OPERAS-D

DESIGN FOR OPEN ACCESS PUBLICATIONS IN EUROPEAN RESEARCH AREAS FOR SOCIAL SCIENCES AND HUMANITIES

Developing network and e-infrastructure strategy

Design Study and Roadmap for the OPERAS e-infrastructure

June 2018

DRAFT VERSION

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Contents

I. Foreword

The following report, OPERAS Design Study, has been composed thanks to the OPERAS-D project. The report joins several 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. The initial survey included in the first draft of the study have been updated since then and completed by two additional ones : a study that evaluates the visibility of open access books disseminated by a selection of OPERAS partners on the Web and in the most known indexes, and a legal study that prepares for the incorporation of OPERAS as a legal entity. This final edition of OPERAS design study also includes the validation of future OPERAS services by the Core Group against a SWOT analysis and additional documents prepared to support the hearing of OPERAS by ESFRI.

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.

A. 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 analyzed 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.

B. 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.

C. 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 summarised 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.

D. 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.

1. 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.

2. 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.

3. 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.

4. Towards a web of services

In its 2016 report on open science infrastructures, Putting down roots, Securing the future of open access policies, Knowledge Exchange highlight the need of a strong complementarity and interoperability between the different types of services that have to be offered to the academic community: "the fundamental challenge for the implementation of OA policies is the need to develop a fully functioning OA infrastructure from the current

disparate collection of services". Six main categories are identified in the report, through which OPERAS services can be distributed.

E. 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.

These three platforms will be complemented with other services that come from specific projects within OPERAS network. HIRMEOS project in particular enabled OPERAS partners to build and develop new services that will be integrated eventually in the infrastructure : a CDN in particular and an open metrics services.

F. Structure the infrastructure

1. 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.

2. 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.

3. 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.

G. 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
June 2018

II. Methodology

The design study is the final deliverable of the Operas-d project. It's has been prepared upon a three-step methodology: a) literature review and data collections, b) case studies and network development and finally c) recommendations and dissemination.

A. Literature review and data collection

The first step has two parts: desk research which summarizes and identifies the existing state of the art and the empirical research, with case study interviews, surveys, focus groups, that gathers information both about current practices and policies and about stakeholders in Open access publishing in Humanities and Social Sciences in Europe. The result is the Landscape study of Open scholarly communication in Europe which explores the OPERAS field of activity.

During this first part information about technical and services requirements and about business and governance model has been also gathered. The report Technical mapping of OPERAS network describes the technical organizational and informational system and the digital publishing architecture of the Operas members. A first online survey on services has been conducted. An initial work on governance and business model has been also produced.

This part has been concluded by a validation workshop in Amsterdam that brought together also the Operas members outside the Operas-d project. The goal was to validate the outcomes of the first stage of the project and also to create complementarities with stakeholders in different geographical areas. During the validation workshop the OPERAS Working groups on different topics has been officially launched.

B. Case studies and network development

In the second step, a series of case studies and surveys have been conducted based on the results of the first step about the technical requirements and the business and governance model for a European infrastructure for open access publishing in SSH.
An online survey on optimizing e-infrastructure investments for OPERAS members and of creating complementarities has been finalized.
The survey on Use and impact of OA monographs addresses the challenges associated with tracking the use and impact of Open Access monographs across open global digital networks. There were 3 subtasks: mapping the visibility, flagging technical issues and identifying opportunities for OA monographs.

A study on technical conditions to set up distributed and interoperable infrastructures has been conducted. A compilation of EOSC documents has been prepared and interviews on organization and management issues have been done with coordinators or directors or distributed infrastructures. A Draft design plan for future services operated through OPERAS and roadmap for their deployment has been structured.
An intermediary workshop has been organized in the middle of the process in December 2017 in order to validate the reports cited above. Moreover a focus group has been organized in January 2018 with Operas members to validate the list and architecture of the future services and to help to establish a roadmap for the deployment of new services.

The second step also includes network development. After the identification of the key stakeholders, an exploratory phase has been conducted aimed at long term community building for the e infrastructure. This part includes workshops, participation in external meetings and events and visits to potential future partners for the e infrastructure. At the end of the second step a report of the network development and the community building has been drafted.

C. Recommendations and dissemination

Using the findings of the research activities during the first two steps, a SWOT analysis has been conducted during the final validation workshop in Bonn in April 2018, to establish recommendations contributing to establish the roadmap of the infrastructure roadmaps for the e - infrastructure for open access publishing in SSH.

In more detail, the network development collaborations will be strengthened with the establishment of new standards and good practices.
For the technical development a design plan proposes the establishment of new services with a roadmap for its deployment.
A final business and governance model is proposed with a legal framework. Each working group has presented their work at the OPERAS Conference which took place from 31 May – 1 June 2018 in Athens, Greece.
The recommendations were also introduced during a final conference in Athens and disseminated during the final 2 months of the project.

III. 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. The challenges facing scholarly communication in the SSH have been well documented in various studies and academic conferences in recent years.

A. 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, Garvey, Galison and more recently Nielsen 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 requires infrastructure to serve as dynamic and interactive networks. The concept of an extensive scholarly record including innovative methods and formats demands a framework of fluid but identifiable, distributed but interlinked units. OPERAS adopts these concepts throughout its full research lifecycle support and the synergies build on the connection of distributed infrastructures, institutions and entities.

B. 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. Academic books are poorly integrated in commercial databases and the format of monographs is often excluded from OA policies, initiatives, and copyright exceptions. 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. 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 while changes are prevented by few commercial players. 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. The approaches towards internationalization of the humanities and transregional research has led 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. 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.

C. Engagement with society

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

D. 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. 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. 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[1] 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', also have to be supported and integrated in the Research Infrastructure landscape.

IV. Landscape study (EKT)

A. 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
- 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.

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[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 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).

1. Milestones in the Open Access Movement

a. 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 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]

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[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

[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.

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]

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

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[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

[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

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

b. *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:

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.

c. *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

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[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

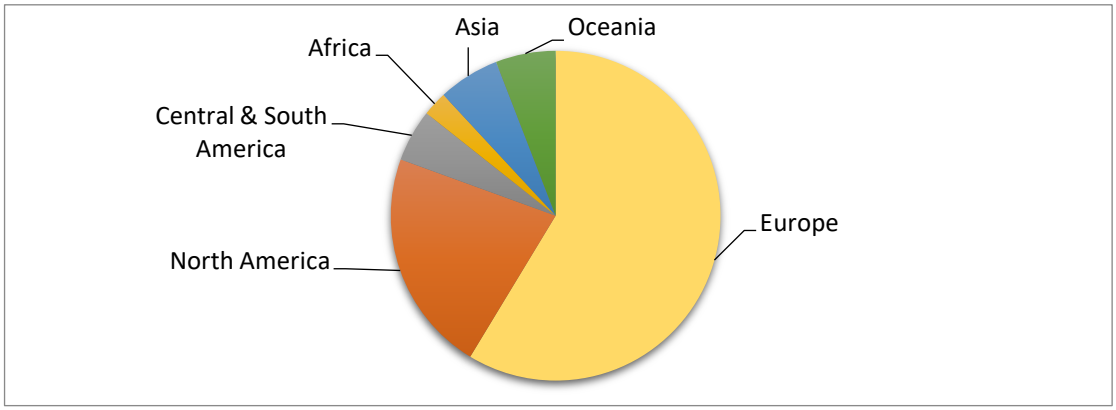
[14] Swan, A. (2012) Policy Guidelines for the Development and Promotion of Open Access. UNESCO.

[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.

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



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.

[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.

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

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. 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) 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".

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

[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

[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

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, 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

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[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/

[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.

adoption the university (both the Rector himself and the library) has heavily supported its implementation.[34]

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]

d. 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 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]

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[34] Swan, A. (2015) PASTEUR4OA Case Study: Institutional policy implementation at the University of Liege, Belgium.

[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/

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

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) 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

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

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

[42] Directory of Open Access Journals (DOAJ) https://doaj.org/

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 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.

B. Open Access Publishing in SSH

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

[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 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

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

2. Journals

a. 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

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[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
[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

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 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.

b. 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

[54] Frosio, F. (2014), op. cit.

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]

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

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[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

[61] These requirements were available through the OpenAIRE website, under the related section dedicate to the pilot https://www.openaire.eu/postgrantoapilot

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]

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

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[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/

[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/

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

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

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 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,

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

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 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]

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

[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. 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.

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.

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[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.

[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

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/

4. Monographs

a. 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 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 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

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[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

[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.

[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

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 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

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[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

[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

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 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.
- Funders and libraries with policies for Open Access monographs should encourage or require deposit in a central,

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

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 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]

[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.

[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

b. *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 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.

c. *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

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[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

[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/

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 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 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

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[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/

[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.

[114] London Economics (2015) op. cit.

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 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

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[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

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

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]

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 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]

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

[120] Open Edition Freemium for Books. http://www.openedition.org/13052

[121] Athabasca University Press. http://www.aupress.ca/index.php/about/openaccess

[122] Knowledge Unlatched. http://www.knowledgeunlatched.org/ku-collections/ku-books/

[123] University of California Press. Luminos. http://www.luminosoa.org/

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.

C. 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 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.

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[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

[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, nº 11 (23 novembre 2016). doi:10.1136/bmjopen-2016-012047.

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 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.
- 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

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[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

[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.

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, 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.

[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

D. 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

Future initiatives should aim precisely at creating a centrally governed European infrastructure for the coordination of the OA publishing ecosystem and establish new

[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

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.

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V. Visibility of Open Access Monographs (KU Research)

A. Objectives

This task addresses the challenges associated with tracking the use and impact of Open Access monographs across open global digital networks.
The task is broken into three parts:

- Mapping the digital visibility of OA monographs made available by the OPERAS network;
- Flagging technical challenges specific to the collection of metrics on usage and impact for OA monographs;
- Identifying opportunities for the more effective integration of information relating to the use of OA monographs into metrics and altmetrics ecosystems

B. Background

OPERAS is a distributed Research Infrastructure (RI) project for open scholarly communication. Its main goal is "to introduce the principle of Open Science and ensure effective dissemination and global access to research results in the Social Sciences and Humanities (SSH)". The network includes a wide range of mainly European Open Access publishers and research institutions, and is in the process of engaging with a wider international network of potential partners.

The OPERAS Network includes a diversity of participants with differing interests, ranging from traditional publishers with a growing portfolio of Open Access content, through to OA only presses. It includes publishers as well as platforms, technology providers and research institutions. The diversity in OPERAS network participants makes available a range of different financial models, priorities, and technical concerns. The network also continues to grow over time, increasing in both numbers and types of stakeholder organisation. In particular 2017 brought the Latin American SciELO platform to OPERAS as an international partner alongside nine other new partners based in Europe.

OPERAS works in a range of areas. Through its seven working groups and two main H2020 projects its aim is to provide technical and social infrastructures that support Open Access publishing and optimising the use of scholarly content with a focus on Social Sciences and Humanities (SSH). While the network is not exclusively focussed on scholarly books, its focus on SSH means a greater emphasis on questions that relate to books than in many more Science, Technology, Engineering and Medicine (STEM) focussed projects and efforts.

1. The challenge of tracking scholarly books

While the modes and advantages of Open Access for journal articles are now broadly accepted, at least in STEM subjects, the funding models, technology, and most importantly, the advantages for Open Access books pose more of a challenge. Issues that are specific to SSH often combine with issues that are peculiar to book publishing and dissemination. In broad terms there are three areas where books pose a particular challenge compared to journal articles:

1. Digital books are not necessarily made available through a publisher controlled website and may be made available through multiple online

platforms.

2. The technical infrastructure for cataloguing, indexing and discovering digital and online books is more recent than that for journal articles and is less consistent and reliable as a result. Dependence on intermediaries for the distribution of digital books means that monograph publishers and platforms also have less direct experience with these systems than tends to be the case for journal articles.
3. Traditionally, book publishers have focussed on the sale of print copies to intermediaries and have had less direct interactions with readers. Existing performance indicators are largely driven by measures of physical distribution. Print remains an important, and often parallel, part of book publishing.

When we consider Open Access books specifically this raises a number of issues. Firstly many of the platforms that exist for distributing books and bibliographic metadata were built with licensed content in mind. This leads to a range of assumptions about tracking of users, their institutions, and their usage that are not applicable to freely accessible Open Access books.

In comparison to journal articles, which made a transition to digital formats much earlier than has been the case for books, the challenges associated with making a shift towards open access are occurring in the context of an incomplete transition to digital distribution and funding models for HSS books.The diversity of HSS monograph publishers - which include many small publishers, as well as library-based and independent presses, adds an additional layer of complexity to the process of integrating OA digital books into digital landscapes of discoverability and use. Firstly publishers often do not host their own digital books on sites under their control but leave this to other platforms. Open Access platforms (such as OAPEN and OpenEdition Books) have developed in parallel with traditionally licensed platforms (such as JSTOR). Established platforms for traditionally licensed content, including JSTOR and Ingenta have also begun to create programs and infrastructure to support Open Access content. Some publishers have begun consciously making the same content available via a variety of distribution sites in order to maximise the visibility and use of digital monographs.[133] The availability of services intended to help publishers to ensure that Open Access books are optimally integrated into pathways of discovery and use is increasing.

As platforms hosting open access books are maturing and systems for integrating OA content into digital landscapes become part of scholarly workflows, a second issue has emerged. An illustrative example of this is the challenge of applying the Crossref Digital Object Identifier (DOI) infrastructure, developed largely for journal articles, to books. DOIs serve two functions. They are both unique and persistable identifiers for scholarly works, and a *referral* mechanism by which a user may follow a link to arrive at a specific scholarly work. DOIs work well when applied to a single version of record of a journal article that can be found on a website under publisher

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[133] Examples of publishers making Open Access books available via several platforms include the four presses discussed in the study *Exploring the Uses of Open Access Books via the JSTOR platform,* available at: http://kuresearch.org/PDF/jstor_report.pdf

control, particularly when the demand and use of print copies has been largely replaced by online discovery. DOIs are more problematic for books that might be found on multiple sites in digital form, where the repository is not under the control of the publisher[134]. Challenges of ensuring that correct redirection addresses are maintained in the absence for commercial incentives to ensure that OA content is easy to locate create additional resourcing challenges, particularly for the many smaller publishers operating in the OA monograph space.

The tangle of technical issues involved in identifying and discovering books, combined with a relative lack of investment by platforms in tracking the usage and conversations around books content leads to a reinforcement of a third challenge. Many publishers and presses remain focussed on traditional metrics and KPIs for monograph publishing. These are not focussed on the *usage* of books but on *distribution* through intermediaries - traditionally measured in terms of sales (which also assumes that all publishers make the same effort to sell their books equally). This in turn means a limited demand from presses for detailed information about the use of books, as well as limited capacity to influence the metrics and reporting services provided by platforms.

2. The importance of understanding digital visibility for Open Access books

With the shift towards Open Access, the question of visibility is crucial. It is perhaps a little harsh to describe traditional metrics as counting copies in warehouses. Nonetheless, even as a straw-person argument it illustrates the point that distribution based measures are simply not helpful for tracking the impact of freely accessible books with online distribution. This is particularly the case given the significantly greater per item investment for books compared to journal articles. Demonstrating the potential value of investing in Open Access, and identifying where that value is realised and the return on investment is greatest is critical to supporting the transition to a future where Open Access is the default for scholarly books.

Another important aspect for books is the degree to which they will be accessible to entirely new, and perhaps unexpected, audiences. Scholarly books, much more so than journal articles, have potentially much wider audiences than they currently reach, particularly given the price of many scholarly monographs.

The question of visibility is therefore a complex one. It is clear that there is a need to track scholarly use, including citations and downloads within institutions, as well as the potential to track use and interest by wider publics. We can track the communities that discuss books and ask about how they discover and interact with these texts both online and in print. We can expect books to influence and impact society in ways that are very difficult to track and may not involve a visible trace of usage that we can measure.

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[134] It is worth noting that such multiple-location problems are increasing for journal articles with the increasing frequency of self archiving and preprint repositories. Solving this problem well for books may be of value in turn for the journal community. Crossref is currently piloting an approach for supporting multiple DOI for books with the intent of offering coordinated lookup.

The promise for Open Access scholarly books is immense, but the risks and the potential need for investment are also large. If we are to have an evidence-led conversation on strategies for investment, then we need to track the visibility, discoverability, and ultimately the use and impact of scholarly books. In turn, this evidence base will help to change the culture of publishing in HSS, leading perhaps to a greater concern with how an author and the support services in a press can help to shape a work so as to maximise its potential for use and impact.

C. Survey of OPERAS Partners

As part of the visibility project we surveyed OPERAS partners in order to understand how they engage with usage and other data relating to the titles that they publish or host. In particular we were interested in how partners saw the value of such data and how they were interacting with it. We had 18 responses to the questionnaire contributed by presses, platforms, and data and technology providers. The survey was not intended to be quantitative or representative but to provide a view into the thinking and needs of partners. We therefore do not report quantitative results but a qualitative interpretation and categorisation of the responses. The questionnaire rubric is available in Appendix X.

1. Findings

Partners are particular about how they describe themselves. While a range of options were presented from which survey participants could choose (publisher, platform etc) many participants chose 'other' to provide a free text answer. Sometimes this was to provide greater specificity (e.g. "a library running a press") and sometimes to step outside the categories provided. This was particularly the case for contributors who were involved in funding OA books and other technical platforms.

This echoes the diversity of participants in the OPERAS network. It also suggests a heterogeneity in the ecosystem which we believe to be an important and distinguishing characteristic of book publishing and of scholarly publishing in SSH more generally.

OPERAS partners that are book publishers or book platforms are collecting a range of data. Every respondent who indicated that they were either a publisher or a platform, or both, stated that they (or their partners) were collecting usage data in some form. This ranged from simply collecting web analytics through a tool like Google Analytics or Piwik through to more sophisticated data collection and management pipelines.

Respondents generally showed a good awareness of the technical systems that were involved in collecting data, describing specific tools and systems, as well as standards, principally COUNTER. Named web analytics were fairly evenly split between Google Analytics, which provides a centralised and easily managed means of tracking web usage and Piwik, an open source tool that provides many of the same data collection functions but runs locally, meaning data is not transmitted to Google.

Respondents also showed an awareness of specific limitations in their systems, in several cases describing difficulties in obtaining data specifically on subsets of their collection. Distinctions were made between views and downloads in several cases, although there was limited evidence of that distinction being used in analysis. The two largest hosting platforms OAPEN and OpenEdition Books were the only two to specifically mention the COUNTER standard, with OAPEN passing data to IRUS-UK

to generate COUNTER download counts.

The use, processing, and quality assurance of data is patchy. While the awareness of usage data was good, there were substantial differences in the way that data were being used, or indeed not being used. This was connected to differences in the sophistication of data processing and the existence of documented or automated processes. Several publishers and platforms used manual or ad hoc processes to collect data and in several cases there was an indication that data was being collected but not necessarily used.

While the wording of the question focused on 'processing' ('Do you have a process for gathering and managing usage data relating to your OA books?') we had hoped to elicit commentary on data management and quality assurance. However, while issues of data quality were implicit in some answers ("Download data is sent to IRUS-UK who create COUNTER compliant data", "PHP scripts calculate and produce COUNTER metrics...to COUNTER V4...V5 will be implemented [in]...2018") quality assurance processes, such as data validation or cross-checking procedures, re-use of data in internal systems were not specifically mentioned.

The general lack of concern with quality assurance was consistent with the variety of uses that data was put to. In some cases the use of the data was explicitly limited (e.g. "The books we publish are selected on the basis of scholarly merit", "Decisions are now based on print circulation, or number of e-books sold through commercial platforms") to subsidiary and management issues. Others explicitly noted that usage was a key indicator of performance and important for reporting to stakeholders. This was particularly where a case was being made for Open Access, either to authors or to other stakeholders. Several respondents reported being unsure what it could be used for but nonetheless had a sense that it was, or would become, important, with plans for future work in development.

A desire for standards and consistency is in tension with a need for flexibility and contextualisation. Several respondents raised the issue of gathering and integrating data from multiple platforms as a challenge. Of these a number expressed a desire for simplified and standardised tools that could achieve this. At the same time respondents were concerned both about the advisability of combining data from multiple sources, their capacity for analysis of such complex data, and the uses and misuses it might be put to.

> *Analyzing usage data is difficult and can easily lead to wrong assumptions about the impact of a OA book. In our case this could be detrimental to our [authors institutions], which tend to compare their "success" to [other institutions]. This means that we clearly need to understand what the usage data is telling us before we have any use for it.*

A number of respondents expressed a desire for a "dashboard" or other visualisations that could bring multiple data sources together. The consequent need for data integration and standardisation to achieve this was mentioned in one or two responses but awareness of the challenges of comparison across sources appeared to be limited. There was some evidence of a conflation of visualisation with data integration.

Respondents are small organisations with limited capacity. There is a desire for coordination and shared services, infrastructures, standards. A common thread in the responses was that the publishers and platforms who are engaged in Open Access scholarly book publishing are relatively small. This is both a challenge and

an opportunity. They have limited capacity to develop internal processes and systems are looking for shared services and platforms to assist in developing usage data capabilities.

> *It would be of great help if we could have a main service from where we could manage all the information related to statistical usage data.*
> *[To engage more effective with usage data we would like a]...consortium agreement with Google on how to gather and access usage data.*
> *We would like to see an usage aggregation service that consolidates usage data from different hosting partners into one standardised report in an automated way. In turn, this should translate into an usage dashboard that can be embedded into platforms and allows customers to use different filters to analyse usage by publisher, region, etc.*
> *[one of our biggest challenges is...optimizing workflow, how to do more work with small resources.*

What emerges overall is a picture in which platforms and publishers are implementing tools and approaches locally and using what they are provided with to some degree. There is generally a good technical awareness of the tools being deployed, but less apparent awareness of data curation and quality assurance issues.

Many of the challenges arise from issues of data integration and standardisation. Small, and even medium-sized, players have limited capacity to engage with detailed standards or technical development. Equally there are limitations on what capacity a small organisation can provide to investigate the meaning and context of the data being generated. The majority of data use seemed to be in promotion or advocacy rather than strategic decision making. Concerns were raised about the misuse of usage data or a lack of understanding of its limitations by downstream users.

D. Mapping the digital visibility of OA monographs made available by the OPERAS network

The idea of 'visibility' is not one that has been theorised in detail in existing library literature. Studies tend to focus on issues of information retrieval, addressing precision and recall for a specific information seeking task.[135] 'Visibility' as a concept also at least suggests a concern with serendipitous discovery or non-directed information seeking. In our case we are also concerned specifically with open access books, so 'visibility' presumably includes the clarity of information making about the availability of freely accessible copies of a work.

Ideally we would address the full range of information seeking behaviours, testing for instance the presence of a known book in specific catalogues, the likelihood of a

[135] The information retrieval literature focuses naturally on questions of precision and recall with visibility used as a non-technical term in many cases. Criticisms of web-based indicators often focus on the idea that they measure "mere visibility" without strictly defining it. Models that link discovery to usage with a sophisticated application of proxies are rare although see Haustein, Bowman and Costas (2016) in *Theories of Informetrics and Scholarly Communication*, Sugimoto (ed), De Gruyter, Berlin, and essays by Wouters and Cronin in the same volume.

book rising to the top of results for a well-crafted search query, and the potential for serendipitous discovery in a potential reader's regular work-flow. However, developing a well grounded taxonomy of visibility is beyond the scope of this report. We have therefore focussed on testing a range of information sources for the presence and quality of information on a specific set of identified books.

1. Identifying the target books

We developed a simple typology of OPERAS partners involved in the publication of OA monographs; and OPERAS partners involved in the hosting of OA monographs.

OPERAS partners involved in publishing OA monographs were contacted and basic information about their approach to the dissemination of OA books was requested. A metafile for the OA books published by each press was also requested.

In order to maximise the quality of our communications with publishers a personalised approach to email communications was chosen. This included sending an initial email explaining the purpose of our work package and requesting a metafile, as well as specific information needed in order to clarify technical points. Wherever possible we drew on information gathered in WP3.1.

There was substantial variation in the format and content of metadata provided by the various OPERAS partners. The provided files included Excel, XML, and OAI-PMH feeds. Some partners provided metadata feeds rather than a single output metadata file. These variations also reflected diversity within the partners in their activities as well as in their capacity and workflows. For example, IBL Pan is not a publisher of traditional monographs but involved in alternative approaches to OA books.

Publisher	Provided Metadata?	Format	Comments
UCL Press	Yes	ONIX	
IBL Pan	No		Not publishing traditional monographs
Coimbra University Press	No		Don't currently produce a single metafile as a standard process.
Göttingen University Press	Yes	OAI-PMH XML	
Open Book Publishers	Yes	They sent us an Excel xlsx file	
Ubiquity Press	Yes		Produces OAPEN compliant OAI-PMH
SHARE Press	Yes	OAI-PMH XML	

Table 1. Provision of metadata by OPERAS Partners

Ubiquity Press does not maintain a single meta datafile relating to published books but relies on OAPEN for onward metadata distribution (they are currently developing their own feeds for MARC records). In contrast, while UCL Press also uses OAPEN as a platform and generates OAI-PMH from their internal hosting platform. UCL Press maintains a separate metadata master file.

The metadata provided also showed some weaknesses in the handling of internal information by OPERAS partners. For instance, a small proportion of ISBNS (51 out of 11,000) provided by partners either did not validate via the internal check-sum or could not be automatically validated through a standard regular expression. This suggests that the metadata provided to this project is not generally re-used in internal systems where such errors would be discovered.

Overall, the initial findings in terms of the quality and availability of data from OPERAS partners was that it was inconsistent between partners, and of variable quality. As we will see this leads to a range of problems in information retrieval and visibility analysis.

2. Testing for 'visibility'

To address the question of visibility we conducted three broad kinds of survey:

1. Presence in relevant catalogues.
2. Visibility in web search.
3. Visibility in general information workflows.

The first approach was to survey whether the selected books could be identified within specific catalogues. The catalogues selected for examination were selected to cover common sources for books and open access content. These were WorldCat, BASE, Google Books, DOAB and OpenAIRE. We used their API by searching title and author, to check weather the titles were in their catalogue and to identify the repositories hosting most of these titles.

In each case a search was run using identifiers or titles, with the aim of exhaustively identifying all books that could be confirmed as being available in each catalogue. We used the WorldCat classification API to identify the subjects for each title using ISBN numbers.

We used Bielefeld Academic Search Engine (BASE) which harvests OAI metadata from institutional repositories and other academic digital libraries that implement OAI-PMH. We also checked the titles and their authors via the OpenAire API. As of November 2017, OpenAIRE contains around 23 million documents from 980 compatible data providers. The OpenAire system covers a higher proportion of titles from OAPEN and OpenEdition Books compared to BASE which covers the OBP corpus more completely. Both repositories support search via DOI but not by ISBN, and were designed primarily with journal articles, rather than books, in mind. We also used the Google Books API and compared its results with the DOAB metafile in order to identify whether ISBNs for individual titles were registered in both catalogues.

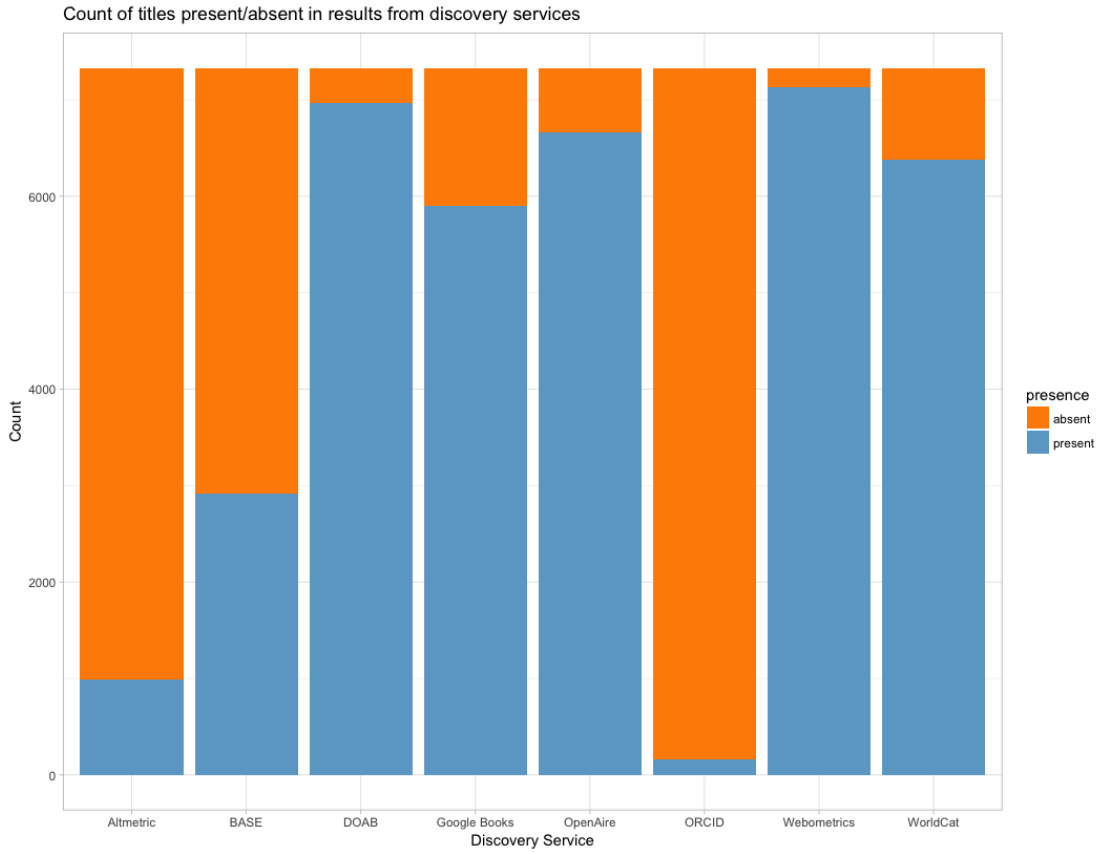
The second form of visibility was the presence of the book in web search. We used

the Webometric Analyst 2.0 tool developed by the group of Thelwall et al.[136] to analyse both the number of pages discovered with a search of the book's title and author's surname, and their top and second level domain names. This gives some indication of geographic location (via country TLDs) and of domain of interest (via TLDs and SLDs, e.g. '.ac.uk' or '.edu' vs '.com or '.com.au').

Finally, we examined a range of services for evidence of activity or presence that would support the visibility of books. We investigated the reported OA status of books with DOIs using the oaDOI service as well as the presence of ISBNs and DOIs relating to the target books in the ORCID 2017 public data dump. We additionally provided Altmetric.com with a complete list of DOIs and ISBNs which was used to interrogate their dataset for information on social and mainstream media that could be linked to one of the target books.

a. Visibility of Target Books in Specific Catalogues

Surprisingly, BASE shows relatively poor coverage overall. In most cases the general catalogues of content show fairly good coverage, but for BASE this is not the case. The visibility results are dominated by the large number of books from OpenEdition Books and from OAPEN. The aggregate results therefore hide some substantial differences between book sources. In particular it is the 29% representation of OpenEdition Books books in BASE, and about 50% coverage of OAPEN that drives the lower numbers for BASE overall.



[136] Thelwall, M. (2009). Introduction to Webometrics: Quantitative Web Research for the Social Sciences. San Rafael, CA: Morgan & Claypool.

Figure 1. Shows the overall results for all the books in our set across the full range of 'discovery services'. Overall we see good coverage of the books in this set in DOAB, Google Books, OpenAIRE and WorldCat. There is also some form of web search results for most of the books. By contrast, presence in Altmetric results and in ORCID is much less comprehensive.

Coverage in DOAB is uniformly good across all sources of content, OpenAIRE coverage is generally good but weak for EKT, Gottingen, and Napoli University, and a similar pattern is seen for WorldCat, except that Gottingen has excellent WorldCat coverage. Overall the larger three sources (OAPEN, OBP, OpenEdition Books) show better visibility in these catalogues.

There are no obvious differences between catalogue visibility on the basis of language. The analysis here is challenging as a smaller number of European languages cover the majority of books and different content sources have differing language focus. Therefore the question of visibility by language is confounded with that of the visibility by source. Dutch books appear to be underrepresented in both DOAB (58% absent) and WorldCat (65% absent) but well represented in BASE (80%) and OpenAIRE (96%). This may be due to the fact that a significant number of books from the Netherlands in OAPEN do not have an open licence and are therefore not in DOAB (which is in turn feeding WorldCat).

OPERAS Partner	Google Books	OpenAIRE	DOAB	BASE	World Cat
	(% present)	(% present)	(% present)	(% present)	(% present)
ekt	0	0	100	0	17
Gottingen University Press	89	42	98	39	96
Napoli University Federico II	44	28	97	34	28
OAPEN	73	91	92	49	85
Open Book Publishers	99	74	100	86	94
OpenEdition Books	89	93	99	29	90

Table 2. Visibility of OPERAS partner books in a range of catalogues.

b. Visibility of Target Books in Web Search

Web visibility was determined by running searches with the title and author's name. This provided a score as well a list of referring sites. Due to small numbers it is not

possible to draw any comparative conclusions between platforms in terms of their web visibility.

In general terms each platform saw a similar pattern with a high variability in web presence across the collection i.e. some books show a significant web presence with many showing only a small presence. This is an expected pattern given the different level of interest expected across such a large corpus of books. As the corpus also includes older books some references may also not be to the online open access versions.

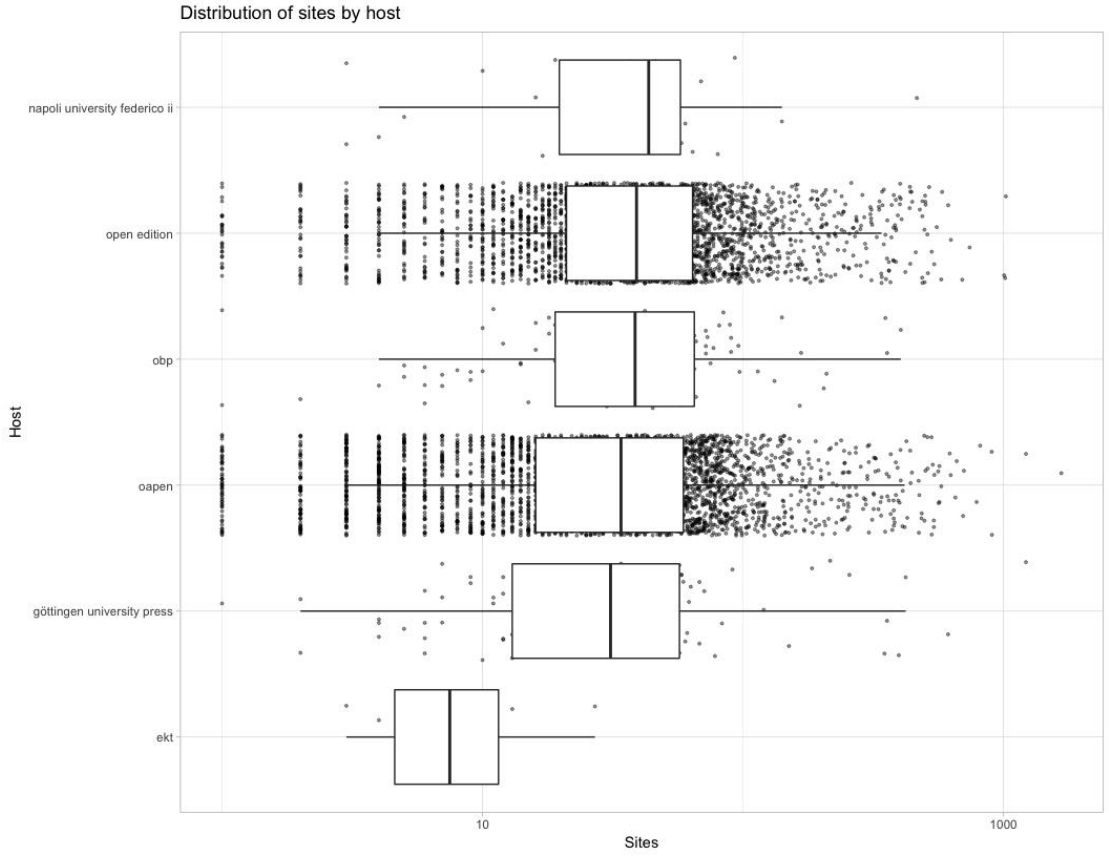


Figure 2. Box-plot showing the number of websites associated via web-search with each published book in the corpus. Each dot represents a single book. The box and line shows the mean and one standard deviation for each host platform.

This form of analysis may be of value in identifying both books with high web visibility and also those which would benefit from additional marketing activity. The analysis is relatively straightforward with the Webometrics tool and can provide quite rich information. As an example we look at how different languages feature in terms of their visibility. This analysis gives a sense of both the relative proportion of books in different languages as well as a comparative sense of visibility.

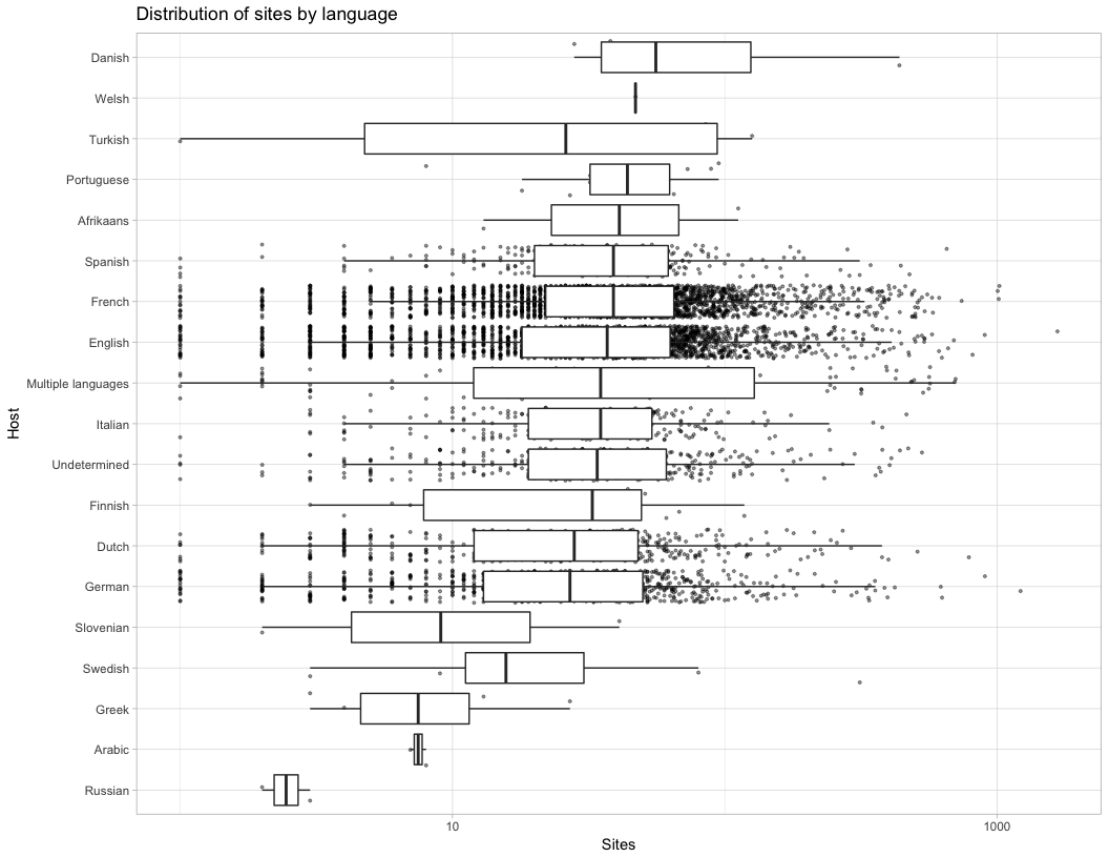


Figure 3. Distribution of web-presence by language of book. Languages are ordered by the mean number of linked websites. For most common languages, the means are within a single standard deviation of each other indicating no statistically significant difference.

In this case we see the dominance of French and English in this corpus (density of points) alongside German, Dutch, Spanish and Italian as other well represented languages. Overall we see no strong or significant difference between the web visibility of these books based on language. While a bias towards English might be expected this does not seem to be the case. This is at least in part due to the strong focus on French (and other non-english) language books by OpenEdition Books.

A different form of analysis is to look at Top Level Domain (i.e. country codes) in URLs referring to these books by the language of the book. This provides an interesting insight at an aggregate level as to the interest in books from different countries in different languages. Here we show the most represented language of book for each country top level domain. This reveals a logical pattern with Latin America showing a preference for Spanish books, with the exception of Suriname (Dutch, the official language), French Guiana and Brazil (French). Francophone and Anglophone Africa are quite clearly distinct and East Timor shows the expected preference for Portuguese. France, the Netherlands, Germany and Italy all show a preference for their native language. There are apparently unexpected results which deserve more analysis on a larger corpus. Spain, Portugal, and Brazil all show a preference for French which is mostly likely due to the limited presence of Portuguese books in this corpus.

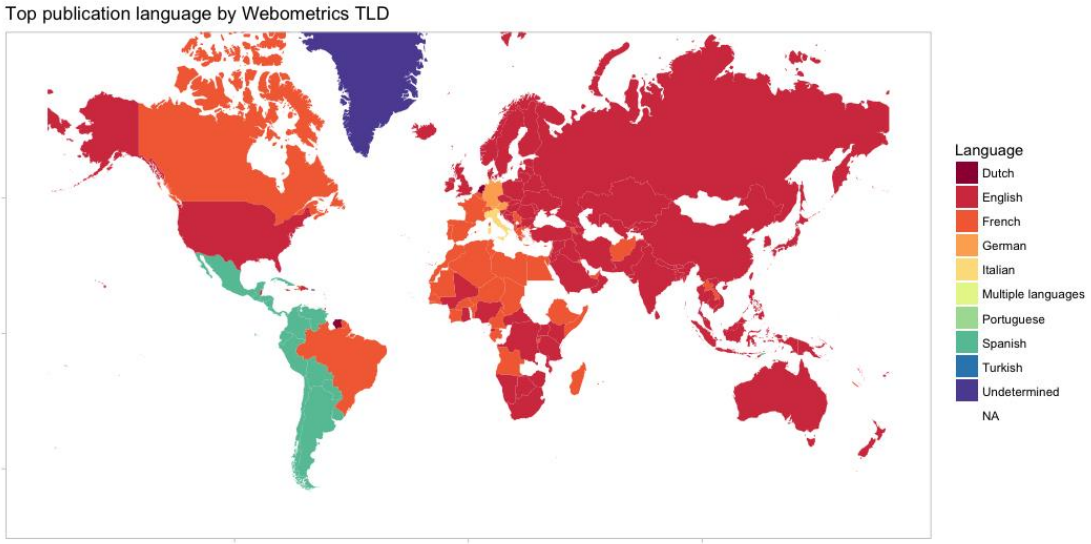


Figure 4. Top Publication Language by top-level domain. For each country code (e.g. '.uk.') the most visible book (the one referenced by the most search results) was identified and its language identified. Latin America has a higher visibility of spanish-language books and francophone and anglophone Africa are clearly visible.

c. Visibility in General Scholarly Information Workflows

To examine the visibility of OPERAS partner books in general scholarly workflows we examined a number of sources of information. The first of these is the oaDOI service that provides information on open access status of objects identified by Crossref DOIs. This service is being deployed in a range of library systems and within Web of Knowledge by Clarivate - so accurate information on open access books is of value.

The second source of visibility data was Altmetric.com, which provides data on mainstream and social media activity for scholarly works. Finally we searched the ORCID public data dump for 2017 for the presence of DOIs and ISBNs associated with OPERAS partner books. These would in most cases have been added by the authors to their profiles.

In all three cases we saw extremely poor visibility. Of the 636 DOIs that were available for this analysis within the OPERAS corpus only 41 were returned as Open Access by the oaDOI service. Only 31 were present in the ORCID data dump. The oaDOI service is limited to providing information on DOIs, which is only relevant for ~10% of the corpus, but the reasons for the poor results merit further investigation. It is likely to be a combination of a service that is focussed on journal articles and the general variability in quality of metadata provided by OPERAS partners.

Only 160 ISBNs were identified in the ORCID data dump suggesting that overall there is little encouragement from either publishers, platforms or author's institutions to include information on book-length works in ORCID profiles. This may also represent a lack of support for the automated ingestion of book metadata to ORCID, which in turn would need to be supported by more consistent and complete metadata streams from publishers or platforms.

The data obtained from the Altmetric.com service is more interesting and also more informative. Nearly 1000 of the OPERAS books show some form of activity tracked by Altmetric.com, either mainstream or social media. The vast majority of these are on the OAPEN platform with a further contribution from OBP and OpenEdition Books.

The dominance of OAPEN is possibly related to the presence of <meta> tags on OAPEN records.[137] Another 304 books are registered in the service but show no activity, again dominated by books from OAPEN followed by OBP. These are stub records that have been created for institutional customers of the Altmetric.com service where book authors are affiliated.

The Altmetric.com service was originally targeted at journal articles, with one primary location online at the publisher website. A large part of its value offering is a high quality aggregation of online references to articles that is achieved by tracking all the relevant URLs that refer to an article, rather than just DOIs as is common for some other services. This is much more challenging for books that often reside at multiple locations. Therefore the service works to actively track and aggregate URLs relevant to books that are of interest, particularly those published by authors based at institutions that are Altmetric.com service.

This is important because it illustrates how engagement with a downstream service can help motivate the gathering of relevant metadata to improve data aggregation and analysis. More generally it shows how the provision of good metadata, in this case a curated list of all the URLs where a book might be found, can prime a service to collect higher quality data. It is important to note that the responsibility for providing this kind of data, does not currently belong to anyone in the supply chain. Making a community decision about where to locate that responsibility and how partners might provide data is a role that OPERAS might take.

3. Findings

The metadata held and managed by OPERAS partners is inconsistent and variable in quality. Collecting and aggregating data from multiple OPERAS partners was a challenge due to inconsistency in bibliographic metadata processes and formats. Several partners were not explicitly included in the analysis because separate data was not available, and some analysis is limited by issues with the data provided. This includes ISBNs that appear to be incorrect.

These data quality issues create a number of downstream challenges. Firstly analysis is more challenging and involves more manual work, raising the cost and limiting the generalisability of findings. Secondly it creates a relative lack of interest amongst downstream data aggregators and providers in collecting data relating to books. Books offer particular challenges and the market remains focussed on journal articles. Nonetheless as we note below, there is interest in handling books better, which would be encouraged by the provision of more consistent and complete metadata.

The visibility of OPERAS partner books in catalogues varies by publisher. OPERAS partners have clearly focussed on different catalogues to optimise the visibility of their content. Given the heterogeneity of OPERAS partners this is not surprise. It is also evidence of a lack of crosstalk between catalogues. Again, the provision of standardised bibliographic metadata could aid both small and large publisher and platforms in gaining more visibility across all the relevant catalogues.

Evidence can be obtained that books relevant to specific regions gain interest

[137] Euan Adie, Altmetric.com, personal communication

and attention in that region. On aggregate we have shown evidence from the analysis of country top level domains that books are often more discussed and written about in countries where the language of the book is common. We have previously shown how web visibility and country-level usage analysis can demonstrate local usage of single books. This new analysis shows that similar information can be gained at a corpus level.

While we did not see an obvious visibility bias for languages that appear frequently in the OPERAS corpus, it may be the case that rarer languages do see a bias. It may also be the case that the lack of bias is due to strong representation of French work by OpenEdition Books. We did see less visibility for books in Greek, Arabic and Russian (i.e. in different scripts) however the small numbers here limit any statistical conclusions.

The variable quality of book metadata creates challenges in analysing visibility consistently. Throughout this analysis we have had challenges in comparing like with like due to the differences in metadata completeness and quality. Similarly this will create challenges within individual partners seeking to do similar analyses. Finding ways to maintain, use and deliver high quality metadata at low cost, probably through the development of shared platforms, offers multiple benefits for OPERAS partners including better internal information, greater ease in tracking and better engagement with downstream collectors and analysts of data.

The variable quality of book metadata creates challenges for downstream data aggregation and analysis providers. In discussion with a series of downstream data providers including oaDOI and Altmetric.com the issues of tracking information for books was raised. These downstream providers are aware that of limitations in their data collection for books and have an interest in improving quality and completeness of the data they collect. In most cases they currently appear to be limited to manually updating data based on direct interactions with customers.

In general there is a question for those engaged in the production of books and open access books in particular as to who they want to design and implement solutions. By default the sector will get systems focussed on journal articles and STEM output processes. There is interest in engaging, but without a concerted effort from the providers of book content this is unlikely to be well integrated with book production.

E. Digital Visibility Challenges and Opportunities for OPERAS Partners

The promise of Open Access scholarly monographs is multi-faceted. First it provides easier and more efficient access to scholarly work for scholars. Secondly it offers access to previously expensive content to broader communities of interest who either do not have access to, or would not think to use, an academic library. In particular the free distribution of content online offers to bring together communities of interest around a specific topic. These communities may be small as well as diverse and geographically distributed. Their engagement with, and ultimately their input into scholarship has the potential to strengthen public support and enrich and diversify its impact.

To achieve this promise it is not sufficient that open access monographs be available, they must also be visible and also accessible to these diverse audiences. OPERAS partners, funders, platforms, and publishers are already delivering on the issue of availability. Here we address the question of visibility. As has been discussed visibility

is a complex issue. Visible to who? Under what circumstances? After what kinds of search? Mapping all the possible discovery pathways is a future challenge.

In this work we have taken a deliberately narrow scope. We start with the assumption that high quality and consistent bibliographic metadata at source is key to enabling the wide range of services and systems that will support discovery and visibility in diverse contexts. Our focus in these recommendations and issues is therefore on the way in which consistent metadata provision and dissemination through common channels provides a route towards visibility.

1. Challenge - The quality and consistency of OPERAS Partner metadata is variable

An early finding of the work package and consistent throughout the survey, the provided metadata, and the completeness of records in third party systems was variability in both the format, completeness, and quality of metadata. In the survey there was qualitative evidence of differing degrees of concern and interest with specific issues, relevant to specific presses and platforms. In the metadata provided there were substantial inconsistencies in format, completeness and validity. For instance the small but significant presence of identifiers that were invalid (51 ISBNs that did not validate) was an issue.

Further downstream in the data and discovery process there was clear evidence of a lack of consistency in metadata delivery. As will be discussed below this at least in part a result of diversity in the mission and goals of specific OPERAS partners and their capacity to focus on internal metadata systems. It is also a function of existing discovery and metadata systems only recently grappling with the issues of books. However, in a distributed and global information ecosystem the provision of consistent, correct, and high quality metadata is a necessary condition of optimising for visibility and discovery.

2. Challenge - Diversity of gathering, cleaning, reporting usage data across OPERAS partners makes comparison difficult

Usage data was a focus of the survey work and previous work by KU Research has focussed on usage data collected by the OPERAS partner UCL Press[138] as well as for four presses using the JSTOR platform.[139] It was not part of the visibility mapping exercise, at least in part because the previous work and survey showed that a comparison is not feasible.

OPERAS Partners that host content collect data differently, clean that data differently, and report it differently. Even where a standard protocol is used, for instance where data is referred to as “COUNTER Compliant” or “COUNTER Protocol” there is evidence of substantial differences in collection, management, exclusions and reporting. In some cases this relates to differences in the definition of access status and in some just in differences in technical systems.

Details of internal operations tend to be sensitive as is the release of data, particularly where it is likely to be used for comparisons. Data quality issues currently mean that

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[138] http://dx.doi.org/10.17613/M6H49K

[139] http://kuresearch.org/PDF/jstor_report.pdf

any comparison is likely invalid, but equally without an increase in transparency for data collection and reporting the development of best practice is unlikely. Legal, ethical and trust issues are also a significant challenge (see below).

In particular the small scale of many OPERAS partners means that they will not have the capacity to develop their own in-house expertise and systems. Adoption of good practice to generate high quality data will depend on sharing the burden of capacity building in some way. That in turn, cannot happen until there is a framework that provides sufficient trust to allow the sharing and comparison of data and its management.

3. Challenge - Application of existing systems is not always straightforward for books

Existing systems for digital and online research discovery and distribution have been largely built with journal articles in mind. The implicit assumption of a single Version of Record, hosted on a publisher-controlled website, that only rarely goes through any change is built into metadata creation, identifier systems, discovery and distribution channels. The dominant means of delivery for journal articles is now online with print a niche provision in many disciplines. In contrast for books, print still remains the focus for many publishers and the engagement with online and digital supply chains reflects that.

The confusion and inconsistency in coining and distributing Crossref DOIs and ISBNs is one example of this. Even though the set of OPERAS partners are focussed on online and digital as open-access focussed providers, there is confusion and inconsistency in the use of identifiers. Partner-provided metadata files referred to many different types or ‘versions’ of DOIs and ISBNs (‘electronic’, ‘online’, ‘print’, different file formats, platforms), in addition to the inconsistent provision of DOIs at the chapter level.

As noted elsewhere the scale of OPERAS partners and book providers in general means that the technical capacity is not necessarily available internally to engage with these issues and systems. In addition, as small players, OPERAS partners and others often do not have the levels of staff capacity to engage directly in community efforts to develop greater consistency in data practices.

The lack of applicability to books also plays out downstream. Systems such as Altmetric.com are able to exploit the (generally) single and predictable online location of journal articles to connect Crossref DOIs to URLs and aggregate mentions. For books Altmetric.com needs to undertake this work in a manual and directed fashion because there is no straightforward way to discover all the locations of a book online, and therefore to understand when social or mainstream media is linking to a copy. This challenge is also exacerbated by inconsistent practice and quality of metadata provided by publishers and platforms.

It is worth noting however that journal articles will start to face some of the same issues as green open access increases alongside preprint adoption. OPERAS partners could take a lead on developing best practice for identifying multiple locations online and take a leadership role in supporting the next generation of discovery and identifier infrastructures.

4. Challenge - Diversity of approaches, goals and definitions creates

challenges for developing common platforms

As we have noted in several places in this report there is enormous diversity in the missions, goals, and activities that different OPERAS partners undertake, even those that might be categorised together as “publishers” or as “platforms”. This plays out in many ways, in the different assumptions that various partners bring to engaging with external platforms, but also in the needs for reporting and the strategic goals that drive decision making.

One example of this is the different definitions of what constitutes “open access” amongst various OPERAS partners. OpenEdition Books and Open Book Publishers offer a set of freemium offerings where some formats of the book are free but others are charged for. Others deliver only one freely accessible online format. At the same time demonstrating the use of online content appears important for most partners. This leads to a situation where usage data is sensitive and potentially competitive but also not readily comparable.

In the longer term it will become necessary to address questions as to whether formats for screen reading (some of which may have restricted functionality) are more “visible” than epub and fully downloadable PDF, and how digital visibility relates to print sales. The diversity of OPERAS partners is a strength in providing offerings for different parts of the scholarly community. It will also be a challenge in divining how the investment in visibility supports different communities. The small scale and competitive nature of OPERAS partners means that finding ways to share information and best practice will be critical. The diversity of goals, funding streams and contexts will be a challenge in delivering that.

5. Challenge - A lack of engagement with data governance and ethics runs the risk of creating problems

While not a technical issue, the issue of data governance appears a substantial risk for OPERAS partners in two areas. Firstly there is significant variability in awareness of the implications of handling and analysing user logs. While some partners use Piwik as a local tool to collect logs many use Google Analytics. While Google Analytics (and other Google services) will presumably meet the standards being introduced under the General Data Protection Regulation in Europe there is a growing sense that they don’t meet the ethical expectations of the scholarly community.

Survey answers and parallel work in the HIRMEOS project suggests to us that while some partners are sensitive to these issues the majority are not. Further, it is not clear that the technical capacity exists to properly address issues of privacy that arise as the desire for more granular information on usage and visibility grows. Future work should address the legal liability issues that arise from holding such logs and the forms of analysis, data sharing, and data retention that are appropriate for our community.

A related issue is that of governance frameworks for data sharing. If the goal of OPERAS network is to support shared best practice and capacity building, then this will necessarily involve data transparency and sharing. As noted, usage data in particular can be highly sensitive, in addition to implicating privacy regulations. Building a framework in which trusted parties can benefit from data and tool sharing will be crucial for achieving the goals of the OPERAS network.

6. Opportunity - OPERAS can act as a growing network for best

practice and capacity building

A theme with many of the challenges is that of coordination and sharing the burden of developing technology and best practice. That in turn is a substantial opportunity for OPERAS to develop a network which can support partners in sharing the development and implementation of best practice. The ongoing growth of the OPERAS network is a positive sign in this sense.

OPERAS could benefit from building its own capacity to act as a hub for initiatives or even to act as a node for the coordination of resources. While it's current role as a focus for grant funded activities is a good step in this direction building up a long term capacity to deliver value for partners will support sustainability of the network as well as providing a focus for future activities.

The diversity of partners within OPERAS means that there already is both knowledge and existing best practice that could be shared from within the network. Building internal trust will be important, and this suggests that some of the issues raised above on governance arrangements should be tackled early. This will also need to develop a global focus to include other key players. If successful, OPERAS could play a key role in ensuring a continuing diversity of scholarly book publishing organisations in contrast to the continuing concentration of journal publishing and the issues that that brings.

7. Opportunity - Downstream suppliers and aggregators of data will respond positively to better and more consistent metadata provision

While we have focussed on the inconsistency of metadata provided by OPERAS partners, the deficiencies of downstream systems in handling books, and the consequent gap, we have also seen a desire to engage and improve these systems. In particular downstream systems face challenges in connecting identifiers to a complete set of online locations (URLs) and clarity on the use of metadata to signal access state and other issues.

If practice can be systematized and the overall quality of metadata improved, there are therefore significant opportunities to improve the visibility of open access books in these systems. There is also an opportunity to engage with these systems to ensure that the interests of OPERAS partners are served in implementation decisions that will need to be made.

There are unresolved questions of where in the supply and distribution system the responsibility for creating, managing, and distributing metadata lies. As noted elsewhere these decisions were largely made by default in the journal article system. For books with the complex relationships between publishers, aggregators, platforms and discovery tools these responsibilities are less clear. Who should register DOIs? Who is responsible for maintaining landing pages? For different editions and versions? How can multiple competing platforms work together to enable discovery? While the answers to these questions are beyond the scope of this report, working to resolve them is an opportunity for OPERAS to take a leadership role as well as to maximise the visibility and usage of OPERAS network books in ways that are appropriate and suitable for OPERAS partners.

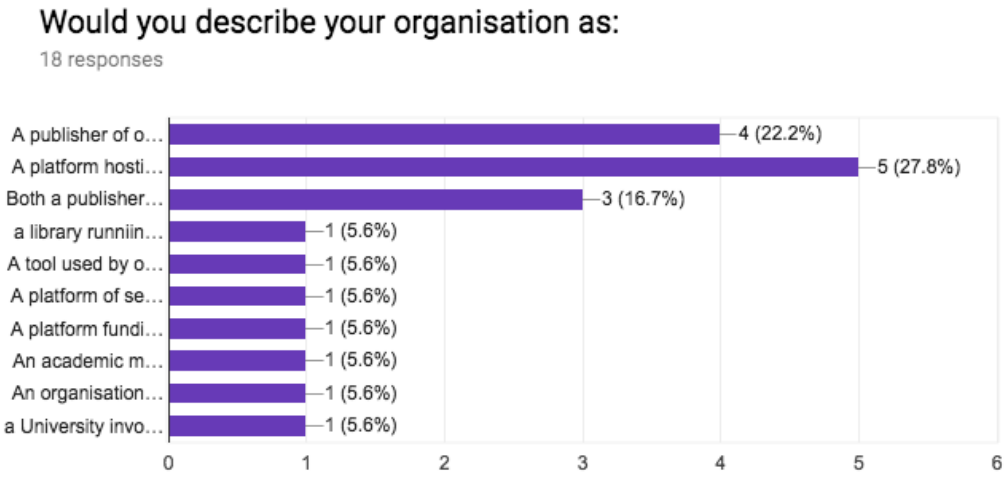
F. Appendix A - Survey Questions

Tracking the Uses of Open Access Books
As part of OPERAS-D Work Package 3.2 the Knowledge Unlatched Research team are gathering information about how OPERAS partners gather, manage and engage with usage data relating to open access books.
In order to ensure that we capture perspectives of OPERAS network members we would be grateful if you could spend a few minutes completing this survey.

1. Email address *
2. Would you describe your organisation as: *Check all that apply.*
A publisher of open access monographs
A platform hosting open access monographs published by others
Both a publisher of open access monographs and a hosting platform
Other:
3. What kind of data about how your open access books are being used is available to your organisation?
4. Do you have a process for gathering and managing usage data relating to your OA books? If yes please describe it to us.
5. Who uses data about the usage of open access books within your organisation?
6. Does usage data impact on decisions made by editorial, marketing or other departments? If so, how?
7. What are the biggest challenges for your organisation when it comes to dealing with usage data about OA books?
8. What kinds of tools or services would help your organisation to engage more effectively with usage data?

G. Appendix B - Survey Responses

2. Would you describe your organisation as:



- A publisher of open access monographs (4)
- A platform hosting open access monographs published by others (5)
- Both a publisher of open access monographs and a hosting platform (3)
- a library running a press that publishes OA monographs
- A tool used by open access (and other types) publishers and platforms
- A platform of search allowing the access to digital data in SSH
- A platform funding open access monographs published by others
- An academic marketplace for journals that publish articles in open access.
- An organisation flipping subscription journals to Fair Open Access
- A publisher of open access monographs, a University involved in promoting Open Access

3. What kind of data about how your open access books are being used is available to your organisation?

- online editions & downloads: weblogs - with analytics (GA, COUNTER). We collect usage data from several other third party platforms - incl Google Books, OpenEdition Books, WorldReader, ...
- Download statistics, access log
- Piwik analysis, usage data supplied by repository software (DSpace), CrossRef analytics for our DOI, OAPEN usage statistics
- Download data, website usage
- We collect data on what is annotated. We've not looked into it, but we could run domain based queries on the platforms. Not sure if we could look by publisher, but maybe...
- We provide data about OA usage of our books to our organization. It is a crucial demonstration to them of the value of UCL Press
- Counter compliant downloads
- Available to Coimbra University Press (CUP) are mainly the data about the number of visualizations and downloads of the monographs, the rate of broken accesses and books accepted in indexing databases.
- We are using data generated by Piwik.
- Full-text PDF downloads by institution, PDF downloads by region (geolocation), views
- Not applicable
- For its books, OpenEdition Books (OE) gathers information both on access and usage.
    - Access metrics:
        - nb unique visitors (distinct IPs)
        - nb of views (distinct sessions)
        - nb of page views (distinct pages)
    - Usage metrics:
        - views/downloads of chapters (sorted by books, publisher's collection, authors, referrers)
    - COUNTER metrics:
        - BR1: books (PDF and epub downloads only)
        - BR2: chapters
        - BR3: books or chapters (unauthorized access)
- The books of the Presses universitaires de Liège in open access are available on OpenEdition Books Freemium. Data are coming from this platform.
- We are a publisher of monographs and use both an external repository (http://rcin.org.pl/ibl/dlibra) to deposit books and journals, as well as our own platform (http://nplp.pl/) for extended monographs.
- Available tools:
    - Repository: Google Analytics, WebLog Expert number of downloads
    - NPLP: Google Analytics
    - Alas only stats available for repository are for all books (incl. other institutions), so we are not able to monitor the usage of our books only,
        - Data: (Standard GA data): visits, unique users, bots, pages displayed (all data for different time periods: daily, weekly, monthly)
        - User access data, monograph views, monograph downloads, Google Analytics
- Available data is related to loading books on the platform, to download users, to visualizing the series main page, the monograph abstract page and press main page

4. Do you have a process for gathering and managing usage data relating to your OA books? If yes please describe it to us.

- This the heart of HIRMEOS WP6 - we have drivers collecting data from all third party sites. We store in database which we query for specific usage questions. Which data is aggregated depends on the question.
- The download statistics are collected by means of a wordpress plugin.
- not really yet, we do ad hoc analysis if requested by authors
- Download data is sent to IRUS-UK who create COUNTER compliant data. Based on that data, OAPEN creates reports for publishers.
- Not at the moment.
- We gather data from our institutional repository manually and put it into a spreadsheet (weekly). We are sent data from other platforms that host our books and we enter that manually into the spreadsheet (varies from twice a year to monthly)
- Yes, gathering through third party IRUS-UK, and creating periodic usage reports for customers
- Usage data is provided by page view count, Crossref DOI and Sushi Counter protocol.
- We don't manage usage data much at the moment. We will soon change our whole system (perspectivia.net) and use MyCoRe. After the final migration of perspectivia.net, we will see how to manage usage data and if we need to develop a process for managing usage data.
- Yes, (as you know ;))by working together with OAPEN we receive quarterly reports on the usage data for the titles we fund. We analyse the quarterly reports and upload this as spreadsheet to our platform to inform our customers about usage. However, this is a rather manual process and would benefit significantly from more automation.
- N.a.
- OE metrics are based on Awstats results with further processing made by PHP scripts.
- Access logs contain the raw access data
- Awstats delivers the access metrics based on the logs
- PHP scripts calculate and produce the usage metrics from access metrics
- PHP scripts calculate and produce COUNTER metrics (BR1, BR2, BR3)
- COUNTER metrics are at the moment produced according to COUNTER V4; COUNTER V5 will be implemented on January 1st 2018.
- Not especialy
- We do not monitor the usage regularly, but we would like to develop procedures to do so.
- EKT has developed an online application that gathers and manages usage data
- Within the platform there’s a tool for importing /exporting data in different format (onyx, xml etc.), for creating usage statistics and custom reports

5. Who uses data about the usage of open access books within your organisation?

- Displayed on our website. Regular reports made to authors and to libraries.
- The download statistics are publicly displayed after each item
- all five staff members
- Publishers that are members of OAPEN
- N/A
- It is used by a number of different departments such as Research and Global Engagement, to demonstrate the reach and impact of the open access books we publish.
- All
- We are a section of the University of Coimbra and the main usage of the data that is collected and gathered is made by the Administration of the University and some specific Investigation Centers that are responsible for that analysis and data management.
- The editorial staff perspectivia.net and partly the scientific editorial boards of our institutes.
- Sales & marketing team
- N.a.
- Usage metrics are used primarily by the publishers, who have specific access to the display page and its searching features.
- Usage metrics exposed through COUNTER are also used by the libraries who subscribed one of the Freemium OE's offer.
- Within OE, usage metrics are used by:
    - the OE Books team
    - the IT team
- the management team
- Me as director of the Presses universitaires
- Director of the Institution and publisher management
- Service owners and collaborating publishers (upon request)
- The staff working at open access publishing

6. Does usage data impact on decisions made by editorial, marketing or other departments? If so, how?

- No (3)
- Marketing - we monitor sources of traffic, responses to marketing activities etc. Reports back to authors etc and in general 'marketing' of impact of OA publication process.
- we take it into account and plan to identify some KPIs, but as the press' rationale is serving Göttingen Campus with OA publishing options, usage data plays up to now only a minor role in the sense of understanding how well the service works overall, to gain narratives out of unexpected success stories or analyse the reach of our platforms
- N/A (not a publisher)
- It doesn't. The books we publish are selected on the basis of scholarly merit. Our marketing strategy is undertaken based on our assessment of the potential size of the audience. Our dissemination strategy is affected by usage data - we choose where to have our OA books hosted depending on the level of readership that we see.
- Indirectly. They are part of our performance as platform, and of our service to customers
- Yes, it has impact on CUP's editorial team. These data are important because they show us the impact and propagation of the several thematic areas of our contents. They allow us to define new strategic paths and directions, either for the contents that are being more distributed because of the open access politics, or for the ones that started to have more exposure and impact after the same open access benefits. At the same time that information gives us a method of action regarding the financial investments that could be taken or followed for the future.
- No, it doesn't impact any decisions.
- Yes, we are using it for the targeting of our sales and marketing to institutions. It supports the fundraising process of our titles.
- N.a.
- No specific information available on this aspect.
- To promote open access for new authors who are sometimes afraid of open access, I use data to explain to them the benefits in terms of visibility that open access offers.
- No. Decisions are now based on print circulation, or number of e-books sold through commercial platforms.
- Yes, It does. We are a Not-For-Profit Open Access Publisher. Usage data are important for us to assess the value of a collection and, consequently, to develop our promotional strategy to reach the largest number of readers.

7. What are the biggest challenges for your organisation when it comes to dealing with usage data about OA books?

- Accessing usage data from numerous platforms where the book is available. Aggregating usage data statistics collected in different ways by different platforms.
- Collecting and keeping data according the FAIR principles.
- I. So far, we lack a robust -- normalised, cleaned from robots, based on COUNTER -- data basis that would a) compile usage data from different sources, b) allow implementation of dashboards or data warehousing efforts and c) justify momentuous management decisions based on such data. II. Interaction with Google Books maintains to be a challenge, as Google repeatedly changes their interaction and access parameters. Although the data from Google is very valuable, we can't really use it as we often have data gaps and not enough time to close them let alone track why they happened in the first place.
- Optimizing workflow, how to do more work with small resources
- N/A No difference from other annotation data.
- Manual collation of stats that is only increasing with the number of books we publish and the length of time we have been in existence.
    a. Disseminating metadata to other platforms to increase usage
    b. Aggregating data from various platforms
    c. Technological/financial: to be able to provide usage data automated, online, in real time
- To decide which areas or collections should have a faster and direct intervention when it comes to display those contents in open access, and manage that effort with the need and vision of the financial investment that should embrace the whole process. To improve the quality and the external legibility and interconnectivity of the data provided.
- Since we (almost exclusively) host publications of our institutes abroad, we need to rise awareness why and how usage data is important to them and their researchers. Analyzing usage data is difficult and can easily lead to wrong assumptions about the impact of a OA book. In our case this could be detrimental to our institutes, which tend to compare their "success" to the other institutes. This means that we clearly need to understand what the usage data is telling us before we have any use for it. We also face strong restrictions concerning data security as we are a public entity (part of the German ministry for education).
- Different usage reporting formatting across hosting partners (JSTOR, OAPEN and Hathitrust all report different). Then it is also a challenge to obtain all this information, which consumes a lot of time right now. Finally, generating unified reports is done manual, which is not scalable.
- Regarding the books, the main challenge is the paradox of finding, on one hand, a measure that is standardized enough to allow for comparison and, on the other hand, a measure that is specific enough to provide useful information to our different partners. Therefore, alongside with the COUNTER metrics which give a good standardized measure mainly for libraries, OE has provided a usage metrics interface which relies on the documentary unit and its publication environment (authors, collections, etc.).
- We are a small structure. Data about OA books are only used in an empirical way.
- The construction of our repository's reporting system which makes it difficult to bowse daa about our content.
- No particular challenges have been identified yet
- It is a big challenge for our organisation to aggregate usage data about Open Access Books published under a Creative Commons Attribution Licence 4.0 and actively disseminated on different online platforms, such as our website, the institutional and disciplinary repositories, the social media etc.

8. What kinds of tools or services would help your organisation to engage more effectively with usage data?

- A range of visualisation tools that query the underlying database
- We mean usage data as a service to the public: every (open source) tool enabling us to offer a richer and more informative representation of them would be welcome.

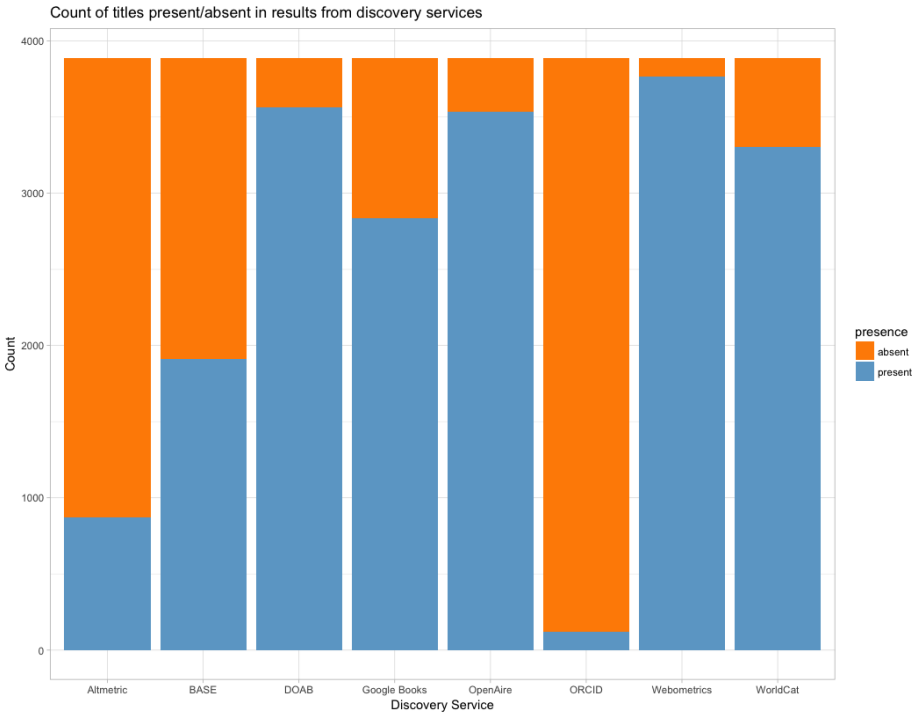
- To I. Import scripts to gather usage data from different sources via API, dashboard-like applications as in Piwik analysis to allow customised reports and chron jobs. To II. A consortium agreement with Google on how to gather and access usage data. Maybe this could be a smaller funded project.
- Automated reporting tools, including publishing results online.
- We use Metabase currently.
- We are currently working with KU Research to customize Tableau to provide an automated ingest tool and a dashboard to help us view the data in a simpler way, and to analyse it in new ways to better understand reader behavior.
- Aggregating from different platforms, displaying data (dashboard), automated reference extraction from pdf files (for submission to CrossRef)
- Although we know that some services can provide the usage data we want, such as Google Analytics or similar but that we still don't/can't use, what we really wish is a kind of data that are relevant respecting the origin/provenance/country of the visualizations and downloads of our contents. It would be of great help if we could have a main service from where we could manage all the information related to statistical usage data. It would also be extremely useful to be able to compare our data with those of other publishers, especially academic presses, and make a clearer contribution to typical institutional processes, like assessments/rankings and the displaying of big data.
- Right now we can only gather our isolated usage data. It would be great to be able to compare this with other usage data on similar topics or from similar platforms, maybe even from libraries.
- We would like to see an usage aggregation service that consolidates usage data from different hosting partners into one standardised report in an automated way. In turn, this should translate into an usage dashboard that can be embedded into platforms and allows customers to use different filters to analyse usage by publisher, region, etc.
- N.a.
- The existing services provided by OE seem for now sufficient to deliver detailed and accurate information on the metrics. The main challenge is the first level of raw data gathering: the tool used to collect connection metrics has to be able to distinguish thoroughly human connections from robots' connections. Awstats appears to be weaker than Piwik from this point of view but the counterpart is that Piwik produces large amounts of data uneasy to process.
- Tools and statistics from OpenEdition Books are very useful.
- A dissemination platform with stable reporting system (that is why we aim to publish our content through OpenEdition Books)
- We would like intelligent tools for automatic information integration of usage data extracted from different sources, such as publisher's website, Open Access repositories, social media platforms.

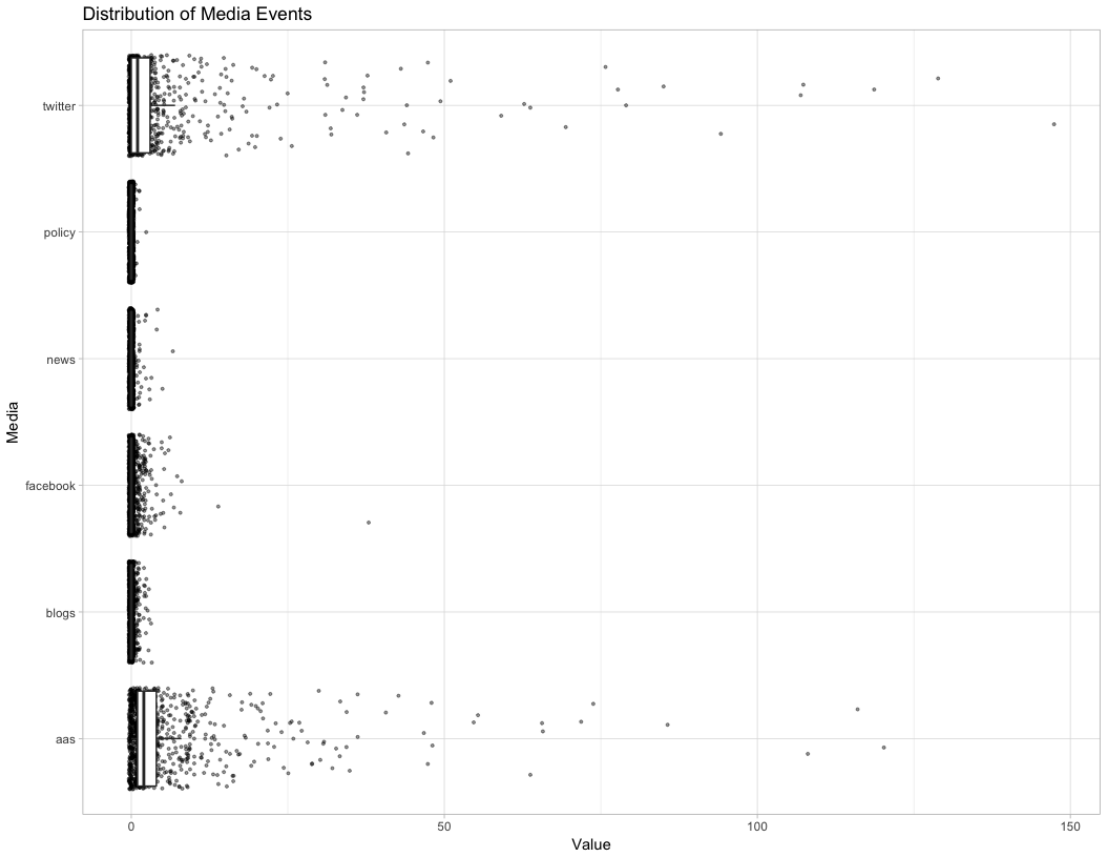
H. Appendix C - Analysis by platform/publisher

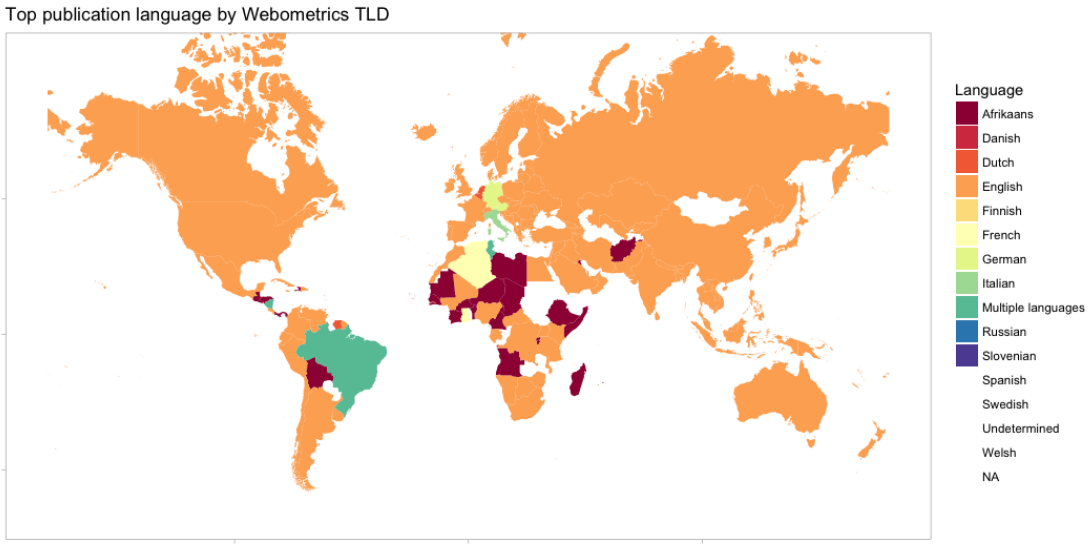
1. OAPEN

The OAPEN Library contains freely accessible academic books, mainly in the area of humanities and social sciences. OAPEN works with publishers to build a quality controlled collection of open access books, and provides services for publishers, libraries and research funders in the areas of deposit, quality assurance, dissemination, and digital preservation.
Books in the OAPEN Library are available for download in PDF format of the entire book (rather than individual book chapters).
In September 2017 the OAPEN Library metafile contained 3,888 books from 181 publishers - 2,231 of which were in English, 601 in German, 503 in Dutch.

Parameter	Number	%
Number of Books	3,888	100
Books with ISBNs	3,562	92
Books with DOIs	548	14




Distribution of Media Events
twitter
policy
news
facebook
blogs
aas
Media
0
50
100
150
Value


Top publication language by Webometrics TLD
Language
Afrikaans
Danish
Dutch
English
Finnish
French
German
Italian
Multiple languages
Russian
Slovenian
Spanish
Swedish
Undetermined
Welsh
NA

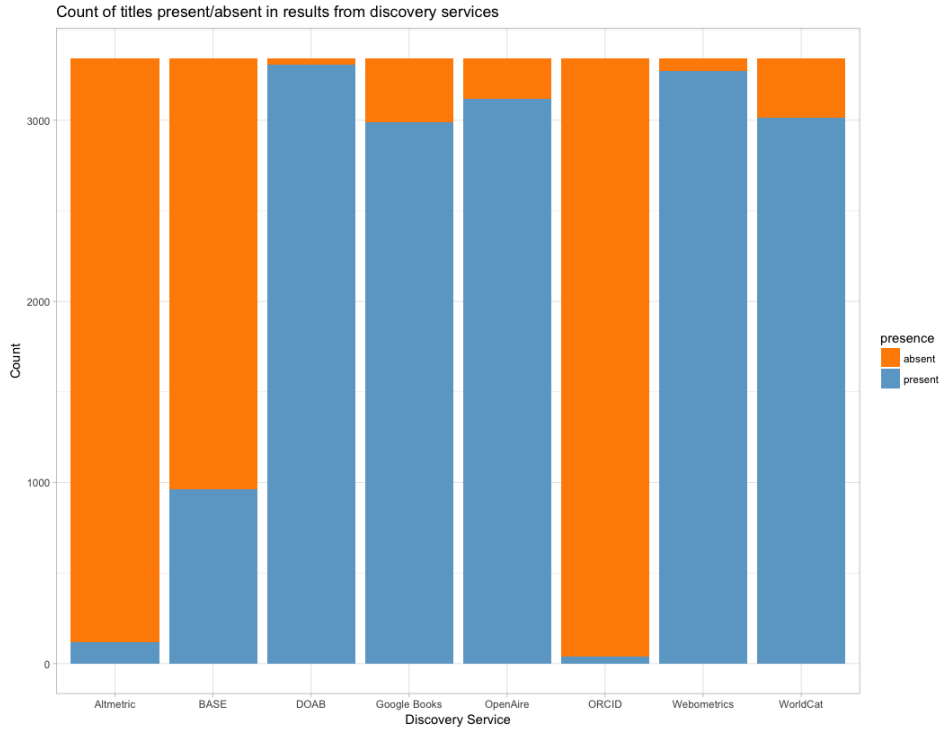
2. OpenEdition Books

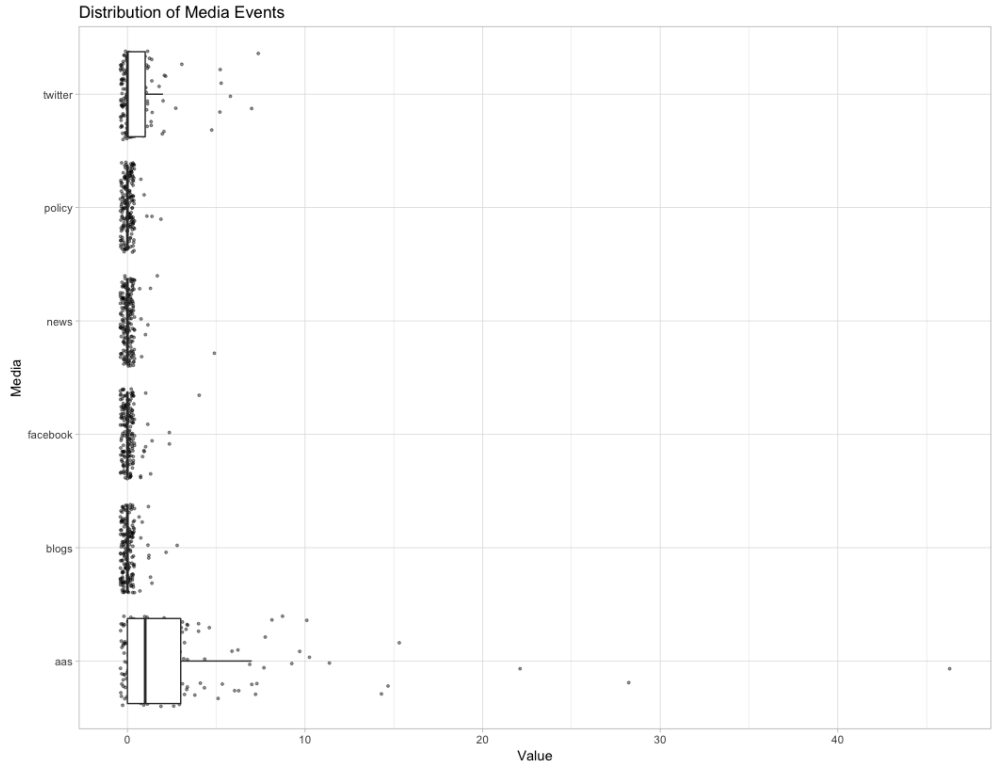
OpenEdition is a web platform for books, journals, blogs and events in the humanities and social sciences. OpenEdition Books is run by the Centre for open electronic publishing (Cléo – UMS 3287), a unit that brings together the Centre National de la Recherche Scientifique (CNRS), the université d'Aix-Marseille, the École des Hautes Études en Sciences Sociales (EHESS) and the Université d'Avignon et des Pays de Vaucluse.

In September 2017 OpenEdition Books' metafile included 3,343 books from 69 publishers - including 2,610 in French, 303 in English and 215 in Spanish. More than half of the books hosted by OpenEdition Books are available in Open Access - generally via HTML. OpenEdition Books makes additional services available to libraries and institutions on a subscription basis.

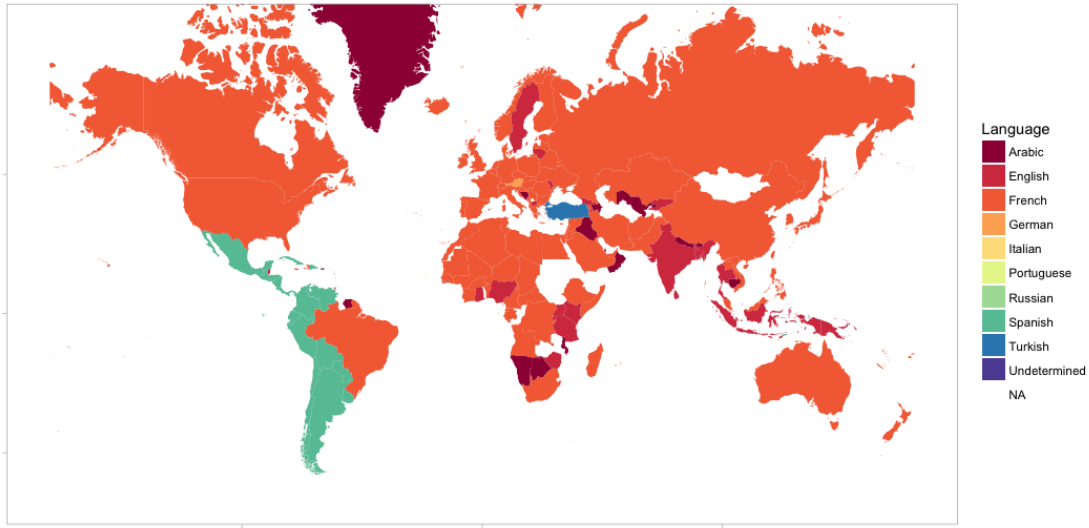
Parameter	Number	%
Number of Books	3,343	100
Books with ISBNs	3,305	99
Books with DOIs	2,945	88[140]

[140] The original dataset from OpenEdition Books did not contain DOIs and that was used for the rest of the analysis. This updated figure was calculated from a new metafile provided by Open Edition Books in January 2018 which included DOIs. The remaining analysis is unchanged.


Count of titles present/absent in results from discovery services
Count
3000
2000
1000
0
Altmetric
BASE
DOAB
Google Books
OpenAire
ORCID
Webometrics
WorldCat
Discovery Service
presence
absent
present


Distribution of Media Events
Media
twitter
policy
news
facebook
blogs
aas
0
10
20
30
40
Value

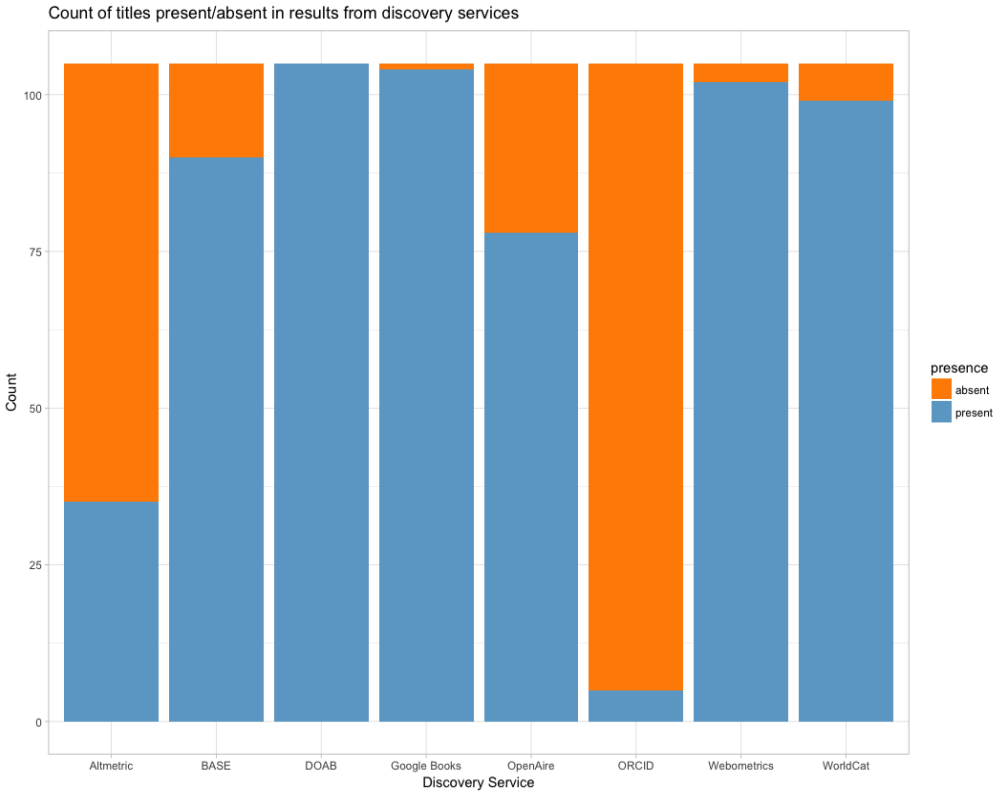
Top publication language by Webometrics TLD

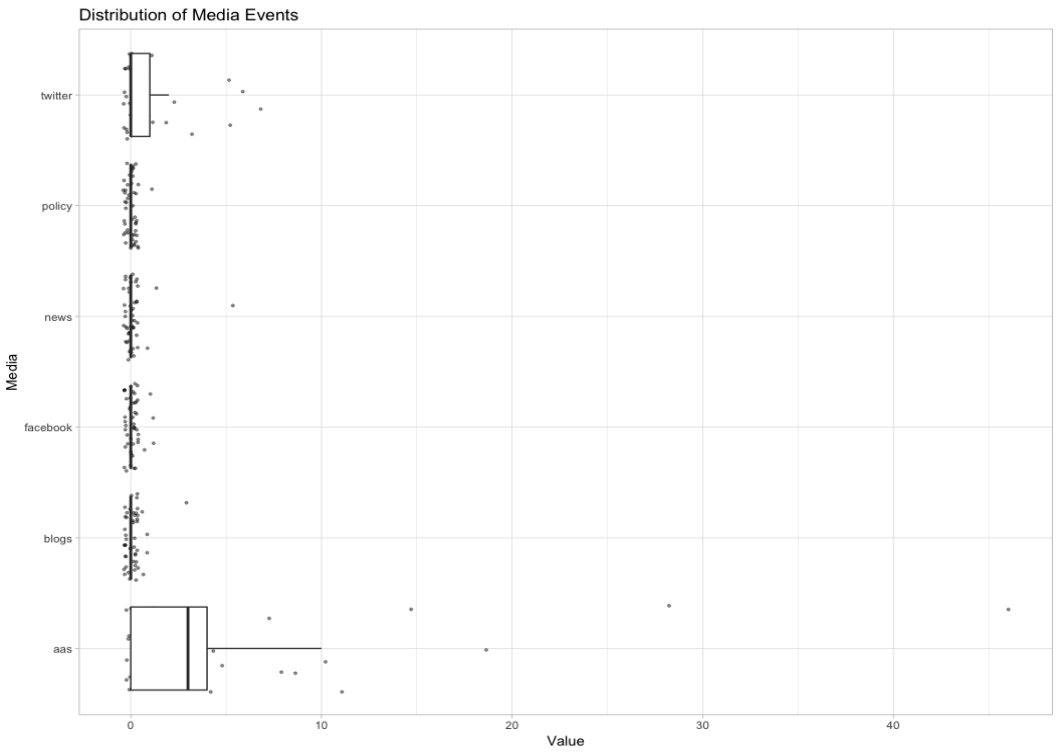


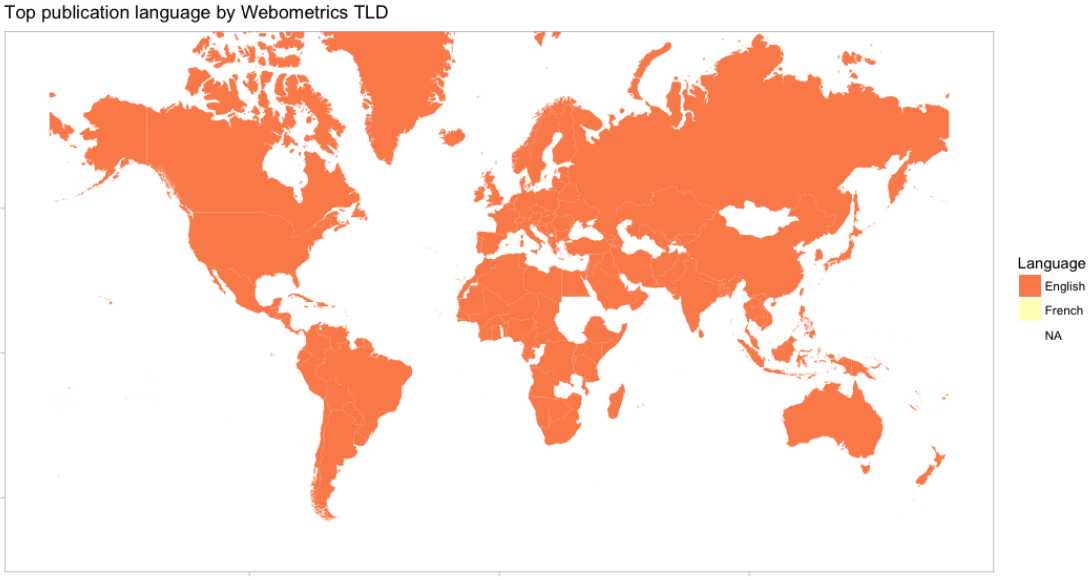
3. Open Book Publishers

Open Book Publishers is an independent publisher of Open Access scholarly books based in the United Kingdom. Open Book Publishers makes books available in hardback, paperback and ebook editions, as well as in Open Access. Some of OBP's books are available for free HTML on-screen reading. Others are available in Open Access as fully downloadable PDFs or ePUBs. Open Book Publishers hosts books via its own servers. Open Book Publishers titles are also hosted by OAPEN, JSTOR and OpenEdition Books.
In September 2017 the Open Book Publishers metafile included 105 books, 103 of which are in English, 2 in French.

Parameter	Number	%
Number of Books	105	100
Books with ISBNs	105	100
Books with DOIs	105	100




Distribution of Media Events
twitter
policy
news
facebook
blogs
aas
Media
0
10
20
30
40
Value

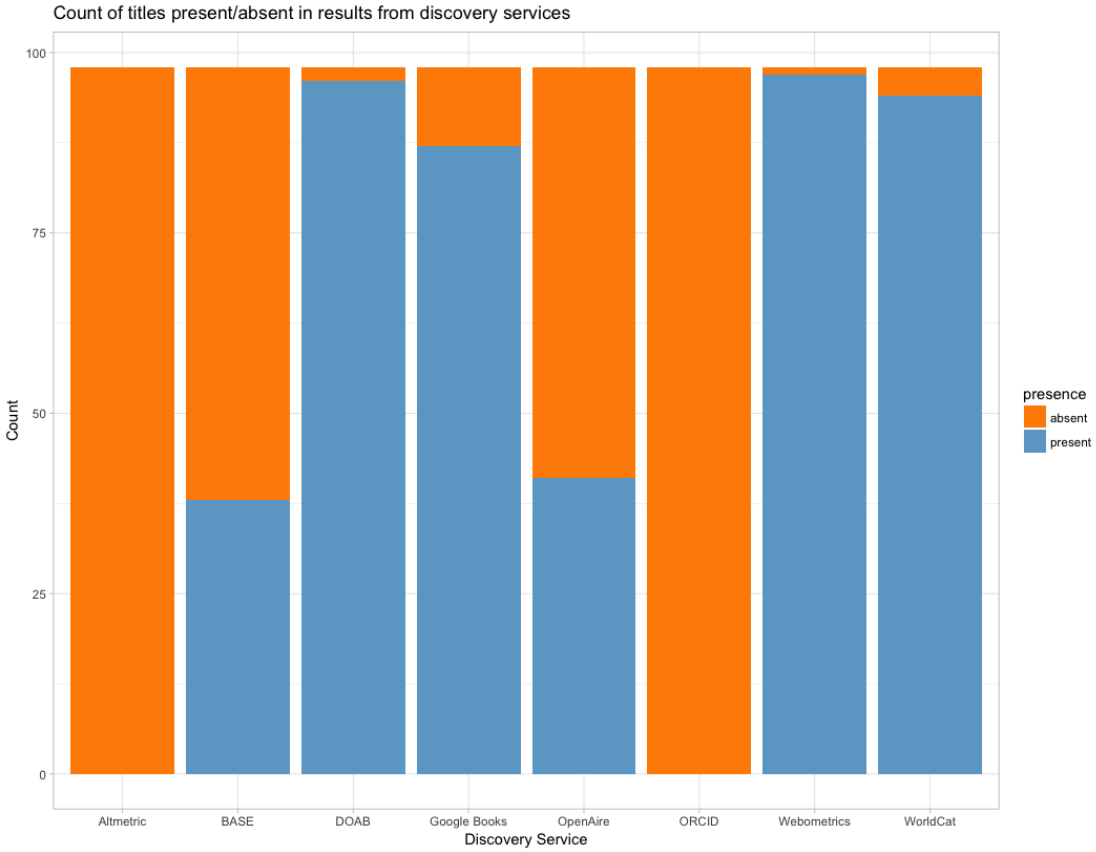

Top publication language by Webometrics TLD
Language
English
French
NA

4. Göttingen University Press

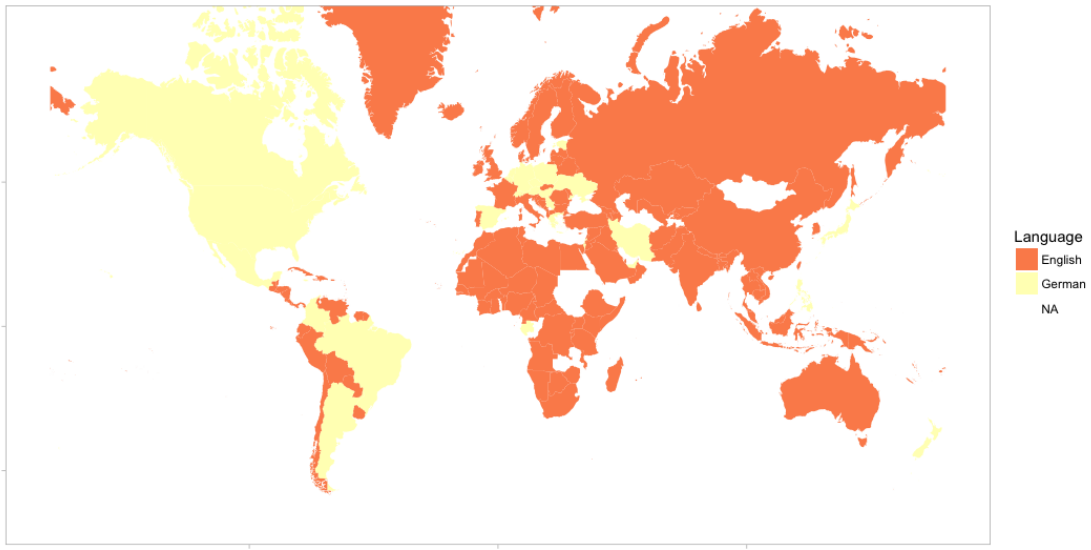
Göttingen University Press is the publishing house of Göttingen University and has published scholarly texts by researchers affiliated with the university since 2003. The Press is strongly committed to Open Access publishing and makes use of Göttingen University's Open Access DSpace Archive. In addition to Open Access publishing services, Göttingen University Press also makes titles available in print-on-demand formats.

In August 2017 the Göttingen University Press metafile included 98 books, 70 of which were in German and 25 of which were in English.

Parameter	Number	%
Number of Books	98	100
Books with ISBNs	96	98
Books with DOIs	94	96



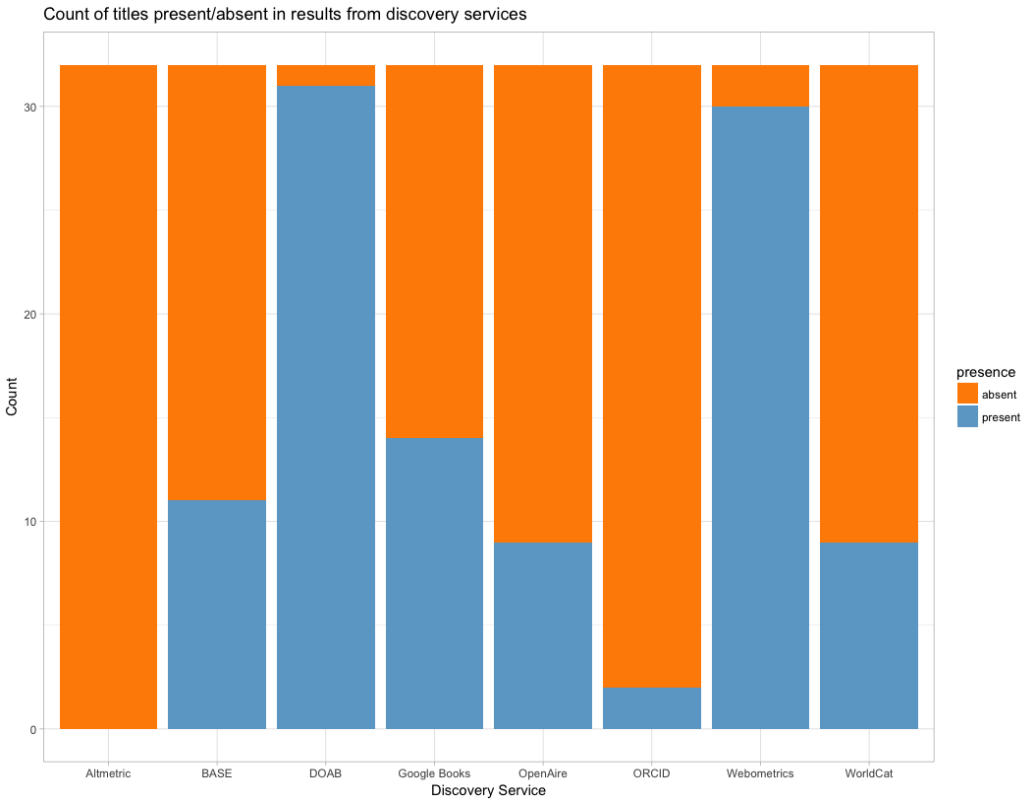
Top publication language by Webometrics TLD



5. SHARE Press

SHARE Press is a not-for-profit open access publisher that operates as a collaboration between the Universities of Naples (Federico II, Istituto Orientale, Parthenope), Salerno, Sannio and Basilicata. As well as books, SHARE Press also publishes journals, research data and historical documentation. SHARE Press books are hosted via the University of Naples Federico II institutional repository.
In August 2017 the SHARE Press metafile included 32 books, all of which were in Italian.

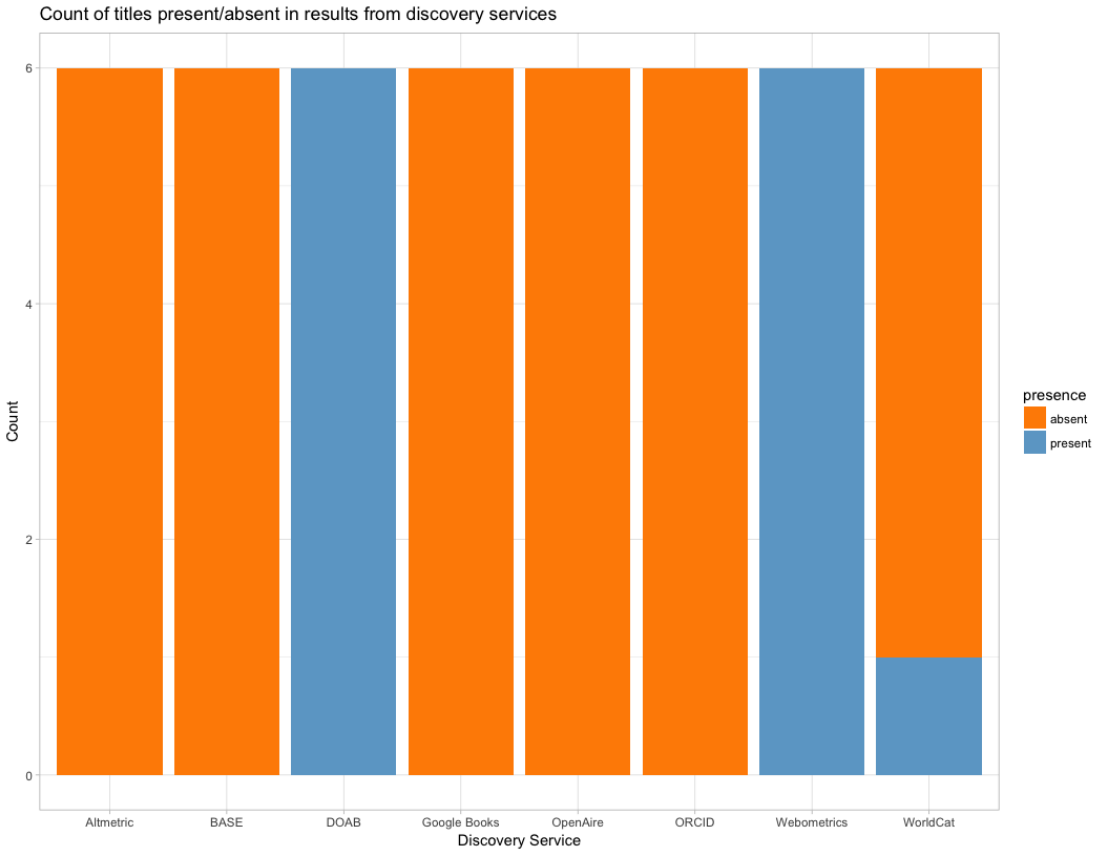
Parameter	Number	%
Number of Books	32	100
Books with ISBNs	31	97
Books with DOIs	32	100



6. EKT

EKT is the National Documentation Centre of Greece, located at the National Hellenic Research Foundation in Athens. EKT operates as national infrastructure: seeking to collect, organise, and preserve the entire Greek scientific, research and cultural output (content and data), while making it available at both a national and global level via their own repository. In August 2017 the EKT metafile included 6 books, all of which were in Greek.

Parameter	Number	%
Number of Books	6	100
Books with ISBNs	6	100
Books with DOIs	6	100



Read the Full report online: https://doi.org/10.5281/zenodo.1230284

VI. Technical mapping (OpenEdition)

A. 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.

B. 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.

C. Main Findings

1. 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.

2. 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)

3. 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).

4. 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. 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.

5. 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).

6. 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).

7. 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.

8. 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.

9. 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).

D. Extension of the mapping: creation of a database

1. From the technical mapping to the technical database

The collection and analysis process led to the recognition that the technical mapping needed to be improved in order to be an effective basis for future OPERAS developments. The technical mapping is a first level of information collection from which material it is possible to build an upgraded and extended documentation. The upgrade will attempt to transform this mapping into a database that can function as a database for all member activities.
Like the mapping, the database will provide a description of the partners' technical environment and activities. It will help to share knowledge and identify possible collaborations throughout the consortium. However, the database is also meant to be the main source of information to build an orientation tool to help authors in finding and comparing the various options provided by the OPERAS consortium. In fact, the objective is to describe the platforms, the services, the expertise, the missions, the tools and technical environment of each OPERAS partner in order to provide standardized and yet thorough information to the community. We describe below the structure and content of such a database.

2. The OPERAS consortium database

The database is meant to be as detailed as the technical mapping but with extended scope. In order to provide useful material for a DBMS, it also have to use standardized content.
The database will be the tool for the new OPERAS members to describe thoroughly their activities and their technical organization. So as to add more consistency between the various works of consortium, it is partly based on the OPERAS research lifecycle (see Annex I).

The document to collect information from each partner is here: https://tinyurl.com/y9oe5xcj.
It describes the following topics:

- Identity
- Services: based on the OPERAS research lifecycle, which are the services operated?
    - Data discovery
    - Communication to peers
    - Peer review
    - Editing
    - Dissemination
    - Monitoring
    - Quality insurance
    - Literature review
- Applications: based on the same list, how are these services organized and operated?
- Users: what are the types and identity of the users?
    - Type: institution members, paying members, every user
    - Perimeter: Institution members, research domain community, national users, European users
- Business model: how the activity is funded?
    - National public funding
    - Institutional public funding
    - Services on fee
    - Project funding (regional, national, European)
- Data: what are the type and size of the data managed by the organization?
    - type of data
    - type of document
    - languages
    - size
    - licenses
    - database management
    - access type
- Technical infrastructure: what is the information system?
    - System administration
    - High availability features
    - Servers
    - Storage
    - Network

Read the full Report:
https://doi.org/10.5281/zenodo.1009561

VII. Usage survey (OpenEdition)

A. Objective

The OPERAS-D GA states that the online surveys “will be based on findings of the landscape study and will contribute towards gaining actual information on practices that will contribute to e-infrastructure integration across Europe.”
Based on the findings of the Landscape study, the main objective of the surveys is to have detailed and statistical information on the current practices and collect suggestions regarding open scholarly communication. The surveys are meant to identify the gaps in the existing academic publishing ecosystem and verify how well the OPERAS RI is actually addressing the needs of the community. The findings will then serve as a basis to adjust or adapt the building parts of OPERAS.
There were two sessions of the OPERAS surveys: one during Spring 2017 (May-June), one during Autumn (Nov.-Dec.). The first session collected general information about the practices in open scholarly communication, information then refined through the second session, which was containing more open questions in order to get as detailed information as possible from the interviewees.
As part of the Network building, the survey for the publishers also contained the proposition to join the OPERAS consortium. Eight publishers showed interest for this proposition.

B. Method

The surveys were spread online using the Limesurvey software and differentiated for each type of stakeholders directly concerned by the construction of the OPERAS RI. The Spring surveys were addressed to five different audiences, all stakeholders in various capacities in open access: publishers, researchers, libraries, funders and the general public.
The Autumn surveys were addressed to the publishers, the libraries and the funders. Responses from the researchers during the Spring were sufficient in quantity and quality and didn’t require further investigation. The socio-economic actors’ survey hasn’t been made again either because they seemed to remain a bit difficult to reach at this stage.

C. Overview

1. Participation

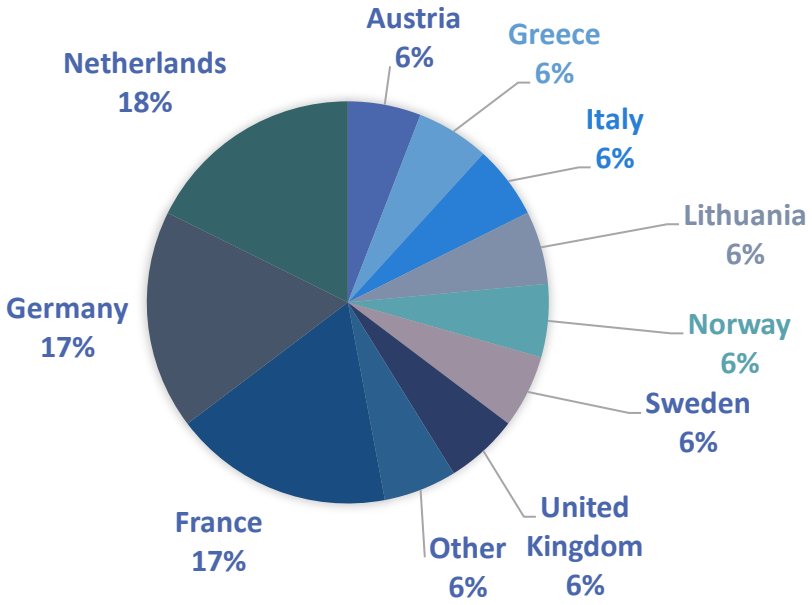
Congruent with the effort to reach identified persons rather than the entire web, the overall participation isn’t very high. The small number of answers is also probably due to the fact that the OPERAS network had already been mobilized during the Spring surveys.
For the publishers, we received 21 responses (4 only partial). For the libraries, we received 36 responses (17 only partial). For the funders, although we were looking for a panel of approximately 10 agencies, we couldn’t manage to collect more than 5 answers.

2. Countries

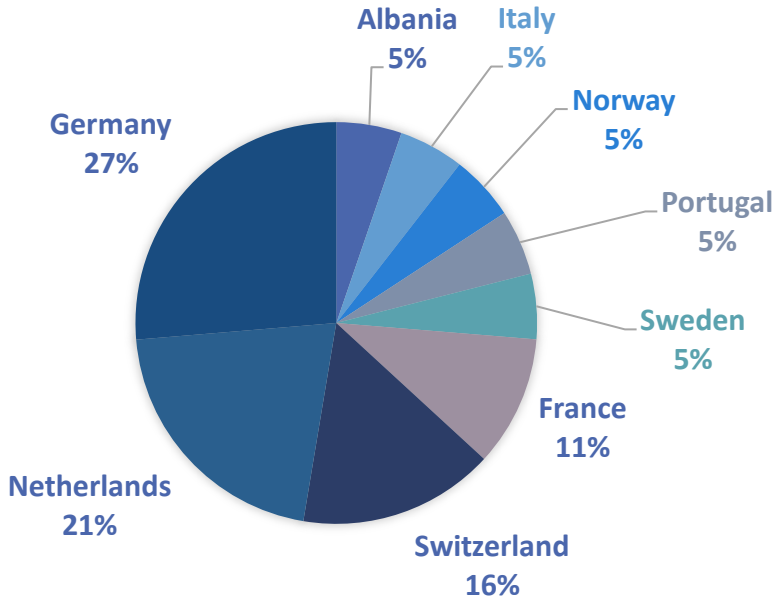
Even if the distribution by country doesn’t reflect the real composition of the OPERAS consortium, it surely illustrates where are the more articulated OA communities within the same consortium. Netherlands, Germany and France are the countries from which we received more answers for both the publishers (for a total of 52%) and the libraries (for a total of 59%). Although less interested by these surveys, other countries of the consortium have sent some answers (Italy, Portugal, Greece, UK). Another interesting data is the willingness to answer from countries where the OPERAS partners still have little or no activity. This is the case of Switzerland in the libraries surveys. This is also the case of countries somewhat peripheral to OPERAS centre of gravity, especially from north or eastern Europe (Lithuania, Norway, Sweden).

The reason for the rather low statistics is probably also to be found in the choice to provide open questions: requiring a higher engagement from the interviewee, they surely were kind of selective. However, these open questions are also the reason why we have received some very detailed answers, like we will see hereafter.

Participation by country (Europe): Publishers



Participation by country (Europe): Libraries



The table below represents the compilation data about the participation level for each survey and each stakeholder:

Nb of answers to the surveys for:		Spring	Autumn	Total
Researchers	Started surveys	248	na	248
	Completed surveys	164	na	**164**
Publishers	Started surveys	79	38	117
	Completed surveys	42	17	**59**
Libraries	Started surveys	111	36	147
	Completed surveys	43	19	**62**
Funders	Started surveys	7	16	23
	Completed surveys	3	5	**8**
Socio-economic actors	Started surveys	37	na	37
	Completed surveys	20	na	**20**

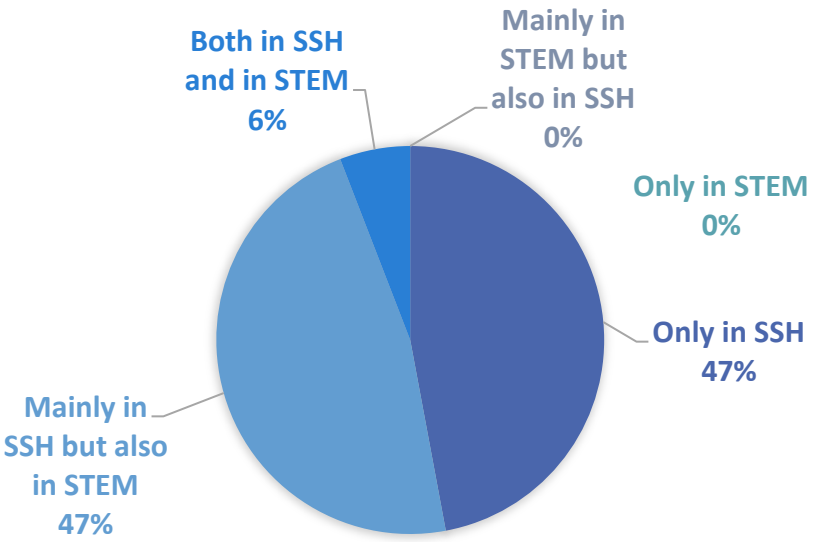
D. Publishers

As for the open access publishers, a preliminary remark should be that scattered actors imply a scattered landscape. In fact, in parallel to the interest for integrated services, there is also a need for centralized and dedicated information. On the other hand, despite obvious differences, we found some common characteristics in the publishers. There is a certain level of maturity, especially regarding standards, which has to be extended and improved. There is also a positive attitude precisely towards potential improvements to achieve: this is how we could analyze the expectations about training, the interest for structured formats or even advanced and new services.

1. Typology

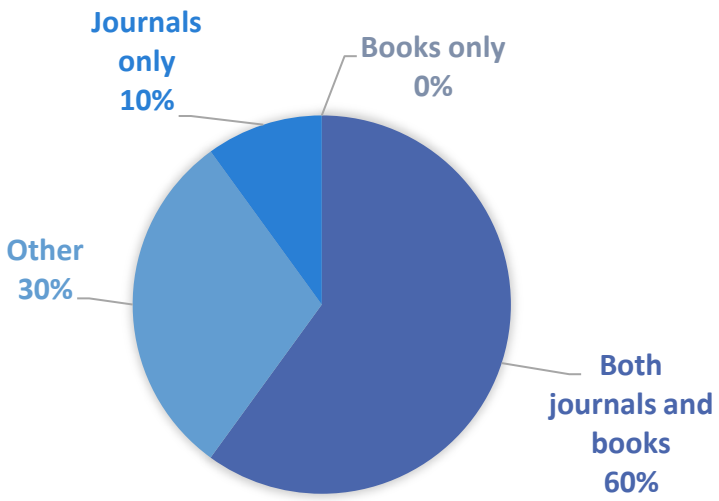
The first question about the publications' scientific domains shows that if the SSH publishers represent a strong community (47% publish only in SSH), an equal number publish both in SSH and in STEM (47%). This shows the adequation of OPERAS definition, which is to provide services and networking first to the SSH community, before their extension to other scientific communities in STEM.

In which scientific domains do you publish?



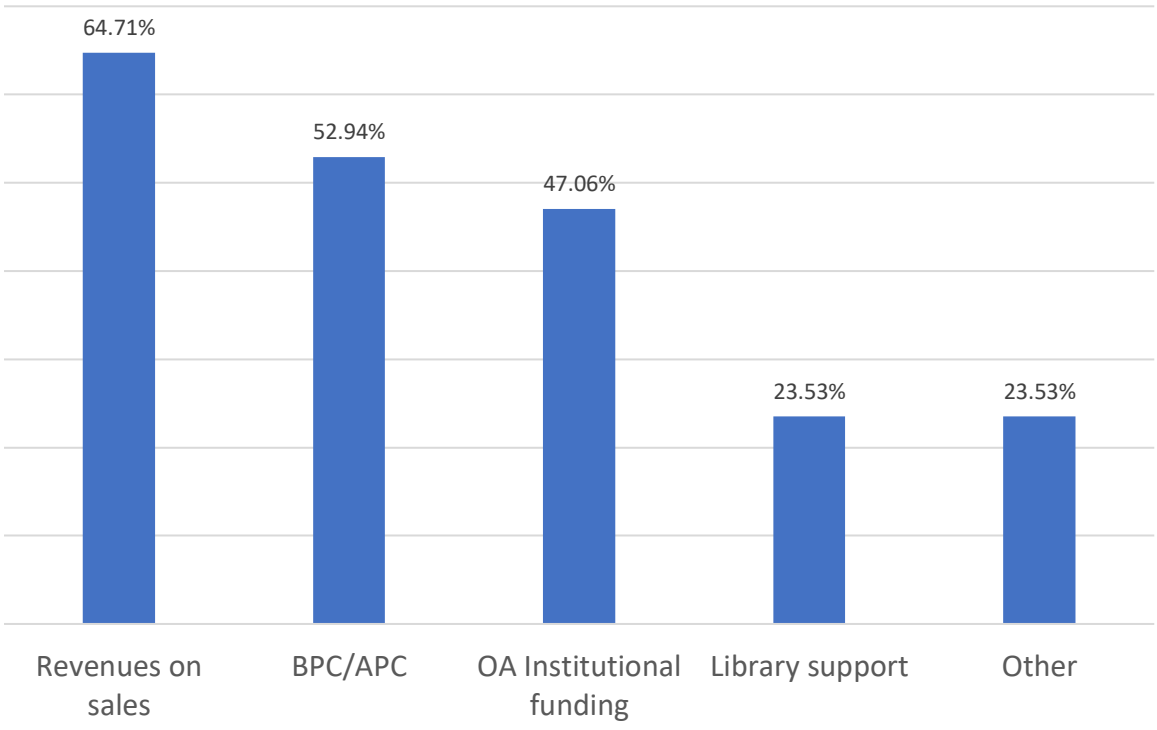
For the types of publication, it appears there is even less specialization. Among the publishers of our survey, a large majority publishes both journals and books (60%). More so, some of them indicated they also publish grey literature and other specific types (sheet music, enhanced forms of document). Even if these are not the most numerous cases, they show that OPERAS RI should be able to address these specific challenges in a near future.

Which type of document do you publish?



As far as their business models are concerned, our publishers show more diversity. If the fragmentation of the OA landscape can be considered as a reliable result of the OPERAS Design Study, we have here other elements to illustrate this specificity. The question about business models allowed for multiple answers and the result is an average of 2 financing sources for each publisher. The final chart shows that, even with slightly different amounts, there are in fact three major coexisting models: revenues on sale (65%), BPC/APC (53%), OA institutional funding (47%).

What is your business model?



If one shouldn't be surprised that publishing, like other businesses, uses all the possible options to finance its activity, it's interesting to see that the three main options in this case are almost at the same level. This might be a sign that none of these models would be sustainable by itself and that the publishers have to compensate one by the other. Such business models seem therefore to be more empirical choices than elaborate solutions.

This lack of definition may also explain why the suggestions regarding the potential role of OPERAS in this matter cover very different aspects of the publishing business:

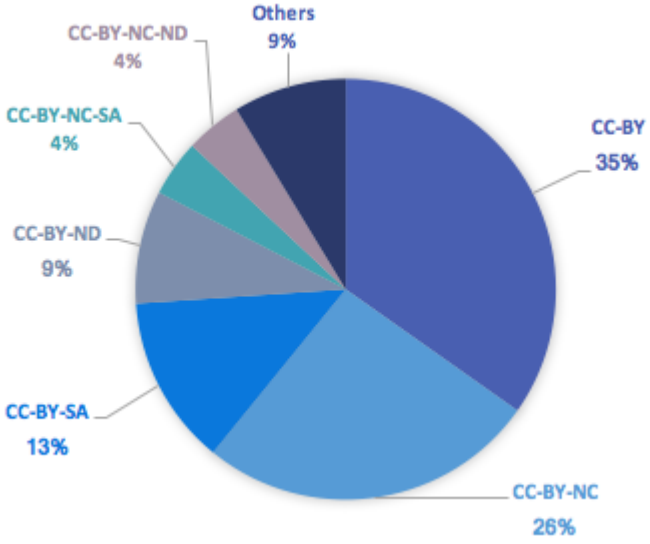
- dissemination: tools and support for wider and better dissemination
- information to authors: providing a list of publishers with their publishing options
- funding: organizing institutional funding or providing information on funding

Other suggestions concerned publishing tools. In fact, among all the suggestions not one is actually about the business models and on how to choose one. This can surprise when the comments show that financing seems sometimes difficult, sometimes rather complex. It seems that if the role of the OPERAS RI in this case is not clear for the publishers, it's also because the issues with business models are not really put in prospect. And this, precisely justifies the work currently made by the OPERAS Business Models Working Group, especially regarding the constitution of a business models marketplace.

Except for some specific cases, the access policies present a rather uniform landscape with a majority of full open access (12 out of 19 responses). In most cases there are no limitations based on types nor any kind of embargo. However, like it was possible to infer from the business models description, the details of the access policies can vary in a significant way. Between those who declare they "offer different options at different prices" and those who provide "full open access immediately", we also find some publishers who provide OA only for funded publications and others who rely on funders or authors wishes.

More generally, this relates to the definition of open access, which ranges from free usage to gratis access. In fact, the free licenses question seems to describe the same landscape.

Do you have a free licensing policy and which are the free licenses you are using?



The practices or at least the policies are in majority in favor of the most open licenses (35% of CC-BY plus 26% of CC-BY-NC). It is worth noting that more open often means higher fees. And this is in fact one of the reasons of the difficulty to use the more open CC licenses: “CC-BY fees, especially for books, are beyond the budgets most authors have access to”. Other main reasons are:

- fighting unfair commercial use (republication without attribution),
- tracking the use of the publications,
- scholars’ reluctance and copyright issues (both a problem of free licensing knowledge and of third-parties complex copyright),
- protection of personal data.

Even if this overview shows an indisputable maturity of OA publishing in terms of policies and flexibility, it also reveals a lack of general structuration. The potential role of OPERAS RI on these topics could be significant, even if it will appear more clearly as far as the publishing process is concerned.

2. Editing and publishing

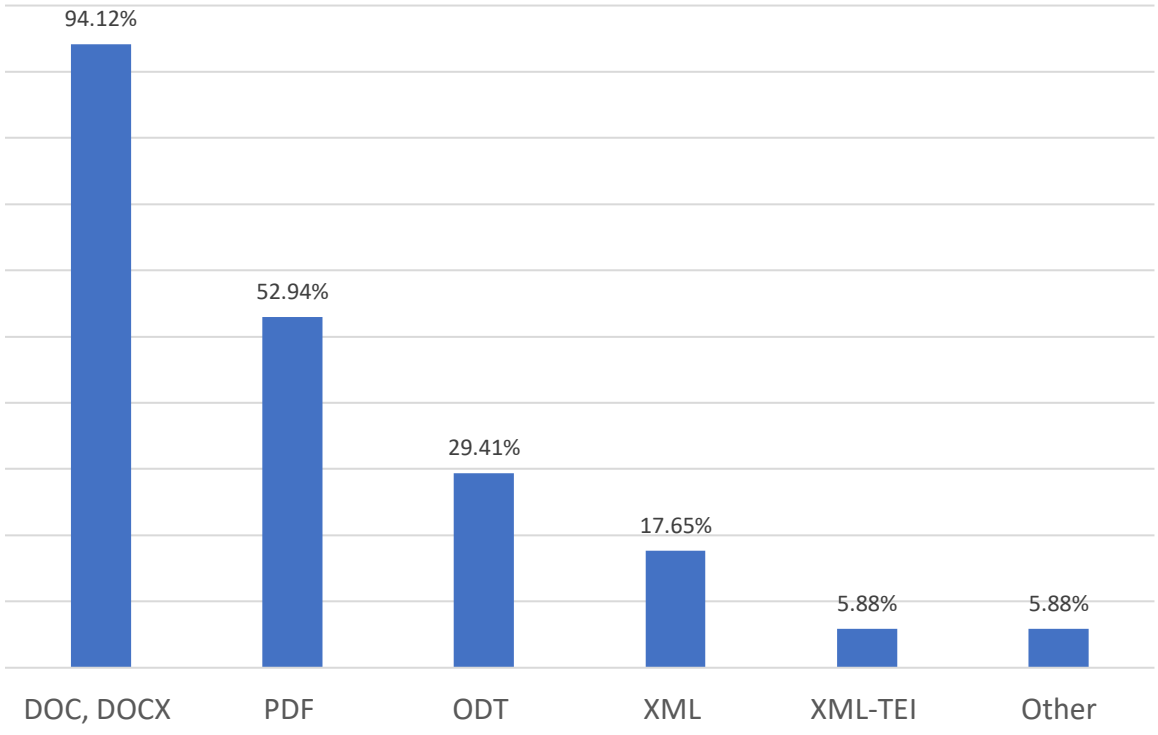
A small third of the publishers states they are satisfied with their workflow. For the others, the challenges are of different types, sometimes cumulative, always related somehow:

- human resources: the publishers are often small teams with respect to the amount of work (editing or website maintenance),
- technical: passing through different steps with different tools makes the whole process less smooth,
- training: the structured formats (XML, LateX) are not well known or handled.

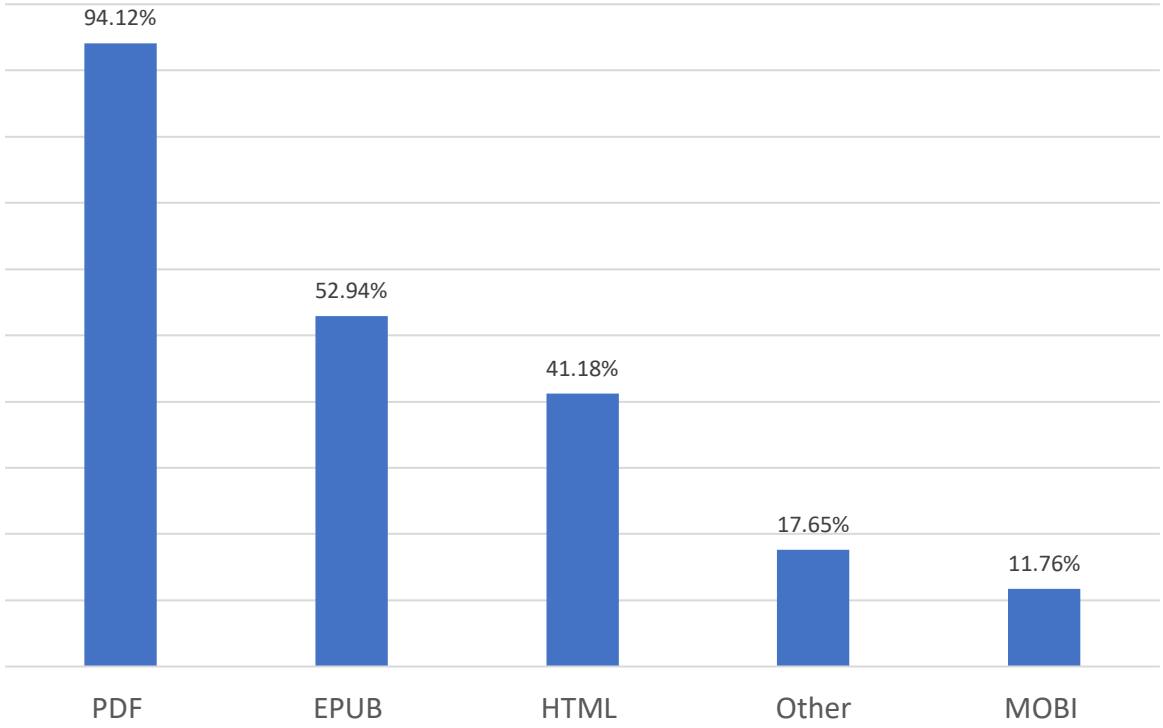
In fact, like in the Spring surveys, we have the confirmation that the publishing process, in most cases, relies on Microsoft (Word) and Adobe (Indesign) products, and still is, in that sense, based on the print era workflow (manuscript - copy - publication). This is indeed partly reflected by the input and output formats charts. A 94% uses DOC/DOCX files in input and also a 94% produces a PDF in output - when

only 40% produces HTML output.

In your publishing workflow, what are the main formats for input data/documents?



In your publishing workflow, what are the main formats for output data/documents?



Nevertheless, this shouldn't hide the fact that (many) other tools are currently used.

Besides Open Journal Systems, we also find mentions of Lodel, Hyperwave, LateX, XML-Spy, Sigil. Some publishers didn't even list all the software they use.

The reasons that led the publishers to choose their software give more details about this situation. For making their choice of software, the publishers mention the lack of information on publishing tools made even worse by the constant shift affecting the software, the few number of stable open source software and the lack of advanced skills (e.g. for XML). There are in fact a lot of "by default" choices, where the solution is to use well known tools (OJS) or to externalize the publishing process. However, another group of publishers with more technical agility manages a clear workflow with dedicated tools. Here is one example of this group who uses:

- Indesign as the leading software
- PressBooks to try online production system for authors
- OJS to publish OA journals
- Sigil as it is simple open source to use Epub editing software

With no surprise, only two of the interviewees are already using a structured format (XML, LateX). But a majority declare to be interested in using a structured format in their workflow. Although it should be clarified how easy they think it would be to implement, it is a very interesting perspective for the OPERAS Working Group on publishing tools.

Despite the statements about the lack of information and skills in this area, some interviewees don't see how OPERAS RI could help them. This is probably due to the constantly shifting environment and the difficulty to identify the actions to take but it shows also how much OPERAS still needs to communicate on its missions. Some needs and suggestions do come up, though, on what would improve their editing/publishing process:

- "Easy to use tools for authors, to create and proofread content within one (not publisher specific) XML-based format."
- "Training, software and web servers maintenance."
- "A special web editor like Fidus-Writer for submission, a workflow engine to handle the content's status, an open repository to store the content and to spread the meta-data"

In fact, the distinction of editing/publishing/dissemination tools within an actual workflow is not always easy but the dissemination can be defined by other functions and challenges which we tried to examine more closely.

3. Enrichment and dissemination

a. Metadata

A first minimal metadata enabling an efficient discoverability are the identifiers. Our panel of publishers show that best practices in this matter tend to be widely use also in the SSH community. Almost all of them are providing DOIs for their publications, whatever the size of the publisher. If the technology doesn't seem to be a problem (DOIs are often generated by the publishing software), the fee can be an obstacle to provide DOIs for each document when the publisher is small and isolated.

The author's identifiers like ORCID, on the other hand, are not as well spread. This is obviously due to the fact that they don't have yet the standard status of DOIs but it

is also because there are already other identifiers for researchers at another level: international identifiers can coexist with national IDs. In fact, it appears that in this case, more than on the recommendations from every single publisher, the use of international identifiers relies in great part on the policies adopted by other types of stakeholders (national agencies, universities).

When investigating bibliographical and descriptive metadata, we can observe a landscape more disparate, constituted of different groups:

- publishers using no metadata standards
- publishers using only ONIX metadata for distribution
- publishers using tools which generate DublinCore and/or ONIX
- publishers having different sets of metadata

In the first case, it is worth noting the publishers have a workflow based on MS Office and a CMS like Wordpress. In the other cases, the metadata generation can sometime be externalized (for ONIX). But, even if there is a majority of publishers using standards, what strikes the most is that standardization itself is not standardized: there is no common set of metadata standards, there is no majority of DublinCore, ONIX or JATS standards and these coexist with others like NLM/BITS, MARC21. If the responses show that there is already a good basis to adopt best practices in this area in a more general fashion, there are also real challenges to achieve such a purpose. This is what express some suggestions:

- “We use DublinCore and ONIX and have to admit that it took us many years to master them, not in the least because of the variety in data requirement of the parties that take these metadata.”
- “We would appreciate ONIX for any spreading of metadata. To have different formats (OAI, other XMLs for DOI registration...) is obstructive.”

b. Platforms

The survey tried to identify the ways publishers disseminate their content and how they would assess their current solution. Three main groups of publishers emerges from this investigation, with specific comments and issues:

- a major group of publishers (14 out of 21) using and managing their own platforms. They state that this provides “a full editorial freedom, but a limited audience” and also that “it requires personnel and time “;
- another smaller group using both their own platforms and aggregators services: “We want to disseminate our content both through our own platform as well as via aggregated data in other databases. (…) The only important thing is that there should be links and other information available so that the end user can verify the reliability and academic rigor of the material “. Another publisher observed however that “third party aggregator platforms are costly”;
- a last group externalizes dissemination to hosting providers. “By working with a platform provider that offers a customized solution, one benefits from the development roadmap (...). Less satisfying is the ensuing dependency on the capacity and skills of the chosen partner “.

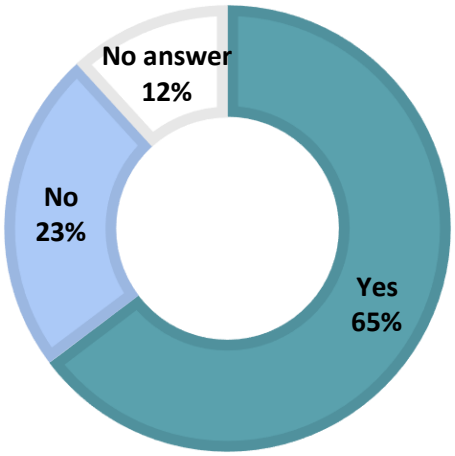
This quick inventory shows that independence is important to our panel, not so much for technological reasons but mainly for intellectual ones. This is however a solution

more demanding in terms of skills and time and raises issues for referencing and impact. In that sense, the most significant answer could be the case where a platform is used together with aggregators. Significant especially for the OPERAS RI where each platform could maintain its specificity while sharing common practices and benefiting from central referencing and advanced services.

c. Advanced services

For the advanced services, like in the Spring surveys, we focused on metrics and online annotations which will be implemented through the HIRMEOS project. Where we wanted to assess the level of interest for this specific services, we tried this time to collect more information on the actual practices in this regard.
A large majority (65%) of publishers uses metrics for their publications.

Do you use metrics to track usage of your publications?



The following question about the nature of the metrics collected was very generic ("Which metrics do you use?") and consequently the answers are altogether about types, tools and sources. As for the types, there are mentions of downloads, views and sometimes regional context. A minority also gathers citations metrics and another minority, not exactly the same, gathers altmetrics. If the main existing tools like Google Analytics and Matomo (former Piwik) are mentioned, other specific tools are used, like OJS plugin or Crossref for the citation metrics. The sources seem to be mainly the publisher's platforms but they can extend to Twitter/Facebook for altmetrics or platforms like Academia and Researchgate.

It is then obvious there is a rather high diversity of tools and types with a poorly uniform content of the metrics. If we consider also that there is a rough fifty-fifty distribution of publishers thinking they are well informed about the calculation of their metrics and publishers who don't, we understand that this kind of service still needs improvements and transparency. These challenges will in fact be addressed by the HIRMEOS implementation. This implementation could furthermore take into account the following suggestions:

- "A system that would better fit HSS: by not only charting citations from journals to journals, but also from books to books and from journals to books and vice-

versa”.

- “Metrics on how material is used in policy documents, news outlets, blogs, citations in Web of Science & Scopus”.

About the online annotations, the situation appears to be more clear as only one publisher is currently providing the service (Hypothes.is for Pressbooks). But there is certain amount of publishers very interested or interested with caution by the prospect:

- publishers very interested and considering it: “This could be very powerful, in terms of increased usage and even impact of the publication being used”;
- publishers rather interested but uncertain about researcher’s engagement: “We are not yet sure of its adoption among authors and readers. Authors in many cases do not very actively engage with their work after publication”;
- publishers having considered it but having renounced, mainly for authentication issues: “It is useful if adopted by multiple platforms but confusing to have an extra login requirement on top of platform authentication and personal login”

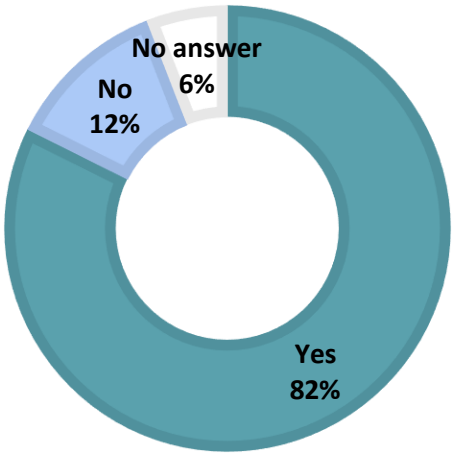
Just like for the editing/publishing workflow, we can observe for the dissemination process a rather high diversity of practices and advancement. And here also all the challenges are related to some point, as they all have consequences regarding OA publishing capacity to obtain a high level of visibility and research community engagement. The main difference being, in that case, building a common set of practices would perhaps be easier. When it would be difficult or simply not necessary to have everyone using the same publishing workflow, it is possible to start building actual common practices on the existing ground of standards and standards’ awareness that we found in our panel.

4. Multilingualism

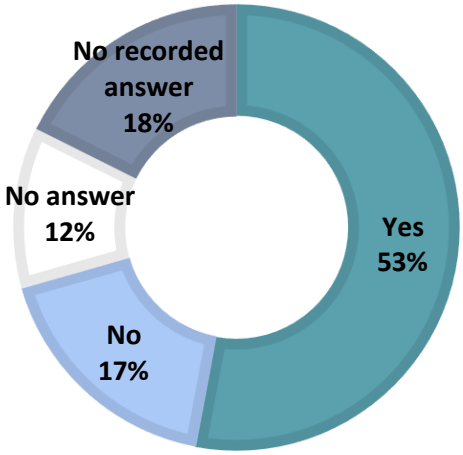
In the Spring surveys, we prepared a short set of questions about multilingualism, both for the publication in several languages and for the metadata of the publications. It showed that publication in several languages, by publishers and by researchers, was a very well-spread practice. The survey showed that, alongside with the use of English as science’s *lingua franca* to gain visibility, the SSH community also managed a space for the other languages, mostly European, used by the researchers.

The Autumn survey investigated more in detail the question. The proportion of publications in several languages is here confirmed (83%), as is the proportion for the metadata in several languages (53%).

Do you provide publications in several languages?



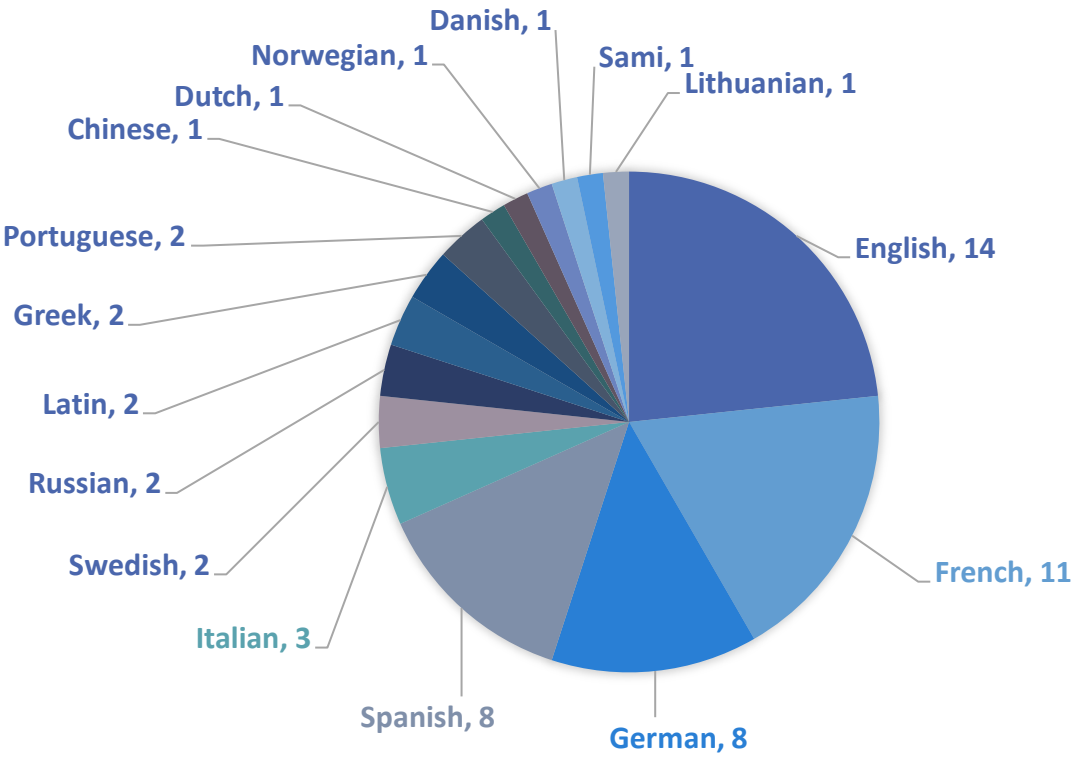
Are the metadata also in several languages?



The languages of publication listed by the publishers could be divided by level of size in the following way:

- first, a majority of English as *lingua franca*;
- then, the main European languages;
- finally, specific research community languages.

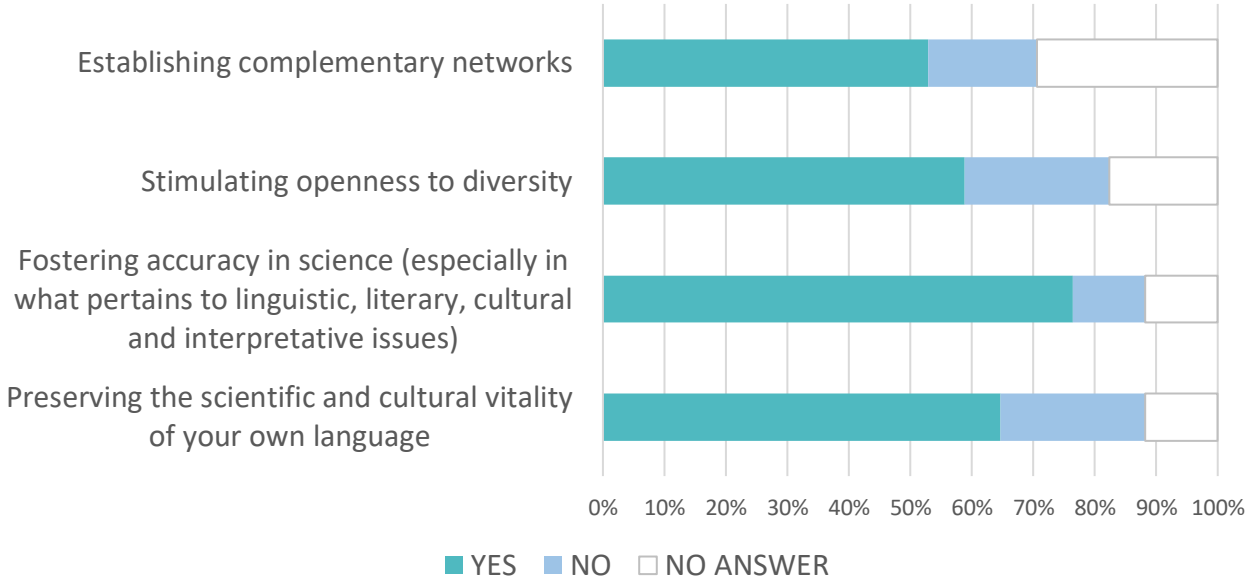
Languages of publications



From the comments, it appears that every publisher publishes at least in English, but English is not always their main publication language. Furthermore, other languages than English like French or German are perceived as standards in specific fields. The list of languages in the figure can seem rather long and, in fact, only a few publishers publish in more than three languages. This specific cases are perhaps due to particular national situations with more importance given to minority or regional languages. In the overall, languages most spoken at international level (Chinese, Arabic, Portuguese) are not often used as publication languages. Last observation, the cases of translations are very seldom.

Another set of questions allowed for more detailed information on the motivations for publication in several languages.

Do you think that multilingualism in science is important for:



For 76% of the interviewees, multilingualism is important for fostering accuracy in science and 64% think it is important for preserving scientific and cultural vitality of their own language. These results show that multilingualism is clearly motivated and that it is a patent specificity of SSH community. In fact, the way research is conducted in SSH areas appears closely linked to language: multilingualism is not a communicational but an epistemological question. Also, publishers - and researchers through them - clearly identify their own role as an engagement for and with the society they are in.

The publishers made some suggestions for the role OPERAS could play to help to maintain and improve multilingualism:

- “Automated translation of some metadata, e.g. keywords based on a thesaurus”
- “A bilingual publication model would be very welcome”,
- “All systems using metadata should be able to handle Unicode”.

The challenge of mapping metadata mentioned by the first comment will indeed be addressed within OPERAS by the Discovery platform based on Isidore.

5. OPERAS new services

A last question concerned the Certification platform OPERAS is starting to build from the DOAB: “The aim is to provide a certification service for open access monograph publishing platforms: a classification system of peer-reviewing procedures, a list of open licenses, and a tool to manage peer-review descriptions. How do you evaluate this prospect?”.

Like in the Spring surveys, the publishers expressed a high interest with some specific requests:

- that it shouldn’t be a new classification system of the publishers,
- that it shouldn’t contain either rates for the PR procedures,
- that it would be good it has the support of large and recognized stakeholders.

Other interesting suggestions confirmed the certification service is on the good path and gave leads to improve it even more:

- “It sounds great to have an entry point for content. As long as you allow for other platforms to hold the same information. (...) A badge system similar to the one used in DOAJ might come in handy to ensure that the quality stamp is available on all local platforms as well.”
- “certification should also evaluate sustainability and/of technical requirements, questions of archiving, monitoring and so on”.

Although some answers showed a sort of fatalism due to a complex and sometimes inadequate ecosystem (on financial, technological or organizational side), the last comments about OPERAS new services shows that the OA publishers have the maturity and willingness to directly improve it.

E. Libraries

The Spring surveys aimed at having a general overview of the libraries’ approach and assessment of open access publishing. It showed a rather high level of involvement but some details, especially technical, were sometimes lacking. The Autumn survey allowed for more detailed information.

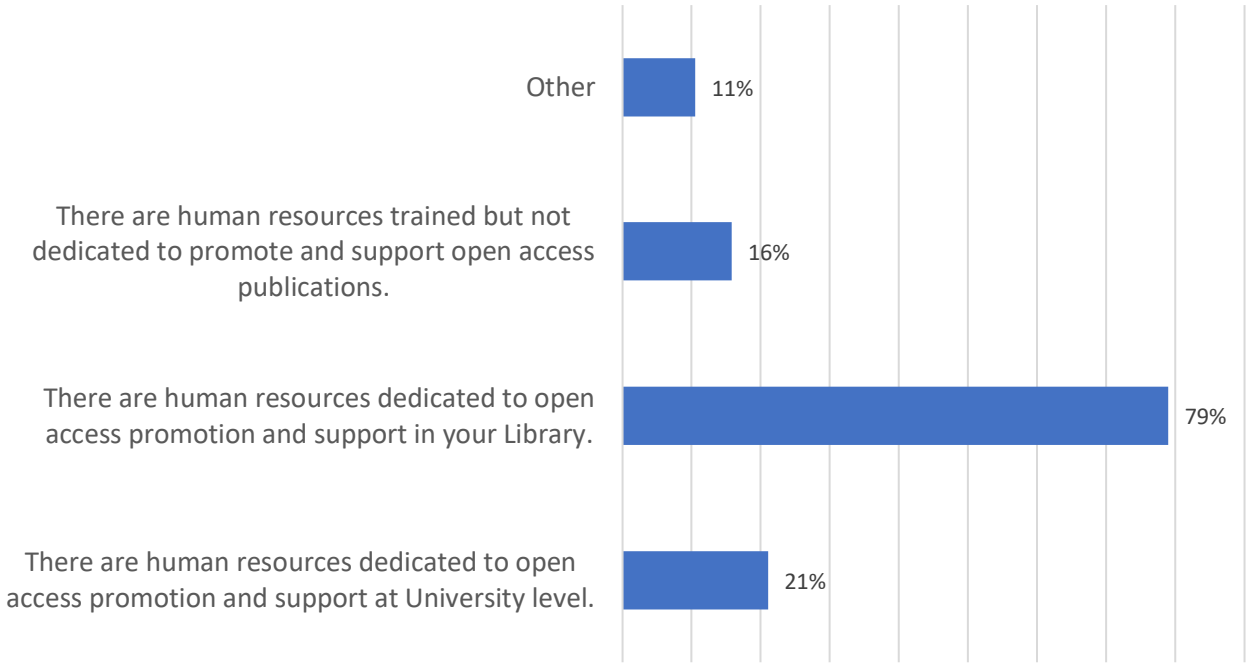
Some definitions and specifications are needed in order to better understand the answers. In the libraries’ survey, “open access” is generally intended as a delivery specificity, which means it can refer to open access only publishers, or commercial publishers providing also open access, or green OA repositories. At the same time, libraries often use two types of discovery tools: the catalog of their collections (OPAC) and a discovery tool (most of the time a third-party provider). If cataloguing defines the actions made through an OPAC and indexing could be the term for the actions conducted through a discovery tool, they both can be specific steps of the same process.

However, despite the uncertainty this lexical-practical description can make arise, a good summary of the situation could be found in this statement of an interviewee: “We want to give our users immediate access to all resources they need (OA or not OA), and from a discovery/delivery perspective OA is the ideal”.

1. Open access support

A first set of questions investigated the general organization and activity as far as open access publishing is concerned.

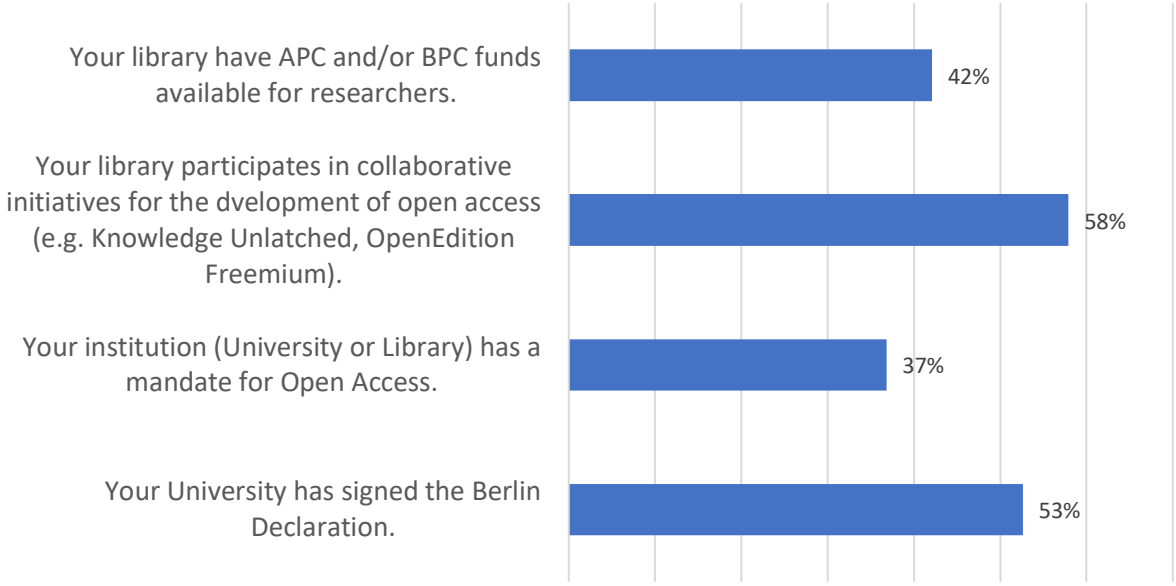
What are the resources dedicated to open scholarly communication in your library?



At a large majority (79%), there are human resources dedicated to OA and they are directly installed in the library. This shows that for most libraries open access promotion and support is definitely considered as part of their mission. The importance given to OA implies however questions about the tools used or the training necessary to achieve such a mission.

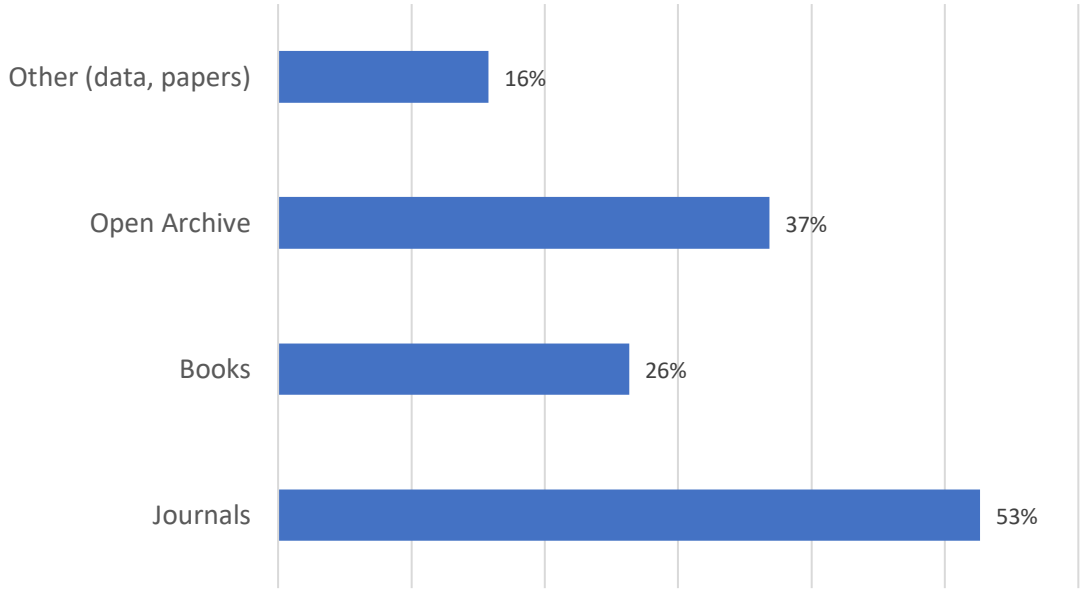
To complete these first results, the question regarding the OA policies or actions let us see that, even if it is only for an average 50% of the libraries, there is a complete set of actions ranging from engagement to funding for researchers. In fact, the highest result (58%) shows that a certain amount of the libraries in our panel are already participating in collaborative actions for open access. Some of them are engaged in collaborative initiatives (58%, of which a part is already collaborating with OPERAS members) and the numbers prove these collaborations should be extended and improved as they correspond to an actual desire for coordination.

Does your library have specific policies for open access?



Another important role played by the libraries for the promotion of open access is of course the institutional publishing. The responses show that a majority of them (20 out of 36) provides at least one service for institutional publishing and sometimes more than one. A 53% provides a service for publishing journals and a 37% provides an open archive. Books dedicated services appears to be a bit more seldom (26%). Some comments for the “other” category teach us that libraries are also hosting data. This was slightly beyond the scope of this survey but it would be interesting, for the further development of OPERAS RI, to know which data they are hosting and if it is in the SSH area.

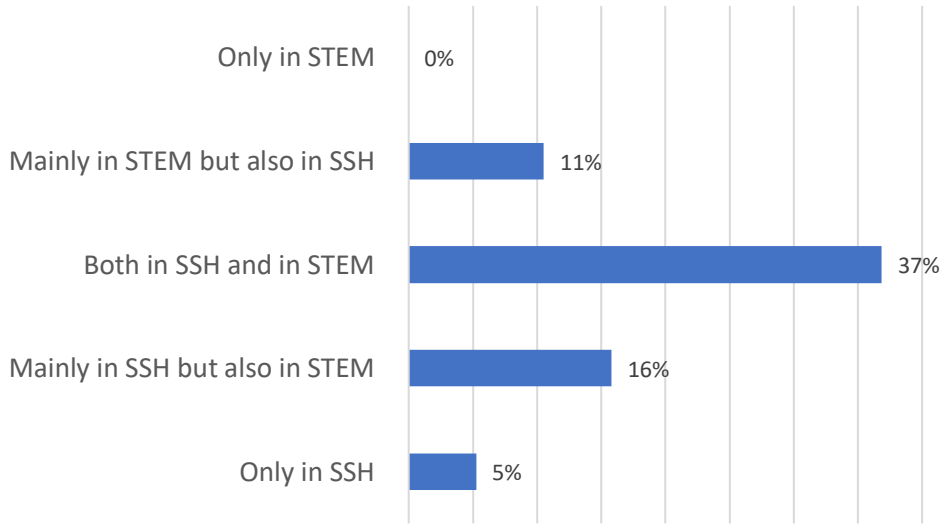
If you offer a service for institutional publishing, please specify the type of publication:



In fact, the analysis of the scientific domains covered by the libraries in our panel

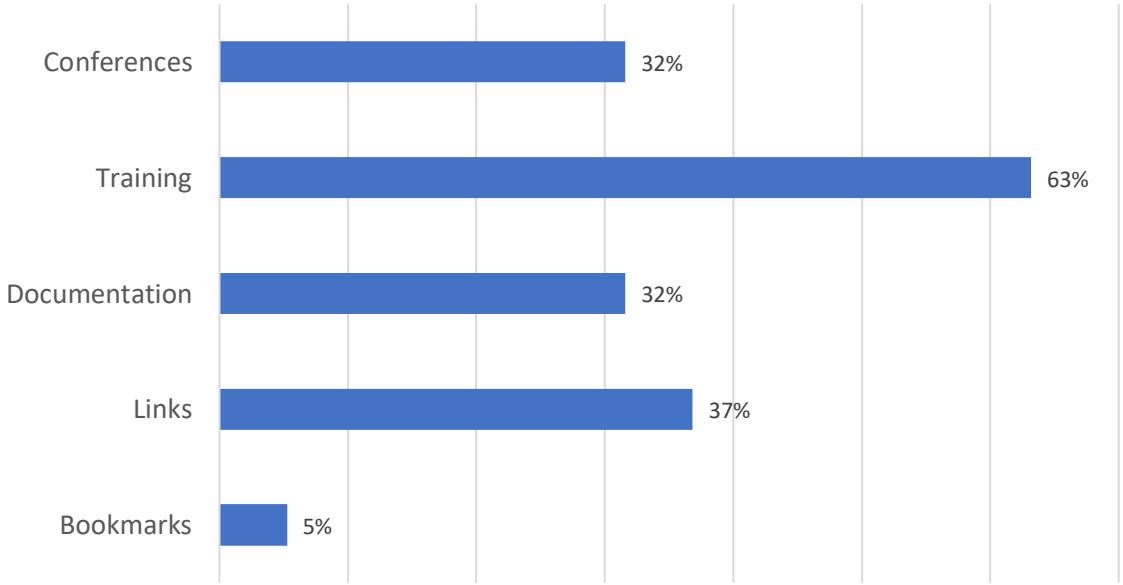
reveals there is a minority of specialized libraries. A 58% declares their coverage is both in STEM and in SSH. Only a 33% of them has a predominant coverage in SSH. We can infer from these results it is necessary, in order to collaborate better with libraries, to bring the same level of service for SSH OA publishing as in STEM.

In which scientific domains are these publications?



The last question about other forms of support for OA shows that libraries are an essential mediator between the research community and the OA publishers. In fact, passive information such as bookmarks or links are not the most important solutions. Most of the libraries (63%) provide training directly to their users.

Does your library provide other forms of support for OA publications?



The training aspect does often appear, among others, also in the suggestions for the development of the OPERAS RI:

- “Info kits for social science researchers”

- “Reliable lists of OA journals, basic and general trainings for open access topics, reliable license/rights information about publisher's policies ”
- “Common criteria (metrics to measure research output, criteria to negotiate new publishing and licensing contracts with publishers, monitoring criteria to measure costs and research output)”
- “Support small publishers in getting this infrastructure, and bigger indexes in indexing smaller publishers. Support good infrastructure for OA publishing in smaller languages”

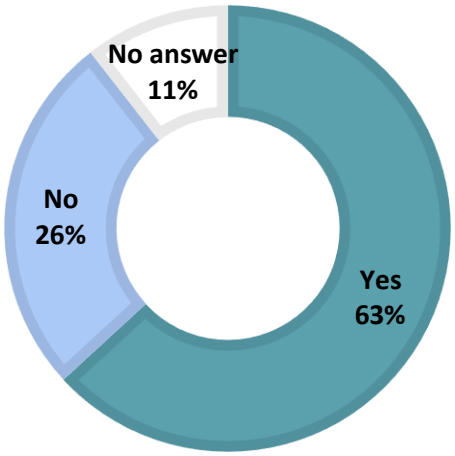
As we can see, the expectations are closely related to the users, that is the researchers, both as authors and as readers. In the first case, there is a request of transparency and centralized information. In the second case, a request for enhanced discoverability.

2. Open access publications management

With the next questions, we tried to see how OA publications were managed by the libraries and especially if there were some specific actions or tools used to integrate them in the libraries’ system.

A majority (63%) of libraries take specific actions to index OA content. The question is mixing cataloguing and indexing in order to avoid too much technical details. Therefore, we have to consider “indexing” in a broad sense.

Does your library index OA publications through its catalog or another discovery tool in order to provide direct access to these publications?



But precisely, like we said in introduction, the situation can vary greatly depending on the type of OA publications we are considering, for instance whether the indexing concerns an institutional repository or selected publications in a database. The indexing of selected publications can be achieved with a specific tool (often cited is Primo by Ex Libris): it offers a list of OA publications to be activated in the catalogue, sometimes with a supplementary manual cataloguing.

In the case of repositories managed by the libraries, the challenge is different because the objective is to make the publication visible in external databases. In this case, as it appears from the answers, the content is indexed externally in third-party

generic indexes (Google Scholar, BASE) or in some cases in national indexes.

The same distinction should be made when considering this other aspect of OA management: the metadata. As seen by the libraries, identification metadata (DOI, ORCID) are not an issue for their indexing OA. In the case of activation of OA resources in a database, they are in fact not crucial. But, generally, there is also a good level of satisfaction regarding the bibliographic metadata. More precisely, it appears it is sufficient and standardized enough when there is an intermediary to take care of it: “OAPEN, Knowledge Unlatched, etc. are all delivering these metadata standards. In the ideal world, publishers would supply this data as well…”.

Some answers, however, outline the lack of DOIs and ORCIDs, especially the last one in SSH publications. And the case of green OA can raise a great perplexity: “I see huge problems in that there is no clear licensing, often no ORCID, DOI, etc., or no indication that this is an open access resource “, says one of the interviewees. Another completes by saying that “In UNIMARC there is no specific field for OA”. While this may seem like a detail, it shows how much the specificities of the OA publications still need to be adequately taken into account.

These remarks make us better understand the suggestions about the role of OPERAS in this matter:

- “Aligning publishers, libraries and consortia workflow delivering metadata”
- “The main problem is: who is creating the metadata for new publications? The researchers don't want to bother with it, and the librarians are busy enough with their other tasks
- “Metadata directly from the original source (i.e. the publisher) indexed in openly available global indexes for reuse everywhere”

These suggestions make it clear that something is missing between the multiple small OA publishers and the libraries and this should help to define the role OPERAS intends to play regarding standards and good practices.

3. Open access publishers and providers

a. Discoverability

The questions about discoverability of OA publications show that a majority of libraries are well aware of the existence of the trusted sources DOAJ (84%) and DOAB (64%). In fact, these are the tools they often use to find OA publications and they seem to provide a satisfying service.

However, if we take a closer look at the subject, we come to understand that there is still a lot of information scattered here and there and left to a benevolent serendipity. Leaving apart the fact that most of the time libraries rely on their indexing providers and they rarely look specifically for OA publications, when they do, they have to use other tools with DOAJ/DOAB (like BASE, OAIster) or simply find it difficult, especially as far as SSH is concerned. In fact, one of the interviewee states that they “use different index services (like Scopus, WoS, DOAJ, EHRI, etc.) but WoS and Scopus lack SSH content. And more specifically OA content”.

b. OA publications quality

Another set of questions was designed to specifically examine the service provided by OA publishers and OA publications hosts. It reproduces a series of questions used in the Spring survey and, like then (and perhaps even more abruptly), these

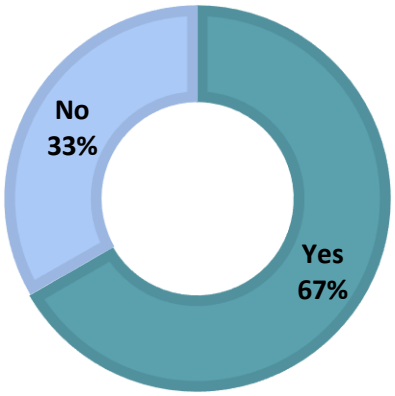
questions received very few answers. Of course, we can relate this silence to the fact that libraries rarely have direct contact with publishers or open access providers. However, the truth is that the quality of OA publications is not measurable through such questions. The real problem is well framed by one interviewee: “The quality is the same as for closed access content if peer review and other technical quality standards are delivered. OA is a matter of distribution and should not be discussed in terms of editorial/quality differences”. Which means, consequently, these quality standards have to be met and certified.

4. Advanced services

In parallel to the current implementations of the HIRMEOS project, libraries were asked whether they use specific metrics for OA publications and the response was always negative. This suggests that this particular aspect of promoting open access should be covered and more widely advocated among libraries. Even if the use of metrics seems somewhat foreign to our panel, an open source tool for metrics/altmetrics will surely raise the interest of libraries.

Like in the Spring survey, the libraries were asked also if they were providing access to publications in several languages and the results are approximately the same with a 67% of “yes”.

Do you provide access to OA publications in several languages?



Given the small number of answers (9), it is not easy to make conclusions but it perhaps means that, generally, publication in several languages is not a priority for the majority and/or it is not specifically related to OA. But when considering the answers of publishers on the same topic, one can ask why something so important for publishers doesn’t look as important for the libraries. And in this case also, OPERAS could play the role of intermediary between both the players.

5. OPERAS new services

As in Spring, the libraries were asked for their opinion on the future discovery platform of OPERAS. Based on the existing Isidore platform (https://www.rechercheisidore.fr), which is using various ontologies and controlled vocabularies, this platform could search not only through books and journals but will also index primary data and other research outputs. The prospect raises high interest from the libraries: “We need an international, institutionalized platform for opening up the open access content in the SSH”. They also added interesting suggestions regarding:

- the user's side: "The user experience is key to making a good platform. Make it simple to use, provide good value to users".
- the collaborations: "It sounds interesting, but one should take care not to duplicate existing efforts like DOAJ, the Norwegian register etc."

The Certification platform presented also to the publishers received a unanimous interest, with comments on:

- open access advocacy: "Great idea! Quality management is a key factor in the acceptance of OA by researchers".
- books' specifics: "Make sure that you respect the existing peer-review practices for books (they are different from journal peer review)".
- quality information extension: "I would also be interested in knowing who finances OA-Books, so source of funding would be an interesting category".

The preliminary observations on definitions are somehow confirmed by the results: the different forms of open access imply different types of involvement in open access. A closer collaboration with the libraries, on the basis of the existing ones, seems a prospect as much expected as promising. And for this purpose, increasing the partnerships with libraries managing also institutional publishing appears to be the adequate starting point.

F. Funders

The survey for the funding agencies was exactly the same as the one we used during Spring. The number of answers (6) is obviously too small to allow for statistical analysis but the details of each one can give us a good idea of the general situation.

All the agencies[141] of our panel include open access policies in their programme and these are in some cases available on the web[142]. As it appears from the answers and the policies, the majority of the funding agencies don't include mandates for OA but rather recommendations. It would seem the difference is between foundations, which need to ensure their funding is used properly, and national public agencies, which have also a more generic open access advocacy mission in their country.

Both the green and the gold open access are accepted, even if the recommendations promote the former and add some conditions for the latter. While there can be differences in the accepted delay for self-archiving, the document to archive in a repository is most of the time the preprint (defined as "final peer-reviewed

[141] See list of the funding agencies in Annex.

[142] Here are the links of the open access policies the funders indicated:
- FCT: https://www.fct.pt/acessoaberto/index.phtml.en
- Fondazione Telethon: http://www.telethon.it/en/research/for-researchers/open-access
- Fonds national de la recherche: http://storage.fnr.lu/index.php/s/9k72EH61fXGL9oX#pdfviewer
- Nicolaus Copernicus University Library: https://www.umk.pl/uczelnia/dokumenty/biuletyn/prawo/?akcja=dokument&typ=Z_Rektora&nr=1&bp=1&rok=2013

manuscript", i.e. without final proofreading, typesetting or formatting). In case the author chooses to publish in the hybrid model, the funders can provide specific financing for APCs. The conditions in this case can be about the copyright (mention of the funded author at the Fondazione Telethon) or the publisher's business model (avoid double-dipping at the FNR). Recommendations about licenses, on the other hand, appears very seldom. In any case, there are also conditions on the potential embargo period, which is of 6 months in general, with one exception for SSH (accepted 12 months embargo at the FNR).

Regarding the domains covered, precisely, FCT has the same specific embargo policy for SSH content as FNR. As far as the types are concerned, it seems that BPCs are not taken directly into account and that the policies mainly envisage journal publications. Nevertheless, the types listed in the policies can be very wide, for instance at the FCT: "scientific journals, conference proceedings, posters, books and book chapters, monographs, Masters and PhD theses". In fact, we also often find recommendations about the research data: "Where datasets are linked to the publication, these must be made freely available for validation and reuse" (FNR).

About the service providers recommended, especially in the case of self-archiving, the situations and practices are quite different from one agency to another. National agencies can rely on national generic repositories (e.g. RCAAP[143] in Portugal). In the case of gold OA, specific licenses for open access have sometimes been agreed upon (e.g. Springer Open Choice[144] in Poland). A particular case is the university library which is managing a complete service from deposit (open repository) to publishing (OJS platform) coupled with an educational environment: this seems to ensure a rather autonomous process of production-dissemination. At another extremity, a topic-based foundation also expressly requires the use of a topic-based repository (PubMed Central[145] for Fondazione Telethon).

In this last case, in fact, the deposit in PubMed is also used to check the mandates have been met by using the PubMed ID generated for the publication. For the same purpose, another agency is using a dedicated tool to track Industrial Property (Clarivate[146]). A last one is using DOAB specifically for SSH content. At the same time, only 2 out of 6 interviewees declare they know and use Funding registry from Crossref. But from the answers, it seems

some of the others would be interested to use it as they lack the tools to track the outputs of their funding. In fact, one funding agency describes a situation where a registry based on funding would be helpful: "It would help if you could get a reference without searching the publisher, etc. By boolean search (combining search by author and by title for example), you could then have the reference you were searching for : it can be an article, a book, etc.".

The set of questions about publishing/disseminating OA platforms show little awareness or interest on the part of the funding agencies but the assessment of their services is generally good. Logically, the expectations towards OPERAS are not so

[143] RCCAP website: https://www.rcaap.pt/

[144] Springer Open Choice policy: http://www.springer.com/gp/open-access/springer-open-choice/springer-compact/springer-open-choice-for-polish-institutions/11027898

[145] Pubmed Central website: https://www.ncbi.nlm.nih.gov/pmc/

[146] Clarivate website: https://clarivate.com

much related to publishing itself but rather to the creation of a centralized infrastructure for OA content: “Generally, we need infrastructure (repositories) for publication and open data. (...) EU needs a coordinated policy towards international publishers to make OA more affordable and available quicker”.

The last two questions were about the Certification platform. As the DOAB will serve as a basis for the future platform, the first question was meant to measure how much the DOAB was known and we found there is a 50/50 distribution between those who know DOAB and the others. This is a rather good basis to communicate about the Certification platform. At the same time, the comments on this platform are sometimes very positive, only some clarifications about usage and features are needed for the project to be fully endorsed.

This specific survey, whether we consider the level of participation or the content of the answers, shows there are still efforts to make to engage funders in OPERAS developments but also that OPERAS services could actually help them fulfil a part of their mission.

G. Main findings

1. Open Access variations

As we learned with the Spring surveys and can confirm with these Autumn surveys, there is a general need for rich metadata enabling both visibility and discoverability for open access content. Transparency about publisher’s business models, licenses policies, peer-reviewing processes are also a common request from researchers, publishers, libraries and funders.

However, specific needs of each stakeholder appear clearly from the results: publishers and common practices, libraries and coordination, funders and quality assessment. The researchers being, perhaps, a particular case as they would benefit from all these aspects, as authors and as readers.

2. SSH and STEM

Without losing its specificity, open access in SSH can aim to reach the open access standards of STEM. While the publishing quality of SSH OA is generally recognized, some developments are still necessary to fully meet high level requirements: certification service, minimal set of metadata, advanced services and an integrated dissemination system.

The fragmentation characterizing the SSH landscape should not nevertheless be neglected but rather considered as an opportunity to test and spread effective common practices. Typical also of SSH research and deeply motivated, multilingualism is a specific challenge OPERAS has to and wants to address.

3. OPERAS new services

The results of the Autumn surveys confirm that the platforms that will be implemented within OPERAS are validated by the community. The platform Research for Society raised interest from the researchers, and so did the Certification platform and the Discovery platform for the libraries and publishers.

The HIRMEOS implementations of identifiers, as well as advanced services like online annotations and open access metrics also confirm OPERAS and its related project HIRMEOS actually meet the expectations.

4. Coordination challenges

More generally, it appears from the suggestions and comment that the various actors in the field feel a lack of coordination. Some specific efforts have to be done in order to liaise the production, enrichment and dissemination steps of open access in SSH. Alongside with the implementation and provision of new services, it seems necessary that OPERAS endorses this particular mission of helping coordinate not only the requests but also the achievements of each member of the community.

Read the full Reports:

- **May-June report:** https://doi.org/10.5281/zenodo.1009557
- **Nov-Dec report:** https://doi.org/10.5281/zenodo.1299077

VIII. Design plan for the future services (OpenEdition)

A. Background

The Design plan for future services has been structured upon :
- the answers to the online survey aiming at identifying missing services in the current landscape of open scholarly communication (D2.3),
- the Hirmeos project implementations,
- the results of an Operas focus group meeting dedicated to the validation on OPERAS future platforms and services in January 2018,
- the synthesis interviews about organisational and management issues with other Research Infrastructures,
- a compilation of documentations on EOSC (European Open Science Cloud).
- the contributions from several Working Groups within the Operas framework.

B. Service provision Model

1. Principles

Even though each OPERAS service will follow its own path of development based on the availability of resources and its level of maturity, the aim of OPERAS infrastructure is to set a framework that drives the development of services from common principles widely adopted throughout the community. Several recent reports and publications clearly established those principles :

a. Fundamental principles

At a fundamental level, the paper named *Principles for Open Scholarly Infrastructure* by Lin and Cameron, widely recognized as a milestone in the collective conversation on the topic, provides OPERAS with a set of principles that can guide its plan for the development of future services : ""Everything we have gained by opening content and data will be under threat if we allow the enclosure of scholarly infrastructures. We propose a set of principles by which Open Infrastructures to support the research community could be run and sustained."

In particular, the following principles should be ensured:

- Governance: a system to ensure that the central services serve the community, not themselves or certain interest groups, to ensure that they are responsive to changing needs, etc;
- Sustainability: central services will need to have sustainable resources to meet their obligations and create trust;
- Insurance: the central services need to be open to create confidence and allow the community to retain control.

At the level of OPERAS, the general model entails practical question:

- How the relationship between services and OPERAS legal entity will be organised? How can we ensure that OPERAS and the central services remain aligned?
- How are the central services positioned? How do they relate to each other, in terms of their mission, purpose, target audience, value proposition, branding?
- How do we add new central services, or more general, determine which services can be defined and managed as 'central services'

b. *Services structuration*

Service provision to support open science policies is a critical domain that has not been properly addressed yet, as several recent reports have pointed out. Thus, the Knowledge Exchange Report published in 2016, *Putting down roots, Securing the future of open access policies*, "commissioned by Knowledge Exchange, explores the relationship between open-access policies and services. Drawing on a consultation with funders, institutions and service providers across the five Knowledge Exchange countries and beyond, it identifies the key services needed to successfully implement open-access policies, and suggests priorities for action in support of an open scholarly infrastructure."Interestingly, the report mentions that "the fundamental challenge for the implementation of OA policies is the need to develop a fully functioning OA infrastructure from the current disparate collection of services". It identifies 6 categories of services that support potentially the implementation of OA policies across the Knowledge Exchange countries :

Table 3: OA service categories and subcategories

Category	Function	Subcategories	Example services and activities
Underpinning services	Storage for scholarly outputs, unique identifiers, metadata and standards	Storage Identifiers Standards Metadata	ORCID FundREF NISO DOI
Abstracting /indexing (A&I) tools	To bring together, organise and systematise OA articles published from various platforms, allowing easy discovery and access from the public	N/A	DOAJ PubMed Directory of Open Access Books (DOAB) OpenAIRE BASE
Support and dissemination services	To provide information on various aspects of OA, from the generic (its rationale and objective) to the specific (individual journal and funder policies), and assist with capacity building	News / current awareness services Information / enabling services Business and technical planning advice Policy advisory services	SHERPA (Juliet, RoMEO) OpenDOAR
Repository services	To allow the deposit and discoverability of publications in OA repositories, enabling compliance with OA archiving policy provisions	Subject/national/ international repositories Repository software/ builders/hosting services/ registries Preservation services Repository infrastructure and interoperability	DSpace EPrints Europe PubMedCentral ArXiv Zenodo Fedora
OA publishing services	Services that support or facilitate OA publishing, and non-commercial facilitators of APC payments	Fees agents APC data collection OA publishing platforms	Open Journal System Quality Open Access Market (QOAM) ESAC
Monitoring services	To allow funders and institutions to monitor the effectiveness and impact of OA policies	Impact metrics (citations) Usage analysis tools	IRUS-UK ROBOT

The most important idea in this report is that OA infrastructure relies on a "web of services" relying closely on each other and that can't be considered independently from each other. That's why the list of OPERAS future services is more comprehensive than those that end users identified in the usage surveys. Some services for example underpin other OA communication services and are not well identified by users. It must be kept from the report that future services of OPERAS will have to be interrelated to each other and organized in a consistent catalog. That's why the plan for future services includes a "service provision mechanism" that secures consistency across the different services.

c. *Services sustainability and governance*

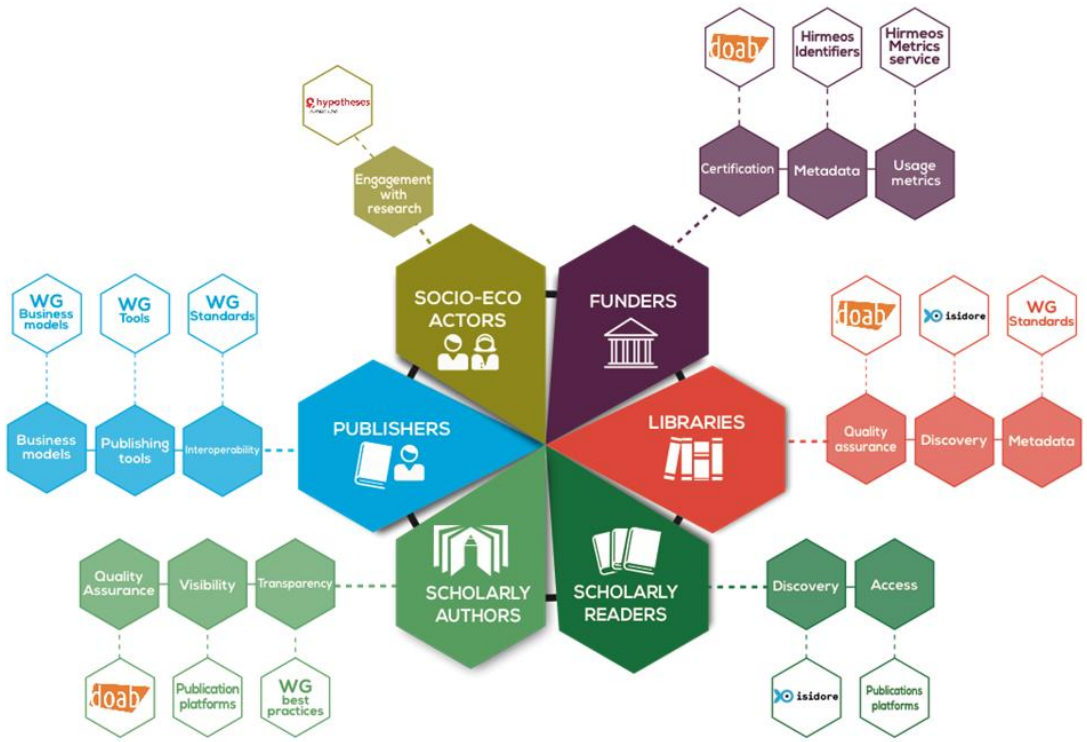
A previous report published by Knowledge Exchange in 2013, *Sustainability of open access services - Phase 3: The Collective Provision of Open Access Resources,* provides a useful analytical framework to design sustainability models for future OPERAS services. The report states that “a sustainability model defines the economic logic of an infrastructure service and explains why the service should exist. A nonprofit initiative seeking to maximize mission impact requires this logic as much as a commercial firm seeking to maximize profit. Sustainability planning should be treated as an integral element of a service’s design and purpose. Providing infrastructure services as public goods has inherent challenges that differ from market-based approaches and that impose specific requirements on the design of a sustainability model”. In the case of OPERAS, OA services should be considered as public goods. Therefore, the business models that ensure their sustainability, even though they can vary, are limited by their particular nature and must be guided by a strong governance scheme that ensures a continuous control by the academic community over the service provision. Other parts of OPERAS design study deal with the general governance and business model of the infrastructure. The general scheme is that services won’t be operated by the infrastructure as a legal entity, but by different operators in OPERAS consortium. A binding relationship between the infrastructure and the service operators has to be found, locking secured sustainability through funding with control. The legal study planned in OPERAS-D project will give more details about that point.
At a practical level, the report models the relations between sustainability and governance in a table that should be used in the future.

C. Identification of OPERAS services

1. General method

The design plan for future OPERAS services is a partially closed, partially open document. On the closed side, a set of core services has already been identified through a precise methodology achieved during OPERAS-D project. They are listed below. On the open side, a framework has been put in place to achieve further identification of future services with all partners, through working groups.

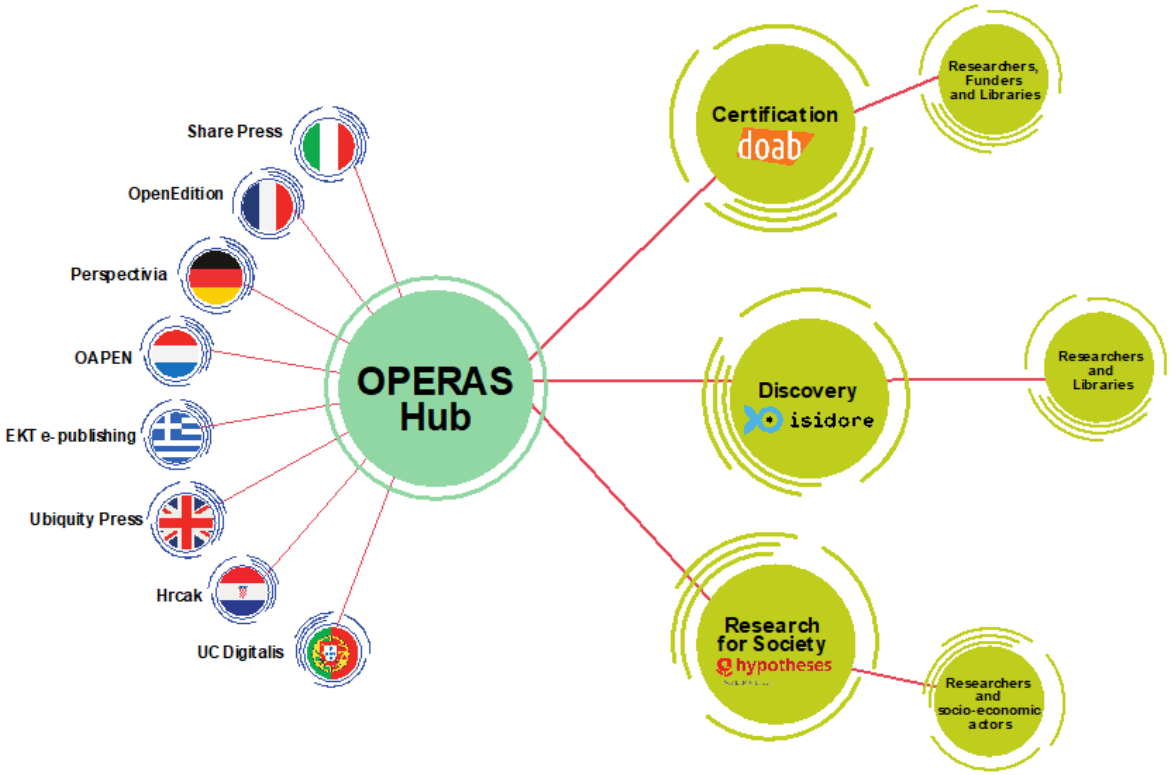
The main principle that has emerged from this Design Phase and in particular from the online survey to test OPERAS’ proposition against users’ needs, (researchers, libraries and publishers), is the need to define future OPERAS services upon different types of users. Six types of users has been identified and the different dimensions of OPERAS’ work against those types can be represented as follow :



The maturity and distribution for the different services is uneven : some services that could address certain users' needs are not completely identified yet, or the existing node from which they could be developed don't exist yet, or there is no consensus yet in the community on the direction to which they could be developed. Some services though already meet the initial expectations : their development is already planned through specific projects

The first meeting of the focus group, composed by Operas Core Group members has validated the first services mature enough to be supported by specific projects. Those services will be supported by existing platforms : a Certification Service based on DOAB platform, a Discovery Service based on Isidore platform, and a Research for Society Service based on Hypotheses platform.

As shown in the following figures, the three services are :
1. not overlapping with publication platforms but rather complementing them at a level that could not be provided by them, individually
2. not overlapping with other scholarly communication infrastructures, namely OpenAire, but rather complementing it with other types of services.



3 WHY OPERAS PLATFORMS ?

The three identified platforms answer the needs of the stakeholders outside the consortium

Name	Area	Target	Identified needs	Service
OpenAIRE	All	Policy makers	Open Access monitoring + advocacy + training	**Harvesting**, indexing
OPERAS doab	SSH	Researchers Funders Libraries	Quality assurance Monitoring	**Certification** of scientific quality
OPERAS isidore	SSH	Researchers Readers	Finding resources	**Discovery** : Search engine through semantic tools
OPERAS hypotheses	SSH +	Researchers Socio-economic actors	Engagement	**Research for society** : New ways of communicating research

COMPLEMENTARITY

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The three OPERAS platforms delivering services towards different types of stakeholders will be complemented by other services more directly addressing the consortium needs. Here's the list of the working groups :

- Publishing Tools (coordinated by OpenEdition)
- Standards (coordinated by EKT)
- Best Practices (coordinated by Oapen)
- Advocacy (coordinated by MWS)
- Business models (coordinated by UCL Press)
- Multilingualism (coordinated by University of Coimbra)
- Platforms and services (coordinated by OpenEdition)

The working groups are currently preparing white papers identifying the state of art and the emerging trends in each topic and the developments needed by OPERAS partners to comply with the state of art or spearhead the emerging trends. The papers will be published during the month following the Athens Conference (May 31-June 1 2018) and will lay ground for future projects to set up the previously identified services. Notwithstanding the services have not been completely identified yet, their development is planned inside a general schedule defined accordingly to the ESFRI roadmap for OPERAS (see the Service provision mechanism below).

2. Service Provision Mechanism

The **service provision mechanism** will be structured during the preparatory phase 2018-2021 with initially a State of the art (in 2018) and a study on governance for service provision (2018 and 2019). The provision mechanism is being studied within the WG platforms and services which works on the aim and function of these services, the relationship and positioning within OPERAS and at European level, the sustainability and governance model of the services, including the mechanism for how to include new central services.
The **legal framework** for the service provision will be determined within the legal study under preparation within the D4.2 : Legal study and documentation which concerns the legal framework for OPERAS and the establishment of OPERAS as legal entity. This task includes external legal expertise, to draw up the necessary legal documentation. X-Oficio from Sweden has been chosen to work on the topic.

A first general overview for the service provision mechanism has been provided with interviews about organisational and management issues in distributed RI. From the interview analyses with five Research Infrastructures, it appears that the service provision depends also on the type of governances and the kind of relationships with the central hub and the national nodes.
The following schema illustrates some structural models for distributed RI.

Which structural models for distributed RIs exist?

A clear categorization of arrangements for collaborating facilities is not obvious. The OECD Report2on "International Distributed Research Infrastructures" distinguishes the following structural models, depending on the nature of the central coordination (red dot):

The obvious question is which of the models fit the above definition of a distributed RI by ESFRI And is still not conclusively answered.

Loose connection	
	OECD: "Network of distributed national nodes with no central coordination. Common operation can be supported by one or few nodes." This architecture does not correspond to the definition of distributed research infrastructures by ESFRI.

Central (shared) coordination	
	OECD: "Different distributed national nodes with a central coordinating mechanism supported by one node or several nodes or by an independent organisation. National nodes can function as national hubs of several distributed nodes in a given country, or there may be only one node per country."
	The nodes are not owned by the hub but have defined operational relations. This means that sites, entities, facilities are distributed and independent but crucial for infrastructure operation. Examples: • Digital RIs with data/signal at distributed locations but user access via the European RI ERI service • Networked physical regional/national infrastructures with local researchers access
	Multiple sites RIs have different places of operation and a central unit/coordinating mechanism. The distributed entities are owned by the legal framework.

Source: http://www.copori.eu/1420.php

For M. Dowey the difficulties are in differences of national structures and more in particular the scale, political landscape, how research is organized and the research community itself.
The success is to come up with a structure that can cope with it. Single national nodes can make sense or not.

The five interviewed Research Infrastructures are ERIC and have different relationships with national nodes.

- CERIC has a central site and one institution/country with contributes to open access facility. There are no nodes.
- EATRIS has 90 institutions, each country has a coordinating institutions with a national scientific director and a main contact point for a country. A direct contact from the central hub with institutes are possible for a project implementation to avoid to many links and hierarchy.
- DARIAH is related to national nodes through national coordination committees.
- BBMRI is completely independent of any institution. There are 19 countries members and one international organisation. The national nodes are nominated by the government. National nodes have a national coordinator which leads of the activities in the country. The situation can be very different from one country to

other : in Malta where national activities is with one institution or in Germany there are 150 biobanks.
- EGI has a membership at national level and single node in each country. The central hub is a legal organisation which hire the staff on facilitation side. The national nodes provides services.

Regarding to service provision more precisely it appears from the interviews that the service provision depends also on the type of relationships settled between the center and the national nodes or institutions.

The service provision is organized differently for the five interviewed Research Infrastructures accordingly to their specificities and governance models.
All have an ERIC status. 3 of them are in implementation phase since 2014. CERIC was created mid 2014 within a CE decision.

- **EATRIS** is since 2014 in operational phase. It has 90 institutions, 5 platforms with an infinite variety of services. Each country has a coordinating institute with a national scientific director and a main contact point. Centralized service concerns project support, for industrial and European project, legal guidance, IP etc. All institutions have a long term framework agreement.
  For Industry project a letter of engagement is signed and 5 - 8% of overheads are charged. If no contract is signed , the overheads are not charged. 2 FTE business developers are working on project support.
- **DARIAH** is an ERIC since 2014 and in operational phase. Each MS provide several services via VCC (Virtual Competence Center): the role of RI is to federate, coordinate and to provide skills through services which exist at the international level.
- **BBMRI** has several hundreds partners and a 3 levels of service provision: headquarters. National nodes: (which coordinates all the activities in the country) and individual partners. Services are provided also from the central hub for IT tools, legal and ethical services. The partners charter (quasi legal document) is signed for every service provision
- For **CERIC** the service is open access to facilities, which represents its core activity. The RI handles all the access activities, issue calls, and selection of the best proposal. The users can choose the facility. Normally more than one facility is required. The services provision is free for those who applies for calls and are selected.
- **EGI** follows http://fitsm.itemo.org/ which manages all the services life cycle, dealing also with support aspects. The services are free.

Hirmeos project

Another step in the preparation of the service provision mechanism is also the HIRMEOS project. It was decided 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.

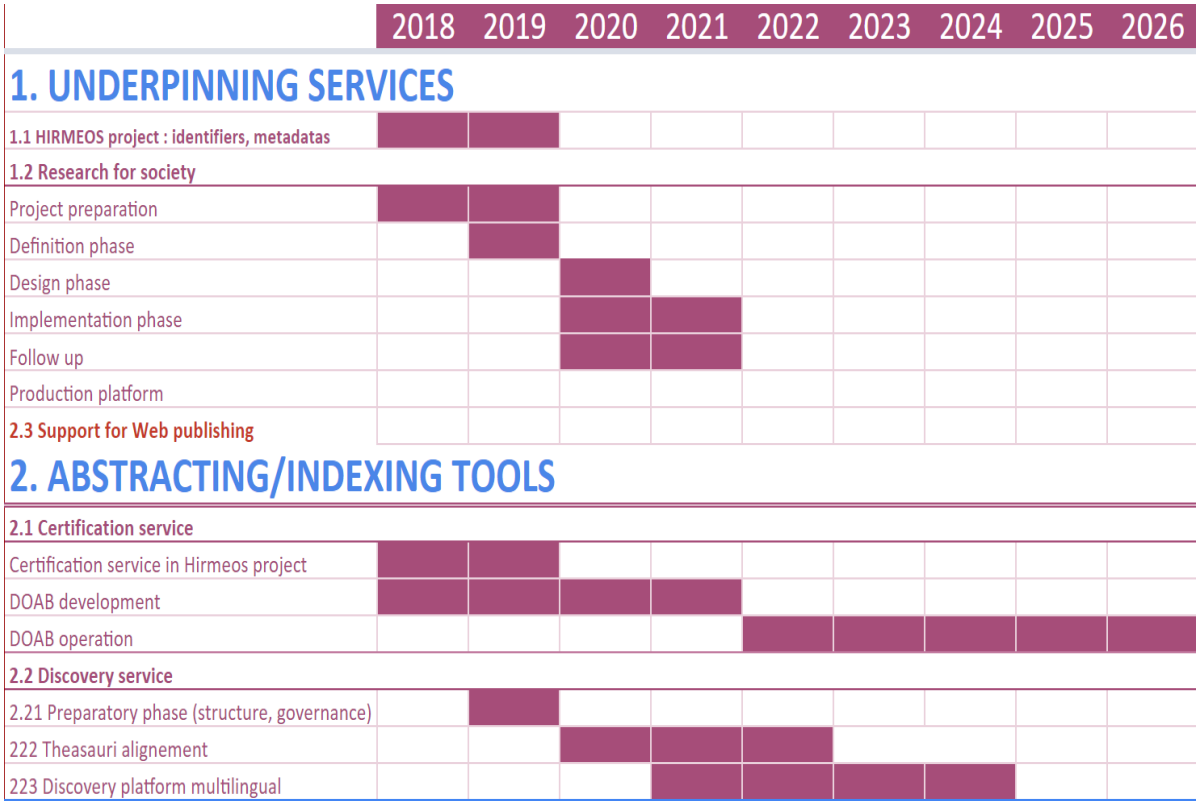
D. Services catalogue

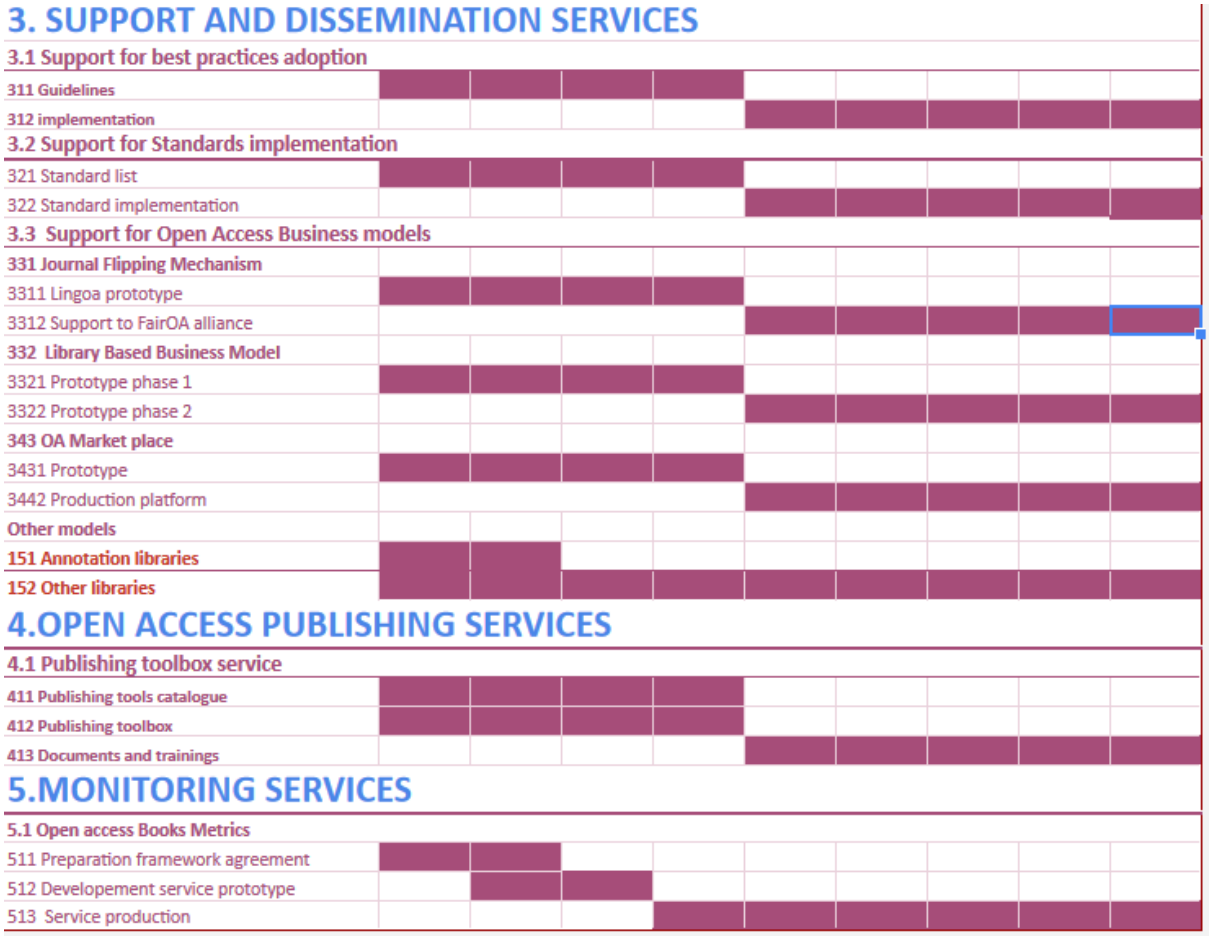
The OPERAS catalogue is structured in 5 parts, based on the categories proposed by *Putting down the roots* Knowledge Exchange report, previously mentioned:

1. Underpinning services
2. Abstracting/indexing (A&I) tools
3. Support and dissemination services
4. Open Access publishing services
5. Monitoring services

E. Roadmap

The draft roadmap for services development is available here **Timeline**





1. Underpinning services

1.1 Storage, Identifiers, Standards, Metadatas

In the Hirmeos project it was decided 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.
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1.2 Research for society collaboration service - Hypotheses platform

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.

The research for society collaboration service primary objectives are to promote citizen science and enhancing the research impact on society. Going beyond the current linear and vertical scholarly communication model, it will ensure and increase societal impact of research results, particularly in the humanities and social sciences.

This collaborative environment will provide a concrete technical support for citizen science by facilitating the implementation of research jointly conducted by teams of researchers and other socio-economic actors as previously defined. It will respond to three basic needs for the constitution and success of intersectoral and interdisciplinary teams: linking professionals that didn't know each other yet; access to funding sources (with an international database of calls for projects, an international network of funders, a crowdfunding tool); collaborative project management (management of rights and user profiles, connection to databases and data repositories, interoperability with other working environments, collaborative tools - in particular discussion and sharing - on textual and multimedia data).
This collaborative environment will also benefit from connections and interoperability with discovery tools in a digital document context, particularly for sharing documentary files created during collaborative research.

The research for society collaboration service will be built upon already existing tools, working on enhancing their usability and interoperability, and will be built, as a starting point, on the Hypotheses.org research community.

The Research for Society platform will be developed within a SWAFS-15: Exploring and supporting citizen science in April 2019. Others submissions for funding are already been made, in particular for realising a landscape study on open tools and for prototyping the common framework.

1.3 Support for web publishing (CDN)

During the development of HIRMEOS project, it appeared necessary and useful to offer a Content Delivery Network service to partners, to support the implementation of the annotation service on the platforms. The CDN would be offered first by Ubiquity Press to deliver to display and annotation javascript libraries : epub.js and pdf.js. The service could be extended to other libraries that OPERAS partners could use in the future to add extended features in their web publishing platforms. The service will be proposed from the second semester of 2018 for the two annotation libraries and could be extended after the end of the project in june 2019.

2. Abstracting/indexing (A&I) tools

2.1 Certification service

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.

The certification platform will be implemented through the development phase of the DOAB platform during the preparation phase (2018-2021), to be fully operational in construction and implementation phase. (2022-2026).
More in particular during the preparatory phase the certification service will be developed in the framework of the Hirmeos project in 2018 and half 2019. The aim is to create and implement a certification system for peer review procedures and open licences for publishing platforms at the level of publishers, books, and book chapters. The WP has the following tasks : T.4.1 Governance and quality assurance of certification service (M2-M12),T4.2 Service development (M3-M12), T.4.3 Coordination, support and validation (M13-M17)
T.4.4-4.8 Implementation on the 5 platforms (M13-M16) which are Openedition, OAPEN, UP, EKT and OBP. For more information consult the Hirmeos website.

2.2 Discovery service

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.

1. *General roadmap*

2019 - preparatory phase: building the governance and adapting the technical infrastructure.
2020/2022 - development phase: Scaling up Isidore, mapping the vocabularies in several languages using EOSC e-infra calls.
2021/2024 - production phase: Discovery platform in production, users feedback, additional services, interoperability with existing services (DARIAH-CLARIN marketplace, links with Research for Society platform).

The Discovery platform needs to be both implemented and governed. During the first phase, different workshops will be organized about the governance and the distribution of responsibilities (technical, scientific, financial) between Huma-Num (coordinator, main tool provider), OPERAS (the infrastructure which will then beneficiate from the platform) and the other partners. This work will be started earlier in order to make it to easy to organize the legal structure during the development and the production phase.

2. *Strategy*

The Discovery platform is an end-user service answering the needs of the whole SSH community. It aims to gather different research projects around a same service in order to facilitate sharing, exchange, reuse. It aims also to offer a service accessible to other types of stakeholders : citizens, institutions and companies. The Discovery platform is meant both to allow the researchers to find data and be able to reuse them and to allow other stakeholders to benefit from research results.
To build such a platform, three types of networks need to be activated or developed :

- SSH RIs, like DARIAH and CLARIN, and even more so with OPERAS;
- e-infrastructures to organize the integration in the EOSC;
- EASSH : an association for SSH in Europe linked with civil society.

The implementation phases will be achieved thanks to two H2020 calls, more precisely, the development and the production phases.
The Discovery platform is built on ISIDORE, a search engine developed by Huma-Num (CNRS). It has already reached at least a TRL6 level. The technology of ISIDORE will be duplicated thanks to an API which will be integrated with the platform. All the data currently

harvested by ISIDORE will also be available but most of the content will come from OPERAS consortium. It implies first to align the thesauri in each field in each language and then to help the providers to organize their content for the harvest. The alignment of thesauri represents a huge task and will be the main part of the work.

However, the platform implies also to work on the harvesting methodology. It will be discussed and evaluated whether OAI-PMH is the best way or if another technology has to be used and how to prepare for this shift. The Handle identifiers will also be a part of this reflexion. Indeed, each data must have, on one hand, rich metadata (this is one of the main added-value of ISIDORE) and, on the other hand, be identified through persistent identifiers.
In the end, the platform will not be limited to the ISIDORE API but will offer a wider range of services: annotation, citation tool, authentication and profile management features, recommendations, social networking.

3. Possible funding

- INFRAEOSC-4 “Connecting ESFRI infrastructures through Cluster projects“ with ERICs in SSH: multilingualism; integration into EOSC
- INFRAEOSC-2 “Prototyping new innovative services“ : additional services and implementation

Use cases discovery tool
Cf. Annex 1

3. Support and dissemination services

3.1 Support for best practices adoption

The definition and adoption of best practices that allows for a common level of quality and compliance with Open Science principles. The partners will be supported to implement the standards listed during the Preparation phase (2018-2021) and in their adoption of best practices.
Publishing is a composite activity that includes several components. Therefore, the adoption of best practices in academic publishing should address all aspects : service provision to authors, publishers agreements, peer-reviewing, editing, usage of open access licenses, dissemination, metrics and digital preservation. On each of these topics, best practices charts and lists have been elaborated by different academic and professional networks and already exist, gaining enough consensus in the community to be adopted by OPERAS consortium without the need for reinvention from the start. What has to be done is to identify the most accepted best practices for each case and plan for concrete and specific actions for their implementation by OPERAS partners.
The is a crucial domain however where best practices are not clearly established : management of the transition to Open Access. Although several “flipping mechanisms” are proposed, none is widely considered as “best practice” over others. In that domain the debate in the academic community clearly lacks maturity.

3.2 Support for Standards implementation

Establishing a minimal common set of standards within the OPERAS consortium. Based on identification of basic requirements for high quality publishing process.
Listing of main actors of standards adoption and possible mediations between them and OPERAS partners.

The OPERAS Working Group for Common Standards has explored the workflows, mediums and technical standards that have recently emerged as a result of the changes brought about by the transition to Open Science. The WG has placed places focus on the importance of common standards, and traces the improvements required to ensure content quality and interconnectivity for scholarly output in the SSH and beyond.
CF. the Executive Summary in the Annex 3.

3.3 Support for Open access Business models

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. The three components rely on existing successful services provided by FairOA, Knowledge Unlatched and OLH. The development of the support service will increase awareness, transparency and quality in that domain and provide funding to open the availability of the three services to more publishers.
The roadmap of development for the three components is based on the same pattern : prototyping during preparation phase and service in production during implementation phase

During the first semester of 2018 the Open Access Business models has been discussed within the Working Groups Business models. Please Cf. the Executive summary in the annex 4.

4. Open Access publishing services

Publishing toolbox service

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 improvement of their workflows.
During the preparation phase (2018-2021) publishing tool boxes and publishing catalogue will be set up, followed by shared training services documentation and guidelines during construction and implementation phase. (2022-2026)
During the first semester of 2018 the publishing toolbox service has been discussed within the Working Groups Tools. Please Cf. the Executive summary in the annex 2.

5. Monitoring services

Open access Books Metrics

The development of HIRMEOS project enables OPERAS to consider offering a permanent metrics service in the future and after the end of the project. The service will be composed of two components : a usage metrics service, operated by Open Book Publishers, that aggregates usage metrics (views, downloads) from a set of different publishing platforms and an alternative metrics service operated by Ubiquity Press that aggregates citation metrics from different data sources, particularly social media. The services will be offered freely to HIRMEOS partners until June 2019. No further technical development are required to provide the service but a legal framework must be provided to support the cost of the services and allow their provision to all OPERAS partners. The preparation of the framework will be done from march 2018 to june 2019.

F. Some examples of KPI

In the framework of Esfri Submission KPI have been developed, among others, for Certification, Discovery and research for society service. The KPI have been quantified for design, preparation and construction phase.

Area	Activity	KPI	Metrics	Design	Preparation	Construction
Consortium						
	LoI	partners	number (no.)	23	30	40
	MoU	core group partners	no.	9	11	13
	EoI	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	10 000	15 000
	Discovery	unique visits	GA/year	1 000 000	1 200 000	1 600 000
		searches	GA/year (sessions with search)	580 000	870 000	1 740 000
		downloads/views	GA/year	1 400 000	2 100 000	4 200 000
		impact	GA/year (direct links)	50 000	750 000	150 000
	Research for Society	research projects	no.	–	3	10
		blogs	no.	2 500	3 750	7500
		Engagement	posts and comments	337 849	500 000	1 000 000
		unique visits	PW/year	12 861 523	20 000 000	40 000 000
		impact	PW/year (direct links)	3 000 000	4 500 000	9 000 000

G. Annex 1: Use cases Discovery Tool

1. General Context

The Discovery Tool will be built on ISIDORE tool (developed by Huma-Num, CNRS). But it will involve several other partners and especially other services providers. The platform will be a part of the RI OPERAS. Needs to decide who will be the owner, who will be responsible for it, etc.

2. Legal Context (CE and H2020)

'Beneficiaries' means the legal entities who have signed the grant agreement (GA) with the Commission/Agency (i.e. participate in a project supported by an EU grant).

The **'coordinator'** is the beneficiary which is the central contact point for the Commission/Agency and represents the consortium (towards the Commission/Agency).
Applicants who accept the grant (by signing the GA) become beneficiaries of the grant and **are bound by the entirety** of its terms and conditions.

This means that the beneficiaries must:
- carry out the action (and especially the research work) as detailed in Annex 1 (technical implementation) and

- comply with all the other provisions of the GA and all the applicable provisions of EU, international and national law.

Other entities which participate in the action but do not sign the GA (including **linked third parties**, subcontractors, third parties giving in-kind contributions, etc.) are considered as third parties involved in the action (see Articles 8 and 9-14).

They are formally speaking not bound by the terms and conditions of the GA, although it implies certain obligations for them; conversely, the Commission/Agency has no formal contractual link with them.

H2020 > Chapter 4 > Section 1 > Article 14 151
This optional Article (together with the corresponding options in Article 6 and other provisions) will be inserted into the GA if the action is implemented with linked third parties.
Characteristics of implementation by linked third parties:

'Linked third party' :

- Linked third party does not charge a price, but declares its own costs for implementing the action tasks
- Linked third party itself performs certain action tasks directly and is responsible for them towards the beneficiary. Linked third parties do NOT sign the GA (and are therefore not beneficiaries).
- The beneficiary remains responsible towards the Commission/Agency for the work carried out by the linked third party.
- Moreover, the beneficiaries are financially responsible for any undue amount paid by the Commission/Agency as reimbursement of costs for their linked third parties — unless the GA foresees joint and several liability (see Article 44.1).
- Work is attributed to the linked third party (in Annex 1) and is usually carried out on its premises
- Work is under the full and direct control, instructions and management of the linked third party, who carries out this part of the action (with its employees).

Results:
Results are owned by the beneficiary that generates them.
'**Results'** means any (tangible or intangible) output of the action such as data, knowledge or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights.

Two or more beneficiaries own results jointly if:
(a) they have jointly generated them and

(b) it is not possible to:

(i) establish the respective contribution of each beneficiary, or

(ii) separate them for the purpose of applying for, obtaining or maintaining their protection (see Article 27).

The joint owners must agree (in writing) on the allocation and terms of exercise of their joint ownership (**'joint ownership agreement''**), to ensure compliance with their obligations under this Agreement.
Unless otherwise agreed in the joint ownership agreement, each joint owner may grant non-exclusive licences to third parties to exploit jointly-owned results (without any right to sub-license), if the other joint owners are given:
(a) at least 45 days advance notice and
(b) fair and reasonable compensation.

Once the results have been generated, joint owners may agree (in writing) to apply another regime than joint ownership (such as, for instance, transfer to a single owner (see Article 30) with access rights for the others).
If third parties (including personnel) may claim rights to the results, the beneficiary concerned must ensure that it complies with its obligations under the Agreement.
If a third party generates results, the beneficiary concerned must obtain all necessary rights (transfer, licences or other) from the third party, in order to be able to respect its obligations as if those results were generated by the beneficiary itself.
If obtaining the rights is impossible, the beneficiary must refrain from using the third party to generate the results.

3. Use case 1: HN + Public Partner or Private Partner

HN, responsible of the platform and relationships/engagement with a Pub. Partner.

Legal viewpoint: Huma-Num is the coordinator of the H2020 project. Other organisations part of the project are beneficiaries.
On a legal viewpoint, all the stakeholders have to comply with the Grant Agreement, which will define the objectives and the responsibilities related to the development of the service.
Concerning the ownership of the platform, "*results are owned by the beneficiary who generates them*". It means the platform won't belong exclusively to one party, but the partners which will have developed it. A joint ownership agreement could be written clarifying the respective work of each stakeholder during the development of the platform, and who will manage it after the end of the project.
If the partner (public or private) is not part of the project, a contract will be negotiated between the partner and HN.

Governance viewpoint:

- The executive assembly of OPERAS is appointed to ensure the strategic aspects of the platform: positioning it in OPERAS global strategy, usefulness for the community, consistency with the other services.
- A project coordinator is appointed at HN, to coordinate the development with OPERAS and to work with the partner. Another person (a developer) can be designated to ensure the maintenance of the platform after the end of the project.
- The partner ensures the development and maintenance of the service. A project coordinator is designated.

Business Model viewpoint: the platform will be developed with the resources of the project. After the project, several solutions can be considered:

- The service is financed by HN : work on the platform (amount of time dedicated to the coordination/maintenance) is offered as a contribution to OPERAS. If the partner is private, HN ensures payments.

- other sources of funding: selling the added value of the service via a freemium access. On an administrative viewpoint, it would necessitate to create a PME.

4. Use case 2: OPERAS (owner of the platform) + Partners involved in

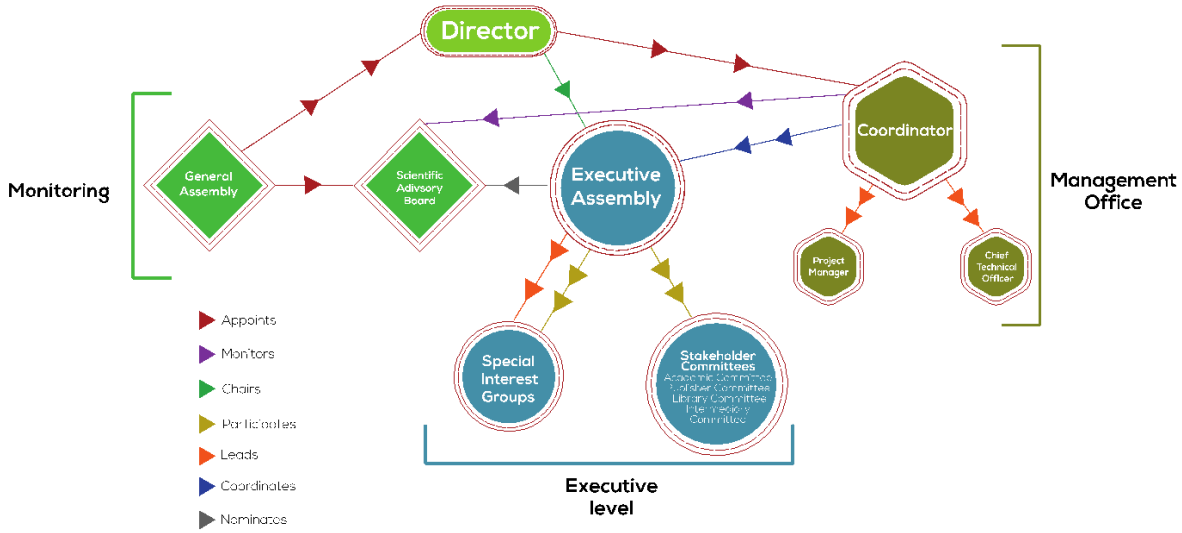
OPERAS is the owner of the platform and relationships with the services providers

Legal viewpoint:
AISBL belge:
https://www.google.fr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwi7567axZbZAhXIuRQKHS55BRsQFgguMAE&url=http%3A%2F%2Fcms.horus.be%2Ffiles%2F99907%2FMediaArchive%2FCapacity_Building%2FADMIN%2Faisbl.doc&usg=AOvVaw1ayqtzHtg5-QtbS256YfaT

- **Governance/viewpoint:**

The executive assembly of OPERAS is appointed to ensure the strategic aspects of the platform: positioning it in OPERAS global strategy, usefulness for the community, consistency with the other services.
In this case, the executive assembly would also manage the service by leading the coordination of the work with the different partners (HN and other partners).

a. OPERAS organigram



- **BM viewpoint:**

- The service is financed by OPERAS: maintenance hours and extra developments are paid. A service level agreement can be negotiated between OPERAS and the service provider to define the conditions of running and maintenance of the service (number of hours a month, conditions for extra-development…etc). It can be defined yearly.
- Development of a freemium model. In which extent a European infrastructure can develop this kind of model? On which features would the model be developed?

5. Example of Service Level Agreement

Parties

<INSTITUTION NAME>, throughout this Agreement, and <CUSTOMER>.

Contact

<SERVICE PROVIDER CONTACT DETAILS> and
<CUSTOMER CONTACT DETAILS>

Purpose and Applicability

This agreement defines the responsibilities of <INSTITUTION NAME> in the delivering of <SERVICE NAME> within DARIAH-EU from <DATE> to <DATE>.

Service Components

The service covered by this SLA is made up of the following (technical and logical) service components:
<List and description of relevant service components>

Service Level Objectives

Service Availability

1) <INSTITUTION NAME> will provide service availability based on <SERVICE HOURS>

2) This availability will be calculated with :

<description of monitoring system and tools>
<description of the system of calculation>

3) Service Downtime is measured as :
<system of calculation>

Incident Handling

Disruptions to the agreed service functionality or quality will be handled according to an appropriate priority based on the impact and urgency of the incident. In this context, the following priority guidelines apply:
[Specific prioritization guidelines]

Service Maintenance

<SERVICE PROVIDER> shall provide Service Maintenance, including :

<specify tasks to perform>

If Service Maintenance is performed regularly :

<specify the hours of maintenance>

Service Maintenance may cause errors or unavailability of Services.
In this case :

<SERVICE PROVIDER> shall notify <SERVICE CUSTOMER> prior to performing any maintenance which would cause the unavailability of the service.

Customer responsibilities

[List and specification of any specific customer responsibilities]

Information security & data protection

The following rules for information security and data protection apply:
[Rules for information security and data protection]

Additional responsibilities of the service provider

[List and specification of any additional responsibilities or liabilities of the service provider]

Closing provisions
Specify in which conditions the agreement can be terminated.

6. Useful links

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

https://ec.europa.eu/research/infrastructures/pdf/council_regulation_eric.pdf

http://ec.europa.eu/invest-in-research/pdf/ip_recommendation_en.pdf

http://cache.media.education.gouv.fr/file/Fiches-2016/01/1/Maj-Les_regles_de_propriete_intellectuelle_560011.pdf

H. Annex 2: Working Groups executive summaries

OPERAS has launched 7 working groups at the First OPERAS Validation Workshop, held on 26/27 June 2017 in Amsterdam, to explore future services OPERAS will develop. Each group is coordinated by an OPERAS core member and will develop a White Paper

1. Advocacy

The white paper first addresses the importance of open science for the SSH, highlighting the role of a distributed research infrastructure like OPERAS in advocacy for open access publishing models. It then focuses on the importance of SSH in open science, showing how open science benefits from a careful consideration of the needs of researchers in different disciplines. While OPERAS does not endorse a specific open access publishing model, infrastructure partners advocate for publication processes that can meet the actual demand for open access, transparency and open source tools for scholarly communication.

This document is intended for all stakeholders actively involved in open access in the SSH. This includes publishers and publication platforms as well as libraries and infrastructure providers. However, the white paper ultimately focuses on advocacy for researchers at different career stages. It presents which benefits clearly arise from open access publishing for scholars and, in order to support stakeholders to advocate for open access when addressing researchers, the white paper examines researchers' concerns about open access publishing. These include but are not limited to reputation and research evaluation, financial issues, a lack of information, intellectual property rights and other legal concerns, and the availability of open access models.

It looks at experiences from OPERAS partners with regard to researchers' concerns to develop a message-tools matrix for researchers that demonstrates how to address these challenges. The white paper concludes with advocacy suggestion sheets for different stakeholders involved in open access in the SSH.

Working Group Members

- Max Weber Stiftung – MWS (contact point)
- Associazione Italiana per la promozione della scienza aperta – AISA
- Georg-August-University Göttingen – UGOE
- Institute of Literary Research of the Polish Academy of Sciences – IBL PAN
- OpenEdition
- UiT The Arctic University of Norway
- University of Turin

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_advocacy_wg_poster.pdf

2. Tools (R&D)

The approach in OPERAS emphasizes the importance of building the open science scholarly communication infrastructure in SSH on community driven tools. In this perspective, the development of Open Source tools and the setup of a toolbox appears to be appropriate answers to the existing needs and evolutions in scholarly publishing.

Following a first discussion in the Working Group, participants discussed the partners' practices and needs to help focus the Working Group objectives on 3 functions:

- Peer review: interest in emerging practices such as open peer review, peer review tracking
- Authoring: interest in simple and all-in-one services, especially online and collaborative authoring
- Publishing: in particular, simple tools needed by small academic journals

The main results of the Working Group are:

- Notes on observed trends.
- A common approach and criteria for choosing tools
- A list of relevant tools detailing features and functionalities
- An analysis of the current needs of the partners

For Peer Review, the reviewing workflow is implemented in most open source software like OJS but developments are still needed to match the commercial software services. Similarly, the review tracking data available via services such as Publons is currently not open. The emerging trend for Open Peer Review represents an innovative area, both in terms of usage and tools.

For Authoring, we see a bloom of new collaborative tools. Promising open source software for editing structured scholarly content are being developed and are near to production, alongside commercial tools such as Authorea or Overleaf.

For Publishing, several open source software solutions are already used in production, but as the level of service expected from a publication service is rising and includes a growing number of third-party services, the community is considering ways of working together to combine their effort to be comparable with the state of the art of the commercial solutions.

The Operas partners are willing to go beyond this working group and consider engaging in follow-up projects, notably to help create a resource centre dedicated to providing the community with current information and support on scholarly communication software and tools, and to contribute to the effort in developing open source tools.

Working Group Members

- OpenEdition (contact point)
- Associazione Italiana per la promozione della scienza aperta – AISA

- Hypothesis
- Institute of Literary Research of the Polish Academy of Sciences – IBL PAN
- Luxembourg Centre for Contemporary and Digital History – C²DH
- Stockholm University Press
- Ubiquity Press
- University of Turin

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_tools_rd_wg_poster.pdf

3. Standards

The OPERAS Working Group for Common Standards aims at exploring the workflows, mediums and technical standards that have recently emerged as a result of the changes brought about by the transition to Open Science. It places focus on the importance of common standards, and traces the improvements required to ensure content quality and interconnectivity for scholarly output in the SSH and beyond.

The White Paper on Common Standards comprises desk research and identifies key operational and technical aspects to be addressed by digital research infrastructures and service providers. It particularly sketches the landscape of Open Science in Europe, focusing on the policy framework and the institutional initiatives at EU level; it also describes current and emerging research practices and highlights the needs of the stakeholders and communities engaged in scholarly communication.

Reference is specifically made to technical and operational standards for publishing infrastructures, and their importance in providing a digital scholarly communication framework that fosters content reuse, collaboration among researchers and enables the implementation of innovative research methods. To this end, the white paper identifies needs yet to be met, introduces 4 complementary areas (content quality and impact assessment, interoperability, availability and processability) for the introduction of common standards, and provides basic recommendations for their future implementation.

The white paper also examines where OPERAS members stand and assesses the work needed to reach these standards. As effective implementation of common standards is highly depended upon stakeholders' increased awareness and commitment towards more effective ways of conducting, presenting and communicating research, the white paper underlines the instrumental role of the OPERAS network in specifying new standards and updating existing ones. Finally, it drafts a roadmap for the community-wide adoption of standards.

Working Group Members

- National Documentation Centre – EKT (contact point)
- OAPEN
- OpenEdition
- University of Milan

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_standards_poster.pdf

4. Business Models

The white paper on Business Models for Open Access proposes that there is no single ideal business model for Open Access that can be adopted as standard. It describes the current landscape in which there are multiple approaches to OA publishing, many of which are adopted by OPERAS members to suit their particular circumstances, although the APC and BPC models still predominate especially among commercial publishers. The paper describes the business models adopted by members both from the point of view of publishers, and of service providers such as Knowledge Unlatched, as well as looking at models emerging elsewhere such as in the USA and at national level in some European countries, where interesting collaborative approaches are being undertaken. The paper analyses the pros and cons of different models, and concludes with some suggestions for ways of bringing greater stability and sustainability to Open Access publishing models.

Working Group Members

- UCL Press (contact point)
- Association of European University Presses – AEUP
- Institute of Literary Research of the Polish Academy of Sciences – IBL PAN
- Knowledge Unlatched – KU
- KU Research
- Lexis
- National Documentation Centre – EKT
- Open Library of Humanities – OLH
- UC Digitalis

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_business_models_wg_poster.pdf

5. Best Practices

Publishing is a composite activity that includes several components. Therefore, the adoption of best practices in academic publishing should address all aspects : service provision to authors, publishers agreements, peer-reviewing, editing, usage of open access licenses, dissemination, metrics and digital preservation. On each of these topics, best practices charts and lists have been elaborated by different academic and professional networks and already exist, gaining enough consensus in the community to be adopted by OPERAS consortium without the need for reinvention from the start. What has to be done is to identify the most accepted best practices for each case and plan for concrete and specific actions for their implementation by OPERAS partners.

The is a crucial domain, however, where best practices are not clearly established : management of the transition to Open Access. Although several “flipping mechanisms” are proposed, none is widely considered as “best practice” over others. In that domain the debate in the academic community clearly lacks maturity.

Working Group Members

- OAPEN (contact point)
- Association of European University Presses – AEUP
- Hyothesis
- Linguistics in Open Access – LingOA
- OpenEdition
- Open Library of Humanities – OLH
- Quality Open Access Market – QOAM
- Lexis
- Stockholm University Press
- Ubiquity Press
- University of Milan
- University of Zadar

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_best_practices_wg_poster.pdf

6. Multilingualism

Scholarly publication is indisputably boosted by the use of the English language. However, it represents an impoverishment of certain research fields, in particular in Social Sciences and Humanities. In this scenario, the challenges for OPERAS are to support researchers that want to continue publishing in their own language and to develop transnational scientific cooperation at the same time. Thereof, the proposed intervention areas are: translation, multilanguage discovery tool and the endowment of national languages.

Working Group Members

- UC Digitalis (contact point)
- Georg-August-University Göttingen – UGOE
- Huma-Num
- National Documentation Centre – EKT
- University Institute of Lisbon – ISCTE-IUL

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_multilingualism_wg_poster.pdf

7. Platforms and Services

OPERAS as an infrastructure supporting open scholarly communication will provide a catalogue of services to the academic community. Despite their diversity, the services should follow common rules and principles to establish a common framework where they can be included and managed. The principles concern governance, sustainability and insurance. It entails to set up contractual relationships between the infrastructure and the service providers that reflects the principles mentioned earlier. Finally, there is a need to achieve a fully functional web of services that prevents gaps and overlaps regarding the users' needs. The list and structuration of OPERAS future services has been elaborated as a part of the infrastructure design study.

Working Group Members

- OAPEN (contact point)
- OpenEdition (contact point)
- Huma-Num
- Linguistics in Open Access – LingOA
- Open Books Publishers
- Quality Open Access Market – QOAM
- University of Zadar

Poster: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2018/05/operas_platforms_services_wg_poster.pdf

I. Annex 3: annotation tools comparison table (hypothes.is)

Comparison table for annotation tools (established by Heather Haines for hypothes.is). The table is being used in the WG Tools as a model for a comparison table about publishing tools.

	Hypothesis	**Colwiz**	**Paperhive**	**Remarq**	**Pundit**	**Bibsonomy**
Social annotation	Yes	No	Yes	Yes	Yes	Yes?
Works everywhere	Yes	No	No	Only for personal notes	Yes	No
Open source	Yes	No	partially (front end)	No	Yes	?
Non-profit	Yes	No	No	No	No	Yes?
W3C standard - data model	Yes	No	In progress	Claimed	Yes	?
W3C standard - protocol	In progress	No	In progress	No	No	?
Groups	Yes	Yes (Open, Closed, or Secret)	Channels	Yes (but unclear how this could work with annotator vetting)	No	
Highlighting	Yes	Yes	No	Yes	Yes	?
Personal annotation	Yes	Yes	Yes	Yes	Yes	?
Public discussion	Yes	Claimed?	Yes	Yes	Yes	no?
Share an annotation	Yes	No	Yes	Share seems to be for articles only	No	?
Replies	Yes	Not on annotations	Yes	Yes	Yes	?
Direct links	Yes	Not on annotations	Yes	No	No	No?
Tagging	Yes	No	No	No	Yes (semantic)	Yes
HTML support	Yes	No	No	Yes	Yes	?
PDF support	Yes	Yes	Yes	Yes	No	Yes
EPUB support		No	No	No	No	No
Annotate over publisher content	Yes	No	No (widget)	Yes	Yes	No
Publisher Moderation	Yes	No	In progress	No	No	No
API	Yes	No	Yes	No	Yes	?

Search	Yes	Yes (but doesn't seem to be limited to annotations)	Yes (but only own annotations)	No (only people)	Yes	Yes: across articles
Advanced search		No	yes (publisher article/fulltext)			
HTML<>PDF cross format	Yes	No	No	Claimed, not verified	No	No
DOI support	Yes	?	Yes	?	No	?
Markdown	Yes	No	Yes	No	No	?
Math support	Yes	Yes	Yes	No	No	?
Rich media	Yes	No	Images	No	No	?
Self-hosting	Yes	No	No	No	No	No
Runs the industry conference	Yes	No	No	No	No	No
Member of AAK coalition	Yes	No	Yes	Yes	Yes	No
Customization to fit publisher platform	Yes	N/A	Yes (widget)	No	Yes	No
Annotation License (Public)			CC-BY-2.0			
Versioning			Yes			
Indexed (Crossref Event Data)			No			
Activity Feed/Page			Yes			
Different highlight colors	No - planned	No	no	No?	No	?
Follow	No - planned	No	articles (not people)	Yes (person)	No	Yes: Friends
Social Login	No - planned	No	Yes	Yes, LinkedIn	Yes: Facebook and Google	Yes: Yahoo and OpenID
Image Annotation	No - planned	No	No	No	No	

IX. OPERAS Business and Governance model and long-term strategy (OAPEN)

A. Introduction

The objective of work package 4 is to develop an overall business plan for OPERAS. This document presents the business plan and governance model for OPERAS. It is based on the Business and Governance model (M4.1). It was further developed in the subsequent Design study, which was submitted as part of the ESFRI application, and updated with the work done during the review process of the ESFRI application. In addition, the plan was updated with work done in various Core Group meetings.

The context for the OPERAS business and governance plan comes from the OPERAS application for the ESFRI Roadmap 2018[147], which is a simultaneous process to OPERAS-D. For the moment (as long as the ESFRI application process is ongoing), we have considered the requirements of the ESFRI application to provide the framework for this work package. Therefore, we will start with an outline of the ESFRI application regarding the business approach and governance of OPERAS.

B. ESFRI framework

1. 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 so much 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 manage efficiently the digital turn and their integration in the European Open Science Cloud.

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 negatively affects also 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 of

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

the time, we are talking about closed-access platforms, giving access to very narrow disciplinary works. When submitted to national or local research assessment exercises, researchers are in trouble in demonstrating the value of their research outputs, of the serious editorial workflow behind their work, of the real impact of their books.

In such a picture, it's difficult to think in terms of interdisciplinarity, internationalisation, or, merely, of visibility of a 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.

2. Vision

The challenges facing scholarly communication in the Humanities and Social Sciences (SSH) have been well documented in various studies and academic conferences in recent years[148]. It is 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 the Open Science framework by 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 incentives to prevent the different players to diverge, experiment their own way without coordinating, and reinvent the wheel several times: this is the situation we are facing now. Professional associations (OASPA), networks (Going for Gold) and national infrastructures (OpenEdition, OAPEN, Hrcak, EKT, UC Digitalis) already exist but they are unable to structure alone the landscape in the long term at European level.

The different partners already work together on bilateral basis on specific projects[149]. If OPERAS was only a cooperation network it would be unable to move it 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

[148] See our bibliography: http://operas.hypotheses.org/bibliography-links
[149] See HIRMEOS project to have examples: http://hirmeos.eu

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 to all infrastructural services such as those described in the project to provide them concrete benefits to cooperation. Moreover, cooperation networks and projects can provide benefits to participating partners but 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, 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 to upgrade their practices and integrate 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.

3. 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

4. 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 Science, and in particularly 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 (OPERAS Local), 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 (OPERAS EOSC), 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 lower infrastructures (GEANT) and with complementary ones (DARIAH, CLARIN, CESSDA, OpenAire). The outcome will be a better integration of SSH disciplines in the common effort towards Open Science and make the resources available for the development of innovative services.

3) Regarding the third level (OPERAS platform), OPERAS develops integrated services at European level concerning 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 service 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 service 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 service 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.

C. Business model

The main objective of OPERAS is to build and maintain a sustainable network 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, however 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 Service, Discovery Service, Societal challenges 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 Service will provide information about the quality of data (peer-reviewing and FAIR principles).

2. OPERAS Discovery Service, which is to be developed during preparation phase, will connect publications, data, researchers and projects to increase their findability, impact and re-use in the research community.

3. OPERAS Research for Science Service will contribute to the citizen science aim of the EOSC providing an effective framework for collaboration between researchers and socio-economic actors.

1. OPERAS Stakeholders

Geographical: all ERA countries
Disciplinary: SSH and multidisciplinary
Types of stakeholders: academic institutions (scholarly communication services), publishers, platforms, service providers, research libraries, consortia.

2. Key operating characteristics

The Business model should reflect the key operating characteristics[150]:

- Audiences: the audiences or client segments that derive value from the service
- Value proposition: the value that the service deliveres 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

a. 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 partners (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

b. Value proposition

The value proposition for each of the audiences differs:

1. Partners: by collaborating within the OPERAS framework, partners are able to improve their performance in various ways. Benefits include: Extending

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

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.

2. Coordinating country: the coordinating country has a specific advantage in the aim to achieve a transition to Open Science in HSS, by providing the hosting role. Leading the transition to OS in HSS; Building position in EOSC; Creating scale.

- Supporting countries: supporting countries support the transition to OS in HSS and strengthen the position of national partners in 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.

- Research community: for HSS 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.

c. 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	
Coordinating country	France	Leading transition to OS in HSS Building position in EOSC Creating scale	Host	Funding
Supporting countries -	Countries with EoS	Supporting transition to OS in HSS	Support	Funding
Researchers	All - HSS	Dedicated OS platform for HSS	Usage Attention	
Publishers	All - HSS	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 actores	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

3. 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 fund directly 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 3 integrated services is that they will be independent and self-sustaining.

Therefore OPERAS costs can be divided into 4 parts:

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

a. 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 organizations. The following table summarizes the economic model of the Core Group members, largely reflecting the situation of the consortium at large.

Table 2: Core 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
Perspectivia	Public foundation	Max Weber Stiftung	Public funding
EKT	Public foundation	National Hellenic Research Foundation	Public funding
UCL Press	Public	University College of 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

b. 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)[151], 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 labor costs and physical hosting of the personnel. As stated in the MoU, Core Group partners will support in kind the development of the infrastructure through 20%FTE each.

c. 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.

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

d. OPERAS integrated services operational costs

The operation of the 3 integrated services will be supported by a mix funding composed of public funding coming from operators, sponsoring and commercialization of premium services (freemium model):
The certification service (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 service (Isidore) will be supported by public funding through Huma-Num infrastructure.
The research for society service (Hypotheses) will be supported by public funding through OpenEdition infrastructure with additional revenues coming from premium services.
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)

e. Financial target

The financial target for OPERAS is 'cash-flow self-sufficiency'[152], 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:

(1) Host institution provides in-kind overhead subsidy.

(2) Initial development capital either grant- funded or subsidized.

(3) Future capital investment subsidized by host institution or external funding.

f. 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)

g. Cost details per phase

In this section, we present the cost details per phase. Personnel costs are estimated on

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

average at 50K a year. All evaluations are in Euro.

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 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: 5M
- Shared Services: (Tools/R&D, best practices, business models): 2M
- Preparing legal entity: 20K

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

I. Central Hub: 8 staff members (see preparation): 6 M
II. National nodes (Core Group) participation: 20% FTE per partner (10 partners): 400K
III. Other partners participation: 10% FTE per partner (30 partners average): 600K
IV. Central Platforms: Certification service: 360K; Discovery service: 1.6M; Research for society service: 1M
V. Shared Services: (Tools/R&D, best practices, business models): 7M
VI. 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

4. 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 develop

a. 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.

b. 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).

c. 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).

d. 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).

e. 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

Total budget	Design	Preparation	Construction	Operation
	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**

5. 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 Central 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 program 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 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 HIRMEOS (EINFRA) OPERAS-D (INFRASUPP)
Preparation	2018-22	8.6. M	Hosting country 1 M National nodes 0.3 M Partners 0.5 M EU project 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	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

6. Work Breakdown Structure

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

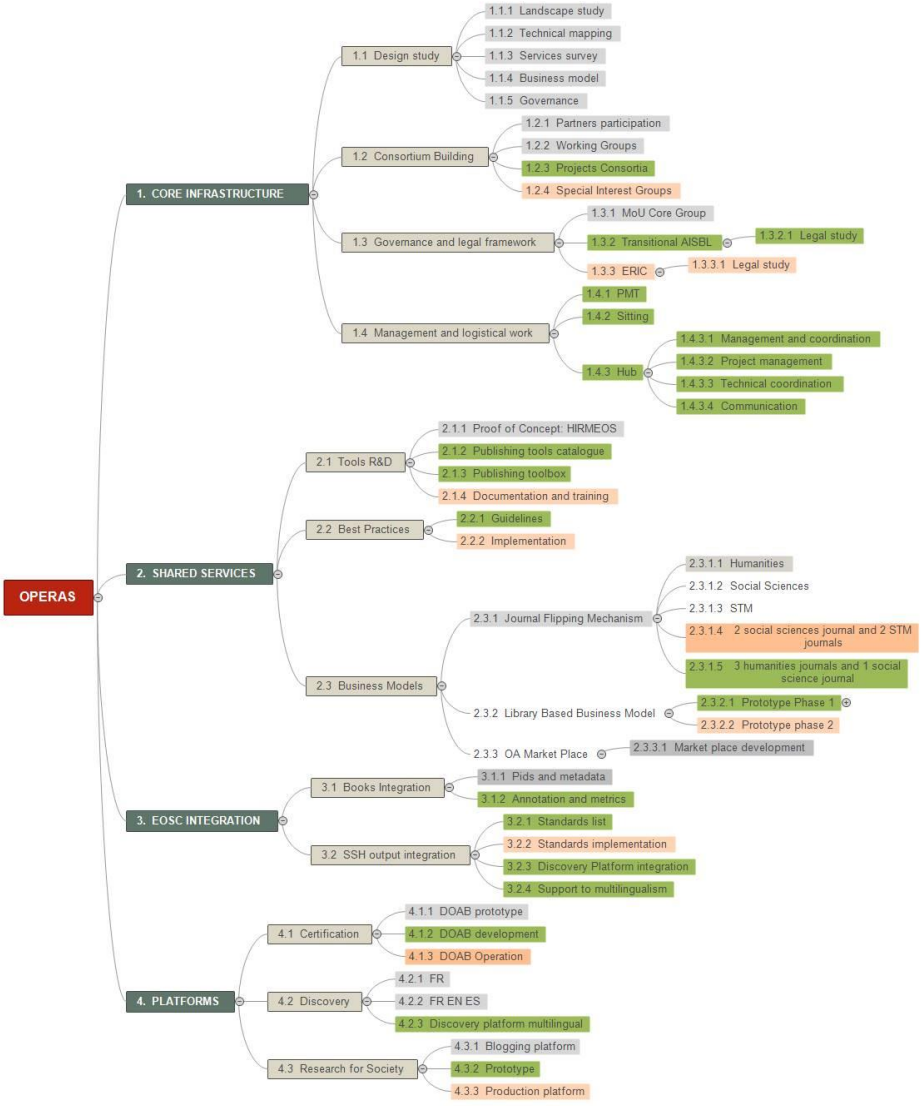
Table 5: OPERAS project tracks

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 marketplace	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 marketplace	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; Centrasl platforms. Each of these is subdivided into work packages and tasks. The tasks are colour coded to indicate the project phase within the overall ESFRI development.

Figure 1: Work Breakdown Structure

Légende
Design
Preparation
Construction



7. Monitoring progress, Key Performance Indicators

Progress of development is monitored in annual reporting and work plans, and measured through Key Performance Indicators. Table 6 presents the main KPI's.

Table 6: project phases and key performance indicators

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	10 000	15 000
	Discovery	unique visits	GA/year	1 000 000	1 200 000	1 600 000
		searches	GA/year (sessions with search)	580 000	870 000	1 740 000
		downloads/views	GA/year	1 400 000	2 100 000	4 200 000
		impact	GA/year (direct links)	50 000	750 000	150 000
	Research for Society	research projects	no.	--	3	10
		blogs	no.	2 500	3 750	7500
		Engagement	posts and comments	337 849	500 000	1 000 000
		unique visits	PW/year	12 861 523	20 000 000	40 000 000
		impact	PW/year (direct links)	3 000 000	4 500 000	9 000 000

8. SWOT analysis

The Core Group conducted a SWOT analysis towards the end of the OPERAS-D project, to assess the development of OPERAS from different perspectives. The analysis is based on the work in the past 18 months and will be used for further strategic planning after the close of OPERAS-D. The table below presents the high level results.

Table 7: SWOT analysis

Strengths	**Weaknesses**
OPERAS in its landscape: Diversity of skills combined with shared practices *Consortium:* Diverse and growing, engaging partners *Governance:* Driven by the goal of ERIC *Business models:* Variety, relying on diversity of models *User needs:* Meaningful services across research cycle *Technical environment:* Variety and expertise in digital publishing (HIRMEOS) *Services roadmap:* Structured around central services but flexible Central services based on existing initiatives	*OPERAS in its landscape:* Young and not yet established *Consortium:* Diverse commitment and expectations Lack of mutual understanding, internal comm. *Governance:* Focus on core, insufficient political support outside France *Business models:* No secure base funding, reliance on one country *User needs:* Lack of user feedback *Technical environment:* Interoperability, unequal technical capacity *Services roadmap:* Complex, services are not sufficiently related
Opportunities	**Threats**
OPERAS in its landscape: Needs of SSH are not addressed (i.e. metrics) *Consortium:* Extend network and values within SSH *Governance:* Distributed and diverse, close to SSH community *Business models:* Flexibility in approach to funding *User needs:* 'Research commons' as guiding principle *Technical environment:* Highly dynamic, EOSC lowering entry barriers	*OPERAS in its landscape:* OA not established in SSH, low recognition Established existing RIs *Consortium:* Unequal participation within the network *Governance:* Lack of resources, insufficient alignment *Business models:* Soft in-kind commitments *User needs:* Lack of engagement with OS *Technical environment:* Diverse capacities, weakness of open source *Services roadmap:*

Services roadmap: Engagement with various initiatives (EOSC, GoFair, OpenAIRE)	Core group not well aligned Integration into EOSC is not well defined

D. 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 & control the service on a collective basis, and provide input into all aspects of service development, operating policies & strategic direction[153].

1. Organisation

For 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 ensures the coordination between partners and committees and is the responsible for project coordination. The project coordinator is responsible for the following management staff:
- 1 project manager (OpenEdition): general management of the project, communication and management of specific tasks and assistant for administrative and financial tasks.
- 1 FTE Communication service ensured by **Core Group** partners with support from OPERAS-D project until 2018.
- 1 Chief Technical Officer (OpenEdition): coordination of technical working groups and the Core Group.

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 specfic contribution (to ongoing projects, overall infrastructure, geografical representation). The Core Group meets 3 times/year.

Steering committee is composed by representatives of the ministries. The meeting will be organised once a year. It monitors the implementation and global coherence of the project.
Advisory Scientific Board (to be constituted in the preparatory phase): for independent scientific monitoring of the project. The Advisory Board will be appointed by the Project Steering Committee, will be chaired by the Project Coordinator and will meet once a year or more if needed.
Ongoing activities within key areas of interest are organised through **Working**

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

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.

2. Decision structure for new partners

The Core Group will develop rules for the acceptance of new partners within the OPERAS network.
The rules for new partners will be based on general principles of openness and transparency:

- Openness relates to open access to research outputs, including long term preservation to ensure access over time;
- Transparency relates to costs involved in the publication process, the services offered to authors, measures around quality assurance and peer review procedures;
- The rules may also include a requirement for prospective partners to make clear how they intend to contribute to OPERAS.

The Core Group decides about new applications. The core group can decide to introduce specific membership categories:

- Associate members: have the right to participate in all member activities but do not have voting rights;
- Observers: are invited by the core group to participate in specific member activities.

The core group can re-evaluate partners regarding membership and decide to change the membership status, in the event that membership requirements are not met.

3. 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), consis ting 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:

- 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 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.
- The AISBL will introduce a procedure for Prospective member countries to become OPERAS 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.

4. Decision structure for implementation

Decision for implementation will be reached at 3 levels:

Core Group: representing institutions committing funding and support to OPERAS infrastructure

Scientific Committee: representing the users community across Europe (to be constituted during preparation phase)

Steering Committee: representing countries of the Core Group institutions (to be constituted during construction phase)

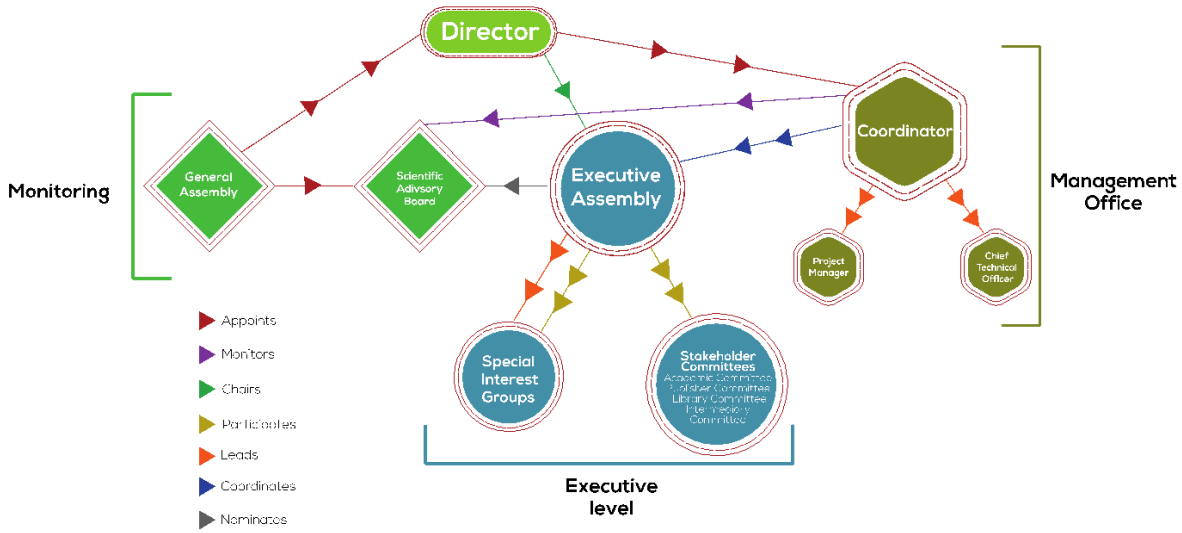
Currently, 9 countries are represented in the Core Group. It is planned that 9 to 12 countries will participate to the Core Group and Steering Committee at the end of construction phase.

Decision for implementation will be taken in 2024 by a concording vote of the 3 committees.

5. 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: Future governance model



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.

6. 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 the last part of WP4 in 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 an 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 T4.3 of OPERAS-D, legal council is employed 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.

7. 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 8: 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
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

Preparation 2018	Transition 2019–2020	Construction 2026	Role
	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

E. ESFRI Landscape study (UCL Press)

1. 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.

2. 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)

a. 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)

b. 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.

c. 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)

d. 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).

3. 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).

a. 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

4. 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.

a. 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)

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)

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.

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

b. 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.

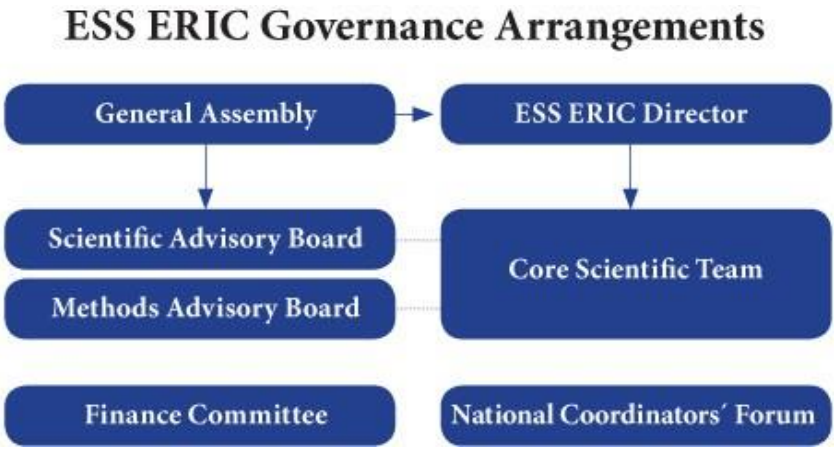


Table 1: ESS ERIC Governance structure

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)

5. 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.

6. 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.
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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

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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_20 12.pdf

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

X. Legal study and documentation (X-officio)

A. Introduction

OPERAS is a distributed European research infrastructure for open access scholarly communication in the social sciences and humanities (SSH). It aims at coordinating and pooling together university-led scholarly communication activities in Europe, in view of enabling a more efficient, fair, inclusive and sustainable scholarly communication ecosystem for European researchers in the SSH. It further seeks to build and maintain a sustainable infrastructure of partners and services and establish open science as the standard practice.

OPERAS-D is a design project, addressing the long-term requirements of OPERAS by defining business and governance models, scientific and technical concepts for future services that the infrastructure will provide and by establishing a roadmap to achieve these goals.

The business and governance model of OPERAS-D consists of three main elements: (1) a plan for the sustained provision (developing, operating and sharing) of services; (2) a governance model to ensure the needs of the community are served, that it is supported by its members, and that it is responsive to changing needs and demands; and (3) the legal framework to establish OPERAS as a legal entity.

In relation to the third element (the legal framework), the OPERAS Design Study of July 2017[154] ('Design Study') suggests that research infrastructures which are not incorporated as a separate legal entity and rely on less formal modes of collaboration, such as through projects, collaboration agreements or MoUs, risk losing consistency and may drift in different directions. Against this background, OPERAS aim at creating a legal entity early in the course of its development and has identified the European Research Infrastructure Consortium (ERIC) as the preferred final structure.

An application to establish an ERIC requires a degree of readiness, in particular, that the scientific community is convinced that there is a real need for a joint action at European level, that clear plans for governance and activities are in place and that funding is committed to the preparatory phase of the project. Although not a pre-condition for establishing an ERIC, in most cases, an application to the Commission for an ERIC legal status follows a successful application to the ESFRI roadmap. That could potentially be advantageous also in case of OPERAS as many of the documents required for a successful ESFRI submission would also be needed as part of the ERIC application. Further, the ESFRI review would likely facilitate the review carried out later by the Commission as part of the assessment of the ERIC application and finally, being admitted to the ESFRI roadmap could facilitates eligibility for additional EU and national funding for the preparatory phase in order to further develop the technical design, governance structure, definition of legal status, operational procedures, business plan and financial
sustainability.

According to the Design Study, OPERAS should prepare for ERIC incorporation through an intermediary stage. The international non-profit association under Belgian law (AISBL) has been identified as the most suitable intermediate model, which will be organised to mirror, to the extent possible, the final ERIC.

[§] Available at: https://f-origin.hypotheses.org/wp-content/blogs.dir/2465/files/2017/08/OPERAS-Design-Study.pdf (last accessed 29 June 2018)

The following study aims at facilitating preparation and final decision regarding the transition to a separate legal entity by providing information on the requirements for establishment and governance of AISBL and ERIC. The last part of the study also provides an initial assessment of the relationship between the OPERAS infrastructure and service providers.

B. AISBL

1. Introduction

AISBL ("*Association internationale sans but lucratif*") is a legal entity used for an international, not-for-profit associations based on Belgian law. It is regulated by the Act on Non-profit Associations and the International Non-profit Associations and Foundations of 27th June 1921, as amended (hereinafter "AISBL Law").

The characteristics of the AISBL is a "non-profit-making purpose of an international mission". The concept of "a non-profit-making purpose of an international mission" is parallel to the definition provided by the European Convention on the Recognition of the Legal Personality of International Non-Governmental Organisations[155] and means that AISBLs "carry out work of value to the international community, particularly in the scientific, cultural, charitable, philanthropic, health and education fields, and that they contribute to the achievement of the aims and principles of the United Nations Charter and the Statute of the Council of Europe"[156].
As will be further discussed below, the main characteristics and advantages of the AISBL are that:

- It offers a flexible governance structure with a separate legal personality;
- It has been commonly used by other research infrastructures either as a permanent or as an interim legal structure before transition to an ERIC;
- There is no requirement for initial capital;
- It provides for a limited liability regime;
- It is rather easy and fast to establish;
- The AISBL has its statutory seat in Belgium, close to the European institutions allowing for a more European dimension of the research infrastructure.

2. General questions

a. Who can be a member of the AISBL?

The AISBL can be established by foreign and Belgian natural persons (individuals) and/or legal entities for the purpose of pursuing a non-profit-making international mission. There are no other specific nationality requirements for Directors or managers.

[§] Strasbourg, 24.04.1986 (the "Convention")

[156] See preamble to the Convention.

b. *Are there any minimum requirements in terms of number of founding members?*

The AISBL Law does not prescribe a minimum number of members in the AISBL, however, the fact that the AISBL is an association suggests that it should be composed of at least two members.

For practical reasons, however, and in order to avoid situations of inability to act due to disagreements, it is advisable that the AISBL is composed of at least three members. There is also a possibility to provide for different categories of members in the Articles of Association, such as "associate members" or "honorary members".

For the purposes of OPERAS, it would be advantageous if the members of the AISBL are composed of all or the majority of the representing entities of the future ERIC or other relevant stakeholders in the ERIC.

c. *Are there initial capital requirements?*

There are no initial capital requirements for establishing an AISBL.

d. *Does the AISBL have a separate legal personality?*

Legal personality may be granted after the establishment of the AISBL by way of a Royal Decree issued by the Ministry of Justice. The Ministry of Justice signs the Royal Decree by delegation on behalf of the King.

It is important to note that the grant of a separate legal personality is a separate stage from the establishment of the AISBL. The latter is done by way of a 'notarial deed'[157] which takes place before a public notary. The legal personality is granted by a Royal Decree, at a second stage. See section II.3(a) below for further detail.

It is nevertheless possible for the AISBL to conduct activities after its establishment (by way of a notarial deed) but before it has acquired a separate legal personality (by way of a Royal Decree). This may be required, for example, if the AISBL wishes to enter into certain contractual arrangements, such as a lease of office or property, or hire personnel, during the period pending signature of a Royal Decree.

In such cases, the person or persons who enter into a contractual engagement on behalf of the AISBL will be jointly and severally liable for any resulting liabilities, until: (1) the AISBL has been granted legal personality – this must be done within two years from the date of the signature of the contract by the relevant person(s), and (2) the contract is ratified by the competent body of the AISBL at the latest 6 months after the acquisition of the legal personality by the AISBL. If both of the above conditions are met, the contract will be assumed to be contracted by the AISBL from the outset.

3. Procedure for establishment of an AISBL

a. *What are the procedural steps for establishing an AISBL?*

[157] 'acte authentique'

As implied above, the establishment of the AISBL as a separate legal personality occurs in several steps:

o the establishment of the AISBL by way of a 'notarial deed'. This takes place in front of a public notary in the presence of all founding members; (2) the grant of a separate legal personality to the AISBL by the signature of a Royal Decree by the Ministry of Justice (by delegation on behalf of the King); and, (3) additional administrative obligations which are summarised below as well.

The notarial deed

OPERAS will need to provide a public notary the following information in order to prepare the Articles of Associations (See Annex 1 for a full list):

- Proposed name for the AISBL;
- Seat of the head office;
- Objective and activities;
- Founders;
- Bylaws;
- Assembly and end of financial year;
- Appointment of administrators.

When this information is received, the public notary will prepare a draft Articles of Associations for OPERAS' approval. The public notary, among others, will verify and attest the non-profit nature of the AISBL, which means that the AISBL must not pursue industrial or commercial activities and is not allowed to strive for a monetary or material gain to its members.

The public notary will then send a copy of the Articles of Association to the Belgian Ministry of Justice for informal approval. The communication with the Ministry of Justice and the informal approval of the Articles of Association may take approximately 1 month.

Once the informal confirmation from the Ministry of Justice is received, the founding members of the future AISBL will meet at the office of the public notary in order to hold a constitutive General Assembly. Since a Belgian public notary may only act on Belgian territory, the constitutive General Assembly must take place in Belgium. If some individuals cannot attend in person, the public notary may prepare proxies so that they are represented at the meeting. The public notary will record the Articles of Association in a notarial deed and at the end of the meeting at the public notary's office the AISBL will be established.

It is important to note that although the AISBL is now established, it does not yet have a separate legal personality. The AISBL at this stage is equivalent to a contract between its members, pursuant to which they decide to pursue a common purpose and pool their resources together in order to achieve this goal. The AISBL will be governed by the terms of the contract (the Articles of Association) and by the supplementary rules that may be applicable to the contract. In that sense, it will resemble a collaboration agreement or a MoU.

There is no obligation to apply for a separate legal entity to the AISBL, however it is recommended to do so. Otherwise, the AISBL will not be able to own assets or have other related rights in relation to such assets used to pursue the purpose of the AISBL. Instead, any assets acquired or held by the AISBL will be considered to be collective property of the members of the AISBL. Moreover, without a separate legal personality, the AISBL will not be able to enter into contracts or act as plaintiff or defendant in legal proceedings. Any such actions will have to be organised through its members or any other agency structure. Further, without a separate legal entity, the members of the AISBL will remain liable for the AISBL's liabilities and obligations. Finally, obtaining a separate legal personality will also facilitate the receipt of grants and will ease a number of practical issues, such as opening a bank account for the AISBL.

Obviously, there are also related obligations associated with the acquisition of a separate legal personality, such as financial reporting[158], publicity obligations[159], and administrative obligations[160].

The Royal Decree

In order to be recognised as a separate legal entity, the approval by Royal Decree is required[161]. Under Belgian law, only the King, represented by the Ministry of Justice, can grant legal personality to the AISBL, provided the AISBL meets the following conditions:

- it has its seat in Belgium;
- it pursues a non-profit activity of an international nature, and;
- its purpose or its activities do not contravene the law or public policy.

The public notary will therefore send the following documents to the Ministry of Justice after the creation of the AISBL (i.e., the completion of the notarial deed):

- a certified copy of the notarial deed of creation of the AISBL and its annexes;
- a request for the grant of a separate legal personality;
- the list of the members of the Board of Directors[162].

The Ministry of Justice will verify the 'international non-profit purpose and activities' clause contained in the Articles of Association which have been adopted during the constitutive General Assembly and the notarial deed. If all legal conditions are met, a Royal Decree will be issued and the AISBL will acquire legal personality on the day of the signature of the Royal Decree. The Ministry of Justice will send four copies of the Royal Decree to the public notary.

Additional obligations

The AISBL must deposit a host of documents in the file to be kept at the Registry of the Commercial Court[163] of the district in which the AISBL has its seat. These include: a copy of the Royal Decree; the Articles of Association; the act regarding the appointment of the Directors; the act regarding the appointment of the persons empowered to represent the AISBL; the persons empowered with daily management; and if applicable, the statutory auditor. The file is open to the public and any interested party may consult this file and obtain copies of the deposited documents.

In terms of publication obligations, the AISBL must also provide excerpts of the documents mentioned above for publication in the annexes to the Belgian Official Gazette[164].

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158 Filing of annual accounts with the Register of the Commercial Court or the National Bank of Belgium.

159 Publications of directors' appointment and/or resignation in the annexes to the Belgium Official Gazette.

160 Registration with the Crossroads Bank for Enterprises.

161 A new royal decree may also be required if there are later changes in the objectives or activities of the AISBL, or other material aspects of the Articles of Association.

162 For natural persons: surname, first name, place and date of birth and address. For legal persons: name, legal form and address of the registered office.

163 Greffe du Tribunal de Commerce.

164 Moniteur belge.

Finally, the AISBL will have to register with the Crossroads Bank for Enterprises[165] and to provide information on the appointed Directors, the persons empowered to represent the AISBL, the persons entrusted with the daily management of the AISBL, and if applicable, the statutory auditor(s).

b. Language

The Articles of Association must be drafted in one of Belgium's official languages: Dutch, French or German. Most AISBLs choose French and provide for an English translation.

c. What is the expected time-scale for setting up an AISBL?

Assuming that all the required information has been sent to the public notary in due time, the entire process may take 4-5 months. This included the period required to obtain the approval by a Royal Decree, which is estimated to be around 3-4 months.

d. Is there a need for a notary to establish an AISBL?

Yes. The AISBL shall be validly created by a notarial deed. The notary public must, after inquiry, confirm compliance with the provisions of the AISBL Law.

4. Governance of an AISBL

a. What is the governance structure of an AISBL?

The basic governance structure of the AISBL is composed of the General Assembly and the Board of Directors. It is possible to establish additional governing bodies or to delegate certain powers to third parties. For example, in addition to the General Assembly and Board of Directors, the governance structure may comprise bodies such as a Scientific Advisory Committee, Heads of Nodes Committee, and other committees established by the General Assembly.

The composition and powers of additional governing bodies must be set out in the Articles of Association. There is a high degree of flexibility to delegate powers to such additional bodies, provided that the preparation of the annual accounts and the annual budget remains the exclusive power of the Board of Directors and the approval thereof remains the exclusive power of the General Assembly. If a statutory auditor must be appointed[166], then this will be the exclusive power of the General Assembly.

The General Assembly may also adopt internal regulations for the AISBL, which may regulate in more detail the functioning of the AISBL and its bodies, provided such internal regulations do not conflict with the Articles

[165] Banque-Carrefour des entreprises.

[166] This is the case for 'very large' AISBL, see section II.3(f) below.

of Association.

b. What are the statutory bodies of an AISBL?

As mentioned above, the AISBL Law prescribes two mandatory bodies: the General Assembly[167] and the Board of Directors[168]. The statutory bodies of the AISBL will be set out in the Articles of Association.

The following powers are reserved to the General Assembly: (1) approval of the annual accounts and budget and (2) the appointment of the statutory auditors (if applicable). Additional powers may be allocated to the General Assembly in the Articles of Association.

The following powers are reserved to the Board of Directors: approval of draft annual accounts and draft budget. Additional powers may be allocated to the Board of Directors in the Articles of Association.

c. What are the main provisions of the Articles of Association for the AISBL?

The AISBL Law offers flexibility in the drafting of the Articles of Association. The items which must be addressed in the Articles of Association include:

- the name of the AISBL and the address of its registered office (street, number, and municipality);
- the precise description of the purpose or purposes for which the AISBL is created, as well as the activities it envisages to carry out in order to meet such purpose or purposes;
- the conditions and formalities regarding the admission and resignation of the members and, if applicable, of the members of different categories;
- the rights and obligations of the members and, if applicable, of the members of different categories;
- the powers, the assembly modalities and the decision-making modalities of the General Assembly of the AISBL, as well as the conditions pursuant to which its decisions are communicated to the members;
- the powers, the assembly modalities and the decision-making modalities of the Board of Directors of the AISBL, the modalities regarding the nomination, termination and revocation of the directors, their minimum number, their term of office, the extent of their powers and the modalities to exercise them, as well as the modalities to designate the persons who shall have the power to bind the AISBL towards third parties and to represent it in actions and in legal proceedings; and,
- the conditions to modify the Articles of Association, to dissolve and liquidate the AISBL and the destination of the assets of the AISBL in case of liquidation.

Modifying the Articles of Association may require the involvement of a public notary or an approval by a Royal

[167] Referred to as the 'general directional body' in the AISBL Law.

[168] Referred to as the 'governing body' in the AISBL Law.

Decree, depending on the modifications concerned. For example, modifications concerning the purpose or activities of the AISBL must be approved by Royal Decree; modifications concerning the conditions of liquidation and dissolution require the intervention of a public notary; while other non-material modifications may be done without the intervention of a public notary or approval by a Royal Decree.

d. Location of statutory seat

The registered office of the AISBL must be in Belgium and must be mentioned in the Articles of Association. The AISBL may keep its operations and staff in a third country (outside Belgium) however a separate tax advice should be sought in order to verify the tax status of the ASIBL in that third country, for example, if the AISBL will employ staff in France, tax advise should be sought there.

e. Applicable law and jurisdiction

The applicable law to the AISBL is the AISBL Law and general Belgian law.

All deeds, invoices, announcements, publications and other documents coming from the AISBL shall mention its name, preceded or followed by the words “internationale vereniging zonder winstoogmerk” or “association internationale sans but lucratif”, or by the abbreviation “IVZW” or “AISBL”, as well as the address of its registered office.

f. What are the accounting obligations of an AISBL?

According to the AISBL Law, the accounting obligations of an AISBL depend on whether the AISBL is classified as ‘small’, ‘large’, or ‘very large’.

‘Small’ AISBLs must maintain simplified bookkeeping and prepare simplified annual accounts according to the so-called ‘cash basis – model’. An AISBL qualifies as ‘small’ if it does not meet the criteria for a ‘large’ or a ‘very large’ AISBL.

A ‘Large’ AISBL must maintain a ‘full’ double-entry bookkeeping according to the accrual principle. The rules applicable to bookkeeping and annual accounts are based on those applicable to Belgian companies[169]. It must use the full standard annual accounts format as determined by the National Bank of Belgium for associations and foundations. An AISBL is considered ‘large’ if at the closing of the financial year at least two of the following three thresholds are met:

- an annual average of 5 full-time equivalent (“FTE”) employees;
- total revenues of EUR 312,500, excluding VAT and exceptional revenues;
- a balance sheet total of EUR 1,249,500.

[169] Among others, the law of 17 July 1975 and the royal decree of 30 January 2001, as amended by the royal decree of 19 December 2003 which takes into account the specific nature and legal status of AISBL.

'Very large' AISBL must comply with the financial obligations of large AISBLs. In addition, they must appoint a statutory auditor. An AISBL is considered 'very large' if the annual average exceeds 100 FTE employees or if at the end of the financial year at least two of the following three thresholds are exceeded:

- an annual average of 50 FTE employees;
- total revenues of EUR 7,300,000, excluding VAT and exceptional revenues;
- a balance sheet total of EUR 3,650,000.

Big and very big AISBLs must file their annual accounts with the National Bank of Belgium.

g. What are the most important points included in the articles of association in relation to management and governance?

As mentioned above, the AISBL Law prescribes specific items that must be include in the Articles of Association and these are considered to be essential – see section II.4(c) above.

The AISBL may include rules on admission and dismissal of members, as long as these are compliant with general EU and Belgian legislation (so as to avoid criminal activity, for example).

There are no specific rules on voting. The common practice is one vote per member at General Assembly and the Board of Directors but it is also possible to grant an uneven number of votes to different categories of members.

h. Liability

Once the AISBL obtains a separate legal personality, a distinction is created between the assets of the association and the assets of its members. This means that the AISBL is liable for its own obligations or faults attributable to the bodies through which it acts. Members of the AISBL and the administrators are not personally liable for the debts and obligations of the AISBL but they may be liable to the execution of their assigned tasks and the faults committed in their management.

5. VAT

An AISBL that supply goods or services to third parties (including to its members) may be considered a VAT subject and depending on the activity conducted, it may be subject to full VAT.

If the AISBL is fully subject to VAT, it will have to charge VAT on all services provided to third parties (including its members), but it will also be able to reclaim its input VAT (i.e., the VAT paid on purchases made by the AISBL to support its activities).

If the AISBL is considered exempt from VAT, it will not have to charge VAT if it provides services against remuneration, but it will also not be able to reclaim input VAT paid by it on its own purchases.

It is also possible that an AISBL will be partially exempt from VAT, in which case it will only be able to reclaim a certain percentage of input VAT paid by it (although the method of calculating that percentage may lack clarity at times).

In order to determine whether the OPERAS AISBL is subject to VAT an expert opinion on Belgian VAT will have to be sought.

6. Estimates costs of establishing an AISBL

The estimated costs of establishing an AISBL are in the range of Euro 1,500-2,000.

C. ERIC

1. Introduction

A European Research Infrastructure Consortium (ERIC) is a legal framework introduced by Council Regulation (EC) No. 723/2009 ("ERIC Regulation"[170]) in response to the need for a legal framework for EU-wide entities, in particular, distributed research infrastructures. The objective of the ERIC Regulation is to facilitate the establishment and operation of European research infrastructures involving several Member States. It is based on Article 187 of the Treaty on the Functioning of the European Union, which provides for the setting up of joint undertakings or any other structure necessary for research and technological development.

Since the adoption of the ERIC Regulation in 2009, 19 ERICs have been established and have their statutory seat in 9 Member States[171] and in one associated country (Norway). Together they currently have more than 20 Member States and associated countries as members and observers.

As will be further discussed below, the main characteristics and advantages of an ERIC are that it offers:

- high political acceptance and visibility reflecting a spirit of a European venture;
- legal and governance structure which is tailored to the needs of pan-European research infrastructures;
- exemption from the EU Public Procurement Directives (as implemented in national law);
- exemption from VAT and excise duty;
- a legal personality recognised in all EU Member States;
- a lighter incorporation process compared to an international organization;
- flexible internal structure which is not subject to national law.

2. General questions

a. What are the eligibility requirements for establishing an ERIC?

In order to be established as an ERIC, a research infrastructure must have as its principal task the establishment and operation of a research infrastructure on a non-economic basis[172]. In addition, the research

[170] Council Regulations (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC), (2009) OJ L206, at 1–8.

[171] Germany, Spain, France, Italy, Netherlands, Austria, Finland, Sweden, the United Kingdom.

[172] ERIC Regulation, Article 3.1., although it may carry out limited economic activities provided that such economic activities are closely related to its principal task and that they do not jeopardies the achievement thereof.

infrastructure must fulfil the following requirements[173]:

- it is necessary for the carrying-out of European research programmes and projects, including the efficient execution of Community research, technological development and demonstration programmes;
- it represents an added value in strengthening and structuring the European Research Area (ERA) and a significant improvement in the relevant scientific and technological fields at the international level;
- it grants effective access, in accordance with the rules established in its statutes, to the European research community, composed of researchers from Member States and from associated countries;
- it contributes to the mobility of knowledge and/or researchers within the ERA and increases the use of intellectual potential throughout Europe; and,
- it contributes to the dissemination and optimisation of the results of activities in Community research, technological development and demonstration.

b. Who can be a member of an ERIC?

Only states and intergovernmental organisations may become members of an ERIC[174], provided that at least one EU Member State and two other countries which are either EU Member States or EU associated countries, are members of the ERIC at any given time. Further, EU Member States and EU associated countries must hold the majority of the voting rights in the Assembly of Members (also referred to as the 'Council') at all times[175].

The fact that 'states' may be members of an ERIC implies that membership is not restricted to EU Member States only and any non-EU country may become a member or observer of an ERIC, subject to conditions and modalities specified in the ERIC Regulation and the statutes of the ERIC.

Members or observers of an ERIC may be represented by public entities, including regions or private entities with a public service mission, which exercise specified rights or fulfil specified obligations on their behalf[176] ('representing entities'). This would be the case in most ERICs, since expertise on research matters and resources to carry out the activities of the ERIC may be trusted at the hands of legal entities that are separate from the state. The member state or observer state of the ERIC must give a specific mandate to the representing entity according to its own rules. The terms of the representation, including the terms for exercising voting rights, and any change in the designation of the representing entity or in the rights and obligation delegated to it should be communicated to the ERIC.

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173 ERIC Regulation, Article 4.

174 ERIC Regulation, Article 9(1).

175 ERIC Regulation, Article 9(2) and 9(3).

176 ERIC Regulation, Article 9(4).

c. Are there any other requirements for membership?

An ERIC must have at least one EU Member State and two other countries that are either EU Member States or EU associated countries as members. In addition, and as already mentioned above, the majority of voting rights must be held by Member States and associated countries at all times.

The statutes of the ERIC must also provide for a minimum duration for membership. During this period, no member may withdraw unless the membership has been specifically entered into for a shorter period, as defined in the statutes.

Associated countries, third countries or intergovernmental organisations, which are not subject to EU law, will have to recognise the legal personality and capacity of the ERIC in their legal system and agree to the jurisdiction of the Court of Justice of the European Union, as defined in Article 15 of the ERIC Regulation. They will also have to provide the ERIC an equivalent treatment as if it were an international body or international organisation with respect to VAT and excise duty exemptions.

It is also noteworthy that the ERIC Regulation requires that further Member States or associated countries may join the ERIC on fair and reasonable terms specified in the statutes[177].

d. What level of memberships are available in an ERIC?

The ERIC Regulation allows for 'members' and 'observers' status in the ERIC.

The rights of members and observers are set out in the statutes but only members have voting rights in the Assembly of Members.

e. Are there initial capital requirements?

There are no initial capital requirements for establishing an ERIC, however the proposed statutes must include a provisional budget with contributions from members for the first 3–5 years. While contributions may be in-kind, members must commit sufficient financial contributions to ensure that the ERIC meet the objectives laid down in the statutes and the ERIC Regulation.

f. Does the ERIC have full legal personality?

An ERIC has a separate legal personality with the most extensive legal and transactional capacity accorded to legal entities under the law of the Member State in which the ERIC is based. The ERIC gains legal personality as from the date on which the Commission Decision setting up the ERIC takes effect.

The ERIC legal personality and extensive legal capacity are recognised in all EU Member States without requiring transposition into national law or any national legal instrument. In addition, an ERIC must be

[177] ERIC Regulation, Article 9.2.

recognised by its host state as an international body or organisation for the purpose of the directives on value added tax and excise duty.

g. Can an ERIC apply as a beneficiary in Horizon 2020 calls?

An ERIC is eligible to participate as a beneficiary in Horizon 2020 calls either as a sole beneficiary (if this possibility is provided for in the relevant work programme), or in collaboration with other beneficiaries. In the latter case, and in order to fulfil the condition of being established in different Member States or associated countries, the ERIC will be considered to be established in a Member State or associated country which is different from those in which the other participants are established.

3. Procedure for establishment of an ERIC

a. Who can submit an application for the establishment of an ERIC?

An application for the establishment of an ERIC is submitted to the European Commission by the future members of the ERIC. The request must be signed by all applicants.

In practice, the submission should be sent by the host state's permanent representation to the European Union on behalf of the future members of the ERIC. The application should be submitted electronically and in paper form at the following address:

The Director-General
European Commission
Directorate-General for Research and Innovation
1049 Brussels
BELGIUM
RTD-ERIC@ec.europa.eu

b. What should the application for establishing an ERIC contain?

The application must be submitted in writing and contain the following:

- A formal request to the Commission to set up an ERIC. A template request for setting up an ERIC is available at the Commission website;
- The proposed statutes of the ERIC containing at least the mandatory items listed in section III.4(c) below, in particular the provisions concerning tasks and activities, the rights and obligations of its members, the bodies of the ERIC, the principles covering the different policies and the obligation upon members to make contributions to a balanced budget;
- The technical and scientific description of the research infrastructure to be established and operated by the ERIC, addressing in particular the eligibility requirements for establishing an ERIC listed in

section III.2(a) above[178]. According to the European Commission, the technical and scientific description should also include: key performance indicators of the ERIC's activities against which progress of the ERIC can be benchmarked; an adequate risk assessment in order to ensure a smooth implementation; in the case of a distributed infrastructure involving national legal entities in the operation of the research infrastructure, the technical and scientific description should also explain the boundaries and the planned arrangements between the ERIC and those legal entities;

- A declaration by the host Member State recognising the future ERIC as an international body/international organisation in the sense of the directives on VAT and excise duty [179], as of its setting up. The limits and conditions of the resulting VAT and excise duty exemptions must be contained in the statutes or as a separate agreement between the members.

c. What are the procedural steps for establishing an ERIC?

The submission of an application to an ERIC is conducted in two steps: (1) an informal submission, which focuses on verification of compliance; and, (2) a formal submission.

Step 1- informal submission

Prior to submitting step 1 application to the Commission, it is important that the members of the future ERIC prepare and agree on the documents that are required for the application (as set out in section III.3(b) above). Since members of the ERIC are states, it is important to involve the relevant ministry or national authority in early stages of preparation of the relevant documents.

Once the documents have been prepared and agreed among the members, the application should be submitted electronically to the Commission by the host state's permanent representation to the European Union on behalf of the future members of the ERIC. The application should include all the relevant documents referred to above.

For step 1 application there is no need for all members to sign the application, however the host state must submit a declaration recognising the future ERIC as an international body/international organisation in the sense of the directives on VAT and excise duty respectively.

The Commission will then assess the application to ensure that all relevant documents have been submitted and are in line with the requirements of the ERIC Regulation. See Annex II for a full list of items to be examined by the Commission.

During the process of assessment, the Commission may obtain the assistance of independent experts in the field of the intended activities of the ERIC. The Commission will inform the applicants of the results of the assessment by sending comments and suggesting modifications to the draft scientific and technical description

[178] i.e., that the research infrastructure is necessary for the carrying out of European research programmes; represent an added value in the implementation of the ERA and an improvement at international level; grant effective access to the European research community; contribute to the mobility of knowledge and/or researchers within the ERA; contribute to the dissemination and optimisation of the results of the activities.

[179] Articles 143(1)(g) and 151(1)(b) of Directive 2006/112/EC and Article 12(1)(b) of Directive 2008/118/EC.

and to the statutes.

At the end of Step 1 application, the Commission will invite the applicants to submit the formal request (Step 2), signed by all future members of the ERIC after taking into account the comments and suggestions made and revising the documents accordingly.

Step 2 – formal submission

After making the relevant adjustments, the host state's permanent representation to the European Union will submit an application including all relevant documentation on behalf of the future members of the ERIC, this time signed by all members.

The Commission will then seek the opinion of the ERIC Committee and will commence work on the preparation of the relevant Commission Decision establishing the ERIC. Once ready and approved, the Decision setting up the ERIC will be notified to the applicants and published in the Official Journal of the European Union.

d. What are the time scales of setting up an ERIC?

According to the Commission, the estimated time scales for Step 1 is 3 months from submission of the informal application and 6 months for Step 2 from the submission of the formal application.

e. Language

An application to establish an ERIC may be submitted in any one of the official languages of the institutions of the European Union. The Commission Decision establishing the ERIC will be translated into all official languages of the European Union.

4. Governance

a. What is the governance structure of an ERIC?

The basic governance structure of the ERIC is composed of the Assembly of Members (also known as the 'Council') and a Director or a Board of Directors. The Director or Board of Directors is the legal representative of the ERIC.

Several advisory committees may be set up in the statutes, such as a scientific advisory committee, an administrative and finance committee, or an ethics committee, to support the Assembly of Members. During the lifetime of an ERIC, the Assembly of Members may create additional advisory bodies as it deems appropriate. For ERICs operating distributed infrastructures, the Director may be supported by a heads of nodes committee consisting of representatives of the national facilities.

The statutes also provide for voting rules on quorum or majority rules for the decisions of the Assembly of Members. Further rules may be adopted by the Assembly of Members by way of implementing rules.

The name of an ERIC must contain the abbreviation 'ERIC' as a separate term.

b. What are the statutory bodies of an ERIC?

The ERIC Regulation prescribes two mandatory bodies: (1) the Assembly of Members ('Council'); and, (2) a Director or a Board of Directors.

The Assembly of Members is the body having full decision-making powers. It adopts in particular the annual budget, the annual work plan and the implementing rules which complement the statutes.

The Director or the Board of Directors is appointed by the Assembly of Members. The Director or Board of Directors is the executive body and legal representative of the ERIC.

c. *What are the main provisions of the statutes of the ERIC?*

The ERIC Regulation requires that the statutes of an ERIC shall contain at least the following:

- a list of members, observers and, where applicable, of representing entities and the conditions of and the procedure for changes in membership and representation;
- the tasks and activities of the ERIC;
- the statutory seat of the ERIC;
- the name of the ERIC;
- the duration, and the procedure for the winding-up of the ERIC;
- the liability regime;
- the basic principles covering:
  - the access policy for users;
  - the scientific evaluation policy;
  - the dissemination policy;
  - the intellectual property rights policy;
  - the employment policy, including equal opportunities;
  - the procurement policy respecting the principles of transparency, non- discrimination and competition;
  - a decommissioning, if relevant;
  - the data policy;
- the rights and obligations of the members, including the obligation to make contributions to a balanced budget and voting rights;
- the bodies of the ERIC, their roles and responsibilities and the manner in which they are constituted and in which they decide, including upon the amendment of the statutes;
- the identification of the working language;
- references to rules implementing the statutes.

d. *In what form can private entities take part in an ERIC?*

According to the ERIC Regulation, only EU Member States, associated countries, third countries and intergovernmental organizations may be members or observers of an ERIC. This means that private entities

cannot be members or observers in the ERIC.

However, private entities can take part in the ERIC in various other ways, for example:

- Representing entities: members or observers of an ERIC may be represented by private entities with a public service mission, which exercise specified rights or fulfil specified obligations on behalf of the members of the ERIC. A 'private entity with a public service mission' is an entity which is private, but owned by a public-sector body or the state. It may also be any other private entity that is explicitly granted a public service mission by way of a decision of a public-sector body. For example, higher education establishments that deliver diplomas recognised by a public authority according to criteria established by the state or perform research with public funding and in accordance with objectives agreed by the state.
- Members of advisory committees: As explained above, the statutes may include several advisory committees, such as a scientific advisory committee, an administrative and finance committee or an ethics committee that will support the Assembly of Members. The ERIC Regulation does not restrict or limit membership in such committees and there seem to be no reason why private entities could not be appointed to such committees.
- Experts: the statutes, or rules of procedure adopted by the Assembly of Members, may specify that members of the ERIC may be accompanied by experts when attending meetings of the Assembly of Members (subject to conditions set out thereof). There are no legal restrictions on the identity of such experts and these may include private entities as well.
- Ex-officio or 'guest' status at Assembly of Members meetings: the statutes, or rules of procedure adopted by the Assembly of Members, may also provide that the Assembly of Members may invite third parties (including private entities) to attend as ex-officio or guests at meetings, without the right of vote.
- Any other contractual relationship: being a separate legal entity with full legal capacity, the ERIC may enter into agreements with third parties. There seem to be no restrictions on the type and content of such agreements, as long as they do not contradict applicable law or public policy. Therefore, it cannot be excluded that the ERIC will enter into a contractual arrangement with a private entity, granting the latter, inter alia, a special status in the ERIC meetings.

e. Are there restrictions on ERIC to carry out economic activity?

In order to be established as an ERIC, a research infrastructure must have as its principal task the establishment and operation of a research infrastructure on a non-economic basis[180]. However, an ERIC may carry out limited economic activities provided that such economic activities are closely related to its principal task and that they do not jeopardise the achievement thereof[181]. The economic activities must remain secondary and not prevail over the execution of its main task. In practice, if the ERIC carries out an economic activity that is successful enough to be no longer considered as secondary, the ERIC may consider creating a spin-off company or any other subsidiary, and transfer the activity to that separate entity. The ERIC may hold 100% of the shares in that company.

[180] ERIC Regulation, Article 3.1.

[181] See ERIC Regulation, recital 8, and Articles 3.2 and 3.3. The possibility to carry out 'limited economic activities' is permitted with a view to promote innovation, as well as transfer of knowledge and technology.

For purposes of establishing whether an activity is considered to be 'economic', the term 'economic activities' is to be interpreted on the basis of EU competition law. In accordance with jurisprudence of the Court of Justice of the European Union, the nature of the ERIC as a non-profit entity is not sufficient to classify its activities as non-economic, and the test will be, inter alia, whether it carries out activity consisting in offering goods and services on a given market[182].

f. Location of statutory seat

The statutory seat of an ERIC must be located on the territory of a Member State or of an associated country member of the ERIC, where at least some of its activities are carried out.

g. Applicable law and jurisdiction

ERICs are governed by the ERIC Regulation and by the Commission Decision establishing each ERIC[183]. In the case of matters that are not covered, or only partially covered, by the ERIC Regulation or the ERIC Decision, the law of the state where the ERIC has its statutory seat will apply.

The Court of Justice of the European Union has jurisdiction over litigation among the members in relation to the ERIC, between the members and the ERIC and over any litigation to which the Union is a party. Union legislation on jurisdiction applies to disputes between an ERIC and third parties. In cases not covered by Union legislation, the law of the state where the ERIC has its statutory seat determines the competent jurisdiction.

h. What are the accounting obligations of an ERIC?

The member countries of the ERIC hold the responsibility for the budget of the ERIC and are obliged to make contributions in order to ensure a balanced budget[184].

The ERIC Regulation sets out the minimum budgetary and accounting requirements, as follows[185]:

- all items of revenue and expenditure of an ERIC must be included in estimates to be drawn up for each financial year and shown in the budget;
- the revenue and expenditure shown in the budget must be balanced;

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182 See for example Cases C-180/98 to C-184/98 Pavlov and Others EU:C:2000:428, para 75.

183 Including the statutes of the ERIC. A 'Decision' is an EU legal act binding on those to whom it is addressed i.e. the EU member states that are members or associated members of the ERIC. A Decision is directly applicable, meaning, it does not need any other acts of parliament in the member state to make it into law.

184 ERIC Regulation, Article 10(h).

185 ERIC Regulation, Article 13.

- it is the responsibility of the members of the ERIC to ensure that the appropriations are used in accordance with the principles of sound financial management;
- the budget shall be established and implemented and the accounts presented in compliance with the principle of transparency;
- the accounts of an ERIC must be accompanied by a report on budgetary and financial management of the financial year;
- the law of the host state applies as regards preparation, filing, auditing and publication of accounts.

i. What are the most important points included in the ERIC statutes in relation to management and governance?

As mentioned in section III.4(c) above, the ERIC Regulation prescribes specific items that must be include in the statutes of the ERIC.

In addition, there is flexibility for the Assembly of Members to set up advisory committees in the statutes, such as a scientific advisory committee, an administrative and finance committee or an ethics committee to support the Assembly of Members.

The essential elements of its statutes are annexed to the Commission Decision setting up the ERIC, and include:

- The tasks and activities of the ERIC;
- the statutory seat;
- the name of the ERIC;
- the duration, and the procedure for the winding-up;
- the liability regime;
- the basic principles covering:
  - the access policy for users;
  - the scientific evaluation policy;
  - the dissemination policy;
  - the intellectual property rights policy;
  - the employment policy, including equal opportunities;
  - the procurement policy respecting the principles of transparency, non-discrimination and competition.

Any amendment of the essential elements in the statutes must be submitted to the Commission for approval before such changes take effect.

The statutes also provide for voting rules on quorum or majority rules for the decisions of the Assembly of Members. Further rules may be adopted by the Assembly of Members by way of implementing rules.

j. Liability

An ERIC is liable for its debts.

As regards liability of the members, the default regime is for the statutes to provide that members' liability is limited to each member's respective contributions provided to the ERIC (either in total or limited to annual contributions). The statutes may also provide that members will assume a fixed liability above their respective contributions or assume unlimited liability.

If the statutes provide for limited liability of the members, the ERIC must take appropriate insurance to cover the risks specific to its activity (including construction and operation of the infrastructure).

5. VAT

According to Article 5(1)(d) of the ERIC Regulation, the proposed ERIC must be recognised by its host Member State as an international body in the sense of Articles 143(1)(g) and 151(1)(b) of the VAT Directive[186]. Associated countries, third countries other than associated countries or intergovernmental organisations must give the same recognition to the ERIC of which they are or intend to become members.

Once established, the ERIC benefits from exemption under the VAT Directive granted in respect of goods or services supplied to (or imported by) an international body recognised as such by its host Member State. An associated country, whether hosting an ERIC or not, and any other third country which is a member must therefore provide for VAT exemption.

The limits and conditions of the exemption must be agreed between the members and laid down in the statutes or in a separate agreement. The VAT exemption applies to goods or services acquired by the ERIC or its members that are for: (1) non-economic activities; (2) the exclusive and official use of the ERIC; (3) are wholly paid and procured by the ERIC; (4) exceed a certain value which is indicated in the statutes or in the separate agreement; and, (5) subject to additional limits and conditions set out in the statutes (or the separate agreement).

The exemption applies to goods or services regardless of whether they are purchased locally, within the EU or from third countries. However, the exemption does not cover situations where the services or goods procured are subject to VAT in third countries (unless that country has specifically granted an exemption to an ERIC)[187].

6. Estimated costs of establishing an ERIC

The application to the Commission for setting up an ERIC is free of charge. However, there may be significant costs incurred during the preparation of the application, in particular in terms of manpower and resources dedicated for preparing the application.

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[186] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (OJ L 347), 11.12.2006, p. 1.

[187] This would be the case if that third country happens to be a member of the ERIC.

D. COMPARISON AISBL AND ERIC

1. Comparison table

Criterion	AISBL	ERIC
Membership	Any natural or legal person	Only EU Member States, associated countries, third countries or intergovernmental organisations
Minimum number of members	At least 2, but 3 or more recommended	At least one Member State and two other countries that are either Member States or associated countries
Initial capital requirements	None	None
Separate legal personality	Yes	Yes
Set up procedure	Light	Heavier, especially upfront (pre-submission preparations)
Set up requirements	Light. Preparation and agreement on Articles of Association	Research infrastructures must demonstrate a relatively high degree of matureness in relation to several requirements of a scientific, technological and administrative natureandapan-European character

Set up duration	Approx. 4-5 months	Approx. 9 months from submission of step-1 application
Governance structure	Flexible. Must include a General Assembly and Board of Directors	Relatively flexible. Must include Assembly of Members and a Director or a Board of Directors
Pan-European image	Strong	Very strong
Location of statutory seat	Belgium	In a Member State or an associated country which is a member of the ERIC, where at least some of the activities are carried out
Applicable law	Belgian law	the ERIC Regulation and by the Decision establishing the ERIC. In the case of matters that are not covered, or only partially covered by the ERIC Regulation or the ERIC Decision, the law of the state where the ERIC has its statutory seat
Limited liability regime	Yes. Members of the AISBL and the administrators may be liable to the execution of their assigned tasks and the faults committed in their management only	Yes. Members' liability is limited to each member's respective contributions, or as may be otherwise provided in the statutes
Estimated costs of establishment	Euro 1,500 - 2,000	None. However, preparation for the application for setting up an ERIC may require significant resources
Other privileges	None	Exemption from the EU directives on public procurement and from VAT and excise duty

2. What benefits does an ERIC legal structure offers for OPERAS?

Since its establishment in 2009, the ERIC legal structure has been in use for 19 different research infrastructures with more than 20 Member States and associated countries participating as members and observers.

The benefits that an ERIC legal structure offers could be summarised as follows:

- high political acceptance and visibility within the scientific community, reflecting a spirit of a European venture;
- legal and governance structure which is tailored to the needs of European research infrastructures allowing more capacity to participating members to make decisions and shape the structure of the ERIC independently;
- exemption from the EU Public Procurement Directive 2014/24/EU (as implemented in national law), hence eliminating the need to follow excessive formalities and potentially lengthy procedures when purchasing services or goods in the market;
- exemption from VAT and excise duty on purchases made by the ERIC or its members under the limits and conditions set out in the statutes (or a separate agreement);
- a legal personality recognised in all EU Member States;
- facilitates eligibility for EU and national funding, especially for the preparatory phase;
- a lighter incorporation process compared to an international organization;
- flexible internal structure which is not subject to national law;

E. LEGAL AND BUSINESS MODELS FOR THE PROVISION OF SERVICES BY AND TO OPERAS

1. What is the relationship between the headquarter and the national nodes under the AISBL?

There are various ways in which the relationship between the headquarter (Hub) and the national nodes (Nodes) may be established. In general, it would be useful to distinguish between relationships established on the basis of a governance model and relationships established on the basis of a contractual model, or relationships that are based on a combination of the two.

Under a governance model, the Nodes could be members of the governance of the AISBL. For example, membership in the AISBL itself will allow maximum integrity whereby the Nodes become direct stakeholders in the AISBL. Each Node will take part in General Assembly meetings and will have voting rights like all other members of the AISBL. As members of the AISBL and the General Assembly, the Nodes will participate as equals in the decision-making process of the AISBL.

Alternatively, the General Assembly may establish additional governing bodies and delegate certain powers to such governing bodies, or assign them a general advisory role. The composition and powers of such additional governing bodies must be set out in the Articles of Association. For example, the General Assembly could establish a Heads of Nodes Committee which will be composed of one representative, acting as the head of the relevant Node. The Heads of Nodes Committee may be charged with the general responsibility of advising the General Assembly on the activities carried out by OPERAS[188] and that the General Assembly and Board of Directors are obliged to seek the advice of the Heads of Nodes Committee prior to taking decisions

[188] The exact scope of responsibility of the Heads of Nodes Committee could be defined in a Terms of Reference and Rules of Procedure documents.

concerning certain matters.

Representatives of the Nodes may also participate in other committees, such as a Scientific Advisory Committee.

Instead of, or in addition to the governance model, the relationship between the Hub and the Nodes may be based on a contractual model (binding or non-binding), in which the Hub will enter into a collaboration agreement with each Node. The details of the collaboration agreement would need to be determined by the Board of Directors (subject to approval by the General Assembly), but it may include issues such as the terms and conditions for the provision of technical or other services through the OPERAS Nodes to OPERAS, to users or to other third parties, and set out the mechanisms for their provision. It is also possible that OPERAS would like to establish a procedure for applications to become an OPERAS Node as well as a procedure for evaluating Node applications, including eligibility and evaluation criteria before entering into any collaboration agreement. During the life time of the collaboration agreement, OPERAS may also decide to carry out regular evaluation (to be carried out by a Scientific Advisory Committee, for example), in order to determine whether the collaboration with the Node should continue or be terminated.

2. How are services provided to OPERAS users (e.g., libraries, publishers, researchers) by the central hub, the national nodes, OPERAS members and external private parties?

According to OPERAS Design Study, the OPERAS infrastructure will coordinate services, practices and technology across main actors in the SSH scholarly communications in Europe with a view to providing joint services, to align activities of strategic actors and stakeholders (research institutions, libraries, platforms, publishers, funders) in their transition to Open 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.

It is further envisaged that OPERAS will operate on the basis of the principle of subsidiarity, i.e., that each Node will provide publication and communication services to their own scientific community, but collaborate and share their technologies, know-how, practices and efforts with other Nodes and with the Hub. This will be done with a view to align OPERAS activities to increase the quality of services; to integrate into the European Open Science Cloud (EOSC) and achieve interoperability; and, to provide integrated services at European level when there is a clear and defined added value.

As a general remark, it is worth mentioning that services provided to users (by the Hub and/or by the Nodes) will likely be agreed between the Hub and the Nodes on the basis of a contractual arrangement, such as collaboration agreements or service level agreements. The collaboration agreements or service level agreements could include provisions on reporting duties, quality assurance and scientific evaluation processes, provision of facilities and staff dedicated to OPERA's mission, as well as financial commitments.

The coordination of OPERAS tasks, mission and activities would be executed by the Hub. The Hub would manage the organisational, technical and administrative issues with the Nodes and other research infrastructures or third parties and provide services to support the Nodes and the user community. It may also serve as a focal contact point for the user community in the host country in which it is established.

Assuming that OPERAS will operate on the basis of a federated model, then OPERAS Nodes, which have entered into a collaboration agreement or a service level agreement with the Hub, will play a central role in the

provision of services to users within their communities. Each of the Nodes will likely be hosted by an institute that has its own legal personality and will provide defined set of services on behalf of OPERAS. As mentioned above, the services and the terms and conditions of their delivery will be addressed in the collaboration agreement or service level agreement entered into by the relevant Node and the Hub. The actual provision of services to external users may be regulated by a tailored service agreement.

In relation to other entities, which are not accepted as nodes, in particular private entities, the provision of services will be based on regular service agreements which may include remuneration.

Finally, in case the purchaser of the services is a "contracting authority" within the meaning of EU Directive 2014/24/EU on public procurement[189], and where the volume in monetary terms is above the applicable thresholds[190], there will be a need to consider EU public procurement implications and, unless a specific exemption applies[191], a competitive procedure will have to be followed.

3. Can the ERIC utilize a freemium model? If yes, at what conditions?

A freemium model suggests that while some services are provided to users free of charge, other (premium) services, will be provided against remuneration.

It was mentioned above, that an ERIC must have as its principal task the establishment and operation of a research infrastructure on a non-economic basis, however, it may carry out limited economic activities provided that such economic activities are closely related to its principal task and that they do not jeopardise the achievement thereof.

The fact that under a freemium model a fee might be charged for the provision of premium services does not automatically render the provisions of such services as an 'economic activity'. The question whether a certain activity is considered 'economic' will require a case-by-case assessment, which will be based on the interpretation of EU law, taking account of the specific circumstances, such as market conditions, the way the activity is organised and other relevant considerations in accordance with the jurisprudence of the

Court of Justice of the European Union.

Even if the provision of premium services against remuneration is considered as an 'economic activity', the ERIC will be allowed to carry out such activity as long as it remains secondary and not prevail over the execution of the main (non-economic) task of the ERIC. If the provision of premium services becomes successful enough to be no longer considered as secondary, the ERIC may consider creating a spin-off

189 According to Directive 2014/24/EU, the 'ccontracting authorities' means "the State, regional or local authorities, bodies governed by public law or associations formed by one or more such authorities or one or more such bodies governed by public law".

190 These are depended on the type of contract awarded and the entity awarding the contract. The basic thresholds are €221,000 for the purchase of services or supplies, and €5,548,000 for the purchase of works.

191 There are various grounds for exemption that are listed in Directive 2014/24/EU.

company for example, and transfer the activity of premium services to the responsibility and ownership of that separate entity. The ERIC may hold 100% of the shares of that separate entity.

F. Annex 1: Information to be provided to the public notary in order to prepare the Articles of Associations of the AISBL

- Name;
- Seat of the head office;
- Objective and goals:
  - List of the goals of the AISBL;
  - List of the activities that the AISBL will carry out in order to reach the goals.
- Founding members of the AISBL:
  - For natural persons: full name, profession, address and a copy of their passport or identity card;
  - For legal person: name; seat of the head office; juridical form; corporate number and information of the person(s) who can represent the corporation with a copy of their passport or identity card; latest version of the bylaws; a confirmation of the powers of the person(s) who can represent the corporation; an extract of the chamber of commerce or company register (for non-Belgian entities).
- Information for the bylaws:
  - Minimum number of members;
  - Maximum amount of membership-fee or contributions by the members;
  - The destination of the funds of the AISBL in case of dissolution, this destination has to be altruistic.
- Assembly and end of financial year:
  - Date and hour of the annual assembly;
  - End date of the financial year;
  - Date of the first assembly and date of the end of the first financial year.
- Administrators:
  - For natural persons: full name, profession, address and copy of their passport or identity card;

- For legal persons: name; seat of the head office; juridical form; corporate number and information on the person(s) who can represent the corporation; latest version of their bylaws; a confirmation of the powers of the person(s) who can represent the corporation; an extract of the chamber of commerce or company register (for non-Belgian entities).

G. Annex 2: Verification of completeness and conformity by the Commission of an application to establish an ERIC

Verification of Completeness of the application

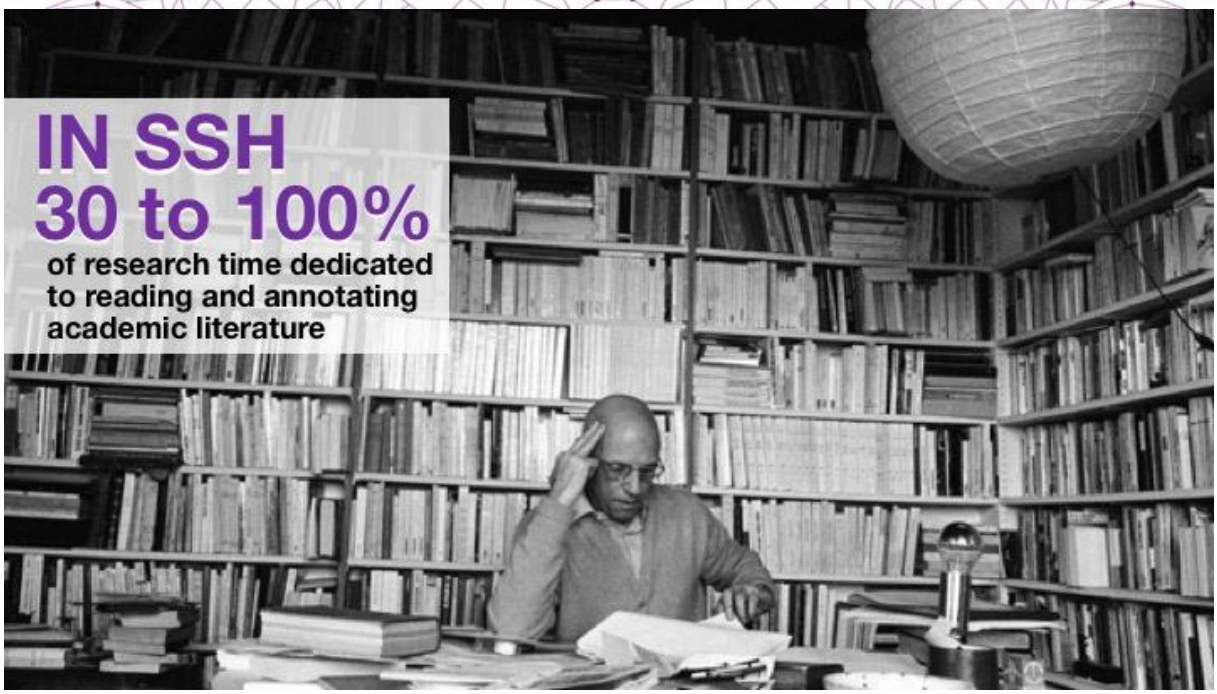
- A request to the Commission to set up the ERIC;
- A technical and scientific description;
- A declaration by the host Member State recognising the future ERIC as an international body/international organisation in the sense of the VAT and excise duty directives, as of its setting up;
- the limits and conditions of the resulting VAT and excise duty exemptions — either contained in the statutes or as a separate agreement between the members;
- proposed statutes (Article 5(1)(b)) containing all elements listed in Article 10.

Verification of the principal tasks to establish and operate a research infrastructure

- only limited economic activities;
- Requirements relating to the research infrastructure:
  - important for European research;
  - excellent in its field at international level;
  - provides effective access for European researchers;
  - contributes to the mobility of knowledge and/or researchers within the ERA;
  - contributes to dissemination/optimisation of the RTD results;
  - Statutory seat located in Member State or associated country.
- Name of the ERIC contains 'ERIC';
- only states and intergovernmental organisations as members;
- fair terms for joining of new Member States and associated countries;
- Majority of voting rights held by Member States and associated countries;
- Bodies of the ERIC: Assembly of Members; Director or Board of Directors;
- Liability regime: insurance foreseen in case of limited liability.

XI. OPERAS Evaluation hearings: Presentation support

Below are displayed the slides provided by Laetitia Martin for the presentation made by Marin Dacos, Eelco Ferwerda, and Elena Giglia.



The European Commission believes the publishing industry is moving too slowly

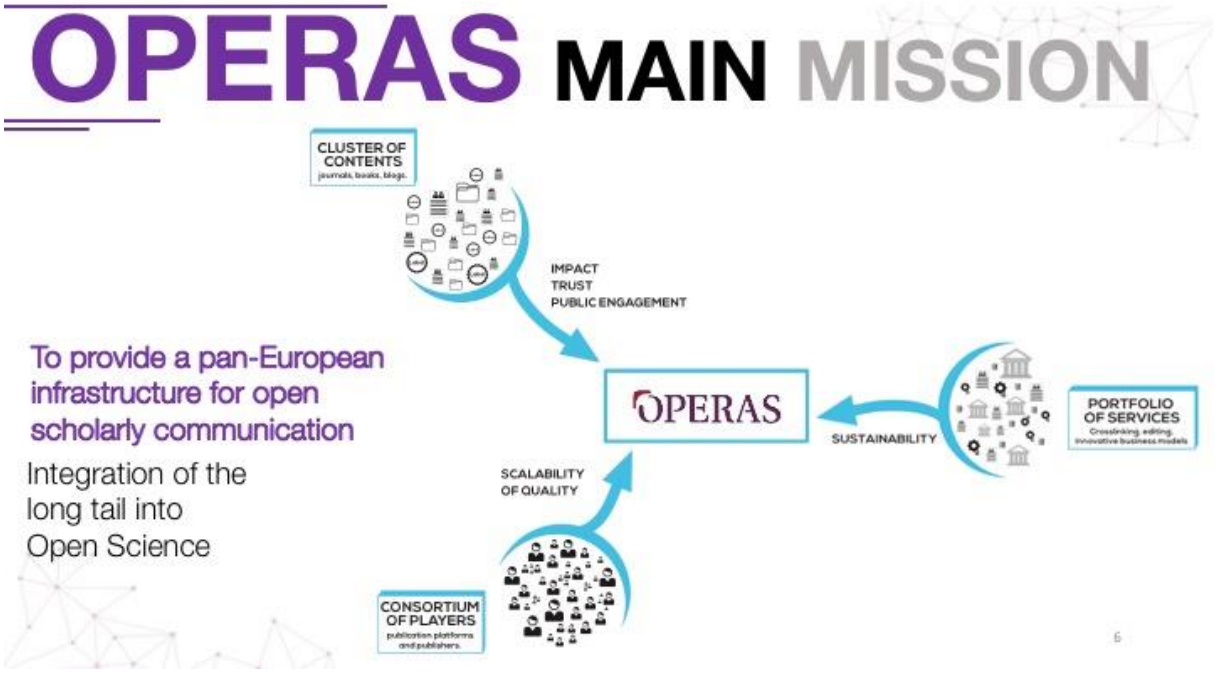
I think there's an element of desperation here

Leo Waaijers, Science, 2017

http://www.sciencemag.org/news/2017/03/european-commission-considering-leap-open-access-publishing

4


OPERAS
IN A
NUTSHELL


OPERAS MAIN MISSION
CLUSTER OF CONTENTS
IMPACT
TRUST
PUBLIC ENGAGEMENT
To provide a pan-European infrastructure for open scholarly communication
Integration of the long tail into Open Science
OPERAS
SUSTAINABILITY
PORTFOLIO OF SERVICES
SCALABILITY OF QUALITY
CONSORTIUM OF PLAYERS

THE SITUATION
before OPERAS

In STEM

Scientific community lost control to commercial publishers

In SSH

Fragmentation of the publishing community, mostly university led

Early Open Science adopters in SSH

Opportunity

Reclaim control by **uniting researchers, libraries and publishers in a common effort**

7

OPERAS PARTNERS

OPERAS is led by OpenEdition (France)

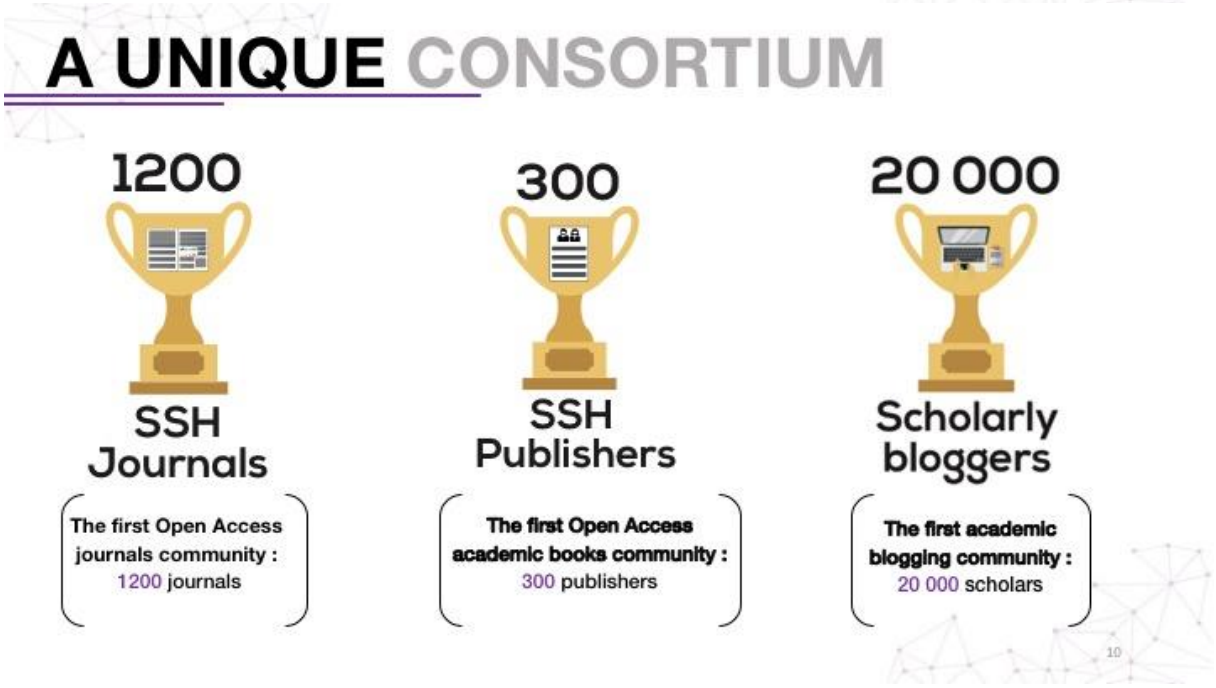
Consortium

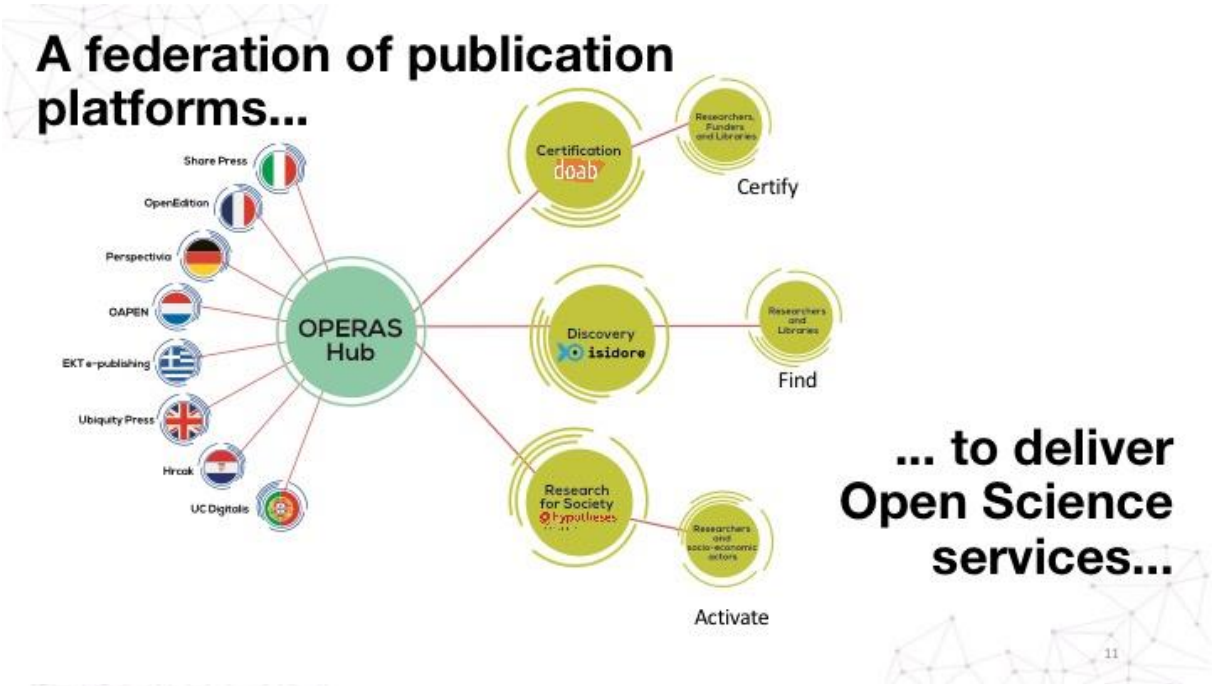
- 35 Partners
- 11 Countries
- 9 Core group Members
- 2 H2020 Projects

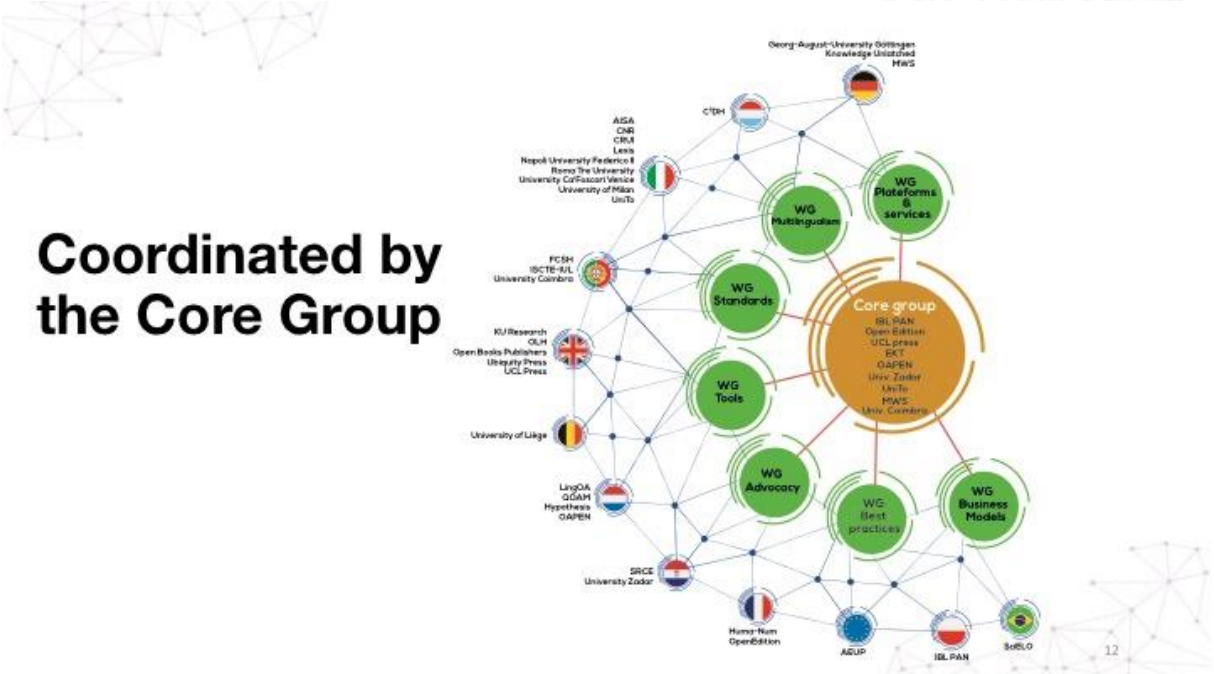
OPERAS-D HIRMEOS

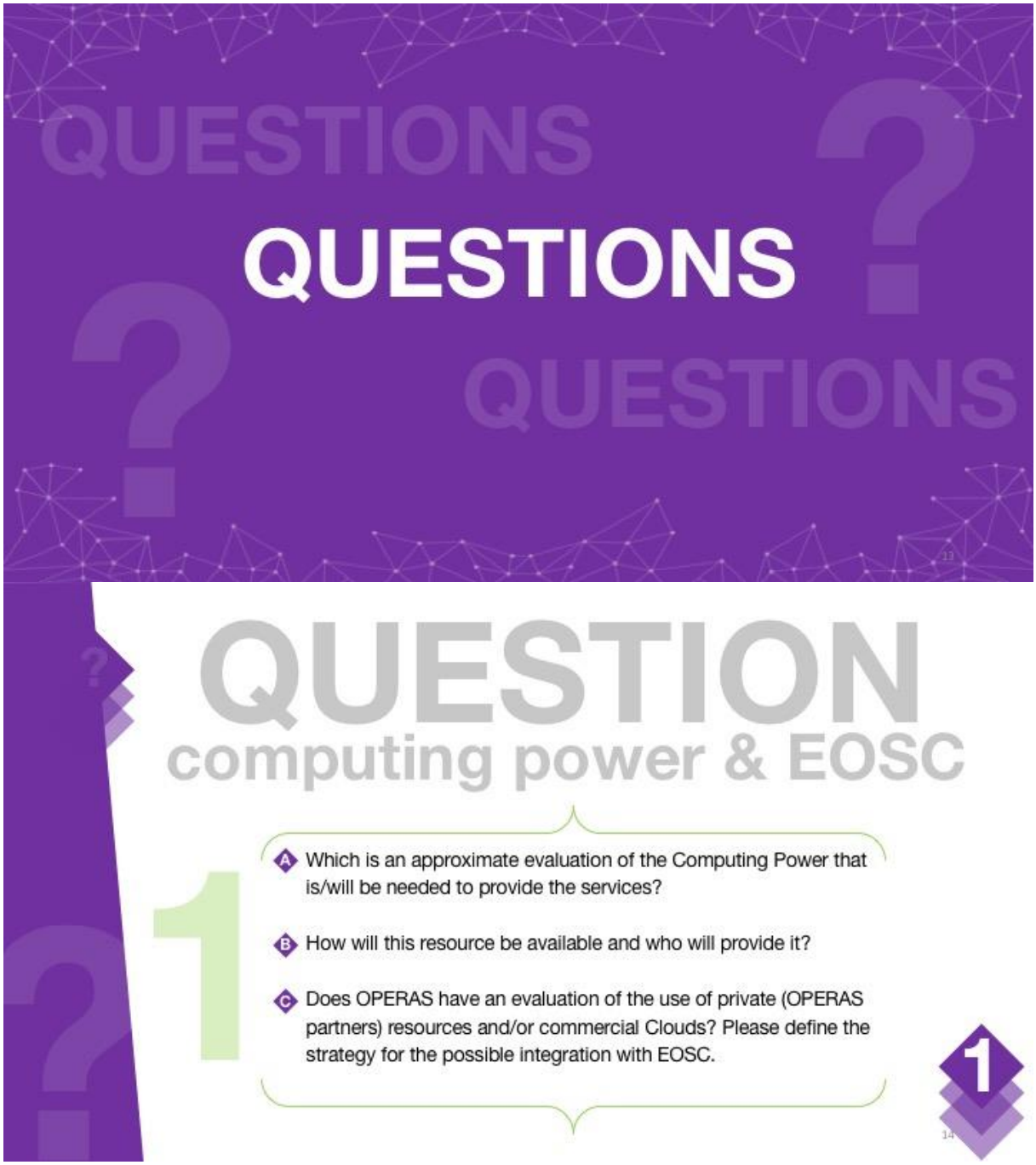
8


OPERAS
Community
United Kingdom
KU Research
Open Books Publishers
Open Library of Humanities – OLH
Ubiquity Press
UCL Press
Netherlands
Hypothesis
Linguistics in Open Access – LingOA
OAPEN
Quality Open Access Market – QOAM
Belgium
University of Liège
Luxembourg
Luxembourg Centre for Contemporary and Digital History – C2DH
Germany
Georg-August-University Göttingen – UGOE
Knowledge Unlatched – KU
Max Weber Stiftung – MWS
France
Huma-Num
OpenEdition
Poland
Institute of Literary Research of the Polish Academy of Sciences – IBL PAN
Croatia
University of Zadar
University of Zagreb, University Computing Centre – SRCE
Portugal
NOVA School of Social Sciences and Humanities
University of Coimbra
University Institute of Lisbon – ISCTE-IUL
Italy
Associazione Italiana per la promozione della scienza aperta – AISA
Conference of Italian University Rectors – CRUI
Italian National Research Council – CNR
Lewis Compagnie Editoriale
Napoli University Federico II
Roma Tre University
University of Milan
University of Turin – UniTo
University Ca'Foscari Venice
Greece
National Documentation Centre – EKT/NHRF
Association of European University Presses – AEUP
Scientific Electronic Library Online – SciELO
Current volume
55 000 000 Visitors/year
800 000 Publications
250 000 Authors
9


A UNIQUE CONSORTIUM
1200
SSH Journals
The first Open Access journals community : 1200 journals
300
SSH Publishers
The first Open Access academic books community : 300 publishers
20 000
Scholarly bloggers
The first academic blogging community : 20 000 scholars
10

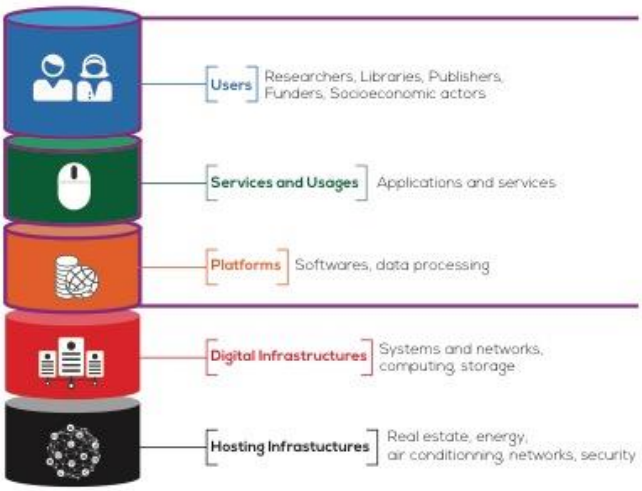

A federation of publication platforms...
Share Press
OpenEdition
Perspectivia
OAPEN
EKT e-publishing
Ubiquity Press
Hrcak
UC Digitalis
OPERAS Hub
Certification
doab
Researchers, Funders and Libraries
Certify
Discovery
isidore
Researchers and Libraries
Find
Research for Society
Hypotheses
Researchers and socio-economic actors
Activate
... to deliver Open Science services...
11


Coordinated by the Core Group
Georg-August-University Göttingen
Knowledge Unlatched
MWS
CTDH
AISA
CNR
CRIA
Lexis
Napoli University Federico II
Roma Tre University
University Ca'Foscari Venice
University of Milan
UniTo
WG Multilingualism
WG Plateforms & services
FCSH
ISCTE-IUL
University Coimbra
WG Standards
Core group
IBL PAN
Open Edition
UCLpress
EKT
OAPEN
Univ. Zadar
UniTo
MWS
Univ. Coimbra
KU Research
OLH
Open Books Publishers
Ubiquity Press
UCL Press
WG Tools
University of Liège
WG Advocacy
WG Best practices
WG Business Models
LingQA
QQAH
Hypothesis
OAPEN
SRCE
University Zadar
Huma-Num
OpenEdition
ADUP
IBL PAN
SciELO
12


QUESTIONS
QUESTIONS
QUESTIONS
QUESTION
computing power & EOSC
1
A Which is an approximate evaluation of the Computing Power that is/will be needed to provide the services?
B How will this resource be available and who will provide it?
C Does OPERAS have an evaluation of the use of private (OPERAS partners) resources and/or commercial Clouds? Please define the strategy for the possible integration with EOSC.
1

1A

OPERAS COMPUTING POWER NEEDS



Most of its services are close to users

Most of the OPERAS efforts rely on high or mid levels of services

The low level services are today mostly provided by national data centers

15

1A

OPERAS COMPUTING POWER IN 2018

The needed computing power is relatively small

	Number
U	80
Cores (nb)	1000
RAM (GB)	5300

National nodes and central platforms

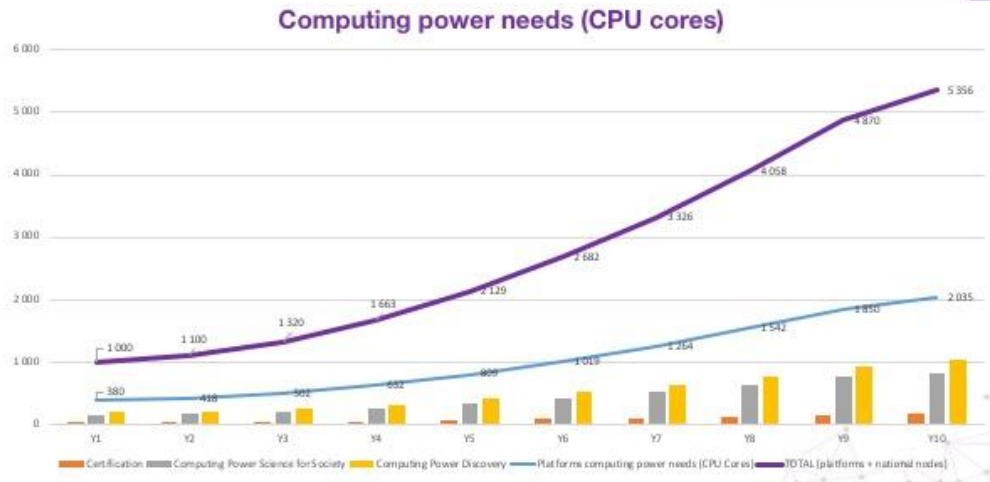
16

1B DETAIL OF COMPUTING POWER

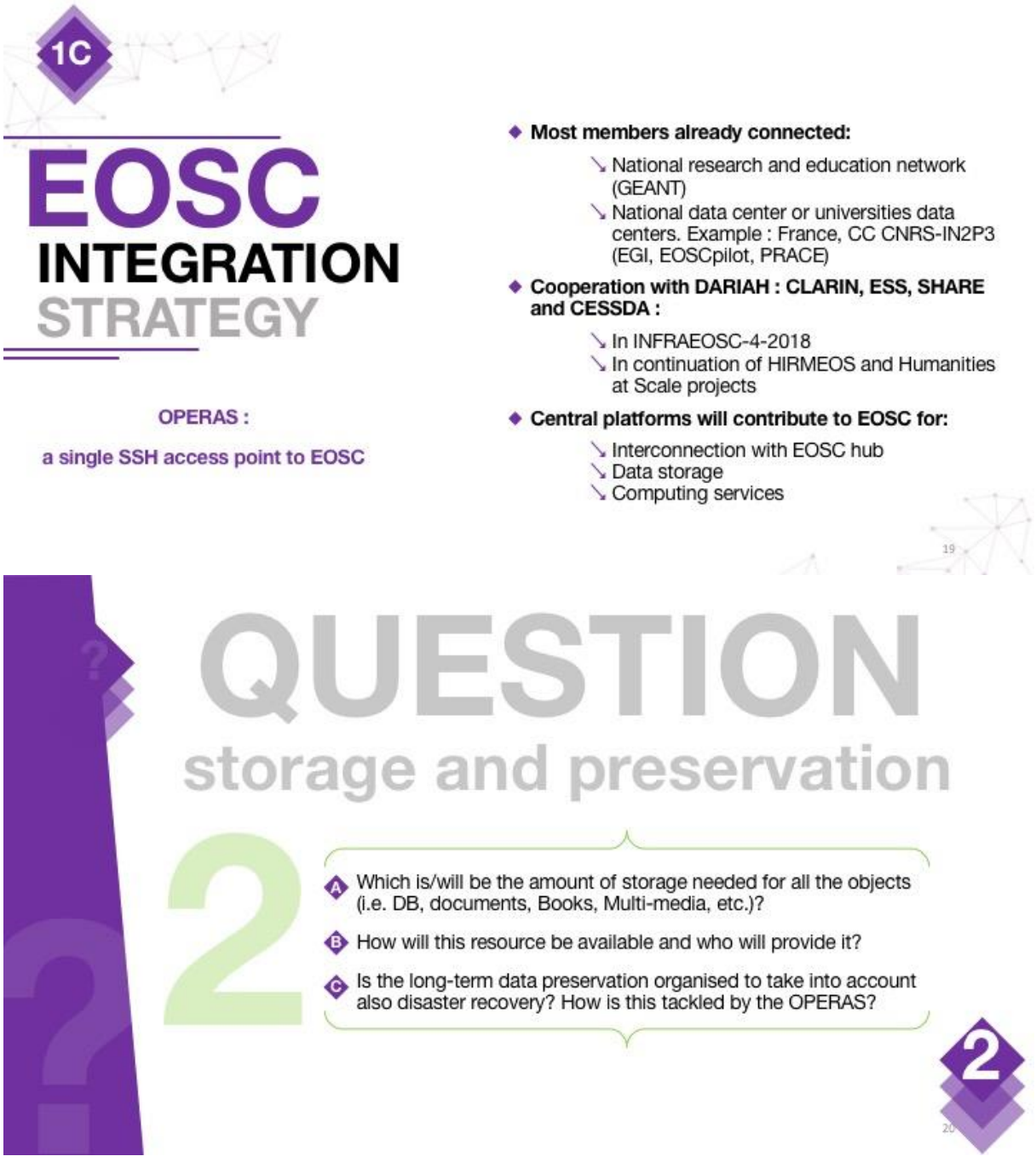
PARTNER	OPENEDITION	Huma-Num (Isidore)	EKT	Ubiquity Press	MWS	Unito	OAPEN	OAPEN (DOAB)	Univ. Coimbra	Univ. Zadar	IBL PAN	UCL press
CPU cores	724	192	72	31	12	12	4	4	6	4	OpenEdition	OAPEN
Servers (nb)	21	8	6	10	1	1	4	4	4	6	OpenEdition	OAPEN
RAM (GB)	3000	1000	1100	115	24	32	32	32	28	8	OpenEdition	OAPEN
Provider	CC IN2P3	CC IN2P3	EKT	Amazon	BSB	Cineca	UvA	SemperTool	Univ. Coimbra	SRCE	OpenEdition	OAPEN

17

1B EVOLUTION OF COMPUTING POWER NEEDS



18


1C
EOSC
INTEGRATION
STRATEGY
OPERAS :
a single SSH access point to EOSC
Most members already connected:
National research and education network (GEANT)
National data center or universities data centers. Example : France, CC CNRS-IN2P3 (EGI, EOSCpilot, PRACE)
Cooperation with DARIAH : CLARIN, ESS, SHARE and CESSDA :
In INFRAEOSC-4-2018
In continuation of HIRMEOS and Humanities at Scale projects
Central platforms will contribute to EOSC for:
Interconnection with EOSC hub
Data storage
Computing services
19
QUESTION
storage and preservation
2
A Which is/will be the amount of storage needed for all the objects (i.e. DB, documents, Books, Multi-media, etc.)?
B How will this resource be available and who will provide it?
C Is the long-term data preservation organised to take into account also disaster recovery? How is this tackled by the OPERAS?
2

2A

OPERAS STORAGE IN 2018

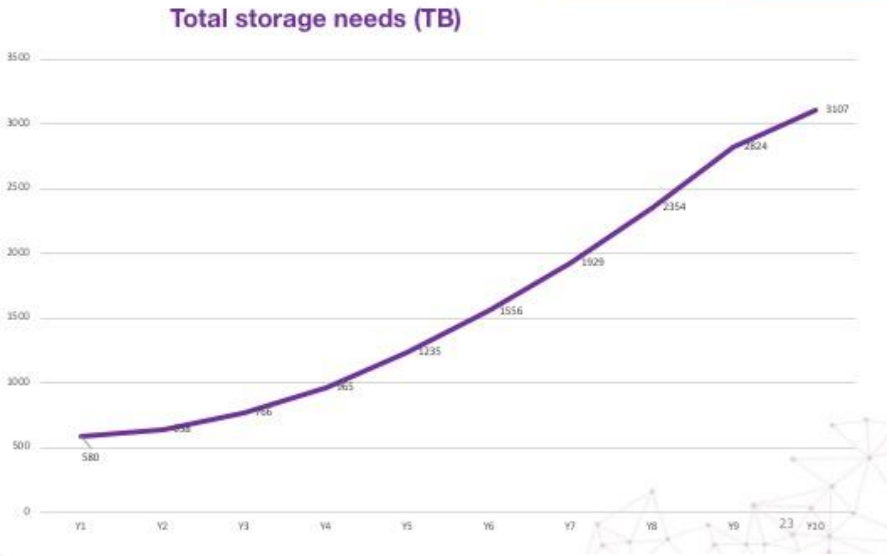
- **Storage :**
  - DBMS : 2,2TB (including central platforms and core members)
  - Mostly texts : videos hosting by dedicated platforms outside OPERAS
  - Total storage : 580TB

2A DETAIL OF STORAGE

PARTNER	Huma-Num (Isidore)	EKT	IBL PAN	MWS	Open Edition	OAPEN	OAPEN (DOAB)	Ubiquity Press	UCL press	Univ. Coimbra	University of Turin	Univ. Zadar
DB Size (GB)	1024GB	35GB	Open Edition [60GB]	100GB	60GB	60GB	200MB	270 GB	OAPEN [60GB]	419GB	8GB	78GB
Storage Size (TB)	400TB	50TB	Open Edition [40TB]	1,5TB	40TB	5,5TB	0,7TB	5TB	OAPEN [5,5TB]	25TB	2TB	1,25TB
DBMS	**MySQL,** MongoDB, AFS, Handle.net, Virtuoso, Exist, BaseX	**MySQL**	OpenEdition [**MySQL**]	Zope Object database	**MySQL**	**MySQL,** Oracle	MariaDB	**MySQL,** PostgreSQL	OAPEN [**MySQL**]	**MySQL,** PostgreSQL	**MySQL**	**MySQL**

2A EVOLUTION OF STORAGE NEEDS

From **580TB** to **3100 TB**



2B HOW WILL THIS RESOURCE BE AVAILABLE AND WHO WILL PROVIDE IT ?

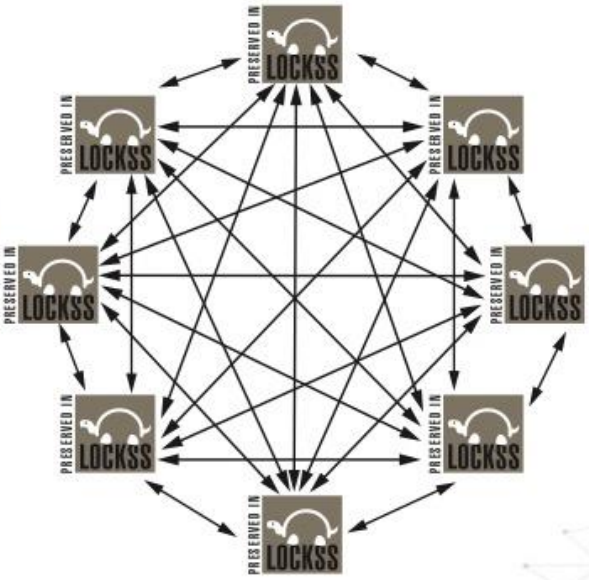
Platform Type	Platform Name	Host	Country	Private/Public
◆ Discovery (Central)	Isidore	CC IN2P3	FR	Public
◆ Certification	DOAB	SemperTool	DK	Private
◆ Research for Society	Hypotheses	CC IN2P3	FR	Public
Publication	OpenEdition	CC IN2P3	FR	Public
Publication	OAPEN	UvA	NL	Public
Publication	Perspectivia	BSB	DE	Public
Publication	Sirio/Collane	Cineca	IT	Public
Publication	EKT e-publishing	EKT	GR	Public
Publication	Hrcak	SRCE	HR	Public
Publication	Ubiquity	Amazon S3	UK	Private
Publication	UC Digitalis	Coimbra University	PT	Public

2C

OPERAS

DISASTER RECOVERY PLAN

Distributed system



www.lockss.org

QUESTION

choice of platforms

3

OPERAS builds on three existing platforms, DOAB, Isidore, and Hypotheses. What is the reasoning for including these particular three platforms rather than other existing platforms (e.g. OpenAire)?

3

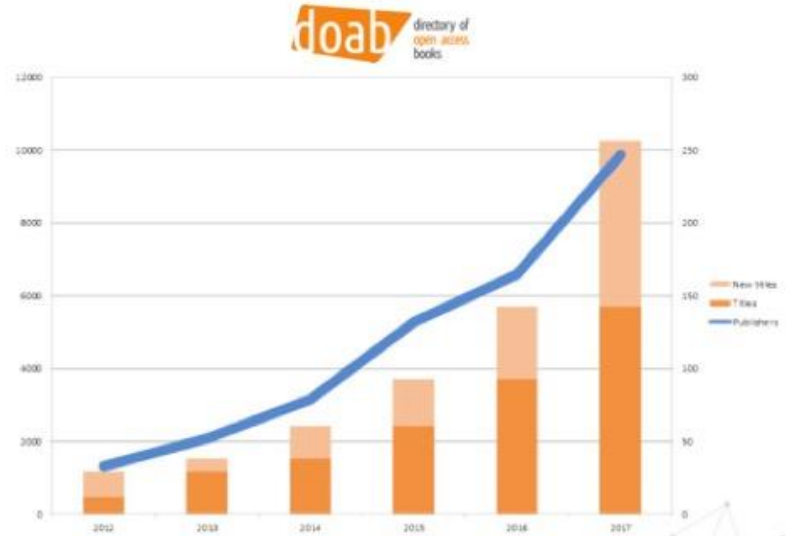
OPERAS Platforms

3 World leaders

That address the needs of the different stakeholders of the academic community

27

3 Certification



28


doab
directory of open access books
Winner of the IFLA/Brill Open Access award 2015
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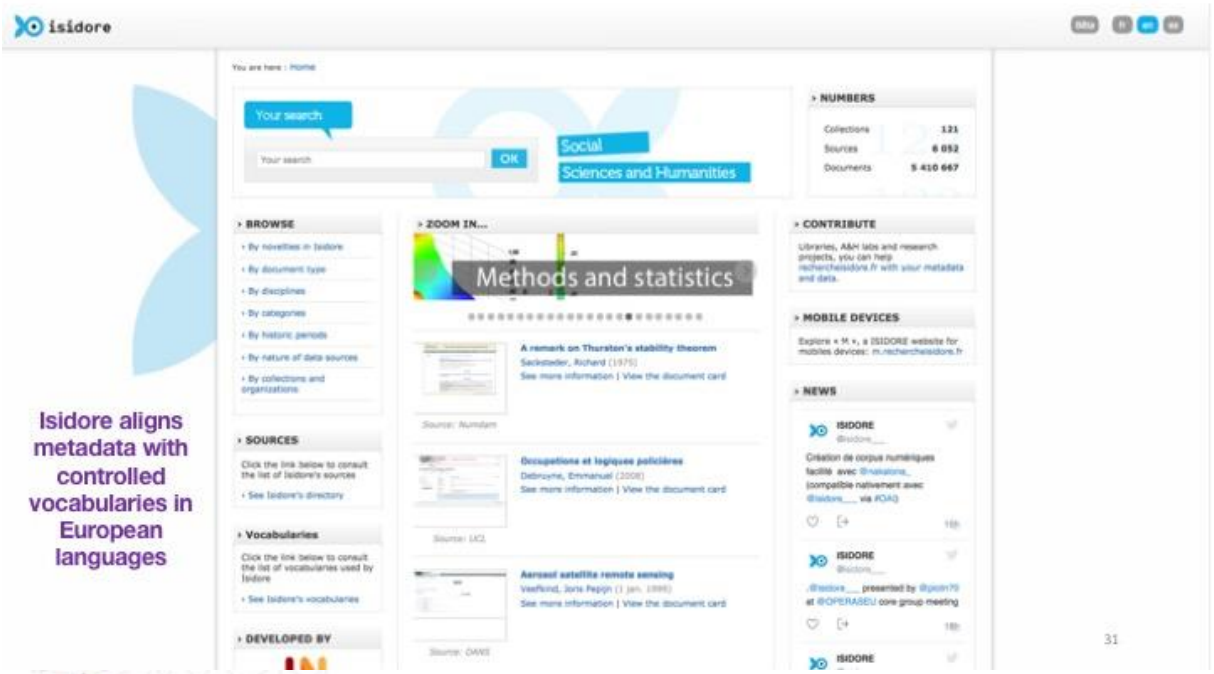
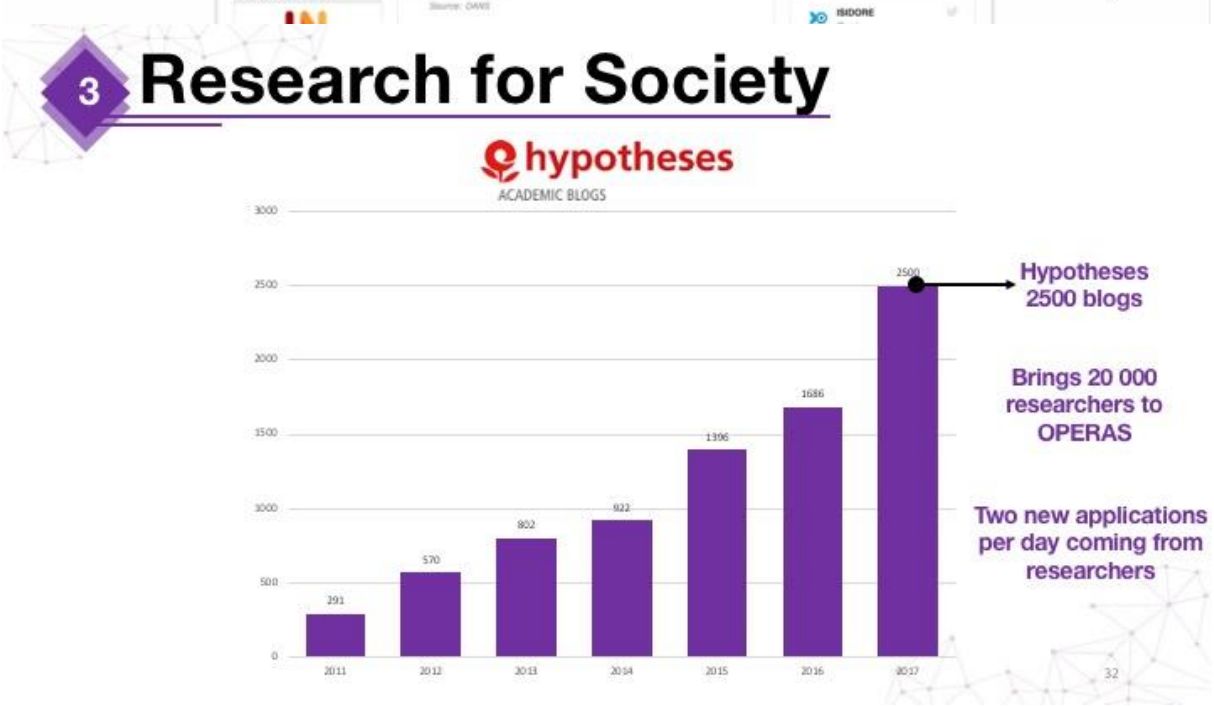
Browse
DOABlog
FAQ
Support
For publishers
Our sponsors
About
Contact
By title
By subject
By publisher
Oxford University Press
http://ukcatalogue.oup.com
Peer review info
License info
Browse results: Found 43
Listing 1 - 10 of 43
<< page 1 of 5 >>
Addressing Tipping Points for a Precarious Future
Authors:
Book Series: British Academy Original Paperbacks ISBN: 9780197265536 Year: 2013 Pages: 300 DOI: 10.5871/bacad/9780197265536.001.0001 Language: English
Publisher: Oxford University Press Grant: The British Academy
Subject: Economics --- Environmental Sciences --- Sociology --- Social Sciences
License:
Abstract | Keywords | Free access | Buy the book | Export citation | SHARE
29


3 Discovery
isidore
Millions
0,44
0,56
0,62
0,83
1,03
1,10
2011
2012
2013
2014
2015
2016
Unique users
Harvested repositories
440 000
564 888
618 722
825 273
1 033 588
1 085 331
1 255
1 932
2 259
2 384
3 959
4 181
30


isidore
Your search
OK
Social
Sciences and Humanities
NUMBERS
Collections 121
Sources 6 052
Documents 5 410 667
BROWSE
ZOOM IN...
Methods and statistics
CONTRIBUTE
MOBILE DEVICES
NEWS
SOURCES
Vocabularies
DEVELOPED BY
Isidore aligns metadata with controlled vocabularies in European languages
31


3 Research for Society
hypotheses
ACADEMIC BLOGS
3000
2500
2000
1500
1000
500
0
291
570
802
922
1396
1686
2500
2011
2012
2013
2014
2015
2016
2017
Hypotheses 2500 blogs
Brings 20 000 researchers to OPERAS
Two new applications per day coming from researchers
32

3 WHY OPERAS PLATFORMS ?

The three identified platforms answer the needs of the stakeholders outside the consortium

Name	Area	Target	Identified needs	Service
OpenAIRE	All	Policy makers	Open Access monitoring + advocacy + training	**Harvesting**, indexing
OPERAS doab				
OPERAS isidore				
OPERAS hypotheses				

34

3 WHY OPERAS PLATFORMS ?

The three identified platforms answer the needs of the stakeholders outside the consortium

Name	Area	Target	Identified needs	Service
OpenAIRE	All	Policy makers	Open Access monitoring + advocacy + training	**Harvesting**, indexing
OPERAS doab	SSH	Researchers Funders Libraries	Quality assurance Monitoring	**Certification** of scientific quality
OPERAS isidore				
OPERAS hypotheses				

3 WHY OPERAS PLATFORMS ?

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OPERAS doab	SSH	Researchers Funders Libraries	Quality assurance Monitoring	**Certification** of scientific quality
OPERAS isidore	SSH	Researchers Readers	Finding resources	**Discovery** : Search engine through semantic tools
OPERAS hypotheses				

3 WHY OPERAS PLATFORMS ?

The three identified platforms answer the needs of the stakeholders outside the consortium

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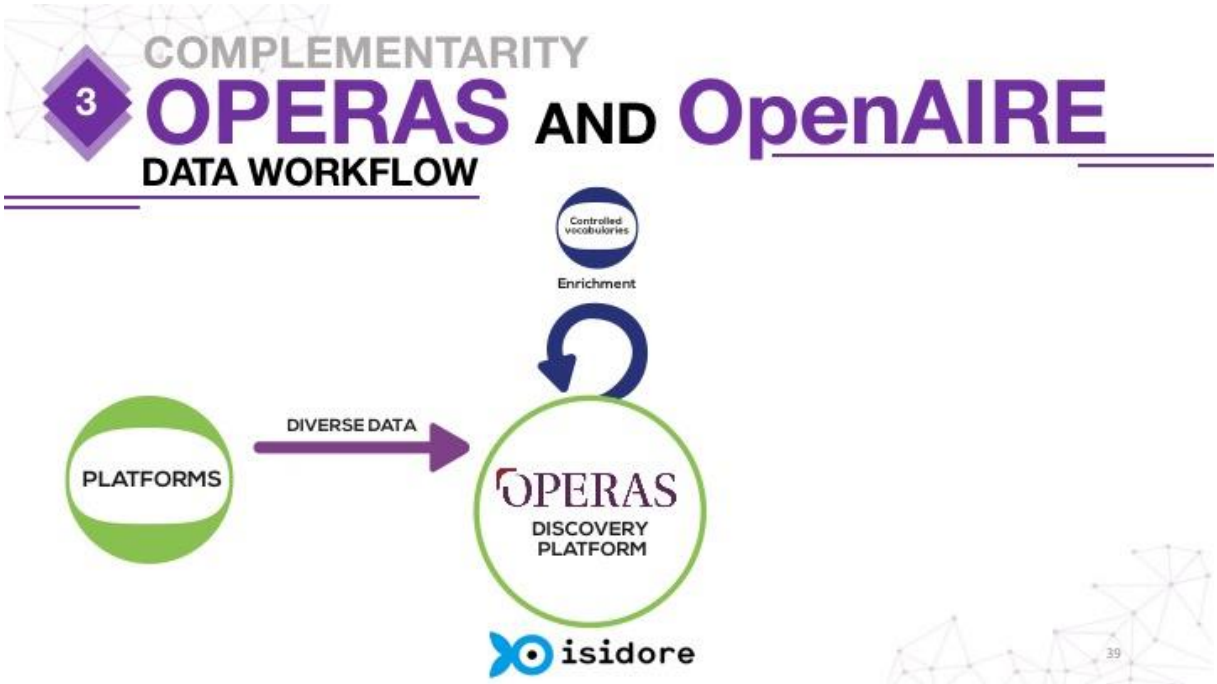
OpenAIRE	All	Policy makers	Open Access monitoring + advocacy + training	**Harvesting**, indexing
OPERAS doaj	SSH	Researchers Funders Libraries	Quality assurance Monitoring	**Certification** of scientific quality
OPERAS isidore	SSH	Researchers Readers	Finding resources	**Discovery** : Search engine through semantic tools
OPERAS hypotheses	SSH +	Researchers Socio-economic actors	Engagement	**Research for society** : New ways of communicating research

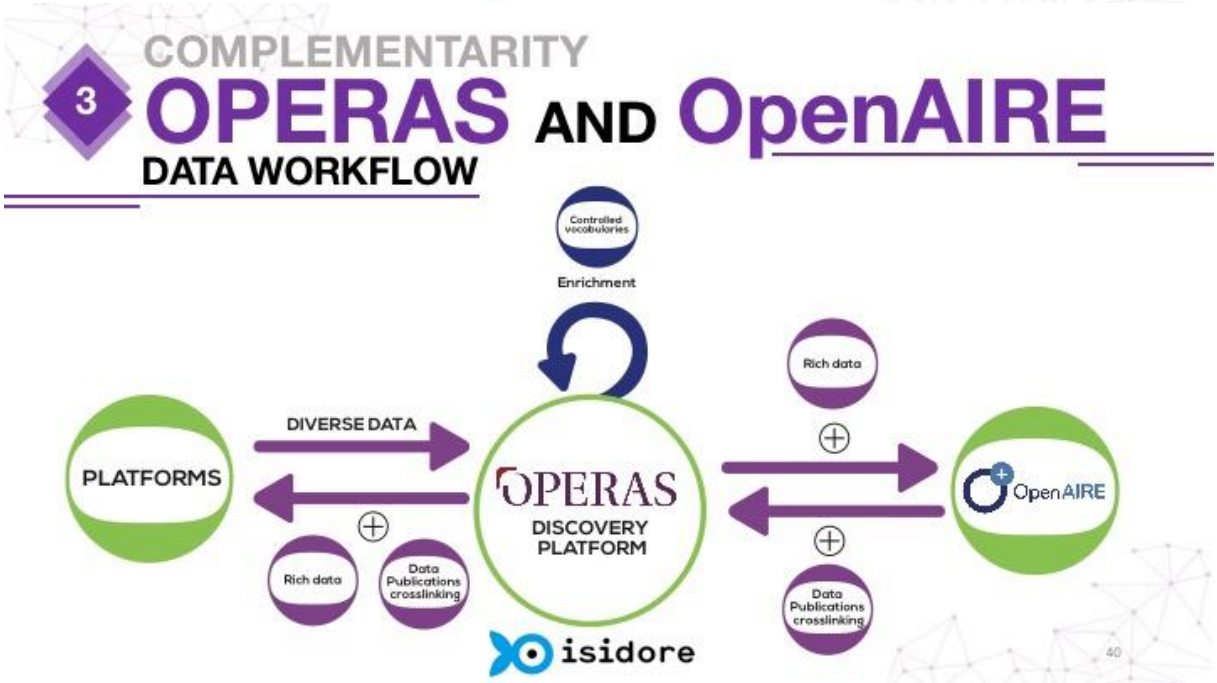
COMPLEMENTARITY

37

3 COMPLEMENTARITY OPERAS AND OpenAIRE DATA WORKFLOW

38


COMPLEMENTARITY
3
OPERAS AND OpenAIRE
DATA WORKFLOW
Controlled vocabularies
Enrichment
PLATFORMS
DIVERSE DATA
OPERAS
DISCOVERY PLATFORM
isidore
39


COMPLEMENTARITY
3
OPERAS AND OpenAIRE
DATA WORKFLOW
Controlled vocabularies
Enrichment
PLATFORMS
DIVERSE DATA
Rich data
Data Publications crosslinking
OPERAS
DISCOVERY PLATFORM
isidore
Rich data
Data Publications crosslinking
OpenAIRE
40

QUESTION

The great transformation

4

Given OPERAS' departure from already existing platforms and services, how does OPERAS account for the great transformation that SSH is facing through data, datafication, data management, digital methods, etc.?

4

41

4A

OPERAS IN THE RESEARCH LIFE CYCLE of SSH

42

4

OPERAS AND THE GREAT TRANSFORMATION

- **A consortium engaged in Digital Humanities :**
  - **Ubiquity Press (data journals),**
  - OpenEdition (Hypotheses),
  - Huma-Num (Isidore, Nakala),
  - C2DH (Thinkering),
  - IBL-PAN (Digital Humanities Centre),
- **Close collaboration with Dariah :**
  - **OpenMethods** https://openmethods.dariah.eu/
  - HIRMEOS Project :
    - → (N)ERD service
  - Humanities at Scale project :
    - → Chapter on open data citation in open data platform report
    - → Winter school on open data citation in Prague (2016)
- **Isidore is harvesting primary data and publications**

43


4
Humanities at Scale
DARIAH-EU
OPENMETHODS
HOME
ABOUT
WHO WE ARE
JOIN US
SUBMIT A CONTENT
RSS FEEDS
LOG IN
OPERAS
AND THE
GREAT
TRANSFORMATION
DARIAH + OPERAS
Towards Semantic Enrichment of Newspapers: A Historical Ecology Use Case
Introduction: Ecologists are much aided by historical sources of information on human-animal interaction. But how does one cope with the plethora of different descriptions for the same animal in the historic record? A Dutch research group reports on how to aggregate 'Bunzings', 'Ullingen', and 'Eierdieven' ('Egg-thieves') into a useful historical ecology knowledge base.
READ MORE
Zur Epistemologie digitaler Methoden in den Geisteswissenschaften
Introduction: What is the precise impact of digital humanities on the humanities in general? That this influence exists seems a given, but how the digital humanities impact humanities methodology en epistemology is still an open question. This article delves deeper into this problem of epistemology and presents a model of five 'polarities' along which these influences can be positioned.
READ MORE
Search ...
CATEGORIES
Select Category
IN COOPERATION WITH
OPERAS
open access in the european research area through scholarly communication
TERESAH (Tools E-Registry for E-Social science, Arts and Humanities) is a cross-community tools knowledge registry aimed at
45


QUESTION
data exchange & REN
5
A Do the partners exchange significant amount of data? What is the expected data exchange among the partners of OPERAS?
B How many partners are connected via Research and Education Networks in Europe and which are the typical access speeds?
5
46

5A EXCHANGE OF DATA BETWEEN PARTNERS

Circa 2,2TB/year

Needs and usages	Formats	Protocols
Preservation : LOCKSS network **Harvesting** : Discovery platform **Interoperability** : Certification platform metadata exchange	Standards : QDC XML TEI, XML JATS RDFa JSON	Standards : OAI-PMH SPARQL ATOM More API…

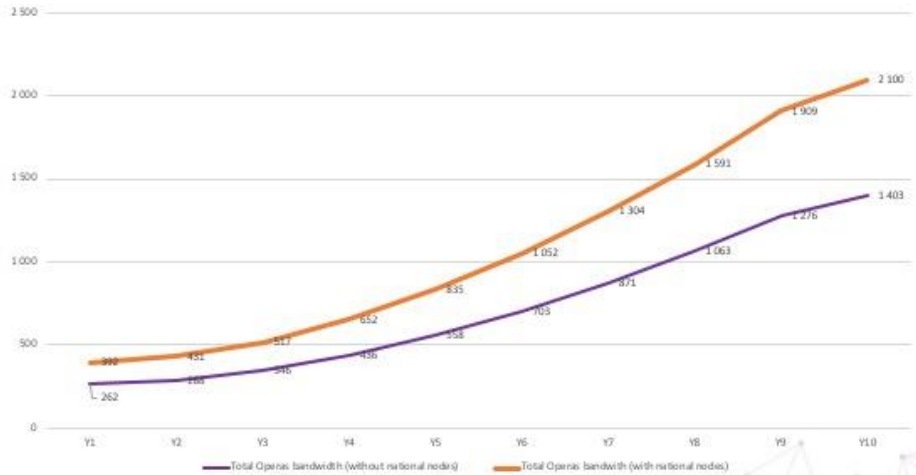
5B OPERAS CORE PARTNERS BANDWIDTH USAGE

Mostly Research and Education Networks

Partner	OpenEdition	Ubiquity Press	Univ. Coimbra	Huma-Num	Univ. Turin	OAPEN	EKT
Network	**National academic network** (RENATER)	Linode London AWS Ireland eu-west-1	**National Research and Education Network** (NREN)	**National academic network** (RENATER)	**National academic network** (GARR)	DOAB : NiaNet (DK)	**National Academic Network** (GRNET)
Bandwidth available (/second)	60Gb	56Gb	10Gb	60Gb	20Gb	250Gb	10Gb
Bandwidth used (/year)	**200TB**	77TB	35TB	30TB	25TB	32TB	5TB

5B EVOLUTION OF BANDWIDTH (TB/YEAR)

Expected bandwidth usage



49

QUESTION

securing financial support

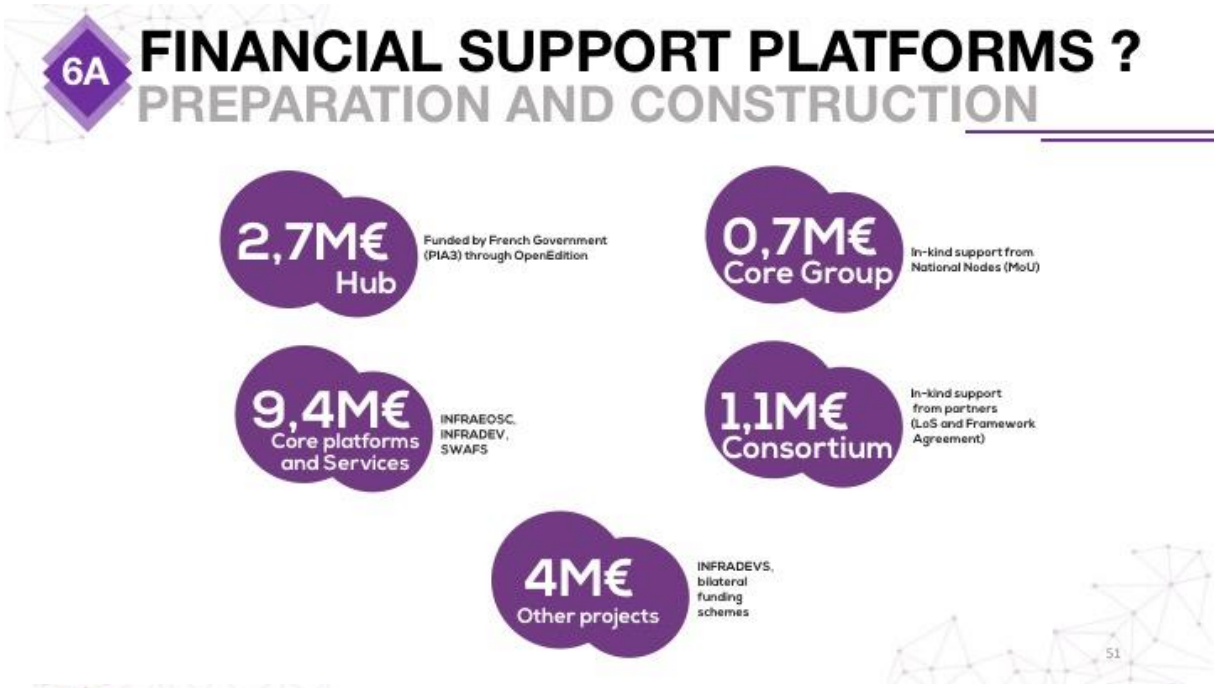
6

A Elaborate on the strategy to be used to both identify and secure financial supports (cash and inkind) at institutional level, national level, and through other sources?

B Some letters of support appear outdated, please confirm the validity of these.

6

50


6A
FINANCIAL SUPPORT PLATFORMS ?
PREPARATION AND CONSTRUCTION
2,7M€
Hub
Funded by French Government (PIA3) through OpenEdition
0,7M€
Core Group
In-kind support from National Nodes (MoU)
9,4M€
Core platforms and Services
INFRAEOSC, INFRADEV, SWAFS
1,1M€
Consortium
In-kind support from partners (LoS and Framework Agreement)
4M€
Other projects
INFRADEVS, bilateral funding schemes
51


6A
FINANCIAL SUPPORT
OPERATIONAL PHASE
Hub
Governmental funding through ERIC
Core platforms and services
OAPEN, OpenEdition, Huma-Num
Premium services
Institutional crowdfunding: SCOSS model
Core Group
In-kind from National Nodes
Consortium
In-kind from Partners
52

6B

OPENEDITION

LETTER OF SUPPORT

OpenEdition

11/01/2018

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

With this letter I, Marin Dacos, in my function as Director of Cléo/Openedition and thereby authorized to represent my organisation, am pleased to inform you that Cléo/Openedition fully supports the development of a European infrastructure for Open scholarly communication in the European Research Area (OPERAS - http://operas-eu.org), and authorises OPERAS to mention Cléo/Openedition as partner.

OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to co-ordinate efforts, align services, promote standards, and develop new, shared services. Ultimately, OPERAS aims to become part of the ESFRI roadmap 2018.

OpenEdition is run by the Centre for open electronic publishing (Cléo – USR 2004), a unit that brings together the Centre National de la Recherche Scientifique (CNRS), the université d'Aix Marseille, the École des Hautes Études en Sciences Sociales (EHESS) and the Université d'Avignon et des Pays de Vaucluse. It is part of the French national infrastructure BSN and contributes to the European infrastructure Danah.

OpenEdition offers the academic community four international scale publication and information platforms in the humanities and social sciences: Revues.org, OpenEdition Books, Calenda, Hypotheses. In 2018 OpenEdition platforms are hosting 470 journals, 4700, 2500 academic blogs and 37000 scientific programs for a cumulated audience of 70 million visits a year. These four complementary platforms operate as a complete electronic publishing framework for academic research and communications. OpenEdition is a space dedicated to highlight research, publish tens of thousands of academic documents on open access. The portal's mission is to promote open access academic electronic publishing, while respecting the publications' own economic balance. OpenEdition guarantees editorial autonomy and offers perspectives for innovation adapted to digital media.

The aim of the OPERAS proposal aligns well with our activities, and we fully support the goal a pan-European network to establish a strong and innovative scholarly communication system for the Humanities and Social Sciences.

Sincerely yours,

Marin Dacos

6B

OPEN LIBRARY OF HUMANITIES

LETTER OF SUPPORT

Open Library of Humanities
Salisbury House
Station Road
Cambridge
CB1 2LA
UNITED KINGDOM

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

11/01/2018

With this letter I, Professor Martin Paul Eve, in my function as CEO of the Open Library of Humanities and thereby authorized to represent my organisation, am pleased to inform you that the Open Library of Humanities fully supports the development of a European infrastructure for Open scholarly communication in the European Research Area (OPERAS - http://operas-eu.org), and authorises OPERAS to mention the Open Library of Humanities as a partner.

OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to co-ordinate efforts, align services, promote standards, and develop new, shared services. Ultimately, OPERAS aims to become part of the ESFRI roadmap 2018.

The Open Library of Humanities is an academic led, gold open-access publisher with no author-facing charges. With funding from the Andrew W. Mellon Foundation, the platform covers its costs by payments from an international library consortium, rather than any kind of author fee.

The scope of the OPERAS proposal aligns very well with our activities, and we therefore fully support its inclusion as an infrastructure in the 2018 ESFRI roadmap. We believe in the potential of Open Access publishing to address cultural and technical challenges for an innovative scholarly communication system in the and Social Sciences at European level.

Sincerely yours,

6B

QUALITY OPEN ACCESS MARKET

LETTER OF SUPPORT

Quality Open Access Market
Leo Waaijers, founder
leowaa@xs4all.nl

5th July 2017

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

With this letter I, Leo Waaijers, in my function as founder of Quality Open Access Market and thereby authorized to represent my organization, am pleased to inform you that QOAM fully supports the development of a European infrastructure for Open access Publication in the European Research Area for Social sciences and humanities (OPERAS - http://operas.hypotheses.org/), and authorizes OPERAS to mention QOAM as partner.

QOAM is an academic market place for OA publishing. Quality judgment of the journals is based on academic crowd sourcing, price information includes institutional memberships and licenses. QOAM was originated by SURF. Drastic cutbacks halted their financial contribution as of 2013 and two individuals, Leo Waaijers and Saskia de Vries, decided to continue the initiative on a voluntary basis. Over time support in kind was given by universities and a project subsidy of € 50.000 was gained from the Pica foundation. To date, with 24.000 journals and over 8000 scorecards, QOAM's proof of concept is demonstrated. In 2016 an international expert team assessed QOAM as offering potentially important value propositions for a range of stakeholders (predominantly authors, but also funders, libraries and publishers).
QOAM covers all journals which publish articles in open access. As such it is multidisciplinary. But disciplinary partitioning is dead simple. Specific QOAMcorners have already been set up and a (team of) libraries could easily define and maintain a HSS corner in QOAM.

OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to co-ordinate efforts, align services, promote standards, and develop new, shared services. Ultimately, OPERAS aims to become part of the ESFRI roadmap.
The aim of the OPERAS proposal aligns very well with QOAM's activities, and we fully support the creation of a pan-European network to establish a strong and innovative scholarly communication system for the Humanities and Social Sciences. QOAM sees itself as an indispensable component of such a system.

Sincerely yours,

55

6B

OPEN BOOK PUBLISHERS

LETTER OF SUPPORT

OpenBook Publishers

Cambridge, 11 January 2018

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

With this letter I, Rupert Gatti, in my function as Director and thereby authorized to represent my organization, am pleased to inform you that Open Book Publishers fully supports the development of a European infrastructure for Open access Publication in the European Research Area for Social sciences and humanities (OPERAS - http://operas.hypotheses.org/), and authorises OPERAS to mention Open Book Publishers as partner.

OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to co-ordinate efforts, align services, promote standards, and develop new, shared services. Ultimately, OPERAS aims to become part of the ESFRI roadmap.

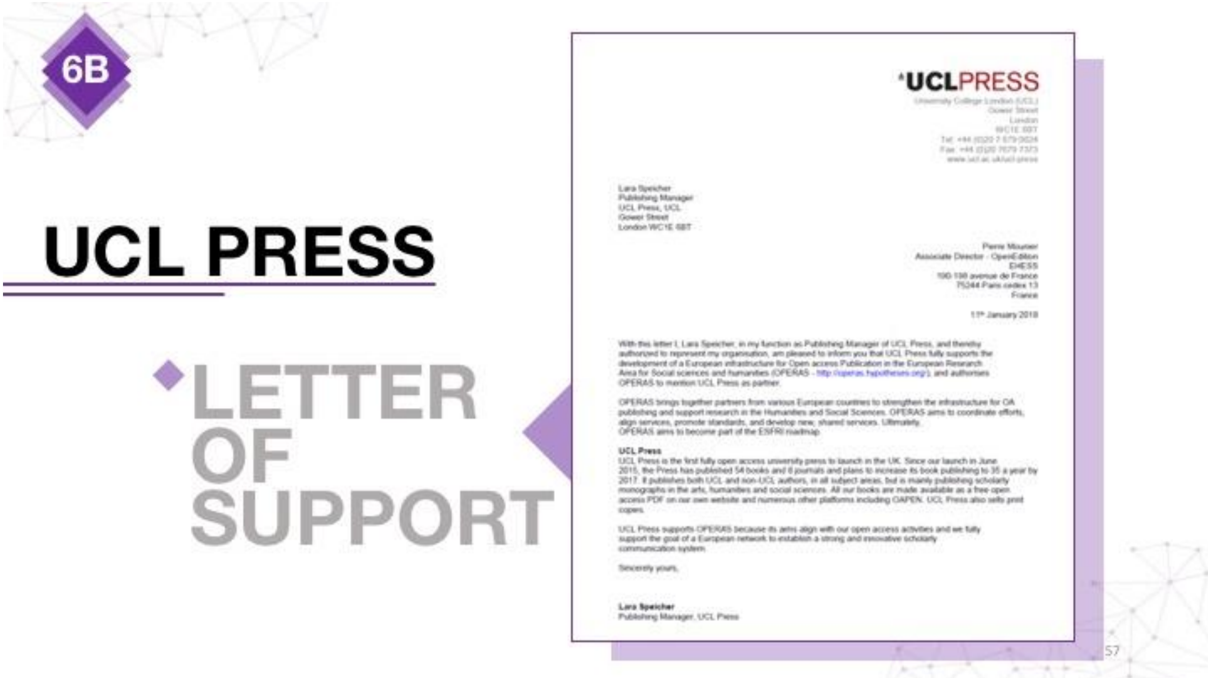
Open Book Publishers is a non-profit social enterprise committed to publishing high quality research in Humanities and Social Sciences disciplines in freely accessible and Open Access formats. To date we have published 69 original scholarly monographs and are the largest entirely Open Access book publisher in the UK. We are pleased to have published works by some of the leading scholars in the world, including Amartya Sen and Noam Chomsky, as well as innovative multi-media publications. Our position at the forefront of Open Access scholarly book publishing was recognised with our selection as the inaugural winner of the IFLA/Brill Open Access Award in 2013.

Open Access provides enormous opportunity for empowering individual scholars and facilitating innovative and transformational research. But to fully achieve this potential it is vitally important that an open and freely accessible dissemination infrastructure is available to all and that artificial barriers to, and control of, scholarly dissemination channels are eliminated. Thus we fully support the aim and objectives of the OPERAS proposal and are delighted to be able to participate in this project.

Your sincerely,

Rupert Gatti

56



UCLPRESS

Lara Speicher
Publishing Manager
UCL Press, UCL
Gower Street
London WC1E 6BT

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

11th January 2018

With this letter I, Lara Speicher, in my function as Publishing Manager of UCL Press, and thereby authorized to represent my organisation, am pleased to inform you that UCL Press fully supports the development of a European infrastructure for Open access Publication in the European Research Area for Social sciences and humanities (OPERAS - http://operas.hypotheses.org/), and authorises OPERAS to mention UCL Press as partner.

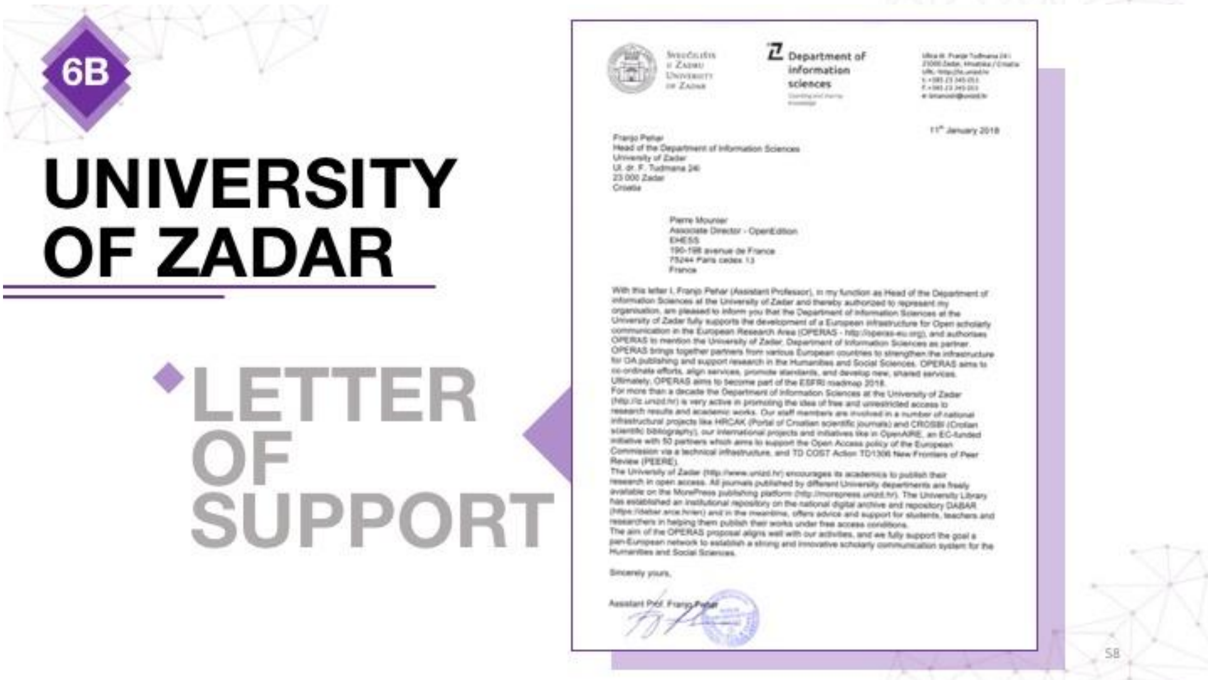
OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to coordinate efforts, align services, promote standards, and develop new, shared services. Ultimately OPERAS aims to become part of the ESFRI roadmap.

UCL Press
UCL Press is the first fully open access university press to launch in the UK. Since our launch in June 2015, the Press has published 54 books and 8 journals and plans to increase its book publishing to 35 a year by 2017. It publishes both UCL and non-UCL authors, in all subject areas, but is mainly publishing scholarly monographs in the arts, humanities and social sciences. All our books are made available as a free open access PDF on our own website and numerous other platforms including OAPEN. UCL Press also sells print copies.

UCL Press supports OPERAS because its aims align with our open access activities and we fully support the goal of a European network to establish a strong and innovative scholarly communication system.

Sincerely yours,

Lara Speicher
Publishing Manager, UCL Press



Department of information sciences

11th January 2018

Franjo Pehar
Head of the Department of Information Sciences
University of Zadar
Ul. dr. F. Tuđmana 24i
23 000 Zadar
Croatia

Pierre Mounier
Associate Director - OpenEdition
EHESS
190-198 avenue de France
75244 Paris cedex 13
France

With this letter I, Franjo Pehar (Assistant Professor), in my function as Head of the Department of Information Sciences at the University of Zadar and thereby authorized to represent my organisation, am pleased to inform you that the Department of Information Sciences at the University of Zadar fully supports the development of a European infrastructure for Open scholarly communication in the European Research Area (OPERAS - http://operas-eu.org), and authorises OPERAS to mention the University of Zadar, Department of Information Sciences as partner.
OPERAS brings together partners from various European countries to strengthen the infrastructure for OA publishing and support research in the Humanities and Social Sciences. OPERAS aims to co-ordinate efforts, align services, promote standards, and develop new, shared services. Ultimately, OPERAS aims to become part of the ESFRI roadmap 2018.
For more than a decade the Department of Information Sciences at the University of Zadar (http://iz.unizd.hr) is very active in promoting the idea of free and unrestricted access to research results and academic works. Our staff members are involved in a number of national infrastructural projects like HRCAK (Portal of Croatian scientific journals) and CROSBI (Croatian scientific bibliography), our international projects and initiatives like in OpenAIRE, an EC-funded initiative with 50 partners which aims to support the Open Access policy of the European Commission via a technical infrastructure, and TD COST Action TD1306 New Frontiers of Peer Review (PEERE).
The University of Zadar (http://www.unizd.hr) encourages its academics to publish their research in open access. All journals published by different University departments are freely available on the MorePress publishing platform (http://morepress.unizd.hr). The University Library has established an institutional repository on the national digital archive and repository DABAR (https://dabar.srce.hr/en) and in the meantime, offers advice and support for students, teachers and researchers in helping them publish their works under free access conditions.
The aim of the OPERAS proposal aligns well with our activities, and we fully support the goal a pan-European network to establish a strong and innovative scholarly communication system for the Humanities and Social Sciences.

Sincerely yours,

Assistant Prof. Franjo Pehar

QUESTION

user needs and access policy

7

A Provide more clarity around user's needs. Please provide an overview of the user engagement plan.

B What is the common access policy going to look like? Please detail access strategies for each stakeholder community.

7

59

7A USER NEEDS

60

7A USERS ENGAGEMENT PLAN

- **Experience**
  - Long standing experience of most partners to engage with users : OpenEdition (1999), HRČAK (2006), Huma-Num (2006), Perspectivia (2007), OAPEN (2008)...
- **Commitment**
  - 1 Project Manager specialized on users' engagement.
  - Continuous feedback collecting process through surveys extending the design study
  - Involvement of research communities via social web tools
- **Hub support to national nodes outreach activities**
  - Projects facilitation and support
  - Educational workshops and testing for users feedbacks

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7B ACCESS STRATEGY TO READ

Read access : towards Open Science for all (EU13)

70% Full Open Access, mostly with CC licenses

20% Freemium Open Access

10% Delayed Open Access for digital publications

62

7B ACCESS STRATEGY TO PUBLISH

Write Access : excellence and best practices

- **Publication platforms:**
  - ↘ defined by each partner : publisher and platforms.
  - ↘ access policies will align through Best Practices WG.
- **Central platforms:**
  - ↘ open to the whole scientific community, scientific selection criteria set by scientific committee

63

QUESTION trainings

8

Please provide details of the training programmes to be put in place across all the nodes.

8

64


8
OPERAS
TRAINING
BY
TYPES OF
USERS
Researchers
Open Access and Open Science (Turin)
Digital Humanities (OE, UGOE)
Data publication (UGOE)
Academic blogging (OE)
Libraries
Digital publishing tools and workflows (OE, Turin)
Isidore Discovery tool (Huma-Num)
Publishers
Digital publishing tools and workflows (OE, UGOE)
Copyright issues (AEUP)
Multimedia production (AEUP)
Web semantization (AEUP)
Peer review best practices (AEUP)
AEUP Association of European University Presses
OpenAIRE
FOSTER
65
QUESTION
business case and
attracting new partners
9
A The business case is not clear. What is the business strategy to be used by OPERAS?
B In answering this question please consider the strategy to be implemented to attract new partners from the academic publishing community.
9
66

9A

OPERAS BUDGET BREAKDOWN

Preparation and construction cost
18M€

Operational cost
1,6M€/year

OPERAS budget

Total budget	Design 2015–2017	Preparation 2018–2022	Construction 2022–2026	Operation 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**

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9A

OPERAS INVESTMENT PLAN

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

Core Infrastructure
French Government during development phases, then Member States

Core Platforms
EC projects during development phases, then operating partners and premium services

Consortium cooperation
Mix of inkind contributions, EC projects, other types of funding

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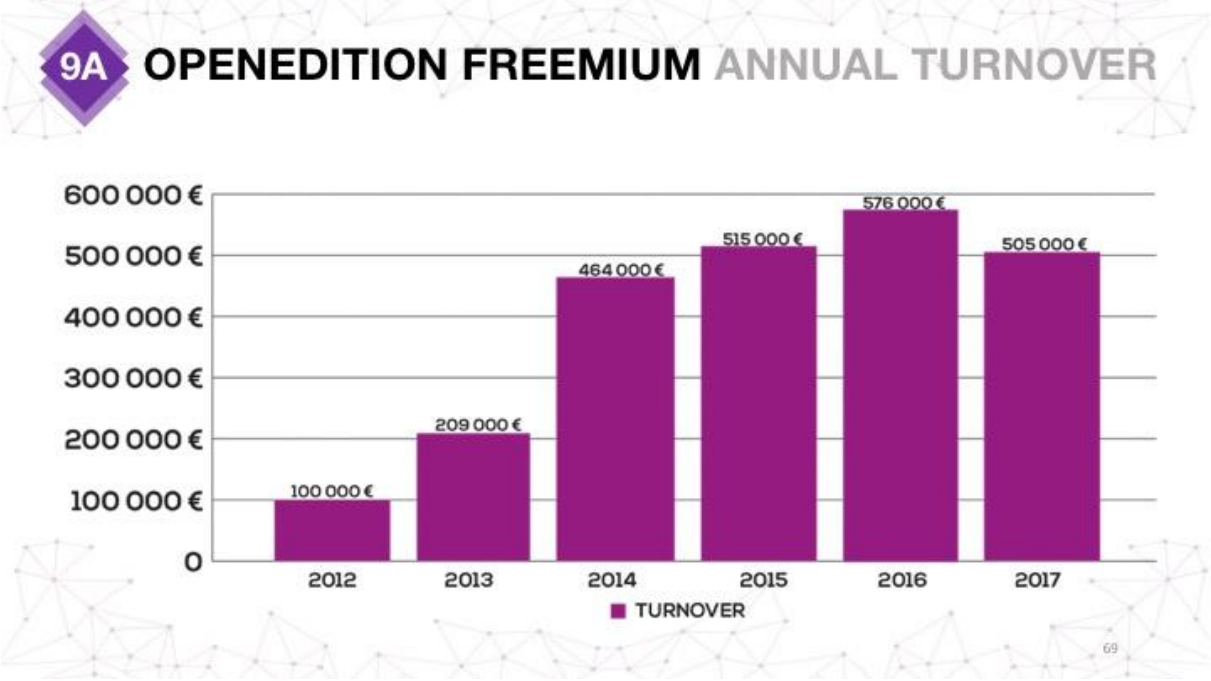

9A
OPENEDITION FREEMIUM ANNUAL TURNOVER
600 000 €
500 000 €
400 000 €
300 000 €
200 000 €
100 000 €
0
100 000 €
209 000 €
464 000 €
515 000 €
576 000 €
505 000 €
2012
2013
2014
2015
2016
2017
TURNOVER
69


The Global Sustainability Coalition for Open Science Services (SCOSS)
Facilitating funding to ensure the long-term sustainability of the world's Open Science infrastructure
About SCOSS | How It Works | Who Should Apply | Current Appeal | Download Application | Latest News
We are a growing network of global institutions committed to helping secure the future of Open Access.
Will you join us?
Join
SCOSS Home
Download the SCOSS Application Form
SIGN UP to receive updates
70

9B

OPERAS
VALUE PROPOSITION FOR PUBLISHING COMMUNITY

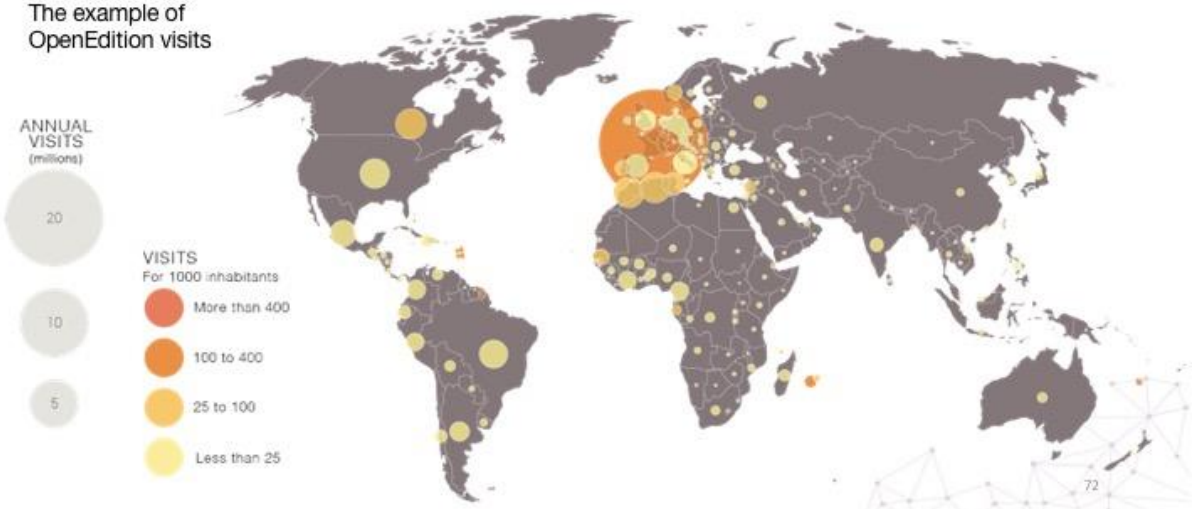
- **OPERAS is the infrastructure for academic publication platforms**
  - ↘ Supporting services :
    - ↘ Tools
    - ↘ Standards
    - ↘ Best practices
    - ↘ Business models
    - ↘ Advocacy
  - ↘ Adding value :
    - → **Trust** : DOAB,
    - → **Visibility** : Isidore,
    - → **Impact** : Hypotheses

71

9B

THE UNIQUE SELLING PROPOSITION TO RESEARCHERS IS INTERNATIONAL VISIBILITY

The example of OpenEdition visits



72

QUESTION

if the project ceases ?

10

While “decommissioning” may not be appropriate, what is the long-term plan regarding servicing and data management once the project ceases?

10

73

10

LONG TERM DATA MANAGEMENT

CORE TRUST SEAL

- Towards CoreTrustSeal Data Repository certification for Core Group members and then all partners
- Implementation of CTS will be supported through INFRADEV projects :
  - DOAB
  - Isidore
  - Hypotheses

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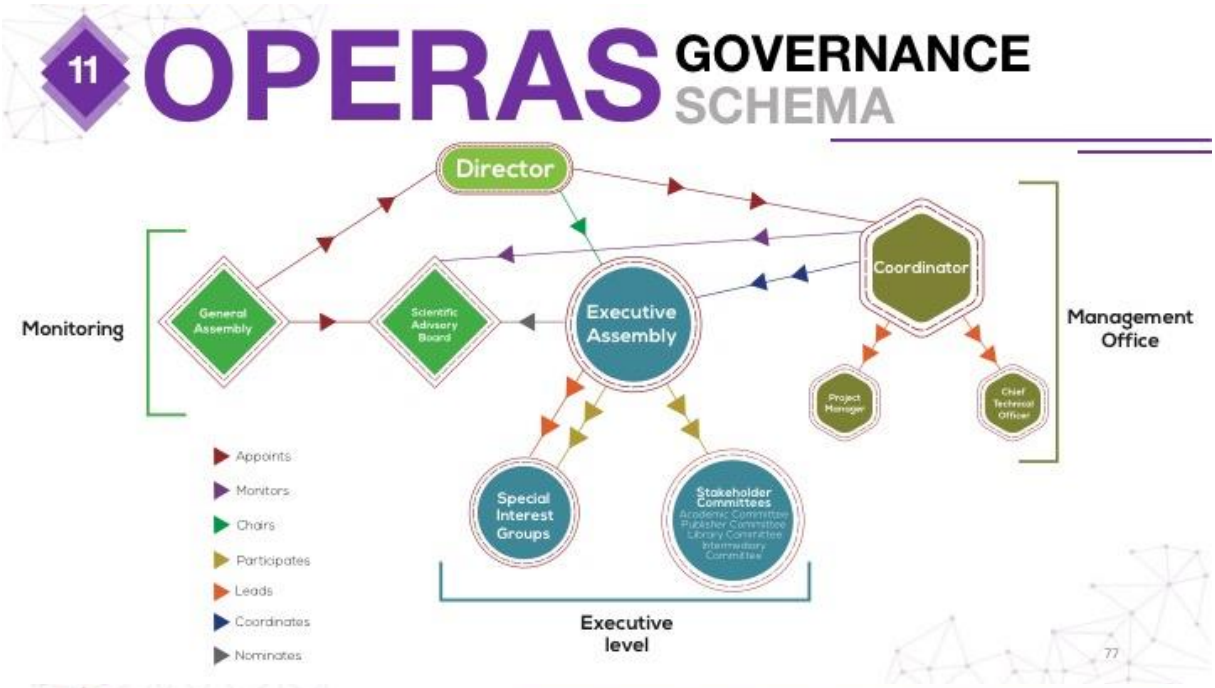
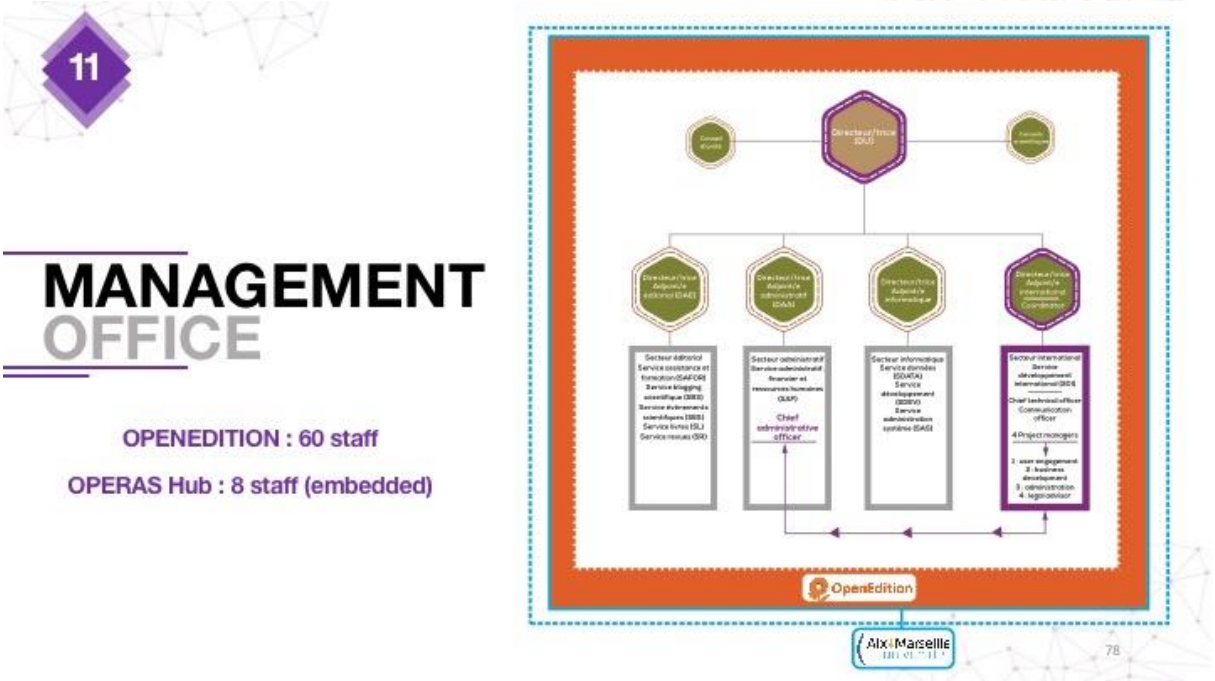
- Core services provided by operators (National infrastructures)
- Fail-safe mode in case of funding disruption


11
OPERAS GOVERNANCE SCHEMA
Director
Coordinator
Monitoring
General Assembly
Scientific Advisory Board
Executive Assembly
Management Office
Project Manager
Chief Technical Officer
Special Interest Groups
Stakeholder Committees
Academic Committee
Publisher Committee
Library Committee
Intermediary Committee
Executive level
Appoints
Monitors
Chairs
Participates
Leads
Coordinates
Nominates
77


11
MANAGEMENT OFFICE
OPENEDITION : 60 staff
OPERAS Hub : 8 staff (embedded)
Chief administrative officer
4 Project managers
OpenEdition
Aix Marseille
78

QUESTION

KPIs

12

The list of proposed KPIs lack sufficient details. Please elaborate on the KPIs provided and include metrics against each one.

12

79

12

KPIs

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

80

12

KPIs

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	10 000	15 000

12

KPIs

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	10 000	15 000
	Discovery	unique visits	GA/year	1 000 000	1 200 000	1 600 000
		searches	GA/year (sessions with search)	580 000	870 000	1 740 000
		downloads/views	GA/year	1 400 000	2 100 000	4 200 000
		impact	GA/year (direct links)	50 000	750 000	1 500 000

12

KPIs

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	10 000	15 000
	Discovery	unique visits	GA/year	1 000 000	1 200 000	1 600 000
		searches	GA/year (sessions with search)	580 000	870 000	1 740 000
		downloads/views	GA/year	1 400 000	2 100 000	4 200 000
		impact	GA/year (direct links)	50 000	750 000	150 000
	Research for Society	research projects	no.	--	3	10
		blogs	no.	2 500	3 750	7500
		Engagement	posts and comments	337 849	500 000	1 000 000
		unique visits	PW/year	12 861 523	20 000 000	40 000 000
		impact	PW/year (direct links)	3 000 000	4 500 000	9 000 000

CONCLUSION

- **OPERAS is the missing piece in the SSH RI landscape serving researchers needs :**
  - ↘ Complement data infrastructures with publications
  - ↘ Integrates a fully functional Open Science ecosystem
  - ↘ Adresses the needs of all SSH disciplines
- **OPERAS community is highly mature and outstanding at international level :**
  - ↘ The first Open Access academic books community
  - ↘ The first Open Access journals community
  - ↘ The first academic blogging community
- **OPERAS is a game changer in the scholarly communication system for all :**
  - ↘ Regains control of the scholarly communication system
  - ↘ Engages deeply with societal challenges through open science

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OPERAS
open access in the european research
area through scholarly communication
THANK YOU

XII. 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

A. 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.

B. 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.

C. 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.

D. 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

E. 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.

F. 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.

G. 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'.

XIII. Bibliography: Open Access Research Studies and Publications of the OPERAS Consortium

A. 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.

B. 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. 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.

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.

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.
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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.

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.

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.

C. 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.

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/20333
- 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. 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

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

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

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

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

XIV. Annex: Publication on Network sustainability (Max Weber Stiftung)