



**Stakeholder Consultation on the Report by the Expert Group on the Future  
of Scholarly Publishing and Scholarly Communication (E03463)**

***Presentation of stakeholder responses***

***November 2019***

## **Stakeholder Consultation on the Report by the Expert Group on the Future of Scholarly Publishing and Scholarly Communication**

### ***Presentation of stakeholder responses***

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## **1. Introduction: the consultation on the report**

In January 2019, the European Commission published the "[Future of scholarly publishing and scholarly communication](#)", a report by the Commission Expert Group on the [Future of scholarly publishing and scholarly communication](#). The report examines the current system – with its strengths and weaknesses, the actors involved in it and proposes a vision for the future. It acknowledges the four important principles of scholarly communication, namely registration (attribution), certification (peer-review), dissemination (distribution, access), preservation (scholarly memory and permanent archiving) and the fact that advances in technology have enabled various actors to engage with functions that were previously considered outside their respective 'territories', thus creating fuzziness in the boundaries between actors and their perceived roles.

The vision for an ideal state of scholarly communication put forward by the Expert Group, as well as an evaluation of the current state of affairs, is articulated in ten principles: maximizing accessibility; maximizing usability; supporting and expanding range of contribution; a distributed, open infrastructure; equity, diversity and inclusivity; community building; promoting high-quality research and its integrity; facilitating evaluation; promoting flexibility and innovation; cost-effectiveness. The report considers research evaluation as a keystone for scholarly communication, affecting all actors, and problems in evaluation as a severe obstacle in improving the scholarly communication and indeed research system towards the vision of the Experts.

In view of planning policy actions, the European Commission invited a number of stakeholders to react on the vision put forward in the Expert Group report, in particular on how to operationalise the principles expressed by the Expert Group. Stakeholders were asked to take a broad and creative look towards the future and imagine their role as an actor in the ideal scholarly communication system fifteen years, or more, from now. They were asked to: 1) describe how such a vision proposed by the Expert Group will look like, 2) describe their respective roles in the system (by addressing specific issues such as the roles of various actors; research evaluation; the types of scholarly contributions; paths for dissemination, business models and financial aspects); and 3) assess what stakeholders and the EC should do - and avoid doing - to get there (see Annex B for the questions asked).

A select number of stakeholders mainly participating in the Open Science Policy Platform (OSPP), and a few more organizations that complemented the configuration of OSPP, were invited to participate in the consultation. Additional organizations offered to participate in the consultation themselves (Annex A, list of consulted organizations). The consultation was sent to 32 organizations, 17 of which responded, representing research institutions, academic/learned societies, early career researcher associations, funders, and publishers. The consultation lasted between February and May 2019.

This edition contains a summary of the responses received and broadly follows the structure of the questionnaire. The original responses provided by stakeholders to the Commission can be found in the annex at the end of this short report (Annex C, in alphabetical order). Thanks are due to the participating organizations for their open collaborative spirit and eagerness to contribute throughout the process.

## **2. Stakeholder responses to the consultation**

### **2.1. General reception of the report**

The report was overall well received by the stakeholders participating in the consultation. Most offered general introductory comments reacting to it, which were

overwhelmingly positive. Most broadly agree with the vision and its overarching principles and strongly support the view of the Expert Group that researchers should be at the centre of any future ecosystem of scholarly communication. Some stakeholders observed that more focus in the report on collective action would have been welcome. In other cases there was disagreement with the increased role the report was perceived to assign to some actors (e.g. funders) as opposed to the relatively reduced role of other actors or even disciplines in the report (e.g. the SSH and relevant platforms).

Stakeholders generally find the report as a good basis for further discussion. In particular some stakeholders put forward the idea that more work is necessary on more focused topics/questions (e.g. the implementation of specific recommendations), to be addressed collectively by the different types of actors in the scholarly communications ecosystem, who are stakeholders in the European Commission's deliberations for policy-making (OASPA, EPS, F1000, Science Europe).

## **2.2. The vision of stakeholders on the future of scholarly communication**

### *2.2.1. The overall vision*

Stakeholder contributions regarding the future of scholarly communications and the roles of the various actors is mostly aligned with the report. Importantly, most stakeholders imagine a future of scholarly communications deeply rooted in open access in such a way that openness is presented as a major and inextricable part of that future. In fact, numerous of their suggestions revolve around particular aspects of this open access future in scholarly communications. In articulating their visions most stakeholders emphasize a transparent, cost-effective and affordable system (YEAR, EPS, EUA), the control of the essential elements of which are in public/institutional hands to serve the public interest and where research institutions play a prominent role (DFG, OpenAIRE, DARIAH, YAE). They imagine a system that is collectively shaped, responsive to the increasing digital needs of research, supports bibliodiversity, disciplinary needs, as well as interdisciplinarity (OPERAS) and serves the best interests of science and society (F1000).

Technology will be an essential element in scholarly communications of the future. Most services to be offered will be based on developing internet-based technologies and led by researcher demand (STM). In fact, some stakeholders imagine this future system as primarily technologically driven, that is as an 'open and distributed infrastructure based around equity, diversity and inclusivity' (MCAA) or as 'a distributed network of knowledge that is based on infrastructure, is user-centric and responsive to community' (OpenAIRE). It is important that equity, diversity and inclusivity often appear in contributions by stakeholders as integral elements of that future (EU-LIFE; MCAA; GYA; EASSH; F1000).

Most stakeholders appear to suggest, and some explicitly propose, that the current scholarly communications system or important aspects of it should change (e.g. openness, evaluation system, business models etc.). Yet other stakeholders appear to envision more of a continuation of the current system in what concerns, for example, the role of the publishers, the types of scholarly contributions/paths of dissemination or even the openness of research contributions which can be 'broadly interpreted' (STM). A 'responsible transition' to open access business models is also recommended by some stakeholders (EPS), taking into consideration what has been achieved thus far, as well as the practices and needs of researchers and their communities (e.g. societies) (EASSH).

### 2.2.2. *The roles of specific actors in the future system*

The future roles that stakeholders envision for themselves and those they envision for the other actors of the system of scholarly communications reveal their respective visions and often divergent ideas when it comes to specific issues. They are also likely indicative of the tensions between actors in the current system, which is in flux and where past roles may no longer be taken for granted, as the Expert Group report suggests. While changes in the research evaluation system are acknowledged by most stakeholders as a prerequisite in reaching the vision described in the report and broadly shared by many of them, another important point that all stakeholders make is that collaboration amongst actors is indispensable in moving forward. In their view, none of the recommendations can be effectively set in motion without collaborative work.

Stakeholders agree with the report that the desired scholarly communications system of the future will be centred around **researchers**. However, the extent to which researchers will shape and/or direct this ideal system varies among stakeholders, and therefore, to be understood, so does their perception of the role of researchers in that system. For some stakeholders, researchers are 'key stewards in the design, monitoring and steering of a new system' (GYA), who will be increasingly 'involved with all functions of scholarly communication' (Eurodoc) or who will even control the scholarly communications system, acquiring 'digital sovereignty' (DARIAH) and reclaiming the function of certification (evaluation) back from publishers (Eurodoc). Researchers are viewed as important agents of bottom-up induced innovation and disruption (EPS). Other stakeholders perceive researchers as free from external influences and burdens to carry out their research missions, enabled by a seamless and efficient scholarly communications ecosystem (EASSH, MCAA, YAE). Most stakeholders describe an ideal system in which researchers practice Open Science with most current obstacles resolved and where they are able to work collaboratively, openly share all of their research contributions and be rewarded for it.

Numerous stakeholders envision a future for scholarly communications where **universities and research institutions** are engaged in all functions of scholarly communications, as many of them already are, but in a more active and significant way, as well as under open principles. They will be offering stable and open environments for researchers to perform and communicate their research. Some stakeholders believe that institutions will be more actively involved in developing and offering infrastructure services that function in the interest of the institutions and that of the public (OpenAIRE, Eurodoc, MCAA) and also in enhancing the role of the library, an intermediary between researchers, universities and publishers, including its publishing activities (EASSH, DARIAH).

**Research funders and policy makers** are envisioned as enablers of the entire cycle of research, creating, along with institutions, an environment in which researchers can carry out their research activities efficiently. In their role, they should allow universities and research centres to self-determine how the scholarly communications functions should be fulfilled 'under a framework of open principles and cost-effective spending' (Eurodoc). In the vision for a scholarly communications system of the future, funders set uncomplicated requirements that do not pose conflicts for researchers, and they have a strong engagement as enablers of open access (DFG, Science Europe).

With their funding they support not only research but, importantly, the activity of publishing in open access, enabling appropriate funding structures for scholarly publishing, which the new developments in scholarly communication require (DFG). They also support publishing by financing institutional and collective infrastructures for scholarly communication significantly in the long-term (DFG, DARIAH), as well as Article Processing Charges (APCs) for publishing. They are notably envisioned to be directly involved with the publishers in financially supporting publishing activities

(GYA, MCAA). Finally, in the future scholarly communications system funders are 'not likely to take on the role as organizers of peer review for publications, but might build infrastructures for publication or act as publishers regarding materials from funded projects' (DFG).

According to stakeholders, **publishers** will continue to have a central role in the scholarly communications system of the future (STM, EPS), while their precise functions in it could be modified, especially as the evaluation system changes. Some stakeholders, as already described above, see a more significant participation of institutions in performing some of the functions of scholarly communications currently under the auspices of publishers (for example certification), in particular as owners and providers of infrastructures and relevant services (EASSH, OpenAIRE, OPERAS), while they think that in the future system publishers will become more active on the dissemination function as other actors become more engaged in the remaining functions of scholarly communications (Eurodoc). Stakeholders whose main activity is publishing see that the future scholarly communications system will continue to rely on a competitive publishing environment based on demand, which should support researchers' freedom to choose where they publish (STM).

### *2.2.3. Evaluation of research including indicators and peer review*

Contributions leave no doubt that there is a clear collective perception amongst stakeholders of a rather serious problem with the current research evaluation system, which prevents the vision presented by the Expert Group - and largely shared by them - to materialize. Their vision of the evaluation system of the future largely coincides with that put forward by the Expert Group report. Namely, stakeholders nearly unanimously indicate that it will be a system that takes into consideration the broad range of scientific contributions to research, as opposed to only publications. Such a system will evaluate merit and quality over quantity, as well as be sensitive to diverse disciplinary contexts. The indicators used in the present evaluation system are at the very centre of the problem. A few stakeholders explicitly indicated that we should move away from the Impact Factor as an indicator for evaluation (DARIAH-EU, EU-LIFE, Eurodoc, Science Europe, YEAR), while all agree that indicators should be broader than is currently the case. They should be qualitative as well as quantitative, content sensitive, and reflecting the contributions of science beyond the strictly scientific landscape into society.

Intricately connected to evaluation of research and researchers is, of course, peer-review. All stakeholders perceive it as a very central activity in the research cycle, one that is to stay in the future and that should in fact be recognized as part of research: 'peer reviewing is the backbone of quality assurance in research, and thus should be transparent, verifiable, and recognised as a research activity' (YEAR). Various problems currently observed, however, need to be resolved for an optimized role of peer-review in evaluation. Current high proliferation of publications has resulted in heavy strain for researchers who perform peer-review and for the system of peer-review itself. Most stakeholders explain that peer-review needs to be modernized with experimentation for new approaches (F1000), such as open peer-review and post-publication peer-review. In fact some stakeholders believe that this is the future of peer-review: openness and also the possibility for it to take place after publication. Openness, both in terms of the text and the names of reviewers will lend to the process the much-desired transparency, accountability and gradually also the credit to and rewards for researchers who take the time to review. 'Peer review provides a meaningful qualitative assessment and should not be hidden, nor should the content and the effort put into proper peer-review' (GYA). Thus, improved transparency and accountability in peer-review and credit for it in the evaluation process were commonly expressed as desiderata in the peer-review system by stakeholders. For some stakeholders peer-review should primarily aim at assessing the rigor and novelty of work, as opposed to its relevance or importance or assessment of its outcomes (GYA).



#### *2.2.4. Types of scholarly contributions/paths of dissemination*

Stakeholders appear certain that the range in types of scholarly contributions that will become important will expand in the future. In an ideal vision the research system should move away from a strict focus on the outcomes of research, that is mostly on publications. To enable other contributions in the entire research circle to become appreciated they will gradually need to be included in the evaluation process. 'The scholarly communication system is rigidly focused on the reporting of research when in reality it should also include the initial design, technical support, data management, and peer reviewing that produces the final research publication. Researchers are evaluated and rewarded mostly on the basis of publications and thus these other crucial activities remain secondary and often ignored' (Eurodoc). To achieve, this, however, changes need to take place in the evaluation of research, as discussed above. Further, experiments for new ways of communicating results and enabling all types of research to be communicated regardless of their importance need to be supported (F1000). Despite such predictions, other stakeholders think that article and journals are expected to be the most important vehicles for scholarly communication, for example in Physics, while the significance of research data and the challenge of their management is also mentioned (EPS). Most stakeholders did not place much emphasis or explanation on potential venues/paths for publication that may emerge as significant in the future, but some pointed out that there will be a move away from the concept of the journal to harness the technical capabilities of the internet for new publishing platforms that disseminate and link of scholarly outcomes (Eurodoc). Further, the possibility of building overlay or discovery services or interoperability frameworks on the top of the national or institutional repositories are brought up as possible venues of scholarly communication for the future that can combine publications with data and other research contributions (DARIAH).

#### *2.2.5. Business models and financial aspects*

Stakeholders clearly indicate that new business models will likely be required for the future, while they appear to take for granted that such models will contain open access at their very core. For some of them, as publishing changes, experimentation should take place with different business models for open access in the form of collaborative work between the various actors (EUA). Further, stakeholders appear keenly aware of the issue of the costs of the current scholarly communication system. Consequently, the envisioned business models are variously described, along the lines of the Expert Group report, as 'sustainable' and 'affordable' to research communities (DFG), business models with 'fair costs' (EUA), 'cost-effective' for the public good and 'transparent' (Eurodoc), 'price transparent to fuel competition' (OASPA). In fact, some perceive designing sustainable business models as the greatest challenge for a successful transition to open access (EPS).

Some stakeholders envision a scholarly communications ecosystem with a variety of business models, while others have a preference for specific ones. For example OASPA: 'Our vision is for a diverse, vibrant and equitable ecosystem that also promotes innovation and competition, one in which scholarly publishers play a valuable role as service providers. The nature of publishing is changing as, indeed, is its definition and the function of publishers'. Similarly OPERAS suggests that there is no single ideal business model for open access that can be adopted as standard. Another contribution points out that while a specific model is not suggested, yet there should be more diffuse responsibility and distribution of resources in the publishing ecosystem (EASSH). However, quite a few stakeholders

envision in particular a publishing system based on no-fee open access for publishing or for accessing content, with funds redistributed to provide for this so-called dual open access system (GYA, EPS, Eurodoc, DFG, MCAA). For example GYA states that 'Freedom to read must not come at the cost of freedom to publish. Actors need to pull together to support publication venues that provide dual-open access (for both readers and authors) and long-term stability. Among the many ways forward, more green open access in the model of [ArXiv](#) [et al.] and wherever possible consortia like [SCOAP3](#) that use existing funds to 'sponsor' open access should be taken as serious examples for wider replication'. In particular, stakeholders seem to have problems with the author-pays system, whereby costs for publishing are requested per article from researchers (and their institutions/funders). For many stakeholders such an author-pays model is problematic, as it enhances/generates inequalities (for example against researchers that do not have access to relevant funds, often available through competitive funding/researchers from countries that cannot pay), as well as it is quite Euro-centric, while research is international (GYA, DFG). Instead, such stakeholders appear to favour more collective types of funding and collaborative models, which are often more discipline-appropriate. Besides SCOAP3, focusing on high energy physics, relevant models mentioned are the Open Library for the Humanities and Knowledge Unlatched. In fact, some fields, such as the Humanities, which base their research mostly on institutional base funding and not so much on competitive grant funding, have successfully been working with such models for many years now (DARIAH, OPERAS). Other business models proposed are university collaborations for open infrastructures for bringing knowledge closer to where it is produced and where it should also be controlled from (DARIAH).

### 2.3. What stakeholders need to do

Most stakeholders, in line with the report, also perceive that **researchers** bear significant responsibility in affecting changes such that will bring the entire ecosystem closer to the vision described in the report. As constituent members of institutions and research communities, they are responsible gradually to implement changes by actually practicing scholarly communication with an eye to the future, that is, for example, by publishing in open access, practicing open peer-review and evaluating their colleagues on the basis of the merit of their work and not on the basis on the venues they publish. In fact, scholars who are professionally advanced are perceived as bearing even more responsibility, since they should mentor younger scholars in new ways of sharing and communicating research and, effectively, creating a new ethos. Similarly, some stakeholders view that learned societies, as researcher communities, also have an increased responsibility to provide guidelines and a way towards a new vision for scholarly communication to researchers (EPS, EASSH), while some of them already have incorporated new developments leading to a new paradigm (e.g. in evaluation by endorsing the DORA principles) in their guidelines (MCAA, EASSH). Young researchers, albeit caught in the midst of a system in flux, are also seen as responsible in driving change by actively practicing and 'advocating for open science practices' (YEAR).

Considering the critical role of the **universities and research institutions** and their ability to affect institutional change, most stakeholders appear to think that they bear important responsibilities to change the system towards the vision and that in fact they need to increase their responsibilities in this direction (DFG). Importantly, and aligned with the conclusions of the report, most stakeholders believe that as producers and consumers of research universities are uniquely positioned, along with funders, to change the research evaluation system, which both the expert group report and stakeholders identify as a main obstacle towards advancement. Some stakeholders believe that universities and research institutions should stop the prevalent counterproductive incentives and support researchers to disengage from the competition for publications and citation (GYA) or 'break the

vicious circle of evaluation' (DARIAH). Researchers, and in particular early career researchers, the future of research, are currently trapped between innovation in research and the traditional evaluation system.

Institutions will need to provide researchers with appropriate support, resources and incentives to change (OASPA). Universities and research institutions should adopt the DORA, the Leiden manifesto and OSCAM principles in their hiring practices (EASSH, EU-LIFE, F1000, MCAA, YAE, GYA).<sup>1</sup> They should continue developing policies that lead towards the vision for scholarly communications also especially with open access (EUA; EU-LIFE; Science Europe). They should raise awareness by making information on their innovative approaches available also to other actors (EUA). They should train early career researchers on Open Science practices (Eurodoc); they should support experimentation with new approaches to scholarly communication and contribute to networks where researchers participate to shape tools and services (EU-LIFE). They should focus on collective and strategic investments for scholarly communications infrastructures as opposed to only paying for production costs (DARIAH). They should actively seek to implement the recommendations of the report by the Expert Group (EU-LIFE).

While some stakeholders indicated that the role of **funders** was overemphasized in the Expert Group report (DARIAH), it is nonetheless true that funders, along with universities and research institutions, have the potential to affect institutional change top-down, since they develop policies and handle funding that mainstream new policies. In fact some of the stakeholders perceive that the role of funders is important (Science Europe, EU-LIFE, DFG, OpenAIRE). In fact, stakeholders who are funders see themselves as having already an important role in a gradual change of the scholarly communications system (DFG), for example by mandating open access to publications.

To help the transition towards the vision, in collaboration with the other actors, funders should support changes in the evaluation system, along the lines described by the report and supported by stakeholders, with an emphasis on the quality of the research peer review and other evaluation procedures (DFG). They should be encouraging that contributions are openly available as soon as possible, discoverable and reusable according to community standards (DFG). Many stakeholders repeat that funders should be funding scholarly communication infrastructures, initiatives, innovations, in particular ones collectively supported/funded, and indeed such that are open, interconnected and distributed. Funders should work with other actors to ensure affordable and transparent total costs of publication, as well as support measures that foster transparency in pricing, cost and price control and monitoring for publishing (DFG).

Stakeholders think that funders and in particular the EC should follow up with implementing the recommendations of the report. Some stakeholders believe that the EC can play a significant role in reforming the evaluation system (EPS), while it should continue with its open access mandates and with supporting publishing innovations with no fees for authors and publishing infrastructures (EUA). Funders should collaborate with other funders in contributing towards the vision of the report, as well as collaborating also with institutions to support to create an environment ruled by equality in scholarly communications (EU-LIFE).

To prepare for the future, **publishers and other service providers** are focused on delivering cutting edge services on the basis of researcher demand, investing in technologies and digital innovation (STM; OASPA). Some stakeholders believe that publishers should also participate in testing new models of publishing, such as participating in developing barrier-free open access business models (MCAA). In

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<sup>1</sup> [San Francisco Declaration on Research Assessment \(DORA\)](#) and the [Leiden Manifesto](#), and [Open Science Career Assessment Matrix \(OSCAM\)](#)

general, publishers are expected to collaborate with other actors of the system in pushing forward towards the vision described by the report in a collaborative manner and in numerous areas.

### **3. Conclusions**

Stakeholders generally agree with the Expert Group Report and present their own distinctive views, also reflecting current tensions in the scholarly communications system. The future system envisioned will be based on openness and revolve around researchers; it will exploit new and appropriate business models; the role of the research institutions will be stronger and more decisive in the future system than is currently the case; the system will be diverse but mostly controlled by institutions and serving the public interest.

Most stakeholders agree that fundamental elements of the current system need to change in view of transitioning to the scholarly communications system envisioned by the Expert Group. These are, importantly, elements relevant to research evaluation (e.g. what is evaluated, how it is evaluated, indicators etc.) including the peer review system that needs to become more open and related work formally credited to researchers. In this sense, the role of funders and research institutions as agents of institutional change is important. Current good practices exist which both funders and institutions may follow on particular policy aspects that require change.

Stakeholders strongly indicate the high significance of collaboration amongst actors of the system on specific topics and recommendations raised by the report in view of making concrete steps towards the vision put forward.

## **ANNEX A: LIST OF PARTICIPATING ORGANIZATIONS**

1. **DARIAH-EU** (Digital Research Infrastructure for the Arts and Humanities)
2. **DFG** (Deutsche Forschungsgemeinschaft/German Research Foundation)
3. **EASSH** (European Alliance for Social Sciences and Humanities)
4. **EPS** (European Physical Society)
5. **EU-LIFE** (Alliance of Independent European Research Institutes in Life Sciences)
6. **EUA** (European University Association)
7. **EURODOC** (European Council of Doctoral Candidates and Junior Researchers)
8. **F1000**
9. **GYA** (Global Young Academy)
10. **MCAA** (Marie Curie Alumni Association)
11. **OASPA** (Open Access Scholarly Publishers Association)
12. **OpenAIRE**
13. **OPERAS** (Open Scholarly Communication in the European Research Area for Social Sciences and Humanities)
14. **Science Europe**
15. **STM** (Association of Science Technical and Medical Publishers)
16. **YAE** (Young Academy of Europe)
17. **YEAR** (Young European Associated Researchers Network)

## ANNEX B: QUESTIONNAIRE

### Stakeholder consultation on the future of scholarly publishing and scholarly communication

In January 2019, the European Commission published the "[Future of scholarly publishing and scholarly communication](#)", a report of an Expert Group on the [Future of scholarly publishing and scholarly communication](#). The report examines the current system – with its strengths and weaknesses, and proposes a vision for the future.

**In view of planning policy actions, the European Commission is inviting relevant stakeholders to react on the vision put forward, in particular on how to operationalise the principles expressed by the Expert Group. The Commission intends to publish the results of this exercise.**

You are encouraged to take a broad and creative look towards the future, also taking into consideration current trends in scholarly communication, as well as imagining your role as an actor in the scholarly communication system fifteen years, or more, from now.

1. In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.
2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?

Please respond by the 3<sup>rd</sup> of April

- Guidance to answering the questions is offered in Annex I.
- An abbreviated version of the Expert Group's vision for the future of scholarly communication is offered in Annex II.

## **Annex I: Guidance to answering the questions of the consultation**

Please address the following elements:

### **Question 1:**

In discussing how the vision put forward by the expert group might look in its specifics and your role in the system envisioned, please discuss at least how the following elements of the system of scholarly communication may look like:

- **Actors and their roles/functions in the scholarly communication system.** The main actors, their functions/roles in the system, their balance, new actors. How do you see specifically the role/the functions of [your specific stakeholder group] (e.g. researchers, or research institutions or funders etc.) in such an ecosystem? Which functions of scholarly communication will/should your group fulfil? Will it fulfil all four functions discussed in the report, or only some of them?
- **Evaluation of research.** How does the evaluation of research and researchers look like in a system that evaluates a variety of research outcomes (e.g. data, publications, software etc.) on their own quality and relevance? What kind of indicators (qualitative and quantitative) or metrics are used to evaluate research and researchers and their scientific and social significance and impact such that do not use journal names? Are there specific indicators which support the engagement with Open Science? Are there specific approaches for particular scientific endeavours? What is the role of peer-review in general and in the evaluation process in particular?
- **Types of scholarly contributions** and their relative significance (articles, monographs, data, others/new ones?); **Venues/paths for dissemination** and their relative significance (journal, platforms, others/new?); **Business models and financial aspects** of scholarly communication. What are important business models? How is scholarly communication paid for?; Other topics as you see fit: e.g. role of emerging and new technologies, artificial intelligence, data science, social innovation, involvement of underprivileged groups, cultural change etc.

### **Question 2:**

- Taking as a point of departure the recommendations of the Expert Group that may affect your stakeholder group, concretely how can they be implemented so the vision of the EG materializes?
- Are there other/more/different specific actions to be implemented beyond what the Expert Group recommends by your stakeholder group?
- How could the EC support your actions in order to move closer to the proposed vision?

**Annex II: an abbreviated presentation of the vision for the future of scholarly publishing and scholarly communication by the Expert Group.**

<b>Principles for scholarly communication</b>	<b>A. EG vision</b>	<b>B. Current situation ('shortcomings')</b>
<b>Maximizing accessibility</b>	Open access prevails and content is reusable at dissemination. It is discoverable as well; barriers between discovery and access are eliminated	Less than 50% of content openly available; subscriptions and other barriers; expensive to access content; interoperability a problem for discovery; fragmented environment with proprietary services and content. TDM and legal situation difficult for advanced discovery activities.
<b>Maximizing usability</b>	Research contributions are readily usable and understandable by people and machines; open infrastructures are supported; broad network of public institutions oversees effective mechanisms for active stewardship and preservation of research contributions for the long term	Only a minority of articles with clear licensing conditions for reuse; inconsistencies in format prevent computational reuse, lack of semantic context; long term preservation unsolved issue
<b>Supporting an expanding range of contributions</b>	All research contributions are registered, certified, disseminated, preserved and evaluated on the same footing as formally-published texts. They are FAIR and made accessible as early as possible. They are open to commenting.	Digital objects are mostly not FAIR; current evaluation processes do not favour the reward of a wide range of research contributions but mostly of publications; barriers are more cultural than technical
<b>A distributed, open infrastructure</b>	A globally interconnected infrastructure meets researchers' needs. Elements essential for the function of the core system are in public hands, different types of services offered by various actors. No single organization has	Progress in open infrastructures; interoperability of platforms and workflows limited; fragmented systems.



	undue dominance of the SC system. Agile services, fit for purpose, open governance. Researchers actively participate in shaping tools and services and are rewarded for this.	
<b>Equity, diversity and inclusivity</b>	All have equal chances to participate in the production and use of knowledge. Diversity in representation in scholarly infrastructures; balancing the interests of all participants against excessive dominance and consolidation of power among a very few. Production and dissemination of knowledge is a public good.	Access to and participation in the production of scientific knowledge shaped by structural inequalities at various levels. Structure of research is hierarchic and competitive; flows of information to the less privileged constrained and limited. APCs are a financial barrier that hampers communication between researchers and a problem with low-income countries and less-funded institutions and academics in wealthy countries.
<b>Community building</b>	Global networks of colleagues balance quest for speed with attention to integrity and reliability. Researchers collaborate widely across the world. Building and sustaining research communities and supporting communication and connectivity between different communities is recognized and rewarded as a ways to enhance reliability and integrity of the scholarly process.	To a large extent, the digital revolution can facilitate the building of scholarly communities through tools facilitating comments and discussions, but journals as they often work nowadays do not favour this objective, and neither do most platforms in their present design.
<b>Promoting high quality research and its integrity</b>	Certification and quality assurance rest on entirely transparent peer review procedures; such procedures are reviewed	Peer-review and the relevant standards; concerns about how it is performed and transparency; concerns

	and modified according to need; peer-review is not pre-publication but post-registration. Peer-review is recognized as research contribution	that aside from assessing the rigor of work (certification) PR is used to assess importance of work, i.e. to evaluate the work.
<b>Facilitating evaluation</b>	Evaluation encompasses the full range of research contributions, it is sensitive to requirements of different disciplines and kinds of research, employs an appropriate broad range of tools and techniques. Criteria, methodologies, benchmarks, data and metrics are transparent and fair; diverse, qualitative and quantitative; they are regularly reviewed. They are fit for purpose.	Pervasive effects of the dominant JIF used for evaluation; research evaluation heavily relies on metrics largely based on citation from journals, often inappropriate and not discipline-specific. This leads to skewed rankings, which point to perceived prestige rather than quality
<b>Promoting flexibility and innovation</b>	Balance between standardization and meeting the needs of various communities achieved; regular dialogue between different research communities and specialists in designing processes and socio-technical aspects of scholarly infrastructures and with the full range of service providers and agents in Sc. Services revised and reconfigured as a result. Regular flow of new experiments and new entrants. value and effectiveness, scalability and sustainability are tested fairly and transparently	Small number of publishers and other entities have increased their dominance in provision of content and services; lock-in and barriers to new entrants; latter often acquired; while there is innovation pace and orientation of innovations in hands of few. innovations by institutions tends to follow traditional forms of scholarly communication (books, journals); innovative ways of sharing practiced by few with little effect on system of SC.
<b>Cost-effectiveness</b>	Costs, price settings and revenues are transparent, as well as financial flows between all parties. Clearly defined relationships between costs and kinds and levels of service provided; services are affordable to buyers; new systems and processes are significantly different from those of the pasts; they have the potential to reduce costs of core	Prices continue to climb despite expectations of digital era, partly because of growing number of production but mainly because pricing of scholarly publications not related to costs of production in a clear fashion; scholarly publishing stands obliquely with regard to market forces; lack of transparency of costs enabled by exercise of

	activities and services; income to support services comes from a range of sources; research funding schemes are designed to support experimentation and an enhanced range of services to meet changing needs	control of academic publishing by few companies;
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## **Annex C: Stakeholder responses**

- 1. DARIAH-EU**
- 2. DFG**
- 3. EASSH**
- 4. EPS**
- 5. EU-LIFE**
- 6. EUA**
- 7. EURODOC**
- 8. F1000**
- 9. GYA**
- 10. MARIE CURIE ALUMNI ASSOCIATION**
- 11. OASPA**
- 12. OPENAIRE**
- 13. OPERAS**
- 14. SCIENCE EUROPE**
- 15. STM**
- 16. YOUNG ACADEMY OF EUROPE**
- 17. YEAR**

## 1. DARIAH-EU

### General Comments and Impressions

- The recommendations, while good, are very general, and seem to point more toward the present needs of scholarly communication than even a medium term future of it.
- Although the report claims to place researchers at its heart, the dominant perspectives in the report are those of the funders and publishers. As such, it takes a relatively narrow view of scholarship, giving very little attention e.g. to emerging publication formats outside of the scope of journals (such as digital scholarly editions) or to models of the value of scholarship that place an emphasis on evaluating processes as well as products.
- Very little attention is given to the arts and humanities. This is not merely visible explicitly in the recognition of the fact that OA has been slower to come to monographs, but equally in the tacit assumptions that research is primarily funded by agencies (via projects), not universities (via salaries), and that access to funds for APCs is only unequally spread across countries, not between disciplines. One might also point out that while the formal JIF is largely irrelevant in the arts and humanities, the same intractable problem of journals and publishers being used as proxies for quality most certainly exists, indicating that it is the 'journal impact and prestige factors of the mind' that are the real problem.
- The report focuses a lot on distinct actions for distinct stakeholder groups. While we recognise the impetus behind this approach in terms of responsibility and delivery, we feel that at this point, concerted and coordinated effort is needed more than anything else. In this spirit, in the practical implementation steps we recommend at a later point of this document, we deliberately keep the importance of building bridges and productive interactions between different actors within the system in mind and suggest concrete steps that involve or enable multi-stakeholder collaboration.

### Responses to the Specific Questions

#### 1. *The ideal state of scholarly communication*

The vision the document presents is one of incremental change, based on current trajectories. From our perspective, these trajectories are not an optimal basis for the future, as they are strongly marked by the scholarly practices of the communities that initiated them, essentially leaving out the arts and humanities, without whom scholarship cannot be truly open. This model is also still far too dependent on a 19<sup>th</sup> century imagination, in which gatekeepers of a certain sort were required to manage the material restrictions on the circulation of knowledge. A paramount challenge in present-day knowledge production is to communicate research results in ways that align with increasingly digital and also increasingly diverse research workflows. To leverage all the innovation the open web offers for scholarly communication, we need to critically and iteratively assess the roles and potentials of key actors, evaluation methods, concepts and content types that we inherited from the print culture and recognize the transformative power of new, born-digital actors, concepts and infrastructural components.

Our role as a research infrastructure for the arts and humanities is barely visible in the document, and yet we would contend that we represent an actor group that is acquiring an increasingly important role in disaggregating key functionalities in scholarly communication. This group is internally diverse, but provides essential support services with a strategic role in ensuring transparency in scholarly

communication, supporting maximal visibility and discoverability of all sorts of research outputs and in monitoring the growth of and defining trends in the open scholarly communication. Research discovery platforms bear a strong potential in replacing the Journal Impact Factor by providing article-level (or output-level) metrics and networks that can serve as more precise quality proxies than prestige factors. Therefore we believe that their availability, vitality and sustainability, optimal coverage and most importantly, their openness is key in shaping the future of scholarly communication for the better. We would also consider ensuring that the core components of this infrastructure are in public hands as an absolute priority.

In DARIAH, we are working as an infrastructure to bring our community, whose specific needs often get left out of discussions of the future of scholarly publishing, forward. We are active as policy advocates, but also place a strong focus on training and services for awareness raising, such as the DARIAH Open Blog, the Open Methods Metablog and the DARIAH Open Access Guidelines. We put special emphasis on building digital sovereignty in our communities and connecting them with fair and cost-effective Open Access players. We also contribute to the development of infrastructural components such as the HIRMEOS services or the ISIDORE discovery and indexing platform that are aimed at reducing this scatterings and increasing the discoverability of all sorts of content types relevant to knowledge production in the arts and humanities communities. We also recognize the need to better inform funders and policy-makers about the current state of open access book production and consumption. As a response to this need, we are joining forces with OPERAS to outline a 5 years strategy for the better inclusion of monographs into the digital and open scholarly communications ecosystem.

## ***2. Actors and their roles/functions in the scholarly communication system.***

First of all, the fact that actors such as ourselves (a distinct group one could generally refer to as research infrastructures and intermediaries) are referenced only as a subset among the publishers shows a significant blind spot regarding the unique and varied contributions such organisations make.

Second, some of the arguments about funders are very foreign to the research communities our organisation represents, as arts and humanities scholars most commonly do not fund their work through externally sourced project monies, but rather as a part of their salaried roles. We therefore see the place of research funders much more as enablers of open scholarly communication via collective and long-term/strategic investments into publishing infrastructure (such as the Mellon Foundation's grant to the Open Library of Humanities) than primarily via being involved in vetting and supporting individual projects. That said, even when humanities work is supported via project-based funds, support for ensuring long term access to and maintenance of services, platforms and tools created through project-based research is generally a major gap in what these funders will support. The fact that our well-established tradition of creating innovative vehicles for knowledge transfer that no publisher or business model has arisen to sustain points to a major blindspot in the scholarly communications ecosystem.

Librarians are especially important actors in making Open Access publishing a reality for arts and humanities scholars, since the library consortial models are currently one of the most viable no-author-fee-based gold Open Access publishing options for our communities. The key role of university libraries in pushing forward this shift in scholarly communication should be acknowledged and awarded, above and beyond the work of the university as a whole.

## ***3. Evaluation of research.***

DARIAH-EU would promote the shift from a product-oriented system of evaluating science to a process-oriented one. The long-standing approach to communicating new discoveries based almost exclusively on the final output of scholarship - generally the publication - not only often misrepresents the value of those outputs, it also excludes the sharing of significant other types of findings that may have been produced during the research. Today's technology enables new approaches to sharing and reusing aspects of scholarly work, so that research can be viewed, managed, accessed and ultimately assessed in terms of the integrity of processes, rather than only as products.

The current shift toward OS is supported by a shift in other aspects of the research system. Technology and data gathering enable us to measure and track elements of the research process previously not possible. Public visibility of research increases the demand for accountability, reliability and impact. Citizen science is a growing paradigm that should be fostered, but one that radically challenges traditions of authority and definitions of professional capacity.

In adopting a processual view of science, we open up the possibility that wider sharing of scientific products and by-products can enable a reevaluation of the value of any investment in science. We also can thereby ensure that multilingual/native language publications or outputs of local or culturally-specific relevance can be rewarded to overcome the distortions favouring the anglophone publishers/topics; that forms of voluntary/unpaid academic labour such as data curation and involvement in editorial works can be recognised and rewarded; that our view of the roles of a wider variety of contributors to science (data collector, code writer, editor, creator of visuals etc.) can be recognised and rewarded; and that we can return the measures of value from proxies to actual measures of a wide variety of forms of value.

#### **4. *Types of scholarly contributions, venues and business models***

We recognize a number of special characteristics of scholarly communication in the arts and humanities that significantly challenge its transition into full Open Access as it is currently being conceived and built, in particular as related to the categories given within this question. These circumstances naturally define our implementation choices and priorities in future innovation. These issues include:

##### **a. Resource scarcity**

As mentioned above, in the arts and humanities, grant funding opportunities are not the primary means of covering costs of research compared to e.g. salaries. Having very limited access to article or book processing charges seriously limits the gold Open Access publishing choices of our research communities and thus generates massive inequalities in open scholarly communication. This constraint has however given rise to more inclusive and sustainable alternative business models that are both open and free to authors as well as readers such as library consortium models, freemium, crowdsourcing or collaboration-based models.

##### **b. Scattered and multilingual publication landscape**

Due to the need for cultural nuance in many fields and the resulting multilingual nature of scholarly communication within the diverse range of subjects falling under the umbrella of arts and humanities, scholarly outputs are less concentrated in big journals, usually grounded in regional, national and language-specific communities instead. Only 20% of articles are published by the top five publishers in the arts and humanities and no single publisher approaches even a 10% market share (van der Graaf 2017). This factor alters the visibility of scholarship in arts and humanities and leads to low representation in indexing databases like CrossRef or Web of Science.

### **c. The culture of self-archiving is not yet prevalent in the arts and humanities**

Low use of preprints shows that in the arts and humanities the proportion of closed journals with no green Open Access policy is strikingly high, and even where such options may be available, anecdotal evidence that deposit may harm chances for later publication erodes trust and heightens the sense of risk associated with green OA.

### **d. The greater diversity of publishing formats in arts and humanities (including but not limited to monographs) that have yet to be truly incorporated into the OA system.**

Journals and books are not equal by far in their migration into the digital environment. For journals, a range of bibliometrics and altmetrics exist, as do stable identifiers (DOIs or other PIDs), sophisticated abstracting and indexing services, and agreed standards of reporting. They are also generally available through publisher websites or library subscriptions, and subject to similar national open access mandates. The lack of such standards for digital and online books sets back their visibility and also our understanding of how scholars and citizens interact with them. Furthermore, certain long-established traditions in humanities publishing, such as the scholarly edition (essentially a form of data publishing), have come faster to the digital than most other publications, but the resulting tendency to publish such work as self-contained projects leaves them in peril of disappearance, a nettle which as yet no actor in the system has seen fit to grasp.

## **4. Concrete Steps and Supports**

Generally, we endorse the suggestions put forward in the OSPP-REC document of 2018.

The actions being taken by DARIAH-EU to support our research communities are discussed above. What we would most like to see from other actors is an end to the uneven progress of Open Access across the disciplines and an increased focus on universities and other RPOs for their ability to reward open science more evenly and fundamentally than the funding agencies. In the practical implementation steps we recommend below, we deliberately keep the importance coordinated efforts between the different actors in mind and suggest concrete steps that involve or enable multi-stakeholder collaborations.

### **1. Focus on collective and strategic investments into the scholarly communication infrastructure**

We see a range of benefits in providing policy support for collective and strategic infrastructural investments into the scholarly communication ecosystem (including registration, certification, dissemination, preservation but also transparency services) instead of just paying for the production costs of the end products. To ensure and incentivize equitable forms of Open Access publishing, we would recommend that funders and research performing institutions redirect at least part of their available resources into community-owned publishing infrastructure or library consortia models instead of simple APC/BPC payments. This approach also bears the potential of better alignment of research practices with research dissemination practices, as such infrastructural investments can give rise to venues that flexibly allow for the dynamic and networked sharing of a wide variety of contribution types (such as digital textual editions or data collections) that currently cannot enter the realm of scholarly publishing.



In this respect, we endorse the recommendation in the report (p.45) that when possible, universities should act cooperatively in contributing to open infrastructures. Bringing scholarly communication services closer to where knowledge is produced brings us closer to the vision of a scholarly communication ecosystem that is controlled by researchers themselves. In addition to the library consortia models, building overlay or discovery services or interoperability frameworks on the top of the national or institutional repositories could deliver especially viable solutions for the public and long-term availability of a wide range of research outputs in a way that allows not only for access to the research results but also to the underlying data and research processes. Besides, examples of collaborative, coordinated action between research institutions and research infrastructures (e.g. in the case of OpenEdition, a best practice example also mentioned in the report) suggest that the roles and possibilities of research infrastructures in building these services deserve greater consideration.

## **2. Breaking the the vicious circle of research evaluation**

On the other hand, we also share the view that sociocultural factors are an even more crucial components of making Open Science a reality than the technological and infrastructural ones. Today's technology enables new approaches to sharing, reusing and assessing in terms of the integrity of processes, rather than only as products. This paves the way toward pilot frameworks put forward by disciplinary communities for the appropriate crediting of new contribution types relevant to their activities (such as the digital scholarly editions in the humanities). Still, as we see, the need for a cultural shift in research evaluation is currently lingering in a vicious circle. As long as scholarly communication practices are trapped by research evaluation criteria dominated by prestige economy, such community-driven innovations and efforts will remain strongly counterincentivied. As a result, they will not grow sufficient enough to inform research-performing organisations, funders and policy-makers about alternative proxies that could replace the the current harmful system.

Whilst we acknowledge that, as the report states, "Research funders, therefore, can affect directly or indirectly all functions of scholarly communication, and have considerable power to promote change, most notably in the incentives and rewards systems of research" (p. 7), we are not completely sure that this new prescribing role of policy-makers and research funders alone will be able to break the circle. This is especially true for scholarly domains like arts and humanities where much good scholarship takes place outside of the realm of the funded project but rather the costs of knowledge production are covered from salaries, and therefore funders have less power to put pressure on institutional research evaluation criteria. Solving the major conflict between the growth of open research and dissemination practices versus the currently dominant research evaluation criteria requires coordination (or sometimes even negotiation) as well as intensive and synchronous dialogue between funders, research performing institutions (as gatekeepers in tenure and promotion criteria) and ministries (as enablers of systemic change in research evaluation culture on a national level). Therefore, to facilitate a new 'social contract' between publishers, institutions and researchers, we recommend the better inclusion of universities, research performing institutions, university networks like LERU or EURODOC (representing the researchers themselves) as well as ministries to the conversation about the future of scholarly communication in Europe.

## **3. Increasing trust and reducing isolation between the different actor groups**

We strongly endorse the principle that enhancing interoperability between the diverse components of the distributed open infrastructure should be a priority. At the same time, we also recognize that increasing trust in this complex and crowded landscape is just as important for its healthy functioning. Therefore, we see a strong need for building bridges and bridging services and framing

collaborations between funders and infrastructure providers, scholars and publishers etc. For instance, to keep track of the increasing diversity of Open Access publishing services and evaluate these providers, increase their transparency and trust towards them and to better coordinate in supporting them, we recommend the mandatory and open administration of the APCs/BPCs expenses as well as financial support to no-APC initiatives by universities and research organizations and their publication under an open license.

Response authored by Jennifer Edmond, Laurent Romary and Erzsébet Tóth-Czifra on behalf of DARIAH, 02. April 2019.

## 2. DFG

### **Ideal vision proposed in the report and our role as funding organization**

We concur with many aspects offered by the report "Future of Scholarly Publishing and Scholarly Communication" regarding the analysis of present flaws in the scholarly publishing system. From our point of view, **major shortcomings** consist in the following aspects:

- Restricted or insufficient access to many relevant resources for researchers and society, especially insufficient regarding the possibility to make best use of digital resources in scientific and scholarly practice
- Lack of economic sustainability regarding rising prices for access especially to large journal subscription packages (Big Deals)
- Incoherence between discovery and access, unequal treatment of different publication and contribution types regarding findability and frictions regarding re-usability
- Long term archiving of digital output
- Inadequate and unequal treatment of a variety of contribution types in research evaluation schemes

Regarding **the vision** put forward in the report on the "Future of Scholarly Publishing and Scholarly Communication", we offer the following commentary:

- We agree that for the sake of scholarly discourse and general communication, research publications need to be made accessible as early as possible.

However, we surmise that Openness will not be achieved at any cost and is not relevant in all disciplines to the same degree. Open access needs to be considered as an instrument for better research, not an ideological aim in itself. Open access as a dominant model for scholarly publications will from our perspective be at the center of future scholarly publishing. Our position regarding the Open Access Transformation is elucidated in this document: [http://www.dfg.de/en/service/press/press\\_releases/2018/press\\_release\\_no\\_10/index.html](http://www.dfg.de/en/service/press/press_releases/2018/press_release_no_10/index.html))

- Barriers between discovery and access of content need to be minimized and should no longer prevail; we also support the vision that scientific and scholarly information, which is made openly available, needs to be interpretable, understandable and usable by humans and by machine-oriented techniques. All types of relevant scientific and scholarly contributions should be registered, certified, disseminated, preserved and be considered for evaluating in adequate and purposeful manners. All scholars and scientists have equal chances to participate in the production and use of knowledge.
- We support open infrastructures, but they require maintenance also in the long term, which is a task usually beyond a funding agencies' remit. We also agree that interconnected infrastructure needs to meet researchers' needs. Researchers should actively contribute to shaping tools and services. A dialogue between technical and research communities helps to shape best solutions.
- We agree with the idea that public institutions oversee mechanisms for active stewardship and preservation of scholarly contents. Essential

elements should be in public hands, but services should be offered by various actors. No single organization should have undue dominance.

- Global research networks will aim to balance speed with attention to integrity and reliability.  
Certification and quality assurance of content to be made public rests on entirely transparent procedures. Peer review is not the only mechanism for quality assurance, and can occur post registration.
- Evaluation of research will in general be undertaken in the recognition of the full range of contributions, as currently sensitive to disciplines, and balancing qualitative and quantitative aspects.
- The costs, and the price settings and revenues regarding scientific and scholarly publications will have to become transparent, as well as financial flows between all parties in the system. The relationship should be clear between costs and kinds and levels of service, and costs can potentially be reduced.
- Funding schemes are designed to support experimentation and an enhanced range of services to meet changing needs.

### **Functions and actors**

We observe that funders have taken on a stronger role in the future regarding the shaping, standardization and research-adequate evolution of the scholarly publishing and communication system. We think that the landscape can only be changed if research takes the lead and initiates change, institutions and learned societies need to increase their responsibilities in this regard as well. Funders alone will not be able to initiate change if it is not supported by research communities.

DFG has a specific role being a self-governing organization of research and a funder.

In this role, we fund research and research-supporting infrastructure. If not the role in the future system, at least some aspects in funding and strategic regards will help to support change regarding our vision of the future system.

- We acknowledge that new business models in scholarly publication require adequate and new funding structures for scholarly publication.
- Clear and simple requirements for the use of funds are important. In an ideal setting, regulations of funders do not provoke complications or even conflicts for researchers.
- Funders are likely to strengthen their engagement as enabler of Open Access.
- Funders are not likely to take on the role as organizers of peer review for publications, but might built infrastructures for publication or act as publishers regarding materials from funded projects.
- Regarding changing roles of other actors, especially research institutions and libraries, we would like to offer a deeper analysis in this document: [https://www.dfg.de/download/pdf/foerderung/programme/lis/180522\\_awbi\\_impulspapier.pdf](https://www.dfg.de/download/pdf/foerderung/programme/lis/180522_awbi_impulspapier.pdf)

### **3. Measures to be undertaken by DFG / not to be undertaken**

We support the following suggested measures for funders:

- Encouraging that contributions are openly available as early as possible, discoverable, reusable according to community standards
- Focusing on quality of the research peer review and evaluation procedures
- Supporting the refusal of non disclosure clauses and asking for the inclusion of clauses that enable cost and price control, monitoring
- Aiming at funding mechanisms to support development of open, interconnected, distributed scholarly publication infrastructures
- Working with other actors towards ensuring that the total costs of publication and are transparent

### **What do other stakeholder have to do**

In order to shape a research oriented scholarly publishing system, publishing houses should provide high quality service for adequate prices and develop sustainable business models for open access that are affordable to research communities.

### 3. EASSH

This is the response of the European Alliance for SSH (EASSH) an umbrella organisation including over 50 European disciplinary associations, scholarly networks and universities. It promotes research on social sciences and humanities as a resource for Europe and the world and gives a voice to SSH disciplines in the design of science policy at the national and international levels.

EASSH consulted all its members and wishes to provide the feedback to the two questions provided in the template of the consultation. At the same time, we welcome the opportunity to develop science policy, through the consultation, with researchers and other stakeholders and stress the importance of having a more collaborative environment for the design and implementation of policies affecting research.

#### Question 1:

In discussing how the vision put forward by the expert group might look in its specifics and your role in the system envisioned, please discuss at least how the following elements of the system of scholarly communication may look like:

- Actors and their roles/functions in the scholarly communication system. The main actors, their functions/roles in the system, their balance, new actors.

Response: Researchers and academic institutions play a crucial role in the design and implementation of Open Science philosophy and practice. Institutions have their own libraries and interact regularly with publishers on behalf of their researchers. It would be appropriate, from the expert group's perspective, to pay close attention to academic institutions and their contribution. The role of funders in the report is rather over emphasised, even if they are the main motivators behind Plan S. As recently discussed, funders have limited impact, mainly because the direct funding of research is not the only pathway to establishing the implementation of a fully open environment for publications. Much more crucial is the investment in OA infrastructures and platforms, which currently remain one of the major limitations of the wider uptake of OA implementation. Also, Publishers must be brought fully on board in order to ensure a far more efficient and effective outcome, as they need to address practice and uptake. In addition, they also play a particularly important role in the standardisation of approaches and business models, which in turn enable an open and interoperable environment for publications.

EASSH urges all engaged parties to actively seek ways to ensure that the sensitive position of specialist Learned Societies' are protected, and that any system is flexible and responsive to diversity of provider and provision. These organisations have a critical philanthropic and developmental role in the research landscape, and their curation of fields and disciplines has played a major part in the formation, positive development and distinguished position of the European research and scholarly landscape for a substantial time. Any future developments in open access publishing must take full account of the position of Learned Societies in our collective research ecosystem and seek to maintain their operational model and viability.

We recommend that a principle of putting the researcher as the key responsible party in relation to all scholarly publications is adopted as a core principle for all EU member (and associated) states. This is to try to avoid a situation where institutions or companies, that may have funded or defined the research project in question, also have influence over the research process and the results. Moreover,

we recommend that it becomes a principle in all EU member states to give researchers the right to publish their results, free from external influence.

EASSH is a community of researchers associated as an umbrella organisation, which has the support of a large number of scholars involved in the publication of academic work. EASSH is currently bringing to the table different stakeholders to discuss a phase of implementation for OA in books. While Plan S latest draft has deliberately recognised that books are a far more complicated issue than articles and journals, EASSH in collaboration with OPERAS has promoted the very first roundtable with publishers, scholars and policy makers to address a pathways towards a more open circulation of monographs. There is still a lot to achieve in this area, and DARIAH has recommended a five-year plan which EASSH supports. A report on this first event will be published shortly. Furthermore, we recommend that a «test-cases» approach, to be lead by all the different actors in the game. It is clear that given the wide range of different publication cultures and approaches across Europe and across different scientific disciplines, a much more pragmatic approach needs to be explored. A set of «test-cases» which address different contexts will provide feedback for a coherent approach, which currently is still rather weak. The cases studies approach will provide the evidence to judge the most effective strategies and allow to really judging the implications of new policies.

Finally, EASSH stated in our [Response to Plan S draft paper](#) (link embedded) there are still some important pending issues at the European level, which span from unequally resourced research systems to the need for No Derivatives licences to protect use of text out of context.

- Evaluation of research. How does the evaluation of research and researchers look like in a system that evaluates a variety of research outcomes (e.g. data, publications, software etc.) on their own quality and relevance? What kind of indicators (qualitative and quantitative) or metrics are used to evaluate research and researchers and their scientific and social significance and impact such that do not use journal names?

Response: EASSH encourages research evaluations and in particular those that take into consideration a variety of research outcomes, including artefacts and different type of scholarly communications beyond the traditional peer to peer publications. SSH scholars are well renowned for being engaged in a variety of science communications and dissemination of scientific information it is in the nature of these disciplines, which focus their observations on society. EASSH recommends that the use of citation indices and metrics is revisited, abandoned or strongly reduced, that DORA is adopted, and that it becomes the official policy of the EU member states never to allow metric criteria to become the decisive criterion in any competitive situation (appointments, awards, grants, funding etc.).

In an upcoming paper, EASSH is making recommendations about impact evaluations for Horizon Europe. The paper suggests a two-track system to be implemented: researchers to choose their pathways to impact and evaluation of programmes based on the aggregate of several projects to see if these have fundamentally addressed the aim of the programme itself (the paper will be published in early April on [www.eassh.eu](http://www.eassh.eu)).

- Types of scholarly contributions and their relative significance (articles, monographs, data, others/new ones?); Venues/paths for dissemination and their relative significance (journal, platforms, others/new?); Business models and financial aspects of scholarly communication.

Response: The research environment is becoming increasingly complex but at the same time this raises the pressure for better communications with the public, which

move beyond the high impact journals into a wider variety of pathways to engage practitioners, civil society organisations, NGOs and others, in exploration and discussion of scientific content. In SSH research especially the models for the dissemination of research are multiple and include activities such as engaging societies in research via interviews, contributing via writing diaries and stories, as well as original music and radio programmes, artefacts and peoples' interpretation of reality. Political scientists engage communities with several forms of direct and indirect interventions and psychologists and anthropologists identify patterns of behaviour, rituals and ceremonies, which become object of study and encourage the understanding of human endeavour. Sociologists expand our understanding of social divisions and inequalities as well as our understanding of continuity and change. Social innovation in labour relations for example explores and identifies potential for stimulating productivity at the individual level. In addition most of these disciplines can help in our understanding of the public's health and well-being and in ways of improving communication and uptake in relation to positive health interventions.

It is rather important to identify how people access knowledge but also how those who use scholarly discoveries recognise their value with reference even outside academia. If the aim of Open Science is 'the knowledge society', we need to be able to establish pathways of learning beyond the structured systems. It is still difficult to capture the role of formal and informal training in societies' developments. How individuals, policy makers or practitioners read, understand and use scholar publications is still unclear, mainly because there are no obligation of citing where people gather information and ideas. However, in an open science environment we also need to develop the understanding of who's using what and for what reason. This is important to process information about investment of research and innovation, social impact and relevance of research.

The issue of business models for scholarly communication is a complex topic and a case where not one size fits all. There is a well-constructed ecosystem around scholarly communications, which is evolving fast, presenting a range of different solutions. More recently, for example, two business models which have emerged in the humanities, [Open Library for Humanities](#) and [Knowledge unlatched](#) (links embedded) are revisiting the role of libraries in financing open access. We are only at the beginning of exploring new models for scholarly communications and we are moving fast in this direction. EASSH believes that the key question remains what kind of infrastructures will be provided to allow platforms of dissemination of science, rather than identify now the best and only pathway to communication. EASSH would not suggest at this stage which one is the best business model, but suggests that a more diffuse responsibility and unlocking resources within the publication ecosystem should be one of the incentives for financing Open Science.

Question 2:

- Taking as a point of departure the recommendations of the Expert Group that may affect your stakeholder group, concretely how can they be implemented so the vision of the EG materializes?

Response: EASSH has looked at the recommendations in the report, which affects us as a community of researchers both as individuals and as part of European associations and institutions. We will address below one by one the Expert Groups' issues.

The report suggests that Researchers and research communities should:

1. When participating in research assessment, for example in hiring, promotion and tenure, and funding decisions, focus on the merits and impact of a



researcher's work and refrain from the use of metrics - particularly journal-based metrics - as a proxy. In particular, they should incorporate the recommendations from DORA and the Leiden Manifesto into the assessment process.

In the SSH community metrics have never been central to our evaluations, quite the opposite, except in few rare occasions and with the exception of Economics. Metrics are not the norm. SSH researchers strongly support DORA and the Leiden Manifesto.

2. Take responsibility for ensuring that all research contributions are made openly available, discoverable, and reusable according to agreed community standards (including the FAIR principles).

This issue is quite difficult in SSH community as many disciplines are still heavily based on research output published in monographs. There is still a lot to implement in this area. More importantly, there are still very important pending issues about reusability of text – especially when only CC- by licences are used, rather than ND licences. The former enable the use of text out of context and this is something that should be seriously avoided and should be one of the principles that if someone's text is used, this must be followed by explicit mention and reference and with contextual background. This is because, unlike most STEM publications the detailed data and the crux of the research is actually in, rather than behind the text.

3. Increase awareness of, and sense of responsibility for, implications of choices and actions in roles as authors, reviewers and members of decision-making groups. SSH community is fully aware of these issues and many scholars practice with learned societies rather than large publishers.
4. Strive for a balanced and diverse representation (in terms of gender, geography and career stage) when seeking collaborations, organizing conferences, convening committees, and assigning editors and peer-reviewers, and building communities such as learned societies.

Over the last few years, data on gender studies demonstrate that SSH research community is becoming more balanced, with regard to gender and has the best gender ratios than any other scientific field. However this does vary across the SSH disciplines and there is still some way to go with regard to other aspects of diversity. Again, researchers in this community have demonstrated a high capacity of shape and support from learned societies over the years.

5. Work towards increased recognition and appreciation of peer-review work as core research tasks. To this end, support greater transparency, including the publishing of signed reports. Support better training and inclusion, and focus on quality of the research in peer review<sup>57</sup>

EASSH is working towards quality standards for the SSH research community and much progress has been made. It is one of the aims of the organisations.

6. In the case of communities of researchers, such as learned societies, develop policies and practices that support modes of scholarly communication in line with the vision outlined above. Along with universities, learned societies and other research communities need to alert and train their researchers to the importance and the responsibilities of communicating knowledge, either formally, through publishing, or through other means.

The process is already started in the SSH research community although there is a lack of investment in platforms for OA and learned societies have small budgets often renewed from year to year with high degree of uncertainty. In better financed research systems, a process has been initiated already, but in other research environments where funding is scarce and often focused on innovation and STEM

disciplines, SSH research makes the best possible efforts. This issue must be addressed at the EU level, with a move to greater equality across disciplines and better understanding of the diversity of disciplinary needs.

Again the report states that Universities and research institutions should:

1. Develop policies and practices to ensure that all research contributions are made openly available, discoverable, and reusable according to agreed community standards (including the FAIR principles).

EASSH institutions are engaged in developing in this direction. Some of them are establishing university repositories and own university press initiatives.

2. Promote and implement the recommendations of DORA and the Leiden manifesto to ensure that research assessment takes into account a wide range of scholarly contributions including research articles, preprints, datasets, software, patents and materials (e.g. in hiring, tenure, and promotion decisions). EASSH institutions are all fully committed with such approach
3. In deciding which infrastructures to use, support, and contribute to, choose platforms using free or open source software, offering open data via an open license, and leveraging open standards where possible. Acting in this fashion will also reinforce researcher-led initiatives that aim to facilitate scholarly communication and publishing.

These type of decisions are often collegial and not necessarily decided by universities independently but rather from national mainstream approaches. Collaboration across faculties has increased in recent years, which has supported a more harmonious approach to key decisions on infrastructures. There is still a lot to do in this direction, because disciplines around SSH research are still practising very differently from one another, and there are long traditions of data and publications catalogues and storing which makes this work still a long way from identifying overall standards.

4. Strive for a balanced and diverse representation including, but not limited to, gender, geography and career stage) when hiring, seeking collaborations, when organizing conferences, when convening committees, and when assigning editors and peer- reviewers, and building communities such as learned societies. SSH research community and universities and faculties in EASSH membership are active to foster such principles.
5. In negotiations with service-providers refuse non-disclosure clauses and include clauses which enable cost and price control, and compliance monitoring. Strive to facilitate collective action with other institutions by e.g. sharing cost and price data through joint initiatives (e.g. OpenAPC).

EASSH institutions are not always in a position to negotiate across all disciplinary areas and to influence the central administration in such decisions. However, they are actively engaged in embracing a more dynamic and fair system around scholars' publications.

- Are there other/more/different specific actions to be implemented beyond what the Expert Group recommends by your stakeholder group?

As mentioned above, EASSH strongly recommends a more practical «test-cases» approach. Given the wide fragmentations of cultures, both regional and disciplinary in this area of scholarly publications, force one simple policy without testing may be detrimental to its implementation. The cases studies approach will provide the evidence to judge the most effective strategies and allow to really judging the implications of new policies.

#### 4. EPS

April 3, 2019

The European Physical Society (EPS) is the top-level representation of the European physics community. As a learned society, the EPS is concerned with research and teaching in all areas of physics. It gives continuous attention to policies and practice of scholarly publishing and scholarly communication, and is itself an actor in the scientific publishing market. In recent years, the EPS has published four statements on different aspects of scholarly publishing:

- Position paper on Open Access (2009)<sup>2</sup>
- "On the use of bibliometric indices during assessment" (2012)<sup>3</sup>
- "Managing the Transition to Open Access Publication" (2013)<sup>4</sup>, jointly with the European Association for Chemical and Molecular Sciences (EuCheMS)<sup>5</sup>.
- EPS Statement on "Plan S: Accelerating the transition to full and immediate Open Access to scientific publication" (2019)<sup>6</sup>

These statements anticipate and confirm many of the recommendations made in the Report of the Expert Group (hereafter "EG Report"). **More generally, the EPS broadly supports the analysis, conclusions, and recommendations of the Report of the Expert Group.**

In the following, we comment in greater detail on some of the observations and recommendations of the EG Report. Our remarks follow loosely the questions proposed in Annex I of the (undated) document "Stakeholder consultation on the future of scholarly publishing and scholarly communication".

**Actors and their function in the scholarly communication system:** in this area, the EPS plays a double role as (a) an actor in the policy arena and (b) as a publisher of physics journals (in cooperation with other, national physical societies). In both roles, the EPS is concerned, in different ways, with all of the four key functions addressed in the EG Report – registration, certification, dissemination, and preservation. Registration is primarily the responsibility of the individual researcher, or group of researchers, and physicists have rarely failed to publish the results of their work in a timely manner. Needless to say, at this stage of the publishing process the EPS defends a strict code of conduct under which, *inter alia*, full credit is given to previous and competing work in the relevant field. In the area of certification, the EPS supports a principle of peer review that adheres to the highest standards of integrity, independence, and scientific competency; in fact, we consider that in the digital age, high-quality peer review is the most important core value added by journals to the scientific publication process. Finally, the EPS advocates a responsible transition to Open Access (OA) publishing which is affordable and accessible for authors and readers alike, protects the interests of learned society and other small publishers, preserves the diversity of the scholarly publication landscape, and ensures secure long-term archiving.

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<sup>2</sup> [https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS\\_PP\\_OA\\_2009.pdf](https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS_PP_OA_2009.pdf)

<sup>3</sup> [https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS\\_statement\\_June2012.pdf](https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS_statement_June2012.pdf)

<sup>4</sup> [https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS\\_Managing\\_the\\_Transition\\_to\\_Open\\_Access\\_Publication.pdf..](https://cdn.ymaws.com/www.eps.org/resource/collection/B77D91E8-2370-43C3-9814-250C65E13549/EPS_Managing_the_Transition_to_Open_Access_Publication.pdf..)

<sup>5</sup> EuCheMS has since been renamed the European Chemical Society (EuChemS)

<sup>6</sup> <https://www.eps.org/news/437914/Plan-S-Accelerating-the-transition-to-full-and-immediate-Open-Access-to-scientific-publication.htm>

**Evaluation of research:** The EPS supports the principle that the quality of research and researchers must be evaluated on the basis of true scientific merit, not on the basis of bibliometric indices and even less on the basis of perceived journal prestige. In physics, recent developments illustrate the obsolescence of metrics-based assessment more radically than other scientific disciplines. An example is large research collaborations in high energy physics, cosmology and gravitational physics, and increasingly in astronomy and astrophysics. These collaborations federate several hundred, sometimes several thousand scientists, who collectively sign all publications from their project. In such an environment, indicators of the Journal Impact Factor (JIF) or h-index type lose all meaning for the individual author. Indeed the communities concerned are progressively abandoning such criteria, both for the choice of publication outlets and for the assessment of individual scientists. In these large collaborations, the importance of peer review for the recognition of scientific merit is on the rise, thus anticipating a key recommendation of the EG Report<sup>7</sup>. However, the physics community at large still has to embrace this change of paradigm.

Today's flood of publications puts the peer review system under heavy strain. It would therefore be advisable to better recognize the time and effort of reviewers, and also to encourage young researchers to participate in this process, providing them with the right skills. A paradigm shift must foster quality over quantity in the evaluation process, obeying to the rules of research integrity.

**Types of scholarly contributions:** Articles and journals are, and are expected to remain, the most important vehicles of scholarly publication and communication in physics. The physics community was amongst the first to adopt open repositories (especially arXiv.org) for reasons of speed and openness. At the same, it has continued to invest in journals, thus amplifying the importance and the added value of the peer review certification. While the EPS promotes a responsible transition to Open Access based on principles outlined earlier in this statement, viable business models must respect the fact that scientific publishing has developed into a global enterprise of remarkable quality. This is an achievement that deserves to be recognised and protected. Seemingly straightforward OA models, where Article Processing Charges (APCs) replace paywalls for readers by paywalls for authors, ignore completely the fact that all major European scientific publications receive manuscripts from around the world, from non-European researchers who often are less OA-aware or have no access to funds to pay for APCs.

Designing sustainable business models which avoid the shortcomings and barriers of APCs is arguably the greatest challenge for a successful transition to Open Access. An example of an alternative approach is the SCOAP3 model<sup>8</sup> developed by the high energy physics community which has converted an entire branch of physics to OA on a global scale, at no cost to authors while protecting the interests of all actors – authors, readers, funders and publishers – in a balanced way. While not easily scalable to scientific publishing at large, SCOAP3 has demonstrated that viable alternatives to APCs exist and can be put to work.

Another key building block of the research process are research data and their management when they follow the FAIR principle endorsed by several stakeholders, including funders, publishers and representatives of the research community, such as learned societies. The establishment and selection of trustworthy repositories for open data is underway and will be further developed. Already today, many research

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<sup>7</sup> It is, however interesting to note that – in contrast to remarks in the EG Report – the move away from the JIF was initiated by the community and not mandated by funding agencies.

<sup>8</sup> [scoap3.org](http://scoap3.org)

data are well structured and can be managed using metadata standards; however, a huge amount of unstructured data is also produced worldwide, generated by interconnected devices and machines within the Internet of Things (IoT) and following an exponential growth. These data will be filtered, analysed and used for both commercial and scientific purposes using technologies like Artificial Intelligence (AI) and Machine Learning. It will be essential to open a debate on this issue, in order to prevent that AI algorithms and economic reasons dominate the data 'business', delegating the decision process to machines. The research community must be attentive to these competitive developments which could jeopardize the quality of research output.

Even in the digital age, and next to scientific publications, traditional conferences remain an important vehicle of scholarly communication and networking. This is an area where the EPS holds a particularly strong position, organising many of the most important and prestigious European conferences across all disciplines of physics. Large numbers of attendees testify to their continued popularity. The EPS is implementing proactive measures to ensure a balanced and diverse representation at all levels of participation (delegates, organising committees, invited speakers, etc.)

**Implementation of the EG Recommendations:** The strong support of the European Commission has been instrumental and beneficial in advancing the Open Access and, more generally, the Open Science discussion in Europe. Physics is an archetype of a scientific discipline where progress relies increasingly on intercontinental cooperation, and more work will be needed to develop a *modus operandi* that can be embraced by the community and implemented on a global scale.

Leveraging the unique position of the European Commission in promoting cross-disciplinary science policy debates, and building on the model of the Open Science initiatives, the EPS welcomes a similar initiative to reform the scientific evaluation system, following the recommendations of the Expert Group. Reforming the scientific evaluation system, moving away from the Journal Impact Factor, is a necessary initiative in moving successfully towards Open Science.

As a concluding remark, a word of caution: for the implementation of its recommendations, the EG Report attributes a strong role to the science funders. A broader and more visible role of the funding agencies is desirable indeed: re-gaining authority over Open Access/Open Science business models is a central example. On the other hand, recent history shows that the most disruptive innovations, and the most successful new paradigms in scholarly communication, started from grassroots initiatives of the scientific community, from the development of the World Wide Web to open repositories, open data, and first OA journals. Traditionally, physics has been at the forefront of these developments. With continued support from all actors, the European physics community stands ready to contribute its creativity, experience and unique global networks to a successful implementation of the Expert Group's recommendations. This will help establishing the bases for the necessary policy developments in the area of Open Access and Open Science, notably by actively engaging its own constituents and partners, including its publishing partners.

### ***About the European Physical Society (EPS)***

*The EPS, founded in 1968, is a grass roots, member-driven learned society, providing a European forum for physicists representing scientific, topical, and national interest. The EPS presently federates 42 national member societies, which in turn represent more than 130'000 individual members; about 40 Associate*

*Members, which are mostly major research institutions, universities, and industry; and more than 3'500 Individual Members. The seat of the Society is in Mulhouse (France).*

## 5. EU-LIFE

In January 2019, the European Commission published the report of an Expert Group on the [Future of scholarly publishing and scholarly communication](#). The report examines the current system – with its strengths and weaknesses, and proposes a vision for the future.

EU-LIFE position on the following questions:

1. In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.
2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?

### Question 1:

- Actors and their roles/functions in the scholarly communication system.**  
The main actors, their functions/roles in the system, their balance, new actors.

**Before answering the questions we would like to stress that the current scholarly communication, based on quality through peer review, has greatly benefitted science and society. This represents the voluntary efforts of numerous scientists spending immense amounts of hours doing many different forms of peer review and based on that many generations of scientist have built their own knowledge and research. The institutes have accommodated that, the funders paid for it and the publishers have supported this. It would be good and fair to acknowledge this and of course we need to develop and seek improvements as the system has also developed less favourable aspects. This aspect could be highlighted more in the report.**

We strongly agree with the expert group that researchers need to be at the centre of the discussion on the future of scholarly communication. The numerous answers and comments of several researchers to Plan S has shown that this is indeed very important (see also EU-LIFE answer to Plan S: <https://eu-life.eu/article/eu-life-answers-plan-s-implementation-guidelines>).

We support overall the positioning of the different stakeholders, as described in the report, with a strong focus on the leading role of funding agencies. In addition, we would like to see even more coordination of national funders and intergovernmental organizations to ensure a global movement towards the vision proposed by the report. We envisage a determinant role of government research agencies and public authorities in designing and developing policies and regulations for the publishing industry to avoid inflated profits and drive the overall pricing down, while ensuring a high-level quality system for scholarly publishing. Moreover, the future of scholarly publishing needs a global approach, possibly with intergovernmental agreements.

With the increasing financial “stress” on research activity, we are extremely concerned that the desired and needed path to open access is jeopardized by inequality. It is extremely important to ensure open access to read and to publish. All researchers from everywhere in the world need to have equal access to reading and publishing. Whereas several journals and funders foresee waiving systems for researchers in very depressed regions of the world (yet still to be properly monitored), the financial challenges that many researchers encounter



in all parts of the world, including Europe, has be taken into account. This is valid for individual researchers as well as research centres and universities.

*How do you see specifically the role of EU-LIFE in such an ecosystem?*

EU-LIFE is a European alliance of research institutes of excellence in life sciences, representing research centres as well as their researchers. EU-LIFE's mission is to contribute to the improvement of research through active participation in European science policies and through the building and sharing of good practices at institutional level to create the best environment possible for research and researchers. EU-LIFE has a therefore privileged position to bring the voice and experience of researchers and institutions across Europe to shape the future of scholarly publications. In addition, EU-LIFE has a record of accomplishments in promoting commitment to institutional change (e.g. in gender equality in science) within its member institutes. Moreover, due to its more flexible nature compared to universities, research centres have the potential to pioneer faster institutional change.

*Which functions of scholarly communication will your group fulfil? Will it fulfil all four functions discussed in the report, or only some of them?*

Researchers are the main producers and users of scholarly communication, and they are central for especially three of the four functions: registration (attribution), certification (peer-review), and dissemination. Research institutions, such as EU-LIFE centres, are key for systemic change to promote new practices implementing the policies, and they are responsible to create adequate conditions for researchers to move forward in scholarly publication.

#### **Evaluation of research.**

*How does the evaluation of research and researchers look like in a system that evaluates a variety of research outcomes (e.g. data, publications, software etc.) on their own quality and relevance? What kind of indicators (qualitative and quantitative) or metrics are used to evaluate research and researchers and their scientific and social significance and impact such that do not use journal names? Are there specific indicators which support the engagement with Open Science? Are there specific approaches for particular scientific endeavours? What is the role of peerreview in general and in the evaluation process in particular?*

Few examples are emerging about how to evaluate quality beyond the journal impact factor and other metrics (see for example DORA webpage). EU-LIFE is committed to evaluate quality over quantity, and is analysing carefully its processes for further improvement. However, in many instances, it is important to take into account that quality evaluation is complex and expensive, requiring lots of time and additional resources.

Regarding the indicators and metrics supporting Open Science, EU-LIFE is contributing to the efforts of the OSPP that will be presented soon during the Romanian presidency.

In our vision, peer-review is crucial for scholarly publications. It is extremely important to keep and further advance professional and transparent peer-review. Quality control processes are also of extreme importance, including tools to independently reanalyse raw data. These processes are fundamental to ensure high-level quality of published manuscripts. We would like to stress their critical relevance and further development.

We also believe that peer-review should maintain a pivotal role in research evaluation. We nevertheless recognize the need for more transparency and more

efforts and rigour to avoid biases and conflicts of interest (e.g. open peer review experimented by some journals as eLife). These efforts imply a cultural change and require monitoring of progress towards compliance of practices regarding established policies.

## **Question 2:**

- *Taking as a point of departure the recommendations of the Expert Group that may affect your stakeholder group, concretely how can they be implemented so the vision of the EG materializes?*

We address this point by adding a third column to the table with the 10 principles ("Research institutes' actions", see below).

- *Are there other/more/different specific actions to be implemented beyond what the Expert Group recommends by your stakeholder group?*

Overall, we agree with the recommendations. However, since they are rather general, we would like research institutes to be involved in further refining and turning into practise of the recommendations.

- *How could the EC support your actions in order to move closer to the proposed vision?*

The EC should implement the principles recommended in the report, defining concrete action plans and continue supporting institutional change, as they have been doing through the SwafS programme. It is important that the EC recognizes the extreme added value of SwafS in supporting institutional change by promoting international networks of practitioners committed to change.

**Annex II: an abbreviated presentation of the vision for the future of scholarly publishing and scholarly communication by the Expert Group.**

<b>Principles for scholarly communication</b>	<b>A. EG vision</b>	<b>B. Current situation ('shortcomings')</b>	<b>C. Research institutes' (RI) actions</b>
<b>Maximizing accessibility</b>	Open access prevails and content is reusable at dissemination. It is discoverable as well; barriers between discovery and access are eliminated	Less than 50% of content openly available; subscriptions and other barriers; expensive to access content; interoperability a problem for discovery; fragmented environment with proprietary services and content. TDM and legal situation difficult for advanced discovery activities.	RI develops institutional policies of open access to publication and other research outputs and processes. The policies will go hand-in-hand with training, awareness and monitoring. Additional funding will be required by funding agencies so that institutes can take this role.
<b>Maximizing usability</b>	Research contributions are readily usable and understandable by people and machines; open infrastructures are supported; broad network of public institutions oversees effective mechanisms for active stewardship and preservation of research contributions for the long term	Only a minority of articles with clear licensing conditions for reuse; inconsistencies in format prevent computational reuse, lack of semantic context; long term preservation unsolved issue	RI experiment new approaches to innovative solutions to give maximal access to research contributions; they support individual researchers to understand and comply with formats and licenses that are commensurate with maximal usability.
<b>Supporting an expanding range of contributions</b>	All research contributions are registered, certified, disseminated, preserved and evaluated on the same footing as formally-	Digital objects are mostly not FAIR; current evaluation processes do not favour the reward of a wide range of research contributions but mostly of publications; barriers are more cultural than technical	RI adhere and contribute to global change by developing practices to recognize and reward all kind of FAIR research outputs; train researchers and all

	published texts. They are FAIR and made accessible as early as possible. They are open to commenting.		staff.
<b>A distributed, open infrastructure</b>	A globally interconnected infrastructure meets researchers' needs. Elements essential for the function of the core system are in public hands, different types of services offered by various actors. No single organization has undue dominance of the SC system. Agile services, fit for purpose, open governance. Researchers actively participate in shaping tools and services and are rewarded for this.	Progress in open infrastructures; interoperability of platforms and workflows limited; fragmented systems.	RIs facilitate collaborations and network approaches to enable researchers to participate in shaping tools and services.
<b>Equity, diversity and inclusivity</b>	All have equal chances to participate in the production and use of knowledge.  Diversity in representation in scholarly infrastructures; balancing the interests of all participants against excessive dominance and consolidation	Access to and participation in the production of scientific knowledge shaped by structural inequalities at various levels. Structure of research is hierarchic and competitive; flows of information to the less	RIs promote policies and action plans to ensure equity, diversity and inclusivity, and monitoring progress. They engage in international networks focused on goals for

	<p>of power among a very few.</p> <p>Production and dissemination of knowledge is a public good.</p>	<p>privileged constrained and limited. APCs are a financial barrier that hampers communication between researchers and a problem with low-income countries and less-funded institutions and academics in wealthy countries.</p>	<p>equity, diversity and inclusivity.</p>
<p><b>Community building</b></p>	<p>Global networks of colleagues balance quest for speed with attention to integrity and reliability. Researchers collaborate widely across the world. Building and sustaining research communities and supporting communication and connectivity between different communities is recognized and rewarded as a way to enhance reliability and integrity of the scholarly process.</p>	<p>To a large extent, the digital revolution can facilitate the building of scholarly communities through tools facilitating comments and discussions, but journals as they often work nowadays do not favour this objective, and neither do most platforms in their present design.</p>	<p>RIs recognize and rewarding collaborations and interdisciplinary research – but dependent on leading role of funding agencies.</p>
<p><b>Promoting high quality research and its integrity</b></p>	<p>Certification and quality assurance rest on entirely transparent peer review procedures; such procedures are reviewed and modified according to need; peer-review is not pre-publication but post-registration. Peerreview is recognized as research contribution.</p>	<p>Peer-review and the relevant standards; concerns about how it is performed and transparency; concerns that aside from assessing the rigor of work (certification) PR is used to assess importance of work, i.e. to evaluate the work.</p>	<p>RIs recognize peer-review as research contribution when assessing researchers. They provide training and real opportunities for junior researchers to enrol in peerreview processes.</p>

<p><b>Facilitating evaluation</b></p>	<p>Evaluation encompasses the full range of research contributions, it is sensitive to requirements of different disciplines and kinds of research, employs an appropriate broad range of tools and techniques. Criteria, methodologies, benchmarks, data and metrics are transparent and fair; diverse, qualitative and quantitative; they are regularly reviewed. They are fit for purpose.</p>	<p>Pervasive effects of the dominant JIF used for evaluation; research evaluation heavily relies on metrics largely based on citation from journals, often inappropriate and not discipline-specific. This leads to skewed rankings, which point to perceived prestige rather than quality</p>	<p>This process is highly dependent on funding agencies. RIs commit to progress in policy and practice that steps away from evaluation purely supported on metrics. RIs develop policies of evaluation that recognize all kind of FAIR research outputs.</p>
<p><b>Promoting flexibility and innovation</b></p>	<p>Balance between standardization and meeting the needs of various communities achieved; regular dialogue between different research communities and specialists in designing processes and socio-technical aspects of scholarly infrastructures and with the full range of service providers and agents in Sc.</p> <p>Services revised and</p>	<p>Small number of publishers and other entities have increased their dominance in provision of content and services; lock-in and barriers to new entrants; latter often acquired; while there is innovation pace and orientation of innovations in hands of few. innovations by institutions tends to follow traditional forms of scholarly communication (books,</p>	<p>No leading role here</p>
	<p>reconfigured as a result. Regular flow of new experiments and new entrants. value and effectiveness, scalability and sustainability are tested fairly and transparently</p>	<p>journals); innovative ways of sharing practiced by few with little effect on system of SC.</p>	

<p><b>Cost-effectiveness</b></p>	<p>Costs, price settings and revenues are transparent, as well as financial flows between all parties. Clearly defined relationships between costs and kinds and levels of service provided; services are affordable to buyers; new systems and processes are significantly different from those of the pasts; they have the potential to reduce costs of core activities and services; income to support services comes from a range of sources; research funding schemes are designed to support experimentation and an enhanced range of services to meet changing needs</p>	<p>Prices continue to climb despite expectations of digital era, partly because of growing number of production but mainly because pricing of scholarly publications not related to costs of production in a clear fashion; scholarly publishing stands obliquely with regard to market forces; lack of transparency of costs enabled by exercise of control of academic publishing by few companies;</p>	<p>No leading role here. RIs contribute to shaping costeffective policies.</p>
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## 6. EUA

### MAIN LINES

The European University Association generally welcomes the vision laid out by the Expert Group on the Future of Scholarly Publishing and Scholarly Communication of the European Commission. EUA supports the objective of full Open Access (OA) and has [signed the Amsterdam Call for Action in Open Science](#). EUA's vision is that of a scholarly publishing system with "adequate and cost-effective platforms for collaborating, disseminating and using scientific publications" in OA and that is "simultaneously fair and transparent for stakeholders, in particular universities, research institutions, libraries, researchers, research funders, learned societies and commercial publishers" ([EUA Roadmap on Open Access to research publications, 2016](#)).

As explained in [Towards Full Open Access in 2020. Aims and recommendations for university leaders and National Rectors' Conferences \(2017\)](#), the Association supports both Green and Gold OA, as well as other suitable routes to OA. For EUA, "cost transparency in the scientific publishing market is a non-negotiable requirement, on the basis that it is largely financed by public funds and relies heavily on unpaid work by editors and reviewers from universities and public research" (ibid.) EUA therefore strongly supports measures and initiatives increasing transparency and sustainability and which seek "to find new, appropriate large-scale economic models that ensure the sustainability of OA through public funds to move to an open, transparent knowledge exchange environment" (ibid.). This is underlined by the findings of the [EUA Big Deal Survey 2018](#) as annual subscriptions through big deal contracts in Europe annually amount to at least 1 billion euros and increase, on average, by 3.6%. 72% of these costs are born by universities.

Furthermore, EUA recognises that funding policies play a crucial role in advancing OA, as outlined in the

Association's [response to Plan S](#). EUA [recommends](#) that "governments and research funders should [contribute] to costs incurred by institutions and researchers with OA, such as those related to infrastructures and APCs". This recommendation can be extended to supporting for innovative practices in OA publishing (such as born-digital publishing platforms or consortial funding for OA publications) and to supporting (FAIR) research data management. Political support for an open scholarly publishing and communication system at all levels is necessary.

Considering these broad lines, EUA, based on the work of the EUA Expert Group on Science 2.0/Open Science, commends the EC Expert Group on their work and provides the following feedback along the questions posed by the European Commission:

### FEEDBACK

#### ***On actors and their roles***

Universities are key players in scholarly communication due to various reasons, including: i) the intramural and collaborative production of research and research outputs (e.g. publications, data); ii) the evaluation of research outputs through researchers (e.g. peer review); iii) the acquisition of scholarly resources through university libraries; iv) the training of students and researchers; v) the assessment of researchers; vi) and the provision of infrastructure for scholarly communication



(e.g. in the form of repositories). EUA welcomes the concerted approach proposed in the report, bringing together major stakeholders and providing actionable recommendations for them. Existing good practices and policies must be considered when developing new policies or initiatives.

**Universities** can raise awareness by making information on their innovative approaches available to other actors. Promoting open source, data and standards for infrastructure and platforms is important and, if implemented, has a high potential to drive change in the current scholarly communication system. Universities need support to overcome institutional barriers to Open Access to research publications and data ([EUA Open Access Survey](#); p.28, p.36). There are deep implications for institutions, e.g. for procurement practices, and for researchers and careers within universities. Unfortunately, issues such as integrity and reproducibility are not considered in the report, though they are a key responsibility of universities and affect policies and practices on publishing.

EUA also would like to emphasise that the [review](#) on the way research is assessed must be tackled through a collaborative effort between universities, researchers, and researchers funders. The approach to the data that universities generate about research, and the exploration of more valid, reliable and open indicators based on those data, should be led by universities.<sup>9</sup> Finally, the recommendations should be more explicit about the importance of universities engaging with scholarly publishing in ways that align with their missions.

The report points to the special position of **research funders** to induce systemic change. Here, it is critical to emphasise that this change also requires a concerted approach by all relevant stakeholders. Researchers and universities themselves are well-placed to explore new and innovative approaches (e.g. in research evaluation) that are tailored to their respective, diverse needs in research assessment. Research funders and policymakers are essential to coordinate and support reforms on the national, European and global level. Research funders and policymakers should further facilitate cooperation by investing in a dialogue with universities and should indeed provide more long-term strategic support to infrastructure. (Recommendation 5 might include 'benefits' as well as 'costs'.)

The positive engagement of **researchers** in and with Open Science practices is not just an objective of the process but also a prerequisite for its success. The report recommends that researchers should have better awareness of the implications of their choices of the evaluation system as well as of their choices concerning publishing. Author retention of copyright is vital in this endeavour. In some instances, the report mentions individual practices, but these constitute only one possible approach within a larger spectrum of solutions. For example, signed, open peer reviews might be difficult for early-career researchers challenging previous scientific outcomes. There are also no recommendations explicitly addressing the challenges that arise with digitalised research, eg reproducibility (p-hacking, publication bias, etc).

Regarding other relevant actors, EUA wishes to highlight the role of **librarians**, e.g. in universities and research organisations, as key actors in scholarly communication. As intermediaries between researchers, universities and publishers, librarians have deep understanding of scholarly communication practices, including business models. Libraries also play a major role in preservation of research outputs, which could be emphasised as an important aspect of scholarly communication within the report.

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<sup>9</sup> In the UK, a set of principles for the data infrastructure underpinning research indicators is under development. This may serve as a useful example.

Finally, implementing the report's vision would have a multiplying effect beyond Europe. Yet the document gives limited attention to possible positive and negative implications for research communities elsewhere.

### ***On evaluation of Research***

The review of research evaluation and assessment systems is also about taking away the constraints placed on researchers and universities by metrics such as the Journal Impact Factor. The negative effects of such constraints are well-documented in the report, notably the pursuit of research that can be packaged in articles for high-ranking journals.

More accurate, transparent and responsible approaches should not aim at adding more indicators, but rather use dynamic and context-sensitive approaches that allow researchers and universities the freedom to pursue/manage their research interests in the way they believe is most effective. Alternative metrics may be linked with the research metrics system of each institution where deemed appropriate.

### ***On types of contributions***

Open Science and the increased use of digital tools open up a wider range of contributions and publication venues. Data-sharing and related activities (production, curation, stewardship etc) will grow in importance. Data papers are emerging as a new category of publications. Code used during research will become more available. Peer reviews and editorial work are a traditional type of contribution which could be more formally included in evaluation procedures.

EUA also calls to caution on the recommendation on the open availability of *all* research contributions. Some will never be widely available, for example when ethical or privacy concerns limit disclosure of data and other outputs. FAIR and/or open data according to community norms is preferable. Besides, interoperability of research outputs beyond data, to which the FAIR principles originally referred to, needs more elaboration. Yet it will be important to follow the concept of openness as much as possible (e.g. open standards, open source and open licences) in order to avoid keeping publications and data behind paywalls and avoid lockins and monopolistic or oligopolistic markets. As some providers already offer a wider spectrum of partially closed services (e.g. research workflows, data management, research information systems etc.), political support for open publishing systems is essential.

### ***On business models***

Currently, there is no clear dominant business model for OA publishing as it is the subscription model for traditional publishing. APCs and 'publish-and-read' agreements will likely play a major role in the years to come. Their effectiveness and sustainability is highly context-dependent, i.e. whether individual researchers, universities or consortia are able to negotiate them and/or willing to afford them. It is paramount to identify suitable business models with fair costs and minimal administrative burden on researchers, universities and research organisations. In several member states, national consortia and funding agencies have been working closely together and as a result, have successfully negotiated OA publishing agreements – in others, this has not been the case yet.

The debate on possible business models should also not ignore other publication models besides fee-based Gold OA. In some disciplines, preprints are already a well-established established and sometimes dominant means of scholarly communication. OA publishing platforms, including preprints and repositories, require sustainable funding: it is vital to continue experimenting and innovating with OA publishing models and to explore new avenues and structures, and seek to involve researchers, funders and publishers in the development of this process.

## **Possible impact & recommendations**

### **How would it affect universities?**

The implementation of the vision of the report will affect universities at different levels, as indicated previously: the review of research assessment practices needs action by institutions and policymakers, as well as researchers. The financial flows for publishing costs will demand changes in business models, administration and accounting. Making more research outputs FAIR, e.g. research data, will demand cultural change within researchers and universities and investment in underlying technical infrastructure. Changes in research funding practices will have an effect on re.

Overall, it is the role of universities to provide an environment that enables researchers to implement the vision. That environment includes policies, disciplinary cultures, infrastructure, incentives, etc. Factors influencing universities include constraints on budgets, resources, skills, and knowledge, as shown by the [EUA Open Access Survey](#).

The challenge of research assessment in an Open Science context needs a collective approach of main stakeholders.<sup>10</sup> Evaluation at the individual and institutional level must be geared towards an Open Science system, or else researchers (especially early-career researchers) and universities will be disincentivised to follow the recommendations in the report. For instance, universities aiming to attract and retain best researchers must pay attention to the criteria used elsewhere. The Association itself is already encouraging the review of the [research assessment](#) within universities and through the OSPP.

### **Recommendations for other important actions**

Actions may include funding demonstrators, pilots (e.g. on research assessment or data sharing under controlled conditions), case studies, opportunities to share good practices, cross-institution secondments, and safe spaces to share lessons from failures. In addition, more compelling evidence of the tangible benefits for researchers in adopting open practices would be very welcome. This could also include the promotion of copyright exceptions or mandates for secondary use of scientific articles. Finally, a clearer description of the role for universities in the EOSC would be helpful.

International initiatives to agree and document services in the scholarly communication market and their transaction might provide useful tools for universities. More ways also need to be found to address information asymmetry between universities and publishers in negotiations, for example by taking steps to make usage and citation data more openly available.

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<sup>10</sup> Regarding research funders, EUA highlighted in its [response to Plan S](#) the need to engage more funders in Plan S to alleviate such concerns.

## Recommendations for EC support

The EC, where acting as a research funder, should continue to establish OA publishing mandates for scholarly publications. One scalable example of supporting publishing innovation could be the [OpenAIRE calls to fund non-author fee based OA publishing initiatives](#). Universities and/or library consortia could be supported in testing new models with existing publishers, such as learned societies or university presses, and new, innovative publishers (and other relevant service providers), e.g. with dedicated calls or project opportunities. At European level, OA publishing infrastructure could be supported, e.g. OPERAS, as highlighted in the ESFRI Roadmap 2018.<sup>11</sup> Other actions could support universities to share data on diversity in evaluation, which would provide data to underpin new research indicators.

In some cases, 'big deal' contracts are subject to public tender rules. Here, legal frameworks that allow consortia in experimenting with different business models for OA publishing would be valuable. EU regulation towards the vision of the report, namely openness, accessibility, usability, infrastructures, cost effectiveness etc., has to be further explored and tested.

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<sup>11</sup> "the need of creating a robust open scholarly communication system capable of contributing to Open Science is evident as well as the opportunity to build it on existing know-how, technologies, infrastructures, business models and funding streams. Cooperation on the development of pan-European services in this field, like in the H2020funded [OPERAS-D] project, can be of high potential strategic value for promoting better accessibility and interoperability of SCI data and services." (<http://roadmap2018.esfri.eu/media/1050/roadmap18-part2.pdf>, p. 115).

## 7. EURODOC

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The following response is available online at <http://eurodoc.net/response-future-scholarly-publishing.pdf>

(1) In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.

### **Role functions of researchers in the scholarly communication system**

Researchers are the most important stakeholders in the scholarly communication system and act as scholarly content producers, reviewers, and consumers: (1) they design and do research (2) they produce and analyse data (3) they write and submit articles/books to peer review and typically amend their articles/books after peer review (4) they edit and peer review articles/books by other researchers (5) they may write summary or popular articles/books which are not submitted to peer review (6) they use the final publications in their research. Researchers are mainly involved in the scholarly communication function of (a) certification = establishing the validity of research and to a lesser extent in (b) registration = establishing the attribution of research (c) dissemination = making research accessible and visible (d) preservation = archiving research for long-term usage. We expect researchers to keep doing activities (1-6) and fulfil function (a) but to also be more active with functions (b-d) which we foresee to be increasingly facilitated by digital technology.

### **Role/functions of publishers in the scholarly communication system**

Publishers are in theory supposed to be a service provider in the scholarly communication system that facilitates the submission, editing, peer review, and end publishing of a scholarly article/book. Their role is thus to facilitate activities (3-4) and primarily fulfil function (c) although they may also fulfil functions (a, b, d) to some extent. The role and functions of the publisher may blur somewhat when the publisher is in fact itself a learned society which publishes articles/books in its specific field. The reality, unfortunately, is that the major publishers have stopped acting as service providers and have themselves become the gatekeepers of quality research whereby they have adopted function (a). This has led to the perverse use of journal impact factors, originally employed to assess the popularity of scholarly journals, to assess the quality of research and thus by extension the quality of researchers. We stress hereby that researchers conduct core publisher services at no cost to the publisher such as the editing and peer review of submitted articles/books. All of this has, unsurprisingly in a commercial setting, resulted in astronomical and non-transparent costs to access and publish research in such journals. The future role of publishers should be to return to their role of service provision and focus on function (c) whereby they should be transparent in their costs and prices and whereby researchers or their institutions should be financially rewarded for services that they carry out on behalf of the publishers.

## **Role/functions of other actors in the scholarly communication system**

Other actors in the scholarly communication system are universities and research centres, research funders and policymakers, and groups with a professional/personal interest in research. The role of universities and research centres is and should remain as facilitators of research and supporters of researchers so that researchers can efficiently and effectively carry out activities (1-6). Universities and research centres currently fulfil functions (a-d) to varying degrees, dependent on the presence and activity of their own publishing platform and institutional repository, and should take a more prominent role in these functions in the future to ensure more control and self-determination of the research cycle. The role of research funders and policymakers is and should remain as enablers of research so that researchers can efficiently and effectively carry out activities (1-6) but also as guardians of the public purse so that public money is justifiably well-spent on research. Funders and policymakers oversee and enable the fulfilment of functions (a-d) and in the future should leave universities and research centres to self-determine how functions (a-d) should be fulfilled under a framework of open principles and cost-effective spending.

## **Types of scholarly contributions and their relative significance**

The scholarly communication system is rigidly focused on the reporting of research when in reality it should also include the initial design, technical support, data management, and peer reviewing that produces the final research publication. Researchers are evaluated and rewarded mostly on the basis of publications and thus these other crucial activities remain secondary and often ignored. The scholarly communication system of the future should encompass activities from the entire research cycle whereby researchers openly and in a timely manner publish all of their research outcomes and are credited and rewarded for all of their (non-)publication research contributions: project applications and methodologies; hardware and software designs; data that is Findable, Accessible, Interoperable, and Reusable (FAIR); review reports and amendments. We understand 'data' hereby to refer to the object of research in whatever form that takes in each of the research disciplines. We see the future term 'publish' not to mean the publishing of the final version of a research report but rather the opening up of research outcomes in a broader context of Open Science.

## **Venues/paths for dissemination and their relative significance**

The rise of digital communication and the capabilities of the internet have not yet fully penetrated the scholarly communication system. Research is still being formally collected and presented in terms of the textual summary of research in the traditional printing concept of the 'journal' or 'book'. The final published summary of activity (3) has become the focal point of scholarly communication when in reality all the outcomes of activities (1-5) should be disseminated. Furthermore, not all 'good' research is allowed to be published: research that is methodologically sound is often not published as it may not be deemed excellent or innovative or even novel. This is especially true for studies showing negative results or replication studies which are crucial to science. We are thus left with an incomplete and biased record of scholarly outcomes. We need to move away from the traditional concept of the 'journal' and instead harness the technical capabilities of the internet to

create new publishing platforms that disseminate and link all related scholarly outcomes. We should be digitally publishing our project applications and methodologies, hardware and software designs, FAIRised data, review reports and amendments, and finalised articles/books. All research outcomes should be open for qualitative peer review and, once deemed methodologically sound, be published. These venues should thus not only be publishing finalised research outcomes but allow the drafting of versions which can be openly viewed and peer reviewed whereby we move from 'publishing-an-end-product' to 'publishing-a-version'. We note that we interpret 'open' to mean 'as open as possible, as closed as necessary' and that versions indeed result in an end product. We also strongly advocate for authors (and where necessary institutions) retaining full copyright on their research outcomes and grant the reuse of these outcomes under open licences such as Creative Commons (CC) Attribution (BY) while allowing exceptions for NoDerivatives (ND).

## **Business models and financial aspects of scholarly communication**

There are many business models involved in the scholarly communication system. There may be costs involved which are directly (such as editing and platform costs) or not directly (such as profit or revenue for funding society activities) related to the research publication. There may be income from directly accessing (such as subscriptions) or from publishing (such as APCs) the research publication. There may also be income that is not directly related to the research publication that could be commercial (such as advertisements on a website) or public (such as government funding). We believe strongly that scholarly research is for the public good and thus that public money should be spent in a cost-effective manner to carry out activities (1-6). We also strongly support the concept of 'full and immediate Open Access' and [have recently endorsed Plan S](#) by the consortia of national research funders known as 'cOAlition S'. We are, on the one hand, against the traditional closed model of subscription publishing that locks out many researchers and the public to accessing scholarly research and often involves high costs which are conducted via secret agreements. We are, on the other hand, also against moving definitively from a 'pay-to-access' to a 'pay-to-publish' Open Access model via APCs whereby only those authors or institutions who can pay are published and whereby popular publishers and high impact factor journals charge excessively high APCs. We strongly call for a move to publishing platforms that employ a non-author facing fee business model: neither the reader nor the author or institution should pay to read or publish scholarly research. There are already many examples of such successful business models that can involve public funding and commercial activities. We deem it crucial that the costs and pricing of such venues are transparent when public money is involved in procuring any publishing services.

## **Evaluation of research**

The current evaluation of research and researchers is inextricably connected to the brand and impact factor of the journal where researchers publish. Researchers who publish in popular brand and high impact factor journals are deemed excellent or better than those who do not. This has resulted in our current perverse 'publish or perish' scholarly culture and the gatekeeping of research quality by scholarly publishers. We envision a scholarly communication system that is facilitated by scholarly publishers and disseminates all methodologically sound research outcomes. We strongly believe that the publishing of (versions of) all research outcomes should be rewarded in the evaluation and funding of research as well as

the career progression of researchers. We have noticed the increasing competition to publish not only in popular brand and high impact factor journals but also to publish high numbers of articles/books as possible. This has resulted in high stress levels for researchers and undoubtedly leads to a risk of integrity mispractice. We call hereby for slowing down science and a more encompassing vision of scholarly publishing that disseminates and facilitates rewarding all outcomes of scholarly research. The concepts of 'impact' and 'excellence' need to be urgently revised and indicators for evaluating the impact of research outcomes should similarly be encompassing: (1) indicators measuring views and downloads (2) indicators measuring peer citations (3) indicators measuring peer comments (4) indicators measuring degrees of openness (5) indicators measuring social impact. We stress hereby that quantitative assessment via such 'alternative metrics' should not take strict precedence but instead be carefully interpreted and reasonably combined with qualitative assessment in the ultimate evaluation and rewarding of research outcomes.

(2) What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?

We note that the Expert Group consisted of a small number of selected members and question the lack of engagement with the general researcher population and researcher associations. Researchers are crucial to the development and acceptance of a change in the scholarly communication and reward system and as such should be more actively involved in such changes. We call on the European Commission to more actively involve researcher associations and researchers in the discussion and development of a better scholarly publishing system. We envision hereby more involvement in new expert groups and in public discussions and consultations at all input stages. Eurodoc is fully committed to Open Science and representing the voice of early-career researchers in ensuring a fair and equitable scholarly communication and reward system. We stress hereby that institutions must start training and supporting early-career researchers in doing Open Science as well as implementing good practices in research and career evaluation involving Open Science. Our representatives and national associations of early-career researchers across Europe welcome feedback and further discussion on Open Science and all points in this response!

Signed by Eva Hnátková [President [European Council of Doctoral Candidates and Junior Researchers \( Eurodoc\)](#)] on 13 May 2019.

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## 8. F1000

F1000 welcomes the report of the Expert Group which presents a very thorough and useful synthesis of the historical background and context for how we are where we are with scholarly communication and publishing today. We found the overarching principles (p.25) helpful. The historical perspective is important as many of the challenges we now face within scholarly communication and publishing, and scholarship, research and research evaluation more broadly, have their origins in an established model of scholarly publishing that was organised for a past age.

As the report highlights, the shift to a digital world has created a myriad of exciting opportunities for how scholarly work is shared, communicated and published. However, long established and legacy practices and systems, particularly the siloed, and often competing, ways in which the key actors currently operate to deliver the various aspects of research (funders, institutions, researchers, publishers, and others), have acted as a brake to any more wholesale and radical rethinking of what and how scholarly communication could be optimised for science for the 21<sup>st</sup> century and beyond.

The report rightly says that making use of 'the crystal ball' (p. 51) can often '*blind and not enlighten*'; however, while the report presents responsive actions to the challenges of where we are now, we do think that it would have been useful to consider where and how scholarly publishing could and should sit within a research *system* fit for the future.

A scholarly publishing system is only required at all through the existence of scholars and scholarship – as the means to support the dissemination and sharing of the results of scholarship and science; it seems like an opportune moment for the key actors and stakeholders in research to come together and consider how a scholarly communication and publishing system for the future can best serve the needs of science. Such strategic thinking could also serve to prevent any time and effort/cost that might be wasted tinkering around the edges of existing legacy processes and systems that perhaps are ripe for more radical reinvention. For example, while we endorse the recommendation in the report (p.9) that publishers need to '*foster transparency and accountability in peer review*', we believe that this is likely to be most effective if accompanied by parallel shifts in policy and practices adopted by research funders and institutions (and others) that also foster, value and therefore incentivise, more open and collaborative ways of doing science.

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In response to the specific Questions posed in the consultation:

- 1. In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree**

We support the principles outlined in the report. We should always be mindful that an optimum scholarly communication system for the future is likely to be designed,

governed and managed *collectively*; it should serve the best interests of science and society first and foremost. In making this vision reality, we think there are two things that should be considered before taking concrete steps towards many of the recommendations outlined in the report:

**(i) Consideration of a theme-based, collective action approach to some areas**

The report helpfully provides recommendations for the different actors to address many of the challenges that we know exist in scholarly communication *today* – so, for example: *how to facilitate a shift to open access (OA) publishing models; how to reduce the focus of research and research evaluation from a reliance on article-based output*. Going forward we suggest there could be greater impact if some of the issues are considered as part of a connected ecosystem for science and addressed from a more collective, and theme-based perspective, as opposed to being allocated to the specific actors separately – as examples (and related to two of the recommendations for publishers):

- How can we enable **openness and transparency in expert (peer) review** to become common practice and valued across *all* aspects of research – which would help support the drive to more openness within scholarly publishing. Could we consider how aspects of grant review might be more closely tied to publishing peer review?
- What can we do collectively to **reduce the cost of scholarly communication and publishing**? Can we move towards removing selection processes before publication to enable all research outputs to be published (reducing research waste) and to remove duplicate processes within the system between journals, and instead bring in curation after publication and peer review? Are there things that we can agree don't need to be reviewed or subject to the same scrutiny as other things? Could we bring economies to the process of getting expert input (review) into research?

Considered separately and assigned to separate actors could serve to reinforce existing silos, is likely to limit progress as many issues require collective action and does not allow for a more connected and science-led solution. Working on these issues together also helps to ensure we are bringing benefits for all and ultimately for society, as opposed to unbalanced benefits for one or more stakeholders. Such an approach would also likely significantly reduce costs in the system by removing cumbersome disconnected infrastructure leading to redundancy in effort for everyone involved, including the researchers themselves.

**(i) Deciding who should own and perform the tasks required to assure confidence, trust and usability of research**

The report importantly restates the continued relevance and importance of the specific tasks required to assure confidence, trust and usability of research insights and findings (p24): *registration, certification, dissemination, preservation*. But do these tasks/services need to be provided by publishers as we currently understand publishers to be?

The report hints that this may not be the case (p5/6): *'Digital technologies do not disrupt the(se) publishing functions, but they allow for their*

*distribution among different actors, and not just publishers (in the traditional sense of the word).*' But the report does not delve into an exploration of what alternatives – perhaps more cost effective, more transparent – might exist. For example, could the *certification* of research be performed by specific service providers (especially within an open paradigm)?

**2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?**

F1000 is a born-OA publisher. The recommendations for publishers are comprehensive and we welcome the continued pressure on non-OA publishers to make the transition to open access models of publishing as well as the recommendation for publishers to experiment with new models. It is important that we move beyond the need for big deals and that we ultimately identify better approaches to covering the costs of publication that enables full open access to all outputs in a way that is equitable across research disciplines and across global divides – and importantly, that *does not* add unnecessary cost and waste to the system. It is also important to consider how to develop models built upon a fee to publish, that are inclusive and do not create barriers or disincentives for researchers in resource-poor environments or places that do not actively support 'author pays' routes to publication.

Whilst we strongly support the importance of FAIR research data and software and leveraging open standards, we do not believe that the publishing infrastructure needs to be open source or that this is necessarily a better approach – what is crucial in our opinion is that scholarly infrastructure uses open standards and is highly interoperable with other scholarly communication systems to maximise reuse and flow of information. We also believe that there needs to be much greater support and training around data (and other kinds of research output) management. We would welcome discussion – again cross-ecosystem – around the true requirements for 'open data' and whether there can be systems of, for example, more managed access, and differential requirements for 'expert' review around different types of data. It is important that policies designed to encourage more open and collaborative science are implemented properly, supported properly and do not create additional burden and unintended consequences to the detriment of science (and researcher careers). In any new policy, proportionality is key.

We support the experimentation of new approaches to the evaluation and communication of research outputs. As noted above for data, we believe that many types of research outputs warrant alternative types of expert ('peer') review, either by different groups, or through different processes which could include checklists in some instances, or indeed some outputs may not warrant peer review. We think it is important to engage many parties in such discussion as currently most outputs are not considered of true value until they are peer reviewed – this requires researchers, publishers, funders, research institutions and indeed bibliographic indexers (where inclusion of content is often used as a proxy for whether an output has value) to come together and agree controlled experiments in specific areas.

It is important that experiments to provide new ways for researchers to communicate their results are recognised and sanctioned by those evaluating the research and researchers such that there is encouragement and certainly no deterrent for researchers wishing to share their research outside of established channels and outlets. Researchers need to be provided with an environment and tools to enable them to share all types of research findings, regardless of perceived importance.

This includes ensuring adequate recognition for a much broader set of outputs and contributions, as well as ensuring availability and access to platforms that provide a

venue for the sharing and publication of such outputs. Although the report suggests that researchers and research communities need to increase recognition of peer review work, in reality this is hard for them to influence. Peer review activity needs to be recognised by those who have some influence on a researcher's career and/or funding.

We also strongly support the need for better transparency and accountability in peer review. Publishing peer review reports and author responses will go some way to this, but we think to genuinely bring accountability, the names of the peer reviewers also need to be published alongside the reports. Alongside this, there need to be better policies and supporting systems in place at universities, research institutions and research funders to tackle any evidence of adverse consequences by researchers on others who publicly critique their work in a constructive manner, to tackle the commonly cited fear of retribution from a negative signed peer review. New discoveries and knowledge are founded upon the ability to have open and constructive discussion around new ideas, and it is therefore crucial that such an open environment is fostered that is conducive to such debate, critique and discussion.

The points about publishers supporting '*diversity among authors, reviewers and editors*' and '*support transparency and accountability in peer review*' is important for publishers. However, if there is insufficient diversity and transparency in the system as a whole, it is hard for publishers in isolation to make a difference. We would expect to see diversity in research and transparency in expert (peer) review as issues that need to be addressed throughout the science funding and recruitment processes – and listed as recommendations for the other actors in this report (*we note that diversity is included as a recommendation for other actors but addressing the culture around 'openness and transparency' in review less so*). As we, among many publishers, are actively working to ensure appropriate diversity among our authors and reviewers, it would be helpful to work cross-ecosystem to develop collective standards around how best to capture and describe diversity information (and in a GDPR compliant way) to ensure that we all track and monitor properly.

Finally, to help the recommendations and the report stand the best chance of making a difference, there are a series of things that could be put in place (by the EC?):

- (i) **Bundling themes for collective action** – as noted, it would be good to explore whether some themes could be bundled for a collective approach, for example, concerted effort around the need for shifting the culture around transparent expert (peer) review.
- (ii) **Identification where other groups are working on the issues** – it would be good to make sure that these recommendations (and any associated actions) complement and support any work being done on similar themes or issues elsewhere (e.g. the work on OA and transition models being led by cOALition S; the work on encouraging a more holistic approach to research and researcher evaluation being led by DORA or the OSPP Indicators group).
- (iii) **Prioritisation & keep it manageable** – the report is necessarily thorough, but it would be good to consider which of the recommendations and for which actors are both tractable and easier to deliver and/or higher priority at this time.
- (iv) **Timeframes & leads** – identifying a lead/s for specific priority recommendations and a timeframe within which progress should be made would be very useful.
- (v) **Follow up** – to avoid the report sitting in splendid isolation, could there be a task force set up to monitor progress and evolve requirements over time, and to help set milestones?

## 9. GYA

The **Global Young Academy** (GYA) gives a voice to young researchers, bringing a unique global, interdisciplinary, and inclusive perspective guided by evidence and reason to produce a sustainable vision for the future.

The **Global Young Academy** is an academy of 200 early- to mid-career researchers, carefully selected for research excellence as well as the impact and significance of their work for society, and it channels the energy and inspiration of a new generation of science leaders. The GYA has a strong presence on six continents with a global impact on science and society.

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### **Global Young Academy response to the consultation on the Report *The Future of Scholarly Publishing and Scholarly Communication***

Answer to question 1: **"In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree."**

- *Vision of an ideal state of scholarly communication:*

We would like to see no fees to publish for authors and no fees to read immediately for readers. In this model, publishers would receive funding directly from research agencies and research institutions through a transparent pricing system. We recognise that in many research areas, a sustainable model for scholarly publication will incur some charges, e.g. for the long-term archival on a platform. Any business model for scholarly publication should have primary design criteria to support good Open Science and not set wrong incentives.

We also welcome the role of peer-review to guarantee quality of publications, and foster the use of open peer review where feasible; and promote fair recognition for authors' contributions and reviewers' work. We endorse the desire, expressed in the report, to highlight the quality of work over the specific venues of publication.

There is no generally valid approach to evaluation, it always needs to relate to a specific set of goals, and the purpose of institutions and roles within can widely differ. Moreover, the strength of a team arises from complementary skills and expertise, while evaluation metrics tend to focus solely on individuals, and foster a monoculture rather than diversity. Neglecting the interaction of individuals within teams and how they make valuable contributions is one of the most important shortcomings of current common practice of research evaluation. Another is lack of transparency and widely varying standards even in the same discipline across research organisations.

The key function of peer review is to examine the rigour and novelty of the work; trying to conflate this with its relevance or importance gives rise to many problems. Some journals tend to favour spectacular findings over rigorous research, and researchers are incentivised to deliver the former. Rigour and an assessment of outcomes need to be separated clearly. In particular, peer review needs to assess whether:

- the adopted methodology is adequate,
- conclusions are justified and supported by the presented data,
- results are presented accurately and in sufficient detail.

In fact, peer review provides a meaningful qualitative assessment and should not be hidden, nor should the content and the effort put into proper peer-review. Any reader would profit far more from published review reports than from a binary accept/reject decision and everyone submitting a solid peer-review would benefit from some kind of recognition for their work for the system that is essential to advancing human knowledge. A key reason for the widespread failure of peer review is that good review requires time and effort, and the flood of publications arising from pressure to publish more` has an adverse effect (as does the lack of recognition of peer-review work). An efficient system of scholarly publication needs to focus on quality rather than quantity, and rather than more publications, we need higher-quality publications.

Author-pays-charge models can be expected to be seriously damaging to scholarly research (cost, quality, fairness, etc.). They discriminate against authors lacking access to funds and makes authors vulnerable to control within institutional hierarchies. Moreover, though the effect may not be so vivid in stronger research ecosystems like Europe, the rise APC-driven open access our colleagues in the developing world report a flood of predatory journals that are playing havoc with research quality and integrity in those countries. Less experienced researchers are often fooled while unscrupulous academics intentionally take advantage of these. In many institutions too many faculty members have already published in these venues for someone in the administration or policy rung to start to reverse the tide.

Freedom to read must not come at the cost of freedom to publish. Actors need to pull together to support publications venues that provide dual-open access (for both readers and authors) and long-term stability. Among the many ways forward, more green open access in the model of arxiv [et al.] and wherever possible consortia like SCOAP3 that use existing funds to “sponsor” open access should be taken as serious examples for wider replication. However, in terms of funding models, it is important not to impose, rather to guide an evolution, allowing subtle differences between communication modes in different subject areas to be accommodated.

The key question is how to get communication back into scholarly publishing rather than abusing it as a means of research evaluation and prestige indicator. This is a key systemic issue given that research can only unfold its value to society once it has been communicated well (e.g. all details to repeat study, needed references, etc.) and can be taken further by others. There are currently no guiding principles for research articles that would correspond to the FAIR principles for research data. These would need to be developed and ideally put under an overarching set of principles to aid adoption (and reduce confusion). “Open Debate” is to be a core ingredient of “Open Science”. Artificial intelligence can be a support tool (both for helping in the creation of new results and its evaluation in the peer-review), but one should never be allowed to delegate responsibility for decisions over quality of research outputs to algorithms.

- *Role of Young Researchers in the future system:*

We see our community as key-steward in the design, monitoring and steering of publication along with the other key actors and independent of their senior colleagues. ECRs need to be equal partners to other key actors like funding agencies. Young researchers are among the primary challengers of existing models of publication, though they now stand to be most damaged by the mismatch between innovative publication avenues and traditional ones. They have invented new models of scholarly communications, such as preprints; and can act as role models for the next generation of researchers.

Answer to question 2.: **"What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?"**

Generally, we endorse the suggestions put forward in the OSPP-REC document of 2018.

Policies should set out a flexible and supportive framework in which innovative solutions can emerge. Researchers have repeatedly demonstrated their creativity and know-how in developing technology for implementing new models for research communication. Emerging communities can in particular set the scene for new trends. ECRs can and should be in the forefront of innovation and experimentation with novel ideas in this area. However, scholarly communication has been taken hostage by research evaluation, and this in particular stands in the way of adopting new approaches of making use of technology. In particular, we are currently trapped into a model of countable outputs, which as has been pointed out by the recent high-level expert reports, is inadequate and damaging to research.

More important than providing new incentives is to stop prevalent incentives that are counterproductive to effective scholarly communication. Researchers should be supported in disengaging with the competition for publications and citations, and in transitioning to a quality-first research ecosystem. Engaging with PhD students on the future of scholarly research could prove particularly effective, and providing them with appropriately trained mentors could provide them with a wider range of options/views than their own supervisor(s). All too frequently, they are pushed into bad practice by more senior researchers. With its funding instruments, the EC should follow the Wellcome Trust in requiring commitment of institutions to good practices of research assessment, as e.g. laid out in the San Francisco Declaration on Research Assessment or the Leiden Manifesto. These should also be made mandatory for receiving public grants.

*Response authored by Martin Dominik, Moritz Riede, Abdullah Shams Bin Tariq, Koen Vermeir and Sabina Leonelli on behalf of the GYA, 29 March 2019.*

## 10.MCAA

### About the Marie Curie Alumni Association

The [Marie Curie Alumni Association](#) is a global network with [over 13,500+ members](#) open to any past or present researchers supported by the [Marie Skłodowska-Curie Actions](#) (MSCA). MSCA is one of the European Union's flagship training initiatives and provides research grants supporting researcher's international and intersectoral mobility at all stages of their careers, across all disciplines. MSCA fellowships are among Europe's most prestigious awards, aimed to support the best and most promising researchers.

### Contact

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<https://creativecommons.org/licenses/by/4.0/> The final version of this document  
will be made available on the MCAA Zenodo repository:  
<https://zenodo.org/communities/mcaa/>*

### RECOMMENDATIONS FROM THE MARIE CURIE ALUMNI ASSOCIATION

The [Marie Curie Alumni Association](#) (MCAA) supports the advancement of knowledge and is a strong advocate for changing the current system of scholarly publishing. In this context, we encourage the initiative of the European Commission to actively engage the community to develop their view on the future of scholarly publishing, and research(er) evaluation in relation to this.

The following response is available online at <https://doi.org/10.5281/zenodo.3246728>

### Summary

Overall, the MCAA position aligns well with the European Commission Expert Group report "*Future of scholarly publishing and scholarly communication*" (DOI: [10.2777/83653](https://doi.org/10.2777/83653) [2](#)) and we therefore welcome the reports' main conclusions and recommendations. As the MCAA is an association based around researchers, we take a researcher-centric perspective and provide a set of recommendations to ensure that researchers are sufficiently consulted on proposed process changes, and that such changes are operationalized in a way that causes minimal additional workload and maximum benefit to researchers;



- The MCAA agrees that researchers should be at the center of any future scholarly publishing system and call on the European Commission to more actively involve researchers and researcher associations in discussions around the future of scholarly publishing.
- The MCAA agrees that the long-term vision of scholarly publishing should be based around a distributed, open infrastructure with the guiding principles of equity, diversity and inclusivity.
  - This can be operationalized using open access publishing models where there are no author-facing fees, nor reader-facing fees (i.e. open access without barriers).
  - Publishers not yet aligned with barrier-free open access should present their strategy and roadmap for how they will contribute to a distributed, open infrastructure with the guiding principles of equity, diversity and inclusivity. They can take inspiration from publishers and journals that already use such barrier-free open access models.
  - Research institutions and funders should explore how they can best support such infrastructure, and present a strategy and roadmap for how current publishing funds will be reallocated to support a distributed and open infrastructure.
  - All functions or processes should be made as seamless and integrated for researchers as possible, and should not add significantly to their workloads.
- Support should be given to open technologies promoting and deploying the machine readability of scholarly information (data/metadata, text, images, etc.), to build automated, novel and forward thinking knowledge sharing and communication services.
- The MCAA agrees that the future of scholarly publishing should be based around open licenses for research outputs to facilitate reuse and innovation both within and outside the research community. This can be facilitated by a European amendment to copyright law similarly to the Dutch example<sup>12</sup>.
- The MCAA agrees that the research evaluation system should be modernized. We strongly encourage all actors to modernize their procedures based on existing good practices, which have been deployed by several research institutions, funders, and scholarly societies already, and to engage their research communities to establish what works for them.
- The MCAA emphasises that substantial support and resources will be needed to drive culture change, to raise the skill level in the research community

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<sup>12</sup> Article 25fa of Dutch Copyright Act/law;  
<https://www.openaccess.nl/en/events/amendment-to-copyright-act> ; several additional copyright open access amendments also exist in other European nations:  
<https://docs.google.com/spreadsheets/d/1T1ki63e37NEUETL4jF6xPLBucBUoqjgTCfXIyJBdsM0/edit#gid=0>

around open science, and to integrate open science as a standard part in existing workflows.

### Background and additional information

#### **Researchers at the centre**

We note that the Expert Group consisted of a small number of selected members, and that no researcher associations, nor scientists who are working on prototypes of new publishing infrastructure, were involved. Researchers are crucial to the development (conceptual, technical and procedural) and uptake of changes in the scholarly communication and reward system, and as such should be more actively involved in processes which will result in a changing research landscape. It is especially important to ensure early involvement of early-career researchers and associations representing early-career researchers in discussions around the future of research, as these researchers will be disproportionately affected compared to researchers at a later career stage. Therefore, **we call on the European Commission to more actively involve researcher associations and researchers in discussions around the future of scholarly communication.**

The Expert Group report correctly identifies many of the tensions that exist in the current system. This includes the duality researchers face between collaborative research (which much modern research inherently is) and competitive research evaluation (e.g. in the form of journal rankings). We agree with the report that **researchers should be at the center of any well-functioning scholarly publishing system** and that in the current system a small number of publishers and other entities have increased their dominance in the provision of content and services which has created lock-in effects and barriers which are detrimental to the research community as a whole.

#### **A distributed, open infrastructure**

The report correctly identifies “a distributed, open infrastructure” using the guiding principles of “equity, diversity and inclusivity” as the desired path forward. We and others have repeatedly stated<sup>13</sup> the importance of **focusing the long-term future of scholarly communication around publishing models where there are no author-facing fees or reader-facing fees**. These models are sometimes called “green”, “diamond” and “platinum” open access publishing (we largely refrain from these labels as different actors use different definitions for these terms which may cause confusion). Discussions are ongoing within the MCAA and in the broader community around alternative models that do not rely on traditional publishing methods. We propose to provide further input once such discussions have led to tangible policy recommendations.

To operationalize an open infrastructure, in whichever form, resources to support this can be secured and negotiated by research institutions and funders directly from service providers such as publishers. The research communities that are employed at those institutions, the researchers who are funded by those funders, and contributors and beneficiaries of research more generally, should be consulted during this process. In the long-term, neither ‘pay-to-read’, nor ‘pay-to-publish’ models are desirable and indeed one of the challenges ahead is to identify feasible alternative models that fall in neither category. Accomplishing this would remove much of the inequality and exclusion created by current subscription-based models

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<sup>13</sup> E.g. <https://zenodo.org/record/1465451> and <https://zenodo.org/record/2551438> and <https://medium.com/marie-curie-alumni/towards-open-science-514238927824>

and so-called “article processing charge”-based models and enable us to move towards a scholarly communication system based around equity, diversity and inclusivity.

MCAA strongly recommends further engagement with researcher communities and initiatives promoting and deploying digital, information systems based around open and decentralized scholarly communication. Initiatives like the Open Research Knowledge Graph<sup>3</sup>, or the Open Knowledge Network<sup>4</sup> are gaining momentum and showing potential alternatives for existing scholarly publication routines. One critical component of these approaches is that they facilitate machine understanding and processing of scientific outputs (e.g. text, data/metadata, images), and use machine learning and artificial intelligence methods to create knowledge networks/graphs in order to exploit semantically connected scholarly information. This notion may bring enormous positive changes in the way we communicate research: e.g, services like facilitated and automated information gathering, search and literature review, data curation, real-time visualisation of academic concepts, and automatic notification of new research developments. These emerging types of services could support the transparent communication of scholarly activities throughout the complete research process lifecycle, which is not the case in the current publication mechanism. This big data driven technology is also being developed by commercial publishers, like Pure by Elsevier<sup>5</sup>. If commercial initiatives get ahead of community initiatives and creates new barriers and lock-in effects then this would be detrimental to the whole research community. **All supported ‘big data’ efforts (including commercial ones) must embrace transparency and inclusivity and deploy solutions built around open source.**

We note that **a variety of publishing models, publishers and journals already exist based around open access without any barriers.** Examples include the (at least) over two dozen publishers with hundreds of journals that allow zero-embargo self-archived (“green”) open access<sup>6</sup>, the 45+ journals that are part of the Free Journal Network<sup>7</sup>, and the Open Library of Humanities<sup>8</sup>. In addition, we also note the recent *São Paulo Statement on Open Access*<sup>9</sup> which showcases the increasing global alignment around open access, which we welcome. We encourage publishers who are not yet aligned

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<sup>34</sup> <http://orkg.org>

[https://www.nitrd.gov/nitrdgroups/index.php?title=Open\\_Knowledge\\_Network](https://www.nitrd.gov/nitrdgroups/index.php?title=Open_Knowledge_Network)

<sup>56</sup> <https://www.elsevier.com/solutions/pure>

[https://docs.google.com/spreadsheets/d/1n9NO5KZr3s7SXySq6y50\\_l-7X8Dax7mExSHQhMfvZEc/edit?usp=share\\_in7\\_g](https://docs.google.com/spreadsheets/d/1n9NO5KZr3s7SXySq6y50_l-7X8Dax7mExSHQhMfvZEc/edit?usp=share_in7_g) ; not all of the journals listed here have clarified which open licenses they allow. <https://freejournals.org/>

<sup>89</sup> <https://www.openlibhums.org/>

<https://www.coalition-s.org/sao-paulo-statement-on-open-access/>

with barrier-free open access to state their roadmap towards contributing to a distributed and open publishing system based on equity, diversity and inclusivity. This could include engaging with publishers who already practice barrier-free open access to learn existing good practices. We encourage research institutions and funders to explore how they can best support such infrastructure, and **develop a strategy and roadmap for how funds, used to support the current**

**publishing system, can be reallocated to support a distributed, open infrastructure based around equity, diversity and inclusivity.**

Regarding the “four functions” of scholarly communication discussed in the Expert Group report: registration (attribution), certification (peer review), dissemination (distribution and access), and preservation (permanent archiving). From a researcher-perspective, active researchers should continue to be integral to the peer review process. **All functions or processes, including the peer review process, should be made as seamless and integrated for researchers as possible, and should not add significantly to their workloads.** Similarly, a well-functioning research dissemination infrastructure should also be seamless for authors and readers of research, so that they can focus all their efforts on engaging with the research.

## **Open licenses to facilitate reuse and innovation**

One example where process integration is discussed is in the area of copyright and licenses in relation to research. The MCAA is engaged with developing and distributing tools and information to raise the understanding around this topic (e.g., we have members engaged with FOSTER<sup>10</sup> and the Open Science MOOC<sup>11</sup>). While a general literacy around copyright and licenses is important for the research community, researchers should not have to be experts on licensing to navigate scholarly publishing. We have recently advocated<sup>12</sup> that **the copyright of research should stay with the original copyright holder** and, for example, not be transferred to publishers. Additionally, **open licenses should be the default option for research outputs.** We are encouraged that the Expert Group report is in alignment with these positions.

To operationalize copyright retention by researchers and facilitate the use of open licenses, we note the **successful amendment of the Dutch Copyright Act with the “Taverne amendment”**<sup>13</sup>. This law protects the rights of researchers in the Netherlands so they no longer need to reserve their rights during negotiations with publishers to make their research results available worldwide through open access. Researchers instead automatically hold and retain an unwaivable right to their research following this amendment to the copyright law. We note that **if European copyright law was amended following this example, researchers’ rights would be protected and much of the uncertainty surrounding copyright and licenses in research today would be removed.** This would greatly facilitate the participation of researchers towards the full implementation of open science as well as the reuse of research outputs. It therefore would also enable new innovations in how the research community and the broader community engages with research, and accelerate knowledge transfer to decision makers, charities and the private sector.

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<sup>10</sup>11 <https://www.fosteropenscience.eu/>

<https://opensciencemooc.eu>

<sup>12</sup>13 <https://zenodo.org/record/1465451> and <https://zenodo.org/record/2551438>

Article 25fa of Dutch Copyright Act/law;  
<https://www.openaccess.nl/en/events/amendment-to-copyright-act>

## A modern evaluation system that rewards open science

Regarding the evaluation of researchers, **research(ers)Assessment (DORA)** in line with guidelines such as the Leiden Manifesto<sup>15</sup> and the OS-CAM matrix**we strongly support modernizing the evaluation of** <sup>16</sup>, as we have stated previously.<sup>14</sup> The Declaration on Research<sup>17</sup> DORA maintains a collection of good practices for research funders<sup>18</sup>, research institutes<sup>19</sup>, and professional societies<sup>20</sup>, and **we encourage all actors to start today to modernize their procedures to include existing good practices**. Moving forward, funders, institutes and societies should work closely together with their research communities to evolve best practices suitable for their mission.

### Support and resources to drive research culture change

In the medium to long term, substantial efforts are needed to help drive and anchor research culture change. **To achieve lasting change, researchers need continuous support and resources to adopt and implement good practices in open science**. This includes raising the overall understanding around open science in the research community, as well as providing tools and resources. Service providers (such as publishers) can develop and provide open and cost-effective tools, while researcher communities (such as scholarly societies and researcher networks), research funders and research institutes can facilitate the development and dissemination of good practices and training. For example, the MCAA and MCAA members are actively engaging in this area on a wide front (e.g. events, webinars, tools, training resources).

### Suggested further reading

Over the last two years the MCAA has participated in and organized several events and published several statements related to the future of scholarly publishing. These include (note that this is not an exhaustive list):

- MCAA statement: "*The Future of European Research Funding*", <https://zenodo.org/record/1465457>
- MCAA statement: "*The Marie Curie Alumni Association announces its support for Plan S*", <https://zenodo.org/record/1465453>
- MCAA statement: "*Joint Statement on Open Access for Researchers via Plan S*", <https://zenodo.org/record/1465451>
- MCAA statement: "*Joint Statement on Implementation Guidance for Plan S*", <https://zenodo.org/record/2551438>

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<sup>14</sup><sup>15</sup> <http://www.leidenmanifesto.org/>

<https://sfdora.org>

<sup>16</sup><sup>17</sup> [https://ec.europa.eu/research/openscience/pdf/os\\_rewards\\_wgreport\\_final.pdf](https://ec.europa.eu/research/openscience/pdf/os_rewards_wgreport_final.pdf)

E.g. <https://zenodo.org/record/1465457> and <https://zenodo.org/record/1465451> and <https://zenodo.org/record/2551438>

<sup>18</sup>19

<https://sfdora.org/good-practices/funders/>

<https://sfdora.org/good-practices/research-institutes/>

<sup>20</sup> <https://sfdora.org/good-practices/professional-societies/>

- MCAA blog post: "The future is Open Science!" <https://medium.com/marie-curie-alumni/the-future-is-open-science-dd9484463be6>
- MCAA session at ESOF 2018 (July 12, 2018): "Open science: from concept to implementation", <https://medium.com/marie-curie-alumni/mcaa-esof2018-d01883128c06>
- MCAA participation in panel debate with Elsevier, Eurodoc and Young Academy of Europe on "How Researchers & Publishers Can Collaborate In The Move Towards Open Science", <https://medium.com/marie-curie-alumni/towards-open-science-514238927824> ● Sessions at the MCAA General Assembly & Annual Conference: <https://medium.com/marie-curie-alumni/live-from-the-mcaa-general-assembly-annual-conferenc-e-e756e7b9dfd0>
- Articles in IRRADIUM magazine (MCAA member magazine), including "The upcoming revolution of Open Science", January 2019 issue.
- MCAA collaboration and MCAA member participation in the EU-project NewhoRRizon: <https://newhorizon.eu/>
- MCAA webinar: "Open Science Clinique: Winning Marie Curie with Open Science", <https://www.youtube.com/watch?v=xZzUX9CajNk>
- MCAA webinar: "What does Open Science really mean?", [https://www.youtube.com/watch?v=u05E-sl\\_40A](https://www.youtube.com/watch?v=u05E-sl_40A)

## **11.OASPA**

The following response is available online at <https://oaspa.org/oaspa-response-european-commission-expert-group-report/>

The vision of the Open Access Scholarly Publishers Association (OASPA) is very much aligned with that of the Expert Group, particularly with regard to maximising accessibility and usability, while focusing on high quality practice and outputs that preserve the integrity of scholarship. We also value flexibility and the ability to adapt, and we promote innovation while ensuring cost effectiveness. These factors are woven into the mission and values of OASPA.

Setting standards and promoting best practice is a core part of OASPA's work which extends far beyond our membership and sees us collaborating with allied groups within scholarly communication. We already require members to include clear information on copyright and licensing for reuse. We regularly review our policies, adding archiving as a requirement recently, for example. Much more work, however, needs to be done with regards to promoting the benefits of open licenses and open research to the scholarly community.

Academics are under immense pressure. While funders have a key role to play in rewarding behavioural change, many scholars do not receive project grants from funders and the hugely important role of institutions in supporting the necessary capacity building to enable cultural change is not given enough emphasis in the Expert Group report. We appreciate that policy mandates from funders or governments achieve a higher level of compliance than no mandates, but they are not enough on their own to change the mindsets required of all actors in the system if open research practices are to be embedded in the long term as the cultural norm. It is not only institutions that have a key role but other parts of the Academy, such as scholarly societies, who must also advocate for and champion the changes to practice.

At the crux of it all, then, lies the system of academic evaluation which OASPA also sees as a key barrier to both open access and open scholarship. This is something which affects all actors - but which those working towards open access publishing, open infrastructure and related support services are less able to influence directly. Policies and research practices of funders and institutions need to undergo significant change if open research practices and an open system of scholarly communication is to be realised. Scholars lie at the heart of the system and the burden of responsibility to change has largely rested with them, but they do not have the appropriate support, resources and incentives to change.

Preserving the integrity of research, such as through peer review, is often under the stewardship of publishers. Independent peer review is integral to OASPA's membership criteria. We support the exploration of new models (such as transparent peer review and post-publication review) but as the burden on academics continues to grow it is increasingly important for institutions to recognise and reward this contribution to scholarly communications.

Pricing transparency is also a core value and it is a requirement for our members to be clear about the services provided. Cost transparency, as articulated by the expert group, is unlikely to lead to a more transparent competitive market because publishing operations differ so substantially. Costs incurred at a large commercial mixed-model publisher, which may include

different types of businesses that cross-subsidise each other, are not directly comparable to the costs of a smaller independent scholarly-led operation. Price transparency of the services provided will be more effective both as a political instrument and to help fuel competition, for example without non-disclosure deals - a recommendation in the EG report that we support.

We do agree though that cost-effective means of publishing at scale should be explored and, where possible, implemented in conjunction with funding mechanisms to support new systems into the future. OASPA supports a variety of business models and does not favour any in particular. The APC model of OA publishing is not the only model and we certainly do not want APCs to be a barrier to publication. We are very much aware of the potential inequity this business model creates, such as that between disciplines or between different geographical regions. Our vision is for a diverse, vibrant and equitable ecosystem that also promotes innovation and competition, one in which scholarly publishers play a valuable role as service providers. The nature of publishing is changing as, indeed, is its definition and the function of publishers.

We agree there is no good argument for maintaining the status quo. In a world of global collaboration and increasing digitalisation, the key actors are tied together in an ever-changing landscape of scholarly research, academic career progression and the need to share findings and evaluate those of others. Outputs are varied and will become increasingly diverse. Some disciplines and communities of practice, such as those for the arts, humanities and social sciences, need extra attention if we are to include them in our shared vision for the future.

The OASPA community encompasses publishers of all types, sizes and disciplines, together with essential supporting services and infrastructure, and hence is a broad community with a shared vision of moving towards an open access future and the associated benefits it offers to both scholarship and society. To ensure a thriving ecosystem, OASPA fosters productive and open collaboration between its members, as well as that with key external actors who depend on the inter-connected network of scholarly communication across the world. All the actors in the current system need to adapt to the changing needs of scholarship in a digital age and this will require active engagement and coordination towards a common goal. The report from the Expert Group provides a valuable outline of the essential characteristics of such a common goal, and one that we feel could be broadly agreed on.

Claire Redhead  
Executive Director, OASPA

Catriona MacCallum  
Director of Open Science, Hindawi  
OSPP Representative for OASPA

*May 2019*



## 12.OPENAIRE

1. **In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.**

OpenAIRE generally agrees with the vision of the report "Future of Scholarly Publishing and Scholarly Communication", and the suggested principles for scholarly communication are well aligned with OpenAIRE's [work, objectives and vision](#). OpenAIRE shares the vision, of a distributed, globally networked infrastructure for scholarly communication of all types of research contributions, based on repositories and other publishing systems and platforms, directed and sustained by research institutions and research communities, on top of which layers of value added services will be deployed, thereby transforming the system, making it more research-centric, open to and supportive of innovation, while also collectively managed by the scholarly community. Distributed networks are more sustainable and at less risk to monopolisation or failure. Platform holders take responsibility over their content, which tends to get lost in a centralised, unwieldy infrastructure. Different disciplines, institutions and regions have unique and particular needs and contexts (e.g diverse language, policies and priorities). A distributed infrastructural network will aim to reflect and be responsive to those different needs and contexts. This view increases safeguarding the quality of research outputs and their metadata. Moreover, research in the digital age is becoming more collaborative and research outputs more heterogeneous. Quality assurance and distribution of control is crucial.

Openly sharing research results should be the core of the service framework, controlled by and responsive to the scholarly community.

This system should be user-centred by design. A system where it is easy and natural to engage with users where they are and where tools are integrated into the community-specific environments and systems where users are already engaged.

In view of evaluation of research, the scholarly ecosystem should be able to give a more holistic view on research's activities, reflecting an open science perspective which cannot be publication-centric as it is today. Scientific products for reproducible digital science today include data, software, literature, experiments, are supported by scientific services, and give opportunities to implement automated publishing, fully-fledged review processes, effective re-use of scientific output, and complete scientific reward.

An ideal scholarly ecosystem consists of a distributed network of big and small repositories, publishing platforms and similar services on the one hand, and diverse services using the contents on the other. These platforms manage and preserve research output, describe research outputs for the purpose of citation and re-use, link them and enrich them in order for other to reuse the information. Discovery services can be built on top, by providing aggregation services for discovery, reuse, monitor, and evaluation at the discipline or cross-discipline level. Metadata and links are key to implement discovery services, citation services, and provide quality measures. Key for Open Science in this context, is the curation and

quality of metadata, as well as its availability as open access. Similarly, Open Access of full-texts (and research product payloads) becomes key to fully bring back research results and evaluation of science in the hands of researchers.

**2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?**

OpenAIRE unites scholarly communication infrastructure in Europe, and beyond, as a vital part of the European Open Science Cloud. After years of working together, the network has proven its ability to collaborate, despite the sometimes seemingly differing views or practices. The OpenAIRE network of [National Open Access Desks](#) aligns on policies, procedures and technologies. OpenAIRE collects, enriches, infers and re-embellishes research outputs, thus adding value to the output and making them available for reuse. OpenAIRE provides services such as dissemination, metrics and monitoring, but many more can be added.

We look upon the EC to keep up their endeavours to support an open, transparent scholarly infrastructure

Developments in funder policies are crucial. Plan S will redesign the criteria of scholarly communication. Strong cooperation between the policy makers and the infrastructure will be the deciding element in handling the redesigned landscape. Funders and research performing organisations need to unite with researchers to keep control over the research cycle.

OpenAIRE provides aggregation services collecting metadata and links from 10,000+ data sources hosting scientific products ranging from data, software, literature to other kinds of products. The resulting Research Graph links research products in between each other and with projects of 20+ national and international funders. On top of this graph, OpenAIRE supports monitoring dashboard services providing tools for discovery, statistics and scientific trends for different stakeholders: funders, institutions (under construction), research communities and projects. For example, funders can explore the OA trends w.r.t. publications and data at the level of projects, funding streams or overall; they can monitor co-funding trends with other funders, or identify where scientists tend to store their research outcomes.

Inge Van Nieuwerburgh on behalf of the OpenAIRE consortium

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## 13.OPERAS

**QUESTION 1. In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.**

### **The importance of infrastructures in the future of scholarly publishing**

First of all, it must be noted that OPERAS, as an infrastructure dedicated to open scholarly communication in SSH falls into neither of the categories of stakeholders the report mentions in its recommendations. It means that the landscape of scholarly publishing envisioned by the report is far from being complete and has several blind spots, focusing on the "visible" part of the ecosystem (publishers, researchers, funders) and forgets the invisible part for the end-user, e.g, the infrastructure, composed of a collection of service providers of different sorts more or less interoperable. In that range of actors somehow ignored as subjects (but treated as objects) by the report, are the publishing platforms that play nowadays a crucial role in the structuration of the scholarly publishing landscape. The publishing platforms are usually ignored because they are invisible to the researchers who concentrate on the content of what they read, and they are treated as a commodity by publishers. We strongly believe that if a thing such as an "ideal state of scholarly communication" exists or could be sought for, it should be conceived as an ecosystem, a sort of collective brain producing a collective knowledge in which each part is connected to each other and contributes to the whole with its own specificity. The infrastructure implements the design of the ecosystem : it enables or curtails certain connections, certain workflows and outputs, it enforces the principles that are more or less adopted across the ecosystem. In that domain as in others, "code is law".

Therefore, here are the principles we would want the "ideal state of scholarly communication" reflect in the future :

### **Support bibliodiversity**

An ideal state of scholarly communication would take into account the specificities of each discipline - some issues are not the same - without neglecting collaborations. Scholarly communication should be fine-tuned to the discipline-specific scholarly outputs (addressed in more detail below), yet, it should also take into account outputs of inter-, trans-, or cross-disciplinary collaboration. The openness towards such forms, e.g. software as an output of collaboration of SSH and ICT scholars in all groups of authors is a key factor to encourage a fruitful exchange between disciplines.

It would also take into account the different types of scholarly communications, especially monographs which are particularly important in SSH. This also include improving the status of various kinds of scholarly outputs, which are currently treated as marginal or auxiliary for research. First of all, established forms of scientific writing, as journal articles or monographs, have been remediated in the digital environment into multimedia monographs (so called extended publications), or scientific blogs. Similarly, critical editions of sources (incl. scholarly editions of literary works) are often considered less valuable than monographs, what discourages scholars from publishing important resources that could stimulate further studies, while boosting multilingualism and bibliodiversity.

## **Reconcile data and publications**

It would also build bridges between data and publications, especially to address the whole research circle. In fact, many genres considered auxiliary are valid research contributions. For instance, scholarly databases of bibliographical or biographical data - a digital counterparts of lexicons and dictionaries - are usually (if not by definition) outcomes of the research process, as they contain data or metadata collected through the survey of available sources. This is also valid for research data in the humanities, which are often byproducts of research (e.g. sources collected by a scholar working on a monograph). Incentivisation of both types of resources is important to encourage scholars to publish and to make available massive amounts of data, which could stimulate further studies. Another genre worth looking at is research software in digital humanities, often developed in a close collaboration between the Humanities scholars and ICT professionals, yet such work is hardly perceived as an outcome of a research process. By incentivising these genres of scientific outputs, scholarly communication will stimulate the creation of valuable knowledge which is now artificially confined in traditional forms due to evaluation or prestige mechanisms. One striking example of such unproductive confinement is the evaluation of a data-paper as a proper research out, not the database itself.

## **Diversify evaluation criteria**

It would provide evaluation criteria tailored to the types of outputs. The assessment of novel genres of scientific communication (e.g. a research database or a multimedia monograph) often goes beyond a mere scrutiny of scientific content (as in the case of a monograph published as a standard printed book) and involves the assessment of technical resources, projects usability, suitability as a research tool, etc. In order to give justice to the publication, reviewers need a certain knowledge going beyond their disciplinary background, involving genre-specific evaluation criteria.

## **Facilitate the adoption of new practices**

It would also address the issue of business models allowing for open scholarly communication. Research outputs of publicly-funded projects should be openly available to citizens. Measures should be taken to incentivise open-access publishing and to grant fairly-priced access to paywalled resources.

It would also take into account different practices of scholarly communications, depending on career stages, on resources, on the position in an organisation.

It would bring help and tools and trainings for the researchers, which are all involved in this kind of process.

It would encourage and develop links between scholarly publishers, libraries and researchers in order to better understand the different needs of each community.

It would take into account the role of digital tools in exploration of the scientific output. All works and their metadata should be made available in the machine-readable format (e.g. txt file along a pdf), which will make data-driven scholarship easier.

It would also take into account new practices of peer-review and find a way to highlight this activity in a CV. We can already observe a gradual decline of scholarly review, a traditional genre, very important for the advancement of scholarship and for ensuring the scientific reliability and transparency of the process. Since reviews published in journals are often not seen as original research contributions,

especially by evaluators, they tend to be less attractive to scholars, especially in earlier career stages. On the other hand, scholars produce a vast number of peer-reviews, which never see the light of the day, due to the traditional need of keeping them anonymous. The scientific communication of the future should find a balance for those practices, either by incentivising the peerreview practices, or by implementing some form of an open peer-review, in which reviews would be published and made open for the scientific community. In this latter case, published reviews could also serve as an indicator for qualitative metrics.

**Act internationally** . As research is done in a globalized-world and because exchanges between researchers are needed, it is especially important to use the vision and the work done by the Expert Group to change practices at an international level (about rankings).

OPERAS is the RI dedicated to scholarly communication in SSH. It brings the different stakeholders involved in SSH scholarly communication all together in Europe and beyond and is committed to addressing these different issues through different kinds of services.

**QUESTION 2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?**

As an infrastructure in construction globally already in accordance with the reports' principles, what we need or don't do is less important than what we will do to implement those principles. In 2017/2018, thanks to its H2020 project OPERAS-D, OPERAS has prepared a design study including 7 white papers on different topics that detail lines of action to improve the situation in the scholarly communication ecosystem, particularly in SSH:

## **Advocacy**

The paper discusses the importance of the SSH in Open Science, showing how Open Science itself benefits from considering and accommodating the needs of researchers from different disciplinary backgrounds. While OPERAS does not endorse a specific Open Access publishing model, the infrastructure partners advocate for publication processes that can meet the present demand for Open Access, transparency, and open source tools in scholarly communication. In order to support stakeholders in advocating for Open Access, the White Paper presents the benefits of Open Access publishing for scholars, while also addressing common concerns in the SSH research community. The Advocacy White Paper presents a solution-oriented approach as it addresses concerns about Open Access publishing commonly shared by the research community and then suggests solutions from different angles. In this patchwork of initiatives, researchers – who move between countries and institutions, and collaborate with researchers from other parts of Europe – often face various challenges in disseminating their research openly and have concerns about doing so. The OPERAS consortium shares the common goal of highlighting these differences and – where possible and desirable – coordinating efforts in order to achieve an efficient and effective transition to Open Science.

- White Paper doi: 10.5281/zenodo.1324035
- See the poster: [http://operas-eu.org/files/2018/05/operas\\_advocacy\\_wg\\_poster.pdf](http://operas-eu.org/files/2018/05/operas_advocacy_wg_poster.pdf)

## **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.

There 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.

- See the poster: [http://operas-eu.org/files/2018/05/operas\\_best\\_practices\\_wg\\_poster.pdf](http://operas-eu.org/files/2018/05/operas_best_practices_wg_poster.pdf)

## Common Standards

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 and collaboration among researchers, while enabling 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.

- White Paper: White Paper doi: 10.5281/zenodo.1324065
- See the poster: [http://operas-eu.org/files/2018/05/operas\\_standards\\_poster.pdf](http://operas-eu.org/files/2018/05/operas_standards_poster.pdf)

## Multilingualism

Scholarly publication is indisputably boosted by the use of the English language. However, the need to publish in English in order to get visibility and recognition represents an impoverishment of certain research fields, particularly in Social Sciences and Humanities. Taking this backdrop as reference, 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.

- Read the White Paper doi: 10.5281/zenodo.1324025
- See the Poster : [https://operas.hypotheses.org/files/2018/05/operas\\_multilingualism\\_wg\\_poster.pdf](https://operas.hypotheses.org/files/2018/05/operas_multilingualism_wg_poster.pdf)

## Open Access 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.

- Read the White Paper doi: 10.5281/zenodo.1323707
- See the Poster :  
[https://operas.hypotheses.org/files/2018/05/operas\\_business\\_models\\_wg\\_poster.pdf](https://operas.hypotheses.org/files/2018/05/operas_business_models_wg_poster.pdf)

## **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 structure of OPERAS' future services has been elaborated as a part of the infrastructure design study.

- Read the White Paper doi: 10.5281/zenodo.1324058
- See the Poster :  
[https://operas.hypotheses.org/files/2018/05/operas\\_platforms\\_services\\_wg\\_poster.pdf](https://operas.hypotheses.org/files/2018/05/operas_platforms_services_wg_poster.pdf)

## **Tools Research and Development**

The approach in OPERAS emphasizes the importance of building the open science scholarly communication infrastructure in Social Sciences and Humanities on community driven tools. In this perspective, the development of Open Source tools and the setup of a toolbox appear 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 three 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.

- Read the White Paper : doi: 10.5281/zenodo.1324109
- See the Poster : [https://operas.hypotheses.org/files/2018/05/operas\\_tools\\_rd\\_wg\\_poster.pdf](https://operas.hypotheses.org/files/2018/05/operas_tools_rd_wg_poster.pdf)

In addition to the aims defined in its different working groups, OPERAS has launched a special initiative dedicated to the FAIRification of SSH data and publications, in the perspective of integrating them better in a fully interoperable scholarly communication ecosystem.

## **Support FAIRification of data AND publications in SSH**

CO-OPERAS – open access in the European research area through scholarly communication – Implementation Network aims to build a bridge between SSH data and the EOSC, widening the concept of “research data” to include all of the types of digital research output linked to scholarly communication that are, in SSH, part of the research process. The goal is to contribute to a better integration of SSH research objects into the EOSC, as a major component of the IFDS. One of the main challenges the social sciences and humanities need to address to achieve that goal is the fragmented nature of research fields, across many disciplines and subdisciplines, usually grounded in regional, national and linguistic specific communities: as a result, code multilingualism is a clear trait of these disciplines where English as a Lingua Franca is far from being the sole means to communicate research results. Multilingualism has to be properly addressed in order to ensure access and reuse of SSH data. Another challenge for the IN to address would be the fact that in SSH the machine readable tools and materials are rarely available and often incomplete or non-interoperable. These issues are perceived as strategically important priorities by the research community. The core strategy of CO-OPERAS IN is integration rather than fragmentation, and coordination rather than competition. Thanks to a consortium of 38 members, in 13 countries in Europe and beyond (North and South America), CO-OPERAS IN aims to bring the FAIR principles into the SSH research environment, leveraging existing scholarly communication services and platforms to connect them as components of an emerging EOSC, and more broadly to the global SSH communities. The main purpose of the CO-OPERAS IN is the FAIRification of the research process and resources in the SSH, leveraging both on building services, sharing standards and on changing the communication culture in SSH. A second purpose is the contribution of CO-OPERAS network to the FAIR standards from the SSH data.



## 14. SCIENCE EUROPE

### **General observations on the report:**

- Science Europe broadly supports the analysis and recommendations detailed in the report 'Future of Scholarly Publishing and Scholarly Communication' and overall agrees with the vision that is proposed. The flaws identified in the scholarly publishing system corroborate the analysis of Science Europe and its Member Organisations.
- The ten principles on which the report is articulated are relevant axis to base the study on and design a vision and actions for the future. Science Europe shares the vision of the Expert Group as regards these ten principles.
- One of the major strengths of the report is the fact that it was unanimously approved by the members of the Expert Group (except from one recommendation) including the recommendations which could be controversial for some of the actors represented in the Expert Group.
- Science Europe shares the vision that a change in the evaluation and reputation system, currently based on quantitative indicators such as the journal impact factor, is key to improve the scholarly publishing landscape. The central role still played by publication channels must be reconsidered. Science Europe is committed to support the necessary changes to improve peer review and quantitative indicators and to use novel criteria and methods that contribute to a fairer and more transparent assessment of research, researchers, and research organisations.

This is also a condition to foster the societal importance of research. Researchers and research organisations are indeed more and more asked to advise policy makers based on their findings. But this activity requires (among others) to publish research results in a different format (less academic and comprehensible by a lay audience) and via different journals and channels that are often not recognized in current evaluation practices nor rankings.

- The report highlights that the journal market lacks transparency when considered from the perspectives of production costs and price setting. Science Europe repeatedly emphasized this issue and requires that funding of Open Access publication fees is part of a transparent cost structure. This model must incorporate a clear picture of publishers' service costs and a disclosure of publication fees.
- While the report provides a good analysis of the current landscape and aspirations, its foresight component could have been strengthened. Science Europe regrets that the report does not provide an more concrete vision for the longer term future. Evolutions are being observed at all stages of the research and publication process. For example, quality assurance mechanisms are being rethought, other types of published contents such as intermediate findings, processes and methodologies are more and more considered, and the financial models of publication are being revamped. However the report is based on a more traditional vision of publication.

Several evolutions of the research landscape are described in the report such as the emergence of new publication formats, new economic models, the possibility offered by the digital revolution, emerging initiatives, but they could be better reflected in the recommendations. These recommendations

are mainly based on the present situation and the short-term needs of scholarly publication.

- The report focuses mainly on the journals and on publications coming from grants funded by funding agencies. It does not reflect enough the diversity of situations in the research and publication processes: research funded through salaries from universities and research organisations, publication as monograph, book chapter, or other forms of scholarly communication, discipline-related specificities, etc.
- The report concludes with the general thesis that the scholarly landscape can be meaningfully changed only if the funding agencies take the lead and initiate change. Though collaboration with the other actors of this landscape (researchers, research institutions, libraries, and learned societies) is also depicted as necessary, the main responsibility of the change seems to lie in the remit of funding agencies. Funding agencies indeed play an increasingly important role in the transition but the research community must also be at the core of the shaping and development of the scholarly publishing landscape of the future. In the past 20 years, the research community took the lead on the creation of new infrastructures and services which play a crucial role for a well-working transition. Funders can support, and build on these initiatives, as well as facilitate their interoperability, but not replace the research community in the leading role.
- More generally, the ecosystem must be changed by all in order to enable a real transformation. Isolated actions will only allow to twist the angles of the current system. The shift of roles in the five functions identified in the report as needed by scholarly publishing (registration, certification, dissemination, preservation, and evaluation), and the new opportunities offered by the transformative power of the online digital environment make such changes possible and would deserve to be further explored.

### **Role of Science Europe and its Member Organisations**

The transition towards Open Access to research publication has been one of Science Europe's priorities since its creation.

Science Europe Member Organisations play an important role in insuring the transition takes place effectively at national level. They also collectively contribute to policies that support the transition on a more global level, including at EU level. Most members of Science Europe have strong Open Access policies and adjust their policies to take into account the most recent evolutions of the scholarly communication ecosystem. The following trends have been observed in the past years:

- Increased use of mandatory policies to ensure that contributions are openly available,
- increased use of incentives to encourage not only the openness of the content but also its discoverability, and reusability according to community standards,
- evolution in the evaluation practices to take into account a broad range of activities demonstrated by the applicants, and use a larger variety of evaluation criteria for grants and recruitments,
- larger resources to cover the costs of Open Access publication,
- stronger support and investment in infrastructures and services which facilitates and encourage Open Access publication, the discoverability of Open Access contents, more transparency in the scholarly communication ecosystem, etc.

Science Europe acknowledges the pivotal role funders can play in the swift transition to Open Access and the provision of adequate and new funding structures required by the new business models in scholarly publication. Research and information infrastructure must be adequately financed and managed in a sustainable way, as a publicly controlled and financed infrastructure is key to avoid more fragmentation and lock-in effects in the publishing market.

All Research Funding Organisations and Research Performing Organisations must reaffirm or strengthen its commitment as enabler of Open Access.

Science Europe Member Organisations are committed to accelerate the transition to Open Access. Several Member Organisations joined the OA2020 initiative and will collaborate to replace the subscription business model with new models that ensure outputs are open and re-usable and that the costs behind their dissemination are transparent and economically sustainable.

Supported by Science Europe, the cOAlition S, which includes several Member Organisations of Science Europe, is also investigating the most appropriate mechanisms to implement the ten principles of Plan S. A revised version of the implementation guidance will soon be made available.

The collective forum offered by Science Europe allows exchanges amongst its Member Organisations and enables organisations to enter, pursue or advance the necessary transition.

Collective reflection are currently ongoing within Science Europe on various aspects of the transition towards Open Access:

- the specificities of monographs and book chapter, and the best way to encourage a swift and efficient transition for these medium and the scholarly communities using them,
- the monitoring of the implementation of Open Access policies and the use of incentives, rewards but also sanctions,
- the emergence of new initiatives and innovation in the scholarly communication landscape linked with the digital transformation.

The results of these reflections and discussions will feed in the policies developed individually and collectively by Science Europe Member Organisations.

## 15.STM

### **Comments on the “Future of scholarly publishing and scholarly communication” report**

The International Association of Scientific, Technical and Medical Publishers (STM) welcomes the opportunity to comment on the the European Commission’s [“Future of scholarly publishing and scholarly communication”](#) report of an Expert Group on the [Future of scholarly publishing and scholarly communication](#). STM is strongly supportive of Open Science and promotes the contribution that publishers make to innovation, openness and the sharing of knowledge. STM’s members see their role as partnering with other stakeholders in the advancement of research and the system of scholarly communication that serves as the medium for discovery and innovation. This means investing in and developing standards and technology to ensure that research is of high quality, is trustworthy and is discoverable; embracing change to support the growth, health and effectiveness of the research ecosystem; and providing data and analysis for all involved in the global activity of research.

As part of embracing change both now and in the future, STM’s members are at the forefront of digital innovation, developing and using the latest technologies to make the research outputs they publish findable, accessible, interoperable and reusable and championing long-term preservation of these outputs. We are, and will continue to be, responsive to the requirements of the academic community, including the development of Open Access models, where there is researcher demand and where this is sustainable. STM’s members currently provide a range of approaches to Open Access and openness more generally, for instance through Green and/or Gold routes, and related sharing and licensing solutions. A broad interpretation of and implementation of openness should form part of the ideal state of scholarly communication, just as STM’s support for Open Access sits within the context of publisher support for the wider Open Science and Scholarship agenda.

STM recognizes that there are many areas of the research information system and the global environment for research that would benefit from further development towards an ideal state, and we and our members are committed to working with our partners throughout the research ecosystem to achieve the needed advancement. Publishers continue to innovate and support diverse research communities, and thereby are active and supportive of openness in all its forms. The ideal state of scholarly communication will continue to rely on a competitive publishing environment, and any potential policy action should seek to maintain the vitality and openness to change encouraged by robust market demand. Further, whilst publishers are contributing to and working towards an open science system, there are also other areas in the broader scholarly communication environment that are ripe for innovation and improvement. Publishers have actively worked on the development, for example, of new tools for the presentation of data results, alternative metrics and indicators for the identification and understanding of impact of research, and many other modernizations for scholarly communication. STM would be happy to engage in further discussion around a future that includes these topics.

As is the case today, an ideal scholarly communications system operates through collaboration and cooperation across networks in order to make progress. Actors in the system need to work in concert to affect meaningful change. In our view, the report’s approach of recommending individual actions for different groups may not be the best approach for improving the research ecosystem, including expanding access to peer-reviewed scholarly works and maximising their value and reuse. Publishers can only move to comprehensive open access if that is supported by all other actors in the system, globally, and

on a timeline that allows all of the research community to align practices. Unilateral moves by any one sector are barriers to an ideal state because they risk not only sustainability, but fragmentation and exclusion.

We note that the expert group that created the report included two publisher representatives who made clear that they had differing views with respect to the specific recommendation that publishers transition to open access unilaterally, and we echo those concerns. That said, STM remains committed to improving the system and engaging in innovations across the scholarly enterprise that can be supported by the research community to achieve a better future.

STM, our members, and many other stakeholders share the goal of prioritising the research community in the ideal state of scholarly communication and supporting their needs. STM publishers collaborate with and continually support the research community – the bedrock of scholarly output – in all its diversity. We strive to listen to and serve their needs as part of continual interactions. Because of this partnership, STM supports researchers' freedom to choose the publication in which they wish to publish their research, and our member publishers offer them a variety of ways in which they can make their research open. Journals and learned societies have an important role in identifying, building and supporting communities of research. This role is an important one for the ideal research ecosystem and is unlikely to be supported by tools and platforms alone.

STM does not support the misuse of indicators, but that does not invalidate the underlying service that journals provide and that researchers find invaluable. This is why publishers invest significantly in the development of journals to support research communities and should continue to do so in an ideal state. Researchers have demonstrated clear preferences about publishing in various journals. These preferences may be based on metrics and quality indicators which contribute to an author's career progression, as well as publishing in journals closely connected to their research or research community. Researcher preferences should continue to be supported in an ideal state, even as the effort to reduce unhealthy overreliance on certain metrics should continue. We believe that support for such a balanced approach both now and in the future is widespread in the scholarly research ecosystem.

Finally, we believe that the ideal state of scholarly communication must be founded on trust, and quality is a key part of the development and maintenance of that trust. This is a key area for development in scholarly publishing that goes far beyond open access and gets limited treatment in the report. STM and its members are committed to working to address the issues of replication and reproduction of results and are continuing to make significant investments in this direction. The ability to share results is a factor, but equally important is that those results are accurate, reproducible, validated, and high quality.

In summary, we believe that there are many opportunities to improve the scholarly communication system to reach an ideal state and remain committed to working together to achieve the report's goals. Such an effort requires a broad and inclusive dialogue amongst all stakeholders. STM and each of our members will continue to innovate and advocate in support of Open Science and Scholarship. We hope that there will be additional opportunities to engage with the Commission on these issues in the future.

Very truly yours,

*Michael Mabe*

Michael Mabe

CEO STM

## 16.YAE

### **The Young Academy of Europe feedback to EC Stakeholder Consultation on “Future of scholarly publishing and scholarly communication” (E03463)**

The report “**Future of scholarly publishing and scholarly communication**”, published by an Expert Group that includes many active and respected voices in the ongoing discussion on this important topic, provides a comprehensive assessment of the current state of affairs as well as far-reaching recommendations on the desired directions for future developments. The stakeholder group that we, the **Young Academy of Europe (YAE)** represent are early-career researchers working in Europe.

The Board of the YAE endorses the Expert Group’s report and their vision for the future of scholarly publishing. We also would like to direct attention to our recent public feedback on the **Plan S** implementation guidance, which impinges on some of these issues, as well as our public support for the DORA declaration in line with the report’s recommendations. In particular, we view Plan S as an important first step towards realizing the report’s goals.

Our brief replies to Question 1: The role of researchers in the envisioned scholarly communications ecosystem will be to perform, publish, read, and evaluate research, as is already the case currently. Of the four functions mentioned in the report, researchers are the main actor in the certification of research via various forms of peer review, and this will continue to be the case in the future. To a small extent, researchers can participate in registration, particularly via the increased use of preprints; in dissemination, by actively communicating science to the public via engagement with media and social networks; and in preservation, by proactively working with institutional and other repositories.

The recommended – and much needed – changes in evaluation do require action by researchers, who should commit to principles including the **DORA declaration** and the **Leiden manifesto** when serving on hiring committees and when evaluating grants, and to consider new forms of contributions beyond the journal article. To support engagement with open science, open datasets, code and protocols should be acknowledged, and credited especially when they find significant reuse by peers. Quantitative metrics should be de-emphasized in favor of the scholarly merits of the research being evaluated.

The relative importance of different types of scholarly contributions should be evaluated based primarily on the contents and the real and potential reuse of that content. When evaluating recent contributions that may not have yet been extensively cited and reused, adherence to good open science and data practices such as the **FAIR principles** should be merited. Regarding both venues/paths for dissemination and business models, we agree with the Expert Group that these should ideally be held and administered as public goods instead of left entirely to commercial actors, as this has led the obvious failures and distortions in the market.

Finally, our brief comments regarding Question 2. While researchers are the main stakeholder in the scholarly communication system, the lack of unified representation hinders their collective power in driving the implementation of the recommended changes. Major structural changes in the system need to be driven by policymakers and funders in consultation with researchers, working with publishers if possible and bypassing them if necessary. Researchers themselves can help by supporting new kinds of peer review, giving preference to open science,

actively using pre-prints, and evaluating their peers for positions or grants based on their scholarly merits.



## 17.YEAR

### Question 1 – YEAR answer:

#### Regarding the “ideal state of scholarly communication”:

In our view, the ideal state of scholarly communication would follow strict open-access rules (no paywalls, no embargo periods) and would not allow unnecessarily high article processing charges or subscription costs. Scholarly communication of the 21<sup>st</sup> century also includes a well-established and recognized system of open (and published) peer reviews. Peer reviewing is the backbone of quality assurance in research, and thus should be transparent, verifiable, and recognised as a research activity. Finally, sharing of additional resources like open source code and data sets needs to be recognized and valued by the respective communities. These practices, although beneficial for improving the quality of research overall, are currently not valued or recognised as activities for progressing in research career. The system sets wrong incentives; this needs to change. The outcome of this would be:

- Free and fair access to scientific results and data
- An affordable scholarly publication system
- Improved quality through published peer-review reports and the ability to verify results as much as possible
- A revised reward and recognition system accounting for open science activities instead of relying on simplistic metrics (e.g. impact factor)

#### Regarding our role as an actor in that system:

We believe that young researchers at all positions in the scientific role can – and should – play a major role in restructuring the system of scholarly publishing and communication. With the ability to access work of their peers and in turn being recognized when sharing all aspects of their work, young researchers are free to focus on producing quality work instead of focusing on which aspects are most beneficial to their careers. Our role will be to foster mentoring between young researchers and their more senior colleagues, as well as the encouragement to participate actively in this system. However, this only works with an appropriate rewards and recognition system in place.

### Question 2 – YEAR answer:

It is very important that every member state of the EU, at the least, embrace the same vision of scholarly publishing and communication. A fractured approach will be damaging to the career prospects and mobility perspectives of young researchers. Institutions, research funders and policy-makers should implement balanced policies supporting open scholarly publication and communication activities. Also, these actors must implement diversified metrics for research evaluation and hiring/career progression assessment, which strongly and consequently support and back those policies. On the one hand, young researchers need more encouragement and support from within their institutions to successfully engage in open science activities. As long as open access publishing of data, papers, or open peer reviewing is not valued for a researchers' career progression, it will be hard to convince them to do so. On the other hand, young researchers can substantially help driving these changes by actively getting involved and advocating for open science practices.

*Authored by Jan Rörden and Michela Vignoli with Clara Lujan and Alexis Sevault on behalf of YEAR, 3 April 2019.*