An update on the OA Switchboard

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Yvonne Campfens, Executive Director of **OA Switchboard**

Introduction

The **OA Switchboard** is a mission-driven, community led initiative designed to simplify the sharing of information between stakeholders about open access publications throughout the whole publication journey.

Following an initial meeting of key stakeholders in 2018, and throughout 2020, **OASPA** ran the foundational work as a project, with the aim of preparing the groundwork for the OA Switchboard to go live as an operational solution. It delivered a Minimum Viable Product (MVP) and a proposal for a sustainable governance and funding model.

Following, in October 2020, Stichting ('foundation') OA Switchboard was founded. It consists of both a mission-driven community and a practical tool, currently supporting two use cases. The technical solution is a central metadata exchange hub, that provides a standardised messaging protocol and shared infrastructure. It is built by and for the people who use it, is leveraged with existing PIDs, and has been live since 1 January 2021.

OA Switchboard is growing from strength to strength and more and more research funders, institutions and their libraries, and publishers join the initiative. With nearly 500,000 'messages' sent since the start, this is a good moment to interview Yvonne Campfens, Executive Director of OA Switchboard

Question 1: The 2020 project was funded via contributions and donations from contributors and sponsors who financially support the initiative. What was the situation that inspired them to support this new initiative? That is to say, what is the problem that needs to be solved?

In 2018, a group of stakeholders representing research funding organizations, academic libraries, scholarly publishers, and open infrastructure providers met to discuss a proposal for addressing the growing set of challenges in the implementation of institutional and funder policies supporting open access publication.

Managing the increasingly complex network of agreements between publishers and institutions, along with the rising number of policies associated with open access publications by academic institutions and funders, poses serious implementation challenges for all stakeholders. For example, as a library, to assess and manage eligibility for OA funds and agreements; as a consortium, to oversee agreements with publishers, monitor uptake and compliance, and allocate cost over members; and, as a publisher, support authors in their publication journey, and monitor and report on open access articles from institutions who have a Read & Publish agreement with you.

As a consequence, policies are not always effectively implemented and agreements may not be realised to the full. The complexity - and the current administrative burden on institutions, funders and publishers - has also hindered progress in developing new business models to support a broader move to OA. It is inefficient and expensive. For parties to communicate and exchange data about OA publications throughout the whole publication journey, they are faced with myriad systems, portals, and processes. This requires managing many-to-many relationships, and brings administrative burden and manual work. For example: technical (integrations, connections, version control, etc); operational (e.g. organising regular data feeds); data security and GDPR; contracts (covering a.o. roles and exit scenarios); personal relationships and communication (e.g. email). From a researcher perspective, this landscape is at best confusing and at worst impenetrable.

In order for there to be a breakthrough in the transformation of the market so that open access (OA) is practically supported as the predominant model of publication, a joint challenge had to be addressed: the complexity around the implementation of multi-lateral OA publication-level arrangements.

UK Research and Innovation (**UKRI**), **Wellcome Trust** and **Jisc** were among the first organisations supporting the establishment of the OA Switchboard, which they announced in a joint statement in 2020.

The OA Switchboard contributes to the solution as a neutral, independent intermediary, providing shared infrastructure, standardisation and back office services for funders, institutions and publishers, as well as a community of like-minded spirits to share experiences and best practices. OA Switchboard is a tool that can be called when needed, or integrated in stakeholders' own systems and workflows to achieve automation and scalability.

More background information is available on the About-page on our website.

Question 2:

Once the funding was in place, what were the key tasks to be done?

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Question 3:

What were the first actions that the initiative took to tackle this...?

Minimum Viable Product (MVP)

Throughout 2020, OASPA ran the foundational work as a project, with the aim of preparing the groundwork for the OA Switchboard to go live as an operational solution. This first involved bringing interested parties together and exploring how we as a community could build a solution to tackle the shared problems. Once we had determined the technical requirements, we selected a technical partner via an Request For Information (RFI) process to build an Minimum Viable Product (MVP), and then we began a pilot phase to 'measure' and 'learn'.

The MVP was delivered within time and budget in August 2020. It was the smallest feasible product (not a prototype), meaning it adds value for stakeholders when delivered and operational. The MVP was developed in close collaboration with a small number of primary stakeholders (research funders, institutions, and publishers) who also served as pilot users. After a successful pilot we were able to 'scale' (add more users), do continuous improvement cycles and decide to go-live with a launch phase (2021/2022).

The first two use cases the OA Switchboard supported are:

1. Reporting Made Easy
2. Matching Publication Costs with Publication Funds

This is done by providing a standardised messaging protocol and shared infrastructure that simplifies the sharing of information between stakeholders throughout the whole publication journey. A 'central metadata exchange hub' facilitates the exchange of a question and an answer, or a one-way notification, between two relevant stakeholders about a specific (planned) publication. The 'messages' are effectively a set of metadata, leveraged with existing PIDs, and they are validated and routed via the OA Switchboard that serves as a 'message hub'.

For human knowledge to advance at speed and with diverse collaboration, and to support the broader transformation to Open Access, we need a global research ecosystem that functions well. Foundational building blocks in this are persistent identifiers (PIDs), like DOIs, ORCIDs, and RORs, that are essential to enable and preserve robust connections between research grants, projects, research outputs, organisations, and individuals.

As part of the OA Switchboard pre-publication eligibility enquiry, to support the second use case, questions a publisher may ask from a potential publication funder (i.e. a research funder or institution) are: "Does this intended publication meet your requirements and policies? And, will you cover the (article-level) publication charges?". The answer may be different for different

article specific elements and is generally: "Yes / No / Partial". The response message may also include additional information, such as specific conditions, remarks and invoicing instructions.

Sustainable governance and funding model

In parallel to developing the MVP, we needed to create a new organisation to house the OA Switchboard and to support the values and principles we had founded the project with. We explored a sustainable governance and funding set-up for when the OA Switchboard would move to an operational stage in 2021. We wanted to benefit from lessons learned from other industry-wide initiatives and make sure the independent, neutral, collaborative, not-for-profit nature of the initiative is secured - and it was important for us that this was protected in both the short term as well as the long term. Explorative meetings were held with experts inside and outside of our industry. The structural governance and funding model was to supersede the organisation and governance of the 2020 project, and the sponsorship model.

Supported by launch customers and founding partners, the OA Switchboard moved to the operational stage on 1 January 2021, and is now run from the new Stichting OA Switchboard, founded by OASPA in October 2020. A 'stichting' is a Dutch legal entity without shareholders or members (an orphan entity), that exists for a specific purpose, and is widely used to ensure separation of economic interest and control.

More information is on the [Governance-page on our website](#).

The OA Switchboard now operates on a self-sustaining economic/business model, whereby the operational and development costs are supported by service fees (with transparent pricing) for participating funders, institutions and publishers. In addition, OA Switchboard is supported by grants, donations and sponsorship.

The participants' fees charged are for the development and maintenance of the infrastructure, and for participants to exchange information and communicate. Pricing is transparent and we keep fees as low as possible to offer an affordable solution. We can keep OA Switchboard participants' fees low, because we're open source, tightly managed for costs, and the load is shared between funders, institutions and publishers.

More information is in our [FAQ-page on our website](#).

Question 3:

...What are the ongoing actions still required?

Adoption and usage

In case of an intermediary, the more connections that are made, the better the service becomes for everybody. Therefore, we are focussed on building adoption and usage. That means signing more and more research funders, institutions and consortia, and publishers, as participants. So far this is going well and you can see our list of participants [here](#).

Incremental technical improvements

We continue to make incremental technical improvements to the message hub with a message structure update (maximum) once a year, plus 2-3 development iterations. The OA Switchboard is built by and for the people who use it, and the development [roadmap is available on our website](). Every development iteration has a theme, and for 2023 we are focusing on the routing function, usability and funder-specific features. We usually organise various deep-dive sessions with our users to prepare for a development iteration.

If demand is there and financial resources allow, OA Switchboard will support more use cases. High on our list is to streamline the communication between stakeholders regarding OA Books and discussions about how we might do this are already underway.

PIDs for all authors' affiliations

In 2022 we built on key themes from 2021, including significant focus on persistent identifiers for all authors' affiliations (not only the corresponding author, and not only the first affiliation) and a [joint research project]() with [CWTS]() and OA Switchboard publishers. The research question in this project was: "What are the opportunities to use ROR id's available at source to enrich openly available author affiliation data?". The results and conclusions were clear and diverse:

1. There is potential: Some publishers have what they regard to be 'validated ROR id's' in other systems than the ones currently feeding Crossref; ROR id's can be derived from at least two independent algorithms (i.c. 'smart matching' and OpenAlex).
2. It depends how you look at things, how good/bad something is...
3. There are (quality) issues with data, algorithms and systems.
4. There are fundamental questions and issues like: Where do you collect and/or enrich author affiliations with ROR id's: upstream or downstream?; How do you do that: by machine or humans?; Who is responsible: submitting author, all authors, publisher?; Why isn't data flowing from one system to the other and is interoperability such a challenge?

As part of the project, recommendations were made for all relevant parties: institutions, publishers, ROR registry, vendor systems, and for the OA Switchboard ['smart matching' module]().

2023 funder pilot

This year we are facilitating a pilot to get 'hidden' research funding information out of publications and shared. A group of 25 research funders and publishers are collaborating in this experimental project to unlock funding information, including persistent identifiers, to progress open access. Building on [collaborative work in the OA Switchboard community and pilots in 2022](), a project was defined earlier this year to take the pilots to the next level and is well underway. Participants in the 2023 project share the belief that PIDs, metadata, standardisation, and transparency are critical in the transformation to open access.

Thirteen publishers are participating, including **Cambridge University Press**, **Cold Spring Harbor Laboratory Press**, **Company of Biologists**, **Copernicus**, **eLife**, **Hindawi**, **JMIR Publications**, **Oxford University Press**, **Pensoft**, **Rockefeller University Press**, and **The**

Royal Society. These publishers are making content and structured metadata available for advanced searching on names of research funders in all variations known to be in use. Through this additional sourcing, the publishers aim to provide better quality reporting to research funders on relevant publications by sending [P1-messages via OA Switchboard](#) in bulk.

The twelve research funders participating, including **Austrian Science Fund** (FWF), **Bill & Melinda Gates Foundation**, **Chan Zuckerberg Initiative** (CZI), **Dutch Research Council** (NWO), **Fundación Séneca**, **Howard Hughes Medical Institute** (HHMI), **Japan Science and Technology Agency** (JST), **Swedish Research Council for Health Working Life and Welfare** (FORTE), and **Wellcome Trust**. They are interested in the data in the P1-messages and aggregated reports to support the monitoring of policy compliance and development, as well as the fulfilment of open access publication-level arrangements, and the potential of increasing open access and making it highly visible.

The hypothesis of this pilot project is that there is valuable information on research funding, related to research output, 'hidden' in the current (eco)system, and that we can get this out and shared with the stakeholders in a systematic way.

Together the participants aim to gain a better understanding of the different approaches, systems and best practices of research funders and publishers. They will also review and explore standardisation and (technical) options to get the metadata available in publishers' systems, not only in OA Switchboard P1-messages, but also into open data sources (such as **Crossref**) so the wider community can benefit.

The project will run till June 2023 and we expect to communicate results and recommendations before the summer.

Question 4:

Clearly, this initiative requires a technical solution, but getting buy-in from publishers and libraries has also required outreach and communication. Can you tell us about the communication and outreach programme. It would be interesting to know for example about the animations and the translations available from the website and how you work with diverse stakeholders across the globe. Also if it outreach activity has fed back to the technical development?

Community representation, involvement and input in product/service development has been central to how we have developed the OA Switchboard. This is ensured and formalised via: an Advisory Group, which holds regular meetings as part of the framework of the organisation; Task/Working Groups; information on the website regarding the development roadmap; regular reporting (via newsletters that people can sign up to, or blogs or otherwise; and relevant 'Codes'. Participants in the OA Switchboard meet 8-10 times per year to discuss high-level strategy and hands-on implementation topics. Since the beginning, we've organised 2-3 topical webinars per year that are offered free of charge thanks to our sponsors.

Onboarding & training of (new) participants

With the growing interest all over the world and the steeply increased number of users, we have initiated an onboarding and training program this year. On the [resources page on our website](#),

you can now find short videos to demonstrate how to use the OA Switchboard (so called [tutorials](#)), an overview of [applications & case studies](#), and [video animations](#) (in 6 languages). We're also hosting plenary training sessions on a monthly basis.

We're organising yearly review meetings with all participants and we facilitate direct communication between users in case of issues or questions regarding metadata.

Question 5:

It is of course still early days for this initiative, but what are the results so far? What are the next key steps to increase scale and sustainability and resolve the original problem?

Collaboration

What we really have seen happening in practice over the last couple of years is that collaborative effort truly pays off to drive metadata quality, standardisation and efficiency in communication.

Institutions & consortia

Participating institutions and consortia tell us that the standardised reporting they receive from publishers via OA Switchboard is better - if not the best. The list of additional applications and cases that OA Switchboard can potentially support is still shaping and growing, with generally broad interest in using the comprehensive coverage of all authors' affiliation to register research (e.g. in Institutional Repositories) and in data analysis to inform OA strategies.

Publishers

Participating publishers in turn find that participation in OA Switchboard leads to enhancements of their metadata and thus their own management information. It helps them connect with their publications and author base, and to inform their OA strategies. They see they are improving the service to their key stakeholders and partners (institutions, consortia and research funders), and bring wider potential to their publications.

Research funders

Funders see direct benefits, indirect benefits and/or are interested to support broader community interest (such as shared infrastructure). The 2023 funder pilot is going to be key in shaping this further and it looks very promising.

The promise of the intermediary

Generally, all participants see that as an intermediary, the OA Switchboard is already delivering on its promise: it simplifies the sharing of information between publishers, institutions and funders, thereby reducing the transactional cost for stakeholders, and it provides a safe space for publication metadata. With huge potential!

To significantly deliver on efficiencies and bring down transactional cost, wider adoption and usage is needed. That's why focusing on growing the community is our key priority.

The OA Switchboard community

An exciting result has also been that the participants experience it as a real community, where information is shared, and collaboration is fostered in areas where it is allowed and makes sense (e.g. standardisation). Some participants tell us that the OA Switchboard participation fee, and related benefits, is already covering the equivalent of at least 1-2 conferences!

Critical to our early success has been that there is no self-interest - the OA Switchboard is really built for and by the people who use it - and that the principles we defined early on with our founding partners serve as our guiding star.

These views are the authors' own and do not necessarily reflect the views of UKSG.

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