, University of Vienna, 2 February 2017
- LingOA – Rooryck, Johan, “From Subscription to Open Access Journal: the Experience of a Mutinous editor”, Open Access Roundtable, EUI Florence, 27 September 2016

Annex 1: Landscape Study

Design for Open access Publications in European research Areas for Social Sciences and Humanities

Project Number: GA 731031

OPERAS-D

WP 2: **Developing network and e-infrastructure strategy**

Landscape Study on Open Access Publishing

The project has received funding from European Union's Horizon 2020 research and innovation programme under grant agreement 731031.

Contents

List of Acronyms and Abbreviations

AHRC: Arts and Humanities Research Council

ANDS: Australian National Data Service

APC: Article Processing Charges

BOAI: Budapest Open Access Initiative

CRIS: Current Research Information Systems

DFG: German Research Foundation (Deutsche Forschungsgemeinschaft)

ESRC: Economic and Social Research Council

FTE: Full Time Equivalent

FWF: Austrian Science Fund ((Fonds zur Förderung der wissenschaftlichen Forschung)

HEFCE: The Higher Education Council for England

MS: Member State(s)

NIH: National Institutes of Health

NUP: New University Presses

OA: Open Access

OJS: Open Journal Systems

OpenDOAR: The directory of open access repositories

OPR: Open Peer-Review

PASTEUR4OA: Open Access Policy Alignment Strategies for European Union Research

RCUK: Research Councils UK

Redalyc: Red de Revistas Cientificas de America Latina y el Caribe, Espana y Portugal

REF: Research Excellence Framework

ROARMAP: The Registry of Open Access Repository Mandates and Policies

Scielo: The Scientific Electronic Library Online

SCOAP3: Sponsoring Consortium for Open Access Publishing in Particle Physics

SSH: Social Sciences and Humanities

Executive Summary

OPERAS-D (Design) is a project funded by Horizon 2020 (Grant Agreement: 731031). The project aims to support the development of a European infrastructure for open access scholarly communication, with a special focus on the Social Sciences and Humanities (SSH). The Landscape Study is a deliverable for Work Package 2 (WP2) "Developing network and e-infrastructure strategy", which documents the current state of affairs in the field of scholarly publishing and provides input on the discussion regarding the elaboration of effective long-term strategies for the future development of the digital infrastructure and community building.

The study comprises desk research and identifies recent developments and challenges within the scholarly communication framework. It particularly sketches the landscape of academic publishing in the SSH, with special reference to existing and emerging open access models within the OPERAS network and beyond. To this extent, the report examines important initiatives in Europe, the USA, Australia and elsewhere, in terms of operational and business models, stakeholder participation, current recommendations and good practices. Special attention is given to assessing the use and impact of open access publications, and indicating the goals and needs yet to be met.

Reference is also made to international initiatives that stand out in the open access movement, as well as policy frameworks and mandates introduced by the European Commission and/or at national level. Thus, this report highlights long-term commitments undertaken by key stakeholders towards the development of digital infrastructures, the implementation of sustainable funding models for open access publishing and the enhancement of scholarly communication processes.

As part of the ongoing debate on the dissemination of scientific output, there is an increasing demand for open access (to publications and research data), which is becoming increasingly adopted as the main practice for communicating the results of publicly funded research. A variety of complementary initiatives have been launched to this end: among these, emphasis is placed here on the opening up of the academic publishing ecosystem to new business models that enhance further the impact of open access journals and monographs in the Social Sciences and Humanities.

In examining all emerging trends in journal and monograph publishing, the report outlines key challenges and potential issues to be addressed by future initiatives. Recently introduced and experimental models (such as scholar-led publishing bodies, and new university presses) share common orientations towards increased participation of researchers in the publishing process and overcome certain deficiencies of the commercial publishing model.

Notwithstanding the importance of such initiatives, as the Report concludes, fragmentation (both in terms of the size and nature of publishers and of their business models) is a key characteristic in the academic publishing landscape. In this context, the main challenge in adopting effective open access publishing practices is to identify and assess current needs and limitations that permeate the academic publishing landscape, in operational as well as communicational terms.

The landscape study confirms that successful research relies primarily on unrestricted access to high quality scientific output and cross-disciplinary, international collaboration. Shared and remotely accessed digital infrastructures constitute an important feature towards the realisation of the European Research Area, and OPERAS aspires to be actively engaged in the implementation of a new mode of science that overcomes fragmentation and enables unrestricted access to high quality scientific output.

1. Introduction

OPERAS (Open access in European Research Area through Scholarly communication) **(http://operas-eu.org)** network aims at introducing "the principles of Open Science and ensuring effective dissemination and global access to research results, particularly in the Social Sciences and Humanities (SSH)".[1] This aim will be achieved by uniting and improving existing and uncoordinated publishing and communication services and infrastructures across European member states under research infrastructures so as to address these challenges and improve the way research is carried out, communicated and evaluated within the SSH. This will result to a significantly more advanced and efficient open access publishing system.

The core group of the OPERAS network is currently implementing OPERAS-D (Design), Horizon 2020 funded project (Grant Agreement: 731031), which aims to support[2] the development of a European digital infrastructure for open access scholarly communication, particularly in the SSH. The project aims to address the long-term requirements for the development of the digital infrastructure and community building and to expand towards other parties within and beyond Europe and in diverse fields of the SSH.[3]

The present Report is a deliverable for Work Package 2 (WP2) "Developing network and e-infrastructure strategy" which has the following objectives:

- To identify and examine existing and emerging policies and practices in open access SSH publishing within the OPERAS network and beyond it, in particular in Europe
- To identify the key stakeholders involved in open access SSH publishing in Europe and beyond
- To explore ways of optimizing e-infrastructure investments for OPERAS members and of creating complementarities

[1] OPERAS (Open Access in the European Research Area through scholarly communication) http://operas-eu.org

[2] The core group comprises a limited number of strategic partners of the OPERAS network: OpenEdition, OAPEN, the Max Weber Foundation (MWS), the National Documentation Centre (EKT), UCL Press, the University of Coimbra, the University of Zadar, and the Institute of Literary Research of the Polish Academy of Sciences.

[3] OPERAS-D (Design for Open Access Publications in European Research Area for Social Sciences and Humanities) http://operas.hypotheses.org/operas-d

- To explore avenues for the creation of a long-term e-infrastructure strategy and community building
- To develop the OPERAS design study and implementation roadmap.

To reach these objectives, the OPERAS-D team has conducted an analysis of academic and grey literature to identify and examine existing and emerging practices in open access publishing in the SSH, map the key stakeholders and outline key challenges in the open access publishing landscape and potential issues to be addressed by the OPERAS network. The study will focus primarily on the European environment, but will also present international initiatives of interest to the current analysis. The core findings of this desk review are in turn expected to feed-in the design study and the roadmap that will define governance models, structures and scientific and technical concepts for future services and the requirements for long-term sustainability (T2.3) as well as the design of the business model that will address the purpose and economic logic of OPERAS (T4.1).

2. Milestones in the Open Access Movement

2.1 The three Bs: Budapest, Berlin and Bethesda

Three important initiatives stand out in the open access movement: the Budapest, the Berlin and the Bethesda declarations. The **Budapest Open Access Initiative** (BOAI) released in 2002 comprises a set of principles for open access to scholarly journal literature. The BOAI is considered as one of the key initiatives in the open access movement as "it was the first initiative to use "open access"….the first to articulate a public definition, the first to propose complementary strategies for realizing OA, the first to generalize the call for OA to all disciplines and countries and the first to be accompanied by significant funding".[4] The Budapest declaration defines open access as

> *"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*

[4] Budapest Open Access Initiative- Ten Years on from the Budapest Open Access Initiative- setting the default to open, 12 September 2012, http://www.budapestopenaccessinitiative.org/boai-10-recommendations

for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself".[5]

The BOAI initiative has had major impact on the adoption and promotion of open access. The initiative highlighted communication as the foundation of the scientific enterprise. Its aim was to "accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge." [6]

On the occasion of its tenth anniversary the initiative was supplemented by a set of recommendations to reaffirm the BOAI "statement of principle, …statement of strategy, and …statement of commitment". The recommendations focus on policy, licensing and reuse, infrastructure and sustainability, advocacy and coordination.[7]

Fifteen years later in 2015, a survey was launched to gather feedback so as to take stock of the collective effort. Responses were received from 69 countries around the world. A working group synthesized the feedback received and will provide updated recommendations. A reflection written by Jean Claude Guedon, one of the pioneers of the open access movement was released on that occasion. The document entitled "Open Access: Towards the Internet of the Mind" noted that the variety of forms that open access has taken over the years do not always conform with the notion as it was originally conceived and that in some instances these variations are the product of the power play between different actors and compromises. The document also notes that from a publishers' perspective, open access has been reshaped in a new way posing the question of whether open access is perceived as a communication system to support science or as a business model used to reinforce the position of publishers.[8]

[5] Budapest Open Access Initiative, "Read the Budapest Open Access Initiative", 14 February 2002, http://www.budapestopenaccessinitiative.org/read
[6] Ibid.
[7] Budapest Open Access Initiative, op. cit.
[8] Guedon, J.C. "Open Access: Towards the Internet of the Mind", 23 February 2017 http://www.budapestopenaccessinitiative.org/open-access-toward-the-internet-of-the-mind

The second milestone in the open access movement is the **Berlin Declaration**. The Berlin Declaration on open access to knowledge in the sciences and humanities is the outcome of the Berlin Conference organized in 2003 by the Max Planck Society and the European Cultural Heritage Online (ECHO) project aimed at creating a new web-based research environment. The conference brought together national and international research organisations, research funders, libraries, learned societies, etc. Since then, annual follow-up workshops have been organized. The Berlin Declaration aims "to promote the Internet as a functional instrument for a global scientific knowledge base and human reflection and to specify measures which research policy makers, research institutions, funding agencies, libraries, archives and museums need to consider".[9] The Declaration supports the transition to the electronic open access paradigm by encouraging researchers to make their research outputs openly available (on the basis of the principles of the open access paradigm), developing means for evaluating open access contributions and journals to maintain quality assurance and good scientific practice, recognizing open access publications in tenure evaluations.[10]

The **Bethesda Statement on Open Access** was also released in the same year. The purpose of the statement was "to stimulate discussion within the biomedical research community on how to proceed, as rapidly as possible, to the widely held goal of providing open access to the primary scientific literature".[11] The statement provided a working definition for open access publication and subsequently the reports of the working groups of institutions and funding agencies, libraries and publishers, scientists and scientific societies.

In discussing the catalyst role these initiatives have had in the uptake of open access, the role individuals like Peter Suber (the drafter of the Budapest Open Access Initiative) and Jean Claude Guedon have had in this process should also be acknowledged. What is even more interesting is that, as Martin Paul Eve notes, while the history of open

[9] Max Planck Society, Berlin Declaration on Open Access to Knowledge in the Sciences and the Humanities, 22 October 2003, https://openaccess.mpg.de/67605/berlin_declaration_engl.pdf
[10] Ibid.
[11] Bethesda Statement on Open Access Publishing, released 20 June 2003, http://legacy.earlham.edu/~peters/fos/bethesda.htm

access seems to be science-centric, some of the landmark initiatives stem from researchers in the humanities.[12]

2.2 Pathways to Open Access

There are broadly two (structured) ways for providing Open Access to scientific outputs: self-archiving (the Green route) and open access publishing (the Gold route).

In **self-archiving** (**the Green route**) the author deposits (archives) the published article or the final peer-reviewed manuscript in an online repository. This can be done at the time of publication or after publication as some publishers request that the manuscript be made open after a specific time period has elapsed (embargo period).[13] Repositories usually run on open source software and make use of common technical standards which enhance their interoperability, while they are indexed by search engines like Google Scholar that enhances the visibility and impact of their content. Repositories can be general, subject-based or institutional. Prominent examples of subject-repositories include arXiv (high energy physics and related fields), RePec (economics) and PubMedCentral (life sciences). In terms of institutional repositories, the University of Southampton is considered a pioneer as it developed the first one in 2000.

In **open access publishing** (**the Gold route**) the article is published immediately in open access. Open access publishing entails a variety of business models and stakeholders: from large commercial publishers to small non-profit ones. Some publishers charge article processing charges (APCs) which shift the cost from the reader to the author (and the latter's host institution or funding agency).[14] A recent OpenAIRE report[15] identifies three sub-components of Gold open access publishing:

[12] Eve, M. P. (2014) "Open Access and the Humanities: Contexts, Controversies and the Future", Cambridge, Cambridge University Press.

[13] Authors can check a journal's self-archiving policy through the SHERPA RoMEO service that provides related information on a journal basis http://www.sherpa.ac.uk/romeo/index.php?la=en&fIDnum=|&mode=simple

[14] Swan, A. (2012) Policy Guidelines for the Development and Promotion of Open Access. UNESCO.

[15] Johnson, R., Fosci, M., Chiarelli, A., Pinfield S., Jubb, M. (2017). "Towards a Competitive and Sustainable OA Market in Europe - A Study of the Open Access Market and Policy Environment". Report commissioned by OpenAIRE.

Gold – Hybrid: subscription-based journals providing an open access option through an offsetting agreement or APC payment
Gold –APC: articles available in open access, upon payment of a publication fee to the publisher by authors, funders or institutions
Gold no – APC: publication in a fully open access journal

The Directory of Open Access Journals (DOAJ) and the Directory of Open Access Books (DOAB) are a valuable source for identifying open access publishers.

2.3 Policies and Mandates

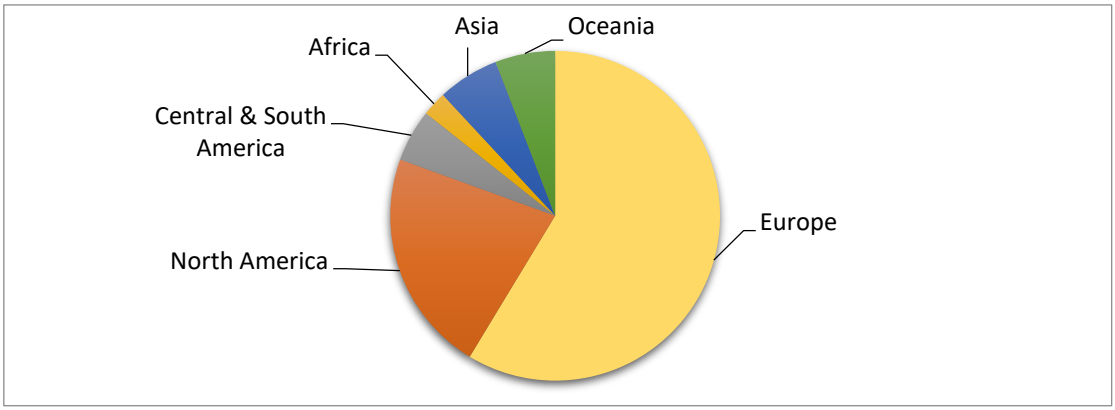
In addition to the importance of the declarations discussed in the previous section, open access has been boosted further through the adoption of policies and mandates by research organization and research funders.

ROARMAP (The Registry of Open Access Repository Mandates and Policies) provides important information regarding the uptake of open access policies worldwide. Following the revamping of ROARMAP -undertaken in the framework of the PASTEUR4OA project- with a new classification scheme for policies that records far more detail and provides more extensive search functionality, ROARMAP now includes more than 600 policies, the majority of which are found in European countries. Of these 2/3 are institutional policies and about 10% funder policies.[16] It is evident that both research organisations and funders are key driving forces behind the transition to an open access environment through the funds they use, the policies and mandates they adopt, etc.

Looking at the total (not just mandatory) number of policies worldwide it is evident that Europe is leading the way. A further interesting fact is that while Europe has approximately 25% of the world's researchers (in FTE) it has twice the number of open access policies as North America who in turn is second in terms of researchers (22%).[17]

Figure 1: Number of Open Access policies worldwide

[16] Swan. A., Gargouri, Y., Hunt, M., and Harnad, S. (2015) "Report on policy recording exercise, including policy typology, and effectiveness and list of further policy maker targets", Deliverable D3.1, PASTEUR4OA Project, March 2015, http://pasteur4oa.eu/deliverables?page=1
[17] Ibid.



As shown in the PASTEUR4OA report approximately half of the policies are mandatory: this is important as mandatory policies work better than voluntary ones. For the purpose of the PASTEUR4OA study, a policy was defined as mandatory if it required deposit of articles in a repository (Green open access) or required open access publishing for articles (Gold open access).

In addition to revamping ROARMAP, PASTEUR4OA undertook a policy effectiveness exercise which looked into the types of policies that successfully deliver open access and the clauses that are more effective. The examination of the factors that enhance policy effectiveness were prompted by the fact that the number of open access material does not reflect the increase in the number of open access policies observed over the previous years. The analysis[18] conducted provided a list of criteria around which policies should align to maximize their effectiveness. These are the following:

- Must deposit (mandatory policy)
- Deposit cannot be waived
- Link deposit with research evaluation.

At the EU-level, the **European Commission's** 2012 Recommendation on access to and preservation of scientific information[19] called on member states to improve their policies and practices on access and preservation. Open access (for publications and research data) has been further strengthened in Horizon 2020 through specific requirements in the Grant Agreement (articles 29.2 and 29.3) and the Work Programme.

[18] The study focused on institutional policies alone as research funder policies are more difficult to monitor.

[19] European Commission (2012a) Commission Recommendation of 17.07.2012 on access to and preservation of scientific information, Brussels, C(2012)4890 final.

The core argument behind the open access mandate is that information already paid for by the public purse should not be paid for again each time it is accessed or used, and that it should benefit European companies and citizens to the full. According to the Horizon 2020 Guidelines on open access to scientific publications and research data, each beneficiary must ensure open access to all peer-reviewed scientific publications, relating to its results.[20] While the Guidelines note that the dominant type of publication is the journal article, grant beneficiaries are also encouraged to provide open access to other types of publications like monographs, books, conference proceedings and grey literature.[21] The mandate applies to all scientific disciplines.

More recently, the EU's support on open access has been further strengthened through the 2016 Council decision reaffirming the EU's commitment "to further promote the mainstreaming of open access to scientific publications by continuing to support a transition to immediate open access as the default by 2020".[22] In such context, the Commission, the member states and relevant stakeholders are invited to catalyze this transition. The European Commission has lately used the broader term "Open Science" aimed at describing "the on-going evolution in the modus operandi of doing research and organizing science" which is in turn enabled by Big Data and Digital Technologies.[23] This new paradigm entails important and on-going transitions in the way research is performed, researchers collaborate, knowledge is shared and science is organized.[24] A key component of Open Science is open access to publications and research data.[25] To support further open science initiatives, the European Science Monitor (commissioned by the European Commission- DG Research and Innovation)

[20] European Commission (2016) H2020 Programme Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020, version 3.1, 25 August 2016.
[21] Ibid.
[22] Council of the European Union (2016) The transition towards an Open Science System- Council conclusions adopted on 27/05/2016 http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf
[23] European Commission (2016) Open Innovation, Open Science, Open to the world- a vision for Europe, Brussels, https://ec.europa.eu/research/openinnovation/index.cfm
[24] Ibid.
[25] Amsterdam Call for Action, 2016 https://english.eu2016.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science

to assess developments and trends both over time and among countries and scientific disciplines.[26]

At member state level,[27] the Research Councils in the UK (**RCUK**) have adopted an open access policy since 2005. RCUK as public bodies charged with investing public money in research, place particular importance in making research outputs publicly available for the benefit not only of other researchers, but also for users in business, charitable and public sectors, and the general tax-paying public. This is in turn expected to ensure maximum economic and social return. The RCUK policy aims "to achieve immediate, unrestricted, on-line access to peer-reviewed and published research papers, free of any access charge". The policy applies to peer-reviewed research articles (including review articles not commissioned by publishers) and conference proceedings. The policy supports both Green and Gold routes, even though RCUK has a preference for immediate open access. APCs and other related charges are covered through open access block grants provided to eligible research institutions. The policy also acknowledges disciplinary differences and has made place for adjustments by allowing different embargo periods.[28] The RCUK policy applies both to the ESRC[29] (the Economic and Social Research Council) and AHRC (the Arts and Humanities Research Council). The latter states that it does not (at least at this stage) require monographs funded by AHRC to be made openly available.[30]

HEFCE (The Higher Education Council for England) in its "Policy for open access in Research Excellence Framework 2021" (REF) sets out the details of a requirement that certain research outputs should be made openly accessible to be submitted to the next REF. The policy applies to journal articles and conference proceedings, but not monographs, book chapters or other long forms of publication and sets specific deposit,

[26] European Open Science Monitor http://ec.europa.eu/research/openscience/index.cfm?pg=about&section=monitor

[27] PASTEUR4OA has produced a number of case-studies focusing on the adoption of open access policies by research funding organisations and universities. http://pasteur4oa.eu/resources

[28] RCUK Policy on Open Access and Supporting Guidance. 2013 http://www.rcuk.ac.uk/documents/documents/rcukopenaccesspolicy-pdf/

[29] Economic and Social Research Council. "Open Access to Research Outputs" http://www.esrc.ac.uk/funding/guidance-for-grant-holders/open-access-to-research-outputs/

[30] Arts and Humanities Research Council. "Open Access" http://www.ahrc.ac.uk/about/policies/openaccess/

discovery and access requirements.[31] The policy is a Green one as it requires deposit in an institutional repository. In relation to access requirements, in case of an embargo period the output must meet the access requirements as soon as possible and no later than one month after the end of the embargo.

Turning to North America, **NIH** (the National Institutes of Health) requires that the public has access to the published results of NIH funded research. It therefore requests researchers to submit their final peer-reviewed journal manuscripts that arise from NIH funding to the digital archive PubMed Central and the manuscript to be made openly available no later than 12 months after publication date.[32]

At institutional level, the open access policy at the **University of Liege** is the most effective policy at global level with 87% of the university's research articles currently being deposited in the institution's repository (ORBi). The policy which at the time of adoption (2008) was innovative requires immediate deposit of research articles upon acceptance for publication. In cases of embargo periods the item remains restricted until the end of the embargo.[33] To maximize compliance it was made clear that only items deposited in ORBi would be taken into account in either individual or collective assessments within the University, including assessments for promotion and tenure. The policy's main aspects include the mandatory deposit of peer-reviewed articles in ORBi, deposit at acceptance for publication, the deposit cannot be waived, open access for deposited items (respecting publisher embargo periods), deposit as a precondition for research evaluation or assessment. The policy's effectiveness has been so significant that it has been copied by a number of other universities. Since its adoption the university (both the Rector himself and the library) has heavily supported its implementation.[34]

[31] Policy for Open Access in Research Excellence Framework 2021. Updates in November 2016. Guidance Note 2016/ 35
http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2016/201635/HEFCE2016_35.pdf
[32] NIH, Public Access Policy, https://publicaccess.nih.gov/FAQ.htm#4003
[33] In this case, items are only accessible to university members while those outside the university can request a copy from authors.
[34] Swan, A. (2015) PASTEUR4OA Case Study: Institutional policy implementation at the University of Liege, Belgium.

A further example of open access policy is that of the **University of Turin**, an OPERAS partner. The policy requires deposit to the institutional repository no later than the publication date, while open access is provided when the publisher permits. The policy, which has been in effect since 1st November 2013, applies to peer-reviewed manuscripts, books, book sections, monographs, conference proceedings, etc.[35] **Gottingen** University also regards "open access as the central publication strategy for the future, which will improve the supply of information in science in the long term".[36] While the policy requests the deposit of published items, it does not specify when the deposited item should be made openly accessible and it does not also link deposit with evaluation.[37]

2.4 Infrastructures

Open access policies are a critical condition for the support of open access, yet a further significant factor for their success is the availability of the necessary infrastructure. These can take different forms, with the most frequent one being open access repositories. According to **OpenDOAR** (the directory of open access repositories) currently there are 3.339 repositories worldwide with 45,2% (1.510) of them located in Europe. As highlighted by Pablo de Castro the number of European repositories is the direct result of the work carried out through DRIVER and OpenAIRE projects.[38] At EU level, OpenAIRE supports the EU's requirements for open access to publications and data, among others, through the Zenodo repository, a catch-all repository for EC funded research.[39] The same study also argues that an additional indicator for understanding a country's readiness for supporting an open access policy is to look at the OpenAIRE statistics on content collection. As noted in the previous section, researchers can use the SHERPA services (SHERPA RoMEO) for information regarding the self-archiving policies of journals. A more recent development at the EU level relates to the creation

[35] Universita degli Studi di Torino (2014) Regolamento di Ateneo sull' accesso aperto- modifiche, https://www.unito.it/sites/default/files/reg_openaccess_2014.pdf
[36] https://www.sub.uni-goettingen.de/en/electronic-publishing/open-access/
[37] ROARMAP http://roarmap.eprints.org/156/
[38] De Castro, P. (2015) Assessing readiness for open access policy implementation across Europe, http://pasteur4oa.eu/sites/pasteur4oa/files/resource/PASTEUR4OA%20EuroCRIS%20Case%20Study.pdf
[39] Zenodo. http://about.zenodo.org/

of the European Open Science Cloud (EOSC) which aims to create a trusted environment for hosting and processing research data to support EU science.[40]

Table 1: European Open Access Repositories Landscape

Country	Number of Repositories	Number of OA Publications
Austria	14	81936
Belgium	12	217328
Bulgaria	2	2479
Croatia	3	149425
Cyprus	3	5549
Czech Republic	10	149980
Denmark	11	110830
Estonia	1	11145
Finland	6	203366
France	36	1485465
Germany	106	903614
Greece	6	30044
Hungary	6	15536
Iceland	3	25929
Ireland	13	89390
Italy	48	178237
Latvia	5	32884
Lithuania	2	23990
Luxembourg	1	8262
Malta	1	4850
Netherlands	31	470436
Norway	5	178036
Poland	13	49914
Portugal	45	274646
Romania	0	0
Serbia	5	13712
Slovakia	0	0
Slovenia	10	228672
Spain	64	1087568
Sweden	24	224374
Switzerland	16	323352
Turkey	29	53977
United Kingdom	141	5030330

Source: https://www.openaire.eu/member-states-overview

DOAJ and DOAB are a further important information source for researchers seeking information on open access publishers. The Directory of Open Access Journals (DOAJ)

[40] European Open Science Cloud, https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud

is a community-curated online directory that indexes and provides access to high quality, open access, peer-reviewed journals. DOAJ was launched in 2003 at Lund University (Sweden) with the aim "to increase the visibility and ease of use of open access scientific and scholarly journals, thereby promoting their increased usage and impact". The Directory currently includes more than 9.000 journals, representing about 27% of the world's scholarly peer-reviewed journals. DOAJ is diverse and inclusive: it covers all academic disciplines from 128 countries and many languages. Journals and articles are categorized using the Library of Congress Classification. As such, it is the main venue for authors seeking information for quality open access journals. In early 2017 COAR published the initial outcomes of the next generation repositories working group for public comment.[41]

Subject	**Records available for this subject**
Agriculture	108193
Auxiliary sciences of history	5066
Bibliography, Library science, Information resources	26852
Education	69064
Fine Arts	17192
General Works	69163
Geography, Anthropology, Recreation	78590
History (General) and History of Europe	29069
History America	4914
Language and Literature	54903
Law	14881
Medicine	718840
Military Science	4779
Music and Books on Music	3243
Naval Science	541
Philosophy, Psychology, Religion	44296
Political Science	25254
Science	528273
Social Sciences	189011
Technology	172662

[41] The full text can be accessed here https://www.coar-repositories.org/files/COAR-Next-Generation-Repositories-February-7-2017.pdf

Source: https://doaj.org/subjects

Journals included in DOAJ can be removed if they are no longer open access, if they have been inactive (have not published during the last year) or have not published enough articles in this year, or have ceased publishing, if the journal website or url does not work, if there is evidence of editorial misconduct, if the journal does not adhere to best practice and if they fail to submit application with the specified time frame. DOAJ has also developed the DOAJ Seal of Approval for Open Access journals (DOAJ Seal). The DOAJ Seal is a mark of certification to those journals that achieve a high level of openness, adhere to best practice and high publishing standards.[42] Notwithstanding its usefulness, Heather Morisson in a recent article provides a critical evaluation of the service and points to some areas for further improvements. These include a clear separation of information targeting different audiences/ users (publisher and other user), the need to limit the potential for confusion as a result of the limiters available for journal and article specific search, the need to revisit the application form in terms of the mix of questions included.[43]

The Directory of Open Access Books (DOAB) is a discovery service for Open Access monographs. It currently provides a searchable index and links to the full texts of 7814 academic peer-reviewed books and chapters from 205 publishers. DOAB covers multiple subject areas and determines specific requirements for the inclusion of books in its directories. All books listed in DOAB have an open access license, and collaborating publishers are screened for their peer review policies.
The uptake of open access policies is further supported by other mechanisms or tools such as CRIS (Current Research Information Systems) and publishing platforms, with the latter discussed in more detail in the following sections.

Overall, despite the increase in the uptake of open access policies worldwide and the development of the necessary infrastructure significant disciplinary differences can still be observed. According to Archambault et al. (2014)[44] the Green Route is particularly

[42] Directory of Open Access Journals (DOAJ) https://doaj.org/
[43] Morisson, H. (2017) Directory of Open Access Journals (DOAJ), The Charleston Advisor, doi:10.5260/chara.18.3.25
[44] Archambault, E., Amyot, D., Deschamps, P., Nicol, A., Provencher, F., Rebout, L. and Roberge, G. (2014) Proportion of Open Access Papers Published in Peer-Reviewed Journals at the European and

present in physics and astronomy (25.6%) and economics and business being the leading filed in SSH (11.3%) of papers), while the Gold Route is prevalent in S&T (58% of samples papers) and low in general arts, humanities and social sciences (2.6%). It should be noted that the report looks only at papers and at other forms of scholarly communication like monographs. The higher rates of open access in the above mentioned disciplines should also be linked to the prevalence of appropriate infrastructure (i.e. repositories) like arXiv etc., discussed in the previous section.

3. Open Access Publishing in SSH

3.1 The Landscape

The scholarly publishing market is an "intermediary market", as researchers are both producers and consumers of research. According to a recent study commissioned for the OpenAIRE project, the market for scholarly journals is estimated at $10 billion per year[45] with open access representing an aspect of this ecosystem. Within the open access ecosystem, SSH disciplines are moving mu ch slower when compared to STEM. Open access has been adopted much earlier in the sciences, with high-energy physics being one of the strongest advocates, despite the fact that prominent figures of the open access movement emerged from the humanities. A further factor which has contributed to the boost of open access are mandates from research funders and institutions as discussed in the previous section.

Turning to the slow uptake of open access in the SSH as compared to STEM, Peter Suber argued that discrepancies in the adoption of open access can be attributed to a number of economic and cultural reasons. Focusing in particular in the humanities, he argues that the different pace with which STEM and SSH have transitioned to open access can be explained by the higher journal prices in STEM fields which put increasing pressure on library and university budgets, combined with the availability of more funding in STEM fields (allowing researchers to pay APCs charged by open

World Levels- 1996-2013, D1.8 Date 22/10/2014, http://science-metrix.com/sites/default/files/science-metrix/publications/d_1.8_sm_ec_dg-rtd_proportion_oa_1996-2013_v11p.pdf

[45] Jonhson, R., Fosci, M., Chiarelli, A., Pinfield, S., Jubb, M. (2017) Towards a competitive and sustainable OA market in Europe- A study of the Open Access Market and Policy Environment, A study prepared for the OpenAIRE2020 project on behalf of the European Commission, Research Consulting, https://blogs.openaire.eu/wp-content/uploads/2017/03/OA-market-report-28Final-13-March-201729-1.pdf

access journals while strengthening the taxpayer's argument for open access). Furthermore, Suber notes the reliance of humanities on books (in contrast to STEM fields where journal articles are dominant) and the slower decline in demand in humanities.[46] While Suber's article was published more than a decade ago the points made are still valid, despite the progress made over this period. Chris Armbruster argues that although journal price increases have been more pronounced in STEM compared to SSH, the latter have understood that open access applies to the same extent in SSH.[47] As Martin Paul Eve notes the degree of adoption of open access by different disciplines may also be related to their market orientation and thus the extent at which the industry could profit from using the results of publicly funded research.[48] Eve offers two explanations for the under-representation of SSH within the open access movement: the difference in communication channels of SSH and science and the lower degree of engagement of those working in SSH in a critique of their publication practices.[49]

Despite the overall slow uptake, social scientists have followed the natural sciences by developing the **Social Science Research Network (SSRN)** which is meant to be what ArXiv is to physicists. SSRN is an electronic repository founded in 1994 from a group of scholars. It is composed of 24 specialised networks in each of the social sciences. The SSRN eLibrary contains almost 725.000 papers from 334.339 researchers across 30 disciplines.[50] In May 2016 it was announced on twitter that Elsevier has acquired SSRN, a move which seems to mark a shift of the strategy towards services and the monetization of data and analytics. The acquisition has given rise to a number of concerns from the open access community and a number of researchers have regarded this as a breach of trust.[51]

Research Papers in Economics (RePEc) is another collaborative effort to enhance dissemination of research in economics (and related sciences). The decentralized

[46] Suber, P. (2005) Promoting Open Access in the Humanities, Syllecta Classica, Volume 16, pp. 231-246. https://doi.org/10.1353/syl.2005.0001
[47] Quoted in Frosio, F. (2014) Open Access Publishing: A Literature Review, CREATE Working Paper 2014/1 http://www.create.ac.uk/wp-content/uploads/2014/01/CREATe-Working-Paper-2014-01.pdf
[48] Eve, M. P. (2014), op. cit.
[49] Ibid. p. 24.
[50] Social Science Research Network, https://www.ssrn.com/en/
[51] Cf. Ross-Hellauer (2016) After SSRN: Hallmarks of trust for subject based repositories https://blogs.openaire.eu/?p=933

bibliographic database contains over 2 million research pieces (working papers, journal articles, books, book chapters and software components).[52]

3.2 Journals

3.2.1 The Development of Open Access Journal Publishing

Open access journals constitute a core component in the translation of open access principles into practice. The rapid growth of open access (journal) publishing during the period 1993-2009 seems to continue during the 2000s with the average annual growth rate of 18% for the number of journals and 30% for the number of articles.[53] A more recent study from CREATE shows the rapid growth of open access journals over the past decade with major increases between 2005 and 2011 being noted in Asia, Europe and the United States.[54]

In studying the development of open access journal publishing, Laakso et al. (2011) distinguish between three periods: the pioneering years, the innovation years and the consolidation years. The first period (the Pioneering Years: 1993-1999) is marked by the rather aggressive growth of open access articles and journals. The "business model" most commonly used was based on voluntary labor combined with the use of institutional (university) web browsers free of cost. Technical solutions have been quite simple during this period. The Innovation Years (2000-2004) are marked by the emergence of new business models and the introduction of APCs, mostly in the STEM disciplines. Important initiatives of the period include the launch of Public Library of Science (PLOS), the release of several declarations like the "three Bs" discussed in the previous section, the digitization of printed journals, and the experimentation with the hybrid model (which allows authors of articles in traditional journals to open up their articles for a fee).

Overall, the period is marked by the increased visibility of open access. The third period (the Consolidation Years: 2005-2009) has witnessed significant developments in relation to infrastructures supporting open access (like the emergence of DOAJ as a key

[52] RePec, http://repec.org/
[53] Laakso, M. Welling, P., Bukvova, H., Nyman, L., Bjork, B.C., Hedlund, T. (2011) The Development of Open Access Journals Publishing from 1993 to 2009, PLoS ONE, 6(6) e20961, https://doi.org/10.1371/journal.pone.0020961
[54] Frosio, F. (2014), op. cit.

index of open access journals and the wide use of Open Journal Systems software). Important steps have also been made in relation to licensing with the emergence of licenses suitable for open access journals, like the Creative Commons (CC) licenses. Open access has been further supported during this period through funder and institutional mandates and in particular through the acknowledgment of related costs as eligible and/or the creation (at institutional level) of related funding mechanisms.

3.2.2 Business Models

Open access is not cost free: associated costs are covered through a variety of business models, which are examined in the following paragraphs.

Article Processing Charges (APCs)

APCs are the most commonly used method for financing open access publishing. APCs are charged by open access journals, but can also be charged by subscription based journals to authors who want to make their publication available with open access. These journals are referred to as hybrid journals.

The introduction of APCs has important implications on the publishing landscape, as it changes the relationship of the key stakeholders involved. The use of APCs impacts on authors' choice of journals, while it also affects publishers' strategies, whose target group in financial terms is now the author and not the subscriber.

The use of APCs has led to the emergence of certain misconceptions. The most widely held ones are those supporting that most open access journals have APCs and that APCs are too high. Several studies over the past years have examined publication fees (either by surveying authors or by obtaining related information from journal websites) and provide interesting findings. Reporting from the SOAP project survey, Dallmeier-Tiessen et al. (2011) show that 12% of article authors had paid APCs themselves, while 31% had used part of their research funding to cover APCs even though this amount was not specifically intended for paying such fees. They also report that 50% of the respondents had published in open access without paying a related fee: the percentage of those who had not paid an APC is much higher in the humanities and social sciences

and significantly lower in life sciences.[55] A different study shows APCs to be significantly higher in professionally published journals than in journals published by learned societies, universities or scholars.[56]

A more recent study looking into institutional spending on access publication fees in Germany reported the average payment at €1.298, with a total of 94% of the articles included falling within the €2.000 limit set by the DFG. The study also confirms the findings of a previous one, whereby APCs for hybrid journals are on average higher than those for fully open access journals. In an effort to increase transparency on publication fees, research funders like the Wellcome Trust and the Austrian Science Fund (FWF) have disclosed their expenditures, a practice also followed by Jisc.[57]

A number of research funders and institutions have set up open access publication funds to assist researchers. To support further open access, the European Commission launched a pilot to fund open access publications arising from finalized FP7 projects through the OpenAIRE project. The launch of the pilot is strongly linked with both the Commission's Communication "Towards better access to scientific information: Boosting the benefits of public investment in research"[58] and the Commission's Recommendation "on access to and preservation of scientific information".[59] The pilot (known as the **FP7 post-grant pilot**) aimed to provide an additional instrument to make FP7 project results openly available by dedicating 4 million euros for this action. The pilot run from March 30th 2015 to April 30th 2017. Following careful consideration from the European Commission, OpenAIRE has been asked to extend the pilot for another ten months (until the end of February 2018).[60]

---

[55] Dallmeier-Tiessen, S., Darby, R., Goerner, B., Hyppoelae, J., Igo-Kemenes, P., Jahn, D., Lambert, S., Lengerfelder, A., Leonard, C., Mele, S., Nowicka, M., Polydoratou, P., Ross, D., Ruiz-Perez, S., Schimmer, R., Swaisland, M., and van der Stelt, W. (2011) Highlights from the SOAP project survey. What scientists think about open access publishing, arXiv: 1101.5260

[56] Solomon, D. and Bjork, B.C. (2011) A study of open access journals using article processing charges, Journal of the American Society for Information Science and Technology, 63(8): 10.1002/asi.22673

[57] Jahn N. and Tullney, M. (2016) A study of institutional spending on open access publication fees in Germany, PeerJ 4: e2323 https://doi.org/10.7717/peerj.2323

[58] European Commission (2012b) Towards better access to scientific information: boosting the benefits of public investments in research, Brussels, COM(2012) 401 final, http://ec.europa.eu/research/science-society/document_library/pdf_06/era-communication-towards-better-access-to-scientific-information_en.pdf

[59] European Commission (2012a) op. cit.

[60] Franck, G. (2017) OpenAIRE FP7 Post-Grant Open Access Pilot: extension, https://blogs.openaire.eu/?p=1880

To benefit from the available funding, publications (journal articles, monographs, book chapters and conference proceedings) had to comply with specific criteria as determined by OpenAIRE.[61] Considering the criteria and the timeframe, approximately 4.000 outputs (which equals to some 2% of overall FP7 publications) were considered as eligible. The mid-term evaluation of the pilot showed that as of November 30th, 2016 OpenAIRE had approved 700 funding requests, with 94% of them being requests for journal articles. In parallel, the evaluation highlighted the uneven uptake of the pilot which does not reflect the allocation of FP7 funding across EU member states, a fact which can be attributed to the different levels of institutional support provided and policy support.[62]

In addition to the above action, from August 2016 the Pilot launched an instrument to provide economic support to open access journals and platforms which do not charge APCs. The maximum available budget was 200.000, which funded a total of 11 bids. To be eligible, journals or platforms had to comply with specific criteria.[63]

Centralised funds

A different mechanism for funding APCs is through the operation of centralized funds. An example is **SCOAP3** (Sponsoring Consortium for Open Access Publishing in Particle Physics) a global partnership of 3.000 libraries, funding agencies and research institutions from 47 countries and international organisations. SCOAP3 pays for APCs, by redirecting funds and turning subscription journals in high energy physics to open access. The project was launched in 2014 and since then it supports 4.500 open access articles per year. The amount contributed by each country is based on its share of worldwide scientific output. Copyright stays with authors while the use of CC-BY licenses allows text and data mining.[64]

[61] These requirements were available through the OpenAIRE website, under the related section dedicate to the pilot https://www.openaire.eu/postgrantoapilot
[62] Jonhson, R., et. Al. (2017) op. cit. Annex A
[63] De Castro, P. (2016) Funded Bids for the Alternative Funding Mechanism for APC-free Open Access Journals and Platforms, https://blogs.openaire.eu/?p=1139
[64] Sponsoring Consortium for Open Access Publishing in Particle Physics (SCOAP3) https://scoap3.org/

Turning to institutional level, the **University of Nottingham** set up in 2006 an open access central hub. The claimants of the fund over its first five years were from medical and life sciences, while the mean average cost per article in 2010-2011 was £1.216. Payments over the fund's first five year period have been made to 70 publishers. The usage of the fund has been growing -even though in 2011 it was reported that this was still at relatively low levels.[65]

In 2016 the **National Library of Sweden** (through openaccess.se) and SwePub initiated a pilot project in cooperation with higher education institutions in the country looking into the possibilities of establishing an open national repository for APCs which will enhance transparency over the APC market.[66]

Open access publishing infrastructures

In terms of infrastructures, publishers use either proprietary or open source software: among the latter the **Open Journal Systems (OJS)** is the most widely used one. As Tsoukala notes, the information available on the different platforms does not always provide a comprehensive picture of the full range of the services offered.[67] OJS is a journal management and publishing system developed by the Public Knowledge Project (PKP)[68] to expand and improve access to research.[69] OJS was released in 2001 as open source software. OJS aims at "making open access publishing a viable option for more journals, as open access can increase a journal's readership as well as its contribution to the public good on a global scale".[70] In 2016 the OJS version 3.0 was launched. OJS is installed locally (and also controlled locally), while editors can configure the requirements, sections, review process etc. It supports online submission and management of all content. In addition, it provides subscription module with delayed

[65] Pinfield, S. and Middleton, C. (2012) Open access central funds in UK universities
[66] National Library of Sweden (2016) Open APC Sweden. A national open repository of publication costs for open access articles, http://www.kb.se/dokument/open%20access/Open_APC_Sweden_English_LAST.pdf
[67] Tsoukala, V. (2015) University based Open Access Publishing. State of Play, SPARC Europe, http://sparceurope.org/wp-content/uploads/2015/12/SE_UPublishing_Report_0315.pdf
[68] PKP was founded in 1998 by John Willinsky in the Faculty of Education at the University of British Columbia, Canada to improve the scholarly and public quality of research.
[69] Public Knowledge Project- Open Journal Systems https://pkp.sfu.ca/ojs/
[70] Ibid.

open access as an option. Comprehensive indexing of content is also part of the global system.[71]

In an effort to have a more precise picture regarding the number of journals using OJS, PKP undertakes an annual exercise to count the journals using OJS as their publishing platform. This is not as simple as it may sound as there is no requirement to register or inform PKP of the fact that OJS is being used. By developing an automated web crawling system, PKP was able to identify in 2015 32.000 journal instances. By filtering further, PKP was able to identify that half of these instances were not used and had no content. By applying what they identify as "somewhat arbitrary criteria" whereby an OJS journal was included if it had published at least 10 articles 8.286 journals were identified as using OJS for the management and/or publishing of their content for 2014. While these numbers should be considered as estimates as PKP may have missed some instances, the exercise shows an increase in the uptake of OJS throughout the years.[72] This observation also highlights the expansion of a publishing environment based on open access and open software.

EKT eJournals Publishing Platform

EKT's ePublishing platform is an innovative service to support open access publishing in Greece. The platform enables the research community of the country to transition from a print-only mode of work to online working environments and enhance the visibility and impact of their research outputs. Emerging within an ecosystem with no prior experience or open access oriented culture, it enables the cultural shift towards open and collaborative scientific practices and the open science/ open access paradigm. EKT eJournals is in full alignment with EKT's strategy of providing open access infrastructures and services to stakeholders in Greece, free of charge and is the main electronic publishing infrastructure of this type at national level.

The eJournals platform is based on EKT's successful collaboration with non-profit research organisations and scientific societies focusing primarily – but not limited- on the Social Sciences and Humanities. The development of the service has been made possible through the use of structural funds. The service was launched in 2007, initially as an ejournals platform providing access to scientific content by collecting, storing and distributing to the scientific community research outputs.

[71] Ibid.
[72] https://pkp.sfu.ca/ojs/ojs-usage/

Since then, it has developed further and currently hosts three distinct platforms for journals, monographs and conference proceedings.

eJournals uses OJS version 2.4.8 and currently hosts more than 7.500 articles from 27 publishers. The platform provides a wide range of services to publishers including among others web hosting, online management of the publishing process, OJS training, technical support, helpdesk service, consulting services in producing guidelines and policies aligned with current international developments, and usage statistics. In addition, it provides persistent identifiers and indexing services which significantly increase online availability and visibility of high quality Greek content and enhance the impact of research published in Greece. Articles are available in pdf format. All journals provide immediate open access to their content with the exception of two which provide delayed open access. Articles are licensed under a Creative Commons Attribution Non-Commercial License allowing others to share the work with an acknowledgement of the work's authorship and initial publication in this journal. All services are offered free of charge.

The journals platform is fully compatible with OpenAIRE Guidelines for Literature Repository Manages (OpenAIRE Basic DRIVER OA) and thus papers are visible via the OpenAIRE portal.

Source: http://epublishing.ekt.gr/en/5695

Hrčak is the central portal of Croatian scientific journals. It currently hosts 429 journals and 161.134 journal articles (155.602 articles with full text) in the following areas: natural sciences, technical sciences, biomedicine and healthcare, biotechnical sciences, social sciences, humanist sciences, art, interdisciplinary areas of knowledge and interdisciplinary fields of art. The portal was developed with the support of the Ministry of Science, Education and Sport; it is developed and maintained by the SRCE-University of Zagreb, University Computing Centre and was initiated by the Croatian Information and Documentation Society. The platform is fully compatible with OpenAIRE Guidelines for Literature Repository Managers 3.0 and thus papers published in the platform are visible via the OpenAIRE portal.[73]

In Turkey TUBITAK ULAKBIM provides online hosting services and workflow management system for academic journals through the Dergi Park (Journal Park) platform. **Dergi Park** was launched in September 2013 to improve the quality and

[73] Hrcak- Portal of Scientific Journals of Croatia, http://hrcak.srce.hr/ accessed 6 April 2017.

support academic publishing in Turkey, to enhance the visibility and usage of national academic journals and to ensure the implementation of the ULAKBIM journal management system efficiently. The platform hosts peer-reviewed academic journals published in Turkey in the following subjects: social sciences and humanities, engineering and basic sciences, health sciences, life sciences, law and sport sciences. The platform hosts already published journals but also welcomes new ones. A "Participation Contract" is signed between the two parties, i.e. Dergi Park and each participating journal to protect mutual rights. All services offered are free of charge. The number of journals included in Dergi Park was in January 2017 1.424, yet no information is provided at an aggregate level on the number of those providing full access to their content, but rather this information can be found on a journal level basis. As the total number of journals published in Turkey is estimated at 2.300, Dergi Park aims to expand so as to be able to cover all of them.

At its initial phase Dergi Park used OJS; yet, this became inefficient as the number of journals increased. A new system –ULAKBIM Journals System (UJS)- has been developed to be compatible with new technologies and enable easier handling and faster workflow. The new system has been put into service since 2017. For articles in Dergi Park to be assigned a DOI (digital object identifier), journals need to at least meet one of the following requirements: be indexed in TR Index, WoS or Scopus, be included in DOAJ, and manage all the publishing process from submission of manuscripts to publication within the Dergi Park system. In March 2017, the number of journals having been assigned a DOI was 319. [74]

Open Edition uses **Lodel**, an open source software for academic electronic publishing. Documents to be published through Lodel may be prepared locally with a word-processor (MS Word, OpenOffice) or directly edited online. Lodel converts automatically Word or OpenOffice documents to XML/TEI by means of models. Lodel is particularly respectful of scientific edition conventions, such as footnotes, the structure of the text, the different character sets corresponding to non-latin languages, diacritical signs, small capitals, hard spaces. The software facilitates uptake of digital

[74] Dergi Park, http://dergipark.gov.tr/page/about

publishing practices by editorial staffs, enabling them to upload the journal on their own, without having to rely on computer specialists.[75]

Further important open access initiatives outside Europe are SciELO and Redalyc. **SciELO's** (the Scientific Electronic Library Online) regular operation was launched in 1998 following a one-year pilot project. The initiative was launched four years before the Budapest Declaration which is regarded as a landmark in the development of the open access movement. SciELO's aim was twofold: to create the infrastructure and capacities for publishing on the web selected Brazilian peer-reviewed journals from a variety of disciplines, and to increase the visibility, use and impact of indexed journals. The network currently covers 15 Ibero-American countries and South Africa. The majority of journals are managed by scientific societies or academic institutions and in some rare occasions by commercial publishers. By 2016, the network had published more than 400 thousand articles, receiving 1.5 million downloads per day and thus making SciELO the major DOAJ provider. Over the years, both the publishing and interoperability functions have been improved on the basis of new methodologies and technologies in scholarly communication. Notwithstanding its importance, the main weakness of SciELO is related to the low impact of its journals as measured by citations.[76]

Redalyc (Red de Revistas Cientificas de America Latina y el Caribe, Espana y Portugal) is a bibliographic database and digital library of open access journals supported by the Universidad Autonoma de Mexico. Redalyc provides access to 1200 scientific journals and more than 535.000 full text articles from the social sciences, arts and humanities and sciences from 22 Ibero-American countries and published by more than 500 institutions. The majority of journals covered are from the social sciences (705 journals) followed by sciences (349 journals). [77]

[75] OpenEdition, https://www.openedition.org/10905
[76] Packer, A.L., Cop, N., Luccisano, A., Ramalho, A., Spinak, E. (2014) SciELO: 15 Years of Open Access. An analytical study of Open Access and Scholarly Communication, Paris: UNESCO, 2014, 186 p. ISBN 978-92-3001- 237-3. Available from: http://dx.doi.org/10.7476/9789230012373.
[77] Redalyc- http://www.redalyc.org/home.oa

3.3 Data Publishing in SSH

The increasing interest of the publishing community towards open access has more recently encompassed open (research) data and has led to the emergence of new publishing products: data journals. Data journals are community peer-reviewed open access platforms for publishing, sharing and disseminating data that cover a wide range of disciplines. As their primary purpose is to expose datasets, data papers contain information on the acquisition, methods, and processing of specific data sets. The published papers are cross-linked with approved repositories, citing data sets that have been deposited in such repositories or data centres.

Despite the existence of different requirements for submission, review and publication, the Australian National Data Service (ANDS)[78] points to a number of requirements that seem to be quite common among data journals:

- Deposit of data in an approved repository with specific metadata description and with guidelines on file format and size
- Citation and identifiers: journals may require a digital object identifier (DOI) or other persistent identifier and may also define or recommend specific data citation format
- Researcher profile: journals may require information on author affiliation or other information on their research profile
- Copyright and licensing: in addition to copyright licensing issues for data may also be asked

Data papers are of particular importance to researchers for whom research data is a primary research output, as they provide academic accreditation for data scientists, but also as the publication cycle is usually shorter than that of a traditional journal. Like traditional journals, data journals also have impact factors, while a number of them also support "altmetrics"[79] which track the number of views, downloads, social media "likes" and "recommendations", ultimately enhancing further data publication.

[78] Australian National Data Service- Data and Service, http://www.ands.org.au/working-with-data/publishing-and-reusing-data/data-journals

[79] Altmetrics is the study and use of scholarly impact measures based on activity in online tools and environments.

As the RECODE project pointed out (Tsoukala et al. 2015),[80] STEM publishers were the first to acknowledge the significance of open access to research data and have supported open access to research data through the adoption of mandatory policies that require authors to deposit the underlying data in certified repositories and make them openly available. This interest of STEM publishers has also been translated in the emergence of data journals.

Yet, data journals also exist in SSH. Ubiquity Press, an open access publisher, is among the publishers with a number of data journals in the SSH.

The Journal of Open Archaeology (JOAD)

The Journal of Open Archaeology (JOAD), published by Ubiquity Press, features peer-reviewed data papers with high reuse potential. Datasets should be deposited in a data repository under an open license (such as creative commons zero). The journal applies a peer review process to all submitted data papers against two criteria: the paper content and the deposited data. According to the journal, the former is about providing information regarding the creation and re-use of the dataset as well as a description of the dataset, while the latter is among others about the submission of data to a repository with a sustainability mode, its licensing

The journal provides a list of recommended repositories (international, national and institutional) that meet its peer review requirements and are recommended for the archiving of JOAD datasets.

Source: http://openarchaeologydata.metajnl.com/

The Journal of Open Psychology Data (JOPD)

The Journal of Open Psychology Data (JOPD), published by Ubiquity Press, collaborates with a number of repositories to ensure that the associated metadata are professionally archived, preserved, and openly available. The journal provides a list of recommended repositories (international, national and institutional) that meet its peer review requirements and are recommended for the archiving of JOPD datasets. Data papers are peer-reviewed to ensure they are accurate and meet the journal's criteria. According to the journal's editorial policy, authors must provide under the review section both concrete and useful suggestions for the reuse of the data.

For datasets to be actionable, the journals states that if a software or other tool is used to make data interpretable this should also be archived and accessible.

Source: http://openpsychologydata.metajnl.com/

[80] Tsoukala, V., Angelaki, M., Kalaitzi, V., Wessels, B., Price, L., Taylor, M.J., Smallwood, R., Linde, P., Sondervan, J., Reilly, S., Noorman, M., Wyatt, S., Bigagli, L., Finn, R., Sveinsdottir, T., Wadhwa, K. (2015) Policy guidelines for open access and data dissemination and preservation, RECODE project, Deliverable D5.1, February 2015, http://recodeproject.eu/wp-content/uploads/2015/02/RECODE-D5.1-POLICY-RECOMMENDATIONS-_FINAL.pdf

3.4 Monographs

3.4.1 The evolving landscape of open access monographs

Monographs and monograph publishing in particular have also been affected by the changes observed in scholarly communication. As in the case of journals, digital technologies have created new avenues for sharing and using available knowledge that monographs can profit from. Digital publications increase access and thus discoverability of monographs, while open access has opened up channels for the development of new business models which build on those of open access journals. These new opportunities have in turn raised important issues in terms of the extent at which the current publishing model responds effectively to this new and evolving ecosystem.

Before examining the monograph publishing landscape it is important to define what a monograph is. A monograph can be defined as a long, academic and peer-reviewed work on a single topic usually written by a single author. The term "monograph" can also include edited collections by multiple authors. The interest in studying monograph publishing stems from the fact that monographs along with other long forms of research publications -like edited books- have an important place within many disciplines and in particular in arts, humanities and social science. As a long form of publication, they offer the space and length for a full examination of a topic and the presentation of ideas that could not necessarily fit within a journal article. Monographs are therefore important channels for researchers to communicate their research outputs and their work more generally and also important in shaping the careers of academics. As highlighted by OAPEN (2013:7) "[this] long form of communication remains an essential part of the scholarly landscape in the humanities and social sciences (HSS)…. [and] important career makers for academic seeking work".

The arguments for supporting open access monographs relate to the declining sales of monographs (also referred to as the monograph crisis), the increasing number of open access mandates from research funders and the increasing need of researchers (especially from the SSH) to showcase the public impact of their work.[81] Open access monograph

[81] Gatti, R. and Mierowsky, M. (2016) Funding Open Access Monographs, A coalition of libraries and publishers, College and Research Libraries, 77(9): 456-459 http://crln.acrl.org/index.php/crlnews/article/view/9557/10902

publishing is seen as the solution to the declining position of conventional publishing models as a result of rising production costs and the increasing pressure on budget libraries.[82] According to Gatti and Mierowski (2016) while the conventional model remains successful, when looking into the profits of publishers, declining sales mark the model's failure in relation to the dissemination aspect. The HEFCE report (2015) takes a more cautious stance arguing that the picture in the UK does not suggest a decline in the position of the monograph. On the basis of this observation, the report argues that related arguments should have a broader and more positive foundation. The same report notes two further important points. First, that lack of usage over a short timescale is not necessarily an adequate indication of whether a particular book should have been acquired. Second, that university libraries despite their importance are not the only customers for monographs.[83] The case for open access monographs needs therefore further consideration of issues like the business models proposed and their implications for the academic community, licensing (as many rely on material protected by copyright) and the wider implication for different stakeholders in the ecosystem.

Despite the opportunities offered by technology and the functional limitations of the print book, electronic publishing of monographs is still not as widespread as journals. Martin Paul Eve (2014) argues that these social and technological barriers which differentiate monograph from journal publishing may be over-stated; nonetheless he notes that the transition to open access monograph publishing should ensure the preservation of those aspects of monographs which are seen as of most use/ importance to scholars.[84] Early initiatives have focused on releasing out-of-print books openly as part of retrodigitization initiatives with print-on-demand options, to digitally born new monographs in open access and new university press and library press initiatives. OpenEdition[85] for instance –through its OpenEdition Books platform- offers a digitization and XML encoding support programme. The platform aims to build an international library and encourage

[82] Ferwenda, E. Snijder, R., Adema, J. (2013) OAPEN-NL. A project exploring Open Access monograph publishing in the Netherlands, Final Report https://www.oapen.org/content/reports#OAPEN-NL

[83] Crossick, G. (2015) Monographs and Open Access. A report to HEFCE. http://www.hefce.ac.uk/pubs/rereports/year/2015/monographs/

[84] Eve, M. P. (2014) Open Access and the Humanities, Cambridge, Cambridge University Press, https://doi.org/10.1017/CBO9781316161012

[85] The OpenEdition business model will be discussed more extensively in the following section.

the development of open access in the long run. It currently contains 3.800 books from 67 publishers in SSH. [86]

The increasing interest in making monographs open access is strengthened further by initiatives and mandates from research funding organisations. The European Commission through its Horizon 2020 programme and its open access mandate is a prominent example. According to the mandate, "under Horizon 2020, each beneficiary must ensure open access to all peer-reviewed scientific publications" relating to the project's results".[87] While the dominant type of publication within the scope of the Commission's mandate is the journal article, "[g]rant beneficiaries are also strongly encouraged to provide open access to other types of scientific publications including monographs, books, conference proceedings, grey literature".[88] The European Research Council (ERC) open access guidelines recommend the OAPEN Library as a repository for monographs and book chapters.[89]

At a national level, UK funding bodies have recently issued a statement to extend open access policy to include monographs by the time of the third Research Excellence Framework (REF) in the mid-2020s.[90] Annex C on open access and monographs of the Consultation on the Second Research Excellence Framework clearly acknowledges the importance of open access monographs by stating that "in the long term, however, we want to see the benefits that open access has brought to journal articles extended to other research outputs, including monographs".[91] The interest in open access monographs is further supported by the HEFCE report on the subject. Focusing on the UK experience, the report discusses the policy implications, acknowledging at the same time that the UK

[86] OpenEdition Books. http://books.openedition.org/

[87] European Commission (2017) H2020 Programme. Guidelines on Open Access to Scientific Publications and Research Data in Horizon2020, version 3.2, 21 March 2017, p. 5 http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

[88] Ibid, p. 5-6.

[89] ERC (2016) Open Access Guidelines for research results funded by the ERC, revised February 2016 https://erc.europa.eu/sites/default/files/document/file/ERC_Open_Access_Guidelines-revised_feb_2016.pdf

[90] Martin Paul Eve (2017) The starting pistol has been fired- now it the time to heed the drive towards open access books. LSE Impact blog, 7 March 2017, http://blogs.lse.ac.uk/impactofsocialsciences/2017/03/07/the-starting-pistol-has-been-fired-now-is-the-time-to-heed-the-drive-towards-open-access-books/?platform=hootsuite

[91] HEFCE (2016) Consultation to the second Research Excellence Framework, December 2016/36 http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2016/201636/HEFCE2016_36.pdf

does not act in isolation. On the basis of this point, the report should (also) be regarded as a contribution to related debates and practices.[92] In contrast to HEFCE, the Wellcome Trust already includes in its open access mandate books and book chapters that have been authored or co-authored by the Wellcome Trust grant holders. The latter are required to make these outputs available through PubMed Central Bookshelf or Europe PMC as soon as possible with a maximum embargo of six months. The preferred license is CC-BY, nonetheless the Wellcome Trust also accepts CC-BY-NC and CC-BY-NC-ND.[93] Moving beyond Europe, the Australian Research Council requires open access to any publication arising from an ARC supported project (which also covers books and book chapters).[94]

OAPEN[95] (Open Access Publishing in European Networks) project (2008-2010) co-funded by the EU is a further initiative aimed at achieving a sustainable publication model for academic books in the SSH and improving the visibility and usability of high quality academic research in Europe. Following the completion of the European project OAPEN operates as a foundation (non-profit organization). The foundation has been established by the University of Amsterdam, the University of Leiden, the university Library of Utrecht University, the Netherlands Academy of Sciences (KNAW), the National Library of the Netherlands, and Amsterdam University Press.[96] OAPEN currently operates two platforms: OAPEN Library and the Directory of Open Access Books (DOAB). The OAPEN Library hosts 2.500 publications from more than 100 publishers from 18 countries. The services provided relate to quality assurance, aggregation of publications, digital preservation and dissemination. As seen in the previous section, OAPEN is also currently managing DOAB, a discovery service for

[92] Crossick, G. (2015) op.cit.
[93] The Wellcome Trust. Complying with our open access policy. https://wellcome.ac.uk/funding/managing-grant/complying-our-open-access-policy
[94] Australian Research Council (2015) Open Access Policy, version 2015.1, http://www.arc.gov.au/sites/default/files/filedepot/Public/Policy%20&%20Strategy/ARC%20Open%20Access%20Policy/ARC_Open_Access_Policy_V2015.1_17Aug15.pdf
[95] Martin Paul Eve notes that the leading studies in open access monographs (OAPEN-NL, OAPEN-UK, Jisc Collections and the HEFCE monograph investigation) have been produced by stakeholders with an interest in open access.
[96] OAPEN (Open Access Publishing in European Networks). http://www.oapen.org/content/organisation

open access books, which currently lists 7.824 academic peer-reviewed books and book chapters from 205 publishers.[97]

Building on the European OAPEN project two additional ones have been set up: OAPEN-NL and OAPEN-UK. The OAPEN-NL aimed at gaining experience with the publication of open access monographs in the Netherlands. The project sought to do so by publishing 50 monographs (from 9 publishers) in open access in a variety of subjects and collecting data on usage, sales and costs. The project concluded that while "no significant effect of Open Access on monograph sales could be found" there was significant increase in digital usage, that there was no observed citation benefit to a book being open access and that the open access edition was cheaper to produce than the total cost of a conventional monograph. Eve (2014) notes that these findings could be interpreted in different ways: the absence of effect could be justified by the low embeddedness of the open access route, while the absence of citation benefit by the long publishing cycles observed in the humanities in contrast to the short period of the report. As a consequence, the author sees these results more as an interesting and valuable starting point.[98] The project's results have fed-in the recommendations' report that targets key stakeholders in the academic book publishing like funders, libraries, publishers, authors and aims at improving open access for monographs. [99]

OAPEN-NL Overall Recommendations

- Monographs (peer reviewed academic books), particularly books that are the result of publicly funded research, should be made available in an Open Access edition.
- Funders and libraries should accept CC-BY-NC licenses, to allow publishers to sell premium editions.
- Funders and libraries with a preference for Open Access deposit (Green Open Access) should allow a reasonable embargo period, to allow publishers cost recovery of publications.
- Funders and libraries with Open Access publication funds should require transparent fee structures for publication charges.

[97] DOAB (Directory of Open Access Books). http://www.doabooks.org/
[98] Eve, M. P. (2014) op. cit., p. 124
[99] Ibid.

- Funders and libraries with policies for Open Access monographs should encourage or require deposit in a central, dedicated repository for monographs.
- There remains a need for awareness building and further education and dissemination of information about Open Access publishing. Continued advocacy towards authors and other stakeholders by funders, publishers and libraries as well as by authors themselves is needed to battle the misconceptions that exist about Open Access publishing

Source: Ferweda, E., Snijder, R., Adema, J. (2013) OAPEN-NL. A project exploring Open Access monograph publishing in the Netherlands. Final Report.

The second project, OAPEN-UK gathered evidence to support stakeholders in making informed decisions on the future of open access scholarly monograph publishing. According to the OAPEN-UK Report[100] the transition towards open access monographs requires changes in three areas: attitudes and perceptions; systems, policies and processes; business models. With regard to the first area the report provides some interesting insights: while author interviews confirm their positive attitude towards open access publishing, there is considerable variation in terms of their views on who would benefit from increased access, how open access would be implemented and the benefits and costs involved for other players. Attitudes are also shaped by the career stage of each researcher and his/her previous experiences of publishing. In addition, the report notes that the same misconceptions regarding open access journals are found in the case of open access monographs which relate to their perceived lower standard (in comparison to traditional print monographs). The project's final report also provides a set of recommendations grouped in three categories: a) supporting informed decision making by all stakeholders, b) taking collaborative action and c) enabling projects, research and experimentation.[101]

Jisc has also published a report on the basis of the results of a project that aimed to explore potential future services to support open access monograph publishing. The

[100] Milloy, C., Collins, E. (2016) OAPEN-UK Final Report. A five-year study into open access monograph publishing in the humanities and social sciences, Jisc. http://oapen-uk.jiscebooks.org/files/2016/01/OAPEN-UK-final-report.pdf
[101] Ibid.

recommendations highlight the need for good practice guidelines on various aspects of open access book publishing that seem of particular interest to publishers, especially new university presses (but also conventional ones), the importance of setting up a central workflow for aggregating books which would also enable improvements (like adding DOIs or ORCIDs) and the need to catch up in the area of altmetrics.[102]

3.4.2 The costs of Monographs

The support for open access monographs is further complicated by the costs incurred in such process as "publishing involves more than simply releasing a digital file onto the web".[103] These costs may include administering peer-review, editing, typesetting, copyediting etc. which "are not fixed, nor are they particularly well known".[104] Nonetheless, a number of studies have tried to shed light on these costs showcasing how challenging this task can be.[105]

OAPEN has estimated the average cost for creating a monograph in the Netherlands to be slightly over € 12.000. Half of the amount is spent on creating a first digital copy, while a third of the total cost is spent on printing and binding paper copies. This amount is based on the budgets of 50 books, published by 9 different publishers.[106] A more recent study from ITHAKA S+R looking at 382 titles from 20 presses members of the Association of American University Presses found costs to range from $ 15.140 to $ 129.909. According to the study, the largest cost item relates to staff time especially time devoted to activities of acquisition, which seems to be a core activity closely linked to reputation and thus least likely to be outsourced. A further important finding suggests that presses on good financial status are those who tend to be larger and with multiple streams of revenues a factor which allows them to cross-subsidize their monographs either through their journals list like in the case of Chicago Press, or through their textbook programme like the Yale University Press.[107] As Moore (2016) argues, the high

[102] Jisc (2016) Investigating OA monograph services: Final Report, https://www.jisc-collections.ac.uk/Global/Investigating%20OA%20Monograph%20Services/Jisc-OAPEN%20pilot%20Final%20report.pdf
[103] Moore, S. (2016) Open Access Monographs. PASTEUR4OA Briefing Paper. http://dx.doi.org/10.5281/zenodo.51853
[104] Ibid.
[105] Related studies include those by Walters and Hilton (2015) and Eve (2014).
[106] OAPEN (2013) op. cit.
[107] Maron, N., Mulhern, C., Rossman, D., Schmelzinger, K. (2016) The Costs of Publishing Monographs. Towards a Transparent Methodology, ITHAKA S+R, https://doi.org/10.18665/sr.276785

costs reported may be related to marketing and commissioning and the expected economic return.[108]

Rupert Gatti from Open Book Publishers (OBP)- the biggest open access academic publisher in the UK- in a recent blog estimated the average cost per title to be around $10.500 with the largest share of the cost (60%) being devoted to title set up. This covers staff costs and everything else that is part of the daily activities. The rest of the cost covers the cost of sales, distribution and overheads. The estimates are based on data gathered from 18 books published between September 2014 and August 2015.[109]

In calculating the cost of monographs attention should be given to the differences in the definitions of costs, the inclusion of data from different publisher types as well as national market differences etc. which can lead to significant deviations in the numbers provided.

3.4.3 Business models for open access monographs

The HEFCE *Monographs and Open Access* project identified a total of six business models: traditional publisher, new university presses, mission-oriented OA, freemium OA, aggregator/ distributor and author payment model. In proposing this taxonomy the report acknowledges the difficulties associated with identifying models due to (among other) the ongoing experimentation which characterizes the field and the fact that this is still a market in its early stages of development.[110] The HEFCE reports assessed the different models according to the following criteria: quality, sustainability, dissemination, diversity, innovation and integrity. Quality is an aspect taken seriously by all publishers as, on the one hand, it increases credibility to academics while, on the other hand, it impacts on the long-term sustainability of a publisher. Sustainability has different implications for the different models: it can create long term challenges for New University Presses and mission oriented presses as funds are not always easy to secure in the long term, while freemium models seem to be in a more advantaged position which

[108] Moore, S. (2016) op.cit.
[109] Rupert Gatti (2015) "Introducing Some Data to the Open Access Debate: OBP's Business Model" http://blogs.openbookpublishers.com/tag/rupert-gatti/
[110] London Economics (2015) Economic analysis of business models for open access monographs. Annex 4 to the Report off the HEFCE Monographs and Open Access Project https://londoneconomics.co.uk/blog/publication/economic-analysis-business-models-open-access-monographs/

is nonetheless linked with the extent at which authors will want something more than basic open access. Turning the focus on the dissemination aspect, the report argues that while more established publishers might be more advantaged, the increase in the sophistication of search engines and web discovery tools might help smaller publishers. Innovation is also expected to be promoted through certain models. The study does not provide any firm conclusion in relation to the effects of open access models on the diversity of the publishing landscape. Finally, it concludes that none of the models is likely to damage the integrity of the system. [111]

New University Presses (NUP)

New university presses account for the majority of open access monograph publishing. Their establishment aims at filling the gap between professional publishing activities and digital repositories providing infrastructure. A common element of these initiatives is their close relationship with institutional libraries and their strong commitment to open access publishing.[112] NUP see themselves as providing an outlet for certain types of research and as enabling researchers to publish their research outputs with institutional support. At the same time though, NUP entail an entrepreneurial component as universities can profit through charging author fees[113] (to those outside the university), while increasing the university's visibility and thus its capacity to attract further funding and collaborators.

As in the case of the traditional publishing model quality is strongly linked with institutional prestige (the higher this is, the easier it becomes to attract authors and disseminate books). Publicity becomes important though it can lead to what is referred to as "vanity publishing" which can have adverse effects on quality. An additional important factor that NUP need to consider is the balance between encouraging academics within the institution to publish with the press while maintaining their

[111] Crossick (2015) op. cit.
[112] Bargheer and Schmidt (2008) Gottingen University Press: Publishing services in an open access environment, Information Services and Use, 28(2): 133-139
[113] For academics within the institution the related costs are covered through library or research funds dedicated to this purpose.

attractiveness/ appeal to those outside the institution (and thus minimize any perceptions about favoritism towards affiliated researchers).[114]

Within the OPERAS network, **Gottingen University Press** is a typical example. Gottingen University Press was established in 2003 as a service of the Gottingen State and University Library and is part of the Electronic Publishing department. The press offers innovative services primarily to the members of Gottingen University and covers a wide range of disciplines (sciences, life sciences, SSH). It is managed by an editorial board made of the representatives of the various faculties and the University Medical Centre Gottingen. The press publishes within two categories: the "Universitatsdrucke" and the "Universitatsverlag": the former does not entail any review of the content (even though quality control is still performed for typesetting, layout and image quality) while the latter is reserved for publications of high quality which undergo a review process. Notwithstanding the differences in each publication type, there seems to be a trend for "hybrid" publications which combine open access publishing with print on demand. Regarding author's rights, the press leaves authors and editors as many rights as possible. In terms of the business model chosen this is based on a cost-recovery approach.[115]

Beyond the EU, important initiatives can be found in Australia. The **Australian National University Press** (ANU)[116] is among the most known. It was established in 2003 to explore and enable new scholarly publishing, making it the first Australian primarily electronic academic publisher. The primary focus of the press is the production of scholarly works. Submitted manuscripts (following initial consideration from the Editorial Board who examines the extent at which the proposal is of interest) undergo a double blind peer-review with at least two referees and at least one of them being external to ANU. The e-books are available in a range of formats (pdf, epub, html). All works are also available for purchase through the print on demand service. All the above formats are generated from a single source file xml. In 2014, ANU Press celebrated its 500th title.[117] The **Monash University Press** is a further interesting

[114] London Economics (2015) op. cit.
[115] Bargheer and Schmidt (2008) op. cit.
[116] Originally established as ANU E Press it changed its name to ANU Press in 2014 to reflect the changes in the publication industry.
[117] Australian National University. About ANU Press. https://press.anu.edu.au/about/about-anu-press

example as it is hosted in Australia's largest university. It publishes mainly in the social sciences and humanities following a rigorous process of peer review. Books are available in an e-book format, while print versions are also available for purchase.[118]

Mission-oriented OA

The mission-oriented open access is related to the belief that the monograph crisis calls for some form of intervention which could entail funding for open access or be part of a broader approach in relation to the role of monographs in tenure decisions. In a number of related initiatives one can discern what could be called a "by academics for academics" approach: under this model the available formats are usually the basic (html and pdf), with only a few added services available. Emphasis is placed on quality assurance as an essential component for establishing and maintaining credibility and less on aspects like dissemination, marketing and preservation. What is of equal importance is the absence of a clear funding mechanism raising important issues in terms of quality and long-term sustainability. As pointed out in the London Economics report "while starting an open access publishing operation is relatively easy, growing it into a sustainable operation is not" and this is even more relevant in the case of mission-oriented open access.

Freemium Open Access

Under this business model, the open access versions of monographs are available alongside the premium version for a price. In practice, almost all open access book publishers use some form of hybrid model by providing an open access edition and offering other editions/ features for sale. The most common among these extra features is the print-on-demand, but it can also include hypermedia, social features etc. This model implies a distinction between what is regarded as "core" and what is seen as a "value added service". The distinction is not fixed and is expected to change over time as a result of many factors, changes in technology being one of them. As most readers still prefer a printed version for longer texts, the e-book is not expected to substitute the printed book in the same way as e-journals have substituted printed journals.[119]

---

[118] Monash University Publishing. About Monash University Publishing. http://www.publishing.monash.edu/about.html

[119] Ferwerda, E. (2014) Open access monograph business models, Insights, 27(s), 35-38, http://dx.doi.org/10.1629/2048-7754.46

A typical example of the freemium model is the **OECD Publishing**: OECD makes all its publications available for free in html form, while those interested in acquiring other forms can do so by buying the premium editions and services enabling the recovery of all costs. The **Open Edition Freemium** is a programme for the development of open access academic publishing in SSH. The programme is offered exclusively to institutions (libraries, campuses, research institutes) with the aim to create an innovative and sustainable publishing model. The Open Edition Freemium is comprised of two strands: one for books and one for journals. In the case of books acquisition provides permanent access to pdf and epub versions. Books can be purchased on an individual basis or in bundles.[120] **Athabasca University Press** in Canada is a further interesting example. Athabasca University has been the first in Canada to establish an open access scholarly press. Access to all titles is free over the internet, and whenever possible the publications are licensed with Creative Commons, while print versions are also available for sale.[121]

Aggregator/ Distributor

Aggregators focus more on the technical aspects through functions like aggregation, distribution, quality assurance, discovery and preservation aimed at increasing availability and discoverability.

Aggregators both complement publishing and also work with other aggregators and/or service providers to enhance visibility and discoverability. In addition, they can also be considered as standard setters, especially when it comes to issues like licensing arrangements or technical upgrades. In the case of aggregators one has to take into consideration the fact that they can end up operating like a "tipping market" dominated by a single one with adverse effects on competition and innovation. A further point to be considered relates to the fact that their operation requires significant investments both in personnel and infrastructure of upfront nature.

Focusing on the funding side, **Knowledge Unlatched** (KU) supports open access monographs in SSH by collecting funds from libraries to pay publishers. In this way the cost is reduced for libraries participating in the project in comparison to the purchase

[120] Open Edition Freemium for Books. http://www.openedition.org/13052
[121] Athabasca University Press. http://www.aupress.ca/index.php/about/openaccess

of single print copies and/or e-books. The initiative not only offers opportunities for reducing costs but also for expanding readership. The KU Select 2016 includes 343 titles from 54 publishers with 269 having pledged their support.[122] **Luminos,** which is the University of California Press new open access program for monographs is a further example: it is based on a partnership were costs and benefits are shared. Membership fees from participating libraries go towards the cost of publication. [123]

Author Payment

Under this model, costs (known as author publication charges) are recovered from authors or their host/ funding organisations. While the risk for the publisher is reduced as the cost is shifted to the author, this practice can place researchers from institutions with limited financial capacities in a disadvantaged position.

4. Open Peer Review

Open Peer Review (OPR) is the buzz word of the moment in the scholarly communication sector. Even though it remains quantitatively marginal compared to "traditional peer review" (blind review) in the academic sector, there is a growing literature on the subject and more discussions about it in the scientific conferences than in the past. It has been extensively discussed, for example, during the 20th International Conference on Electronic Publishing, where Göttingen University team presented surveys, initiatives and experiments in different disciplines[124]. This was one of the outcomes of a dedicated task in OpenAire2020 project.

In discussing open peer-review two points should be acknowledged. First, that the term "open peer-review" is not limited to one specific practice of open reviewing, but captures instead a family of practices.[125] In its simplest form it is about conducting the review traditionally, and then releasing publicly the name of the reviewer and the review. Other forms are more interactive and open: in these cases, comments are made

[122] Knowledge Unlatched. http://www.knowledgeunlatched.org/ku-collections/ku-books/
[123] University of California Press. Luminos. http://www.luminosoa.org/
[124] OpenAIRE. "Openaire's Experiments in Open Peer Review / Report". Zenodo, September 22, 2016. doi:10.5281/zenodo.154647
[125] Ross-Hellauer, T. "Defining Open Peer Review: Part One – Competing Definitions", 30 October 2016, https://blogs.openaire.eu/?p=1371

on the draft version of the manuscript immediately upon its release. Comments can be made either by several reviewers or anyone wishing to review the manuscript before publication. In that case OPR tends to be crowdsourced reviewing. The combination of OPR with annotation and commenting features that comes with web publishing gives way to conversational reviewing by creating conversation threads around papers. In some cases, the open conversation can be combined with traditional reviewing; this is "post publication peer review", sometime named also "open peer comment".

The second point is that the emergence and expansion of OPR within the academic sector has been fueled by growing concerns in the last years about scientific integrity. Surveys show that retraction rate in scientific publications is growing due to a growing number of mistakes, frauds and sometimes hoaxes that remain unnoticed throughout traditional reviewing process[126]. The growing number of papers to be reviewed, the growing complexity of data to be verified before validating a paper, but also the growing competition between research teams that pushes them to publish more often and more quickly than in the past put pressure on the traditional reviewing system and make it more and more obsolete in the new environment. For some commentators, OPR can help fixing what appears to be a broken scientific system.

The development of OPR in the scholarly communication system must be contextualized with the development of the open science paradigm[127]. Open Science means not only opening the access to publications and data, but also the whole scientific workflow to obtain more transparency and reliability of the research results. Open Science is a general movement aiming at opening the "black boxes" of research and OPR is a part of that process. In general, OPR is practiced and promoted by new editorial initiatives that position themselves as pioneers in the general movement to open science: F1000Research, PeerJ, PubPeer, The Winnower, ScienceOpen. Older

[126] Moylan, Elizabeth C, et Maria K Kowalczuk. « Why articles are retracted: a retrospective cross-sectional study of retraction notices at BioMed Central ». BMJ Open 6, n° 11 (23 novembre 2016). doi:10.1136/bmjopen-2016-012047.

[127] Wang, P., Hoyt, J., Pöschl, U., Wolfram, D., Ingwersen, P., Smith, R. and Bates, M. (2016), The last frontier in open science: Will open peer review transform scientific and scholarly publishing?. Proc. Assoc. Info. Sci. Tech., 53: 1–4. doi:10.1002/pra2.2016.14505301001

initiatives, that were forerunners for the development of open access, such as PLOS One and Pubmed (through Pubmed Commons) offer OPR as an option to researchers[128].

Finally, most of the discussions about OPR revolves around the advantages and drawbacks of losing anonymity in the process[129]: on one side, anonymity protects authors against prejudiced judgments from reviewers on their work and reviewers from pressures that could come from their direct or indirect links with the authors. On the other side, despite formal procedures of anonymization, in many domains, anonymity cannot be guaranteed in practice because of the specialization constituting very small communities where it's easy to identify an author based on the subject of the paper and the other authors cited. This is particularly true in humanities and social sciences. All in all, OPR opens the debate whether research integrity should be guaranteed through approaches based on how reviewing practices should be in theory or are in reality.

In 2015, OpenAire supported 3 experiments aiming at implementing OPR in different contexts:

- Open Scholar CIC developed a module to be implemented on Dspace repositories. The Open Peer Review Module (OPRM) allowed for implementing invitation management to reviewers, management of reviews, commenting functionalities and a reputation engine. The aim of the reputation engine is to build quantitative indicators based on the quantity and quality of the reviews as well as on the reputation of the reviewers. So far, the OPRM has been implemented on CSIC repository and another one in Spain.
- The Winnower is a post-publication open peer review platform allowing authors to submit their paper and request reviews from the scientific community. During the OpenAire experiment, The Winnower developed a module to connect with OpenAire repository and fetch metadata, facilitating reviewing.

[128] Andy Tattersall, (2015) "For what it's worth – the open peer review landscape", Online Information Review, Vol. 39 Issue: 5, pp.649-663, doi: 10.1108/OIR-06-2015-0182

[129] Benos, D.J., Bashari, E., Chaves, J.M., Gaggar, A., Kapoor, N., LaFrance, M., Mans, R., Mayhew, D., McGowan, S., Polter, A., Qadri, Y., Sarfare, S., Schultz, K., Splittgerber, R., Stephenson, J., Tower, C., Walton, R.G., Zotov, A., 2007. The ups and downs of peer review. Adv. Physiol. Educ. 31, 145–152. doi:10.1152/advan.00104.2006.

- OpenEdition experiment is the only one deliberately targeting humanities and social sciences. OpenEdition achieved an OPR and Open Commentary experiment with Vertigo, a Canadian journal in environmental sciences. The experiment involved Vertigo blog on Hypotheses.org platform as a publishing venue for paper drafts and reviews, with the adjunction of hypothes.is plugin for detailed annotation. OpenEdition approach to OPR was to invest on human mediation rather than on the development of tools, considering OPR needs specific curation regarding the management of reviewers and authors relations during the whole process[130].

In general, very few examples of OPR exist in humanities and social sciences. It must be noted that one of the early adopters was a reference journal in anthropology – *Current anthropology* – which chose to publish papers reviews (named "Responses" and inserted at the end of the articles tex) from 1959, long before the whole idea became so discussed about. Innovative platforms such as Ubiquity Press must be acknowledged as opening the way for OPR in those disciplines. HIRMEOS[131], a H2020 project implementing added value services on top of 5 important open access academic books publishing platforms will use hypothes.is plugin to allow for open annotation on the full text of the books. It is planned that an experiment will be achieved in the course of the project for post-publication OPR using this feature; that would be a premiere for academic books.

As far as humanities and social sciences academic communities are concerned, OPR is an important topic to watch. Collective discussions are regularly organized on the question of quality control for journals and books in those disciplines and OPR should definitely be a part of it. The discussion should be based on lessons learned from experiments such as those achieved by OpenEdition and HIRMEOS and on literature reviews such as the one that OpenAire produced during its OpenAire2020 project. Finally, the discussion should involve researchers through scholarly societies,

[130] Julien Bordier. Évaluation ouverte par les pairs : de l'expérimentation à la modélisation : Récit d'une expérience d'évaluation ouverte par les pairs. " https://hal.archives-ouvertes.fr/hal-01283582

[131] http://hirmeos.eu

publishers through their national associations – and European with AEUP -, and research funding organizations. OPERAS consortium, as a collective endeavor to develop an infrastructure for open scholarly communication at European level could be the right player to organize such a discussion involving the concerned stakeholders, in partnership with its sister infrastructures OpenAire and Dariah.

5. Conclusions - Policy Implications

In the SSH, uncoordinated activities and lack of common standards complicate the transition to Open Science and OA publishing as standard practice

Issues to be addressed: Common standards
best practices
business models
research and development
future services
multilingualism

OPERAS as a model of distributed infrastructure for scholarly communication

- OPERAS addresses effectively existing interoperability and interconnectivity issues in the OA publishing landscape.
- Moreover, it fosters the future development of complementarities and enables all concerned parts to extend the outreach of high quality research and scholarship.
- OPERAS designs governance models and implements solutions that will enhance stakeholders' capacity to correspond to all needs emerging from the transition of science to the digital paradigm.
- OPERAS' extensive membership of key institutions (research centres, universities, service providers) from several MS sets the foundations for the essential shift at national level and ensures the operational capacity and sustainability at EU level.

OPERAS-D (Design) project aims at supporting the core group members of OPERAS network in the development of an e-infrastructure for open access publications in the SSH. As a first step towards this aim, the project conducted a landscape study to identify key stakeholders involved in open access publishing, to explore existing and emerging practices, initiatives and challenges. The analysis will allow the project to identify the issues that need to be addressed by the OPERAS network in moving forward and in further supporting open access publishing especially in the SSH by addressing the challenges involved in renewing the scholarly communication practices in the digital age and in the context of Open Science. This initiative acquires further importance in

the case of SSH, as they lag behind in terms of exploiting the full potential of the open web.

The study has confirmed the existence of multiple actors and practices in the open access publishing ecosystem. This publishing landscape is by no means static but rather continuously evolving as a result of the increasing uptake of open access publishing (powered also by funder and institutional policies and mandates) and the progress observed on the infrastructure level. In terms of actors, the open access publishing system is characterized by their large number and their diversity, as they include from university presses to smaller scholarly initiatives offering varying levels of services and relying on different sources of funding.

Despite the existence of important and pioneering initiatives, further effort is required in order to support a truly innovative vision for scholarly publishing in the digital age. In the SSH, uncoordinated activities and lack of common standards complicate the transition to Open Science and OA publishing as standard practice. Moreover, fragmentation of institutional publishing initiatives and limited dissemination of publications entails particular difficulties for infrastructure providers -such as institutional libraries and publishing platforms- in elaborating collectively adopted models and publishing practices. Important issues to consider are the necessity of proposed initiatives to be participatory and federated and the need to establish a common framework focusing on the introduction of common standards. Issues of governance and interconnectivity will also be important.

This report reflects the perceived need for coordinated initiatives (by MS and at EU level) aiming at the defragmentation of the open access publishing market in the SSH. In light of the recent developments within the open access policy framework, the ongoing discussion on the potential of integrated infrastructures as well as the diversity of actors involved in scholarly communication, more thought needs to be given to how existing publishing initiatives will be incorporated into an overarching infrastructure that will reduce exiting inconsistencies.

To move academic research more thoroughly into the public domain is to create a substantial alternative source of public information that would support innovative

communication methods and realise the goal of increased collaboration across existing infrastructures.

In this context, the more recent proposal regarding the creation of an innovative public information infrastructure (the European Open Access Platform)[132] seems to have attracted attention. Combined, the European Open Science Cloud and the European Open Access Platform may serve as a robust starting point for the development of EU-wide infrastructures dedicated to effectively disseminating peer-reviewed scientific output. Notwithstanding the outreach and impact of such initiatives, existing infrastructures and services may not fulfill researchers' needs. As large-scale e-infrastructures play an increasingly important role in supporting innovative research activities and enabling scholarly communication, a number of significant challenges have yet to be met in the open access scholarly publishing landscape. Special focus should be given to the establishment of a common policy framework and the formulation of action plans at EU level to strengthen scientific publishing towards a sustainable approach along the following lines:

- Common standards: a common set of practices and principles applied and evaluated by e-infrastructure providers at all stages of the publishing process
- Best practices: introduction of innovative and sustainable operational models that produce best results and maintain high quality content and minimum technical standards
- Business models: conceptual, administrative and financial arrangements corresponding to current challenges and OA publishing needs
- Research and Development: services to identify and implement corporate publishing and communication models or enhance the interoperability and complementarity of existing infrastructures
- Future services: a roadmap to achieve these goals according to the requirements for long term sustainability

[132] Fecher, B., Friesike, S., Peters, I., Wagenr, G. (2017) Rather than simply moving from "paying to read" to "paying to publish", it's time for a European Open Access Platform, LSE Impact Blog, 10 April 2017, http://blogs.lse.ac.uk/impactofsocialsciences/2017/04/10/rather-than-simply-moving-from-paying-to-read-to-paying-to-publish-its-time-for-a-european-open-access-platform/ and also for a response: Ross-Hellauer, T. (2017) OpenAIRE as the basis for a European Open Access Platform, OpenAIRE Blog, 5 May 2017, https://blogs.openaire.eu/?p=1961

Future initiatives should aim precisely at creating a centrally governed European infrastructure for the coordination of the OA publishing ecosystem and establish new synergies that could further the implementation of Open Science and introduce more effective ways of scholarly communication. Especially designed to cover the needs of the SSH research community, OPERAS addresses effectively existing interoperability and interconnectivity issues in the OA publishing landscape. Moreover, it fosters the future development of complementarities and enables all concerned parts to extend the outreach of high quality research and scholarship.

OPERAS designs governance models and implements solutions that will enhance stakeholders' capacity to meet global challenges and correspond to all needs emerging from the transition of science to the digital paradigm. Furthermore, its extensive membership of key institutions (research centres, universities, service providers) from several MS sets the foundations for the essential shift at national level and ensures the operational capacity and sustainability of an EU-wide incorporated infrastructure.

Annex I

OPERAS Network Members

Core Group

Institute of Literary Research of the Polish Academy of Sciences – IBL PAN (PL) http://ibl.waw.pl/

Max Weber Foundation – MWS (DE) http://www.maxweberstiftung.de/startseite.html

National Documentation Centre – EKT (GR) http://www.ekt.gr/en/

Open Access Publishing in European Networks – OAPEN (NL) http://www.oapen.org

OpenEdition (FR) http://cleo.openedition.org/

UCL Press (UK) https://www.ucl.ac.uk/ucl-press

UC Digitalis/Coimbra University Press (P) https://digitalis.uc.pt/en

University of Zadar (HR) http://iz.unizd.hr/

Members

Association of European University Presses –AUEP (EU) http://www.aeup.eu/

Conference of Italian University Rectors – CRUI (IT) https://www.crui.it/

Georg-August-University Göttingen – UGOE (DE) http://www.uni-goettingen.de/en/1.html

Huma-Num (FR) http://www.huma-num.fr/about-us

Italian National Research Council – CNR (IT) http://www.iliesi.cnr.it/EN/

Knowledge Unlatched (UK) http://www.knowledgeunlatched.org/

Napoli University Federico II (IT) http://www.unina.it/en_GB/home

Open Books Publishers (UK) http://www.openbookpublishers.com/

Open Library of Humanities – OLH (UK) https://www.openlibhums.org/

Ubiquity Press (UK) http://www.ubiquitypress.com/

University Institute of Lisbon – ISCTE-IUL (PT) https://www.iscte-iul.pt/

University of Turin (IT) https://www.unito.it/

Universiy Ca'Foscari Venice (IT) http://www.unive.it/

Virtual Centre for Knowledge about Europe – CVCE (LX) http://www.cvce.eu/en/home

References

Archambault, E., Amyot, D., Deschamps, P., Nicol, A., Provencher, F., Rebout, L. and Roberge, G. (2014). "Proportion of Open Access Papers Published in Peer-Reviewed Journals at the European and World Levels- 1996-2013". Science-Metrix, http://science-metrix.com/sites/default/files/science-metrix/publications/d_1.8_sm_ec_dg-rtd_proportion_oa_1996-2013_v11p.pdf (retrieved 6 April 2017).

Arts and Humanities Research Council. "Open Access" http://www.ahrc.ac.uk/about/policies/openaccess/ (accessed 7 April 2017).

Athabasca University Press. "About Open Access to Scholarly Information" http://www.aupress.ca/index.php/about/openaccess (accessed 3 May 2017).

Australian National Data Service. "Data and Service" http://www.ands.org.au/working-with-data/publishing-and-reusing-data/data-journals (retrieved 4 May 2017).

Australian National University. "About ANU Press". https://press.anu.edu.au/about/about-anu-press (accessed 2 May 2017).

Australian Research Council (2015). "Open Access Policy, version 2015.1" http://www.arc.gov.au/sites/default/files/filedepot/Public/Policy%20&%20Strategy/ARC%20Open%20Access%20Policy/ARC_Open_Access_Policy_V2015.1_17Aug15.pdf (retrieved 9 May 2017).

Bargheer, M., Schmidt B. (2008). "Gottingen University Press: Publishing services in an open access environment", *Information Services and Use*, 28(2): 133-139. doi: 10.3233/ISU-2008-0569.

Benos, D.J., Bashari, E., Chaves, J.M., Gaggar, A., Kapoor, N., LaFrance, M., Mans, R., Mayhew, D., McGowan, S., Polter, A., Qadri, Y., Sarfare, S., Schultz, K., Splittgerber, R., Stephenson, J., Tower, C., Walton, R.G., Zotov, A., (2007). "The ups and downs of peer review". *Advances in Physiology Education*. 31, 145–152. doi:10.1152/advan.00104.2006.

Bethesda Statement on Open Access Publishing, 20 June 2003, http://legacy.earlham.edu/~peters/fos/bethesda.htm (accessed 23 March 2017).

Bordier, J, (2016). "Évaluation ouverte par les pairs : de l'expérimentation à la modélisation : Récit d'une expérience d'évaluation ouverte par les pairs". *Archives ouvertes*, https://hal.archives-ouvertes.fr/hal-01283582 (retrieved 17 April 2017).

Budapest Open Access Initiative, "Read the Budapest Open Access Initiative", 14 February 2002, http://www.budapestopenaccessinitiative.org/read (accessed 22 March 2017).

Budapest Open Access Initiative. "Ten Years on from the Budapest Open Access Initiative-setting the default to open", 12 September 2012, http://www.budapestopenaccessinitiative.org/boai-10-recommendations (accessed 22 March 2017).

Council of the European Union (2016). "The transition towards an Open Science System: Council conclusions" http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf (retrieved 23 March 2017).

Crossick, G. (2015). "Monographs and Open Access. A report to HEFCE". http://www.hefce.ac.uk/pubs/rereports/year/2015/monographs/ (retrieved 13 Feb 2017).

Dallmeier-Tiessen, S., Darby, R., Goerner, B., Hyppoelae, J., Igo-Kemenes, P., Jahn, D., Lambert, S., Lengerfelder, A., Leonard, C., Mele, S., Nowicka, M., Polydoratou, P., Ross, D., Ruiz-Perez, S., Schimmer, R., Swaisland, M., and van der Stelt, W. (2011). "Highlights from the SOAP project survey. What scientists think about open access publishing", arXiv: 1101.5260.

De Castro, P. (2015). "Assessing readiness for open access policy implementation across Europe", http://pasteur4oa.eu/sites/pasteur4oa/files/resource/PASTEUR4OA%20EuroCRIS%20Case%20Study.pdf (retrieved 24 March 2017).

De Castro, P. (2016) "Funded Bids for the Alternative Funding Mechanism for APC-free Open Access Journals and Platforms", OpenAIRE blog, 1 August 2016, https://blogs.openaire.eu/?p=1139 (accessed 24 March 2017).

Dergi Park. "About Dergi Park" http://dergipark.gov.tr/page/about (accessed 2 February 2017).

DOAB (Directory of Open Access Books). http://www.doabooks.org/ (accessed 16 February 2017).

Directory of Open Access Journals (DOAJ) https://doaj.org/ (accessed 9 February 2017).

Economic and Social Research Council. "Open Access to Research Outputs" http://www.esrc.ac.uk/funding/guidance-for-grant-holders/open-access-to-research-outputs/ (accessed 24 February 2017).

EKT ePublishing. http://epublishing.ekt.gr/en (accessed 10 May 2017).

ERIH PLUS (The European Reference Index for the Humanities and the Social Sciences). https://dbh.nsd.uib.no/publiseringskanaler/erihplus/about/index (accessed 28 April 2017).

European Commission (2012). "Towards better access to scientific information: Boosting the benefits of public investments in research", http://ec.europa.eu/research/science-society/document_library/pdf_06/era-communication-towards-better-access-to-scientific-information_en.pdf (accessed 24 March 2017).

European Commission (2012). "Commission Recommendation of 17.07.2012 on access to and preservation of scientific information", C(2012)4890 final. http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf (accessed 24 March 2017).

European Commission (2016). "H2020 Programme Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020", version 3.1, 25 August 2016.

European Commission (2016). "Open Innovation, Open Science, Open to the world- a vision for Europe", https://ec.europa.eu/research/openinnovation/index.cfm (accessed 23 March 2017).

European Commission (2017). "H2020 Programme. Guidelines on Open Access to Scientific Publications and Research Data in Horizon2020", version 3.2, 21 March 2017.

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf (accessed 24 March 2017).

European Research Council (2016). "Open Access Guidelines for research results funded by the ERC, revised February 2016" https://erc.europa.eu/sites/default/files/document/file/ERC_Open_Access_Guidelines-revised_feb_2016.pdf (retrieved 11 March 2017).

Eve, M. P. (2014). *Open Access and the Humanities: Contexts, Controversies and the Future*, Cambridge, Cambridge University Press. https://doi.org/10.1017/CBO9781316161012

Eve, M.P. (2017). "The starting pistol has been fired- now it the time to heed the drive towards open access books", LSE Impact Blog, 7 March 2017, http://blogs.lse.ac.uk/impactofsocialsciences/2017/03/07/the-starting-pistol-has-been-fired-now-is-the-time-to-heed-the-drive-towards-open-access-books/?platform=hootsuite (accessed 8 March 2017).

Fecher, B., Friesike, S., Peters, I., Wagenr, G. (2017) "Rather than simply moving from 'paying to read' to 'paying to publish', it's time for a European Open Access Platform", LSE Impact Blog ,10 April 2017, http://blogs.lse.ac.uk/impactofsocialsciences/2017/04/10/rather-than-simply-moving-from-paying-to-read-to-paying-to-publish-its-time-for-a-european-open-access-platform/ (accessed 11 April 2017).

Ferwenda, E. Snijder, R., Adema, J. (2013). "OAPEN-NL. A project exploring Open Access monograph publishing in the Netherlands, Final Report" https://www.oapen.org/content/reports#OAPEN-NL (accessed 12 May 2017).

Ferwerda, E. (2014). "Open access monograph business models", *Insights*, 27(s), 35-38, http://dx.doi.org/10.1629/2048-7754.46

Frank, Gwen. OpenAIRE FP7 Post-Grant Open Access Pilot: extension, OpenAIRE blog, 2 May 2017 https://blogs.openaire.eu/?p=1880 (accessed 3 May 2017).

Frosio, F. (2014). "Open Access Publishing: A Literature Review, CREATE Working Paper 2014/1" http://www.create.ac.uk/wp-content/uploads/2014/01/CREATe-Working-Paper-2014-01.pdf (retrieved 4 May 2017).

Gatti, R. ""Introducing Some Data to the Open Access Debate: OBP's Business Model", Open Book Publishers Blog, 15 October 2015. http://blogs.openbookpublishers.com/tag/rupert-gatti/

Gatti, R. and Mierowsky, M. (2016). "Funding Open Access Monographs, A coalition of libraries and publishers", *College and Research Libraries*, 77(9): 456-459 http://crln.acrl.org/index.php/crlnews/article/view/9557/10902 (accessed 4 May 2017).

Göttingen University. "What is Open Access?" https://www.sub.uni-goettingen.de/en/electronic-publishing/open-access/ (accessed 23 March 2017).

Guedon, J.C. "Open Access: Towards the Internet of the Mind", 23 February 2017 http://www.budapestopenaccessinitiative.org/open-access-toward-the-internet-of-the-mind (accessed 11 March 2017).

Higher Education Funding Council for England (2016). "Policy for Open Access in Research Excellence Framework 2021. Updates in November 2016. Guidance Note 2016/ 35" http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2016/201635/HEFCE2016_35.pdf (retrieved 11 April 2017).

Higher Education Funding Council for England (2016). "Consultation to the second Research Excellence Framework, December 2016/36" http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2016/201636/HEFCE2016_36.pdf (retrieved 11 April 2017).

HIRMEOS project. http://hirmeos.eu (accessed 23 May 2017).

Hrcak- Portal of Scientific Journals of Croatia, http://hrcak.srce.hr/ (accessed 6 April 2017).

Jahn N. and Tullney, M. (2016) "A study of institutional spending on open access publication fees in Germany", *PeerJ* 4: e2323 https://doi.org/10.7717/peerj.2323

JISC (2016). "Investigating OA monograph services: Final Report", https://www.jisc-collections.ac.uk/Global/Investigating%20OA%20Monograph%20Services/Jisc-OAPEN%20pilot%20Final%20report.pdf (retrieved 5 May 2017).

Jonhson, R., Fosci, M., Chiarelli, A., Pinfield, S., Jubb, M. (2017). "Towards a competitive and sustainable OA market in Europe- A study of the Open Access Market and Policy Environment, A study prepared for the OpenAIRE2020 project on behalf of the European Commission", Research Consulting, https://blogs.openaire.eu/wp-content/uploads/2017/03/OA-market-report-28Final-13-March-201729-1.pdf (retrieved 15 May 2017).

Journal of Open Archaeology Data. http://openarchaeologydata.metajnl.com/ (accessed 10 April 2017).

Journal of Open Psychology Data. http://openpsychologydata.metajnl.com/ (accessed 10 April 2017).

Knowledge Unlatched http://www.knowledgeunlatched.org/ (accessed 5 May 2017).

Laakso, M. Welling, P., Bukvova, H., Nyman, L., Bjork, B.C., Hedlund, T. (2011) "The Development of Open Access Journals Publishing from 1993 to 2009", *PLoS ONE*, 6(6) e20961. doi: 10.1371/journal.pone.0020961

London Economics (2015). "Economic analysis of business models for open access monographs". Annex 4 to the Report off the HEFCE Monographs and Open Access Project https://londoneconomics.co.uk/blog/publication/economic-analysis-business-models-open-access-monographs/ (accessed 20 February 2017).

Maron, N., Mulhern, C., Rossman, D., Schmelzinger, K. (2016) "The Costs of Publishing Monographs. Towards a Transparent Methodology", *ITHAKA S+R*, https://doi.org/10.18665/sr.276785 (accessed 20 February 2017).

Max Planck Society. "Berlin Declaration on Open Access to Knowledge in the Sciences and the Humanities", 22 October 2003, https://openaccess.mpg.de/67605/berlin_declaration_engl.pdf (accessed 23 March 2017).

Milloy, C., Collins, E. (2016). "OAPEN-UK Final Report. A five-year study into open access monograph publishing in the humanities and social sciences", Jisc. http://oapen-uk.jiscebooks.org/files/2016/01/OAPEN-UK-final-report.pdf (retrieved 21 February 2017).

Monash University Publishing. "About Monash University Publishing". http://www.publishing.monash.edu/about.html (retrieved 21 February 2017).

Moore, S. (2016). "Open Access Monographs". PASTEUR4OA Briefing Paper. doi: 10.5281/zenodo.51853

Morisson, H. (2017). "Directory of Open Access Journals (DOAJ)", *The Charleston Advisor*, doi:10.5260/chara.18.3.25.

Moylan, E. C, Kowalczuk M.K.(2016). "Why articles are retracted: a retrospective cross-sectional study of retraction notices at BioMed Central", *BMJ Open 6,* n° 11. doi:10.1136/bmjopen-2016-012047

National Institutes of Health. "Public Access Policy" https://publicaccess.nih.gov/FAQ.htm#4003 (accessed 13 April 2017).

National Library of Sweden (2016). "Open APC Sweden. A national open repository of publication costs for open access articles". Stockholm. http://www.kb.se/dokument/open%20access/Open_APC_Sweden_English_LAST.pdf (accessed 13 April 2017).

Netherlands' EU Presidency (2016). *Amsterdam Call for Action on Open Science* https://english.eu2016.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science (accessed 14 April 2017)

OAPEN (Open Access Publishing in European Networks). http://www.oapen.org/home (accessed 5 May 2017)

OpenAIRE. "Openaire's Experiments in Open Peer Review / Report". Zenodo, September 22, 2016. doi:10.5281/zenodo.154647.

OpenAIRE. "FP7 post-grant Open Access publishing funds pilot" https://www.openaire.eu/postgrantoapilot (accessed 18 May 2017).

OpenEdition. http://www.openedition.org/ (accessed 8 May 2017).

OpenEdition. "OpenEdition Freemium for Books" http://www.openedition.org/13052 (accessed 8 May 2017).

OPERAS (Open Access in the European Research Area through scholarly communication). **http://operas-eu.**org (accessed 23 May 2017).

OPERAS-D (Design for Open Access Publications in European Research Area for Social Sciences and Humanities) http://operas.hypotheses.org/operas-d (accessed 23 May 2017).

Packer, A.L., Cop, N., Luccisano, A., Ramalho, A., Spinak, E. (2014). *SciELO: 15 Years of Open Access. An analytical study of Open Access and Scholarly Communication*, Paris: UNESCO, 186 p. ISBN 978-92-3001- 237-3. doi: 10.7476/9789230012373.

PASTEUR4OA (Open Access Policy Alignment Strategies for European Union Research), http://pasteur4oa.eu/ (accessed 6 February 2017).

Pinfield, S. and Middleton, C. (2012), "Open access central funds in UK universities", *Learned Publishing*, 25: 107–114, doi: 10.1087/20120205.

Public Knowledge Project. "Open Journal Systems" https://pkp.sfu.ca/ojs/ (accessed 9 February 2017).

Redalyc. http://www.redalyc.org/home.oa (accessed 4 April May 2017).

RePEc (Research Papers in Economics). http://repec.org/ (accessed 6 April 2017).

Research Councils UK (2013). "RCUK Policy on Open Access and Supporting Guidance". http://www.rcuk.ac.uk/documents/documents/rcukopenaccesspolicy-pdf/ (retrieved 29 March 2017).

ROARMAP (Registry of Open Access Repository Mandates and Policies) http://roarmap.eprints.org/ (accessed 29 March 2017).

Ross-Hellauer, T. "After SSRN: Hallmarks of trust for subject repositories", 24 May 2016, https://blogs.openaire.eu/?p=933 (accessed 23 May 2017).

Ross-Helauer, T. (2017). "Defining Open Peer Review: Part One – Competing Definitions", OpenAIRE blog, 30 October 2016, https://blogs.openaire.eu/?p=1371 (accessed 3 May 2017).

Ross-Hellauer, T. "OpenAIRE as the basis for a European Open Access Platform", OpenAIRE Blog, 5 May 2017, https://blogs.openaire.eu/?p=1961 (accessed 5 May 2017).

SCOAP3 (Sponsoring Consortium for Open Access Publishing in Particle Physics). https://scoap3.org/ (accessed 23 May 2017).

Sherpa – Romeo, http://www.sherpa.ac.uk/ (accessed April 2017).

Solomon, D. and Bjork, B.C. (2011). "A study of open access journals using article processing charges", *Journal of the American Society for Information Science and Technology*, 63(8): 10.1002/asi.22673

SSRN (Social Science Research Network). https://www.ssrn.com/en/(accessed 17 March 2017).

Suber, P. (2005). "Promoting Open Access in the Humanities", *Syllecta Classica*, Volume 16, pp. 231-246. doi: 10.1353/syl.2005.0001

Swan, A. (2012). "Policy Guidelines for the Development and Promotion of Open Access". UNESCO. http://unesdoc.unesco.org/images/0021/002158/215863e.pdf (accessed 24 March 2017).

Swan, A. (2015). "PASTEUR4OA Case Study: Institutional policy implementation at the University of Liege". http://www.openaccess.gr/sites/openaccess.gr/files/Case%20study%20U%20Liege_FINAL.pdf (accessed 24 March 2017).

Swan. A., Gargouri, Y., Hunt, M., and Harnad, S. (2015). "Report on policy recording exercise, including policy typology, and effectiveness and list of further policy maker targets", Deliverable D3.1, PASTEUR4OA Project, March 2015, http://pasteur4oa.eu/deliverables?page=1 (accessed 23 March 2017).

Tattersall, A. (2015). "For what it's worth – the open peer review landscape", *Online Information Review*, Vol. 39 Issue: 5, pp.649-663, doi: 10.1108/OIR-06-2015-0182.

Tsoukala, V. (2015). "University-based open access publishing: state of play". Report to SPARC Europe. http://sparceurope.org/wp-content/uploads/2015/12/SE_UPublishing_Report_0315.pdf (retrieved 23 May 2017).

The Wellcome Trust. "Complying with our open access policy" https://wellcome.ac.uk/funding/managing-grant/complying-our-open-access-policy (accessed 12 May 2017).

Universita degli Studi di Torino (2014). "Regolamento di Ateneo sull' accesso aperto-modifiche", https://www.unito.it/sites/default/files/reg_openaccess_2014.pdf (accessed 14 February 2017).

University of California Press. Luminos. http://www.luminosoa.org/ (accessed 5 May 2017).

Walters C., Hilton, J., et al. (2015) "A study of direct author subvention for publishing Humanities books at two Universities: A report to the Andrew W. Mellon Foundation by Indiana University and University of Michigan. http://hdl.handle.net/2027.42/113671

Wang, P., Hoyt, J., Pöschl, U., Wolfram, D., Ingwersen, P., Smith, R. and Bates, M. (2016), "The last frontier in open science: Will open peer review transform scientific and scholarly publishing?", *Proc. Assoc. Info. Sci. Tech*., 53: 1–4. doi:10.1002/pra2.2016.14505301001

Zenodo. http://about.zenodo.org/ (accessed 13 February 2017).

Annex 2: Technical Mapping

DESIGN FOR OPEN ACCESS PUBLICATIONS IN EUROPEAN AREAS FOR SOCIAL SCIENCES AND HUMANITIES

Technical mapping of the OPERAS environment

Grant Agreement number	:	731031
Project acronym	:	OPERAS-D
Project title	:	Design for Open Access Publications in European areas for Social Sciences and Humanities
Funding Scheme	:	INFRASUPP-03-2016
Project's coordinator Organization	:	CLEO-CNRS
E-mail address	:	pierre.mounier@openedition.org
Website	:	http://operas-eu.org

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No731031

Contents

I. Objective

The technical mapping of OPERAS environment is meant to provide a global description of the technical, organizational and information systems within OPERAS consortium. More precisely, the mapping has collected detailed information about workflows, software, development languages, data and metadata management, dissemination and distribution tools.
The main scope was to identify similarities, compatibilities and possible interoperability.

II. Executive summary

A. Method

The technical mapping has been done through a questionnaire sent to the different partners. Each of them has been sent a table structured alongside the most common types of digital publishing activities.
As digital publishing is not standardized enough yet, a draft has been proposed to various individuals and profiles from the consortium and then collectively validated. The draft and the final version are loosely based on enterprise architecture concepts (see : https://en.wikipedia.org/wiki/Enterprise_architecture_framework).
The tables were the following:

- organization;
- activity;
- applications and services;
- information system;
- hardware;
- prospects.

B. Participants

- National Documentation center – EKT (gr)
  website: http://epublishing.ekt.gr/en
- Max Weber Stiftung – MWS (de)

website: http://www.maxweberstiftung.de/startseite.html
- Open Access Publishing in European Networks – OAPEN (nl)
website: http://www.oapen.org/home
- Open Book Publisher (en) – OBP
website: https://www.openbookpublishers.com/
- OpenEdition – OE (fr):
website: http://www.openedition.org/
- Open Libraries of Humanities – OLH (en)
website: https://www.openlibhums.org/
- SHARE press – SHARE (it) at University of Naples Federico II
website: http://www.sharecampus.it/1/share_press_966615.html
- Ubiquity Press – UP (en)
website: http://www.ubiquitypress.com/
- UCL press – UCL (en)
website: http://www.ucl.ac.uk/ucl-press
- Universität Göttigen – UGOE (de)
website:
https://www.sub.uni-goettingen.de/en/electronic-publishing/goettingen-university-press/
- Università di Torino - UniTo (it)
website: http://www.oa.unito.it/new/

C. Other partners

Not relevant (no platform):

- Knowledge Unlatched (en)
- ISCTE (pt)
- CRUI (it)
- CNR (it)
- AEUP (fr)

No response:

- Zadar University (cr)
- Università di Venezia (it)
- CVCE (fr)

New partners:

- Coimbra University Press (pt)
- Humanum (fr)

- IBL PAN (pl)

III. Results

A. Preliminary remarks

This work represents a first identification of practices, workflows and tools within the OPERAS consortium. It is mainly a basic inventory. The categories used in the survey can and must be improved later through a collaborative process.
The responses are detailed and represent a reliable collection of all the information needed. Nevertheless, some answers indicate that the categories used for the survey were somehow too loose or too abstract. For instance, the questions about publishing on one hand and workflow on the other hand created some confusion and the same response could be found in each field. The metadata questions were uneasy to classify because of their several types and use, but this aspect has to be better formalized in order to have a better description of the data management process within the consortium. Compared to this first attempt, the main activities of the partners should therefore be defined anew in order to offer a better articulation between concepts and real practices.
For these reasons, we have decided not to follow the tables progression but to reorder the content of this report on the basis of the schema in Annex 1. This schema represents in a circular way the various activities and missions of the digital publishers involved in the OPERAS consortium.
The sections below are an adaptation of this schema to our technical content (see table “Functional architecture” in Annex 2). We will present the various functions from the more technical to the more abstract.

B. Information system

Development language, Database, Size limit, Hardware

Leaving aside the front-end languages (HTML, CSS, JS), the general information collected regarding the development languages is two-fold:

- a first group of participants benefits from an external IT system managed by their organization or a partner and don’t have information on the topic;

- another group is characterized by an in-house IT, that is an independent IT department or an operational autonomous set of IT skills (EKT, OAPEN, OBP, OE, SHARE, UGOE, UP).

In this second group, it could be useful, when many languages are indicated, to better know which use in what range is made of each language. In this way, it would be easier to imagine potential collaborations.
It is interesting noticing, however, that a majority of partners are PHP/MySQL users. With the exception of MWS (Python/Zope Object Database) and UGOE (XML publishing of Cocoon-Apache), all the others are using PHP alone or in combination with other languages.

The database and data size limit give us information about the present data management status and its possible evolution. For books and/or journals only, here are the database sizes:

- less than 1 GB (OBP, SHARE books, UGOE)
- around 2 GB (SHARE journals)
- around 15 GB (OE Books)
- around 30 GB (EKT, OE journals)
- 100 GB (MWS), 240 GB (UP)

These data should nevertheless be completed with additional information on the destination of the database and the existence or not of many databases for each DBMS.

Few but some partners indicated a data size input limit (EKT, OAPEN, UGOE, UP), ranging from 20 MB to 4 GB, and it could be interesting to know if it affects their practices and in which way.

As for the hardware, here is the essential distribution:

- Virtual Machines: OBP (2 VMs)
- Servers: MWS (2 rented servers), SHARE (3 servers), UGOE (1 server), UP (6 servers)
- Servers and VMs: EKT (2 servers, n VMs), OE (21 servers, 40 VMs)

C. Data and metadata processing

Indexing, Search functionality, Reference sets, Metadata standards, Identifiers

In this section are being gathered the processes which will create access points to the content or allow for its referencing.
The indexing of the content is mainly handled in an automated way by the participants. A certain number is using the full-text search provided by their publishing tool or repository application: OJS, OMP, E-prints or DSpace (EKT, SHARE, UniTo). Others are using a specific search engine like Solr (OE, UGOE) or Lucene (OAPEN). Some manual indexing is nevertheless used for completing

the work of the application (UGOE, OBP) or for specific purposes (SHARE for Worldcat). Automated indexing also allows for a faceted search, but another set of questions could be useful in assessing the quality of the search functionality, especially by evaluating the results for each facet. In fact, one participant indicates some poor results of the embedded search functionality of OJS/OMP.

A minority of participants also enrich their content with referenced subject headings: BIC, BISAC, VLB, LCSH (OAPEN, OE, UCL, UGOE). It is hard to assess how much these reference sets help the discoverability and if they are uneasy to maintain but maybe the concerned partners could give more information on this question.

Despite the similarities expected, the standard metadata used by participants are present with some variations (no one is using exactly the same set of standards); this could be looked at more closely in an interoperability perspective. As we are lacking information on the way these metadata are generated, it is hard to tell how difficult would be an adjustment; it is worth mentioning, though, some publishing tools allows for this generation (e.g. OJS). The main generated standards are: DC, MARC, ONIX - rarer are DCQ and MARC XML. Alternative standards are: METS, NLM, RFC1807, ESE and PICA XML. Leaving aside the various functions of the standards (DC for PMH, ONIX for distribution, etc.), it might be appropriate to give some more information about the specific use for each standard to check how much they are effectively interoperable.

Identifiers are another kind of metadata and we wish to outline the rather wide use of interoperable identifiers. Alongside the HIRMEOS group (EKT, OAPEN, OE, UGOE) where are being implemented DOI, ORCID and Funding registry, others already have DOI (soon MWS, OBP, OLH, SHARE, UCL, UniTO, UP) or ORCID (OLH, SHARE, UniTo, UP).

On a related topic, which could have been investigated in the survey, it is interesting mentioning one partner is providing persistent URLs for its content (MWS).

D. Publishing

Types, Number of documents, Printed copy, Publishing tools, Single source publishing

This section gathers the various elements of the OPERAS consortium central activity of digital publishing.
The majority of the participants publish more than one type of document. Far from being limited to the more traditional journals and monographs, the types of documents handled by the participants cover almost the whole range of academic production. Even if all the different kinds of documents

are not taken care of in the same way, it is interesting noticing, in the perspective of the scholarly communication evolution, that some participants have expertise with different sorts of data. Alongside with proceedings, textbooks and thesis, we also find blogs, images, audio/video files, software or, potentially, any kind of data. To be noted that sometimes the different types are handled with specific software, but this seems more related to the size of the organization (e.g. SHARE, UniTo).

The overall published content of the participants clearly gives a strategic position to the OPERAS consortium. One partner remains isolated by its size and its variety (OE), but it would be interesting to know the trends and perspectives of each partner.

The print-on-demand service among the participants is more present than one could think (OBP, SHARE, UCL, UGOE, UniTo). If needed, this could allow for collaborative work or counsel.

As for the publishing tools, the first observation is the rather wide use of PKP's software (OJS, OMP) among the partners (EKT, SHARE, UCL, UniTo and soon MWS). This also obviously opens possibilities of collaborations and it already does for some of them. As some participants in this group are not using only PKP's software for all their contents (UniTo, MWS) and others are using also different tools for their content (Lodel and Wordpress for OE), it might be interesting to investigate more in detail the relations tool/purpose and the reasons of the choices.
Another important aspect regarding the publishing tools is the development. Two partners are managing an entire publication process with their own software: OE (Lodel), UP (Rua/Jura). Others have a strong development activity (OBP) or have produced plugins (EKT, MWS). This could lead to fruitful technical collaborations useful to the OPERAS consortium.

The publishing tools analysis can also include the single-source-publishing question. If it seems easier to have a single pivot format with only one publishing soft (XML-TEI / Lodel for OE), other participants are also using as a pivot format the XML (MWS) or the PDF (UGOE). This aspect couldn't be detailed within the survey table but it surely must be developed by these partners.

Last observation to be clarified in the future: it wasn't always easy to tell what was the use made by the participants of each soft or application. There is maybe even here some detailed benchmark to conduct.

E. Dissemination

Distribution, Referencing, Harvesting, Metrics

The majority of the participants are using their own platform(s) to achieve their content's distribution (EKT, MWS, OAPEN, SHARE, UGOE, UniTo, UP). A smaller group is using other channels and, apart from one (OLH), it seems directly or partly related to their sales activity (OBP, OE, UCL, UP). In the last case (OBP, OE, UP), the number of distribution channels is logically very high. Even if of minor importance, we can note that the latter (OE) is externalizing the distribution process to electronic bookstores.

As for the referencing, it is more difficult to identify specificities. The main referencing entities among the partners are: DOAJ, DOAB, EBSCO. Nevertheless, not every participant has its contents referenced in each one and some referencing is sometimes more limited (MWS, UCL, OLH). There is maybe some effort to make to have a more uniform referencing throughout the consortium.

On the other hand, almost every participant is maintaining an OAI repository for the harvesting protocol. Even if differences obviously exist between the sets or the standards used, this remains a solid basis for an effective interoperability.

The situation regarding the metrics appears rather disparate, even if some synergies seem possible. A certain number of partners is using or will use Google Analytics (OBP, OLH, SHARE, UCL, UP). Others are providing COUNTER statistics (EKT, OAPEN, OE, UniTo) - but some more information could be useful here as the production of COUNTER is rather complex for OE, while it seems automatic for UniTo with OJS. Some partners, finally, are using other applications: Piwik (MWS, OE, UP), Awstats (OE - soon completely replaced by Piwik), ALM metrics (SHARE).

F. Editing

Peer-reviewing, proofreading, type-setting

We put together in this "editing" section peer-reviewing, proofreading and type setting as being parts of the traditional publishing activity.
Although not always directly involved in this editing work, most of the participants have it integrated to their own workflow. The situations are quite diverse, being present the two extremes: from the participants who are not involved in editing (UniTO) to those who are traditional publishers (OBP). In between, we can find different levels of involvement.

As for the peer-reviewing, we can observe that the participants whose publishing activity is part of library services can participate more or less directly (UGOE, UCL). In the other cases, the peer-reviewing is a requirement or a recommendation (OE, EKT) - difference between these will

have maybe to be clarified in ulterior surveys. The peer-reviewing of journals and books tend to be the same (e.g. 2 academic referees) but this also may need to be confirmed by each concerned participant.

Proofreading and type-setting are most of the time effectuated by the editor and the author. Nevertheless, the same participants involved in the peer-reviewing also do the proofreading or the type-setting (OBP, MWS), but they can also be externalized (UCL, OLH).

G. Workflow

Process steps, Formats management, Access rights

Being very different according to the statuses, the services and the organizations, the workflows used by the partners cannot be exactly similar. It was in fact difficult to give a clear and schematic representation of this section. Nevertheless, it should be possible to identify the tasks defining their mission, and more precisely their types, number and complexity.
The answers led to a first observation: those partners who use PKP publication tools (OJS, OMP) are heavily helped to structure and formalize their workflow. As though this gives a clear representation of the workflow, it is mainly “author-oriented” and doesn’t really focus on the digital publisher’s work (the “layout editor” in the OJS schema).
Even if such a schema wouldn’t be necessary for the OPERAS consortium, a short list of its main publishing activities would be useful to better assess the strengths and weaknesses of the workflows.
This list could be more or less the list of sections used in this report and is reflected by the various answers. For a better focus on the “who does what when?”, the list could be slightly summarized in these specific digital publishing steps:
- Editing: peer-reviewing (partly effectuated, verified, requested?); copy-editing / type setting (externalized or not?); linear or circular process; access rights to the platform for authors or editors?
- Admission: document taken as it is sent; document modified (another format? Which one(s) with which tool?).
- Enrichment: adding metadata (for search, for dissemination, for archiving?).
- Dissemination: production of the output formats for the platforms; specific tasks related to the distribution outside the platform.

These various aspects can of course be amended or completed, but they would give some sound elements to evaluate the length, the complexity and the efficiency of the digital publishing process.

H. Organization

Status, Funding, Budget

Although a bit outside the perimeter of a technical mapping, the organizational characteristics have technical implications: IT autonomy and size, ability to a changing of scale, HR availability, etc.
Basically, one dominant organizational model comes off from the survey: public status with institutional funding.
But we can notice the few exceptions:

- OAPEN: a not-for-profit foundation with public institutional funding;
- OLH: a charitable company whose funding comes from donations;
- OpenEdition: a public organization which receives institutional funding and freemium sales revenue;
- OBP: a CIC (specific UK status allowing profits for public good) funded by grants, membership and sales;
- UP: Private Limited compagny (APC/BPC and fees for books and journals financing)

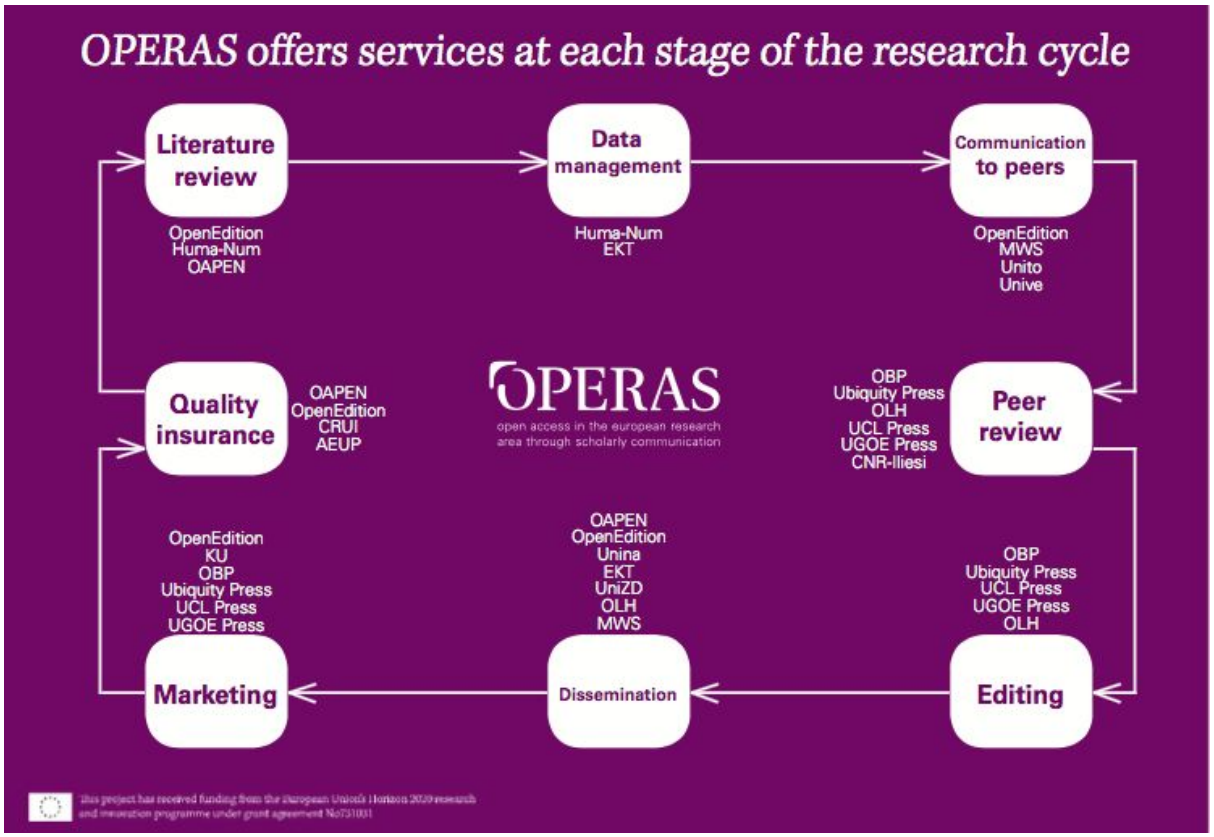
The information on budget were rather poor and they will maybe be collected in another occasion as it was slightly external to the technical investigation.

I. Prospects

A last set of questions tried to identify the interest of the partners for each other's features and tools or outside the OPERAS consortium.
It was probably a bit too soon to ask to the participants which technical interactions were possible for them with or within the OPERAS consortium; maybe this report will help to identify possible collaborations.
Among the few suggested collaborations, however, we can note the interest for the HIRMEOS implementations: identification, annotation, entity recognition (OBP, SHARE, UniTo). A partner would be interested in changing its method of publication by using OJS (OBP), already used by other partners. As possible prospects of development for the entire OPERAS consortium, some participants would like enrich their system with data mining or text analysis (SHARE, UGOE).

I. Annexes

A. Annex 1: OPERAS services



B. Annex 2: Digital publishing – Functional architecture

This table represents the digital publishing activities as functions; the “components” column lists the corresponding fields used in the table-based questionnaire.

Functions	Components
Information system	*Development language, Database, Size limit, Hardware*
Data and metadata processing	*Indexing, Search functionality, Reference sets, Metadata standards, Identifiers*
Publishing	*Types, Number of documents, Printed copy, Publishing tools, Single source publishing*
Dissemination	*Distribution, Referencing, Harvesting, Metrics*
Editing	*Peer-reviewing, Proofreading, Type-setting*
Workflow	*Process steps, Formats management, Access rights*
Organization	*Status, Funding, Budget, OPERAS FTE*

C. Annex 3: Abbreviations

BIC	Business Identifier Code
BISAC	Book Industry Standards and Communications
CIC	community interest company
CSS	Cascading Style Sheets
DBMS	Database Management System
DC	Dublin Core
DCQ	Dublin Core Qualified
DOI	Digital Object Identifier
HTML	HyperText Markup Language
IT	Information Technology
JS	Javascript
LCSH	Library of Congress Subject Headings
MYSQL	My Structured Query Language
OAI	Open Archive Initiative
OJS	Open Journal System
OMP	Open Monograph press

ORCID	Open Researcher and Contributor ID
PHP	Hypertext preprocessor
PMH	Protocol for Metadata Harvesting
TEI	Text Encoding Initiative
URL	Uniform Resource Locator
VLB	Verzeichnis Lieferbarer Bücher (« German Books In Print »)
VM	Virtual Machine
XML	Extensible Markup Language

II. Technical mappings

A. Introductory text

This document is meant to achieve the overall technical mapping of the OPERAS network.

It strives to list every technical aspect that could be useful for the future development of OPERAS.
The main parts of the survey are the following:

- Organization
- Activity
- Applications and services
- Information system
- Hardware
- Prospective

Each part corresponds to a specific table with detailed fields and subfields.
The answer fields are the white cells which contain some additional tips for the answers. You can overwrite these tips when answering.

As for the images requested, you can add them directly in the cell or send them in attachment with your survey completed.

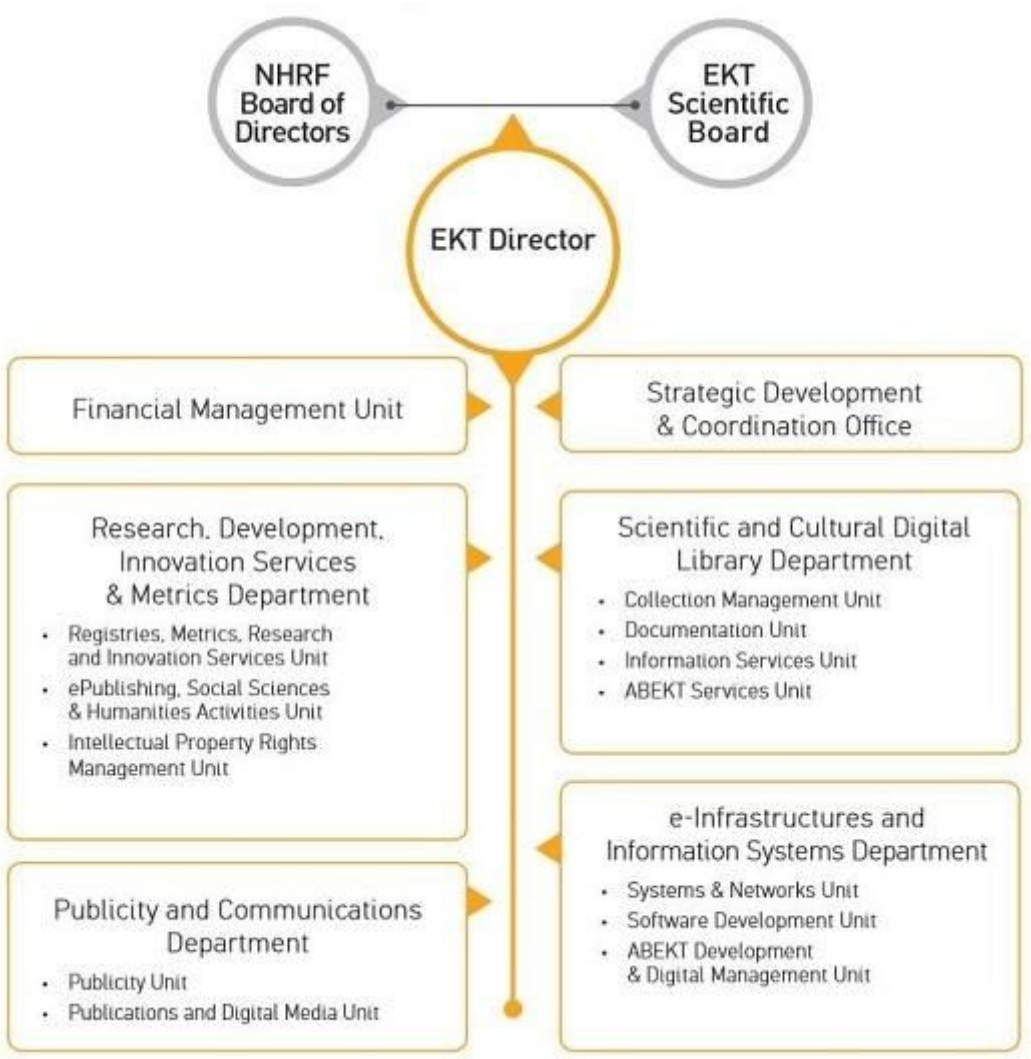
So as to allow major editing possibilities (images, bullet lists…), this document is not protected. Please try to use only the white cells without modifying the structure of the document.

This document will help us to complete the related deliverable 3.1 “Map of OPERAS technical environment”.
The deliverable due date is 30/06/2017 and the draft is expected for 30/05/2017.
Please send us your technical mapping before the 14/04/2017.

Thank you for your answers.

Don’t hesitate to contact us if you have any question.

B. EKT

ORGANIZATION	
Organization chart	
	
Name	National Documentation Centre (EKT)

Legal status	Public non-profit organization
Staff	12.1 FTE for OPERAS
Business model	Public funding
Budget	
IT organization	

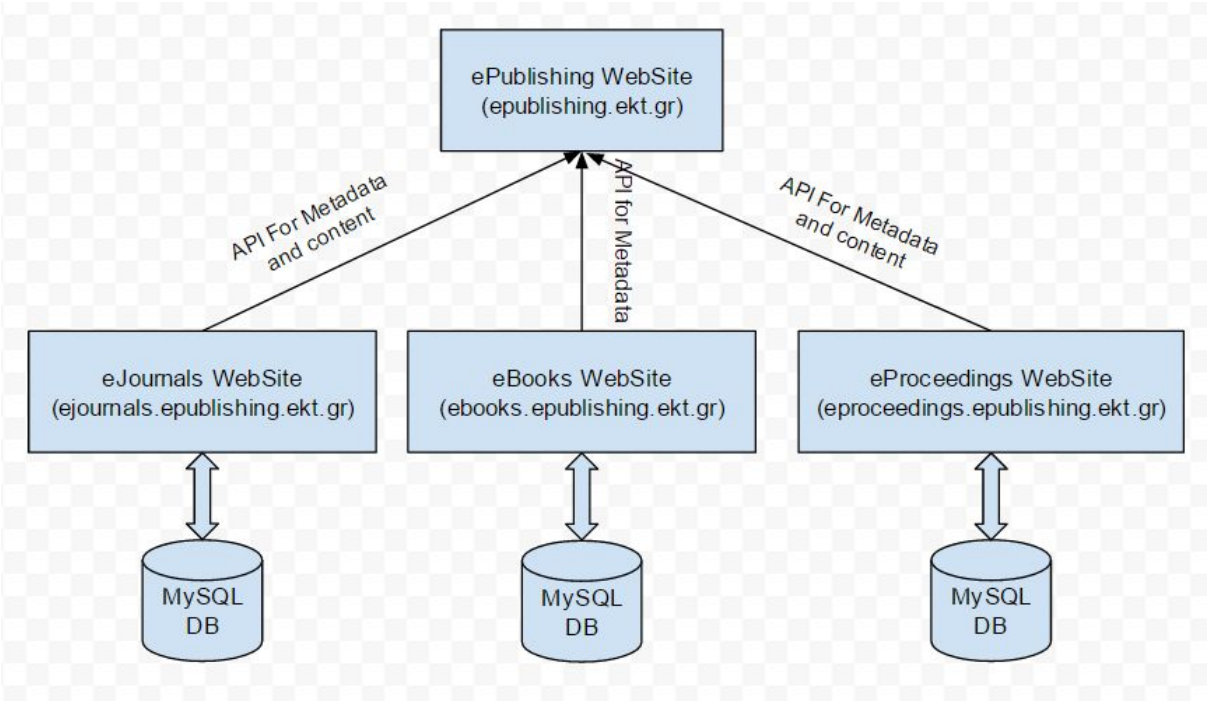
ACTIVITY	
Editing	
Peer-reviewing	Peer-reviewing for journals, proceedings and monographs
Proofreading	Yes
Type-setting	-
Publishing	
Monographs	We receive word-documents, pdf-documents, HTML-documents and ePub-documents
Journals and proceedings	We receive word-documents, pdf-documents, HTML-documents
Others	Images, videos
Distribution	
eJournals.epublishing.ekt.gr (OJS Open Journal Systems v2.4.x) eproceedings.epublishing.ekt.gr (OJS Open Journal Systems v2.4.x) eBooks.epublishing.ekt.gr (OMP Open Monograph Press v1.2.0)	
Print-on-demand	
-	
Users description	
With writing rights	Authors, Reviewers, Editors, Journal Managers - Depending on the stage of the submission process

With reading rights	Open Access

APPLICATIONS & SERVICES	
Applications	
Softwares developed	-
Other softwares used	ePublishing main portal ● Drupal ● Google Analytics eJournals and eProceedings platforms: ● OJS ● MySQL eBooks plaform ● OMP ● MySQL
APIs	● Google Analytics ● Crossref API ● ORCID API
Web services	
Identification services	DOI (additional features under development) Orcid (additional features under development) Fundref (Under Development)
OAI-PMH	Metadata: the base URL for OAI harvesting: ● https://ejournals.epublishing.ekt.gr/index.php/index/oai ● http://eproceedings.epublishing.ekt.gr/index.php/index/oai ● http://ebooks.epublishing.ekt.gr/index.php/index/oai
Others	Feeds in the following formats: ● DC Metadata Format ● MARC Metadata Format ● MARC21 Metadata Format ● NLM Metadata Format ● RFC1807 Metadata Format ● ONIX 3.0 Monograph Export Plugin
Indexing	
Automated indexing.	

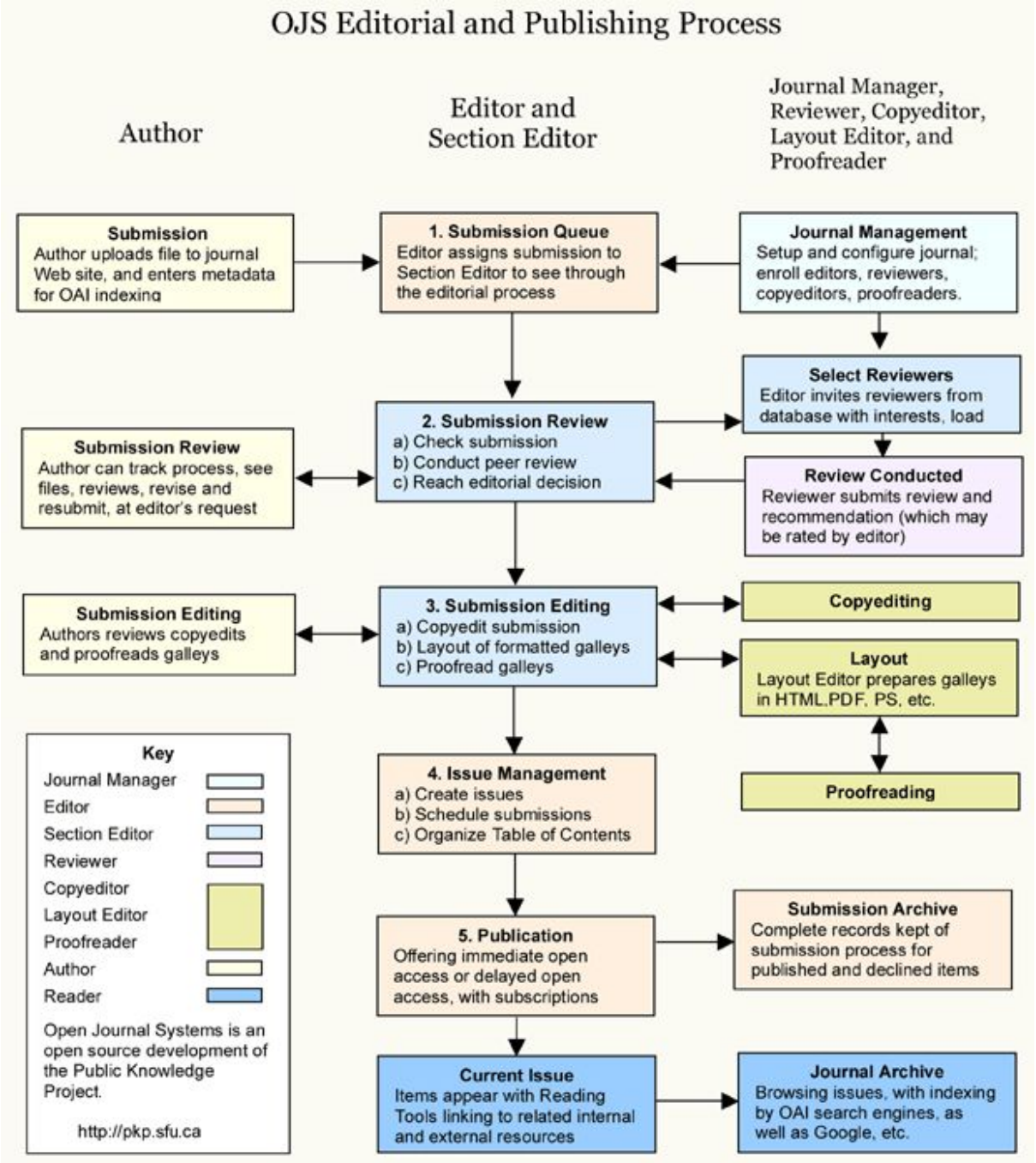
Search functionality on the platform	
Per Journal or per press search	
Metadata	
Identifiers used	• DOI • ISBN • ORCID • FundRef
Standards	• DC for OAI • MARC/MARC21
Reference sets	-
Granularity	-
Automated resource enrichments	
-	
Annotations by users	
Under development (Hypothesis)	
Referencing in external discovery services	
• Core • DOAJ • PKP Index Service • DOAB	
Metrics	
Publishers: COUNTER	

INFORMATION SYSTEM
IS Schema



Programming languages	
PHP	
Database	
DBMS	MySQL
Size	35GB
Data	
Nb. documents	**ejournals:** docx 2130 doc 2671 pdf 18270 pptx 1 epub 13 jpg 140 JPG 26 tiff 30 png 9

	rtf 16 log 4841 total 28455 **eproceedings**: doc 180 pdf 1451 log 2575 txt 13 docx 15 total 4263 **ebooks:** epub 4 pdf 279 png 2 log 276 jpg 10 html 5 total 576
Nb. books	6 Monographs
Nb. journals and proceedings	Journals: 25 - 8000 articles Proceedings series: 3 - 600 papers
Nb. scientific events	-
Nb. academic blogs	-
Others	
Workflow	



Input data format

- PDF, DOC, JPG, XML

Input data size limit	
4GB	
Pivot format for documents	
Output publishing formats	
html	yes
pdf	yes
epub	yes
mobi	no
others	no
Access management	
Username/Password for Users OpenAccess for public reading	

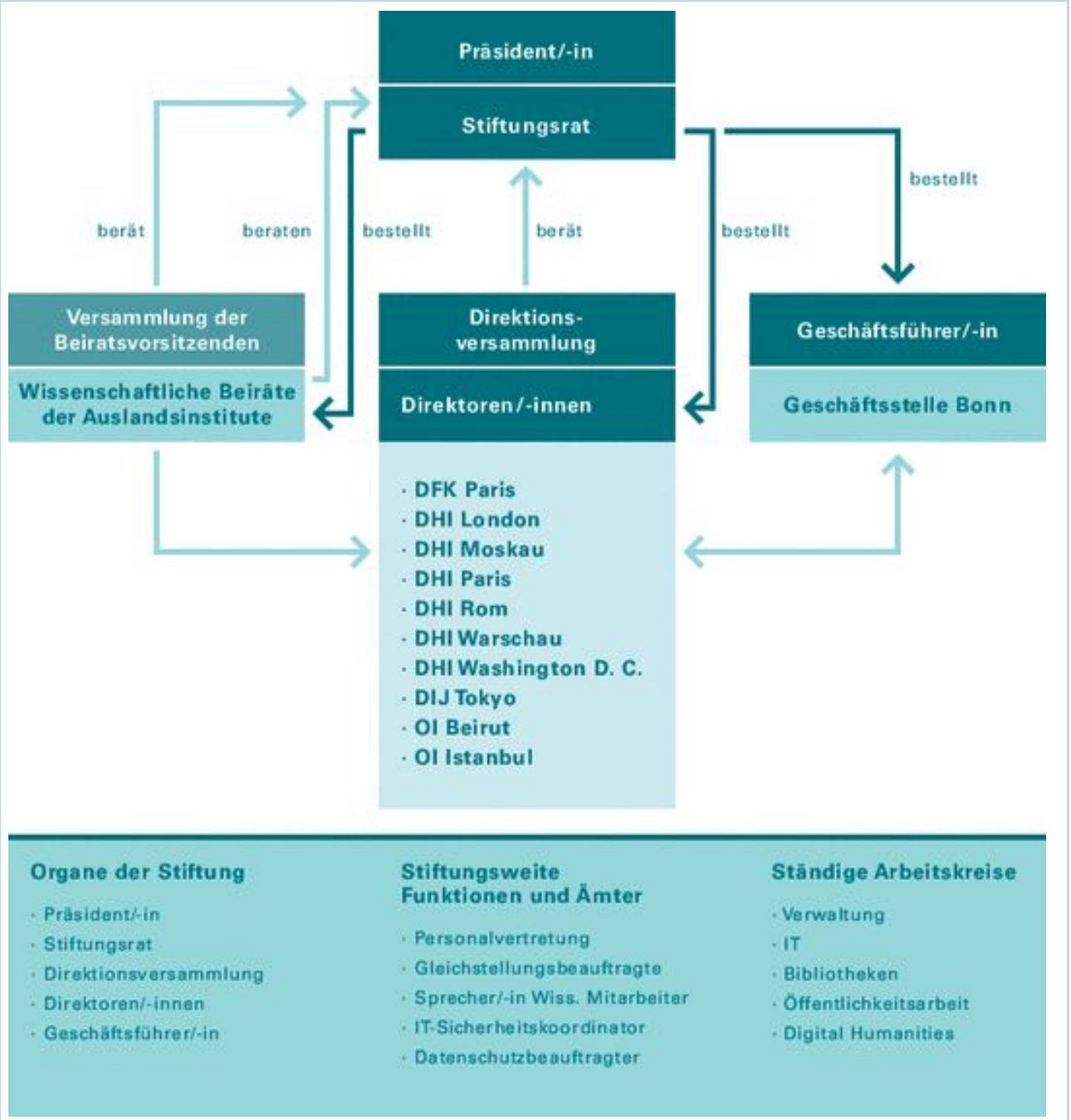
HARDWARE
Architecture
• Apache httpd HA , keep alive • Apache http , php5.6 ojs • DB cluster : pgpool load balancer, postgres active standby replication • FC switch: Brocade 6500 series • Firewall: Cisco ASA Next-Gen Firewall Cluster
Servers
IBM System X x86 servers IBM Storwize V7000 SAN
Virtual machines
Centos 7 VMs (VMware vSphere)
Load balancing / Clusters

Active/Active Apache httpd reverse proxy front-end
Bandwidth available and used
10Gb/30Mb

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system

C. MWS

ORGANIZATION
Organization chart



Name	Max Weber Stiftung – Deutsche Geisteswissenschaftliche Institute im Ausland (MWS)
Legal status	Federal public law foundation with legal capacity
Staff	9 months

Business model	Public funding
Budget	[undisclosed]
IT organization	

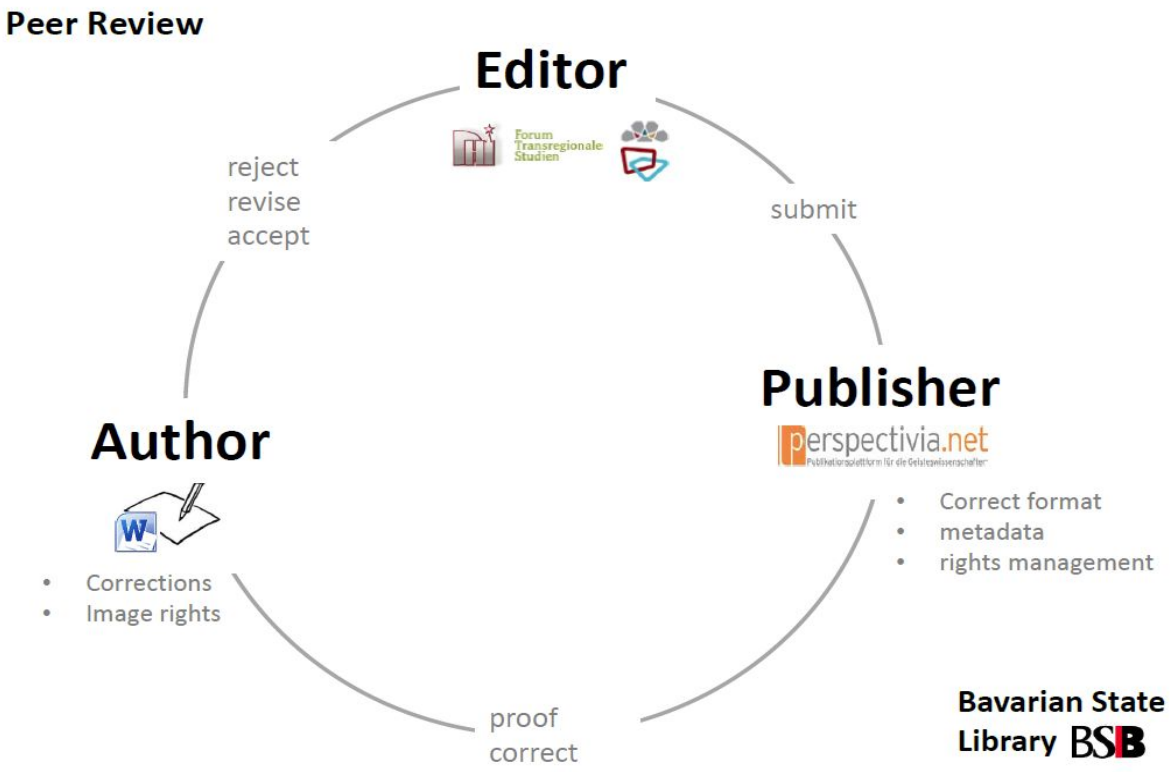
ACTIVITY	
Editing	
Peer-reviewing	Peer-reviewing for journals and monographs, no peer-reviewing for pre-prints
Proofreading	Yes
Type-setting	Yes
Publishing	
Monographs	We receive word-documents and convert to html or pdf from re-digitalized books
Journals	We receive word-documents and convert to html or pdf from re-digitalized prints
Others	audio and video files
Distribution	
Own platform (perspectivia.net)	
Print-on-demand	
None	
Users description	
With writing rights	Only MWS (editorial staff) and cooperating librarians (Bavarian State Library)
With reading rights	General public

APPLICATIONS & SERVICES	
Applications	
Softwares developed	PSJ (Plone Scholarly Journal) was developed to adjust Plone to a publication workflow
Other softwares used	Until 07/2017: Plone After 07/2017: OJS (Open Journal System) and MyCoRe (My Content Repository)

	Due to a technical change being implemented in the course of 2017, some information will need to be adjusted/revised.
APIs	
Web services	
Identification services	GND (Gemeinsame Normdatei, Universal Authority File); DOI is coming 07/2017
OAI-PMH	
Others	
Indexing	
Keyword search (DDC, GND)	
Search functionality on the platform	
Index-based, full-text	
Metadata	
Identifiers used	ISBN (for books), ISSN (for journals), persistent URL for all
Standards	For journals (generated by OJS) : ● rfc1807 ● MARCXML/MARC21 ● NLM ● DC For archiving purposes of all documents (after 07/2017) : METS/MODS via MyCoRe (My Content Repository).
Reference sets	
Granularity	
Automated resource enrichments	
Annotations by users	
Yes (not for all publications/formats, approval by editorial staff)	
Referencing in external discovery services	
All publications are indexed at the Library Network Bavaria (Bibliotheksverbund Bayern)	
Metrics	

Piwik to determine number of online visits

INFORMATION SYSTEM	
IS Schema	
Programming languages	
Python	
Database	
DBMS	Zope Object Database
Size	Approx. 100 GB
Data	
Nb. documents	
Nb. books	Approx. 400
Nb. journals	7 journals, 294 issues, 1000 articles and reviews
Others	25 audio files, 172 digitized monographs, 28 online-only volumes containing approx. 400 articles, approx. 3300 online-only reviews
Workflow	



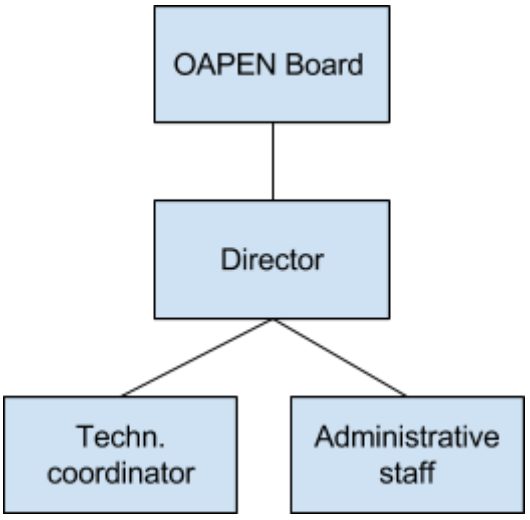
Input data format	
doc (docx), pdf, mp3, mp4	
Input data size limit	
none	
Pivot format for documents	
XML	
Output publishing formats	
html	Yes
pdf	Yes
epub	No
mobi	No

others	(embedded web-player for audio and video files)
Access management	
login/password	

HARDWARE
Architecture
Servers
External, rented servers (2 servers): Server Intel Xeon E5-1650 v2 Hexa-Core, 24GB, 2 X 1,5TB Raid
Virtual machines
Load balancing / Clusters
Bandwidth available and used

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system

D. OAPEN

ORGANIZATION	
Organization chart	
	
Name	Stichting OAPEN (OAPEN Foundation)
Legal status	Public non-profit organization
Staff	1.8 fte
Business model	Institutional funding
Budget	[undisclosed]
IT organization	Digital Production Centre (University of Amsterdam Library) for OAPEN Library; SemperTool for DOAB

ACTIVITY

Editing	
Peer-reviewing	--
Proofreading	-
Type-setting	-
Publishing	
Monographs	-
Journals	-
Others	-
Distribution	
-	
Print-on-demand	
--	
Users description	
With writing rights	-
With reading rights	general public

APPLICATIONS & SERVICES	
Applications	
Softwares developed	-
Other softwares used	OAPEN Library: ● XTF ● Lucene ● Drupal ● ARNO (Oracle) ● AWstats Directory of Open Access Books (DOAB) ● SemperTool platform

	• Google Analytics
APIs	-
Web services	
Identification services	DOI Orcid (under development) Fundref (under development)

OAI-PMH	OAPEN Library:
	• Metadata: the base URL for OAI harvesting: http://dare.uva.nl/cgi/arno/oai/oapen
	• Metadata formats: DC or Europeana: http://dare.uva.nl/cgi/arno/oai/oapen?verb=ListMetadataFormats
	
	OAI repository is especially harvested by:
	• Isidore : https://www.rechercheisidore.fr
	• BASE: https://www.base-search.net/
	
	DOAB:
	• Metadata: the metadata of DOAB is available via http://doabooks.org/doab?func=about&uiLanguage=en#metadata.
	• Metadata formats:
	  • DC format (http://www.doabooks.org/oai?verb=ListRecords&metadataPrefix=oai_dc)
	  • MARCXML format (http://www.doabooks.org/oai?verb=ListRecords&metadataPrefix=marcxml)

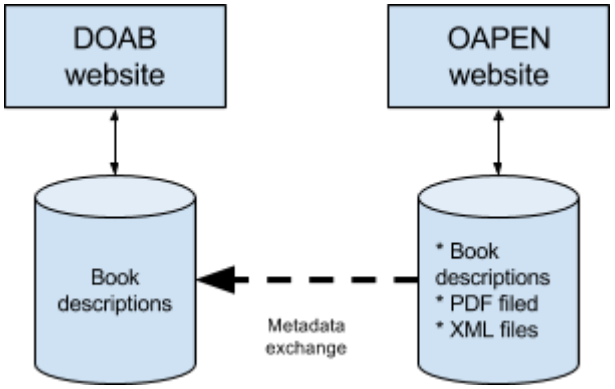
Others	OAPEN: Feeds in the following formats: • ONIX (3.0) – XML • MARC - MAchine-Readable Cataloging file • MARCXML – based on MARC 21 XML Schema • CSV – comma delimited text file • TSV - tab delimited text file • XML - optimised for import in Excel DOAB: feed in CSV format
Indexing	
Automated indexing.	
Search functionality on the platform	

Faceted research using Lucene indexing
Metadata

Identifiers used	• DOI • ISBN • ORCID
Standards	• DC for OAI • ESE (Europeana) for OAI • ONIX for commercial publishing • MARC/MARC21
Reference sets	• BIC subject headings, used in OAPEN Library • LCSH (subject headings), used in DOAB
Granularity	-

Automated resource enrichments
-
Annotations by users
-
Referencing in external discovery services
• WorldCat (OCLC) • BASE • Europeana • Serials Solutions (ProQuest • Primo Central (ExLibris) • EBSCO Discovery Service
Metrics
Publishers: COUNTER

INFORMATION SYSTEM
IS Schema



Programming languages	
OAPEN Library: Oracle; DOAB: Linux, Apache, MySQL, PHP	
Database	
DBMS	
Size	
Data	
Nb. documents	
Nb. books	• DOAB: 7021 book descriptions • OAPEN: books: 3620; chapters: 36
Nb. journals	-
Nb. scientific events	-
Nb. academic blogs	-
Others	--
Workflow	
OAPEN Library: 1. Selected partners: OAPEN harvests books and metadata via OAI-PMH 2. Others: a. Publishers upload books and metadata files to a FTP server b. OAPEN uploads metadata and books 2. In preparation: direct upload via CSV; ONIX	

DOAB:

1. Publishers: upload metadata via CSV file or via manually entering metadata
2. Scielo: upload metadata via ONIX (version 2; adapted for Scielo)
3. In preparation: direct upload via ONIX

Input data format

- PDF, XHTML, XML

Input data size limit

Below 100 Mb

Pivot format for documents

Output publishing formats

html	yes
pdf	yes
epub	yes
mobi	no
others	no

Access management

HARDWARE

Architecture

Servers

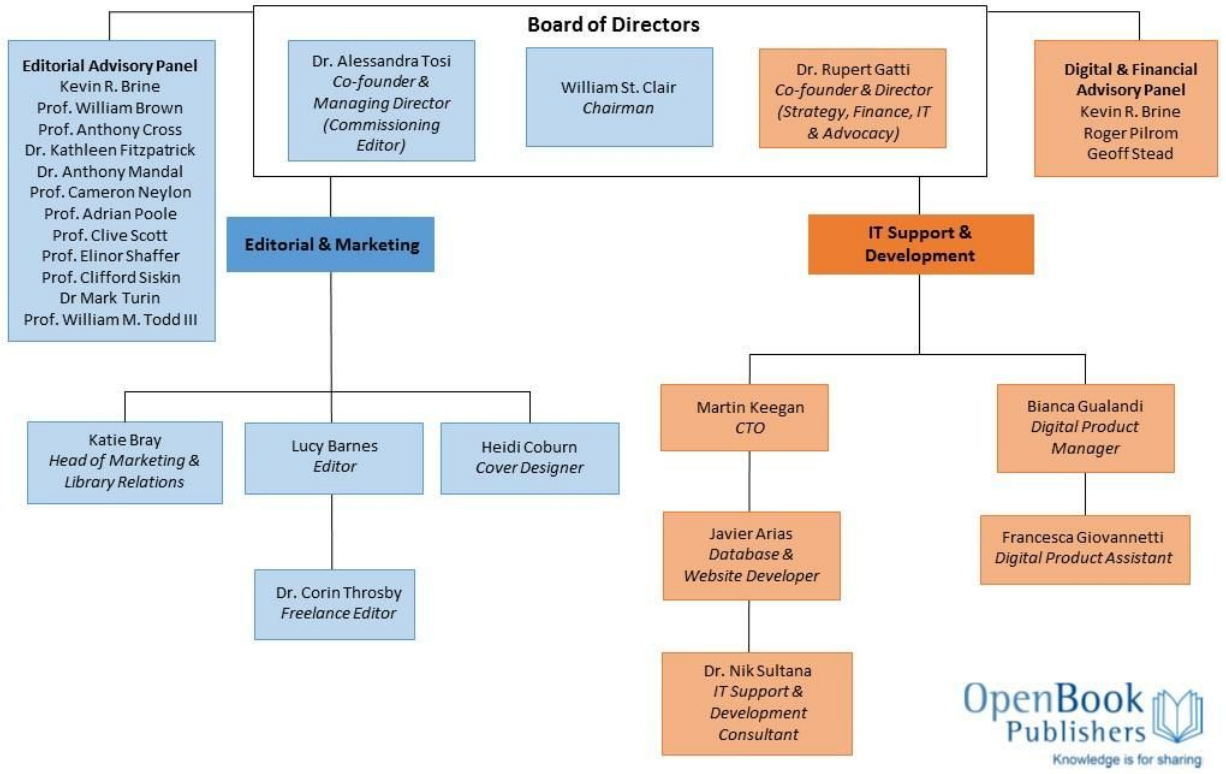
Virtual machines

Load balancing / Clusters

Bandwidth available and used

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system

E. OBP

ORGANIZATION	
Organization chart	
	
Name	Open Book Publishers
Legal status	Community Interest Company Limited by Shares
Staff	5 FTE
Business model	Publishing grants, Library membership and retail sales
Budget	[undisclosed]
IT organization	Dedicated IT department

ACTIVITY	
Editing	
Peer-reviewing	Yes. All manuscripts sent to at least two academic referees for appraisal. Chapters in collected works refereed individually.
Proofreading	Yes. Undertaken inhouse
Type-setting	Yes. Undertaken inhouse
Publishing	
Monographs	Yes.
Journals	No (but developing)
Others	Blogs. Archive hosting associated material. Videos & audio. Software.
Distribution	
Own platform, many other platforms - all titles on Google Books, OpenEdition, WorldReader, DOAB, GooglePlay, Amazon, Elib, Streetlib, JSTOR, EBSCO, ProQuest, Overdrive, YBP, Ingrams, Lightning Source extensive international print distribution network	
Print-on-demand	
100% print-on-demand in hardback and paperback formats, using Lightning Source	
Users description	
With writing rights	authors, readers (in commentary sections), blog contributors
With reading rights	general public, libraries, ...

APPLICATIONS & SERVICES	
Applications	
Softwares developed	Usage statistics package. Database. Drivers to allow distribution to multiple platforms. Management, accounting and book processing software being developed to be released as managed open source content.
Other softwares used	JShop, an e-commerce framework and content management system supporting our website.
APIs	Google Analytics API, used to collect usage statistics of our online readers, and other platforms who have granted us permissions.
Web services	
Identification services	n/a

OAI-PMH	n/a
Others	n/a

Indexing

Manual or automated indexing. Manually created embedded index
Types of indexes used: persons, subjects, locations, themes, terms

Search functionality on the platform

Google search function for website - includes book text through html editions.

Metadata

Identifiers used	DOI, ISBN, ISSN,
Standards	MARC21, ONIX
Reference sets	
Granularity	Books, chapters, embedded non-textual content eg videos, audio

Automated resource enrichments

Google translate

Annotations by users

None presently - although several titles hosted on third-party wordpress sites allowing annotation, and wikimedia allowing social editng

Referencing in external discovery services

EBSCO, DOAB, OCLC, ProQuest, JSTOR

Metrics

Software used (Google analytics,)
Types of metrics (Book usage/sessions, page views)
Specific targets (public, libraries, authors...)

INFORMATION SYSTEM

IS Schema

(Add image or send it by email)

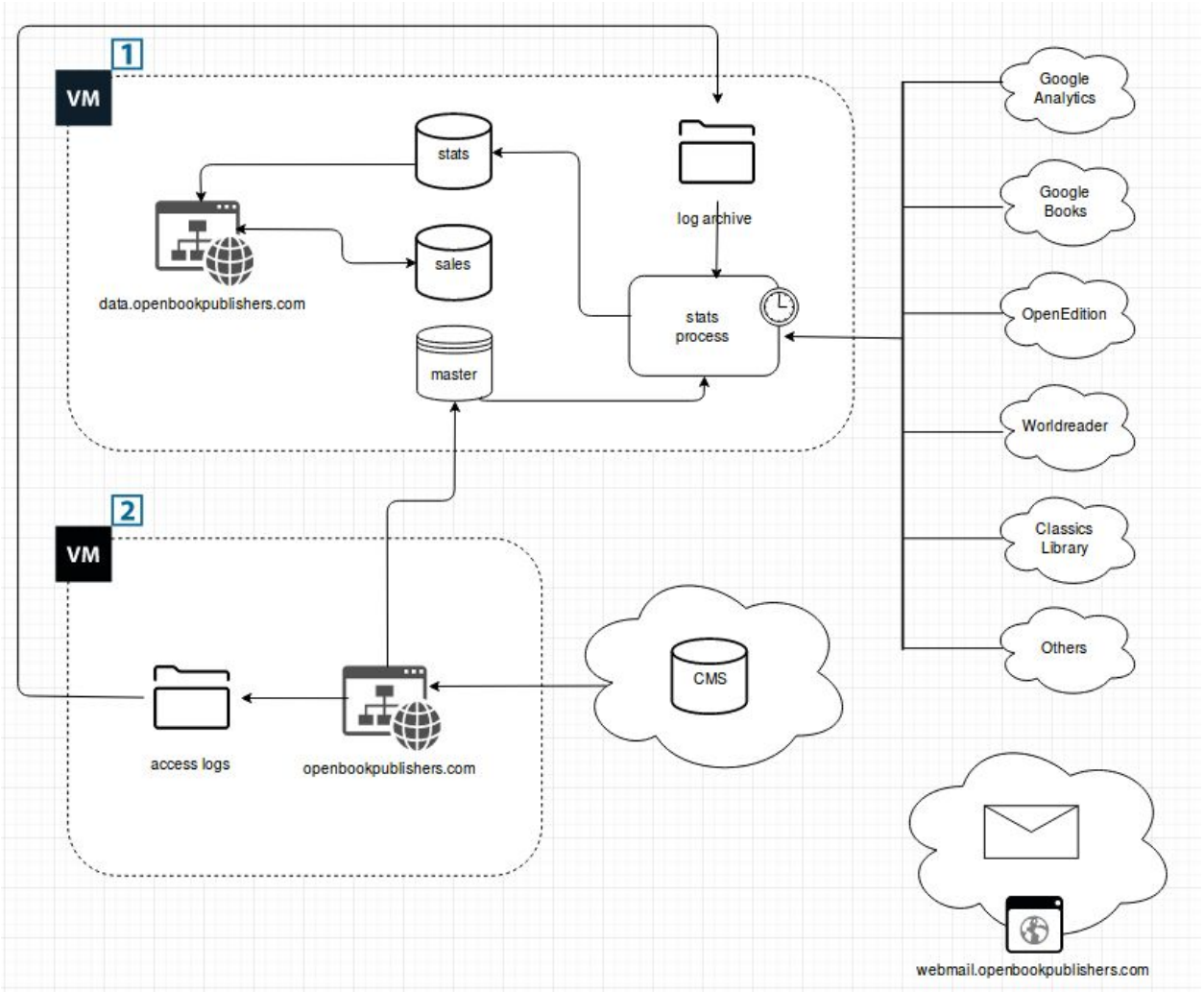
Programming languages

Java, Python, Bash, PHP, OCaml

Database

DBMS	MySQL, SQLite
Size	~30MB on average
Data	
Nb. documents	0
Nb. books	104
Nb. journals	0
Others	
Workflow	
ts typically submitted in Word. Proofreading/copyediting/indexing undertaken within Word. Word uploaded to InDesign for typesetting. All editions	
Input data format	
Word document (.docx), latex	
Input data size limit	
No limit	
Pivot format for documents	
Output publishing formats	
html	yes
pdf	yes
epub	yes
mobi	yes
others	online jpg reader, XML, biNu, wordpress, wikitext, hardback, paperback
Access management	
IP based and/or credentials.	

HARDWARE
Architecture



Servers

0

Virtual machines

2 VMs running Debian 8.7

Load balancing / Clusters

0

Bandwidth available and used

We have unlimited bandwidth, and do not have access to usage statistics.

PROSPECTS
Services you are willing to share with other OPERAS partners.
We will be releasing all our title processing software, database architecture, etc as open source products that can be adopted by anybody. Willing to share any aspect of book production and distribution services, or to undertake any of these processes on behalf of third parties - we are already doing this for several research institutions.
Services provided by other OPERAS partners you would like to add to your system.
Citation and social media data through CrossRef. Hypothes.is.
Services provided by third parties (outside OPERAS network) you would like to add to your system
Open source journals management system - eg OJS or Scholastica

F. OE

ORGANIZATION
Organization chart

CENTRE POUR L'ÉDITION ÉLECTRONIQUE OUVERTE

ORGANIGRAMME HIÉRARCHIQUE (mars 2017)

PÔLE DIRECTION

MARIN DACOS
Directeur, CNRS (IR)

PATRICK GENDRE
Directeur Adjoint Technique, CNRS (IR)

MIREILLE FAURE
Secrétaire générale, EHESS (IE)

PIERRE MOUNIER
Directeur adjoint au développement international, EHESS (IR)

COMMUNICATION

Lisa George
Responsable de la communication, CNRS (IE)

RECHERCHE, DÉVELOPPEMENT ET INNOVATION (OPENEDITION LAB)

Élodie Faath
Chargée de projets R&D, Pvm (IE)

SERVICE ADMINISTRATIF ET FINANCIER

Sophie Girardin
Assistante en gestion financière et comptable, CNRS (T)

Émilie Hernandez
Assistante en gestion financière et comptable, CNRS (AI)

Céline Herrero
Assistante en gestion RH, CNRS (AI)

ADHÉSIONS

Céline Fouga
Chargée des adhésions,CNRS (IE)

SERVICE DÉVELOPPEMENT INTERNATIONAL

Arnaud Gingold
Coordinateur technique pour opéras D et Hirméos, CNRS (IE)

Daša Radovic
Chargée de coopération internationale, AMU (IE)

Alessia Smaniotto
Chargée de communication pour OpenEdition Italia, EHESS (IE, 60%)

PÔLE ÉDITION

MARIE PELLEN
Responsable du pôle Édition , CNRS (IE)

Guillaume Andreux - Chargé de projet web, CNRS (IE)

SERVICE REVUES

Sandra Guigonis - Responsable du service, chargée d'édition, AMU (IE)
Mélanie Carmona - Chargée d'édition, CNRS (IE)
Alexandre Moeschler - Chargé d'édition , AMU (IE)
Mélanie Perret - Chargée d'édition, CNRS (IE)

SERVICE LIVRES

Bastien Miraucourt - Responsable du service livres chargé d'édition, CNRS (IE)
Cédric Gaultier - Chargé d'édition, AMU (IE)
Anna Mazmanian - Chargée d'édition, AMU (IE
Myriam Olivier - Chargée d'édition, CNRS (IE)
Caroline Terrier - Chargée d'édition, CNRS (IE)
Amandine Texier - Chargée d'édition, AMU (IE)

SERVICE ASSISTANCE ET FORMATION

Élodie Picard - Responsable du service, chargée d'édition, EHESS (IE)
Caroline Sophie Donati - Chargée d'édition, CNRS (IE)
Jennifer Kirkoz - Chargée d'édition, CNRS (IE)
Sophie Malafosse - Chargée d'édition, EHESS (IE)

PÔLE INFORMATION SCIENTIFIQUE

MARIN DACOS
Responsable du pôle, par intérim

SERVICE BLOGGING SCIENTIFIQUE

François Pacaud - Responsable du service, Chargé de médiation scientifique CNRS (IE)
Céline Guilleux - Chargée de validation scientifique, CNRS (IE 50%)
Michel Tamarin - Chargé de projets web, AMU (IE)
Marion Wesely - Chargée de l'accompagnement des communautés et de la valorisation des contenus d'Hypothèses AMU (IE)

SERVICE DOCUMENTATION ET INTEROPÉRABILITÉ

Jean-Baptiste Bertrand - Chargé de système d'information documentaire, CNRS (IE)
Sonia Lemaire - Chargée de la qualité documentaire, AMU (IE)

SERVICE EVENEMENTS SCIENTIFIQUE

Elsa Zotian - Responsable du service, Chargée de validation scientifique PVM (IE 50%)
João Fernandes - Chargé de validation scientifique, AMU (IE 50%)
Anastasia Giardinelli - Chargée de validation scientifique (EHESS - 40 %)
Céline Guilleux - Chargée de validation scientifique, CNRS (IE 50%)

PÔLE INFORMATIQUE

JEAN-FRANÇOIS RIVIÈRE
Responsable du pôle informatique, chargé des interfaces et des plateformes, CNRS (IE)

Bruno Cénou - Administrateur des systèmes d'information, CNRS (IE)
Hicham Benjelloun - Développeur, AMU (IE)
Quentin Bonaventure - Développeur, AMU (IE)
Florentin Clouet - Administrateur systèmes et réseaux CNRS (IE)
Anne Durand - Développeuse, CNRS (IR 50%)
Roland Haroutiounian - Développeur, AMU (IE)
Mathieu Orban de Xivry - Développeur, AMU (IE)
Hélène Prieto - Développeuse, CNRS (IR)
Alexandre Vinogradov - Développeur pour Hirmeos, CNRS (IE)
Yann Weber - Développeur, CNRS (AI)

PÔLE FREEMIUM

JULIEN GILET
Responsable du pôle Freemium, chargé de développement Freemium, EHESS (IE)

Matthieu Andreani - Chargé de référencement, CNRS (IE)
Jérôme Bau - Chargé de développement Freemium, AMU (IE)
David Beorchia - Libraire, AMU (IE)
Lise Dupuy - Assistante gestion administrative, CNRS (AI)
Julie Thérizols - Chargée de développement Freemium, PVM (IE)
Emmanuelle Verger - Assistante de ressources documentaires numériques, CNRS (AI, 80%)

COLLABORATION AVEC LE LSIS

Patrice Bellot - Professeur en informatique, Aix-Marseille Université (Polytech, LSIS)
Amal Htait - Doctorante
Anaïs Ollagnier - Doctorante

Name	CLEO-CNRS
Legal status	Public non-profit organization
Staff	4 FTE for OPERAS
Business model	Institutional funding and freemium
Budget	
IT organization	Dedicated IT internal department.

ACTIVITY	
Editing	
Peer-reviewing	Journals : peer-reviewing by editors Books : some editors with reading committee
Proofreading	By users
Type-setting	By users
Publishing	
Monographs	Users import their data in the CMS Lodel, which operates with formatted interoperable format XML-TEI. After further treatment and enrichment by CLEO Information System, books are searchable and retrievable at: http://books.openedition.org
Journals	Idem. Journals are searchable and retrievable at: http://www.revues.org
Others	Dedicated teams manage the other kinds of publication : • Announcements : http://calenda.org • Academic blogging : http://hypotheses.org
Distribution	
• Own platforms • other 150 selling points (managed by http://www.immateriel.fr/)	
Print-on-demand	

--

Users description	
With writing rights	authors
With reading rights	general public, libraries

APPLICATIONS & SERVICES	
Applications	
Softwares developed	Science publishing CMS : ● Lodel 1.0 / GPL license Github : https://github.com/OpenEdition/lodel ● Lodel 2 under development ● Core (logiciel propriétaire) ● Application de génération de pdf et d'epub Conversion server : OpenText, https://github.com/OpenEdition/OTX
Other softwares used	● Wordpress ● SolR ● Graylog ● AWstats ● Piwik
APIs	
Web services	
Identification services	DOI Orcid (under development) Fundref (under development)
OAI-PMH	http://oai.openedition.org Sets : ● Journals for Revues.org ● Books for OpenEdition Books ● Blogs for Hypothèses ● Events for Calenda.

	OAI repository is especially harvested by: ● Isidore : https://www.rechercheisidore.fr ● CAIRN : https://www.cairn.info
Others	Open Publication Distribution System (OPDS) Catalog format At http://opds.openedition.org OpenURL (under development)
Indexing	
SolR indexing (subjects)	
Search functionality on the platform	
Faceted research using SolR indexing	
Metadata	
Identifiers used	DOI ISBN isbn.openedition.org
Standards	DC for OAI QDC for OAI METS for OAI XML-TEI https://github.com/OpenEdition/tei.openedition Mets/Mods https://github.com/OpenEdition/mets.openedition ONIX for commercial publishing MARC/MARC21
Reference sets	● BIC subject headings, EU range ● BISAC subject headings, USA range (Amazon?) Used for ONIX ● ISI subject list
Granularity	XML-TEI : chapter level METS (collection) : book level
Automated resource enrichments	
Bilbo : text-mining software for detection and semantic annotation of bibliographical references.	
Annotations by users	
Wordpress commentary for Hypotheses	
Referencing in external discovery services	

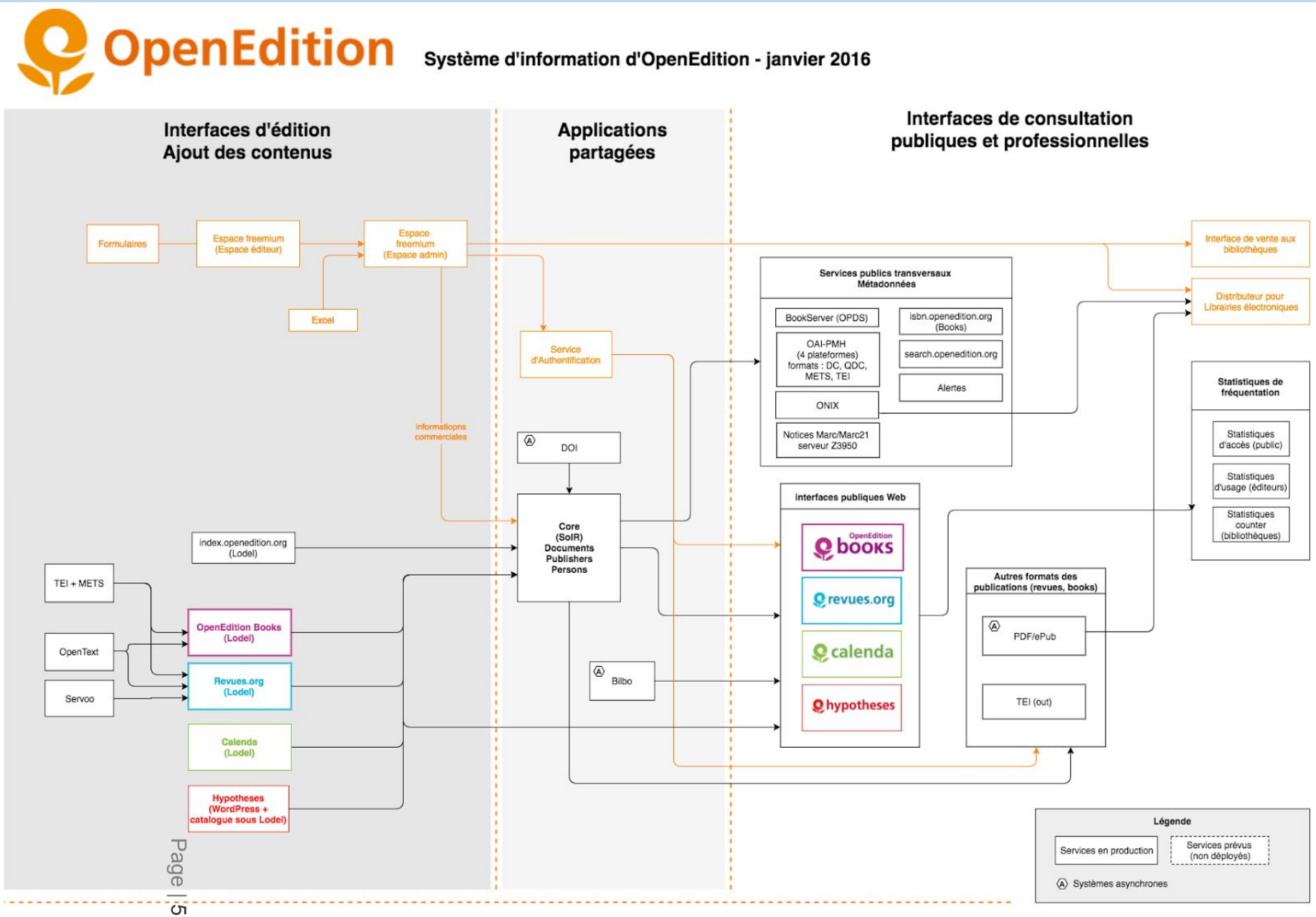
Isidore: http://recherche-isidore.fr

Metrics

Public : Access metrics
Publishers : Usage metrics
Libraries : counter 4

INFORMATION SYSTEM

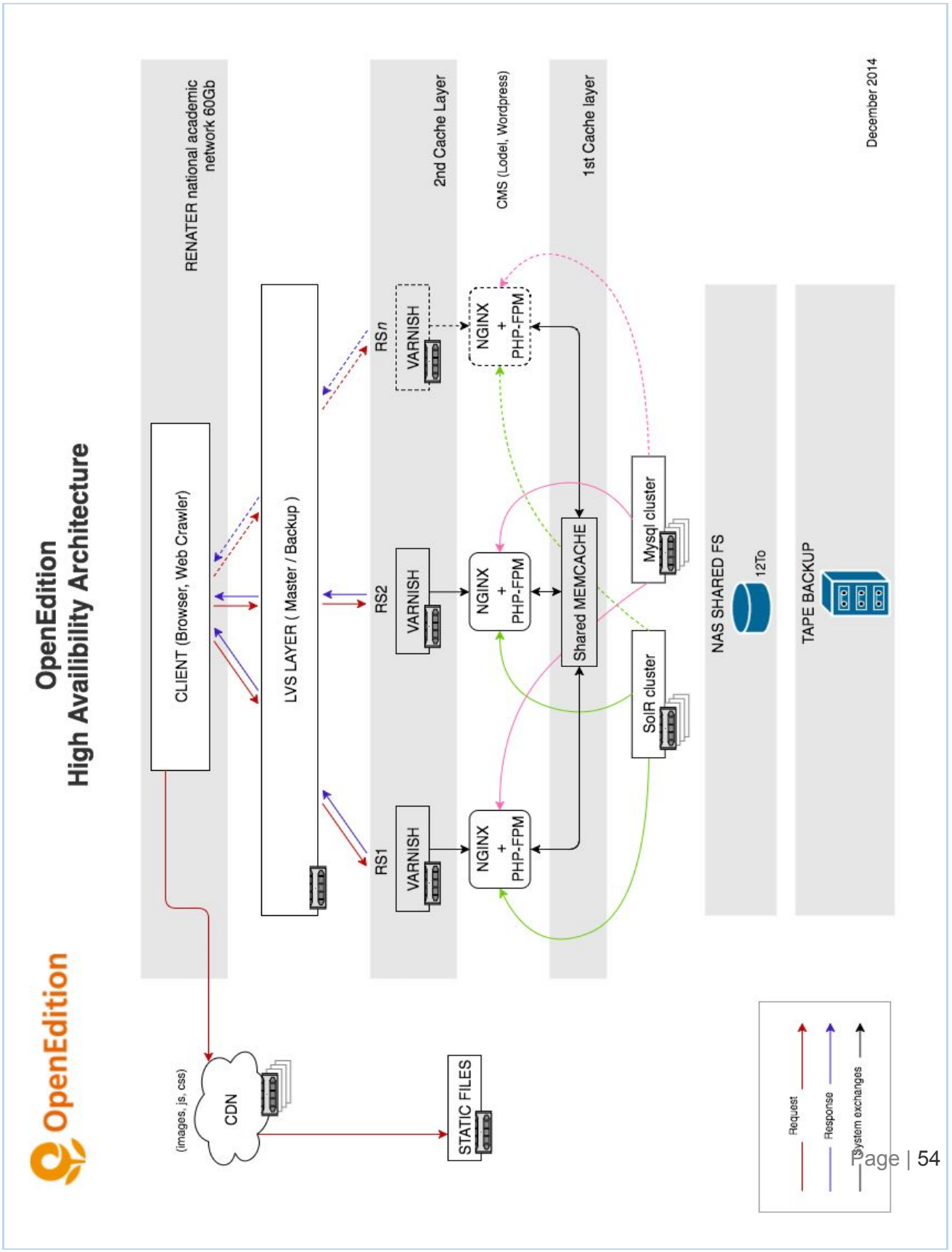
IS Schema


OpenEdition
Système d'information d'OpenEdition - janvier 2016
Interfaces d'édition
Ajout des contenus
Applications
partagées
Interfaces de consultation
publiques et professionnelles
Formulaires
Espace freemium
(Espace éditeur)
Espace
freemium
(Espace admin)
Excel
Service
d'Authentification
informatiopns
commerciales
DOI
Core
(SolR)
Documents
Publishers
Persons
index.openedition.org
(Lodel)
TEI + METS
OpenText
Servoo
OpenEdition Books
(Lodel)
Revues.org
(Lodel)
Calenda
(Lodel)
Hypotheses
(WordPress +
catalogue sous Lodel)
Bilbo
Services publics transversaux
Métadonnées
BookServer (OPDS)
isbn.openedition.org
(Books)
OAI-PMH
(4 plateformes)
formats : DC, QDC,
METS, TEI
search.openedition.org
Alertes
ONIX
Notices Marc/Marc21
serveur Z3950
interfaces publiques Web
OpenEdition
books
revues.org
calenda
hypotheses
Autres formats des
publications (revues, books)
PDF/ePub
TEI (out)
Interface de vente aux
bibliothèques
Distributeur pour
Librairies électroniques
Statistiques de
fréquentation
Statistiques
d'accès (public)
Statistiques
d'usage (éditeurs)
Statistiques
counter
(bibliothèques)
Légende
Services en production
Services prévus
(non déployés)
Systèmes asynchrones

Programming languages	
PHP 5 (soon PHP7)	
Database	
DBMS	MySQL
Size	Books : 70 DBs / 15GB Journals : 577 DBs / 30GB Hypotheses : 1DB / 12GB Calenda : 1DB / 2GB
Data	
Nb. documents	600 000 documents (articles, chapters, reviews, book description, issues, books, blog posts…)
Nb. books	3 601 books, 60 publishers, 55 000 documents (chapters)
Nb. journals	454 journals, 9 500 journal issues, 200 000 documents (articles, reviews…)
Nb. scientific events	34 611 events
Nb. academic blogs	1 988 blogs, 236 000 posts
Others	--
Workflow	
• Books and journals o Case 1 ▪ Input data imported in OTX by users ▪ OTX produces XML-TEI ▪ XML-TEI imported in Lodel o Case 2 ▪ publisher produces XML-TEI for chapter/article ▪ each TEI document for chapter/article is imported in Lodel o Case 3 ▪ publisher produces XML-TEI for chapter/article, METS for book/issue ▪ a complete book or issue can be imported in Lodel	
Input data format	
.doc, (.docx), .odt, XML-TEI, METS	
Input data size limit	

Pivot format for documents	
XML-TEI	
Output publishing formats	
html	yes
pdf	yes
epub	yes
mobi	no
others	no
Access management	

HARDWARE
Architecture


OpenEdition
High Availibility Architecture
RENATER national academic network 60Gb
CLIENT (Browser, Web Crawler)
LVS LAYER (Master / Backup)
RS1
RS2
RSn
VARNISH
VARNISH
VARNISH
2nd Cache Layer
NGINX + PHP-FPM
NGINX + PHP-FPM
NGINX + PHP-FPM
CMS (Lodel, Wordpress)
Shared MEMCACHE
1st Cache layer
Mysql cluster
SolR cluster
NAS SHARED FS
12To
TAPE BACKUP
December 2014
(images, js, css)
CDN
STATIC FILES
Request
Response
System exchanges

Servers
All platforms → Full 32U Rack with 21 dedicated servers (~340CPU Cores / ~ 2TB RAM)
Virtual machines
LibVirt KVM : Around 40 virtual machines on production (Basic VMs configuration : 8 CPUs and 8GB RAM)
Load balancing / Clusters
All platforms → VRRP with Keepalived/LVS(Virtual IP Failover) ; Four pairs of Haproxy (SSL/TLS layer) + Varnish (HTTP cache layer and load balancer/failover over clustered virtual machines) ; Solr & Mysql replication(Master/Slave) Foreach platforms we almost use the same infrastructure model : 2 servers for Virtual IP Failover, 4 VMs distributed between two dedicated servers, 2 VMs for Mysql master/slave, distributed/replicated file system with Glusterfs, 2 VMs for indexing/search thanks to Solr master/slave.
Bandwidth available and used
Bandwidth available → Renater network and network connected through IN2P3 computing center Bandwidth used → ~200To raw data annually (internal traffic is around 900To)

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system

G. OLH

ORGANIZATION	
Organization chart	
(Add image or send it by email)	
Name	Open Library of Humanities
Legal status	Charitable Company Limited by Guarantee
Staff	2
Business model	Consortial donation funding model
Budget	[undisclosed]
IT organization	Ubiquity Press as supplier

ACTIVITY	
Editing	
Peer-reviewing	Online tracking manuscript system based on OJS
Proofreading	Done in-house or by journal editor
Type-setting	Outsourced to Silicon Chips (JATS + PDF)
Publishing	
Monographs	N/A
Journals	Technical platform supplied by Ubiquity Press
Others	
Distribution	
Ubiquity Press, Paperity, other aggregators such as MLA	
Print-on-demand	
N/A	
Users description	
With writing rights	Authors, Publishers

With reading rights	Anyone; 100% OA

APPLICATIONS & SERVICES	
Applications	
Softwares developed	CaSSius PDF regions typesetter; annotran translation layer plugin
Other softwares used	Ubiquity Press platform
APIs	
Web services	
Identification services	ORCID, Crossref
OAI-PMH	Available for each journal at /jms/oai
Others	
Indexing	
Paperity, MLA Bibliography	
Search functionality on the platform	
Full text search limited to each journal	
Metadata	
Identifiers used	DOI, ISSN, ORCID
Standards	
Reference sets	
Granularity	
Automated resource enrichments	
Annotations by users	
Hypothes.is	
Referencing in external discovery services	
DOAB, Paperity	
Metrics	

Google Analytics, custom Ubiqiuty system

INFORMATION SYSTEM	
IS Schema	
(Add image or send it by email)	
Programming languages	
Database	
DBMS	
Size	
Data	
Nb. documents	
Nb. books	
Nb. journals	
Others	
Workflow	
a to published documents.	
Input data format	
Data imported in the publishing software / uploaded in your publishing system.	
Input data size limit	
Pivot format for documents	
Output publishing formats	
html	Via JATS
pdf	Adobe Indesign flow
epub	
mobi	

others	
Access management	
Login/password	

HARDWARE
Architecture
(Add image or send it by email)
Servers
Number and capacity.
Virtual machines
Number and configuration.
Load balancing / Clusters
Bandwidth available and used

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system

H. SHARE

ORGANIZATION
Organization chart

SHARE – FedOA Federico II University Press

Organigramma

SHARE Operating Group

Coordinatore: Prof. Roberto Delle Donne

Università degli Studi di Napoli Federico II
Centro di Ateneo per le Biblioteche "Roberto Pettorino"
Prof. Roberto Delle Donne; Dott.ssa Maria Grazia Ronca

Università degli Studi di Napoli L'Orientale
Sistema Bibliotecario di Ateneo
Prof. Lorenzo Mango; Dott. Mario Vitalone

Università degli Studi di Napoli Parthenope
Sistema Bibliotecario
Prof. Riccardo Marselli; Dott.ssa Rosa Maiello

Università degli Studi di Salerno
Centro Bibliotecario di Ateneo
Prof. Daniela Valentino; Dott. Marcello Andria

Università degli Studi del Sannio
Biblioteche di Ateneo
Prof. Francesco Mancini; Dott.ssa Loredana Cerrone

Università degli Studi della Basilicata
Biblioteca Centrale di Ateneo
Prof. Maurizio Martirano; Dott.ssa Antonella Trombone

FedOA – Federico II University Press

Centro di Ateneo per le Biblioteche "Roberto Pettorino"

Comitato Direttivo

Prof. Rosario Ammendola
Ing. Giovanni Battista Barone
Dott. Stefania Castanò
Dott. Claudio De Pietro
Prof. Roberto Delle Donne (Presidente)
Prof. Rodolfo Figari
Dott. Gigliola Golia
Prof. Nino Grizzuti
Dott. Gabriella Muccione
Dott. Maria Grazia Ronca
Prof. Francesca Stroffolini

Staff

Dott. Maria Grazia Ronca (Direttore tecnico)
Dott. Paola Denunzio
Dott. Vincenzo De Luise
Dott. Valeria Lo Castro
Dott. Anna Tafuto
Dott. Alfredo Cosco

Segreteria amministrativa

Dott. Sabino Panarella (Responsabile amministrativo-contabile)
Sig. Natale Marseglia
Dott. Marina Stabiano
Dott. Luca Vaccaro

Name	SHARE - FedOA Federico II University Press
Legal status	Public no-profit organization
Staff	FTE for OPERAS
Business model	Institutional funding
Budget	
IT organization	

ACTIVITY	
Editing	
Peer-reviewing	By single journals board
Proofreading	By single journals board
Type-setting	--
Publishing	
Monographs	Registered authors can upload their works by OMP, series editors review and validate the papers. All books are double-blind peer reviewed at least by two referees selected among high-profile scientists, in great majority belonging to foreign institutions http://www.fedoabooks.unina.it
Journals	Registered authors can upload their works by OJS, journals board editors review and validate the articles. All Journals articles are double-blind peer reviewed at least by two referees selected among high-profile scientists, in great majority belonging to foreign institutions www.serena.unina.it
Others	Any kind of digital object could be uploaded by university users in the Open Archive (e-prints), editor and manager complete metadata. This flow is not peer reviewed nor endorsed. www.fedoa.unina.it Phd students store their thesis in another instance for the OA.

	www.fedoatd.unina.it Digital collections (mostly manuscripts or images collections) are stored in an OMEKA installation. www.eco.unina.it
Distribution	
Own platforms	
Print-on-demand	
Yes	
Users description	
With writing rights	Journal editors, journal managers, series editors, OA editors, OA managers
With reading rights	general public

APPLICATIONS & SERVICES	
Applications	
Softwares developed	E-prints plugin for OpenAire 2.0 compliance https://github.com/orazionelson/openaire-compliance
Other softwares used	E-prints, OJS, OMP, OMEKA, CodeIgniter, Museo&Web
APIs	–
Web services	
Identification services	--
OAI-PMH	Open Archive: www.fedoa.unina.it/cgi/oai2 Monographies: http://www.fedoabooks.unina.it/index.php/fedoapress/oai

	e-journals: A set for any journals example: http://www.politics.unina.it/index.php/politics/oai?verb=ListRecords&metadataPrefix=oai_dc&set=politics find journals at home page: www.serena.unina.it
Others	Identification, description and use
Indexing	
Bulk indexing methods for any platform used, mostly automated in E-prints, OJS and OMP. Semi-automated NBN indexing with e-prints. Manual indexing for third party platforms eg. WorldCat	
Search functionality on the platform	
E-prints: simple and advanced search, browse by indexes functionality OJS and OMP: simple and advanced search A note: all these search methods are very poor, most of our pages are accessed by searching google	
Metadata	
Identifiers used	DOI, ISBN, ORCID, NBN, ISSN
Standards	DC for OAI METS ONIX for books
Reference sets	--
Granularity	OAI-PMH: books, journals, collections
Automated resource enrichments	
--	
Annotations by users	

Referencing in external discovery services
Primo, Ebsco, DOAJ
Metrics
Google Analytics (work in progress) ALM metrics for e-journals

INFORMATION SYSTEM	
IS Schema	
Programming languages	
PHP5, Perl, Javascript, XML, CSS, HTML	
Database	
DBMS	MySql
Size	fedOA open archive : 5.7Gb Serena Journals: 1.8Gb Share fedOA Books:11,5Mb
Data	
Nb. documents	8886
Nb. books	34
Nb. journals	Journals: 13, Issues: 210, Articles: 4000
Others	Digital collections: 3
Workflow	
During Submission Process, Author uploads file to journal Web site, and enters metadata for OAI indexing. Editor assigns submission to Section Editor to see through the editorial process. Then there are two phases: Submission Review (check submission- conduct peer review-reach editorial decision) and Submission Editing (copyedit submission-layout of formatted galleys- proofread galleys). During this two phases author can track process, see files, reviews, revise and resubmit, at editor's request, reviews copyedits and proofreads galleys. Then the Editor manage issue through schedule submission and organize table of	

contents and offer immediate open access or delayed open access, with subscriptions and complete records kept of submission process for published and declined items. Items appear with reading tools linking to related internal and external resources and browsing with indexing by OAI search engines, as well as Google. Journal Manager, Reviewer, Copyeditor, Layout Editor and Proofreader setup and configure journal. Editor invites reviewers from database with interest. Reviewer submits review and recommendation (which may be rated by editor). Layout Editor prepares galleys in HTML, PDF, PS ecc.

Input data format

PDF, doc, xml

Input data size limit

Pivot format for documents

Output publishing formats

html	Yes
pdf	Yes
epub	Yes
mobi	No
others	No

Access management

Login/password

HARDWARE

Architecture

Servers

Open Archives:
Operating system : Ubuntu Linux 13.10
Processor information : Intel(R) Xeon(R) CPU E5-2620 0 @ 2.00GHz, 24 cores

Real memory : 15.26 GB
Virtual memory : 14.55 GB
Local disk space : 1.76 TB total

Journals and Monographies
Operating system Ubuntu Linux 12.04.5
Processor information Intel(R) Xeon(R) CPU E5405 @ 2.00GHz, 1 cores
Real memory 2.88 GB total
Virtual memory 998.04 MB total
Local disk space 176.19 GB total

Backup & Test server:
Operating system Ubuntu Linux 14.04.1
Processor information Intel(R) Xeon(R) CPU E5-2407 0 @ 2.20GHz, 8 cores
Real memory 30.64 GB total
Virtual memory 29.10 GB total
Local disk space 1.74 TB total

Virtual machines

Load balancing / Clusters

Bandwidth available and used

PROSPECTS

Services you are willing to share with other OPERAS partners.

Our platform and data

Services provided by other OPERAS partners you would like to add to your system.

Lodel, open annotation layer with hypothes.is

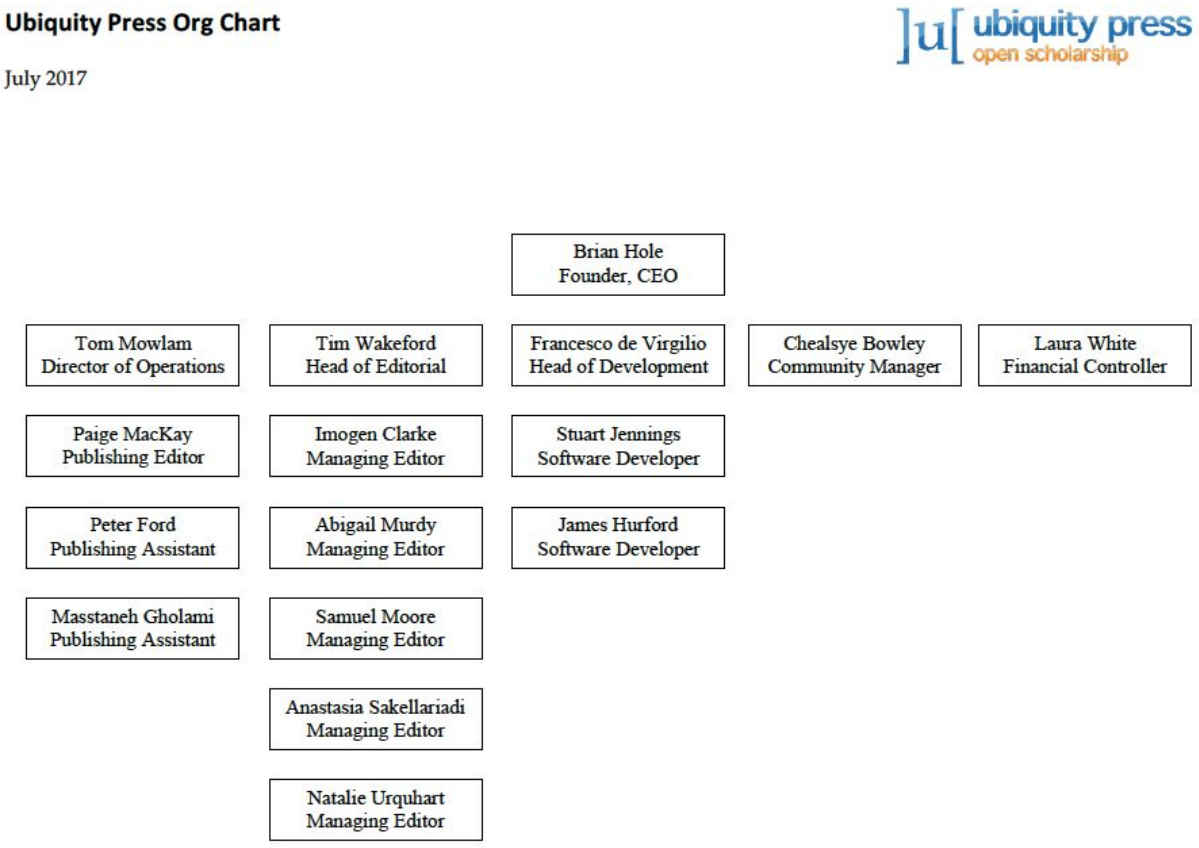
Services provided by third parties (outside OPERAS network) you would like to add to your system

Harvesting and data mining, Dariah NERD

I. UP

ORGANIZATION

Organization chart



Name	Ubiquity Press Ltd
Legal status	Private Limited Company
Staff	14.5 FTE
Business model	Publishing activity financed by Article Processing Charges, and Book Processing Charges. Platform development financed by annual fees for presses and journals.
Budget	[not disclosed]

IT organization	Dedicated IT team (3 internal staff, plus external suppliers).

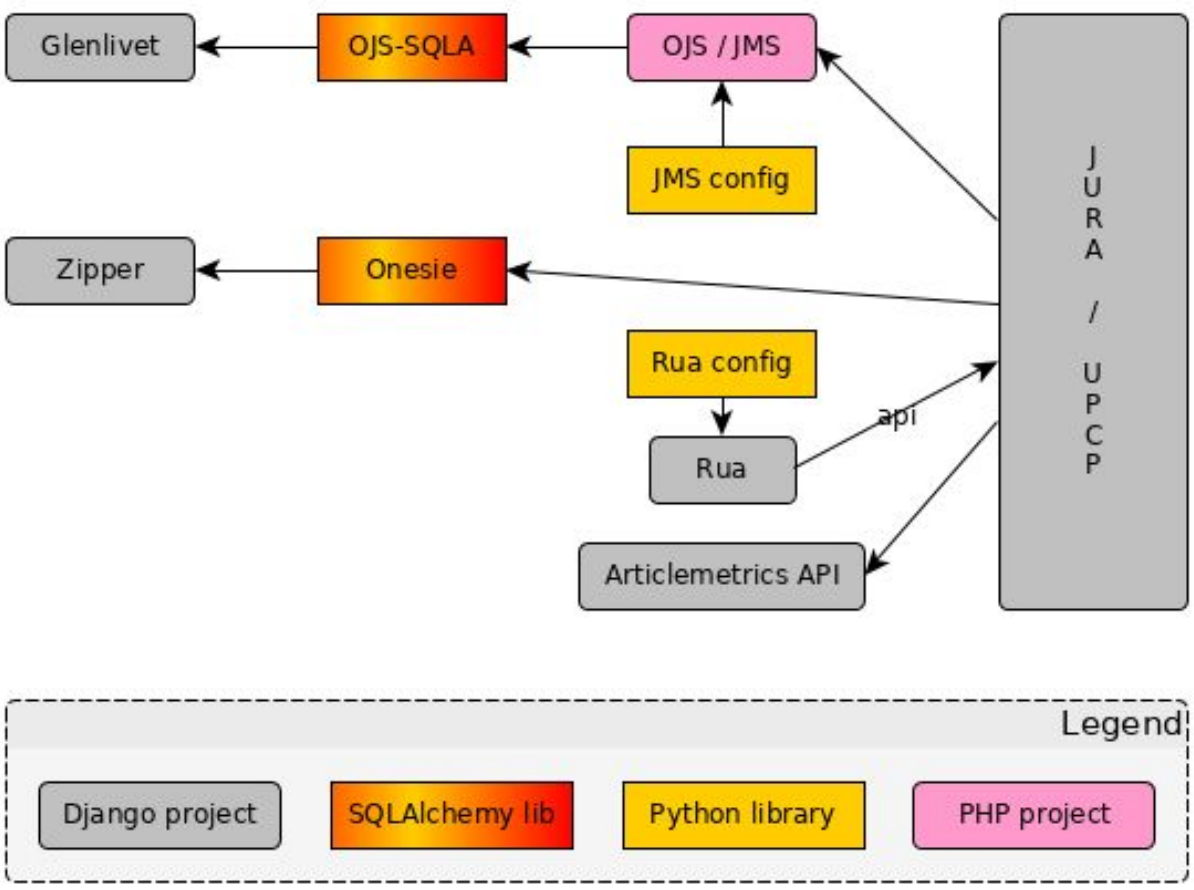
ACTIVITY	
Editing	
Peer-reviewing	Articles and books are sent to at least 2 reviewers, decisions are made by editors. Peer review managed via online systems.
Proofreading	Proofreading done by authors. Copyediting done by suppliers in US.
Type-setting	Typeset in InDesign via India-based suppliers. Currently moving from InDesign->XML, to XML->InDesign.
Publishing	
Monographs	Published as PDF, EPUB (downloadable, and 'played' in browser via EPUB.js), Mobi, and print-on-demand – via in-house platform (Rua).
Journals	Published as JATS XML (rendered to HTML), PDF – via tweaked version of OJS.
Others	Data journals, conference publishing system, blogs.
Distribution	
Own platform, and via indexes (DOAJ, DOAB, OAPEN, Google Scholar, Scopus, Web of Knowledge, EBSCO, CNKI, and subject-specific repositories eg: PubMed, Linguistics Abstracts Online, PsycINFO etc).	
Print-on-demand	
Print-on-demand for books only. Arranged via Ingram Lightning Source, who feed book info to wholesalers (Barnes and Noble, Waterstones etc) and online platforms (Amazon, Book Depository etc).	
Users description	
With writing rights	Article and chapter/book authors, comment/annotation authors.
With reading rights	Academics/researchers, general public.

APPLICATIONS & SERVICES	
Applications	
Softwares developed	Rua (books tracking and publishing platform), Jura (back-end content management and metrics platform), Glenlivet (journal front-end), Fa (conference publishing system, Zipper (press platform).
Other softwares used	OJS
APIs	Crossref API to collect citations, Google Analytics API to collect metrics, social mentions through Wikipedia, Facebook, Twitter APIs. Private APIs used for internal data transfer between systems.
Web services	
Identification services	ORCID, Crossref
OAI-PMH	Journals each have their own service – eg: http://www.stabilityjournal.org/jms/index.php/up/oai/ Books OAI-PMH currently via OAPEN.
Others	
Indexing	
Book authors can provide indexes themselves, or suggest terms which can be added. Alternatively, Ubiquity Press can arrange professional indexers. Where index is provided electronically and embedded into Word – this can be carried through to inDesign automatically. Typically index is subject-based, but may also/instead be person- and/or location-based.	
Search functionality on the platform	
Articles: title, author, abstract, keywords Books: (under development) title, author/editor, abstract, keywords	
Metadata	
Identifiers used	DOI, ISBN, ORCID, ISSN
Standards	Dublin Core
Reference sets	
Granularity	
Automated resource enrichments	
Crossref for adding DOIs to reference lists.	
Annotations by users	

Hypothes.is
Referencing in external discovery services
E.g.: EBSCO, DOAB, SFX, etc.
Metrics
Google analytics, piwik

INFORMATION SYSTEM

IS Schema



Programming languages

Python, PHP

Database

DBMS	MYSQL, POSTGRES
Size	240GB

Data

Nb. documents	29,000 articles on platform, of which 7,500 published by Ubiquity Press
Nb. books	120 books (on platform), of which 29 published by Ubiquity Press

Nb. journals	200 journals (on platform), of which 43 published by Ubiquity Press
Others	

Workflow

Books: peer reviewed and accepted Word/TeX files copyedited and indexed (with index embedded in Word), converted into PDF via InDesign (for Word) or TeX, Mobi and EPUB generated. EPUB rendered in-browser via EPUB.js.

Articles: peer reviewed and accepted Word/TeX files copyedited, converted into PDF via inDesign (for Word), JATS XML output. Currently switching from inDesign->XML to XML->inDesign.

Input data format

Word, TeX, images

Input data size limit

20MB

Pivot format for documents

Output publishing formats

html	Yes (via XML for articles, via EPUB for books)
pdf	Yes
epub	Yes
mobi	Yes
others	XML for all articles, JSON for some journals

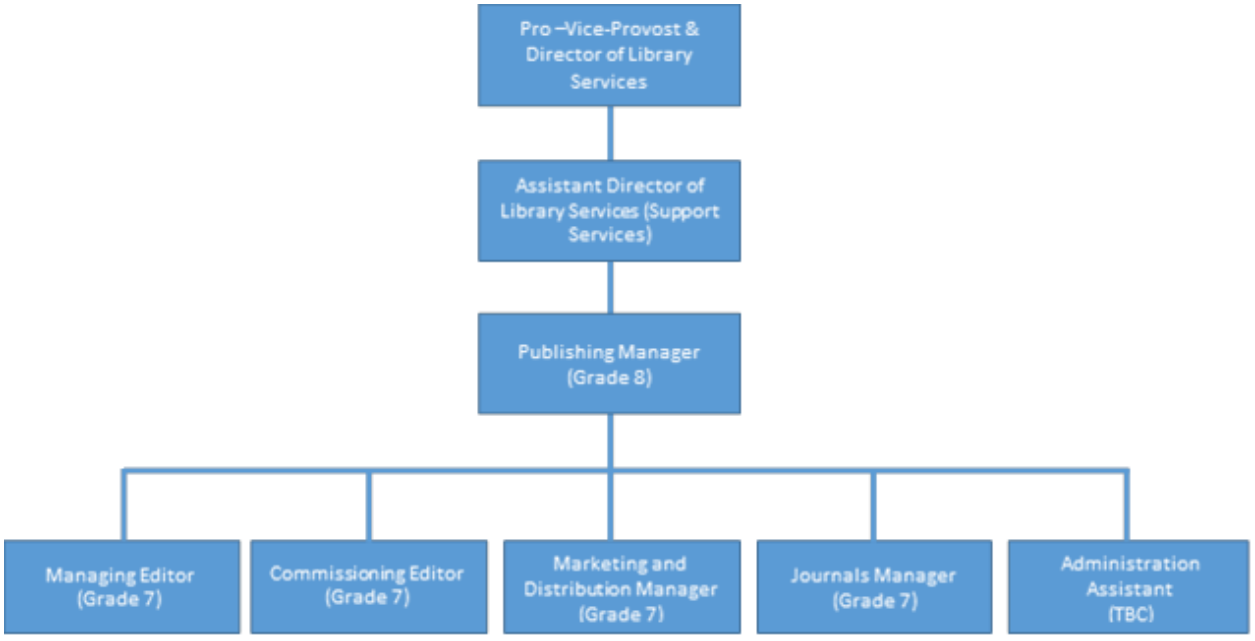
Access management

login/password, OAuth (ORCID)

HARDWARE
Architecture
Separate databases for each journal and for each press are merged into single backbone database. Data is served via two web servers with a single load balancer.
Servers
6 servers
Virtual machines
0
Load balancing / Clusters
1 load balancer
Bandwidth available and used
Some machines limited, some unlimited (further information can be provided if important).

PROSPECTIVES
Services you are willing to share with other OPERAS partners.
Rua (book submission and processing platform) will eventually be shared.
Services provided by other OPERAS partners you would like to add to your system.
Services provided by third parties (outside OPERAS network) you would like to add to your system
Integration with different journal platforms (Scholastica, COKO etc), integration with OSF, Crossref Event Data

J. UCL

ORGANIZATION	
Organization chart	
	
Name	Lara Speicher, Publishing Manager, UCL Press
Legal status	Charity / Non-profit
Staff	
Business model	Institutional, open access university press
Budget	For 2016, annual incomes / spending
IT organization	Support and maintenance by UCL IT Dept.

ACTIVITY

Editing	
Peer-reviewing	Via email, with attachments
Proofreading	Freelance proofreaders, on screen, with digital mark up. Files are transferred by email or by Dropbox
Type-setting	External typesetters. Files supplied by email or Dropbox.
Publishing	
Monographs	UCL press publish books, journals and textbooks searchable on the same platform: https://www.ucl.ac.uk/ucl-press/browse-books
Journals	
Others	
Distribution	
We have the following distribution methods: Open access: Own platform, institutional repository, JSTOR, OAPEN, Worldreader, Internet Archive, Unglue.it Print sales: via NBN and Lightning Source	
Print-on-demand	
We use two print-on-demand suppliers, Edwards Brothers and Lightning Source. We upload print files to them. They receive orders from our distributors and they print and dispatch accordingly.	
Users description	
With writing rights	--
With reading rights	general public, libraries, ...

APPLICATIONS & SERVICES	
Applications	
Softwares developed	--

Other softwares used	Word, Excel for import and/or export Eprints : UCL repository with every UCL Press publication. OJS : Journals discovery.
APIs	--
Web services	
Identification services	CrossRef
OAI-PMH	
Others	
Indexing	
Mainly manual indexing. Types of indexes for persons, subjects, locations, themes.	
Search functionality on the platform	
We have our books on several platforms – OAPEN, JSTOR, UCL Discovery, Worldreader. All have different levels of search functionality	
Metadata	
Identifiers used	DOI, ISBN
Standards	ONIX for commercial publishing MARC/MARC21
Reference sets	BIC, BISAC
Granularity	Books, articles
Automated resource enrichments	
On ucldigitalpress.co.uk there are options to annotate and highlight	
Annotations by users	
Referencing in external discovery services	
DOAB	
Metrics	

Eprints, Google analytics
Number of downloads of individual books / chapters, countries in which downloaded

INFORMATION SYSTEM

IS Schema

--

Programming languages

--

Database

DBMS	--
Size	--

Data

Nb. documents	
Nb. books	30
Nb. journals	15
Others	

Workflow

Authors send their .doc files, copy-editing / typesetting by external collaborators (Indesign, etc.).
Metadata added manually and stored in database; deposit of ISBN, DOI.
Output in ONIX or Excel, depending on the channel of distribution.

Input data format

Word files and images.
Typeset and then output as PDF, Mobi, epub, XML

Input data size limit

Pivot format for documents

Output publishing formats	
html	Yes
pdf	Yes
epub	Yes
mobi	Yes
others	-
Access management	
None	

HARDWARE
Architecture
Part of UCL IT dptmt.
Servers
Virtual machines
Load balancing / Clusters
Bandwidth available and used

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.

Services provided by third parties (outside OPERAS network) you would like to add to your system

K. UGOE

ORGANIZATION	
Organization chart	
-	
Name	Universitätsverlag Göttingen - Göttingen University Press (GUP)
Legal status	Göttingen University Press is part of the division "Electronic Publishing" (EPU) at the Göttingen State and University Library (SUB)
Staff	Margo Bargheer, Holger Jendral, Petra Lepschy, Jutta Pabst, Heike Zimmerningkat (all part-time)
Business model	Institutional
Budget	Part of Göttingen State and University Library's budget
IT organization	Dedicated IT department at SUB

ACTIVITY	
Editing	
Peer-reviewing	By Editorial Board, composed of high-ranking members of each faculty of Göttingen University
Proofreading	Formal proofreading by members of the staff
Type-setting	Authors/Editors with stylesheets provided by the press, in exceptional cases by external staff
Publishing	
Monographs	Monographs, anthologies, proceedings, catalogs, reference works and textbooks
Journals	In planning

Others	
Distribution	
PDF on GUP website, catalog of the Göttingen State and University library and several e-book collections open access available (cc-by-sa 4.0 default). Printed version via shopping cart on the website, local booksellers, amazon.de	
Print-on-demand	
95% of the books are printed on demand in a small print run, 5% (catalogs) are printed offset.	
Users description	
With writing rights	No editing rights. As an associate of Göttingen University you can publish your scholarly work with Göttingen University Press, the terms of use are defined and regulated by the "Nutzungsordnung"
With reading rights	Everyone

APPLICATIONS & SERVICES	
Applications	
Softwares developed	
Other softwares used	
APIs	The system offers REST, OAI PMH 2.0 and SWORD 1.3.1 interfaces. The REST and SWORD Interfaces are currently not in use.
Web services	
Identification services	Creators (authors and editors) are currently identified in GUP by GND-IDs (special personal ID generated and used by the German National Library) if existent and by unique internal IDs otherwise.
OAI-PMH	https://www.univerlag.uni-goettingen.de/oai/request?verb=Identify

Others	-

Indexing

Manual or automated indexing.
Types of indexes used: Fulltext, Persons, Subjects, Language, Publication type, Medium
Search and browse indexes are implemented with Solr engine.

Search functionality on the platform

full-text search, advanced search …

Metadata

Identifiers used	GND-ID, DOI, ISBN, ISSN, ORCID
Standards	Intern: DC simple, Export: ONIX, PICA XML
Reference sets	BIC, BISAC, VLB
Granularity	Books

Automated resource enrichments

none

Annotations by users

none

Referencing in external discovery services

After the release, the book is made available via the publisher homepage under a Creative Commons license 4.0 (attribution) online open access and is reported to important databases and various catalogs (eg. OPAC, GVK, DNB). The print version is additionally reported to the bookable books (VLB) and to amazon. The books are also available on the platforms OAPEN and selected books on OpenEdition

Metrics

None

INFORMATION SYSTEM

IS Schema

The website is based on Dspace 5.6 repository software (written in java) including the Cocoon XML-Publishing- Framework on the Frontend and Postgresql database on the backend.
Programming languages
Database

DBMS	postgresql 9.2
Size	23 MB
Data	
Nb. documents	663
Nb. books	663
Nb. journals	-
Others	-

Workflow
1. Author / Editor : determination of APCs 2. Submission to the Editorial Board for peer-review 3. Editor / Author : accepted, rejected or modifications according to the review 4. If accepted, editing workflow 5. Press proofreading 6. publication online and printed
Input data format
Import: any XML, BibTex, Endnote, RIS, Excel Table / Upload: any file (only PDF in use)
Input data size limit
512 MB
Pivot format for documents
PDF
Output publishing formats

html	no
pdf	yes

epub	no
mobi	no
others	-
Access management	
Authentication login/password for depositing the PDF file	

HARDWARE
Architecture
not applicable
Servers
1: 4 GB RAM, 250 GB Disc
Virtual machines
1: configuration not applicable
Load balancing / Clusters
-
Bandwidth available and used
10 GBit

PROSPECTS
Services you are willing to share with other OPERAS partners.
Services provided by other OPERAS partners you would like to add to your system.
Identification (DOI, ORCID), Annotation, metrics
Services provided by third parties (outside OPERAS network) you would like to add to your system

Data Mining, Text Encoding, and Text Analysis Tools. Specifically, Cross-Language search engine / tools, linking related documents in many different language

L. UniTo

ORGANIZATION	
Organization chart	
(Images attached)	
Name	Università degli Studi di Torino
Legal status	
Staff	1,5 FTE for OPERAS
Business model	Institutional
Budget	752.200.673,56 Link to the Annual report 2015: https://www.unito.it/ateneo/pianificazione-e-bilanci/bilancio-unico-di-ateneo
IT organization	IT general Organization: Direzione Sistemi Informativi Portale E-learning https://www.unito.it/ateneo/organizzazione/amministrazione/direzioni/sistemi-informativi-portale-elearning Publishing activities: Unità di progetto Open Access Direzione Ricerca e Terza Missione https://www.unito.it/ateneo/organizzazione/amministrazione/direzioni-dellamministrazione/ricerca-terza-missione

ACTIVITY	
Editing	
Peer-reviewing	Each journal is independent. Most of them use the OJS workflow to track reviews.
Proofreading	Each journal is independent.
Type-setting	Each journal is independent.
Publishing	

Monographs	Collane@Unito, http://www.collane.unito.it/oa/ Publishing service for UniTo affiliated researchers, hosting currently 10 books. Software: Omeka Our role: - managing the platform, hosted by UniTO - managing the homepage (graphic and texts) - providing a start-up meeting with the author for all practicalities - assigning the ISBN as “Università degli Studi di Torino” as registered publisher - uploading on Omeka the pdf entirely composed/produced by the authors
Journals	SIRIO@UniTo, http://www.ojs.unito.it/ Publishing service for journals whose editorial board has - among others - UniTo affiliated researchers, hosting currently 18 journals. Software: OJS Each journal is independent in editorial choices (from graphic to peer review to distribution) and owns the content. All journals are full Open Access. Mostly only online, some have activated a Print on Demand service with external publishers. Our role: - managing the platform (hosted by CINECA) - managing the homepage (graphic and texts; practical editorial infos) - providing two start up meetings with the editorial teams: a) suggestion on editorial options b) coaching on OJS - supporting editorial teams with any issue (graphic, indexing, technical problems…) - for 2 journals we also provide direct editorial work
Others	AperTO (https://aperto.unito.it) Institutional Repository hosting the entire scientific production of UniTO (currently, 174.758 items, with 20.729 Open Access fulltext) Software: Dspace 4.3 customized by CINECA

Distribution

SIRIO@unito and Collane@unito are full Open Access
AperTO is full Open Access; metadata are always open, fulltext only according to the publishers’ copyright permission

Print-on-demand

Activated by the single journal (2 at the moment) by direct agreement with external publishers

Users description

With writing rights	AperTO and Collane@UniTO: researchers affiliated to UniTO SIRIO@UniTO: editorial boards affiliated to UniTO, authors from anywhere
With reading rights	General public

APPLICATIONS & SERVICES	
Applications	
Softwares developed	None
Other softwares used	DSpace (customized by CINECA as "IRIS"), Open Journal System, Omeka
APIs	
Web services	
Identification services	
OAI-PMH	In AperTO: https://iris.unito.it/oai/request In SIRIO@UniTO: http://www.ojs.unito.it/index.php/index/oai
Others	
Indexing	
Search functionality on the platform	
AperTO: internal Dspace search Collane@UniTO: internal Omeka search SIRIO@UniTO: internal OJS search	
Metadata	
Identifiers used	**Collane@UniTO**: ISBN at book level ISSN at Series level (if any) **SIRIO@UniTO**:

	ISSN at journal level DOI at article level ORCID for authors (if the editorial team sets it) **AperTO**: HANDLE for each item ORCID for each active author DOI if provided by the publisher PUBMED ID for biomedical items
Standards	
Reference sets	
Granularity	**Collane@UniTO**: Author, Title, Subtitle, Series, pages, ISBN. **Sirio@UniTO**: Journal level: Title, ISSN Article level: Author, Title, Abstract, DOI, keywords **AperTO**: We have 7 macro-types of items and 36 types. Each macro-type holds a different set of metadata. i.e. Article set: Author, Title, Abstract, Journal title, ISSN, language, peer review, URL, DOI, PUBMED ID, SCOPUS ID, WOS ID, discipline, theme, keywords.

Automated resource enrichments

None

Annotations by users

None

Referencing in external discovery services

1) Discovery tool: TUTTO (http://unito-tutto.hosted.exlibrisgroup.com/primo_library/libweb/action/search.do)
2) SIRIO Journals are referenced in BASE
3) Google Scholar indexes AperTO, SIRIO and Collane
4) single journals are indexed in discipline based databases: Kervan in Scopus and ERIH, CosMo in MLA and ERIH)
5) 4 journals have applied to DOAJ

Metrics
SIRIO@UniTO: Metrics provided by OJS (COUNTER, views, downloads…) **AperTO**: Downloads per item; citation count (linked to Scopus and Web of Science)

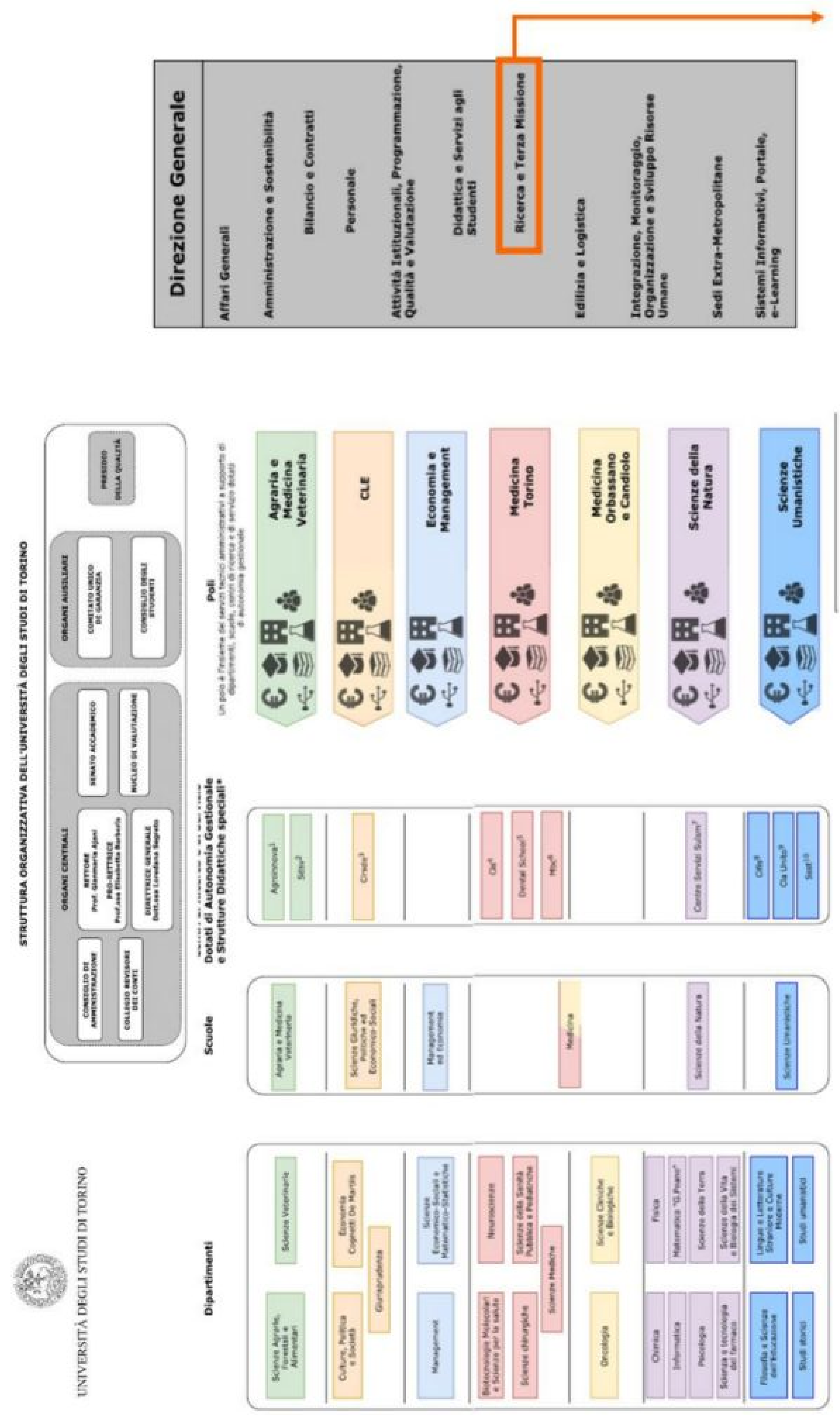
INFORMATION SYSTEM	
IS Schema	
Programming languages	
Database	
DBMS	
Size	
Data	
Nb. documents	
Nb. books	
Nb. journals	
Others	
Workflow	
Input data format	
Input data size limit	
Pivot format for documents	

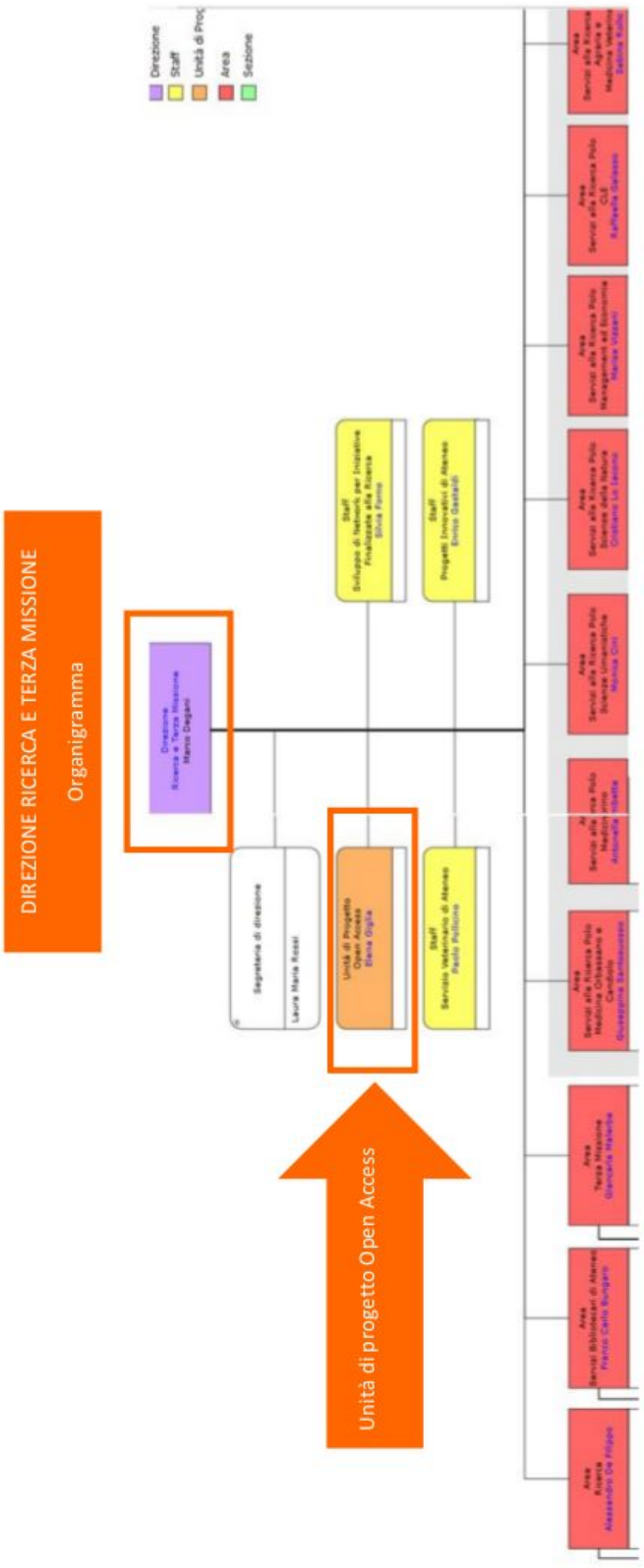
Output publishing formats	
html	
pdf	Collane@UniTO and SIRIO@UniTO: pdf
epub	
mobi	
others	
Access management	
SIRIO@UniTO: login and password AperTO: SHIBBOLETH	

HARDWARE
Architecture
Servers
Virtual machines
Load balancing / Clusters
Bandwidth available and used

PROSPECTS
Services you are willing to share with other OPERAS partners.

Services provided by other OPERAS partners you would like to add to your system.
Annotation, Identification
Services provided by third parties (outside OPERAS network) you would like to add to your system


Direzione Generale
Affari Generali
Amministrazione e Sostenibilità
Bilancio e Contratti
Personale
Attività Istituzionali, Programmazione, Qualità e Valutazione
Didattica e Servizi agli Studenti
Ricerca e Terza Missione
Edilizia e Logistica
Integrazione, Monitoraggio, Organizzazione e Sviluppo Risorse Umane
Sedi Extra-Metropolitane
Sistemi Informativi, Portale, e-Learning
STRUTTURA ORGANIZZATIVA DELL'UNIVERSITÀ DEGLI STUDI DI TORINO
UNIVERSITÀ DEGLI STUDI DI TORINO
Dipartimenti
Scuole
Dotati di Autonomia Gestionale e Strutture Didattiche speciali*
Poli
Agraria e Medicina Veterinaria
CLE
Economia e Management
Medicina Torino
Medicina Orbassano e Candiolo
Scienze della Natura
Scienze Umanistiche


DIREZIONE RICERCA E TERZA MISSIONE
Organigramma
Unità di progetto Open Access

Annex 3: Usage Survey

DESIGN FOR OPEN ACCESS PUBLICATIONS IN EUROPEAN AREAS FOR SOCIAL SCIENCES AND HUMANITIES

User-driven surveys on open access scholarly communication (may-june 2017)

Grant Agreement number	:	731031
Project acronym	:	OPERAS-D
Project title	:	Design for Open Access Publications in European areas for Social Sciences and Humanities
Funding Scheme	:	INFRASUPP-03-2016
Project's coordinator Organization	:	CLEO-CNRS
E-mail address	:	pierre.mounier@openedition.org
Website	:	http://operas-eu.org

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No731031

Objective

In order to identify the services the OPERAS infrastructure will have to develop and implement in the future, OPERAS consortium planned to conduct an online survey during OPERAS-D project. Addressed to the academic community and beyond, the survey was meant to collect information on:

- the current practices regarding Open Access;
- the evaluation of existing services;
- the missing services;
- the level of interest for integrated new services.

Executive summary

Description of the surveys

So as to address the specific needs of each stakeholder in the field, the investigation has been divided in five different surveys:

- Researchers: https://survey.openedition.org/index.php/831687
- Publishers: https://survey.openedition.org/index.php/468227
- Librarians: https://survey.openedition.org/index.php/212534
- Funders: https://survey.openedition.org/index.php/578782
- Socio-economic actors[1]: https://survey.openedition.org/index.php/214336

The surveys took the form of an online questionnaire using the Limesurvey open source software (https://www.limesurvey.org/). They were disseminated during 1 month through the OPERAS network of partners (websites, social media, mailing lists).

The questionnaire contains both open and closed questions in order to collect qualitative and quantitative results. In particular, specific questions were triggered when negative answers (level of interest or quality assessment) were given. Mandatory questions ensured the main questions were answered.

Topics addressed

The OPERAS consortium organizes its work through working groups addressing the main challenges of the OPERAS infrastructure. These working groups helped to define the sections of the questionnaires. Here is the list of the working groups and the corresponding questions:

- *Communication*: questions about knowledge and usage of Open Access publications;
- *Tools R&D*: set of questions regarding new or future advanced services (crosslinking, discovery, annotation, etc.);

[1] For communication purposes, this specific survey was disseminated as “Survey for the general public”.

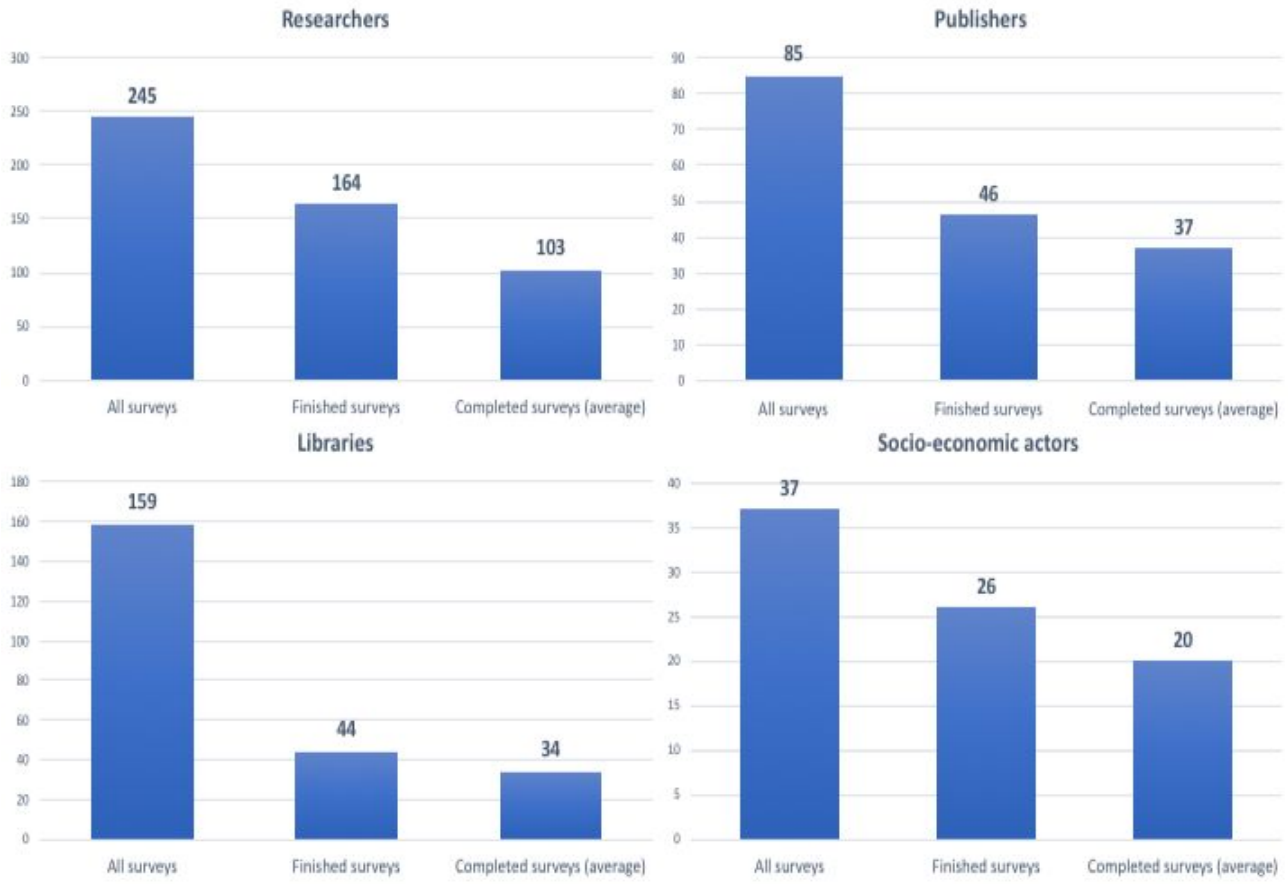
- *Standards*: questions addressing the topic of data and/or metadata management;
- *Business models*: questions on this topic were only for the publishers' survey;
- *Best practises*: various questions to investigate the publishing workflows;
- *Multilingualism*: questions regarding the multilinguistic publishing and metadata;
- *Platforms*: new integrated platforms that will be developed by the OPERAS infrastructure.

Some of these sections made it possible to establish transverse questions for various stakeholders. The "tools", "multilingualism" and "platforms" sections, even if with some partial adaptation, have been proposed in different surveys.
The report present these questions in a specific section.

Overview

Overall, the participation was sufficient, especially regarding the main targets of OPERAS infrastructure, researchers, libraries and publishers. The dissemination towards the various stakeholders worked rather well and, whenever the survey is completed, the questions are thoroughly answered. The charts below show the results for the four surveys with useful results[2]. The first column "All surveys" counts every started survey; the second column "Finished surveys" counts every survey consulted till the last page; the third column "Completed surveys" is an average of the surveys with answers to all questions.

[2] The chart doesn't show the "funders" survey where only 3 answers have been collected, due to a non efficient dissemination process. A new serie of usage surveys more individualized will give us the possibility to correct this issue.



Participation to the OPERAS surveys

The distribution by country of the answers offers an acceptable representativity of the european countries but only partially reflects the countries present in the OPERAS consortium.

Researchers	Publishers	Libraries	Socio-economic actors	Funders
France (35%)	France (35%)	France (27%)	Greece (33%)	Austria (66%)
Belgium (24%)	Germany (16%)	Germany (13%)	France (16%)	Luxembourg (33%)
Germany (8%)	Other (13%)	Norway (9%)	Slovenia (12%)	--
Italy (7%)	Italy (13%)	Greece (9%)	Poland (8%)	--
Portugal (6%)	Portugal (5%)	Sweden (7%)	Germany (4%)	--

Distribution by country (completed surveys only)

Regarding the content of the answers, we can observe that open access publishing services are well known and the satisfaction about the quality of the publications and the services is generally good. Nevertheless, some confusion still persists between open and free access and open access is often related to Article Processing Charges and Book Processing Charges issues. These aspects legitimate the open access advocacy which is part of the "Communication" OPERAS working group as well as the working group dedicated to open access business models.
More directly interesting for the OPERAS infrastructure, questions about the future platforms revealed a great interest on the part of the different stakeholders.

Transverse questions

This section gathers specifically the questions or set of questions which were common to different surveys.

R&D set of questions

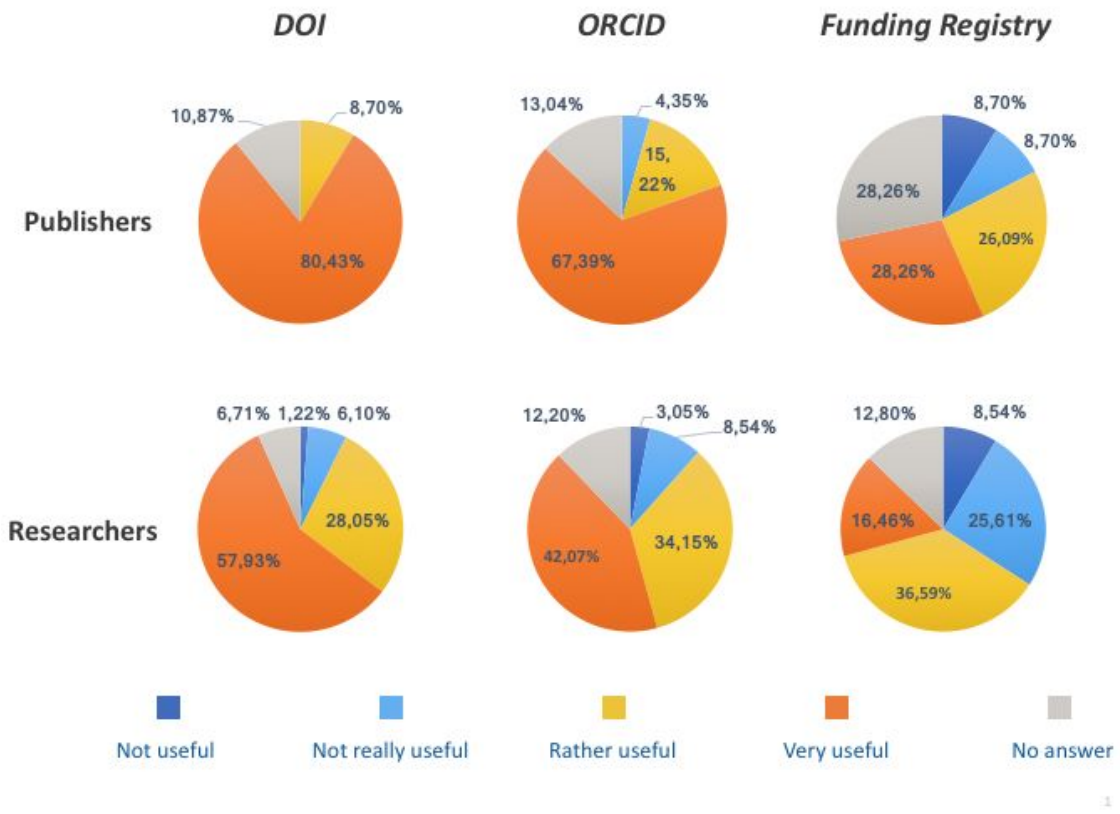
The "R&D" or "Tools" section listed various advanced services specific or adapted to digital open access publishing. Some of them are not yet well known and the survey gave the opportunity to provide some information and useful links.

The list of services investigated is mostly based on the HIRMEOS[3] H2020 project which is related to the OPERAS infrastructure as its proof-of-concept.
The implementations currently in progress within the HIRMEOS project are:

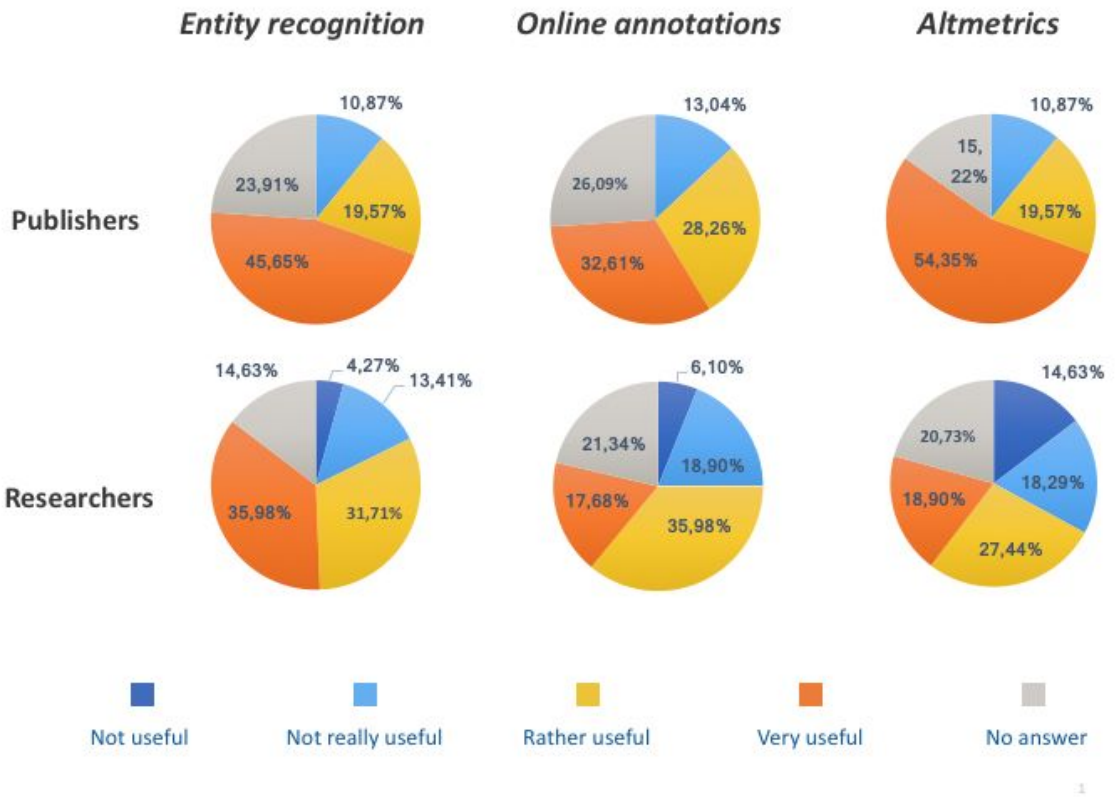
- Identification: DOI, ORCID, Funding registry
- Online annotations
- Entity recognition for indexing
- Enhanced and alternative metrics

This set of questions investigated the level of interest of 3 stakeholders: researchers, publishers and libraries.
The results show a good level of interest and, if the numbers differ a little, the proportions are comparable from one stakeholder to another.
The charts below show the results for researchers and publishers for the question: "*In the list of new or enhanced services Operas will provide, could you tell us which ones could be useful for your own activity?*".

[3] See: www.hirmeos.eu



Level of interest for new services (1)



Level of interest for new services (2)

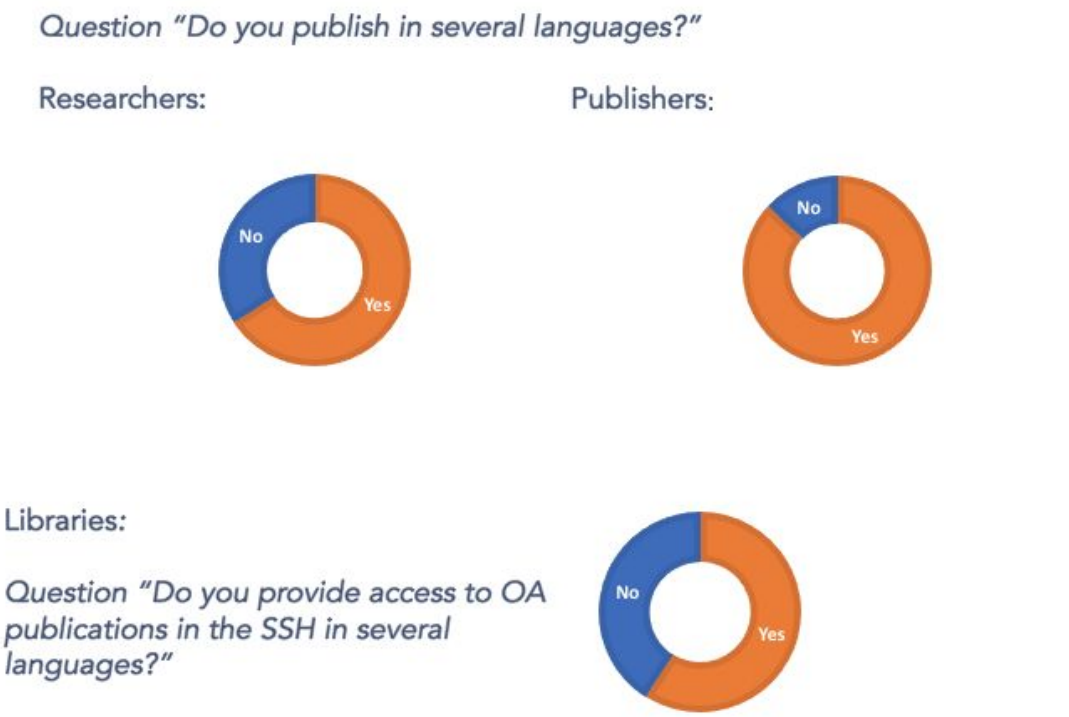
As we can see, there is in most cases a majority of positive answers, the amount of which partly varies in relation with the knowledge of each technology. DOIs and ORCIDs are rather well known and their implementation corresponds to a real need in the community. The other services, because of their specificity or because they are disruptive require some communication effort but all already arouse interest among the stakeholders.

Multilingualism

The section “Multilingualism” was present with adaptations in the various surveys. This rather short set of questions aimed at gathering first raw information about the multlingual usage (in publishing and in reading as well). It was also addressing the usage of metadata in several languages.

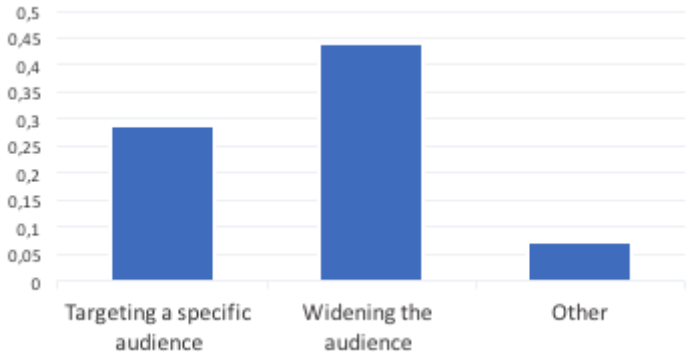
Authors and publishers engage quite often in multilingual publication, as shown in the figures [4] below:

[4] Blue=No. Orange=Yes.



Multilinguistic publishing and dissemination.

When investigating the motivations of the researchers for publishing in several languages we find that they almost equally do it to widen the audience (this answer probably indicates the choice of english) as well as to target a specific audience. The "other" cases refer mostly to constrained - directly or not - multilingualism.
Here are the results for the question "*To which purposes did you publish in several languages?*":



Reasons for multilinguistic publishing by researchers.

Another question about the several languages used by the researchers, the publishers or the libraries complete the previous observation. After the main european languages (English,

French, German) come the other european languages to confirm that, in the SSH field, persists a rather high importance of the national language.

Regarding metadata in several languages, the results show that a majority of publishers (60%) are providing them so as to allow for multi-language search. However, the usage of multilingual metadata seems to be rather limited in the responses of the libraries (around 30%).

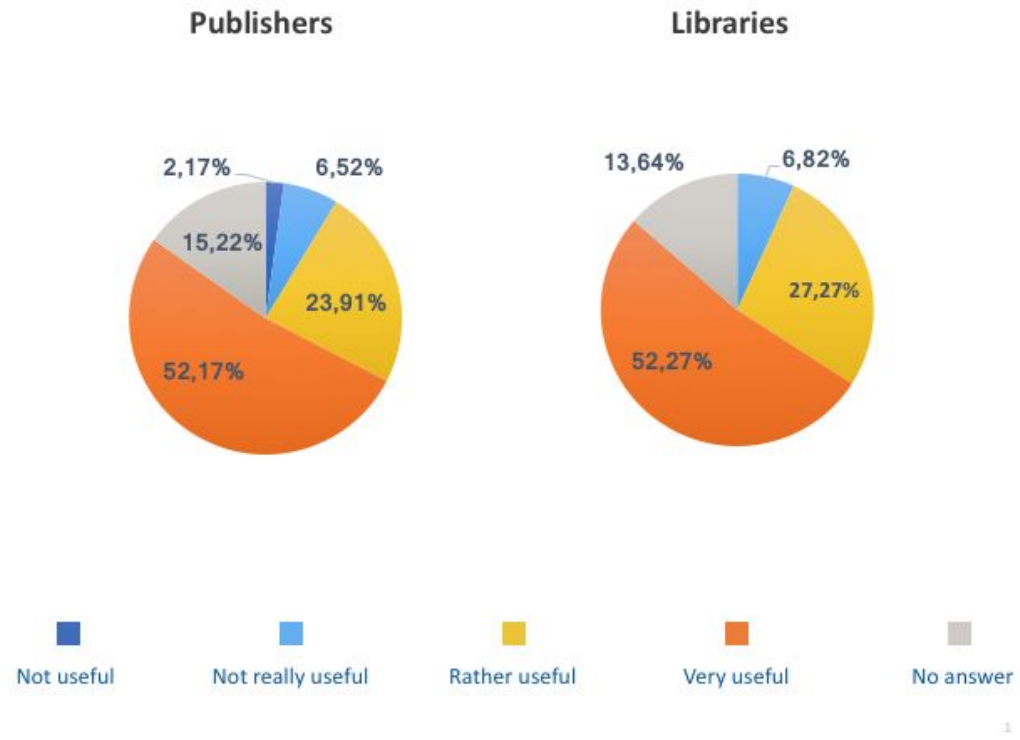
Seamless services

The integrated platforms are here intended as a set of integrated services corresponding to one specific area of academic interest in the digital communication field. Practically, the OPERAS infrastructure will set up three platforms providing enhanced and complete services:

- the DOAB as a certification platform;
- a discovery platform to index all research materials in the SSH;
- a platform to foster collaboration between researchers and socio-economic actors.

The questions explained the content of these new platforms and were asked to different stakeholders whenever meaningful. The results are showing a very high interest in general. Negative answers (“not useful” and “not really useful”) triggered a specific open question so as to better know the needs of the participants.

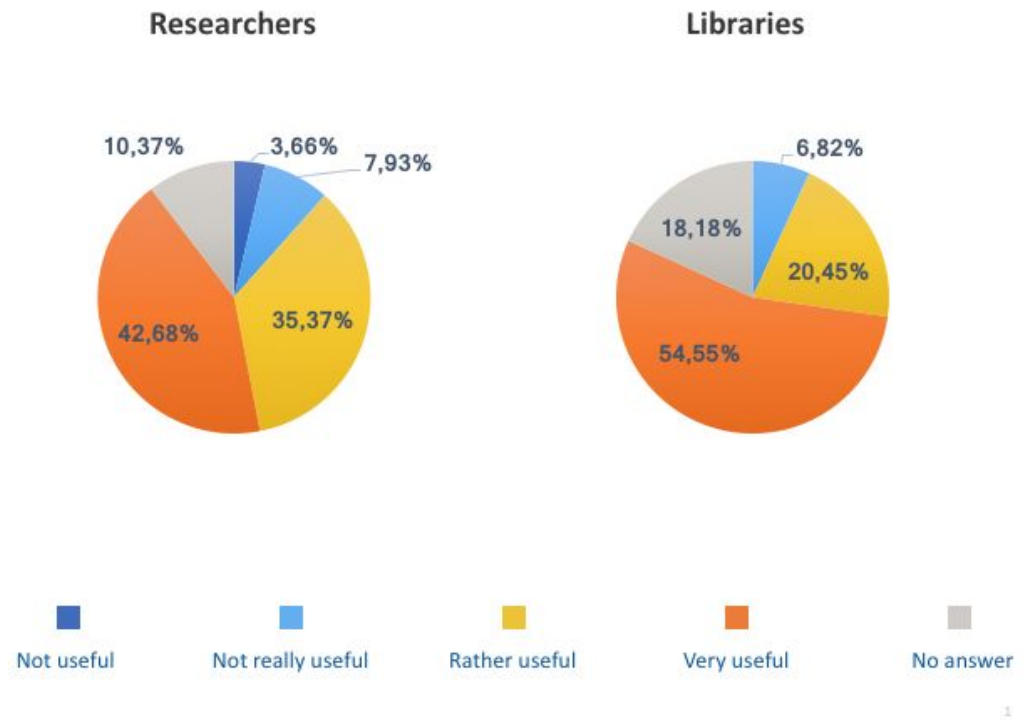
Here are the results to the question about the certification service for publishers and libraries: “*The OPERAS project is planning to launch a platform based on the existing DOAB platform (http://www.doabooks.org). The new platform will provide a complete certification service for open access monograph publishing platforms: a classification system of peer-reviewing procedures, a list of open licences, and a tool to manage peer-review descriptions.*
Based on your current activities and needs, how would you evaluate this prospect?“



Interest for the certification service

One of the comments made by a publisher recommended to widen the range of the service, stating that "*yes, there are needs to be continued work in the area of legitimizing open access material that has been properly peer-reviewed and I support such initiatives but special databases that list open access material seems to me be an unusual waste of limited resources*". This comment gives indication to develop DOAB collaboration with more comprehensive and generic databases and to serve as a hub rather than an end point for open access content.

Below are represented the results to the question regarding the discovery service for researchers and libraries: "*The OPERAS project is also planning to implement a discovery platform dedicated to SSH OA. This platform could search not only through books and journals but also through blog posts and other social media. It will also index sources and data. The platform will be based on the existing Isidore platform (https://www.rechercheisidore.fr), which is using various reference sets to enhance resources description and discoverability.*
How would you evaluate this prospect?".



Interest for discovery service

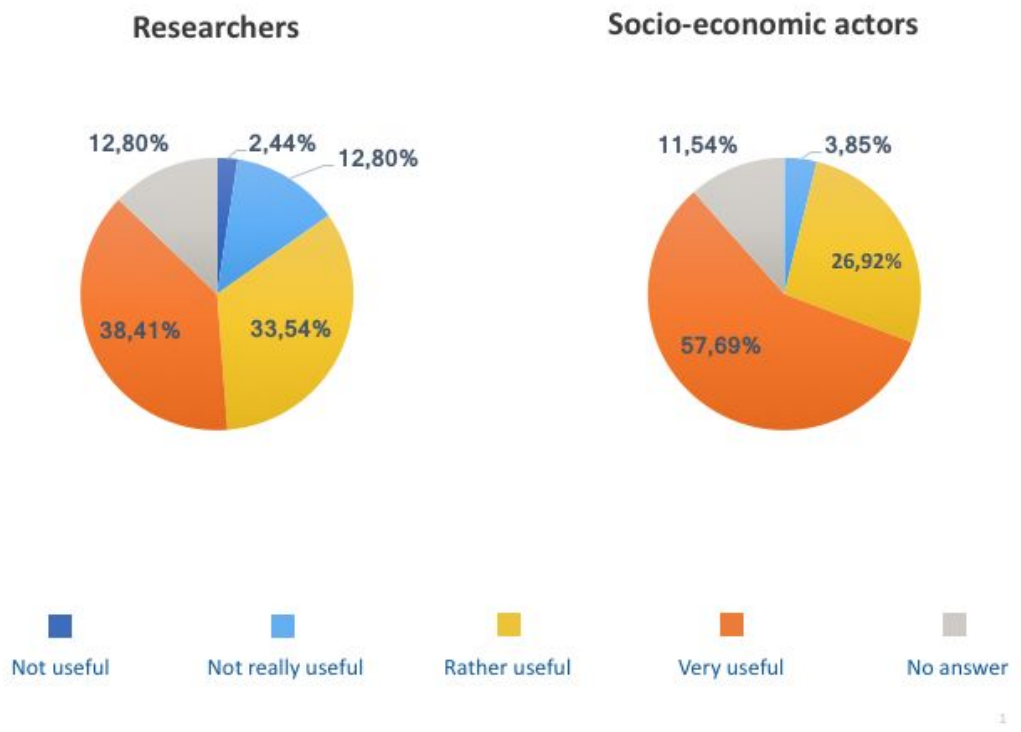
The comments contained both negative and positive answers, as shown by these two examples:

- "*I would go for a clean discovery platform with peer-reviewed only contents. And I would avoid giving the user endless results of disparate sources."*
- *"Actually, I think this is very, very useful. But there is no feedback button for a positive answer, so I hit "not really useful" to add that I would like to integrate SSH OA into our local discovery system."*

Once again, the interest for such a centralized service is obvious but users want it to be connected and not isolated. The discovery service must be a hub, not a dead-end. It must be able to connect and be used in local contexts to address the needs of specific communities.

The question about the collaborative service was the following for researchers and socio-economic actors: "*OPERAS intends to facilitate collaboration between academics and journalists, SMEs, administrations and citizen groups. There are plans to launch a future platform where researchers and socioeconomic actors could work together during the lifetime of research projects related to societal challenges and collectively produce and share materials and data that could be exploited and reused on a wide basis.*
Based on your current activities and needs, how would you evaluate this prospect?".

In this third case also, there is a large majority of "rather useful" and "very useful" responses, like we can see in the figures below.



Interest for the collaborative service

Like in the previous question, the responses of the researchers are slightly less positive than the ones of the other stakeholder. Some comments partly explain why: "*...in terms of data, it is not released until the end of a research project (if it is released at all). Would you seriously trust (all) journalists with raw data?...*". On the other hand, the socio-economic actors gave some indications on the type of guidance they would need for this service: "*There should be probably an educational program going along with launching such platform. There is a need for academics to develop media literacy skills to use this platform with ease* ".
These two answers, together, are highly interesting: they reflect the current lack of trust and poor consideration researchers and socio-economic actors, particularly the media, have towards each other.... It gives use indication on the need to support the technical development of the platform by a strong mediation work and dedicate resources to that dimension of the platform.

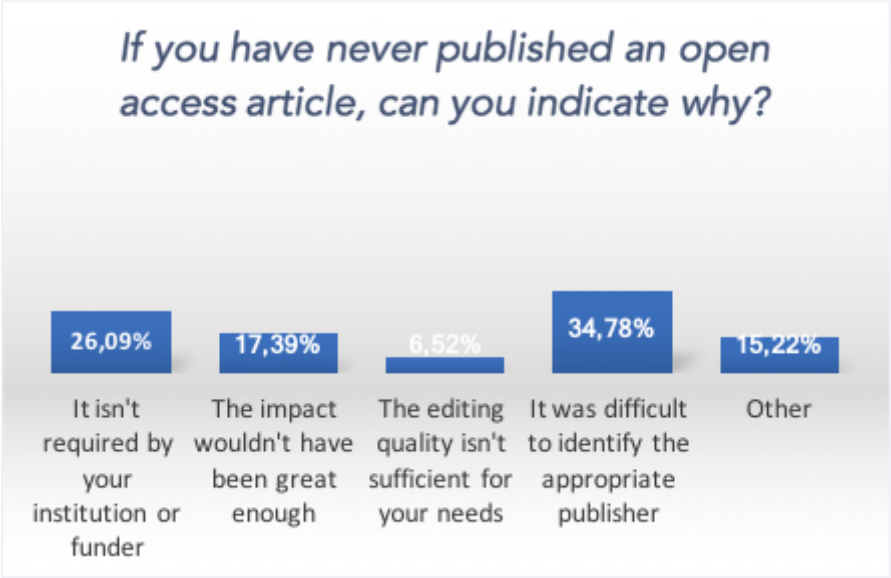
Surveys details

The most important results come from the researchers', the publishers' and the libraries' surveys. The responses from socio-economic actors are not representative enough and the responses from the funders are too few.

Survey for the researchers

The panel of participants in this survey offers a good level of representativeness of the academic community, because we find among them researchers, professors, PhDs, students, etc. As for their area of expertise, there is a slight majority of SSH researchers alongside with a certain number of STEM researchers.

The researchers were asked questions about their use of OA publications both as authors and as readers.
Regarding their published works, 74% of the participants declared they already published in OA, confirming a rather positive trend for OA publishing.
About those who didn't publish an OA article[5], the chart below shows for which reasons they did not:



Reason for not publishing in OA (researchers)

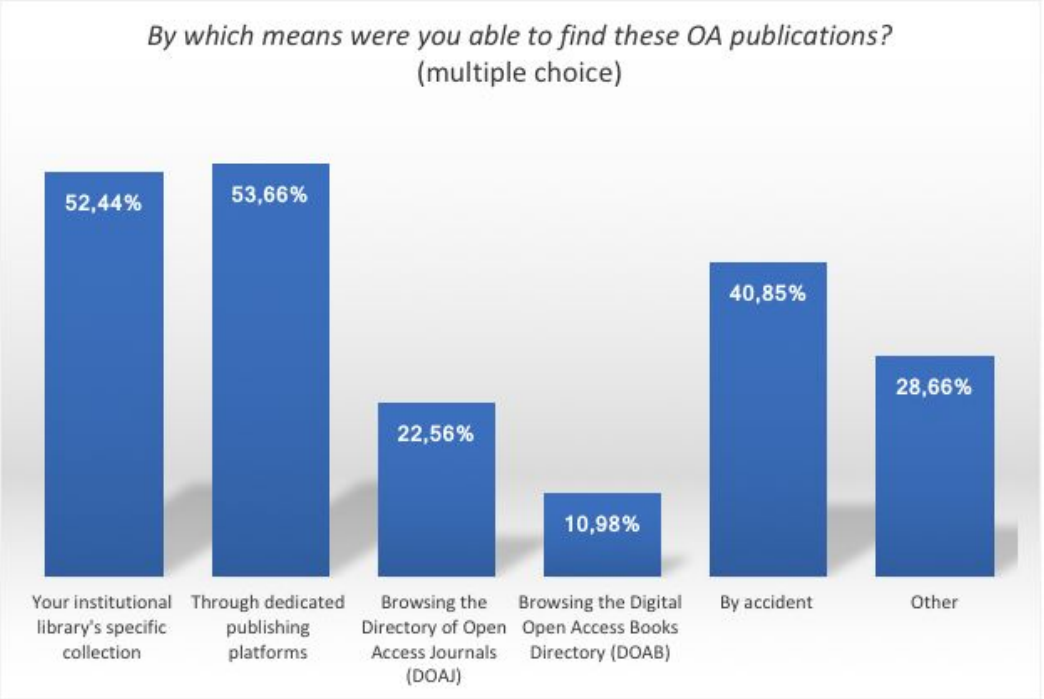
The "other" category allowed for comments and, in this case, we find especially the financial issue related to APCs and BPCs. Nevertheless, the two main reasons relate, first, to the fragmentation of the publishing landscape, second, to the absence of open access policies. These two issues could precisely be addressed by the OPERAS infrastructure as an integrated service able to conduct OA advocacy and dedicate effort to communication, developing, for example a comprehensive and centralized list of open access publishers with indication on their conditions and quality. It could be a project that DOAB and DOAJ could achieve together.

[5] The same questions were asked about the articles and books OA publishing but the number of answers was logically more important and therefore more relevant for the articles.

For the question "*If you published articles, could you indicate your level of satisfaction regarding the following aspects of OA publishing?*", the answers show a high level of satisfaction.

Level of satisfaction for OA publishing (researchers)

As readers of OA publications, 62,80% of the participants declare they can easily find OA publications. The chart below shows the answers to the question "*By which means were you able to find these OA publications?*".



Finding OA publications (researchers)

The results show the importance of the local and/or personal network of the researchers, and especially the major role of their institutional documentation service for accessing to OA publications. On the other hand, in many cases the researchers access to OA publications without using dedicated tools or services: 40,85% find them by accident and 28,66% find them in another way, i.e. mainly Google Scholar, academia.edu and ResearchGate (according to the comments). In fact, the dedicated tools helping to specifically search for OA publications (DOAJ and DOAB) are the less used searching options.

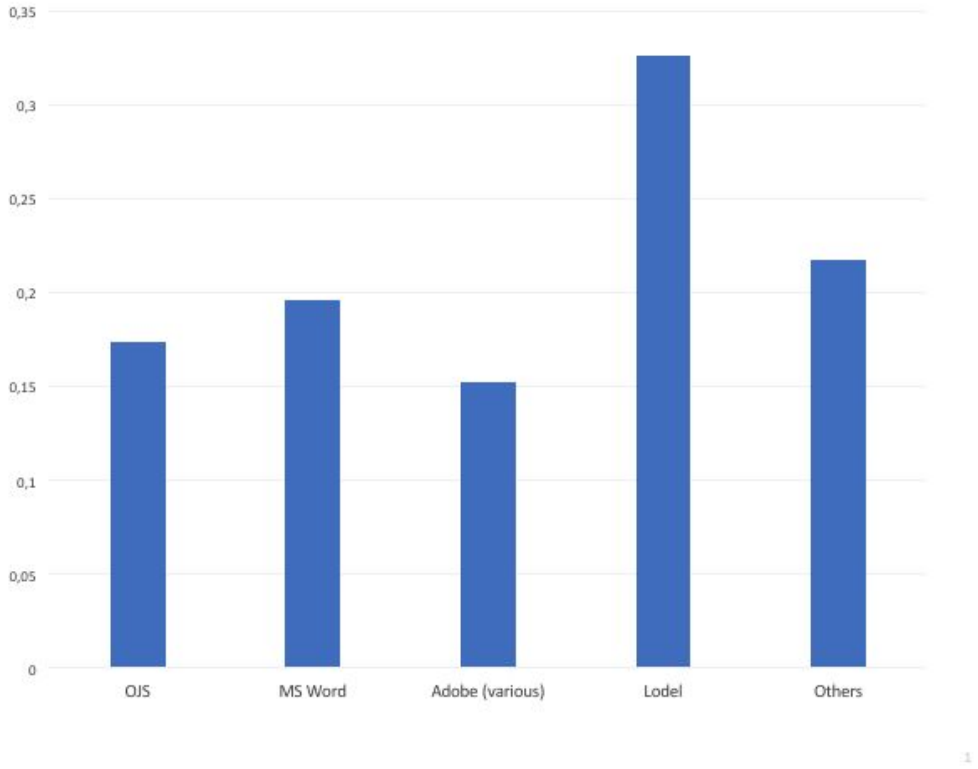
The open questions about the OA publishing in general confirm some well known concerns regarding, to summarize it, the APCs issue of the Gold OA and the impact issue of the Green OA. Some participants also mention their need for information about legal aspects and licenses: these comments legitimate the constitution of the DOAB as an integrated certification service.

Researchers also asked for what one of them called "*minimal guaranteed quality*" service, that is, mainly, providing a reliable IT system and a reasonable editing process duration. More advanced suggestions were pointing out the possibility of living-publishing or a redefinition of the search functionality based on the "*unit of knowledge*" and not only the article or the book. Those answers give us indications that search and discovery platform should develop advanced functionalities based on semantic annotation.

Survey for the publishers

The publishers who participated to the survey have collections of 170 books and 9 journals on average. Nevertheless, most of them are small or very small publishers, which is a good indication of the kind of stakeholders the OPERAS infrastructure will have to deal with. To be noted also that about a third of them have publications also in the STEM fields.

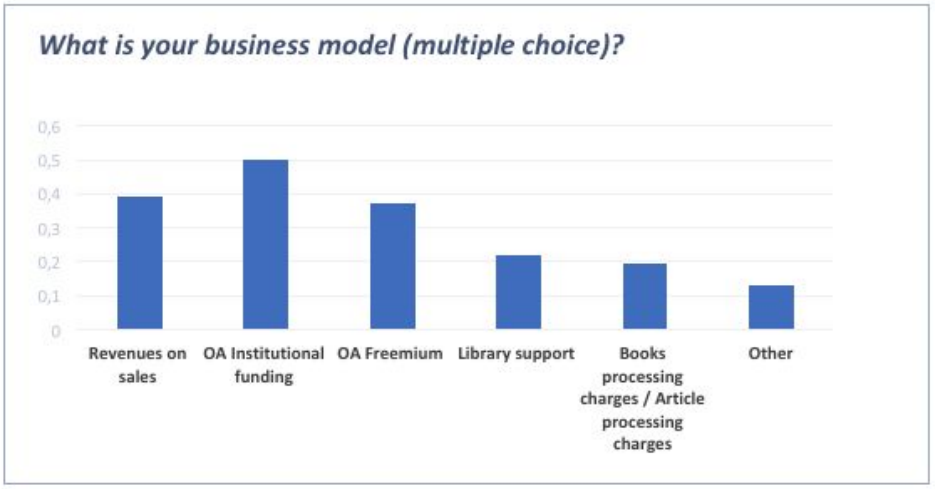
Apart from the transverse questions mentioned above, the specific questions for the publishers investigated the tools and workflows they were using. Regarding their publishing software, the publishers declared to be most of the time satisfied with it. The answers show however the tools used are rather disparate and perhaps a more precise evaluation would be useful. The chart below gives an overview of the software used.

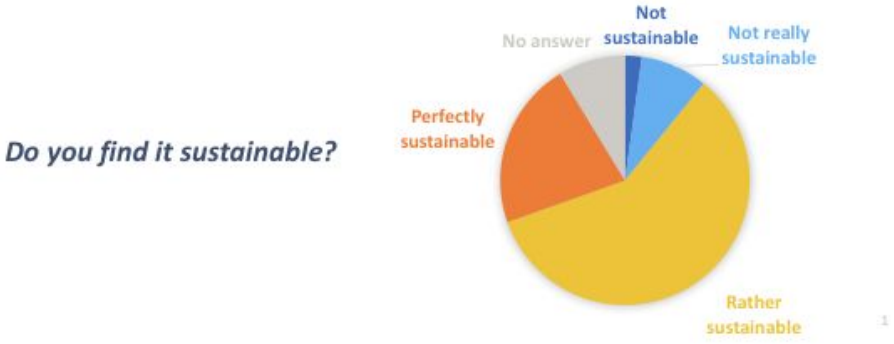


Publishing tools used by the publishers

Regarding the workflows, the input format is mainly DOC/PDF with some variations, and in the majority of cases the output format is PDF (85%), then come HTML (50%) and Epub (30%). Some of the publishers are working with a single source publishing process, which is almost always in XML-TEI. Among the publishers who are not yet using single source publishing, about a half would be interested to use it. This is a useful indication for the roadmap of the Tools R&D working group.

The question about the publishers' business model revealed, even with a slight majority of OA institutional funding, a rather high diversity of funding typology, especially taking into account the fact the participants could give multiple answers. However, the results also show the APC/BPC model is not the most important one. The publishers, for the most part, declared their business model was sustainable. Nevertheless, it would be interesting to make further investigation to put in relation the results of the first and of the second question.

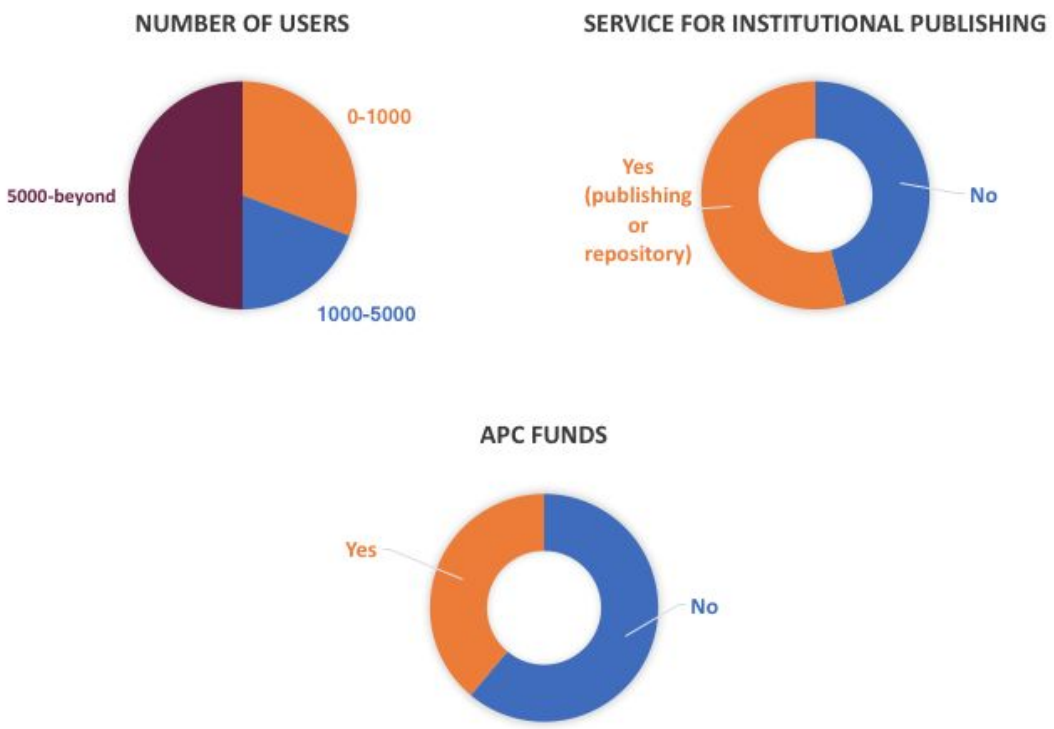




Publishers' business models typology and evaluation

Survey for the libraries

The first questions in the survey for libraries gives us a set of information on their characteristics. Among the participants, a half have more than 5000 registered users; the other half is distributed almost equally between the libraries having from 1000 to 5000 users and those having less than 1000 users. These rather high numbers maybe explain the answer regarding the publishing service they provide and the APC funds they are keeping, as shown in the charts below.



Libraries organizational characteristics

The libraries who answered often have indeed dedicated human resources for open access publications and also a certain amount of specific funds. When there is no specific actions for open access (which is rare), it is mainly due to the difficulty to identify the right actors or to doubts on the peer-reviewing quality of those types of publications.

The libraries seem to have rather standardized techniques for finding OA contents (DOAJ/DOAB and OA platforms). And in fact, they express a high interest for an integration of DOAJ and DOAB. On the other hand, the OA business models and commercial offers (e.g. freemium model) don't seem well known. This indication validates one of the aims of the business models working group: to set up and develop a central platform for libraries where they could find all open access commercial offers in a transparent market place with low transaction costs.

The librarians gave a certain number of useful suggestions in the open questions. About the best practices, a participant suggested there should be generally "*more collaboration of publishers and libraries on metadata standards and metadata rationales*". More precisely, another participant alerts on a topic of particular interest for the OPERAS infrastructure: "*Many Central and South European SSH journals still don't provide article-level metadata*", validating the aim of OPERAS which is to integrate all players across the ERA and focusing on specific regions, such as southern and central Europe to bring them to a quality level in accordance with the international state of art

There are also more advanced suggestions regarding the identifiers ("*Robust linking of existing identifiers (such as ISNI, VIAF, GND) with ORCID*") or the possibility to provide "*open peer review services*".

If these aspect are already or will be addressed within the OPERAS consortium, some confirm the need of an infrastructure with integrated services like OPERAS: "*We need more content providers delivering rich content (rich metadata, information on peer review, licensing, terms of reuse etc.)*"; "*Make links to research data, research software and funding*".

Survey for the socio-economic actors

The survey for the socio-economic actors has not received enough responses to be really significant. Nevertheless, it gives some information on the OA publishing reception and usage outside the academic community and possible hints for future surveys.

The participants are mainly from the information technology and administrative support area. They are all aware they can access freely to scientific content and a majority have already read an OA publication in the SSh field - with great satisfaction, it seems.
However, they used generic search tools (e.g. Google Scholar) to find these OA publications and do not use dedicated tools or database. Finally, their reading present an interesting variety of motivations: they have read OA publications for their work, for their studies and out of personal interest in the same proportions.

Conclusion

The usage survey achieved during the first phase of OPERAS-D project already allows OPERAS consortium to validate a large part of the assumptions that were made during the preparation of the infrastructure project regarding the utility of the future services that would have to be deployed:

- The need for rich and multilingual metadata, SSP tools and an open access business model market place is recognised by most of the answers coming from researchers, libraries, publishers.
- The utility of the services developed by HIRMEOS (PIDs, rich indexes, annotation, alternative metrics) is also acknowledged.
- The importance of open access in researchers publishing strategies is obvious today, but a lack of information and transparency is also to be noted. That reveals the need for dedicated and integrated actions on this question and OPERAS infrastructure has to be highly instrumental in this regard.
- The need for the 3 platforms OPERAS wants to deploy appears clearly from the survey with very useful precisions coming from open answers.

Some limitations however exist: representativeness is not well balanced between the different ERA countries. More answers are needed, particularly from libraries. The

questionnaire and the dissemination strategy have to be completely reworked for socio-economic actors and funders targets. The survey will continue, be refined, and complemented by specific action during the year to come, and probably the followings. It must be understood as the first step of a continuous process enabling OPERAS infrastructure to collect feedback from its users community about the relevance of the services it offers.

Annex 4: ESFRI Landscape Study

ESFRI Landscape Study

Lara Speicher, Publishing Manager, UCL Press

Table of Contents

Introduction

The ambitions of OPERAS to provide pan-European infrastructure and services for open access to social science and humanities research requires widespread co-ordination and support, as well as funding from supporting countries. This can best be achieved by application to the Roadmap of the European Strategy Forum on Research Infrastructures (ESFRI) which supports the development and implementation of mature pan-European research infrastructures. This study will describe the purpose, origins and development of ESFRI, and will introduce some of the projects and landmarks already on the ESFRI Roadmap that bear similarities with OPERAS. It will also describe the typical lifecycle of an ESFRI project, and the governance and legal structures that have typically been adopted by other ESFRIs, in order to help inform the OPERAS consortium in its application to the ESFRI Roadmap.

1: ESFRI Background Information

The European Strategy Forum on Research Infrastructures (ESFRI) is a strategic organisation first launched in 2002 to develop the scientific integration of Europe and to strengthen its international outreach. Competitive open access to high-quality Research Infrastructures supports and benchmarks the quality of the activities of European scientists, and attracts the best researchers from around the world. (ESFRI website: http://www.esfri.eu/about) ESFRI selects a limited number of projects with a high degree of maturity, that enhance European science and innovation competitiveness. Research Infrastructures of pan-European relevance provide unique opportunities for world-class research and training as well as stimulating knowledge and technology transfer, in brief for European capacity building. (https://ec.europa.eu/research/infrastructures/pdf/esfri/esfri_roadmap/roadmap_2006/esfri_roadmap_2006_en.pdf)

1.1 Purpose

ESFRI identifies Research Infrastructures (RIs) to meet the long-term needs of Europe's research communities across all scientific areas. ESFRI designs Roadmaps every two years that provide a coherent and strategic vision to ensure Europe has excellent RIs accessible to all leading researchers. (ESFRI Roadmap 2016) Via ESFRI, national commitments to the implementation of the Roadmap are ensured, and advice and guidance on overcoming legal, technical and financial obstacles to implementation is provided. (ESFRI Roadmap 2018)

ESFRI's key objectives are to:

- to support a coherent and strategy-led approach to policy making on research infrastructures in Europe;
- to facilitate multilateral initiatives leading to a better use and development of research infrastructures acting as an incubator for pan-European and global research infrastructures;
- to establish a European Roadmap for research infrastructures (new and major upgrades, pan-European interest) for the coming 10-20 years, stimulate the implementation of these facilities, and update the Roadmap as the need arises;

- to ensure the follow-up of implementation of already ongoing ESFRI projects after a comprehensive assessment, as well as the prioritisation of the infrastructure projects listed in the ESFRI Roadmap. (ESFRI Roadmap 2016)

1.2 Origins and development

Since ESFRI was set up in 2002 as an informal forum following a mandate of the EU Council of June 2001, it has developed five roadmaps (2006, 2008, 2020, 2016, 2018) which have each time seen an increase in the number of projects as well as development of the programme itself, based on reviews of progress of existing projects, in order to continuously improve the system.

One of the key reasons for setting up ESFRI was a recognition that Europe's centres of research excellence often failed to reach critical mass. By bringing resources together, ESFRI's goal is to build a research and innovation area equivalent to the 'common market' for goods and services. (https://ec.europa.eu/research/infrastructures/pdf/esfri/esfri_roadmap/roadmap_2006/esfri_roadmap_2006_en.pdf)

Further, the importance of planning future large-scale research infrastructures on timescales approaching one or two decades was recognised. While there are national roadmaps that plan their aspirations on a 10-20 year timescale, many of these will be funded and managed as European facilities so ESFRI proposed a synthesis of such activities to coordinate international activities.

1.3 Operation and governance structure of ESFRI

ESFRI meets around four times a year and its key role is to oversee, analyse, enhance, make recommendations and assess ESFRI projects, in order to shepherd them on the Roadmap from the point of acceptance to realisation.

ESFRI is overseen and informed by a number of special interest working groups and strategic working groups. The special interest working groups include Investment Strategies in e-Infrastructures, Long-term Sustainability, Innovation and Implementation. The strategic working groups oversee key subject categories under which ESFRI projects fall. (http://www.esfri.eu/working-groups)

1.4 Development and implementation

European RIs usually develop their scientific case and technical design at a national level, or through 'Design Study' contracts under the EC Framework Programmes (FPs). Once admitted on to the ESFRI Roadmap, the Projects become eligible for competitive 'Preparatory Phase' contracts devoted to the refinement of the technical design, development of the governance, definition of legal status and financial sustainability, leading to the start of the implementation phase. A firm agreement by the stakeholders to proceed to the adoption of a legal status engages substantial funding for implementing the RI. (Lifecycle of a Research Infrastructure, ESFRI Roadmap 2016, https://ec.europa.eu/research/infrastructures/pdf/esfri/esfri_roadmap/esfri_roadmap_2016_full.pdf)

As seen from some of the case studies below, ESFRIs take a varying length of time to progress from entry onto the Roadmap, through Preparatory Phases towards Implementation. During the Preparatory Phase the members of the RI agree such matters as infrastructure, governance status, legal status, operational procedures, business plan and funding. ESFRIs typically take between three and seven years to go through the implementation phase, and many also use this time to prepare for the establishment of the legal entity ERIC (European Research Infrastructure Consortium).

2: ESFRI Projects and Landmarks

There are currently 21 ESFRI Projects and 29 ESFRI Landmarks. ESFRI Landmarks are the RIs that were implemented or started implementation under an early ESFRI Roadmap and are now established as major elements of competitiveness of the European Research Area, successfully implementing their operation and effectively advancing in their construction.

The ESFRI subject categories are: Energy, Environment, Health and Food, Physical Sciences and Engineering, and Social and Cultural Innovation. OPERAS will fall into the Social and Cultural Innovation category, in which there is currently one ESFRI Project (E-RIHS – European Research Infrastructure for Heritage Science) and five ESFRI Landmarks: CESSDA, CLARIN ERIC, DARIAH ERIC, ESS ERIC, and SHARE ERIC.

The Social and Cultural Innovation SWG (Strategic Working Group) proposes possible solutions related to RIs that are able to help tackle the Grand Challenges facing society, such as health or demographic change, or the 'Inclusive, innovative and secure societies' challenge from the third pillar of Horizon 2020, called 'Tackling societal challenges'. It establishes possible methods through which social sciences and humanities could be used as an evaluation criterion for the activity of other RIs in the ESFRI roadmap (e.g. social impact). It also explores how RIs can contribute to social innovation or better knowledge transfer towards society. (http://www.esfri.eu/working-groups/social-and-cultural-innovation)

2.1 Social and Cultural Innovation category (ESFRI Roadmap 2016)

The following ESFRIs are also Distributed RIs. Below are brief descriptions of the main activities of each, with some details of their timeline for development and their governance structures.

- E-RIHS – European Research Infrastructure for Heritage Science

Supporting research on heritage interpretation, preservation, documentation and management, E-RIHS will comprise fixed and mobile national infrastructures of recognised excellence, physically accessible collections and archives and virtually accessible heritage data. It entered the Roadmap in 2016 and its preparation phase will last until 2019, construction phase 2020-21, and operation start in 2022. It is a distributed RI with numerous participating counties, centrally coordinated from Italy. Due to the nature of the materials being studied, such as artefacts and artworks, the national centres are of key importance, and some are setting up their own Distributed RIs at national level, such as that in the UK.

This research area was identified as suffering from fragmentation, duplication of efforts and isolation of small research groups, putting at risk the competitive advantage of European heritage science. To address this, E-RIHS will provide state-of-the-art tools and services to cross-disciplinary research committees to advance understanding and preservation of global heritage. Key features are:

- Cutting-edge scientific infrastructures, methodologies, data and tools
- Training
- Public engagement
- Access to repositories for standardised data storage, analysis and interpretation

- CESSDA – Consortium of European Social Science Data Archives

This large-scale, integrated and sustainable platform provides access to research data from archives across Europe. It entered the Roadmap in 2006 and started operation in 2013. Norway is its coordinating country and its legal status is a Norwegian Limited Company. There are 14 members of CESSDA and it brings together social science data archives across Europe, with the aim of facilitating social, economic and political research. Members of CESSDA nominate a national service provider and CESSDA integrates the work of the service providers by establishing a one-stop shop for data location, access, analysis and delivery.

CESSDA plays an active role in the development of standards and encourages and facilitates the use of metadata standards for documenting and publishing the existing inventories of research data available from national as well as cross-national data resources in Europe. Its overall ambition is to organise a range of data collections and to coordinate common activities across different national institutions. The institutions will function as a network in a flexible technical architecture, using standard open protocols and interfaces, designed to contribute to the emerging European and global information commons.

The overarching vision of CESSDA is to develop a system for data service provision that is open, extensive and evolvable, and provide a single interface to thousands of unique datasets from social science data archives across Europe. In this way, it will widen access to data, permitting European comparative research.

- CLARIN ERIC – Common language resources and technology infrastructure

CLARIN provides easy and sustainable access for scholars in the humanities and social sciences to digital language data and advanced tools to discover, explore, exploit, annotate, analyse or combine them. CLARIN is building a networked federation of language data repositories, service centres and centres of expertise, with single sign-on access for all members of the academic community in all participating countries. Tools and data from different countries are interoperable so that data collections can be combined and tools from different sources can be chained to perform complex operations to support researchers. It integrates existing data and service centres without major capital investments.

It entered the Roadmap in 2006 and started operation in 2006 and its construction phase took place between 2011 and 2015. It is a distributed RI based in the Netherlands with numerous participating countries.

It provides a range of services including (https://www.clarin.eu/content/services):

- Clarin Portal
- Depositing services
- Virtual language observatory
- Web services and applications
- Virtual collections
- Language resource inventory
- Consulting services

In addition to the services it provides, CLARIN participates in the development of courseware and organises workshops and data camps to stimulate the uptake and increase the insight in the usability of the services.

CLARIN stimulates the re-use of available research data, thereby enabling scholars in SSH to increase their productivity and open new research avenues in and across disciplines that address multiple societal roles of language. Working with CLARIN data and tools will increase the skills levels for data analysis among new generations of SSH students, which will be welcomed by the data science sector.

CLARIN governance (https://www.clarin.eu/content/governance)

- General Assembly with representatives from ministries of the member states
- Scientific Advisory Board
- Board of Directors for day-today operations
- National CLARINs
- Standing Committee for CLARIN technical centres
- National Coordinators Forum

- DARIAH ERIC – Digital Research Infrastructure for the Arts and Humanities

DARIAH is a network of people, expertise, information, knowledge, content, methods, tools and technologies from various countries that develops, maintains and operates an infrastructure to support ICT-based research practices. It operates a Europe-wide network of Virtual Competency Centres.

Its key services and features are:

- Shared technology platform
- Scholarly content management
- Advocacy, impact and outreach
- Provides seminars and research and education activities
- Offers teaching materials and teaching opportunities to develop digital research skills

It provides impact by demonstrating how traditional humanities research skills play a prominent role in the digital age, and how such skills can be deployed in a commercial setting. It entered the Roadmap in 2006, its preparation phase was 2008-2011, construction 2014-2018, and plans to start full operations in 2019. It became an ERIC in 2014.

DARIAH governance (http://www.dariah.eu/about/organisation.html)
DARIAH has 17 members from EU member countries. Its governance structure is organised as follows:

- General Assembly
- Board of Directors
- Senior Management Team
- Scientific Board
- DARIAH Co-ordination Office
- National Coordinators Committee
- Joint Research Committee
- Virtual Competence Centres
- Working Groups
- Cooperating Partners
- Affiliates

3: Governance and legal status

In 2016 an ESFRI Exchange of Experience Workshop took place in Amsterdam, which resulted in a report offering general advice to current ESFRI projects and landmarks as well as descriptions by the individual ESFRI projects about some of the challenges they have met in the process of development.
http://www.esfri.eu/sites/default/files/u4/StR-ESFRI-1st-EoE-Report_23-11-2016_final_0.pdf)

The general advice coming from the workshop was summarized as follows:

Governance: Keep the governance simple but robust and carefully define the role of scientific, managerial and legal responsibilities; carefully define business models at a very early stage; have a clear agreement about the services the infrastructure will offer and a clear definition of its target group; ensure processes and mechanisms are in place to be able to operate effectively during the interim phase while governance and legal structures are being put in place.

Several individual ESFRIs emphasized that the preparatory phase was long and complex and the governance structure that emerged by the end of the process was very different from the original ideas. Many also focused on the need for clarity of roles, and the need to identify clear roles and responsibilities among the partners. Some also noted the difference in time for different member states' ratification processes and the challenges that had brought, and identified the need for clarity regarding the balance in decision-making between the European and local levels in

order to avoid a lack of framework or loss of momentum. A task force was recommended for the preparatory phase to assist the national nodes in their application processes.

Funding: Governance and funding are inherently connected; clear processes are needed for well-balanced cash and in-kind contribution, management and control mechanisms; there needs to be a co-ordinated approach between management authorities who understand the project as a whole and the interdependence of national and European funding programmes and the nodes of distributed RIs planning to make use of structural funds; funding management questions should not put burdens on the competitive character of the research infrastructure.

Several individual ESFRI projects also commented on the different funding perspectives between countries, with some understanding better than others the need for long-term funding commitments. Some also highlighted the need for a funding strategy, a clear investment proposition to ensure delivery of the work packages. Identifying key performance indicators in funding proposals and measuring them during the preparatory phase was considered crucial by some projects.

Legal: Involve legal services and expertise at an early stage; get informal feedback from the European Commission at an early stage; consider other legal statuses as well as ERIC.

ERIC: Keep close contact with the national ministries as early as possible; involve the finance ministries at an early stage to make sure they will allow tax exemptions; ensure a clear perspective of getting long-term funding.

3.1 Legal requirements and options for distributed RIs

ESFRI projects typically establish an interim legal entity during their preparation phase, and many then progress to the ERIC (European Research Infrastructure Consortium) legal entity, which was specially developed for European RIs. The different options for legal entities and the topics they need to cover are described in more detail below.

The ESFRI Roadmap 2018 (http://www.esfri.eu/sites/default/files/docs/ESFRI_Roadmap_2018_Public_Guide_f.pdf) lays out the legal requirements for distributed RIs very clearly as follows. A distributed RI is characterised as having a Central Hub and interlinked National Nodes and needs to:

- have a unique specific name and legal status and governance structure with clear responsibilities and reporting lines, including international supervisory and appropriate external advisory bodies;
- have legally binding attributions of coordination competences and resources to the Central Hub;

- identify and agree upon relevant and measurable Key Performance Indicators (KPI) addressing both excellence of scientific services and sustainability of operation;
- have a human resources policy adequate to warrant the necessary competences for the effective operation of the Central Hub and to support the user's programme, and to encompass hiring, equal opportunities, secondments, education and training;
- define a joint investment strategy aimed at strengthening the RI through the Nodes and common/shared facilities. (ESFRI Roadmap 2018: http://www.esfri.eu/sites/default/files/docs/ESFRI_Roadmap_2018_Public_Guide_f.pdf)

3.1.1 The national 'nodes'

Distributed RIs are usually organized into National Nodes around a Central Hub. The capacity and amount of resources devoted to the RI must be clearly identified, coordinated and managed by the Central Hub according to agreed statutes and common rules and procedures of the RI consortium, even though the Nodes may be only partially absorbed by the distributed RI maintaining their national or institutional programmes.

The distributed RI must assign optimal personnel capacity and coordinating power to the Central Hub in order to demonstrate a high level of integration of the National Nodes. Examples of high integration include for example a unique portal with thorough explanation and guidance towards the common access policy; harmonised and coherent IPR & data policies; adequate central resources; procurement and upgrading of technological infrastructure; human resources policy allowing for staff exchange and secondment. It must also display added value compared with the merits of a research cooperation network open to external use. The Central Hub therefore must represent a truly international organisation capable of operating with a high level of efficiency and mediating across different scientific cultures. (ESFRI Roadmap 2018: http://www.esfri.eu/sites/default/files/docs/ESFRI_Roadmap_2018_Public_Guide_f.pdf)

3.1.2 What a legal document should contain

Independent of the legal form the RI chooses to adopt, the basic legal document should contain the following elements:

- The frame of agreement
- The scope and objective
- The governance and management
- The seat
- The resources and commitments
- General provisions
- The option for internal regulations to regulate the functioning of the consortium (monitoring, adjustments, winding-up)

Different legal entities are chosen depending on the type of Research Infrastructure. These include arrangements for commercial entities, European consortia, national organisations, associations, and foundations. OPERAS needs to adopt a legal status that reflects its international nature, and one of the legal entities that would be suitable for the circumstances of OPERAS during its preparatory phase, and which has been adopted by other ESFRIs, is a Belgian legal arrangement called an AISBL (Les Associations Internationales Sans But Lucratif – International Non-Profit Association).

The key features of an AISBL are:

- The location in Belgium considering the neutrality of this country towards the partners of the RI
- Constitute a suitable transitional legal structure on the way to ERIC
- No initial capital needed
- Flexibility when defining the Articles of Association
- Limited liability
- Full legal personality
- Tax exemption
- Fast creation/foundation process (about two months after submission to Belgian Ministry)
- International image and European character
- Flexible governance structure, reallocation of shares, non-profit status and benefits
- Personnel regulations that can be applied to all kinds of employees and allow for staff prerequisites
- Needs a statute in French language
- Head address must be in Belgium
- Not suitable for big investments
- Members may not receive monetary benefits from the association

The ELIXIR ESFRI has drawn up a Consortium Agreement for its preparatory phase which covers the following:

- Objectives and tasks of the infrastructure
- Membership
- Obligations of the Members
- Governance structure (mission and powers of the governance bodies)
- Finance
- ELIXIR Nodes (e.g. selection and evaluation process of Nodes)
- Intellectual Property
- Liability
- Entry into force
- Duration and evaluation of the infrastructure, etc.

3.1.3 ERIC

In the longer term, the most beneficial legal arrangement associated with Distributed RIs at an advanced stage of development is ERIC (European Research

Infrastructure Consortium). A number of ESFRI Landmarks have successfully established an ERIC. ERICs were developed in 2009 in response to the need for a legal framework for global entities like Distributed RIs. The main features include:

- High political acceptance and visibility
- Especially designed for pan-European research organizations
- Very favorable solutions for the issue of the European non-profit character of the organization can accommodate its distributed nature
- Tax exemption
- Very flexible internal structure which is also not based on national law
- Funding might be safer due to internationally binding contacts
- Financial support pro community easier
- Easier for entity to get national funding
- Short regulation
- Limited economic activities are allowed
- No national privileges

3.2 Governance models

The options for the governing structure are linked to the selected legal form (if there is one), and some of the governance models for existing ESFRI projects have been described above. Many ESFRIs advise that it is best to set up a governance structure during the preparatory phase that can easily transfer to an ERIC. A common governance model used among the Distributed Research Infrastructures, regardless of the category or the type of legal form, incorporates a governing body (such as a general assembly) representing the collective interests of the partners and that is the ultimate decision-making body, a director (or Board of Directors) in charge of implementing the decisions of the governing body, and an executive management (secretariat) in charge of operating the infrastructure. Operating the infrastructure is often undertaken by National Nodes. (International Distributed Research Infrastructures: Issues and Options, OECD Publications, 2013 https://www.oecd.org/sti/sci-tech/international-distributed-research-infrastructures.pdf)

The governance structure often also includes a 'Heads of Nodes' Committee and a Scientific Advisory Board, made up of leading academic experts in their field and which is usually an independent body offering scientific expertise to the General Assembly or main governing body. In some cases, Members of the General Assembly are represented by a National Representative (National Representatives are from the Ministries or Research Councils) – this is the case for the ELIXIR ESFRI.

National Nodes enter into a collaboration agreement with the Central Hub and their role is usually to provide the delivery of technical services. Each National Node is usually hosted by an institute that has its own legal personality and provides a defined set of services on behalf of or for the Central Hub. In some ESFRIs, National Nodes are only accepted into the RI after successfully passing a selection process. Nodes usually provide services that are important on a European or global level and which have an added value for the ESFRI. (https://www.elixir-europe.org/about-

us/governance/)

An alternative structure is that of the European Social Survey, which does not have National Nodes but has a National Representative from member states on its General Assembly, usually a Minister, and then has a Core Scientific Team of seven (a bit like OPERAS Core Group) and four Deputy Directors from among the institutions in the Core Scientific Team. In addition to the General Assembly, ESS also has Scientific Advisory Board, Methods Advisory Board and Finance Committee.

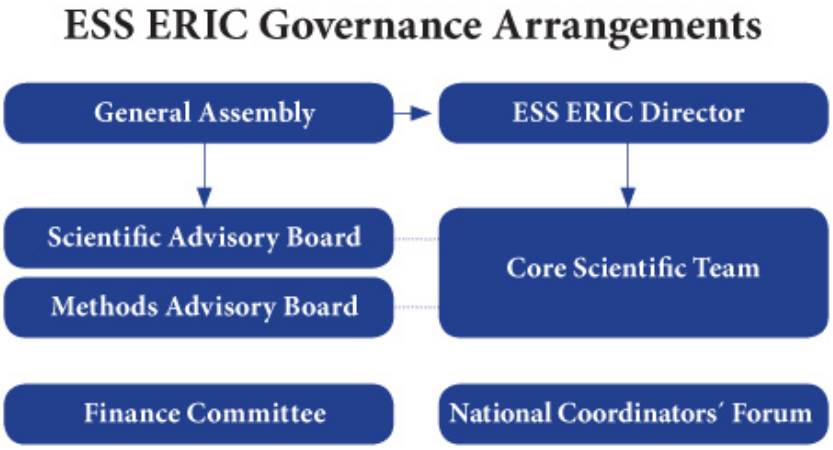


Table 1: ESS ERIC Governance structure

The MIRRI ESFRI has also opted for a lean governance structure, as follows:
The Assembly of Members is the decision-making body of MIRRI-ERIC and is composed of delegates of all Members and Observers of MIRRI-ERIC. It decides the strategic developments and governance of MIRRI as a research infrastructure.

The Advisory Board evaluates the activities of MIRRI-ERIC and advises the Assembly of Members with regard to proposals of the Executive Director on the implementation of the MIRRI-ERIC Work Program. It is an independent body of distinguished scientists or experts in the fields of science, ethics and business appointed in their own right and reflecting the relevant application areas of MIRRI-ERIC.

The Executive Director is the legal representative of MIRRI. He/She will lead and administrate the MIRRI legal entity including the Central Coordinating Unit (CCU), which is the central executive management office for the MIRRI-ERIC. The Executive Director will be assisted in performing his/her managerial functions by staff of the CCU.

The operative level of MIRRI-ERIC is built by the National Coordinators Forum and the mBRC Directors Forum. The National Coordinators Forum consists of all National Coordinators of MIRRI-ERIC. This Forum shall implement the directions and decisions

taken by the Assembly of Members, as well as the counsel from the Advisory Board, at the level of the Partners and their national institutions. One of its members will be appointed as Chair, being the main contact person for the Executive Director in terms of reporting National Nodes' activities.
(http://www.mirri.org/legaldocuments.html)

4: Conclusions

Establishing an ESFRI is a lengthy and complex process that requires considerable planning and preparation, and there are a number of models and options for legal status and governance that need to be considered. ESFRI is looking for projects that can demonstrate that they will be more effective as a Distributed RI on the ESFRI Roadmap than they would simply as a consortium. Clear demonstration of significant communities that require the services of the project, along with maturity and having clear business plans and funding in place are key characteristics of successful ESFRI projects.

References

Community Legal Framework for a European Research Infrastructure Consortium (ERIC) – Council Regulation (EC) No 723/2009 of 25 June 2009: http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=eric2.
State of Play of the Implementation of the Projects on the Esfri Roadmap 2010

ELIXIR: https://www.elixir-europe.org/about-us/governance/faqs

Emphasis project: relationship between the central hub and the national nodes: https://emphasis.plant-phenotyping.eu/index.php?index=59&type=4

ESFRI Annual Report 2016
http://www.esfri.eu/sites/default/files/docs/ESFRI%20Annual%20report%2016_web.pdf

ESFRI Exchange of Experience Workshop Report 2016
http://www.esfri.eu/sites/default/files/u4/StR-ESFRI-1st-EoE-Report_23-11-2016_final_0.pdf

ESFRI Roadmap 2016
http://www.esfri.eu/roadmap-2016

The ESFRI Roadmap 2018
(http://www.esfri.eu/sites/default/files/docs/ESFRI_Roadmap_2018_Public_Guide_f.pdf)

Guidelines for ERIC application
https://ec.europa.eu/research/infrastructures/pdf/eric_en.pdf#view=fit&pagemode=none

International Distributed Research Infrastructures: Issues and Options, OECD Publications, 2013
https://www.oecd.org/sti/sci-tech/international-distributed-research-infrastructures.pdf

MIRRI: http://www.mirri.org/legaldocuments.html

Report of the Implementation Group to the Esfri Forum, November 2012
https://ec.europa.eu/research/infrastructures/pdf/esfri_implementation_report_2012.pdf