A Bibliographic Scan of Digital Scholarly Communication Infrastructure

David W. Lewis
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Mapping the Scholarly Communication Landscape

A Bibliographic Scan of Digital Scholarly Communication Infrastructure

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May 2020

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# Table of Contents

1.0 INTRODUCTION 4

1.1 The Map 5

1.2 Overview 6

1.3 Business Models 10

1.4 Collective Action and the Funding of Open Projects 15

1.5 Researcher Tools—Reading, Writing, Annotation, and Collaboration 18

1.6 Repositories 20

1.7 Research Data 25

1.8 Publishing 28

1.9 Discovery 33

1.10 Evaluation and Assessment 35

1.11 Preservation 38

2.0 LIST OF PROJECTS/PROGRAMS 41

2.1 Researcher Tools—Reading, Writing, Annotation, and Collaboration 42

2.2 Repositories 44

2.3 Publishing 46

2.4 Discovery 49

2.5 Evaluation and Assessment 50

2.6 Preservation 51

2.7 General Services 52

3.0 INDIVIDUAL PROJECTS AND ORGANIZATIONS 53
1.0 Introduction

This bibliography scan covers a lot of ground.

In it, I have attempted to capture relevant recent literature across the whole of the digital scholarly communications infrastructure. I have used that literature to identify significant projects and then document them with descriptions and basic information.

Structurally, this review has three parts.

In the first, I begin with a diagram showing the way the projects reviewed fit into the research workflow; then I cover a number of topics and functional areas related to digital scholarly communication. I make no attempt to be comprehensive, especially regarding the technical literature; rather, I have tried to identify major articles and reports, particularly those addressing the library community.

The second part of this review is a list of projects or programs arranged by broad functional categories.

The third part lists individual projects and the organizations—both commercial and nonprofit—that support them. I have identified 206 projects. Of these, 139 are nonprofit and 67 are commercial. There are 17 organizations that support multiple projects, and six of these—Artefactual Systems, Atypon/Wiley, Clarivate Analytics, Digital Science, Elsevier, and MDPI—are commercial. The remaining 11—Center for Open Science, Collaborative Knowledge Foundation (Coko), LYRASIS/DuraSpace, Educopia Institute, Internet Archive, JISC, OCLC, OpenAIRE, Open Access Button, Our Research (formerly Impactstory), and the Public Knowledge Project—are nonprofit.

Most of the works I have used and referenced are articles, reports, or blog posts that are available on the web. Some of these resources are behind paywalls; I recommend using Unpaywall or the OA Button to access these.

This work was finalized March 1, 2020. The COVID-19 pandemic has had a significant impact, particularly on the need for openness of articles and data and on the use of preprint servers, that is not reflected here.

This work is part of the Mapping the Digital Scholarly Communications Infrastructure project, funded with generous support from the Andrew W. Mellon Foundation. Elizabeth Noll copy edited the manuscript.
1.1 The Map

The figure below shows the number of projects and where they fit in the research workflow (see section 2.0).
1.2 Overview

Herbert Van de Sompel and his colleagues proposed an important model for thinking about the various functions in scholarly communication (item 1).

Jean-Claude Guédon’s *Open Access: Toward the Internet of the Mind* (item 2) is probably the best summary of the current scholarly communications landscape. Brian Lavoie and his colleagues provided critical background in their OCLC report, which describes the changes taking place in the scholarly record (item 3). The European Commission’s *Future of Scholarly Publishing and Scholarly Communication* is a good review of the issues with recommendations for moving forward (item 4). The 2019 report by the Association of College and Research Libraries (ACRL), *Open and Equitable Scholarly Communications*, focused on the topic of making scholarly communications more inclusive (item 5). A recent report by the Confederation of Open Access Repositories (COAR) provided a framework for open science (item 6).

Along with the Mapping Digital Scholarly Communication Infrastructure project, whose first report is item 7, several other recent initiatives have looked at the landscape of scholarly communications. John Maxwell and his colleagues examined open source publishing tools, and Roger C. Schonfeld commented on Maxwell’s work (items 8 and 9). Bianca Kramer and Jeroen Bosman surveyed scholarly communication infrastructure, as did OPERAS (items 10 and 11). Schonfeld looked at how several infrastructure providers are integrating across the projects they control (item 12).

A variety of reports have looked at the sustainability of the scholarly communications infrastructure and have made recommendations on how individual projects and the overall system can be made sustainable (items 13 to 21).

Tyler Whitehouse reviewed recent trends in research tools and the impact of these trends on scholarly communication (items 22 and 23).

Two initiatives have begun working on these issues—Invest in Open Infrastructure and the Open Platform group (items 24 and 25).


16 Nancy Maron and Sarah Pickle, *Sustaining the Digital Humanities: Host Institution Support Beyond the Start Up Phase*, Humanities Commons, 2014, DOI: http://dx.doi.org/10.17613/M6JD3C


20 *The Socio-Technical Sustainability Roadmap*, University of Pittsburgh, 2018, https://sites.haa.pitt.edu/sustainabilityroadmap/


24 Invest in Open Infrastructure, https://investinopen.org

25 The Open Platform: A Proposal for Collective Action towards Coherence and Sustainable Interdependence for Community-owned Knowledge Infrastructure To Safeguard the
Public Interest, Proposal: v.2, revised May 2019,
https://docs.google.com/document/d/1cqPyRconahtxyca1WjfbPtfZ5e9Y1jQ5muTanf699M/edit#
1.3 Business Models

This section reviews publications about business models for digital scholarly communication infrastructure. There are two basic business strategies documented in the current literature. The first relies on the market and commercial providers. The second deploys community-controlled open infrastructures. Currently both exist alongside each other (and sometimes blended together) and the merits of each are a matter of considerable contention. We will look first at literature about commercial providers and then at open and community-controlled projects.

Alejandro Posada and George Chen and Claudio Aspesi review the positions of the dominant commercial providers and warn that they are looking to achieve end-to-end integration in the scholarly communications workflow and that if they achieve this integration, universities may lose control of their research enterprises. Roger C. Schonfeld makes a similar point (items 1 to 3). Lisa Janicke Hinchliffe, Angela Cochran, and Kent Anderson examine particular examples of this integration work (items 4 to 7). Joseph Esposito makes a case for the dominance of an oligopoly in scholarly publishing (item 8). Claudio Aspesi is the lead author on a report from the Scholarly Publishing and Academic Resources Coalition (SPARC) that recommends action to respond to the threat of corporate capture of academic infrastructure (item 9).

Nancy L. Maron and her colleagues look at the costs associated with publishing monographs, as do Scott Smart and his colleagues, and Jonathan Harwell (items 10 to 12). Two studies look at the cost of open access monographs in Europe (items 13 and 14). Richard Van Noorden, Sally Morris, Mark Ware and Michael Mabe, Daniel S. Katz and his colleagues, Éanna Kelly, and Alice Wise and Lorraine Estelle look at the cost of publishing journal articles (items 15 to 20). In the cases of both monographs and journal articles, cost estimates vary widely. Katie Shamash reviews open access costs and Shaun Yon-Seng Khoo’s important study shows a lack of price sensitivity of article processing charges (APCs) (items 21 and 22). Oliver Budzinski et al. also consider APC pricing (item 23). A Scholastica white paper argues for “democratizing” journal publishing (item 24).

The Latin American approach to institutional subsidized open access is discussed in items 25 and 26.

Defining what constitutes an open and community-controlled project is not as straightforward as it might seem. Items 27 to 32 attempt to do so. Heather Joseph describes SPARC’s plan to secure community-controlled infrastructure (item 33), as does Vanessa Proudman (item 34). Robert Schroeder and Gretta Siegel suggest a cooperative model (item 35).

Schonfeld looks at two open projects that have had problems (items 36 and 37). Schonfeld also considers some issues with “big deals” (item 38). And Skinner and Crotty each examine challenges faced by nonprofit, community-owned businesses (items 39 and 40).
Kathleen Shearer and her colleagues make an important call for bibliodiversity (item 41).

1. Alejandro Posada and George Chen, “Inequality in Knowledge Production: The Integration of Academic Infrastructure by Big Publishers,” ELPUB 2018, June 2018, Toronto, Canada, 10.4000/proceedings.elpub.2018.30. hal-01816707, https://hal.archives-ouvertes.fr/hal-01816707/document


34 Vanessa Proudman, “Ten Key Prerequisites to Securely Fund Open Infrastructure Today and Tomorrow,” *ScholarLed* [blog], October 21, 2019, https://blog.scholarled.org/ten-key-prerequisites-for-open-infrastructure/


1.4 Collective Action and the Funding of Open Projects

The two key texts that provide the most insight into the collective action problem and strategies for overcoming it are Mancur Olson, *The Logic of Collective Action,* and Elinor Ostrom, *Governing the Commons* (items 1 and 2).

John Wenzler has persuasively argued that libraries cannot escape the collective action problem and therefore will not be able to change the scholarly communication system dominated by large commercial publishers (item 3). Cameron Neylon looks at a number of case studies of successful collective action in scholarly communication and suggests strategies (item 4). David W. Lewis responded to Wenzler with his 2.5% commitment proposal (item 5). Several papers look at means for moving to commons models for scholarly communications (items 6 to 8). The recent Knowledge Exchange report is a good review of the current situation (item 9).

How to fund open infrastructure is a long-standing concern (items 10 to 15). Martin Paul Eve looks at the issue from the perspective of the humanities (item 16). John Willinsky and Matthew Rusk’s proposal for joint library and funder financing is intriguing (item 17). The “subscribe to open” model also looks to libraries to fund open access journals. It is being piloted by *Annual Reviews* (items 18 to 20). Rodger C. Schonfeld’s interview with Dan Whaley reviews a new international effort (item 21). The Sustainability Coalition for Open Science Services (SCOSS) is a SPARC Europe initiative to raise funds for critical and endangered infrastructure that appears to have been successful (item 22). Jeff Pooley suggests money be moved from library subscriptions to fund infrastructure (item 23). A Wellcome Trust project examined how scholarly societies could comply with Plan S (item 24). Kathleen Fitzpatrick’s book, *Generous Thinking: A Radical Approach to Saving the University,* considers how to recenter the academic community around collective and collaborative projects, and in so doing, how to free the academy from its dependence on commercial infrastructures (item 25).


5  David W. Lewis, “The 2.5% Commitment,” [scholarworks.iupui.edu/handle/1805/14063](http://scholarworks.iupui.edu/handle/1805/14063), DOI: [http://doi.org/10.7912/C2JD29](http://doi.org/10.7912/C2JD29)


9. Cameron Neylon, Rene Belsø; Magchiel Bijsterbosch; Bas Cordewener; Jérôme Foncel; Sascha Friesike; Aileen Fyfe; Neil Jacobs; Matthias Katerbow; Mikael Laakso; Laurents Sesink, Open Scholarship and the Need for Collective Action, Knowledge Exchange, October 2019, DOI: http://doi.org/10.5281/zenodo.3454688


18 Ellen Finnie, ““Subscribe to Open” As a Model for Voting with Our Dollars,” *IO: In the Open* [blog], March 18, 2019, https://web.archive.org/web/20190831155823/; https://intheopen.net/2019/03/subscribe-to-open-as-a-model-for-voting-with-our-dollars/


1.5 Researcher Tools—Reading, Writing, Annotation, and Collaboration

This section captures basic information about a variety of tools that support researchers in various ways, including managing references, annotating works, collaborating, and reading and writing. Most of the literature is on individual projects or products. These are identified in section 2.1. Articles on these projects or products can be found in section 3.0.

Web annotation is an important way of extending scholarly conversations. Making it work involves technical solutions and changing norms of behavior (items 1 to 5). The limited extent of commenting is demonstrated in item 6.

The academic use of social networks has been widely studied. A sample of this literature is found in items 7 to 13.


1.6 Repositories

This section captures basic information about repositories and directories and other tools that support them.

In the early 2000s, as institutional repository software was first being developed, Raym Crow made a strong initial case for institutional repositories (item 1). His arguments were echoed by Clifford Lynch (item 2). In the years that followed, there was a sense that the potential for institutional repositories was not being met. Few faculty seemed enthusiastic about doing the work required to put their work in institutional repositories, even when open access policies were in place. Items 3 to 11 reflect the debate about the purpose and value of institutional repositories. Michel Castagné (item 12) provides a comparison of repository software, though it is now dated. Items 13 to 16 are a sampling of articles about techniques for enhancing the effectiveness of institutional repositories. Elizabeth Hertenstein and Erin Pashehl-Stoddart and Robert Monge make the case for student-focused institutional repositories (items 17 and 18).

From 2012 through 2017, the Confederation of Open Access Repositories (COAR) issued a series of reports culminating in Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Working Group, which lays out a development path for repositories (items 19 to 24).

Some preprint repositories have been in existence for many years—arXiv was founded in 1991—but in many fields, the practice of depositing preprints is new, and in some cases, controversial. Items 24 to 42 reflect this debate. The study by Martin Klein and his colleagues is particularly interesting, as it shows that in many cases the preprint is very similar to the copy of record (item 43).


9  Richard Poynder, “Q&A with CNI’s Clifford Lynch: Time to Re-think the Institutional Repository?” *Open and Shut?* [blog], September 22, 2016, [https://richardpoynder.co.uk/Clifford_Lynch.pdf](https://richardpoynder.co.uk/Clifford_Lynch.pdf)


35 Richard Sever, Michael Eisen, and John Inglis, “Plan U: Universal Access to Scientific and Medical Research Via Funder Preprint Mandates,” *PLOS Biology*, June 4, 2019, DOI: [https://doi.org/10.1371/journal.pbio.3000273](https://doi.org/10.1371/journal.pbio.3000273)


39 David Mellor, Brian Nosek, Nicole Pfeiffer, “Conflict Between Open Access and Open Science: APCs are a Key Part of the Problem, Preprints are a Key Part of the Solution,” *Center for Open Science Blog*, January 21, 2020, [https://cos.io/blog/conflict-between-open-access-and-open-science-apcs-are-key-part-problem-preprints-are-key-part-solution/](https://cos.io/blog/conflict-between-open-access-and-open-science-apcs-are-key-part-problem-preprints-are-key-part-solution/)


1.7 Research Data

There is a large body of literature on research data management. Here I have focused primarily on literature discussing smaller-scale, institution-level support for research data. Much of the research deals with larger data sets, which are managed at the disciplinary, national, or multinational level. I have intentionally excluded these from this bibliography.

The individual projects and programs for data management are included with repositories in section 2.2.

Roger C. Schonfeld reviews current approaches to research data (item 1). A Digital Science report summarizes the current state of open data (item 2). Items 3 to 10 provide general guidance for managing research data at the institutional level.

Items 11 to 16 look at how sharing research data impacts researchers and how the overall research environment is impacted by these practices.

The FAIR Principles for managing research data, which aim to improve the findability, accessibility, interoperability, and reuse of digital assets, are covered in items 17 to 19.


3. Danielle Cooper and Rebecca Springer, Data Communities: A New Model for Supporting STEM Data Sharing, Ithaka S+R Issue Brief, May 13, 2019, DOI: https://doi.org/10.18665/sr.311396


7 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *Incentives for Building University RDM Services.* The Realities of Research Data Management, Part 3. Dublin, Ohio: OCLC Research, 2018, DOI: [https://doi.org/10.25333/C3S62F](https://doi.org/10.25333/C3S62F)

8 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *Sourcing and Scaling University RDM Services.* The Realities of Research Data Management, Part 4. Dublin, Ohio: OCLC Research, 2018, DOI: [https://doi.org/10.25333/C3QW7M](https://doi.org/10.25333/C3QW7M)


1.8 Publishing

Publishing covers a lot of ground. What is covered here is mostly works discussing systems and strategies.

There have been a number of calls to transform scholarly publishing generally, so that it is more open (items 1 to 3). David W. Lewis has predicted that gold open access will become the dominant journal publishing model (item 4). Heather Piwowar and her colleagues provide two reviews of the state of open access journal publishing, the second with predictions of future developments (items 5 and 6). Richard Poynder has a lengthy review of the history and current state of open access (item 7).

An interview with Pierre Mounier describes OpenEdition, which reflects the European approach to open publishing (item 8).

Journal systems and strategies are covered in items 9 to 14.

Peer review is an important function in journal publishing. There are a number of studies that consider the effectiveness of traditional peer review and its strengths and flaws. A sample of articles discussing these issues can be found in items 15 to 18. There are proposals for reforming peer review to make it more open, particularly post-publication review to extend the conversation about the work (items 19 to 30).

The literature of monograph publishing has two focuses. The first is how to adapt the monograph so that it takes advantage of the opportunities presented with digital technologies (items 31 to 36). The second is how to create monographs with an open access model (items 37 to 46). The experience of Punctum Books is particularly interesting in terms of its low cost (items 47 and 48).

Publishing—General


Journals


14 *Global State of Peer Review*, Publons, 2018, DOI: https://doi.org/10.14322/publons.GSPR2018


22 Nina Schönfelder, “Article Processing Charges: Mirroring the Citation Impact or Legacy of the Subscription-Based Model?” *Quantitative Science Studies* 1(1):6–27, Winter 2020, DOI: https://doi.org/10.1162/qss_a_00015

**Monographs**


1.9 Discovery

This section captures basic information about projects and programs that contribute to discovery. Traditional indexes and abstracts have not been included.

Probably the most notable recent development is that artificial intelligence and machine learning is being applied to discovery (items 1 and 2). Some examples are Meta Science, IRIS.AI, SemanticScholar, Get the Research, and Yewno (see articles on these projects in section 3.0). Items 3 to 8 are general articles on discovery. Another interesting recent development is “access broker” browser extensions (item 9). Aaron Tay’s blog, Musings About Librarianship, is a good source of current information on developments (items 10 to 13).


1.10 Evaluation and Assessment

There is a large quantity of literature on the appropriateness of the most commonly used research measure—the journal impact factor. A sample is provided in items 1 to 7.

The Metrics Toolkit (item 8) is a good source for the pros and cons of various research metrics, as is the NISO metrics project (item 9).

Items 10 to 21 discuss alternative metrics.

The San Francisco Declaration on Research Assessment (DORA), which looks to move beyond the journal impact factor, is covered in items 22 to 24.


18 Lutz Bornmann and Robin Haunschild, “Do Altmetrics Correlate with the Quality of Papers? A Large-Scale Empirical Study Based on F1000Prime Data,” PLOS One, May 23, 2018, DOI: https://doi.org/10.1371/journal.pone.0197133


1.11 Preservation

The difficulties of preserving digital objects have been a concern for some time. A variety of projects address various parts of the problem, but no single project or model does everything that is required. Some projects—for example, LOCKSS and Portico—are stable and have proven themselves over time.

There is a large quantity of technical literature on digital preservation and digital curation, which I have not attempted to cover. Kenneth Thibodeau’s article is a useful beginning, as is the Wikipedia article on digital preservation (items 1 and 2).

Items 3 to 9 are reports, aimed primarily at the library community, that address preservation concerns and the state of preservation systems and strategies. In item 8, Rosenthal makes the important point that digital preservation is less a technology problem than an economic one. Items 10 to 18 are a sampling of articles on digital preservation strategies, again focused primarily on the library community. Items 19 to 21 discuss the Trustworthy Repositories Audit & Certification process.

The failure of the Digital Preservation Network is a warning that this part of the infrastructure remains challenging (item 22).


18 Carol A. Mandel, Can We Do More?: An Examination of Potential Roles, Contributors, Incentives, and Frameworks to Sustain Large-Scale Digital Preservation, Council on Library and Information Resources, September 2019, https://clir-dlf.app.box.com/s/31tc6nrua3cj8jw0ymee78gl3plzlo2


2.0 List of Projects/Programs

This section includes the lists of projects, programs, and products in the following categories:

1. Researcher Tools—Reading, Writing, Annotation, and Collaboration
2. Repositories
3. Publishing
4. Discovery
5. Evaluation and Assessment
6. Preservation
7. General Services

The lists include the organization that sponsors the project, program, or product where appropriate and indicates whether it is nonprofit (NP) or for profit (P). They are sorted by function and within the functional categories by organizational status (NP or P).

Literature on the individual project, program, or product can be found in section 3.0.
2.1 Researcher Tools—Reading, Writing, Annotation, and Collaboration

The tools in this section support the work of researchers as they consume and create research. Many of the tools are from for-profit companies, especially reference managers and collaboration platforms.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Organization</th>
<th>Function</th>
<th>P or NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotating All Knowledge</td>
<td></td>
<td>Researcher Tools—Annotation</td>
<td>NP</td>
</tr>
<tr>
<td>Hypothes.is</td>
<td></td>
<td>Researcher Tools—Annotation</td>
<td>NP</td>
</tr>
<tr>
<td>DEIP</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>NP</td>
</tr>
<tr>
<td>Dokieli</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>NP</td>
</tr>
<tr>
<td>Humanities Commons</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>NP</td>
</tr>
<tr>
<td>Knowledger</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>NP</td>
</tr>
<tr>
<td>PaperHive</td>
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<td>Researcher Tools—Collaboration</td>
<td>NP</td>
</tr>
<tr>
<td>Synapse Platform</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>NP</td>
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<tr>
<td>Academia.edu</td>
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<td>Researcher Tools—Collaboration</td>
<td>NP</td>
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<tr>
<td>Mendeley</td>
<td>Elsevier</td>
<td>Researcher Tools—Collaboration</td>
<td>P</td>
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<td>ResearchGate</td>
<td></td>
<td>Researcher Tools—Collaboration</td>
<td>P</td>
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<td>Paper Digest</td>
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<td>Researcher Tools—Reading</td>
<td>P</td>
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<td>Zotero</td>
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<td>Researcher Tools—Reference Manager</td>
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<tr>
<td>Data2paper</td>
<td>JISC</td>
<td>Researcher Tools—Writing</td>
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<td>Fidus Writer</td>
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<td>Shiny</td>
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2.2 Repositories

There are a variety of well-established repository systems and they are in widespread use as institutional repositories. The majority of the repository projects represented below—30 out of 39, or 76.9%—are nonprofit in their orientation. Several focus on a specific content format or topical area—Avalon Media System on media; Omeka on exhibits; Mukurtu on indigenous collections. There are a number of network scale systems that are used for scholarly purposes but also have more general uses: for example, YouTube, Vimeo, SlideShare, and FigShare. The list includes several subject repositories that are general in nature. There are many subject repositories, and these are not included. The directories listed below can be used to identify them. There are two directories of repositories—OpenDOAR Directory of Open Access Repositories and Registry of Open Access Repositories (ROAR), and a directory of OA policies—ROARMAP. Finally, the list includes tools that support repository functions.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Organization</th>
<th>Function</th>
<th>P or NP</th>
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<td>Avalon Media System</td>
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<td>NP</td>
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<tr>
<td>Blacklight</td>
<td>Repository</td>
<td>NP</td>
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<td>CONTENTdm</td>
<td>OCLC</td>
<td>Repository</td>
<td>NP</td>
</tr>
<tr>
<td>DSpace</td>
<td>DuraSpace/Lyrasis</td>
<td>Repository</td>
<td>NP</td>
</tr>
<tr>
<td>Eprints</td>
<td>Repository</td>
<td>NP</td>
<td></td>
</tr>
<tr>
<td>Fedora</td>
<td>DuraSpace/Lyrasis</td>
<td>Repository</td>
<td>NP</td>
</tr>
<tr>
<td>HyKu (Hydra in a Box)</td>
<td>Repository</td>
<td>NP</td>
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</table>
2.3 Publishing

Below are 64 projects and programs. These include a wide range of projects, from full-fledged systems for dealing with all aspects of the publishing process to small one-function projects that deal with things like hyphenation or mathematical notation.

The Open Journal System has long been the most used open system for digital journal production, but there are a variety of efforts to produce a more modern and modular journals system. The Collaborative Knowledge Foundation (Coko) has been active in this area with a number of collaborators.

Monographic publishing systems are more diverse; no one system has broad use.

<table>
<thead>
<tr>
<th>Project Name</th>
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<th>Function</th>
<th>P or NP</th>
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2.4 Discovery

Discovery tools include a mix of well-established large-scale commercial products, as well as a number of open and nonprofit projects. Some of the latter have remarkable reach, considering the small size of the organizations that created and maintain them (for example, Unpaywall and the Open Access Button). Also of interest is the growth of discovery tools that incorporate artificial intelligence and machine learning (for example, Meta and IRIS.AI).

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2.5 Evaluation and Assessment

The most important tools in this area are provided by large for-profit firms, particularly for current research information systems (CRIS). The open nonprofit projects in this area are small and have limited reach by comparison.

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### 2.6 Preservation

A number of preservation tools and services are well established and have a record of success—for example, LOCKSS and Portico. Not all have been successful, however: most notably, the Digital Preservation Network.

Nearly all of these preservation tools have been created and are maintained by nonprofit organizations.

<table>
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<td>BitCurator</td>
<td>Educopia Institute</td>
<td>Preservation</td>
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<td>Chronopolis</td>
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<td>CLOCKSS</td>
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<td>Preservation</td>
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<td>Digital Preservation Network</td>
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<td>Preservation</td>
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<td>DuraCloud</td>
<td>DuraSpace/Lyrasis</td>
<td>Preservation</td>
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<td>Keepers Registry</td>
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<td>MetaArchive Cooperative</td>
<td>Educopia Institute</td>
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<td>Portico</td>
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<td>Software Preservation Network</td>
<td>Educopia Institute</td>
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<td>Wayback Machine</td>
<td>Internet Archive</td>
<td>Preservation</td>
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<td>Archivematica</td>
<td>Artefactual Systems</td>
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<td>AtoM (Access to Memory)</td>
<td>Artefactual Systems</td>
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</table>
2.7 General Services

The tools in this section provide a variety of services that support digital scholarly communication. Nearly all are open and created and maintained by nonprofit organizations.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Organization</th>
<th>Function</th>
<th>P or NP</th>
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<tbody>
<tr>
<td>Common Workflow Language</td>
<td>General Services</td>
<td>General Service</td>
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<tr>
<td>Creative Commons</td>
<td>General Services</td>
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<td>Crossref</td>
<td>General Services</td>
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<tr>
<td>DataCite</td>
<td>General Services</td>
<td>General Service</td>
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<tr>
<td>Get Full Text Research (GetFTR)</td>
<td>General Services</td>
<td>General Service</td>
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<tr>
<td>Handle System</td>
<td>General Services</td>
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<tr>
<td>International Image Interoperability Framework (IIIF)</td>
<td>General Services</td>
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<td>OAIster</td>
<td>OCLC</td>
<td>General Service</td>
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<tr>
<td>Open Science Framework</td>
<td>Center for Open Science</td>
<td>General Service</td>
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<td>OpenCitations</td>
<td>General Services</td>
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<tr>
<td>ORCID</td>
<td>General Services</td>
<td>General Service</td>
<td>NP</td>
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<tr>
<td>Research Organization Registry (ROR)</td>
<td>General Services</td>
<td>General Service</td>
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<tr>
<td>SHARE</td>
<td>Center for Open Science</td>
<td>General Service</td>
<td>NP</td>
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<tr>
<td>The Initiative for Open Citations (14OC )</td>
<td>General Services</td>
<td>General Service</td>
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<tr>
<td>Transpose</td>
<td>General Services</td>
<td>General Service</td>
<td>NP</td>
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<tr>
<td>Virtual International Authority File (VIAF)</td>
<td>OCLC</td>
<td>General Service</td>
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<tr>
<td>SciCrunch</td>
<td>General Services</td>
<td>General Service</td>
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</tbody>
</table>
3.0 Individual Projects and Organizations

Below are descriptions and references for the projects/programs/products and the organizations that house and support them.

If you want to follow a particular project/program/product, you might find that company or project press releases are often a good source of information. However, because of space limitations, I have not included press releases here. Nor have I included blog posts that were less than two or three screens long. There are many bibliometric studies of some projects (for example, Google Scholar or Web of Science), and I have included only sampling of them.

For large, well-known organizations (for example, Internet Archive or Elsevier), I have included only a brief description.

I took most project and organization descriptions in this chapter directly from the related websites or from Wikipedia. When this was done, I have noted “wiki” for Wikipedia or “ws” for website. In these cases, the specific URL is the one found in the reference section. For quotes from other sources, the URL is provided. Sites were visited between February 8 and 11, 2020.

I have included all of the projects included in the “Mind the Gap” study and have taken some project descriptions from it.* When descriptions are quoted from this study they are indicated with “mtg.” Again, the specific URL is the one listed in the reference section.

**1figr**
Product of 1science/Elsevier

“1figr provides a bibliographic analysis of your organization’s active journal subscriptions. This report reveals what journals your researchers publish in and what journals they cite, and combines this information with download statistics. These metrics are expertly combined to yield uniquely powerful decision-making aids for librarians to make sure libraries are subscribed to the best combination of journals.” (ws)

Website: [https://www.1science.com/1figr/](https://www.1science.com/1figr/)

**1findr**
Product of 1science/Elsevier

“1findr aims to grow into the best and most comprehensive abstract indexing system based on expertly curated content. 1findr starts with the world’s most comprehensive list of refereed journals and contains thousands of journals typically absent from existing collections and discovery systems. 1findr is by far the most cost-effective way to expand your collection. It makes use of 1findr link resolver technology, which means that more than 27 million articles published in peer-reviewed journals are directly accessible for download, for free. 1findr radically reduces the time it takes to locate and download papers published in peer-reviewed journals. With 1findr you will quickly find yourself using fee-based & freely accessible scholarly articles, provided they are published in peer-reviewed journals.” (ws)

Website: [https://www.1science.com/1findr/](https://www.1science.com/1findr/)


**1foldr**
Product of 1science/Elsevier

“1foldr comes in two distinct flavors:

a. 1foldr Hub is the only self-populating, self-updating repository solution on the market
b. 1foldr Data conveniently delivers metadata, links to OA papers, and tools to download papers and upload data
Both 1foldr Hub and 1foldr Data cost-effectively seek and find the majority of green and gold open access papers published by your researchers in peer-reviewed journals, wherever on the Internet they are archived.” (ws)

Website: https://www.1science.com/1foldr/

1science (Elsevier)
Products: 1figr, 1findr, 1foldr

1science develops tools for searching and assessing scholarly literature. It began by focusing on open access literature, but then broadened its focus to include both open and paywalled literature. In 2018, 1science was acquired by Elsevier.

Website: https://www.1science.com

4Science

“As a Registered Service Provider and with 2 DSpace Committers, we can provide any kind of service for your Dspace repository: installation, configuration, data management, upgrades, helpdesk, assistance, maintenance, analysis, design, project planning, training, integration, customization, hosting, etc.” (ws) Author’s note: 4Science is the primary developer of Dspace-CRIS.

Website: https://www.4science.it/en/

Academia.edu

“Academia.edu is an American commercial social networking website for academics. The website allows its users to create a profile, upload their work(s), and select areas of interest. Then the user can browse the networks of people with similar interests. As of October 2019, Academia.edu claims just over 99 million users. Although Academia.edu it is not an open access repository per se, the platform can be used by scholars to share papers, monitor readership and paper impacts as measured by Academia.edu’s own metrics... and for users to follow scholars or research in specific fields. The site was launched in September 2008, with 39 million unique visitors per month as of January 2019 and over 21 million uploaded texts.” (wiki)

Website: https://www.academia.edu


**Academic Preservation Trust (APTrust)**

Program hosted by University of Virginia

“The Academic Preservation Trust (APTrust) is a consortium of higher education institutions committed to providing both a preservation repository for digital content and collaboratively developed services related to that content. The APTrust repository accepts digital materials in all formats from member institutions, and provides redundant storage in the cloud. It is managed and operated by the University of Virginia.” (http://aptrust.org/about)

Website: http://aptrust.org


**Altmetric**

Product of Digital Science

“Altmetric, or altmetric.com, is a data science company that tracks where published research is mentioned online, and provides tools and services to institutions, publishers, researchers, funders and other organisations to monitor this activity, commonly referred to as altmetrics.” (wiki)

Website: https://www.altmetric.com
2. “Company Overview of Altmetric LLP,”
3. “What is Altmetric,” Dimensions, July 29, 2019,
   https://dimensions.freshdesk.com/support/solutions/articles/23000018840-what-is-altmetric-

Annotating All Knowledge

“A coalition of some of the world’s key scholarly publishers, platforms, libraries, educational institutions, and technology organizations are coming together to create an open, interoperable annotation layer over their content.” (ws)

Website: https://hypothes.is/annotating-all-knowledge/

Archive-It
Program of the Internet Archive

“Created in early 2006, Archive-It is a web archiving subscription service that allows institutions and individuals to build and preserve collections of digital content and create digital archives. Archive-It allows the user to customize their capture or exclusion of web content they want to preserve for cultural heritage reasons. Through a web application, Archive-It partners can harvest, catalog, manage, browse, search, and view their archived collections.” (wiki)

Website: https://archive-it.org

1. https://en.wikipedia.org/wiki/Internet_Archive#Archive-It
2. Jillian M. Slater, “Archive-It (review),” American Archivist, September 2014,
   https://www2.archivists.org/sites/all/files/Archive-It.pdf
3. Alston B. Cobourn, “Case Study: Washington and Lee’s First Year Using Archive-It,” Journal of Western Archives 8, 2017,
   https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1077&context=westernarchives

Archivematica
Product of Artefactual Systems

“Archivematica is an integrated suite of open-source software tools that allows users to process digital objects from ingest to access in compliance with the ISO-OAIS functional model. Users monitor and control ingest and preservation micro-services via a web-based dashboard. Archivematica uses METS, PREMIS, Dublin Core, the Library of Congress BagIt specification and other recognized standards to generate trustworthy, authentic, reliable and system-independent Archival Information Packages (AIPs)
for storage in your preferred repository... All Archivematica code is released under a GNU Affero General Public License (A-GPL 3.0).” (ws)

Website: https://www.archivematica.org/en/


Artefactual Systems (organization)
Products: Archivematica, AtoM (Access to Memory)

Artefactual Systems Inc. is a privately owned company incorporated in British Columbia, Canada. It provides open-source, open-standard technologies for archival collections and digital repositories. The company was founded in January 2001.

Website: https://www.artefactual.com

arXiv

“arXiv (pronounced “archive”—the X represents the Greek letter chi [χ]) is an open-access repository of electronic preprints (known as e-prints) approved for posting after moderation, but not full peer review. It consists of scientific papers in the fields of mathematics, physics, astronomy, electrical engineering, computer sciences, quantitative biology, statistics, mathematical finance and economics, which can be accessed online. In many fields of mathematics and physics, almost all scientific papers are self-archived on the arXiv repository. Begun on August 14, 1991, arXiv.org passed the half-million-article milestone on October 3, 2008, and had hit a million by the end of 2014. By October 2016 the submission rate had grown to more than 10,000 per month.” (wiki)

Website: https://arxiv.org


**ASAPbio**

“ASAPbio (Accelerating Science and Publication in biology) is a scientist-driven nonprofit working to address this problem by promoting innovation and transparency in life sciences communication.” ([https://asapbio.org/about-us](https://asapbio.org/about-us))

Website: [https://asapbio.org](https://asapbio.org)


**Atmire**

Atmire is a DSpace service provider.

Website: [https://www.atmire.com](https://www.atmire.com)
**AtoM (Access to Memory)**
Product of Artefactual Systems

“AtoM stands for Access to Memory. It is a web-based, open source application for standards-based archival description and access in a multilingual, multi-repository environment.” (ws)

Website: [https://www.accessstomemory.org/en/](https://www.accessstomemory.org/en/)

**Atypon (organization)**
Products: Authorea, Literatum, RedLink

“Atypon Systems, LLC, is an online publishing platform provider for publishers and other providers of scientific, technical, medical, scholarly, professional, and government content. It is headquartered in Santa Clara, California. It has been owned by John Wiley & Sons since 2016.” (wiki)

Website: [https://www.atypon.com](https://www.atypon.com)

**Authorea**

“Authorea allows researchers to write documents together and attach references, figures, data, and source code. Features of the tool include collaborative editing (multiple people editing a document at the same time), automatic citation formatting, tracking changes, and the ability to make any document public or fully private.” (wiki) In 2018, Authorea was acquired by Atypon (Wiley).

Website: [https://www.authorea.com](https://www.authorea.com)

**Avalon Media System**

“Avalon Media System is an open source system for managing and providing access to large collections of digital audio and video. The freely available system enables libraries and archives to easily curate, distribute and provide online access to their collections for purposes of teaching, learning and research. The Avalon Community is made up of a dozen educational, media and open-technology institutions. The project is led by the libraries of Indiana University Bloomington and Northwestern and is funded in part by grants from the Institute of Museum and Library Services and the Andrew W. Mellon Foundation.” ([https://www.avalonmediasystem.org/project](https://www.avalonmediasystem.org/project))

Website: [https://www.avalonmediasystem.org](https://www.avalonmediasystem.org)


**BitCurator Consortium**
Program of Educopia Institute

“The BitCurator project was a joint effort led by the School of Information and Library Science at the University of North Carolina, Chapel Hill (SILS) and the Maryland Institute for Technology in the Humanities (MITH) to develop a system for collecting professionals that incorporates the functionality of many digital forensics tools... The BitCurator Environment is built on a stack of free and open source digital forensics tools and associated software libraries, modified and packaged for increased accessibility and functionality for collecting institutions. The BitCurator software is freely distributed under an open source license.” ([https://bitcurator.net/bitcurator/](https://bitcurator.net/bitcurator/))

Websites: [https://www.bitcuratorconsortium.org](https://www.bitcuratorconsortium.org) and [https://bitcurator.net/bitcurator-nlp/](https://bitcurator.net/bitcurator-nlp/)

**Blacklight**

“Blacklight is an open-source Ruby on Rails engine for creating search interfaces on top of Apache Solr indices. The software is used by libraries to create discovery layers or institutional repositories; by museums and archives to highlight digital collections; and by other information retrieval projects.” (wiki)

Website: [https://projectblacklight.org](https://projectblacklight.org)


**Center for Open Science (organization)**

Programs: Open Science Framework, OSF Meeting, OSF Preprints, SHARE

“The Center for Open Science is a non-profit technology organization based in Charlottesville, Virginia with a mission to ‘increase the openness, integrity, and reproducibility of scientific research.’ Brian Nosek and Jeffrey Spies founded the organization in January 2013, funded mainly by the Laura and John Arnold Foundation and others, after implementation and use of the Open Science Framework (OSF).” (wiki)

Website: [https://cos.io](https://cos.io)

Chronopolis
Program hosted by University of California at San Diego

“Spanning academic institutions and disciplines, the Chronopolis digital preservation network provides services for the long-term preservation and curation of America’s digital holdings. Because of the ephemeral nature of digital information, it is critical to organize and preserve the digital assets that represent society’s intellectual capital—the core seeds of knowledge that are the basis of future research and education.” (ws)

Website: https://libraries.ucsd.edu/chronopolis/


Citationsy

“Citationsy is a reference collection and bibliography creation tool for people who value simplicity, privacy, and speed... With Citationsy you can organize your citations into different projects and export them in over 8,500 different styles. (APA, Harvard, Chicago, MLA, DIN, and everything else). It includes search engines for books, music, podcasts, and scientific papers.” (https://citationsy.com/about)

Website: https://citationsy.com


Clarivate Analytics (organization)
Products: Converis, Publons, EndNote, Web of Science

“Clarivate Analytics is a Philadelphia and London-based company formed in 2016, following the acquisition of Thomson Reuters’ Intellectual Property and Science Business by Onex Corporation and
Baring Private Equity Asia. In May 13, 2019, Clarivate Analytics merged with Churchill Capital.” Clarivate Analytics owns and operates a collection of subscription-based services focused largely on analytics, including scientific and academic research, patent intelligence and compliance standards, pharmaceutical and biotech intelligence trademark, domain and brand protection. (wiki)

Website: https://clarivate.com

1. https://en.wikipedia.org/wiki/Clarivate_Analytics

CLOCKSS

“CLOCKSS (Controlled LOCKSS) employs a unique approach to archiving (Lots of Copies Keep Stuff Safe) that was initiated by Stanford University librarians in 1999. Digital content is stored in the CLOCKSS archive with no user access unless a ‘trigger’ event occurs. The LOCKSS technology regularly checks the validity of the stored data and preserves it for the long term. CLOCKSS operates 12 archive nodes leading academic institutions worldwide, preserving the authoritative versions of 33 million journal articles, over 26,000 serial and 183,000 book titles, and a growing collection of supplementary materials and metadata information. As of December 2017, 53 titles have been triggered and made available from our archive via open access. CLOCKSS participants include 310 libraries and 260 publishers.” (ws)

Website: https://clockss.org


Collaborative Knowledge Foundation (Coko) (organization)

Programs: Editoria, INK, xPub, Wax

The Coko Foundation is a nonprofit organization. “We facilitate research communication organizations and institutions to take control of their infrastructure needs and empower them to work together, producing shared solutions for knowledge creation, production and sharing.” (ws)

Website: https://coko.foundation


**Common Workflow Language**

“The Common Workflow Language (CWL) is a specification for describing analysis workflows and tools in a way that makes them portable and scalable across a variety of software and hardware environments, from workstations to cluster, cloud, and high performance computing (HPC) environments. CWL is designed to meet the needs of data-intensive science, such as Bioinformatics, Medical Imaging, Astronomy, Physics, and Chemistry.” (ws)

Website: http://www.commonwl.org/index.html


**CONTENTdm**
Program of OCLC

“CONTENTdm’s end-user experience is freshly designed for phones, tablets and workstations. It allows you to easily build and showcase your digital collections on your personalized website, making them more discoverable to people around the world. CONTENTdm also secures and monitors your master files in a cloud-based preservation archive so they remain safe for the future.” (ws)

Website: https://www.oclc.org/en/contentdm.html


**CONTENTdm**
Program of OCLC

“CONTENTdm’s end-user experience is freshly designed for phones, tablets and workstations. It allows you to easily build and showcase your digital collections on your personalized website, making them more discoverable to people around the world. CONTENTdm also secures and monitors your master files in a cloud-based preservation archive so they remain safe for the future.” (ws)

Website: https://www.oclc.org/en/contentdm.html


**Converis**
Product of Clarivate Analytics

“Converis is a powerful interface that links the various institutional systems that capture research-related information, creates standardization for compiling profiles and CVs, and reduces the need for repeated entry of information. Converis serves as a central integration hub for joining repositories, personal libraries, institutional databases, and an institution’s systems.” (ws)

Website: https://clarivate.com/products/converis/


**COUNTER (Project COUNTER)**

“Project COUNTER (colloquially referred to as COUNTER) is an international nonprofit membership organization of libraries, publishers, and vendors, who continually develop the Code of Practice. The Code of Practice is a standard designed to count the usage of electronic resources, in a library setting.” (wiki)

Website: https://www.projectcounter.org


5. Ted Bergstrom, “Do Download Reports Reliably Measure Journal Usage? Trusting the Fox to Count Your Hens?” March 8, 2018, [https://escholarship.org/uc/item/2cd2h7vt](https://escholarship.org/uc/item/2cd2h7vt)

6. Ted Bergstrom, Richard Uhrig, and Kristin Antelman, “Looking Under the COUNTER for Overcounted Downloads,” February 8, 2019, [https://escholarship.org/uc/item/0vf2k2p0](https://escholarship.org/uc/item/0vf2k2p0)

**Creative Commons**

“Creative Commons (CC) is an American non-profit organization devoted to expanding the range of creative works available for others to build upon legally and to share. The organization has released several copyright-licenses, known as Creative Commons licenses, free of charge to the public. These licenses allow creators to communicate which rights they reserve and which rights they waive for the benefit of recipients or other creators. An easy-to-understand one-page explanation of rights, with associated visual symbols, explains the specifics of each Creative Commons license.” (wiki)

Website: [https://creativecommons.org](https://creativecommons.org)

1. [https://en.wikipedia.org/wiki/Creative_Commons](https://en.wikipedia.org/wiki/Creative_Commons)

**Crossref**

“Crossref (formerly styled CrossRef) is an official Digital Object Identifier (DOI) Registration Agency of the International DOI Foundation. It is run by the Publishers International Linking Association Inc. (PILA) and was launched in early 2000 as a cooperative effort among publishers to enable persistent cross-publisher citation linking in online academic journals.” (wiki)

Website: [https://www.crossref.org](https://www.crossref.org)

1. [https://en.wikipedia.org/wiki/Crossref](https://en.wikipedia.org/wiki/Crossref)


**Data2paper**

“Data2paper is a cloud-based application to automate the process of compiling and submitting a data paper to a journal without the researcher having to leave the research space or wrestle directly with the journal’s submission system.” (ws)

Author’s note: Part of JISC’s Research Data Spring initiative, Data2Paper is now in Phase 4.

Website: https://data2paper.org


**DataCite**

“DataCite is a leading global non-profit organisation that provides persistent identifiers (DOIs) for research data and other research outputs. Organizations within the research community join DataCite as members to be able to assign DOIs to all their research outputs. This way, their outputs become discoverable and associated metadata is made available to the community. DataCite then develops additional services to improve the DOI management experience, making it easier for our members to connect and share their DOIs with the broader research ecosystem and to assess the use of their DOIs within that ecosystem.” (https://datacite.org/mission.html)

Website: https://datacite.org


**Dataverse**

“The Dataverse is an open source web application to share, preserve, cite, explore and analyze research data. Researchers, data authors, publishers, data distributors, and affiliated institutions all receive appropriate credit via a data citation with a persistent identifier (e.g., DOI, or Handle). A Dataverse repository hosts multiple dataverses. Each dataverse contains dataset(s) or other dataverses, and each dataset contains descriptive metadata and data files (including documentation and code that accompany the data).” (wiki)

Website: [https://dataverse.org](https://dataverse.org)


**DeepDyve**

“DeepDyve is a commercial website launched in late 2010 that provides access to mainly scientific and scholarly articles from a large range of commercial and non-commercial academic publishers. A novel aspect of DeepDyve’s business model is that access is on an affordable, online rental basis for web browser viewing, rather than the conventional buy-and-download access already provided by most academic publishers.” (wiki)
Website: https://www.deepdyve.com/


DEIP

“DEIP is an online decentralised research platform for and governed by researchers. The platform offers three essential features:

- Open Access publishing of research papers
- Open Peer Review of draft research papers
- Open Funding of research project applications

DEIP enables researchers to work together and assess research projects and papers in an open environment that rewards all of their scientific contributions. The platform is built on blockchain technology and consists of a decentralised network. This means that DEIP is neither owned by the DEIP team or any other centralised body. The platform is designed to be governed directly by the scientific community so that they can define the activities and future of the platform as well as distribute funding.” (http://eurodoc.net/news/2019/interview-with-alex-shkor-of-the-decentralised-research-platform-deip)

Website: https://deip.world


Depsy

Project of Our Research

“Depsy helps build the software-intensive science of the future by promoting credit for software as a fundamental building block of science.” (ws)

Author’s note: This website is no longer being maintained.

Website: http://depsy.org


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**Digital Commons (Bepress)**

Product of Elsevier

“Digital Commons is a hosted institutional repository and publishing solution, combining traditional institutional repository functionality with tools for peer-reviewed journal publishing, conference management, and multimedia. Digital Commons supports OAI-PMH version 2.0. Metadata is exposed through the OAI. Content published to Digital Commons institutional repositories is optimized for indexing by Google, Google Scholar, and other major search engines.” (wiki)

Website: [https://www.bepress.com](https://www.bepress.com)

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Digital Preservation Network

Program hosted by Internet2

DPN had a commitment to replicate the data and metadata of research and scholarship across diverse software architectures, organizational structures, geographic regions, and political environments. DPN ceased operations in late 2018.


Digital Science (organization)

Products: Altmetric, Dimensions, figshare, Overleaf, ReadCube, ScholarOne, Symplectic

“Digital Science is a technology company serving the needs of scientific and research communities at key points along the full cycle of research. We invest in, nurture and support innovative businesses and technologies that make all parts of the research process more open, efficient and effective.” (https://www.digital-science.com/about-us/)

Website: https://www.digital-science.com


Dimensions

Product of Digital Science

Dimensions [is] a dynamic, easy-to-use, linked research data platform that reimagines the way research can be discovered, accessed, and analyzed. Whether you are a researcher, a funder, a publisher, a research administrator, or a librarian, Dimensions makes it easy to navigate the many links between grants, publications, clinical trials, datasets and policy documents.” (ws)
Website: [https://www.dimensions.ai](https://www.dimensions.ai)


**Directory of Open Access Books (DOAB)**

“The primary aim of DOAB is to increase discoverability of Open Access books. Academic publishers are invited to provide metadata of their Open Access books to DOAB. Metadata will be harvestable in order to maximize dissemination, visibility and impact. Aggregators can integrate the records in their commercial services and libraries can integrate the directory into their online catalogues, helping scholars and students to discover the books. The directory is open to all publishers who publish academic, peer reviewed books in Open Access and should contain as many books as possible, provided that these publications are in Open Access and meet academic standards.” (ws)

Website: [https://www.doabooks.org](https://www.doabooks.org)

Directory of Open Access Journals (DOAJ)

“DOAJ is a community-curated online directory that indexes and provides access to high quality, open access, peer-reviewed journals. DOAJ is independent. All funding is via donations, 22% of which comes from sponsors and 78% from members and publisher members. All DOAJ services are free of charge including being indexed in DOAJ. All data is freely available.” (ws)

Website: https://doaj.org


discoverygarden
discoverygarden is an Islandora service provider.

Website: https://www.discoverygarden.ca


Dokieli

dokieli is a general-purpose client-side tool for decentralised article publishing, annotations and social interactions based on open Web standards and best practices. dokieli positions itself in a decentralised and interoperable information space where researchers can exercise their autonomy by controlling their identifiers and identities whilst fulfilling the core functions of scientific communication (registration, awareness, certification, archiving).” (mtg)

Website: https://dokie.li/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/k7zvn8ar?readingCollection=2e2f6c3f
2. Sarven Capadisli, Amy Guy, Ruben Verborgh, Christoph Lange, Sören Auer, and Tim Berners-Lee, “Decentralised Authoring, Annotations and Notifications for a Read–Write Web with Dokieli,” in
Dryad Digital Repository

“Dryad is an international open-access repository of research data, especially data underlying scientific and medical publications (mainly of evolutionary, genetic, and ecology biology). Dryad is a curated general-purpose repository that makes data discoverable, freely reusable, and citable. The scientific, educational, and charitable mission of Dryad is to provide the infrastructure for and promote the re-use of scholarly research data.” (wiki)

Website: https://datadryad.org


DSpace
Program of DuraSpace/LYRASIS

“DSpace is an open source repository software package typically used for creating open access repositories for scholarly and/or published digital content. While DSpace shares some feature overlap with content management systems and document management systems, the DSpace repository
software serves a specific need as a digital archives system, focused on the long-term storage, access and preservation of digital content.” (wiki)

Website: https://duraspace.org/dspace/


**DSpace-CRIS**

“DSpace-CRIS is the first free open-source extension of DSpace for the Research Data and Information Management ever developed. Differently from other (commercial) CRIS/RIMS, DSpace-CRIS has the institutional repository as its core component, providing high visibility on the web to all the collected information and objects. DSpace-CRIS broadens DSpace functionality and expands its data model while remaining aligned with its code base.” (ws)

Website: https://wiki.duraspace.org/display/DSPACECRIS/DSpace-CRIS+Home


**DuraCloud**

Program of DuraSpace/LYRASIS

“DuraCloud is an open source technology project for preserving and archiving digital content. DuraCloud is developed by and hosted as a SAAS by DuraSpace. The DuraCloud open source software is available under the terms of the Apache License, Version 2.0.” (wiki)

Website: https://duraspace.org/duracloud/

DuraSpace (division of LYRASIS)
Programs: DuraCloud, DSpace, Fedora, VIVO

“DuraSpace was a 501(c)(3) not-for-profit organization founded in 2009 when the Fedora Commons organization and the DSpace Foundation, two of the largest providers of open source repository software for managing and providing access to digital content, joined their organizations. In July 2019, DuraSpace merged with LYRASIS, becoming a division of that organization.” (wiki)

Website: https://duraspace.org


Editoria
Program of Coko

“Editoria is an open-source authoring, editing, and workflow system initially developed by Coko in partnership with the Editoria community underwritten by fiscal sponsor Aspiration Tech and funded by the Mellon Foundation. Editoria is a web-based tool for producing scholarly monographs in both print and ebook forms. Coko’s PubSweet framework and Wax editor are underlying technologies in Editoria. Paged.js is available as a print production pathway, as are other format outputs.” (mtg)

Website: https://editoria.pub

1. Mind the Gap: https://mindthegap.pubpub.org/pub/ik6q5x2s?readingCollection=2e2f6c3f
**Educopia Institute (organization)**
Programs: MetaArchive Cooperative, BitCurator Consortium; Project: Software Preservation Network

“The Educopia Institute empowers collaborative communities to create, share, and preserve knowledge. We believe in the power of connection and collaboration. In all of our work, we encourage knowledge sharing and network building across institutions, communities, and sectors. Our strengths include training, neutral community facilitation, and administrative backbone support services for collaborative communities. Educopia also develops and manages applied research projects that benefit our affiliated communities and the broader information fields of libraries, archives, and museums.”

(https://educopia.org/about/)

Website: https://educopia.org


**Elsevier (organization)**
Products: Digital Commons (Bepress), Mendeley, Pure, Scopus, SSRN

“Elsevier... is a Dutch publishing and analytics company specializing in scientific, technical, and medical content. It is a part of the RELX Group, known until 2015 as Reed Elsevier. Its products include journals such as The Lancet and Cell, the ScienceDirect collection of electronic journals,... the online citation database Scopus, and the ClinicalKey search engine for clinicians. Elsevier’s products also include digital tools for data-management, instruction, and assessment. Elsevier publishes more than 470,000 articles annually in 2,500 journals. Its archives contain over 16 million documents and 30,000 e-books. Total yearly downloads amount to more than 1 billion. Elsevier’s high operating profit margins (37% in 2018) and 950 million pounds in profits, often on publicly funded research works and its copyright practices have subjected it to criticism by researchers.” (wiki)

Website: https://www.elsevier.com


**Electric Book**

“Electric Book is a Jekyll-based tool for producing print PDF, digital PDF, EPUB, website, and app versions of books from a single markdown, YAML, and HTML-based content source. It was developed by consultancy and service provider Electric Book Works.” (mtg)

Website: http://electricbook.works/
1. Mind the Gap: https://mindthegap.pubpub.org/pub/r36na5r8?readingCollection=2e2f6c3f

**EndNote**

Product of Clarivate Analytics

“EndNote is a commercial reference management software package, used to manage bibliographies and references when writing essays and articles.” (wiki)

Website: https://endnote.com


**Enhanced Network Monographs**

“Enhanced Networked Monographs (ENM) is an experimental project developed by New York University. It provides a free platform for topic-based and full-text searching on a corpus of books from NYU Press, University of Minnesota Press, and the University of Michigan Press. The platform consists of the ENM search application plus generated topic pages and the customized version of the Topic Curation Toolkit (TCT) used to power/generate them.” (mtg)

Website: https://wp.nyu.edu/enmproject/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/rprmq0sa?readingCollection=2e2f6c3f

**EPrints**

“EPrints is a free and open-source software package for building open access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It shares many of the features commonly seen in document management systems, but is primarily used for institutional repositories and scientific journals. EPrints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPL license.” (wiki)
Website: https://www.eprints.org/uk/


epub.js
“epub.js is a javascript library that provides a robust drop-in ePub renderer that powers book readers for websites and mobile applications; providing navigation, themes, annotations and persistence. The project comes from FuturePress, an offshoot of the UC Berkeley School of Information.” (mtg)

Website: http://futurepress.org/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/uvehoi0v?readingCollection=2e2f6c3f

F1000 (Faculty of 1000) Research
Product of Taylor & Francis

“F1000Research is an open access, open peer-review scientific publishing platform covering the life sciences. Articles are published first and peer reviewed after publication by invited referees. The peer reviewer’s names and comments are visible on the site. As part of its open science model, the data behind each article are also published and are downloadable. F1000Research publishes multiple article types including traditional research articles, single findings, case reports, protocols, replications and null or negative results. The journal has been criticized for unclear peer-review standards in relation to its inclusion in PubMed, but has since clarified how articles are indexed in the PubMed and PubMed Central databases. F1000Research also publishes posters and slide presentations in biology and medicine.” (wiki)
Author’s note: In January 2020, F1000Research was acquired by Taylor & Francis.

Website: https://f1000.com/about

Fedora Repository
Program of DuraSpace/LYRASIS

“Fedora (or Flexible Extensible Digital Object Repository Architecture) is a digital asset management (DAM) architecture upon which institutional repositories, digital archives, and digital library systems might be built. Fedora is the underlying architecture for a digital repository, and is not a complete management, indexing, discovery, and delivery application. It is a modular architecture built on the principle that interoperability and extensibility are best achieved by the integration of data, interfaces, and mechanisms (i.e., executable programs) as clearly defined modules.” (wiki)

Website: https://wiki.duraspace.org/display/FF/Fedora+Repository+Home


Fidus Writer

“Fidus Writer is a web-based, collaborative editor made for academics who need to use citations and/or formulas. Fidus Writer offers a visual editing interface, real-time editing collaboration, a commenting/review workflow system, and a variety of export formats. Fidus provides hosting and styled templates for a monthly fee.” (mtg)

Website: https://www.fiduswriter.org/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/qq7mv8d1?readingCollection=2e2f6c3f

figshare
Product of Digital Science

“Figshare is an online open access repository where researchers can preserve and share their research outputs, including figures, datasets, images, and videos. It is free to upload content and free to access, in adherence to the principle of open data.” (wiki)

Website: https://figshare.com


Fulcrum
Program hosted by University of Michigan Library

“Fulcrum is the University of Michigan Library’s ebook hosting, preservation, and media integration platform, developed on top of the Samvera repository platform. Fulcrum allows authors and publishers to integrate multimedia elements into a book—linked from a print book or directly integrated in an ebook—while providing a robust, richly described, and accessible reader environment and a discoverability platform for ebook collections. Fulcrum is a platform available to the University of Michigan Press authors, as well as a service offered to other publishers. Fulcrum makes use of epub.js, AblePlayer, Hypothes.is, and Editoria (in testing) to provide basic and enhanced functionality.” (mtg)

Website: https://www.fulcrum.org

1. Mind the Gap: https://mindthegap.pubpub.org/pub/1o0j23vx?readingCollection=2e2f6c3f

Get Full Text Research

“Get Full Text Research (GetFTR) is a new, free to use solution that enables faster access for researchers to the published journal articles they need. When researchers are using online tools to search for research, GetFTR will provide seamless pathways to the published journal articles they want. Researchers will be able to link directly to the most up to date and best version of an article. To create a seamless experience, researchers will be taken directly to the article, and just the article, from a wide variety of discovery tools that they are already using. Even if a researcher does not have the relevant institutional access to an article, publishers can provide an alternative version of the content. Importantly, GetFTR enables users to access content in this way both off-campus and on-campus.” (https://www.getfulltextresearch.com/introducing-getftr/)

Website: https://www.getfulltextresearch.com


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**Get The Research**

*Program of Our Research*

“Get The Research is a website where regular people can find, read, and understand the scholarly research on any topic. It’ll be built on the 20 million open access articles in the Unpaywall index, and feature AI-powered tools that help make the content and context of scholarly articles more clear to readers.” (https://scholarlykitchen.sspnet.org/2018/11/12/get-the-research-impactstory-announces-a-new-science-finding-tool-for-the-general-public/)

*Website:* https://gettheresearch.org

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**Google Scholar**

“Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. Released in beta in November 2004, the Google Scholar index includes most peer-reviewed online academic journals and books, conference papers, theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature, including court opinions and patents. While Google does not publish the size of Google Scholar’s database, scientometric researchers estimated it to contain roughly 389 million documents including articles, citations and patents making it the world’s largest academic search engine in January 2018.” (wiki)

*Webpage:* https://scholar.google.com

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Grobid

“GROBID (or Grobid) stands for GeneRation Of Bibliographic Data. It is a machine-learning library for extracting, parsing, and re-structuring journal articles in PDF format into structured TEI-encoded documents that can then be transformed to JATS XML. Grobid represents a best-of-breed example (see https://arxiv.org/abs/1802.01168) of the shift from traditional parser-based approaches to machine-learning models for converting legacy documents to XML. Grobid is employed in the PKP’s Open Typesetting Stack.” (mtg)

Website: https://grobid.readthedocs.io/en/latest/Introduction/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/1hwnqb3r?readingCollection=2e2f6c3f

Handle System

“The Handle System is the Corporation for National Research Initiatives’ proprietary registry assigning persistent identifiers, or handles, to information resources, and for resolving ‘those handles into the information necessary to locate, access, and otherwise make use of the resources.’” (wiki)

Website: http://www.handle.net

**HathiTrust**
Program hosted by University of Michigan Library

“HathiTrust is a large-scale collaborative repository of digital content from research libraries including content digitized via the Google Books project and Internet Archive digitization initiatives, as well as content digitized locally by libraries.” (wiki)

Website: [https://www.hathitrust.org](https://www.hathitrust.org)


**HIRMEOS Project**

“HIRMEOS seeks to build functionality for research monographs in the European open-science infrastructure. This metrics project normalizes book identifiers (ISBNs, DOIs), provides modular “drivers” to gather various metrics (Google Analytics, JSTOR, COUNTER, etc.) and altmetrics (social media sources), and then aggregates these so publishers have access to usage and traffic data on ebooks. The usage data code has been developed by the UK-based Open Book Publishers. Altmetrics code has been developed by Ubiquity Press.” (mtg)

Website: [https://www.hirmeos.eu](https://www.hirmeos.eu)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/8gk367el?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/8gk367el?readingCollection=2e2f6c3f)
3. Andrea Bertino, Luca Foppiano, Laurent Romary, and Pierre Mounier, “Leveraging Concepts in Open Access Publications,” PUBMET 2018, 5th Conference on Scholarly Publishing in the Context of Open Science, September 2018, Zadar, Croatia. [https://hal.inria.fr/hal-01900303/](https://hal.inria.fr/hal-01900303/)
Humanities Commons
Program hosted by Michigan State University

“Humanities Commons is a trusted, nonprofit network where humanities scholars can create a professional profile, discuss common interests, develop new publications, and share their work. The Humanities Commons network is open to anyone.” (Founded at the Modern Languages Association; now hosted by Michigan State University.)
(https://hcommons.org/about/)

Website: https://hcommons.org


Hy-phen
“Hy-phen is a JavaScript implementation of Francis Liang’s TeX hyphenation algorithm.” (mtg)

Website: https://github.com/ytiurin/hyphen

1. Mind the Gap: https://mindthegap.pubpub.org/pub/e2tk97gl?readingCollection=2e2f6c3f

Hyku (Hydra in a Box)

“Hyku is the official name of the repository product that is a main deliverable of the Hydra-in-a-Box project. We settled on the name in November 2016 and announced it in early December 2016. Prior to that time, we referred to it as “the Hydra-in-a-Box repository” or “Lerna” as a temporary placeholder name. In all these cases, we are talking about the same thing: a polished, turnkey, feature-complete repository application product created by the Hydra-in-a-Box project.” (ws)

Website: https://hyku.samvera.org


Hyphenopoly

“Hyphenopoly is a JavaScript library for providing robust hyphenation in HTML, especially while hyphenation remains patchily supported by web browsers, especially across multiple languages. Hyphenopoly provides hyphenation dictionaries and algorithms derived from Francis M Liang’s classic TeX hyphenation algorithm. Hyphenopoly can be dropped in to any website. Hyphenopoly supercedes an earlier JS system Hyphenator.” (mtg)

Website: http://mnater.github.io/Hyphenopoly/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/1p3b8vze?readingCollection=2e2f6c3f

Hypher

“Hypher is a hyphenation engine written in JavaScript for web browsers using jQuery. It comes with hyphenation dictionaries for more than 30 languages.” (mtg)

Website: http://www.bramstein.com/working/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/5hazhwb4?readingCollection=2e2f6c3f

Hypothes.is

“Hypothes.is is a 501(c) open-source software project that aims to collect comments about statements made in any web-accessible content, and filter and rank those comments to assess each statement’s credibility. It has been summarized as ‘a peer review layer for the entire Internet.’” (wiki)

“The Hypothesis Project is a new effort to implement an old idea: A conversation layer over the entire web that works everywhere, without needing implementation by any underlying site. Our team creates open source software, pushes for standards, and fosters community. Using annotation, we enable sentence-level note taking or critique on top of news, blogs, scientific articles, books, terms of service, ballot initiatives, legislation and more.” (https://web.hypothes.is/about/)

Website: https://web.hypothes.is
1. Mind the Gap: https://mindthegap.pubpub.org/pub/khmym6ye?readingCollection=2e2f6c3f

**ImpactStory Profiles**

Program of Our Research

“An open source, web-based tool that provides altmetrics to help researchers measure the impacts of their research outputs including journal articles, blog posts, datasets, and software. It aims to change the focus of the scholarly reward system to value and encourage web-native scholarship.” (wiki)

Website: https://profiles.impactstory.org


**Initiative for Open Citations (I4OC)**

“The Initiative for Open Citations 14OC is a collaboration between scholarly publishers, researchers, and other interested parties to promote the unrestricted availability of scholarly citation data.” (ws)

Website: https://i4oc.org

5. Aaron Tay, “Understanding the Implications of Open Citations — How Far Along Are We?” Medium, April 30, 2018, https://medium.com/a-academic-librarians-thoughts-on-open-access/understanding-open-citations-f31b2f3a2533
INK
Project of Collaborative Knowledge Foundation (Coko)

INK is Coko’s ingestion, conversion, and syndication environment, which converts content and data from one format to another, tags with identifiers, and normalizes metadata.

1. https://coko.foundation/ink-1-0-is-here/

International Image Interoperability Framework (IIIF)

“The International Image Interoperability Framework (IIIF) defines several application programming interfaces that provide a standardised method of describing and delivering images over the web, as well as ‘presentation based metadata’ (that is, structural metadata) about structured sequences of images. If institutions holding artworks, books, newspapers, manuscripts, maps, scrolls, single sheet collections, and archival materials provide IIIF endpoints for their content, any IIIF-compliant viewer or application can consume and display both the images and their structural and presentation metadata.” (wiki)

Website: https://iiif.io


Internet Archive (organization)
Programs: Archive-It, Wayback Machine

“The Internet Archive is an American digital library with the stated mission of ‘universal access to all knowledge.’ It provides free public access to collections of digitized materials, including websites, software applications/games, music, movies/videos, moving images, and millions of public-domain books. In addition to its archiving function, the Archive is an activist organization, advocating for a free and open Internet. The Internet Archive allows the public to upload and download digital material to its data cluster, but the bulk of its data is collected automatically by its web crawlers, which work to preserve as much of the public web as possible. Its web archive, the Wayback Machine, contains
hundreds of billions of web captures. The Archive also oversees one of the world’s largest book digitization projects.” (wiki)

Website: https://archive.org


IRIS.AI

“The Iris.ai products are process tools aimed specifically at researchers in the early phase of a new project. They are especially suitable for interdisciplinary projects where the combination of knowledge from across a range of research fields will be vital to the project’s success. Consistently outperforming old school search tools, Iris.ai builds an interdisciplinary research map based on a problem statement or research paper of your choice. Iris.ai does this by building a ‘fingerprint’ using machine extracted keywords, contextual synonyms and hypernyms, then matches the fingerprint against more than 70M Open Access papers.” (https://iris.ai/features/#explore-tool)

Website: https://iris.ai

Islandora

“Islandora is an open-source digital repository system based on Fedora Commons, Drupal and a host of additional applications. It is open source software (released under the GNU General Public License and was originally developed at the University of Prince Edward Island by the Robertson Library. Islandora may be used to create large, searchable collections of digital assets of any type and is domain-agnostic in terms of the type of content it can steward. It has a highly modular architecture with a number of key features.” (wiki)

Website: https://islandora.ca


JAMS (Journal & Article Management System)
Product of MDPI

“JAMS is a modular set of journal management services combining:

- editorial processes, including peer review
- production services
- invoicing of APCs and other per paper charges.

Choose from our standard or customized options to create a workflow that suits your needs and size of your publishing operation. JAMS was created by MDPI, an open access publisher with over 20 years’ experience in open access publishing. Our services are designed to be efficient, user-friendly and give flexibility to publishers of all sizes.” (ws)

Website: http://jams.pub
Janeway

“Janeway is journal management software developed by the Birkbeck Centre for Technology and Publishing for the Open Library of Humanities (OLH) at Birkbeck, University of London. Janeway integrates Crossref, iThenticate, Portico, and CLOCKSS services to provide a full-featured OA journal publishing platform. Janeway is a Django-based web application.” (mtg)

Website: https://www.openlibhums.org/site/janeway/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/af1gfako?readingCollection=2e2f6c3f

JISC (organization)
Projects: Publications Router

“Jisc (formerly the Joint Information Systems Committee) is a United Kingdom not-for-profit company whose role is to support post-16 and higher education, and research, by providing relevant and useful advice, digital resources and network and technology services, while researching and developing new technologies and ways of working. It is funded by a combination of the UK further and higher education funding bodies, and individual higher education institutions.” (wiki)

Website: https://www.jisc.ac.uk/


Jupyter Notebook

“Jupyter Notebook (formerly IPython Notebooks) is a web-based interactive computational environment for creating Jupyter notebook documents. The ‘notebook’ term can colloquially make reference to many different entities, mainly the Jupyter web application, Jupyter Python web server, or Jupyter document format depending on context. A Jupyter Notebook document is a JSON document, following a versioned schema, and containing an ordered list of input/output cells which can contain code, text (using Markdown), mathematics, plots and rich media, usually ending with the ‘.ipynb’ extension.” (wiki)

Website: http://jupyter.org/

2. Mind the Gap: https://mindthegap.pubpub.org/pub/54mxhtwg?readingCollection=2e2f6c3f

**KaTeX**

“KaTeX is a LaTeX-based typesetting tool for mathematical expressions developed by the Khan Academy. It is billed as the fastest math typesetting library for the web because it renders math in real time without the need to reflow the page. It is self-contained with no dependencies and can run server-side or in the browser.” (mtg)

Website: https://katex.org/

2. Mind the Gap: https://mindthegap.pubpub.org/pub/7efyq6ww?readingCollection=2e2f6c3f

**Keepers Registry**

Program of ISSN International Centre

“The Keepers Registry acts as a global monitor on the archiving arrangements for digital content issued as continuing resources including e-publications. The Registry has three main purposes:

a. To enable librarians and policy makers to find out who is looking after what e-content, how, and with what terms of access.

b. To highlight e-journals which are still “at risk of loss” and need to be archived.

c. To showcase the archiving organisations around the world, i.e. the Keepers, which provide the digital shelves for access to content over the long term.

ISSN International Centre assumed principal responsibility for the functioning of the Registry in late 2019 following endorsement from its Governing Board about the value the Keepers Registry as part of the global identification infrastructure for serials.” (https://keepers.issn.org/keepers-registry)

Website: https://keepers.issn.org


**Knowledgr**

“Knowledgr is a network of structured, open-access micro-publications shared on a public blockchain that empowers scientists to self-govern how their research outputs are judged and rewarded. Knowledgr employs a transparent, community-derived, social-consensus algorithm that rewards observations, questions, and hypotheses with KNLG in proportion to each post’s intellectual value, as defined by the greater scientific community user base.” (ws)

Website: http://beta.knowledgr.io/created


**Kopernio**

Product of Clarivate Analytics

“Kopernio is a technology startup which aims to allow researchers to easily and legally read the full texts of scientific journal articles. Using artificial intelligence, the company’s namesake tool automatically records the institutional subscriptions each user has and searches for full-text versions of selected papers to which the user may have access.” (wiki)

Website: https://kopernio.com/for-libraries

**le-tex Transpect**

“le-tex Transpect is an XProc- and XSLT-based framework and suite of modules for managing, schema checking, and converting from/to XML-based formats such as .docx, IDML, EPUB, HTML, DocBook, TEI and JATS. le-tex Transpect also provides a framework for combining modules into publishing workflows with revision control and custom, cascade-based configuration. le-tex Transpect can run standalone or integrated into publishing workflows. A simple upload interface and an HTTP API is available, as is hosted operation and maintenance agreements for professional use.” (mtg)

Website: [https://transpect.github.io/](https://transpect.github.io/)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/6rgvu72q?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/6rgvu72q?readingCollection=2e2f6c3f)

**Lens**

“Lens is an online article-reading environment developed by eLife that—by treating a JATS journal article as a database—makes it possible to explore figures, figure descriptions, references and more without losing one’s place in the article text. Lens was designed using the Substance libraries. Much of its functionality is now in eLife’s Libero Producer tool.” (mtg)

Website: [https://lens.elifesciences.org/about/#info/all](https://lens.elifesciences.org/about/#info/all)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/54xps359?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/54xps359?readingCollection=2e2f6c3f)

**Lens.org (formerly Patent Lens)**

“The Lens is an online patent search facility and knowledge resource, provided by Cambia, an independent, international non-profit organization dedicated to democratizing innovation. Launched in 2000, the Patent Lens allowed free searching of over 10 million full-text patent documents... In 2013 the Patent Lens was officially replaced with Cambia’s new site The Lens. The Lens made improvements in the visual presentation of patent analysis and workspace management. It also features a biological facility with a number of advanced tools for searching and analysing sequences found in patents.” (wiki)

Website: [https://www.lens.org](https://www.lens.org)

Libero

“Libero Publisher is designed to help publishers deliver beautifully presented content to readers on any device, wherever they are. It is just one component of Libero, a community-driven and open-source platform of services and applications being built to help content providers do more with everything they publish.” (https://libero.pub/elife-introduces-first-demonstration-of-the-open-source-publishing-platform-libero-publisher/)

Author’s note: Libero has four modules: Libero Producer, Libero Reviewer, Libero Publisher, and Libero Data Hub.

Website: https://libero.pub

1. Mind the Gap: Libero Producer https://mindthegap.pubpub.org/pub/lh18u8g?readingCollection=2e2f6c3f, Libero Publisher https://mindthegap.pubpub.org/pub/a9gth0ve?readingCollection=2e2f6c3f, and Libero Reviewer https://mindthegap.pubpub.org/pub/jq9bg9g2?readingCollection=2e2f6c3f


Literatum

Product of Atypon

“Literatum is a comprehensive platform for every type of publisher and any type of content... Literatum’s six modules integrate easily with technologies in your existing publishing ecosystem—and can often even replace them. It’s scalable, so it adapts as your business evolves and powers growth without requiring additional staff. And its support for every content type fosters collaboration among traditionally siloed departments: marketing, editorial, and communications.” (ws)

Website: https://www.atypon.com/products/literatum/

LOCKSS

Program of Stanford University Libraries

“The LOCKSS (“Lots of Copies Keep Stuff Safe”) project, under the auspices of Stanford University, is a peer-to-peer network that develops and supports an open source system allowing libraries to collect, preserve and provide their readers with access to material published on the Web. Its main goal is digital preservation.” (wiki)

Website: https://www.lockss.org

Lodel

“Lodel is the journal publishing software for the French OpenEdition publishing platform. It provides content management and import/conversion to bring word processor documents into an XML-based article production environment.” (mtg)

Website: http://www.lodel.org/index.html

1. Mind the Gap: https://mindthegap.pubpub.org/pub/bncqwirt?readingCollection=2e2f6c3f

Manifold Scholarship

“Manifold is a collaborative, web-based scholarly publishing system designed by the University of Minnesota Press and the CUNY Graduate Center. Manifold provides a dynamic approach to publishing book-length works capable of gathering commentary, annotation, and revisions within the publication. Built to publish long-form digital monographs, Manifold is also used in service of open educational resources, journals, and collaborative scholarly projects. It is currently used by twenty-eight publishers, including the University of Minnesota Press, the City University of New York, and the University of Arizona Press, as well as digital humanities centers and teaching and learning centers.” (mtg)

Website: https://manifoldapp.org

1. Mind the Gap: https://mindthegap.pubpub.org/pub/kksiqtfs?readingCollection=2e2f6c3f


**Manubot**

“Manubot is a workflow and set of tools for the next generation of scholarly publishing. Write your manuscript in markdown [markup language] track it with git, automatically convert it to .html, .pdf, or .docx, and deploy it to your destination of choice.” (ws)

Website: [https://manubot.org](https://manubot.org)


**MathJax**

“MathJax is a JavaScript display engine for mathematics typesetting that works in web browsers. It provides support for LaTeX, MathML, and AsciiMath in the web based interface.” (mtg)

Author’s note: The MathJax project is managed by the American Mathematical Society.

Website: [https://www.mathjax.org/](https://www.mathjax.org/)


2. Mind the Gap: [https://mindthegap.pubpub.org/pub/ltv3k8tb?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/ltv3k8tb?readingCollection=2e2f6c3f)


**MDPI (organization)**

Products: JAMS (Journal & Article Management System), SciForum
“MDPI is one of the leading scholarly open access Publishers. It was founded by researchers in Basel, Switzerland in 1996 as an institute to collect, preserve and redistribute rare chemical samples for research purposes... In 2010 MDPI AG was formally registered in Basel as a professional publishing house... Authors retain the copyright of their papers, and all papers are released under the Creative Commons by Attribution (CC-BY) license, thus allowing maximum dissemination and re-use of the research reported in our journals.” (https://www.mdpi.com/librarians#overview)

Website: https://www.mdpi.com


Mendeley
Product of Elsevier

“Mendeley is a company based in London, UK, which provides products and services for academic researchers. It is most known for its reference manager which is used to manage and share research papers and generate Bibliographies for scholarly articles.” (wiki)

Website: https://www.mendeley.com


**Meta Science**  
Program of the Chan Zuckerberg Initiative

“Meta includes coverage of the biomedical sciences with real-time updates from PubMed and other sources. The website provides access to over 22 million papers with publication dates as early as the 1800s. By sifting through papers and learning from user behavior, the service pinpoints key pieces of research and provides relevant search results. Meta also provides visualizations about a field of research by organizing papers by their date of publication and citation count and then presenting the information in a way that allows users to quickly identify key historical papers.” (wiki)  
Author’s note: The company was acquired by the Chan Zuckerberg Initiative in 2017.

Website: [https://meta.org](https://meta.org)


**MetaArchive Cooperative**  
Program hosted by Educopia Institute

“The MetaArchive Cooperative is an international digital preservation network composed of libraries, archives, and other memory institutions. As of August 2011, the MetaArchive preservation network is composed of 24 secure servers (referred to as “caches”) in four countries with a collective capacity of over 300TB. Forty-eight institutions are actively preserving their digital collections in the network. The MetaArchive Cooperative preserves a wide variety of data types and many genres of content, including electronic theses and dissertations, digital newspapers, archival content such as photograph collections and A/V materials, business/e-records, and datasets.” (wiki)

Website: [https://metaarchive.org](https://metaarchive.org)

1. [https://en.wikipedia.org/wiki/MetaArchive_Cooperative](https://en.wikipedia.org/wiki/MetaArchive_Cooperative)  
Microsoft Academic

“Microsoft Academic is a free public web search engine for academic publications and literature, developed by Microsoft Research. Re-launched in 2016, the tool features an entirely new data structure and search engine using semantic search technologies. It currently indexes over 220 million publications, 88 million of which are journal articles.” (wiki)

Website: https://academic.microsoft.com/home

1. https://en.wikipedia.org/wiki/Microsoft_Academic
5. Anne-Wil Harzing and Satu Alakangas, “Microsoft Academic is One Year Old: The Phoenix is Ready to Leave the Nest,” Scientometrics, 112(3):1887–1894, September 2017, DOI: https://doi.org/10.1007/s11192-017-2454-3

Mirador

“Mirador is a configurable, extensible, and easy-to-integrate image viewer, which enables image annotation and comparison of images from repositories dispersed around the world. Mirador has been optimized to display resources from repositories that support the International Image Interoperability Framework (IIIF) API’s. It provides a tiling windowed environment for comparing multiple image-based resources, synchronized structural and visual navigation of content using OpenSeadragon, Open Annotation compliant annotation creation and viewing on deep-zoomable canvases, metadata display, book reading, bookmarking and more.” (ws)

Website: https://projectmirador.org

**Morressier**

“Morressier (www.morressier.com) is the home for early stage research published in the form of conference posters, presentations and abstracts, along with datasets, videos and negative results. Inspired by the vital exchange happening at academic conferences round the world, the platform creates a digital place where science is discovered, disseminated and elevated – and where new signals in research first come to light. It is a unique opportunity for universities to showcase their pre-published content, especially that written by early-career researchers, in an Open Access environment at very attractive cost.” (https://www.knowledgeunlatched.org/morressier/)

Website: [https://www.morressier.com](https://www.morressier.com)


**Mukurtu**

“Mukurtu is a content management system developed by Washington State University to serve as a repository for Indigenous communities to manage, share, and exchange their digital heritage in culturally relevant and ethically minded ways. Mukurtu has innovated significantly in developing access-oriented metadata that goes beyond typical OA ideals to support fine-grained Traditional Knowledge access protocols.” (mtg)

Website: [http://mukurtu.org/](http://mukurtu.org/)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/kajt7jsu?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/kajt7jsu?readingCollection=2e2f6c3f)
3. Kimberly Christen, Alex Merrill, and Michael Wynne, “A Community of Relations: Mukurtu Hubs and Spokes,” *D-Lib Magazine* 23(5/6), May/June 2017, DOI: [https://doi.org/10.1045/may2017-christen](https://doi.org/10.1045/may2017-christen)

**OA Switchboard**

“The OA Switchboard initiative is a collaboration between funders, institutions and publishers to facilitate the fulfilment of open access strategies across business models, policies and agreements. When operational, the OA Switchboard will be a central hub connecting systems and improving open access-related article-level information exchange between authors, publishers, funders and institutions.” ([https://www.oaswitchboard.org](https://www.oaswitchboard.org)) Project of the Open Access Scholarly Publishers Association (OASPA). In development.

Website: [https://www.oaswitchboard.org](https://www.oaswitchboard.org)

**OAIster**  
Program of OCLC

“OAIster is an online combined bibliographic catalog of open access material aggregated using OAI-PMH. It began at the University of Michigan in 2002 funded by a grant from the Andrew W. Mellon Foundation and with the purpose of establishing a retrieval service for publicly available digital library resources provided by the research library community. During its tenure at the University of Michigan, OAIster grew to become one of the largest aggregations of records pointing to open access collections in the world. In 2009, OCLC formed a partnership with the University of Michigan to provide continued access to open access collections aggregated in OAIster. Since OCLC began managing OAIster, it has grown to include over 30 million records contributed by over 1,500 organizations. OCLC is evolving OAIster to a model of self-service contribution for all open access digital repositories to ensure the long-term sustainability of this rich collection of open access materials. OAIster data is harvested from Open Archives Initiative (OAI)-compliant digital libraries, institutional repositories, and online journals the self-service WorldCat Digital Collection Gateway.” (wiki)

Website: [https://www.oclc.org/en/oaister.html](https://www.oclc.org/en/oaister.html)

5. David J. Gaines and Jody Condit Fagan, “OAIster on EBSCO Discovery Service, FirstSearch, and OAIster.worldcat.org,” *Charleston Advisor* 16(4):5–12, April 2015, DOI: [https://doi.org/10.5260/chara.16.4.5](https://doi.org/10.5260/chara.16.4.5),
OCLC (organization)
Programs: CONTENTdm, OAIster, Virtual International Authority File (VIAF), WorldCat

“OCLC Online Computer Library Center, Incorporated is an American nonprofit cooperative organization ‘dedicated to the public purposes of furthering access to the world’s information and reducing information costs’. It was founded in 1967 as the Ohio College Library Center. OCLC and its member libraries cooperatively produce and maintain WorldCat, the largest online public access catalog (OPAC) in the world. OCLC is funded mainly by the fees that libraries have to pay for its services (around $200 million annually as of 2016). OCLC also maintains the Dewey Decimal Classification system.” (wiki)

Website: https://www.oclc.org/en/home.html

Omeka

“Omeka is a free, open-source content management system for online digital collections. As a web application, it allows users to publish and exhibit cultural heritage objects, and extend its functionality with themes and plugins. A lightweight solution. In comparison to traditional institutional repository software like DSpace and Fedora, Omeka has a focus on display and uses an unqualified Dublin Core metadata standard.” (wiki)

Website: https://omeka.org
2. Mind the Gap: https://mindthegap.pubpub.org/pub/02hnru2f?readingCollection=2e2f6c3f
Open Access Button

“The Open Access Button is a browser bookmarklet which registers when people hit a paywall to an academic article and cannot access it. It attempts to locate a free legal copy of the item being sought. It is supported by Medsin UK and the Right to Research Coalition.” (wiki)

Website: https://openaccessbutton.org


Open Access Helper

“There are more than 23 million Open Access versions of otherwise "paywalled" scientific articles. Open Access Helper for iOS and Open Access Helper for Safari (macOS) are designed to help you get easy access to these articles, with a lot of help from the awesome APIs from unpaywall.org and core.ac.uk.” (ws)

Website: https://www.oahelper.org


Open Access Publishing in European Networks (OAPEN)

“OAPEN promotes and supports the transition to open access for academic books by providing open infrastructure services to stakeholders in scholarly communication. We work with publishers to build a quality-controlled collection of open access books and provide services for publishers, libraries, and research funders in the areas of hosting, deposit, quality assurance, dissemination, and digital preservation.” (ws)

Website: https://oapen.org


Open Humans

“Open Humans is dedicated to empowering individuals and communities around their personal data, to explore and share for the purposes of education, health, and research. We want to help people access and understand their personal data, and to help them do and share things that use that data. For individuals, we have community support for self-research, tools for personal data access, and data analysis notebooks you can run in your browser. For communities, we make it easy to choose to share your data with group studies and activities. We provide the same features to researchers and citizen scientists alike: all members can adapt and share new data analysis notebooks, as well as create new group activities & tools for data import.” (ws)

Website: https://www.openhumans.org/about/


Open Journal Systems (OJS)
Program of the Public Knowledge Project (PKP)

“Open Journal Systems (OJS) is an open-source software for the management of peer-reviewed academic journals, and is created by the Public Knowledge Project released under the GNU General Public License.” (wiki)

“Open Journal Systems (OJS) is the world’s most widely used open-source journal management and publishing system. Developed by the Public Knowledge Project (PKP), OJS can be downloaded and installed locally but is also commonly hosted by library or institutional IT services. OJS manages workflow for the entire refereed publishing process, providing a common model for the operational processes of a peer-reviewed journal. Through the PKP, OJS also connects with myriad indexing, identification, discoverability, and preservation services.” (mtg)
Website: https://pkp.sfu.ca/ojs/

2. Mind the Gap: https://mindthegap.pubpub.org/pub/v4e5tspp?readingCollection=2e2f6c3f

Open Knowledge Maps

“Our Goal is to revolutionize discovery of scientific knowledge. We are building a visual interface that dramatically increases the visibility of research findings for science and society alike. We are a non-profit organization and we believe that a better way to explore and discover scientific knowledge will benefit us all.” (ws)

Website: https://openknowledgemaps.org


Open Monograph Press
Program of the Public Knowledge Project (PKP)

“Open Monograph Press (OMP) is a book-oriented workflow manager and online publishing platform. Developed by the Public Knowledge Project, it shares its codebase with Open Journal Systems. OMP can handle monographs and edited volumes with multiple authors, as well as manage author submissions, editor assignments, reviewers, indexers, and others in book production. OMP is one of very few open-source tools that produce the trade-industry standard ONIX metadata. Its public-facing side can feature thumbnail covers in a catalog view, as well as Spotlight marketing features.” (mtg)

Website: https://pkp.sfu.ca/omp/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/ixumpro4?readingCollection=2e2f6c3f

**Open Research Library**  
Program of Knowledge Unlatched

“The Open Research Library (ORL) is planned to include all Open Access book content worldwide on one platform for user-friendly discovery, offering a seamless experience navigating more than 20,000 Open Access books. This vital infrastructure is slated to comprise the most comprehensive collection of peer-reviewed Open Access books accessible for everyone. Libraries investing in the Open Research Library contribute to the development of a dedicated infrastructure for the global research community, while participating libraries have the opportunity to benefit from a set of exclusive services.” (ws)

Website: [http://www.knowledgeunlatched.org/openresearchlibrary/](http://www.knowledgeunlatched.org/openresearchlibrary/)


5. Marcel Knöchelmann, “The Open Research Library: Centralisation with Openness,” *LSE Impact Blog*, May 31, 2019, [https://blogs.lse.ac.uk/impactofsocialsciences/2019/05/31/the-open-research-library-centralisation-without-openness/](https://blogs.lse.ac.uk/impactofsocialsciences/2019/05/31/the-open-research-library-centralisation-without-openness/)


**Open Science Framework**  
Program of the Center for Open Science

“The Open Science Framework (OSF) is an open source software project that facilitates open collaboration in science research. This framework was used to work on a project on the reproducibility of psychology research. The current reproducibility project is a crowdsourced empirical investigation of the reproducibility of a variety of studies from psychological literature.” (wiki)
Website: https://osf.io


Open Typesetting Stack
Program of Public Knowledge Project

“Open Typesetting Stack (OTS) is an article conversion/ingest service developed by the Public Knowledge Project to convert word-processor and PDF versions of articles into JATS XML for publication. OTS integrates a host of other parsing and conversion tools (including the machine-learning tool Grobid) and external services to provide the most accurate possible XML without additional user input. This service—and its OJS plugin integration—is intended to decrease the labour involved in production, and to facilitate the creation of archive-friendly and web-native article formats. OTS is in maintenance mode as of this writing.” (mtg) May no longer be in production.

1. Mind the Gap: https://mindthegap.pubpub.org/pub/s9oylag6?readingCollection=2e2f6c3f

OpenAIRE (organization)
Programs: OpenAIRE Broker, OpenAIRE Content Provider Dashboard, OpenAIRE Explore Portal, OpenAIRE Mining Service, OpenAIRE ScholeXplorer, OpenAIRE Usage Statistics, Zenodo

“OpenAIRE’s mission is closely linked to the mission of the European Commission: to provide unlimited, barrier free, open access to research outputs financed by public funding in Europe. OpenAIRE fulfills the EOSC vision substantially, as its operations already provide the glue for many of the user and research driven functionalities, whether these come from the long tail of science (repositories and local support) or domain disciplined research communities or Research Infrastructures.” (ws)

Website: https://www.openaire.eu


OpenAIRE Broker
Program of OpenAIRE

“Content providers can use the OpenAIRE Broker Service via the OpenAIRE Content Provider Dashboard. Thanks to the Broker, repositories, publishers or aggregators can exchange metadata and enrich their local metadata collection by subscribing to notifications of different types. The Broker is able to notify providers when the OpenAIRE Graph contains information that is not available in the original collection of the provider.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_broker


OpenAIRE Content Provider Dashboard
Program of OpenAIRE

“The OpenAIRE Content Provider Dashboard is a one-stop-shop web service where data providers (repository, data archive, journal, aggregator, CRIS system) interact with OpenAIRE. It provides the front-end access to many of OpenAIRE’s backend services.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_data_provider_dashboard
OpenAIRE Explore Portal
Program of OpenAIRE

“The OpenAIRE Discovery portal provides access to Open Access research content. It is based on OpenAIRE’s open scholarly communication graph that includes all research and scholarly activities, spanning all phases of the research life cycle. The OpenAIRE scholarly communication graph is created bi-monthly by aggregating, cleaning, transforming and inferring content retrieved from OpenAIRE’s European and global network of validated OA data providers. In addition to the usual search and browse mechanisms, the OpenAIRE Discovery portal provides end user functionalities which allow users to: find the most fitting repository to deposit their publication or data, authoritavely enrich the underlying content (e.g., linking research results to funding, linking research results to external sources), view and download reports or graphs of aggregated research outcomes (e.g., per funder, project, institution) and their stats.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_discovery_portal

OpenAIRE Mining Service
Program of OpenAIRE

“This service performs text mining (entity resolution) on the metadata and the fulltext of publications and extracts information on:

- links to projects/grants and funders;
- data citations or links to scientific database entries (e.g. links to entries in PDB - Protein Data Bank);
- document classification according to several taxonomies;
- software citations;
- author affiliations;
- references;
- document similarity.

The service is a standalone service that is also used to enrich the OpenAIRE Graph and results are presented in the OpenAIRE discovery portal.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_inference

OpenAIRE ScholeXplorer
Program of OpenAIRE

“ScholeXplorer populates and provides access to a graph of relationships between datasets and literature, and between datasets and datasets. Objects and relationships are provided by data sources managed by publishers (e.g. CrossRef), data centers (e.g. DataCite and non-DataCite data archives),
repositories (e.g. OpenAIRE itself and similars). The service aggregates links expressed in Scholix format and offers programmatic access (APIs) that allow third-party services to run queries/provision of the links in the graph. Among known consumers the service API accounts for Science Direct, Scopus, and several data repositories.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_scholexplorer

OpenAIRE Usage Statistics
Program of OpenAIRE

“OpenAIRE’s Usage Statistics Service contributes towards impact evaluation of usage activity in Open Access Repositories. Managers of OpenAIRE compliant repositories can enable the service via the OpenAIRE Content Provider Dashboard. Once enabled, the service collects and analyzes usage data from the repository and exploits usage metrics like downloads and metadata views. Counters about the usage of a repository and its individual items are available in the relative detail page on the OpenAIRE Discovery Portal. Taking advantage of OpenAIRE’s Graph service de-duplication mechanism, the service aggregates/merges usage statistics that come from different repositories and relate to the same object. OpenAIRE’s Usage Statistics service uses the Matomo Open Source Analytics platform (matomo.org) to track usage activity. Statistics are generated using the COUNTER Code of practice directives and reports can be collected from SUSHI-Lite compatible endpoints.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_usage_statistics

OpenCitations (organization)

“OpenCitations is an independent infrastructure organization for open scholarship dedicated to the publication of open bibliographic and citation data by the use of Semantic Web (Linked Data) technologies. It is also engaged in advocacy for open citations, particularly in its role as a key founding member of the Initiative for Open Citations (I4OC). For administrative convenience, OpenCitations is managed by the separate newly formed Research Centre for Open Scholarly Metadata at the University of Bologna. OpenCitations espouses fully the founding principles of Open Science. It complies with the FAIR data principles by Force 11 that data should be findable, accessible, interoperable and re-usable, and it complies with the recommendations of I4OC that citation data in particular should be structured, separable, and open. On the latter topic, OpenCitations has recently published a formal definition of an Open Citation, and has launched a system for globally unique and persistent identifiers (PIDs) for bibliographic citations – Open Citation Identifiers (OCIs).” (ws)

Website: http://opencitations.net

3. Ivan Heibi, Silvio Peroni, and David Shotton, “COCI, the OpenCitations Index of Crossref Open DOI-to-DOI Citations,” ArXiv, June 2019, arXiv:1904.06052

OpenDOAR Directory of Open Access Repositories

“OpenDOAR: Directory of Open Access Repositories is a UK-based website that lists academic open access repositories. It is searchable by locale, content and other measures. The service does not require complete repository details and does not search repositories' metadata. OpenDOAR is maintained by the University of Nottingham under the SHERPA umbrella of services and was developed in collaboration with Lund University.” (wiki)

Website: http://v2.sherpa.ac.uk/opendoar/


OpenEdition
Program of Centre pour l’Édition Électronique Ouverte

“OpenEdition is a comprehensive electronic infrastructure for academic communication in the humanities and social sciences. It combines four platforms dedicated to books, journals, research blogs, and academic announcements respectively. With their majority of Open Access content, the four platforms have received 64 million visits in 2018. Complimentary services are offered via libraries and subscribing institutions.” (https://www.openedition.org/10918)

Website: https://www.openedition.org

ORCID

“The ORCID - Open Researcher and Contributor ID) is a nonproprietary alphanumeric code to uniquely identify scientific and other academic authors and contributors. This addresses the problem that a particular author’s contributions to the scientific literature or publications in the humanities can be hard to recognize as most personal names are not unique, they can change (such as with marriage), have cultural differences in name order, contain inconsistent use of first-name abbreviations and employ different writing systems. It provides a persistent identity for humans, similar to that created for content-related entities on digital networks by digital object identifiers (DOIs). The ORCID organization, ORCID Inc., offers an open and independent registry intended to be the de facto standard for contributor identification in research and academic publishing. On 16 October 2012, ORCID launched its registry services and started issuing user identifiers.” (wiki)

Website: https://orcid.org

2. “Credit Where Credit is Due,” Nature 462(825), December 17, 2009, https://www.nature.com/articles/462825a

OSF Meeting

Project of the Center for Open Science
“Researchers share ideas and findings at academic meetings, producing presentations, posters, and conference proceedings. OSF Meetings is an easy way to share this research content, providing conference organizers with a branded landing page, simple submission process, and simple search and discovery. Researchers who share materials can add supplementary data, code, preprints, or other material alongside their poster or slides.” (ws)
OSF Preprints
Program of the Center for Open Science

“The launch of OSF Preprints branded services continues COS’s ongoing commitment to open and transparent research practices. The new preprints service is built on our flagship platform, OSF, which helps researchers design and manage their project workflow, data storage, DOI management, and collaboration.” (https://cos.io/our-products/osf-preprints/)

Website: https://osf.io/preprints/

Our Research (prior to July 2019 ImpactStory)
Programs: ImpactStory, Unpaywall, Get the Research, Depsy, Paperbuzz

“We build tools to make scholarly research more open, connected, and reusable—for everyone. Our free, open-source tools serve millions of API requests every day, and are relied on by research funders, universities, researchers, and thousands of academic libraries worldwide.” (ws)

Website: https://our-research.org

Overleaf
Product of Digital Science

Overleaf is an online collaborative writing and publishing tool that makes the process of writing, editing and publishing scientific documents quick and easy. Overleaf provides an easy-to-use LaTeX editor with real-time collaboration and the fully compiled output produced automatically in the background.

Website: https://www.overleaf.com

Paged.js

“Paged.js is a comprehensive print-oriented production system that runs on CSS and JavaScript in a web browser. Developed by the PagedMedia initiative, it aims to offer a best-of-breed CSS-based typesetter as open-source software. It can display both paginated output and editable CSS on a page so that the CSS can be tweaked and changes can be viewed in real time.” (mtg)

Website: pagedjs.org
1. Mind the Gap: [https://mindthegap.pubpub.org/pub/y6pabshe?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/y6pabshe?readingCollection=2e2f6c3f)

**Pandoc**

“Pandoc is a robust, multi-format document conversion tool that can read from and write to a vast number of file formats. Pandoc can work with a range of markup formats, markdown, word-processor files, and it supports integration with tools like LaTeX and reference managers, as well as a host of web-based formats. Several different input and exports formats for math are handled, including MathJax, LaTeX, and translation to MathML. Pandoc also includes a powerful system for automatic citations and bibliographies. Pandoc is usable as a command-line tool as well as an integrated library, and is used in several other publishing toolkits.” (mtg)

Website: [https://pandoc.org/](https://pandoc.org/)

2. Mind the Gap: [https://mindthegap.pubpub.org/pub/xb674wae?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/xb674wae?readingCollection=2e2f6c3f)

**Paper Digest**

“Paper Digest is an AI-based academic article summarization service. The algorithm tries to determine seemingly important sentences from across the full text and list them out in a single page summary. The goal is to list the most central concepts in the paper so you can quickly decide whether to read the whole thing.” ([https://scholarlykitchen.sspnet.org/2019/08/07/articles-summaries-paper-digest/](https://scholarlykitchen.sspnet.org/2019/08/07/articles-summaries-paper-digest/))

Website: [https://www.paper-digest.com](https://www.paper-digest.com)

**Paperbuzz**

Program of Our Research

“Paperbuzz is a tool that calculates metrics from Crossref Event Data: sharing, linking, and referencing articles online. Paperbuzz is developed and maintained by Our Research with the support of the Public Knowledge Project (PKP). Paperbuzz offers an API that is used by PaperbuzzViz, a JavaScript library to visualize the metrics and by the Paperbuzz OJS Plugin that brings these visualization to OJS article pages, both of which are developed and maintained by PKP.” (mtg)

Website: [https://www.paperbuzz.org/](https://www.paperbuzz.org/)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/pj8497yl?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/pj8497yl?readingCollection=2e2f6c3f)

**PaperHive**


Website: [https://paperhive.org](https://paperhive.org)


**Permissions Checker**

Program of Open Access Button

“These tools aim to make permission checking faster, easier, and clearer so that you can unlock the power of mediated deposit and more easily manage your repository. In this prototype, powered by open, community-editable, machine-readable data, we allow librarians to do permission checking on 100s of articles or journals in seconds and, for each one, to receive embargos, completed deposit statements, metadata, open access availability, and more. We cover 20,000 journals, 250 publisher, 80 university policies, several funders, and even author’s negotiated contracts or waivers.” (ws)

Website: [http://openaccessbutton.org/permissions](http://openaccessbutton.org/permissions)
Phenom Reviewer

“Phenom Reviewer is Hindawi’s article submission and editorial workflow module. It is built on the Coko Foundation’s PubSweet framework and is designed in collaboration with Coko and eLife. Phenom Reviewer is part of a larger suite of tools in early development, which will comprise “Producer” and “Publisher” modules similar to eLife’s Libero suite.” (mtg)

Website: https://demo.review.hindawi.com

1. Mind the Gap: https://mindthegap.pubpub.org/pub/0gdcei4n?readingCollection=2e2f6c3f

Phenom Screener

“Phenom Screener is Hindawi’s module that performs ethical and technical checks on article submissions including plagiarism screening, identity verification, materials checking, and fraud prevention.” (mtg)

Website: https://demo.review.hindawi.com

1. Mind the Gap: https://mindthegap.pubpub.org/pub/mupi7al3?readingCollection=2e2f6c3f

PlumAnalytics
Product of Elsevier

“Plum Analytics is a Philadelphia, Pennsylvania-based altmetrics company dedicated to measuring the influence of scientific research. It was founded in 2011 by Andrea Michalek, who is its current president, and Mike Buschman. It was acquired by Elsevier in February 2017, which purchased it from EBSCO Information Services for an undisclosed amount. Its metrics were immediately incorporated into Elsevier’s existing products, including Mendeley and Scopus.” (wiki)

Website: https://plumanalytics.com

1. https://en.wikipedia.org/wiki/Plum_Analytics
Portico
Program of Ithaka

“Portico was created by JSTOR in 2002 as the Electronic-Archiving Initiative. It was transferred to ITHAKA in 2004. Portico operates as a ‘dim’ archive for e-journal content’ that stores information from scholarly journals so it cannot be lost, an example being when the part of it housing the *Graft: Organ and Cell Transplantation* journal was “lit up” and became publicly accessible after access to that journal’s website was removed by its publisher. In 2014, Portico generated $5.7 million in revenue.” (wiki)

“Portico is a community-supported preservation archive that safeguards access to e-journals, e-books, and digital collections. Our unique, trusted process ensures that the content we preserve will remain accessible and usable for researchers, scholars, and students in the future.” (ws)

Website: https://www.portico.org

PREreview

“PREreview (Post, Read, and Engage with preprint reviews) provides a centralized hub in which participants of scientific journal clubs can share their feedback about preprints with other groups. Preprints are freely available scientific manuscripts that have not yet undergone editorial peer review.” (ws)

Website: https://www.authorea.com/institutions/14743-prereview


Preservica

“Preservica is a single, seamless application that brings together all the core elements of successful long-term digital preservation. The combination of durable storage, format updates and secure immediate access is a holistic approach we call active digital preservation.” (ws)

Website: https://preservica.com/


Pressbooks

“Pressbooks is a simple book production software, built with the web in mind. Create Pressbooks is a web-based book editing and production system that exports in multiple formats: ebooks, webbooks, print-ready PDF, and various XML types. The system is built on top of Wordpress, but makes significant changes to the admin interface, presentation layer, and export routines to for web, ebook, and print
Pressbooks is widely used in the open textbook and open educational resources community.” (mtg)

Website: https://pressbooks.com

1. Mind the Gap: https://mindthegap.pubpub.org/pub/q9k7ri0a?readingCollection=2e2f6c3f

ProseMirror

“ProseMirror is a JavaScript framework to develop visual text editors online. It can support collaborative editing in real time. It has a modular architecture that makes sure users only load the code they need, and can replace parts of the system as needed. ProseMirror supports extensible document schemas that allow users to edit documents with a custom structure without writing their own editor from scratch. It has a plugin system that allows users to easily enable additional functionality, and package their own extensions in a convenient format. Prosemirror is used by several major online news sources (NYTimes, Guardian), as well as inside tools like PubPub and Coko Foundation’s Wax editor.” (mtg)

Website: http://prosemirror.net/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/ncbv1w4l?readingCollection=2e2f6c3f

Protocols.io

“Scientists are constantly re-discovering knowledge that others have not had the time to publish and improving existing methods without the ability to share the improvements. Our mission is to change this with a free, up-to-date, crowd-sourced protocol repository for researchers.” (https://www.protocols.io/about)

Website: https://www.protocols.io


**Public Access Submission System (PASS)**

“Use PASS to submit your manuscripts to funder and institutional publication repositories (e.g. PubMed Central, JScholarship) and comply with access policies. Using the web-based PASS system, you can: avoid paying article processing charges to make your publication open to the public, simultaneously send your manuscript to multiple repositories seamlessly, and populate forms automatically with publication and author information by providing DOIs and ORCID IDs.” (ws)

Website: https://pass.jhu.edu


**Public Knowledge Project (PKP) (organization)**

Programs: Open Journal System, One Monograph Press, Open Typesetting Stack

“The Public Knowledge Project (PKP) is a non-profit research initiative that is focused on the importance of making the results of publicly funded research freely available through open access policies, and on developing strategies for making this possible including software solutions. It is a partnership between the Faculty of Education at the University of British Columbia, the Canadian Centre for Studies in Publishing at Simon Fraser University, the University of Pittsburgh, Ontario Council of University Libraries, the California Digital Library and the School of Education at Stanford University. It seeks to improve the scholarly and public quality of academic research through the development of innovative online environments.” (wiki)

Website: https://pkp.sfu.ca

Publications Router
Program of JISC

“Publications Router is an alerting service that automatically sends notifications about research articles to institutions’ systems such as their repositories or CRISs. These notifications indicate, for example, that an article has been accepted for publication or that it has been published. They often include the articles themselves in the version agreed by the publisher, or they may just consist of metadata.”
(https://pubrouter.jisc.ac.uk/about/)

Website: https://pubrouter.jisc.ac.uk

Publons
Publons product of Clarivate Analytics

“A project of Clarivate Analytics, Publons is a commercial website that provides a free service for academics to track, verify, and showcase their peer review and editorial contributions for academic journals. It was launched in 2012 and by 2018 more than 500,000 researchers have joined the site, adding more than one million reviews across 25,000 journals. Publons’ mission is to “speed up science by harnessing the power of peer review.” Publons claims that by turning peer review into a measurable research output, academics can use their review and editorial record as evidence of their standing and influence in their field. Publons says its business model is based on partnering with publishers.” (wiki)

Website: https://publons.com/about/home/

PubPub

“PubPub is an online authoring and publishing platform developed by MIT Press and the MIT Knowledge Futures Group. It supports community-based collaborative drafting, review, and publication of scholarly work ‘using an integrated and iterative process.’ It supports journals, books, lab communications and events. PubPub is designed to be centrally hosted, and PubPub provides publishing services as part of a tiered-price hosting packages.” (mtg)

Website: https://www.pubpub.org

1. Mind the Gap: https://mindthegap.pubpub.org/pub/3kwdfi4?readingCollection=2e2f6c3f

PubSweet

Program of Collaborative Knowledge Foundation (Coko)

“PubSweet is a foundational system developed by Coko as a “component-based framework” upon which to build publishing tools. PubSweet is a simple but flexible way to adapt to different kinds of system needs. For instance, both the book-oriented Editoria and the journal-oriented Libero Reviewer are built on PubSweet foundations. PubSweet’s community includes Hindawi, eLife, Wormbase, Digital Science, and the EBI’s Europe PMC Plus platform.” (mtg)

Website: https://coko.foundation/category/pubsweet/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/ua66jyne?readingCollection=2e2f6c3f

Pure

Product of Elsevier

“As a versatile, interoperable software solution, Pure can be configured to the growing requirements of your institution. Pure’s industry-proven data model unearths multifaceted insights about the overall research lifecycle, supporting both fact-based decision making and industrial-strength expertise discovery. Pure facilitates an evidence-based execution of strategy to unlock your full research potential, leading to increased funding, improved international collaboration and greater visibility.” (ws)

Website: https://www.elsevier.com/solutions/pure


**Quinsight**

*Product of Quertle*

“Quertle has developed a suite of analytic technologies to support knowledge discovery in text information. The company has combined multiple artificial intelligence methods with quantum logic, computational linguistics, and statistics a unique literature discovery solution. This combined approach includes a set of methods for identifying and understanding specific terms. The method enables case-sensitive searching and word sense disambiguation of polysemic terms. The company is also using artificial intelligence for automated identification of concepts within documents that are specifically related to why the documents match selection criteria. Quertle also applies predictive visual analytics based on the text of the result documents, which enable understanding and exploration.” (wiki)

Website: https://quertle.com


**Quire**

“Quire is a book production tool developed by the J Paul Getty Trust. It is a multiformat publishing framework that can create digital and print books, such as museum and gallery exhibition catalogues, collected volumes, and scholarly monographs. Quire is designed around the Hugo static-site generator tool, which can compile and export books, working from markdown source. Quire has extensive support for media, including rich image metadata handling. It is currently without an explicit open-source license.” (mtg)

Website: https://github.com/gettypubs/quire

1. Mind the Gap: https://mindthegap.pubpub.org/pub/6vi4uhn7?readingCollection=2e2f6c3f
**ReadCube**

Product of Digital Science

“ReadCube is a technology company developing software for researchers, publishers, academic and commercial organizations. ReadCube’s product line includes the reference manager ReadCube Papers, Anywhere Access and custom services for publishers. It is part of the Digital Science’s portfolio.” (wiki)

“[ReadCube] Papers offers web, desktop, and mobile reference management apps designed to dramatically improve the way researchers find, access, organize, read, share, and cite research literature. ReadCube brings publishers researcher-focused, state-of-the-art technology guaranteed to enhance on-platform reader engagement, grow readership, and expand revenue channels.” (ws)

Website: [https://www.readcube.com/home](https://www.readcube.com/home)


**Readium**

“Readium provides a ‘set of software building blocks’ for the development of standardized EPUB and web publication reader applications for a variety of contexts—browser-based, mobile app, and desktop. Readium is a set of libraries and frameworks, and also a foundation and international community dedicated to ebook implementation standards.” (mtg)

Website: [https://readium.org/](https://readium.org/)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/jfzj227?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/jfzj227?readingCollection=2e2f6c3f)
**Rebus Ink**

“Rebus Ink is a web-based digital reading application built to help scholars construct arguments. It’s a personal, online workspace that lets you do more with digital texts, focusing on scholarly reading and research, note-taking, citations, and collections management. Rebus Ink is built on open principles: open source, open web, open APIs, with a focus on user-data portability and privacy.” (mtg)

Website: [https://rebus.ink/](https://rebus.ink/)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/m1qww2gc?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/m1qww2gc?readingCollection=2e2f6c3f)

**RedLink**

Product of Atypon

RedLink provides visualizations to help to analyze and interpret the data for libraries, library consortia, and publishers. RedLink was acquired by Atypon in July 2019.

Website: [https://www.redlink.com](https://www.redlink.com)


**RefWorks**

Product of ProQuest

“RefWorks is a web-based commercial reference management software package. It is produced by Ex Libris, a ProQuest company. RefWorks LLC was founded in 2001 and the software was marketed by Cambridge Scientific Abstracts from 2002 until being acquired by ProQuest in 2008.” (wiki)

Website: [http://www.refworks-cos.com/refworks/](http://www.refworks-cos.com/refworks/)


**Registry of Open Access Repositories (ROAR)**

“The Registry of Open Access Repositories (ROAR) is a searchable international database indexing the creation, location and growth of open access institutional repositories and their contents. ROAR was
created by EPrints at University of Southampton, UK, in 2003. It began as the Institutional Archives Registry and was renamed Registry of Open Access Repositories in 2006. To date, over 3,000 institutional and cross-institutional repositories have been registered.” (wiki)

Website: http://roar.eprints.org


Research Organization Registry (ROR)

“ROR is a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world.” (ws)

Website: https://ror.community


ResearchGate

“ResearchGate is a European commercial social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. According to a 2014 study by Nature and a 2016 article in Times Higher Education it is the largest academic social network in terms of active users, although other services have more registered users, and a 2015–2016 survey suggests that almost as many academics have Google Scholar profiles.” (wiki)

Website: https://www.researchgate.net


Retraction Watch
Program of Center for Scientific Integrity

“Retraction Watch is a blog that reports on retractions of scientific papers and on related topics. The blog was launched in August 2010 and is produced by science writers Ivan Oransky (Vice President, Editorial Medscape) and Adam Marcus (editor of Gastroenterology & Endoscopy News). Its parent organization is the Center for Scientific Integrity.” (wiki)


Review Commons

“Review Commons provides authors with a Refereed Preprint, which includes the authors’ manuscript, reports from a single round of peer review and the authors’ response. Review Commons also facilitates author-directed submission of Refereed Preprints to affiliate journals to expedite editorial consideration, reduce serial re-review and streamline publication. Review Commons transfers Refereed Preprints on behalf of the authors to bioRxiv and 17 affiliate journals from EMBO Press, eLife, ASCB, The Company of Biologists, Rockefeller University Press and PLOS.” (ws)

Website: www.reviewcommons.org


RightsLink Author
Program of the Copyright Clearance Center

“The RightsLink platform creates an author-centric workflow for automating the payment and collection of traditional publication charges for any journal—pure OA, hybrid or subscription... Standard APIs allow key author, manuscript, publisher, institution and funder metadata to be shared between the publisher’s upstream submission and/or production system(s) and RightsLink, enabling the publisher to embed the payment workflow within their own author workflow. This rich metadata is used by
RightsLink’s sophisticated pricing engine to deliver a completely custom price (including discounts to each and every author, based on the journal’s business rules.” (ws)

Website: http://go.copyright.com/rightslinkforoa

River Valley Technologies

“Our mission is to simplify the scholarly publishing process! We are a UK based software and publishing services company with the goal of streamlining the publishing process through automation and our easy-to-use platforms for authors, publishers and peer reviewers. We help publishers manage their content more efficiently and to deliver content to readers faster and with greater accuracy.” (ws)

River Valley Technologies offers modules to support scholarly publishing including RVHost, ReView, RVRite, RVFormatter, and RVReporter. It is content agnostic and can deliver any kind of content, including books and Multimedia. It fully supports Open Access publishing.

Website: https://rivervalleytechnologies.com

ROAD: The Directory of Open Access Scholarly Resources

“ROAD has been developed with the support of the Communication and Information Sector of UNESCO, it provides a free access to a subset of the ISSN Register. This subset comprises bibliographic records which describe scholarly resources in Open Access identified by an ISSN: journals, monographic series, conference proceedings and academic repositories. ROAD records are enriched by metadata about the coverage of the resources by indexing and abstracting databases, registries and journals indicators. They are downloadable as a MARC XML dump and will be available as RDF triples in 2014.” (https://www.issn.org/the-issn-international-is-pleased-to-introduce-road/)

Website: https://road.issn.org


ROARMAP

“ROAR’s companion Registry of Open Access Repository Mandates and Policies (ROARMAP) is a searchable international database of policies. It charts the growth of open access mandates and policies adopted by universities, research institutions and research funders that require their researchers to
provide open access to their peer-reviewed research article output by depositing it in an open access repository. It was created by EPrints at University of Southampton in 2003.” (wiki)

Website: https://roarmap.eprints.org


Rua

“Rua is a book publishing workflow management application developed by Ubiquity Press and is ‘designed to assist with the monograph publishing life cycle’ from proposal to publication. Rua forms the core of the Ubiquity Book Manager service. Rua is designed around the Django framework.” (mtg)

Website: https://github.com/ubiquitypress/rua

1. Mind the Gap: https://mindthegap.pubpub.org/pub/c84a2q7s?readingCollection=2e2f6c3f

Samvera (formerly Hydra)

“Samvera, originally known as Hydra, is an open-source digital repository software product. Samvera main components are Fedora Commons, S0lr, Blacklight, and HydraHead (a Ruby on Rails plugin and gem, respectively). Each Samvera implementation is called a ‘head’.” (wiki)

Website: https://samvera.org/

Scalar

“Scalar is a free, open source authoring and publishing platform that’s designed to make it easy for authors to write long-form, born-digital scholarship online. Scalar enables users to assemble media from multiple sources and juxtapose them with their own writing in a variety of ways, with minimal technical expertise required.” (ws)

Website: [https://scalar.me/anvc/scalar/](https://scalar.me/anvc/scalar/)


Scholarcy

“Scholarcy, the online article summarizer tool, reads your research articles, reports and book chapters in seconds and breaks them down into bite-sized sections – so you can quickly assess how important any document is to your work.” (ws)

Website: [https://www.scholarcy.com](https://www.scholarcy.com)


Scholastica

“Scholastica is a web-based software platform for managing academic journals with integrated peer review and open access publishing tools.” (wiki)

Website: [https://scholasticahq.com](https://scholasticahq.com)


**ScholarOne**
Product of Clarivate Analytics

“Comprehensive workflow-management systems for scholarly journals, books and conferences... ScholarOne Manuscripts - With the world of research constantly moving, ScholarOne Manuscripts make the submission and peer-review process simpler for authors, editors and reviewers, while providing publishers – large or small – with a reliable, stable tool... ScholarOne Abstracts - Manage your scientific meeting with a professional-grade abstract and conference proceedings management system that speeds up abstract review and acceptance, scheduling, invitations and post-invitation data collection... ScholarOne Books - Manage your book-publishing process from acquisition and content approval through content review, assembly and release to production. Your editorial and production offices can focus on manuscripts, not system configuration and administration.” (ws)

Website: https://clarivate.com/products/scholarone/


**Sci-Hub**

“Sci-Hub is a website that provides free access to millions of research papers and books, without regard to copyright, by bypassing publishers’ paywalls in various ways.

Sci-Hub was founded by Alexandra Elbakyan in 2011 in Kazakhstan in response to the high cost of research papers behind paywalls. The site is widely used in both developed and developing countries. In January 2020 it said that it contained 78 million academic articles and served approximately 400,000 requests per day.” (wiki)

Website: https://sci-hub.tw/#about


SciCrunch

“SciCrunch is a collaboratively edited knowledge base about scientific resources, a community portal for researchers and a content management system for data and databases. It is intended to provide a common source of data to the research community and the data about Research Resource Identifiers (RRIDs), which can be used in scientific publications.” (wiki)

Website: https://scicrunch.org


ScienceOpen

“ScienceOpen is a website. It is freely accessible for all and offers hosting and promotional services within the platform for publishers and institutes.” (wiki)

“ScienceOpen is a discovery platform with interactive features for scholars to enhance their research in the open, make an impact, and receive credit for it. We provide context building services for publishers, to bring researchers closer to the content than ever before. Our advanced search and discovery functions, combined with post-publication peer review, recommendation, social sharing, and collection-building features make ScienceOpen the only research platform you’ll ever need.” (ws)

Website: https://www.scienceopen.com


SciForum
Product of MDPI

“SciForum is an event planning platform that supports open science by offering the opportunity to host and participate in academic conferences. It provides an environment for scholarly exchange, discussion of topics of current interest, building of networks and establishing collaborations. SciForum was launched in 2009 by MDPI, an academic open-access publisher with headquarters in Basel, Switzerland. SciForum does not only offer the possibility to participate in conferences, but invites scientists to organize their own conferences. The organizers reduce their administrative efforts thanks to an online tool that supports all aspects of conference organization, including setting up and maintaining the conference website, managing the peer-review process, publishing the conference proceedings, handling and coordinating the conference schedule, registration, billing, sponsors, etc. Organizers can choose between physical and online conferences and whether they require administrative support from SciForum staff.” (ws)

Website: https://sciforum.net

Scinapse

Scinapse is a discovery tool for the academic literature. It is free to use. It provides a solution geared toward academic libraries and offers subscription journal collection optimization support. Scinapse was developed by Pluto Inc. and is based on blockchain technology.

Website: https://scinapse.io

Scopus
Product of Elsevier

“Scopus is Elsevier’s abstract and citation database launched in 2004. Scopus covers nearly 36,377 titles (22,794 active titles and 13,583 inactive titles) from approximately 11,678 publishers, of which 34,346 are peer-reviewed journals in top-level subject fields: life sciences, social science, physical sciences and health sciences. It covers three types of sources: book series, journals, and trade journals.” (wiki)

Website: https://www.scopus.com


SeamlessAccess.org (RA21)

“Seamless Access is the new, convenient way to access digital scholarly content and services that builds on the guidelines resulting from the Resource Access in the 21st Century (RA21) initiative. It sets a standard for digital authentication based on a single sign on through your own home institution. The Coalition for Seamless Access is a non-profit initiative geared towards supporting research and scholarship.” (ws)
Website: https://seamlessaccess.org


Semantic Scholar

“Semantic Scholar is a project developed at the Allen Institute for Artificial Intelligence. Publicly released in November 2015, it is designed to be an AI-backed search engine for scientific journal articles. The project uses a combination of machine learning, natural language processing, and machine vision to add a layer of semantic analysis to the traditional methods of citation analysis, and to extract relevant figures, entities, and venues from papers. In comparison to Google Scholar and PubMed, Semantic Scholar is designed to highlight the most important and influential papers, and to identify the connections between them.” (wiki)

Website: https://www.semanticscholar.org


SHARE
Program of the Center for Open Science

“SHARE is an open-source community developing tools and services to connect related research outputs for new kinds of scholarly discovery.” (ws)

Website: http://www.share-research.org


ShareYourPaper.org

Project of Open Access Button

“Sharing should be simple. With shareyourpaper.org, we’ll make sure that deposit into any repository is just that. We’re building a workflow that removes barriers we’ve seen after asking thousands of authors to self-archive, as well as easily upgrades the deposit workflow in thousands of repositories.” (https://shareyourpaper.org/libraries )

Website: https://openaccessbutton.org/shareyourpaper.org


Sherpa/Romeo

“SHERPA/RoMEO is a service run by SHERPA to show the copyright and open access self-archiving policies of academic journals. The database uses a color-coding scheme to classify publishers according to their self-archiving policy. This shows authors whether the journal allows preprint or postprint archiving in their copyright transfer agreements. It currently holds records for over 22,000 journals.” (wiki)

Website: https://v2.sherpa.ac.uk/romeo/

2. Celia Jenkins, Steve Probet, Charles Oppenheim, and Bill Hubbard, “RoMEO Studies 8: Self-archiving: the logic behind the colour-coding used in the Copyright Knowledge Bank,” Program:

Shiny

“Shiny is an authoring and editorial development software developed by RStudio. It allows users to interact with web-based interactive applications that contain data and analysis using R. Shiny can create standalone apps on a webpage or embed them in R Markdown documents or build dashboards. Shiny requires only a R installation and a web browser.” (mtg)

Website: https://shiny.rstudio.com

1. Mind the Gap: https://mindthegap.pubpub.org/pub/mcrep3m2?readingCollection=2e2f6c3f

Silverchair

“Scholarly and professional publishers use the Silverchair Platform to deliver distinctive online sites and products from their unique content. Silverchair includes comprehensive product development and migration services, online management tools, and ongoing support to ensure publishers achieve their product vision.” (ws)

Website: https://www.silverchair.com

SlideShare

“LinkedIn SlideShare is a hosting service for professional content including presentations, infographics, documents, and videos. Users can upload files privately or publicly in PowerPoint, Word, PDF, or OpenDocument format. Content can then be viewed on the site itself, on hand held devices or embedded on other sites. Launched on October 4, 2006, the website is considered to be similar to YouTube, but for slideshows. It was acquired by LinkedIn in 2012.” (wiki)

Website: https://www.slideshare.net


Software Preservation Network
Project of Educopia Institute

“The Software Preservation Network (SPN) is a leading organization established to advance software preservation through collective action. SPN preserves software through its Affiliated Projects, Strategic Partnerships and member engagement across five core activity areas.” (ws)

Website: https://www.softwarepreservationnetwork.org


SSRN (Social Science Research Network)
Product of Elsevier

“The SSRN, formerly known as Social Science Research Network, is a repository and international journal devoted to the rapid dissemination of scholarly research in the social sciences and humanities and more. Elsevier bought SSRN from Social Science Electronic Publishing Inc. in May 2016.” (wiki)


**Stencila**

“Stencila is an authoring and editorial development software developed by Code for Science & Society. It provides an integrated word processor, coding (R, Python, and SQL), and spreadsheet interface in the browser, and the resulting interactive document (using the same file format used by the Texture editor, with which Stencila shares code) is shareable and publishable. Stencila’s “Converters” module is a Pandoc-based collection of import and export routines. eLife’s “Reproducible Document Stack” initiative is based on Stencila.” (mtg)

Website: https://stenci.la

1. Mind the Gap: https://mindthegap.pubpub.org/pub/seujsrdr?readingCollection=2e2f6c3f

**Symplectic Elements**  
Product of Digital Science

“Symplectic creates software that helps researchers, librarians, and their institutions collect, manage, analyse and showcase their research. Their flagship product, Elements, is the world’s leading research information management system enabling an institution’s scholarly activities to be unified and understood with minimal manual input from academics. With researcher profiling, Open Access support, automatic bibliographic data harvesting, and integration with all major open repositories, Elements is a complete institutional software solution.” (https://www.digital-science.com/products/symplectic/)

Website: https://symplectic.co.uk
Synapse Platform
Product of Sage BioNetwork

“Synapse allows researchers to share and describe data, analyses, and other content. Data and analyses can be stored in many types of locations, including private servers, local hard drives, or cloud storage. Synapse provides a common interface to describe these data or analyses, where they come from, and how to use them. Synapse also provides mechanisms for adding and retrieving data, analyses, and their respective descriptions.” (https://docs.synapse.org/articles/faq.html)

Website: https://www.synapse.org

Tectonic

“Tectonic is a modern LaTeX typesetting application, designed to be self-contained and easy to install. It automatically downloads support files so users don’t have to install a full LaTeX system in order to start using Tectonic. Tectonic can use modern OpenType fonts and is fully Unicode-enabled.” (mtg)

Website: https://tectonic-typesetting.github.io/en-US/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/frv9eb05?readingCollection=2e2f6c3f

Texture
Project of Substance Software

“Texture is an XML-based authoring and editing tool developed by the Substance Consortium, which includes PKP and eLife. Texture is a visual editor that natively produces a subset of JATS XML (inspired by JATS4R), which it encapsulates along with media and dependencies in its DAR file format. Texture offers a user-friendly editing XML interface, and can be integrated into other tools, such as OJS. eLife’s Libero Producer is based on Texture, as is Stencila.” (mtg) May no longer be in production.

Webpage: http://substance.io/texture/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/x98rb6c4?readingCollection=2e2f6c3f

TIND Research Data Management
CERN spin-off data management system

Website: https://info.tind.io/RDM
TIND Institutional Repository
CERN spin-off institutional repository.

Website: https://info.tind.io/ir


Transpose

“Transpose (TRANsparency in Scholarly Publishing for Open Scholarship Evolution) is an initiative to build a database of journal policies. We’re focusing on three areas: open peer review, co-reviewing, and detailed preprinting policies. We welcome contributions from anyone, but seek verification from journal and publishers. Our goal is to foster new practices while increasing awareness among authors, editors, and other stakeholders, and we seek to provide resources to assist journals in setting, sharing, and clarifying policies.” (https://transpose-publishing.github.io/#/about)

Website: https://transpose-publishing.github.io/#/

Ubiquity Press

“Ubiquity Press is a United Kingdom-based academic publisher focusing on open access publication. It was established in 2012. It is a member of the Committee on Publications Ethics, the Association of Learned and Professional Society Publisher’s, and the Open Access Scholarly Publishers Association. The press operates on an article processing charge basis.” (wiki)

Website: https://www.ubiquitypress.com

Unpaywall
Project of Our Research
“Unpaywall is a browser extension, which finds free versions of (paywalled) articles. In July 2018 it was reported to provide free access to 20 million articles, and about 47% of the articles that people search with Unpaywall.” (wiki)

Website: https://unpaywall.org


UNSILO

“UNSILO provides artificial intelligence tools and solutions for publishers to grow new business opportunities and improve customer experience and publishing workflows.” (ws)

Website: https://unsilo.ai

**Vega Publishing**
Program hosted by Wayne State University

“Vega is a media-rich authoring and editorial development platform hosted at Wayne State University Libraries. It offers a range of features and workflows to create, review, and share data, media, and text. Its ability to include information in a variety of representations (text, image, sound) makes it easier to communicate scholarly information to different audiences. Vega also supports typical academic publishing processes and gives users control over editorial and peer review workflows.” (mtg)

Website: [http://www.vegapublish.info](http://www.vegapublish.info)

1. Mind the Gap: [https://mindthegap.pubpub.org/pub/twoaplgh?readingCollection=2e2f6c3f](https://mindthegap.pubpub.org/pub/twoaplgh?readingCollection=2e2f6c3f)

**Vimeo**

“Vimeo is an ad-free video platform headquartered in New York City, providing free video viewing services as a competitor to YouTube. In 2007, Vimeo became the first video sharing site to support high-definition video. It has launched several products that enable quality video creation at scale, most recently with the launch of Vimeo Stock in fall of 2018. Vimeo is a software as a service (SaaS) business, and offers subscription plans that service various customer segments. Vimeo was founded in November 2004 by Jake Lodwick and Zach Klein. Anjali Sud has been CEO of Vimeo since July 2017.” (wiki)

Website: [https://www.vimeo.com](https://www.vimeo.com)


**Virtual International Authority File (VIAF)**
Program of OCLC

“The Virtual International Authority File (VIAF) is an international authority file. It is a joint project of several national libraries and operated by the Online Computer Library Center (OCLC).” (wiki)

Website: [https://viaf.org](https://viaf.org) and [https://www.oclc.org/en/viaf.html](https://www.oclc.org/en/viaf.html)

1. [https://en.wikipedia.org/wiki/Virtual_International_Authority_File](https://en.wikipedia.org/wiki/Virtual_International_Authority_File)
**Vivliostyle**

“Vivliostyle is a CSS- and browser-based typesetting tool for digital and print publishing that adds book typography and layout capability of web browsers, supporting paginated EPUB and web publications or export to PDF. Vivliostyle complies with W3C standardization of CSS typesetting specifications. Vivliostyle.js was designed based on Peter Sorotkin’s EPUB Adaptive Layout implementation.” (mtg)

Website: [https://vivliostyle.org/](https://vivliostyle.org/)

1. [Mind the Gap](https://mindthegap.pubpub.org/pub/v17vpbcf?readingCollection=2e2f6c3f)

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**VIVO**

Program of DuraSpace/LYRASIS

“VIVO is a web-based, open-source suite of computer software for managing data about researchers, scientists, and faculty members. VIVO uses Semantic Web techniques to represent people and their work.” (wiki)

“VIVO is member-supported, open source software and an ontology for representing scholarship. VIVO supports recording, editing, searching, browsing, and visualizing scholarly activity. VIVO encourages showcasing the scholarly record, research discovery, expert finding, network analysis, and assessment of research impact. VIVO is easily extended to support additional domains of scholarly activity.” (ws)

Website: [https://duraspace.org/vivo/](https://duraspace.org/vivo/)


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**Wax**

Program of Collaborative Knowledge Foundation (Coko)
“Wax is a web-based word processor developed by Coko. It is the styling/formatting interface in use within Editoria, and the manuscript annotation and presentation portal in use in PubSweet platforms such as eLife’s Libero Reviewer, and Hindawi’s Phenom. Editoria provides context-sensitive tagging and formatting and a track-changes workflow, as well as many features driven by the needs of university press workflows. The initial version of Wax was based on the Substance.io library (as with Texture); Wax 2 is based on the ProseMirror library.” (mtg)

Website: https://coko.foundation/category/wax-editor/

1. Mind the Gap: https://mindthegap.pubpub.org/pub/j6fg1s5v?readingCollection=2e2f6c3f

Wayback Machine
Program of the Internet Archive

“The Wayback Machine is a digital archive of the World Wide Web, founded by the Internet Archive, a nonprofit organization based in San Francisco. Its founders, Brewster Kahle and Bruce Gilliat developed the Wayback Machine with the intention of providing ‘universal access to all knowledge’ by preserving archived copies of defunct webpages. Since its launch in 2001, over 452 billion pages have been added to the archive. The service has also sparked controversy over whether or not creating archived pages without the owner’s permission constitutes copyright infringement in certain jurisdictions.” (wiki)

Website: https://web.archive.org

**Web of Science**
Product of Clarivate Analytics

“Web of Science (previously known as Web of Knowledge) is an online subscription-based scientific citation indexing service originally produced by the Institute for Scientific Information (ISI), later maintained by Clarivate Analytics.” (wiki)

Website: [http://login.webofknowledge.com](http://login.webofknowledge.com)


**Whedon (@Whedon)**

Whedon is an editorial bot that interacts with authors, reviewers, and editors. It is used by the Journal of Open Source Software (JOSS) and allows the easy creation of software papers.

Website: [https://joss.readthedocs.io/en/latest/whedon.html](https://joss.readthedocs.io/en/latest/whedon.html)

**WorldCat**
Program of OCLC

“WorldCat is a union catalog that itemizes the collections of 17,900 libraries in 123 countries and territories that participate in the Online Computer Library Center (OCLC) global cooperative. It is operated by OCLC, Inc. The subscribing member libraries collectively maintain WorldCat’s database, the world’s largest bibliographic database. OCLC makes WorldCat itself available free to libraries, but the catalog is the foundation for other subscription OCLC services (such as resource sharing and collection management). WorldCat is used by the general public and by librarians for cataloging and research.” (Wiki)

Website: [https://www.worldcat.org](https://www.worldcat.org)

xPub

Website: http://xpub.coko.foundation/

Project of Collaborative Knowledge Foundation (Coko)


XSweet

Website: http://xsweet.coko.foundation/

Project of Collaborative Knowledge Foundation (Coko)

XSweet is a set of scripts that take a docx file and convert it to HTML. It is modular and can be easily extended and improved. It can also be customized per use case.


Yewno Discover

“Yewno’s mission is that of extracting knowledge from an overwhelming quantity of unstructured and structured data. Our technology helps to overcome the “Information Overload” problem and to research and to understand the world in a more natural manner. It is inspired by the way humans process information from multiple sensorial channels and it leverages state-of-the-art Computational Linguistics, Network Theory, Machine Learning, as well as methods from the classical Artificial Intelligence.”

(https://www.yewno.com/about)

Website: https://www.yewno.com

**YouTube**

“YouTube is an American video-sharing website headquartered in San Bruno, California. Three former PayPal employees—Chad Hurley, Steve Chen, and Jawed Karim—created the service in February 2005. Google bought the site in November 2006 for US$1.65 billion; YouTube now operates as one of Google’s subsidiaries. YouTube allows users to upload, view, rate, share, add to playlists, report, comment on videos, and subscribe to other users. It offers a wide variety of user-generated and corporate media videos.” (wiki)

Website: [https://www.youtube.com](https://www.youtube.com)


**Zenodo**

Program of OpenAire

“Zenodo is a general-purpose open-access repository developed under the European OpenAIRE program and operated by CERN. It allows researchers to deposit data sets, research software, reports, and any other research related digital artifacts. For each submission, a persistent digital object identifier (DOI) is minted, which makes the stored items easily citeable.” (wiki)

Website: [https://zenodo.org](https://zenodo.org)

Zotero
Program hosted by George Mason University

“Zotero is a free and open-source reference management software to manage bibliographic data and related research materials (such as PDF files). Notable features include web browser integration, online syncing, generation of in-text citations, footnotes, and bibliographies, as well as integration with the word processors Microsoft Word, LibreOffice Writer, and Google Docs. It is produced by the Center for History and New Media at George Mason University.” (wiki)

Website: https://www.zotero.org