



# ***What role for academic libraries in Open Science?***

Julien ROCHE, LIBER President

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Science Europe

*Brussels, 18 October 2022*



**420**  
**libraries**

**DEVOTED TO  
OPEN SCIENCE**

Policies, tools and infrastructures - reshaping research processes and mindsets in favour of Open.

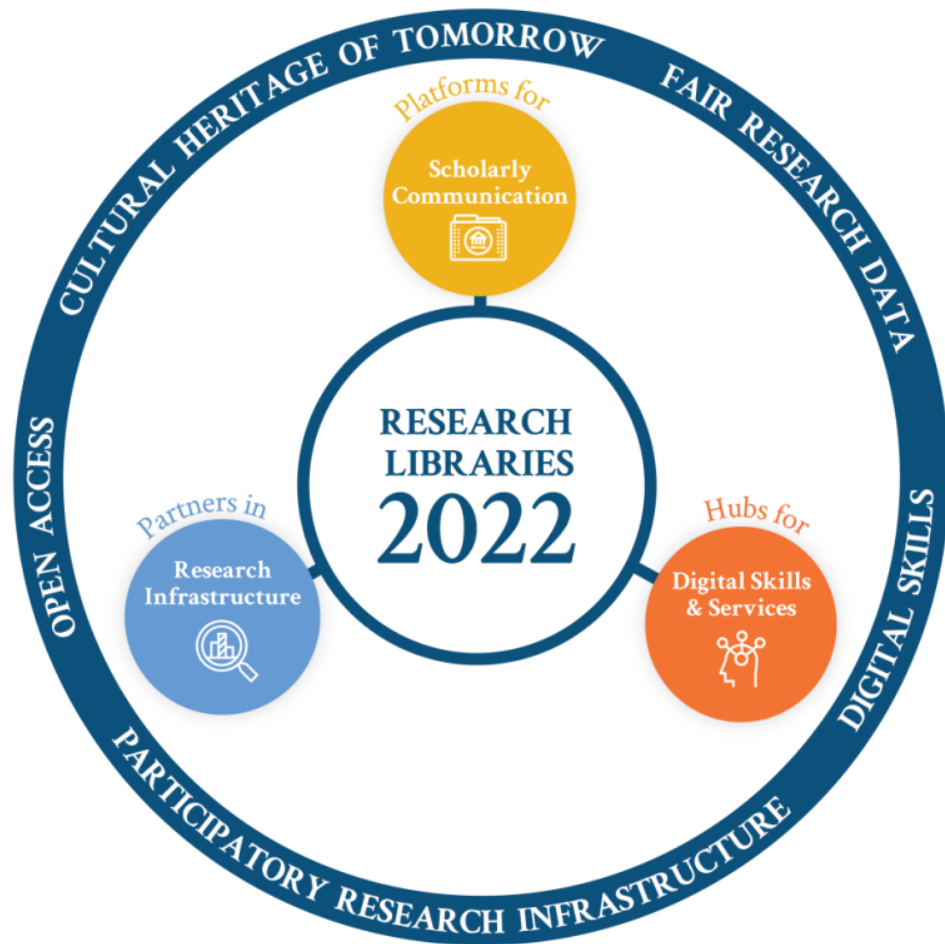
**ONE**  
**mission**

**ENABLE WORLD-CLASS  
RESEARCH**

Knowledge and training so that libraries can support outstanding research and — by extension — the growth and sharing of knowledge.



# Powering Sustainable Knowledge in the Digital Age



# Research Landscape Vision 2022

- 1 **Open Access** is the main form of publishing.
- 2 **Research Data** is Findable, Accessible, Interoperable and Reusable (FAIR)
- 3 **Digital Skills** underpin a more open, transparent research life cycle.
- 4 **Research Infrastructure** is participatory, tailored and scaled to the needs of diverse disciplines
- 5 **Cultural Heritage** of tomorrow is built on today's digital information



# Main Activities

Networking | Learning | Training | Advocacy | International projects

*And a large network of partners, from libraries and beyond*  
<https://libereurope.eu/partners/>



# Resources & Guidance

Alerting our network to top trends and issues through reports, factsheets and other resources.

[www.libereurope.eu/resources](http://www.libereurope.eu/resources)



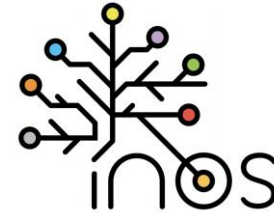
LIBER  
Open Science  
Roadmap

The graphic features a central yellow circle with the text 'LIBER Open Science Roadmap' in white. This circle is set against a dark blue background with a network of orange dots and lines, all enclosed within a light blue circular border.

# International Projects

We bring to projects the strengths and expertise of our network, in areas such as:

- Leading the uptake of **Open Science** practices
- Promoting **Innovative Scholarly Communication**
- Supporting the development of **digital skills** and associated training activities
- Fostering the development and use of **research (e)infrastructures and services**





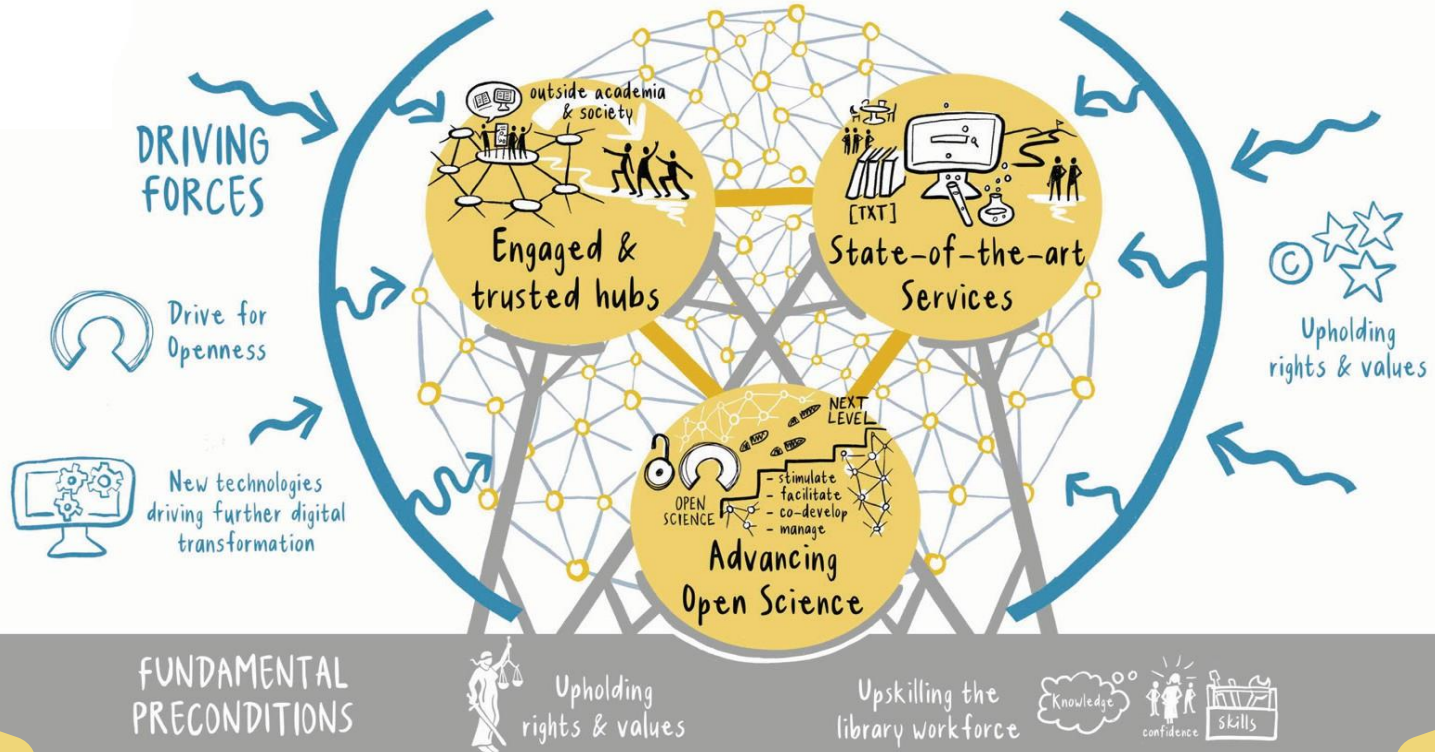
# LIBER

## New Strategy 2023-2027

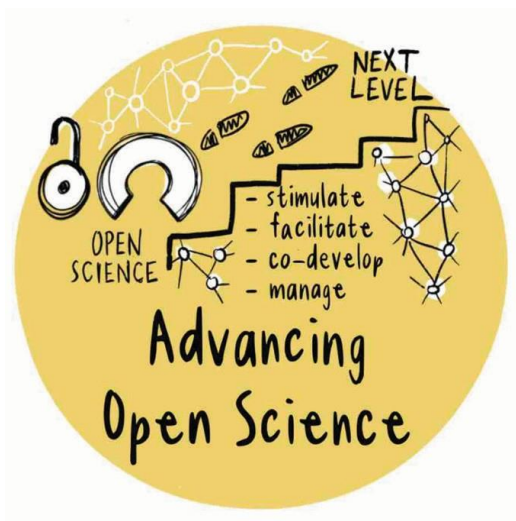




# LIBER'S VISION FOR RESEARCH LIBRARIES IN 2027



## C. ADVANCING OPEN SCIENCE



By 2027, in collaboration with researchers, research libraries stimulate, facilitate, co-develop and manage infrastructures and practices designed to take Open Science to the next level.

## LIBER's priorities to achieve this vision are :

### **1. INNOVATIVE ROADS TO OPEN ACCESS**

Facilitating multiple, innovative roads to Open Access that establish a default setting of diverse, inclusive, and sustainable access to scholarship and research communication.

### **2. FAIR RESEARCH DATA BY DESIGN**

Supporting and advocating the collaborative development and management of FAIR research data.

### **3. SHAPING AND SUPPORTING OPEN SCIENCE POLICIES AND PRACTICES**

Transforming good practices into policies and policies into good practices.

### **4. OPENING UP ACCESS TO EDUCATIONAL RESOURCES**

Supporting the creation, access, and usage of Open Educational Resources.

### **5. RESEARCH ASSESSMENT**

Partnering with academia to advance, adopt and implement responsible frameworks for research assessment.

# ***What role for academic libraries in Open Science?***

A library perspective

# Fully achieving Open Science (OS) will be a long and tricky journey

- Libraries have been early adopters of Open Access, managing the first repositories
- Libraries have been pushy for DMP mandates in universities for research projects
- Libraries advocate for the development of FAIR data
- Libraries support the ambition of a global policies in universities (OA, data...)

LIÈGE université

LOGIN EN

ORBi

GIVE US FEEDBACK EXPLORE STATISTICS NEWS HELP ABOUT

Welcome to ORBi, the institutional repository of the University of Liège

All | Example: "Cognitive architectures" 🔍

Items 213647	Open Access Items 83776	Our Authors 13377	Document types 43	Classifications 113	Recently added
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CONTACT ORBI

<https://orbi.uliege.be/tools/login>

*Universities and policy makers need to build consistent strategies and action plans over decades, libraries are key for this continuity*

# To achieve OS, we need a global monitoring of the publication paths

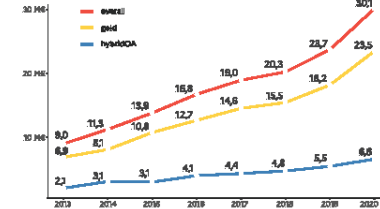
- Subscriptions and other traditional publishing models – role of libraries in consortia
- Green – repositories are usually managed by libraries
- APC – when monitored, done frequently by libraries
- Institutional OA publishing models – see the DIAMAS project, libraries on board
- Local publishing platforms in universities for journal – role of libraries
- University presses – UCL for instance

Retrospective and prospective study of the evolution of APC costs for French institutions  
Antoine Blanchard  
Diane Thierry  
Maurits van der Graaf  
Full report  
doi:10.52949/28

## 2013-2020 Threefold increase to 30 M€ APC

16 %  
of all articles by French  
institutions have APC  
25 % in 2020

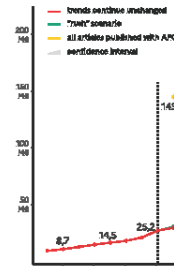
49 %  
of articles with APC were  
paid by French Institutions



Data: 1 022 517 articles from SSC enriched with OpenAlex, Web of science, Crossref, QOAR

The reconstructed cost of APC paid by French institutions is estimated at 30 M€ in 2020.

## 2021-2030 Trend leading to 50M€ APC in 2030



50 M€ in 2030...  
current trend of APC  
paid by French institutions  
...up to 68 M€...  
paid by French institutions  
in an alternative scenario  
...at most 168 M€  
paid by French institutions if all articles  
(except 10% diamond) had APC  
Subscription expenditures: 875 M€ in  
2020, going up to 975 M€ in 2030

APC: Article processing charges  
SSC: Base de données de la recherche ouverte  
QOAR: Quality of Open Access Metrics  
Hybrid/OA: open access article in subscription journal  
Gold: article in fully open access journal with APC  
Diamond: article in fully OA journal without APC

OS Ouvert  
la science! 09/2022

*Libraries are involved in all these publication paths, they already are / should be deeply involved in this monitoring process*

# OS has to be addressed in a larger perspective – the example of the data life cycle

- Some science will remain closed, temporarily or over the longer term,
- Therefore the whole life cycle needs to be monitored
- Given their role, the libraries are the natural partners of research teams in order to manage the life cycle of their publications and data
- ...
- And given their role, the libraries also have an important role to help the decision makers, in universities and beyond, drawing this larger perspective

*If not done yet, universities urgently need to define a global strategy, from openness to closeness, for the research community and beyond, with input from libraries*

News › Digital Competence Centers at knowledge institutions forging ahead

## Digital Competence Centers at knowledge institutions forging ahead

29 June 2022

The Digital Competence Centers (DCCs) are still relatively unknown among researchers within universities and research institutions, even though many of them receive requests for support in the area of data, software and computing. This is why, two years ago, NWO organised a funding round for local DCCs. What have the 22 institutions awarded funding achieved so far? Researchers are benefitting from the DCCs: 'Drawing up a data management plan was quite a challenge, but our FAIR data steward really helped us along.' The national coordination point LCRDM knows more about the overall progress.





Ivanović, Dragan, Schmidt, Birgit, Grim, Rob, & Dunning, Alastair. (2019, June 21). FAIRness of Repositories & Their Data: A Report from LIBER's Research Data Management Working Group. Zenodo.

<https://doi.org/10.5281/zenodo.32515>  
93

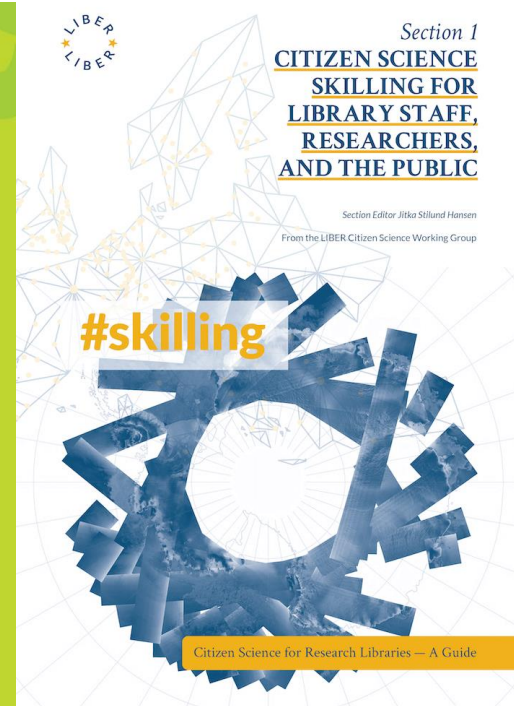
## **FAIRness of Repositories & Their Data**

*A Report from LIBER's  
Research Data Management  
Working Group*



# A major cultural change through massive advocacy and training is expected

- Some years ago, only a minority was convinced and active in universities, among which librarians
- Situation has improved, but the shift is still ahead
- Advocacy and training are key
- To achieve that, libraries are central :
  - for students : undergraduate, graduate, postgraduate
  - for researchers : newcomers sessions, continuous training
  - for decision makers
  - for other stakeholders outside the academic world



*Libraries have become years ago important trainers, teaching “library and information science”, and OS is in the portfolio*



## Publication detail

Home > Publication detail > Providing researchers with the skills and c...



Add to my publications



Create alert



Permanent link



Metadata RDF



Embed in website

★★★★★ Rate this publication



### Providing researchers with the skills and competencies they need to practise Open Science

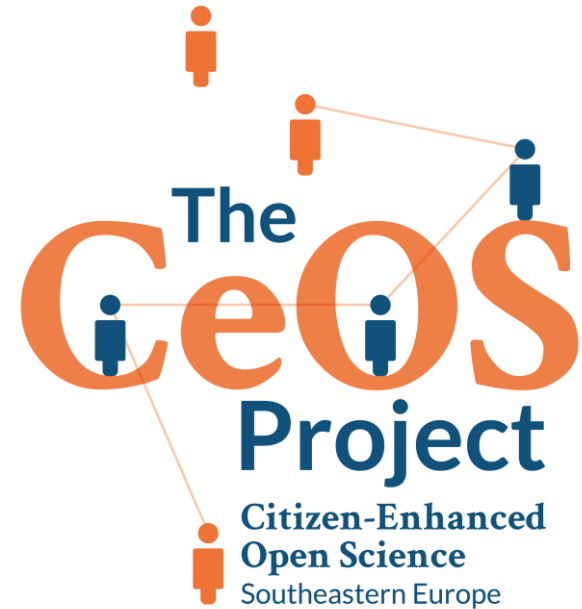
The Expert Group on Education and Skills under Open Science presents in this report a detailed study of the skills and competencies researchers need to practise Open Science. The report provides the results of a survey amongst researchers in Europe on their perceptions on Open Science policies and practices and then focuses on the specific skills researchers need for Open Science. The report concludes with policy recommendations for stakeholders at a European, national, and institutional level to raise awareness, train, support, and encourage researchers in Open Science.

EU publications

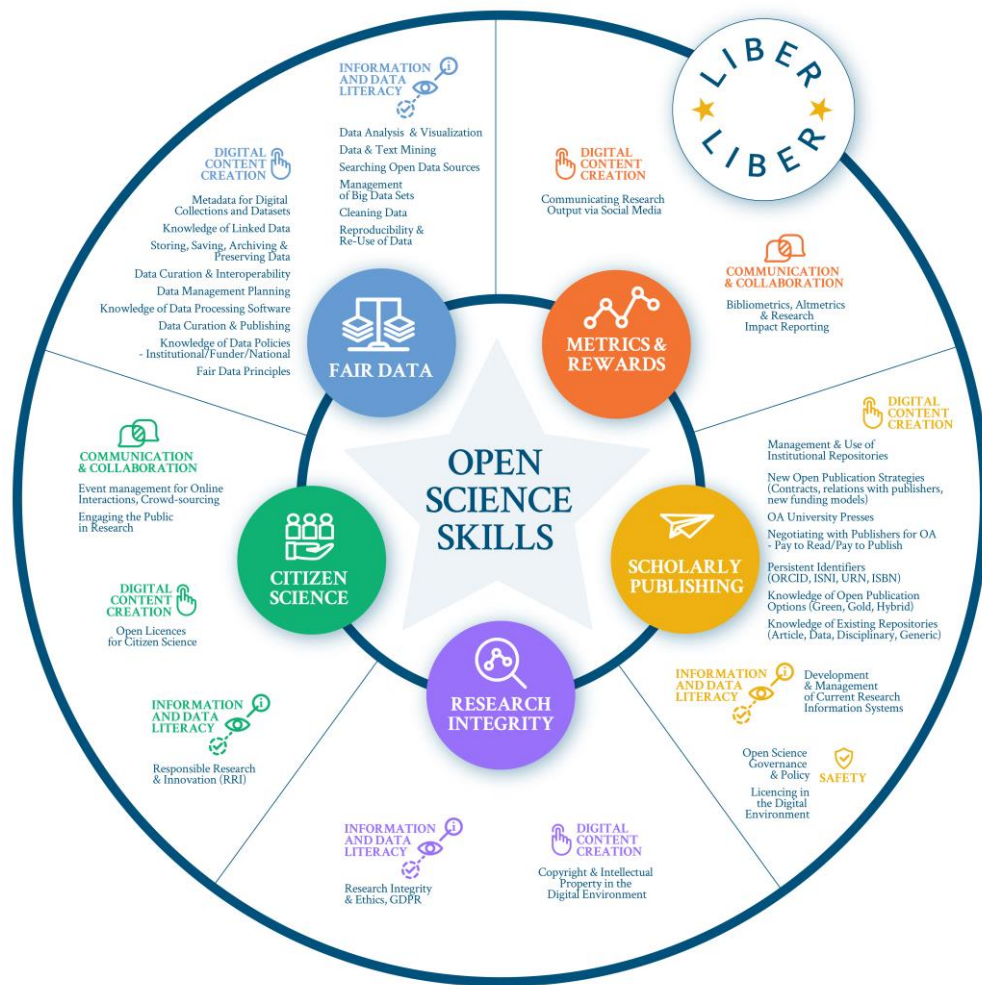
European Commission, Directorate-General for Research and Innovation, O'Carroll, C., Hyllseth, B., Berg, R., et al., *Providing researchers with the skills and competencies they need to practise Open Science*, Publications Office, 2017, <https://data.europa.eu/doi/10.2777/121253>

# Upskilling the workforce in libraries is essential to support OS

- Competencies have been hugely updated the past 20 years, in order to make OA happen
- Still, there is a lot more to do in new areas such as Data, OERs, citizen science, Software and source code
- In many libraries, there are now OA units
- The challenge is to update the current workforce and to recruit new profiles :
  - There is a need for continuous training, LIBER is key for that
  - Specific courses need to be developed in universities, and we are late
  - There is a need for new positions, such as OERs/data librarians/stewards, community engagement officers...



*Continuous upskilling and workforce development are on the way, but there is a need to speed up and extend beyond libraries themselves*



\* Discipline-specific skills needed to practice open science (does not include generic computer skills, wider librarianship skills and personal competencies)

\* Mapped to LIBER OS Roadmap 7 focus areas, Digcomp 2.0 framework and FOSTER learning resources

\* Produced by the LIBER Working Group on Digital Skills for Library Staff & Researchers with input from other LIBER Working Groups, 2020

# To achieve this shift to OS, we need to be fairly ambitious and systematic in universities

- **Advising decision makers, supporting research teams, training students and researchers are heavily time-consuming**
- **Libraries are on the way to massively shift their workforce to OS support**
- **OS services / missions / support units have been created and are growing inside the library team**
- **When OS is fully part of the roadmap of the university, means are usually given to libraries to embrace new key missions**

## BerlinUP

**Berlin Universities Publishing** ist ein Open-Access-Verlag in einer nichtkommerziellen, wissenschaftseigenen Infrastruktur und mit einer allgemeinen, verlagsunabhängigen Publikationsberatung.

BerlinUP wird gefördert von der **Berlin University Alliance** und gemeinschaftlich getragen von den Bibliotheken der **Freien Universität Berlin**, der **Humboldt-Universität zu Berlin**, der **Technischen Universität Berlin** und der **Charité – Universitätsmedizin Berlin**.



### BerlinUP Books

Wir publizieren Monografien, Sammelbände und Schriftenreihen für Angehörige der Berlin University Alliance.



### BerlinUP Journals

Wir publizieren Open-Access-Zeitschriften für Angehörige der Berlin University Alliance.



### BerlinUP Beratung

Wir unterstützen Angehörige der Berlin University Alliance bei allen Fragen zum Open-Access-Publizieren, auch unabhängig von den Publikationsangeboten in BerlinUP.

*Where systematic and comprehensive changes towards OS are happening, libraries are part of this shift, when they are not, the shift is limited and slower*

# Researchers and research communities face many tricky issues on the way to OS

- Researchers need support from experts regarding the publication process – libraries are there to help in the conversation with publishers, especially regarding APCs
- The legal context is very complex, researchers need from their institution simple guidelines and a safe environment – see the *Rights Retention Strategy*
- To tackle many issues, a one stop-shop is probably the best solution – libraries are usually this one-stop shop, bringing the expertise needed to the researchers, from inside and outside the library



**Plan S**  
Making full & immediate  
Open Access a reality

**The Author's Rights Quiz**  
How well do you know your rights as an author?

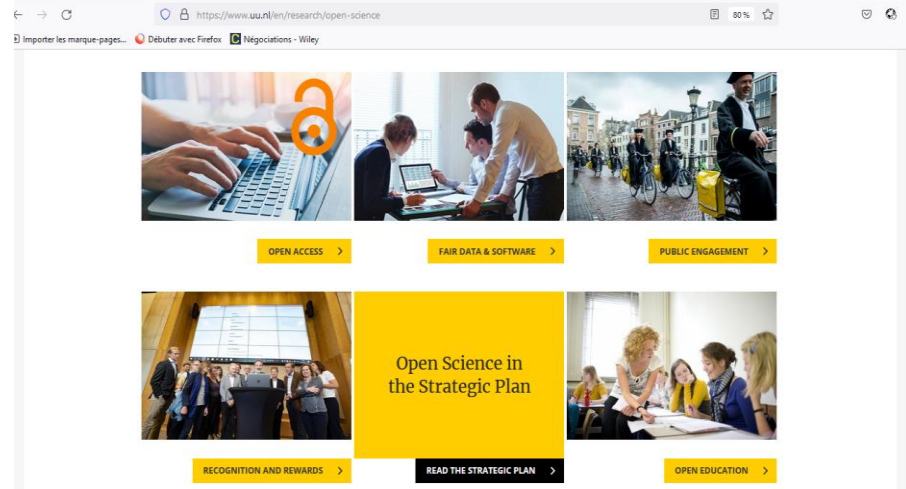
**Let's find out!** press Enter ↵

*The more complex issues are, the simpler things have to be, so that researchers can concentrate on research. Libraries are the effective interfaces for side-issues.*

# To achieve OS, policies need to be transformed into practices, and the other way round

- Libraries are pro-active – see *Copyright Directive* in 2019
- Libraries are supportive – see the *Rights Retention Strategy* from Coalition S (again)
- Opportunities and proposals for OS-related policies often come in universities from the libraries : OA mandates, roadmap for OS, data policies...
- Good practices are spread through universities by libraries – see the OS barometer from the university of Lorraine
- From ideas to action - many universities have roadmaps for OS, libraries play an important role there

*Libraries have a key role to play in the virtuous circle in order to transform policies into practices, and the other way round.*



# OS relies on a fragile and complex ecosystem

- Some initiatives are financially at threats or need money to support their development - *Redalyc/AmeliCA* for instance
- Some OS initiatives have been purchased by private companies with their own (hidden) agenda - *Knowledge Unlatched* (Wiley)
- Some tools are just vital for OS, and need to be maintained over the long term – DOAJ, Dspace...
- Some emerging initiatives need to be sustained until viable – *Peer Community In* for instance
- The system is highly interdependent (see next slide)
- Researchers usually do not know that, but some private companies have control over the whole lifecycle of research (see following slide)
- Very few people are aware of all of that, but librarians are !

*Libraries play an important role to monitor, sustain and develop this ecosystem, but they need help and support.*

The logo for SCOSS, featuring the letters 'SCOSS' in a white, sans-serif font. The letter 'O' is replaced by a stylized white circle with a horizontal line through its center, and a semi-circle above and below it, resembling a network or a globe.

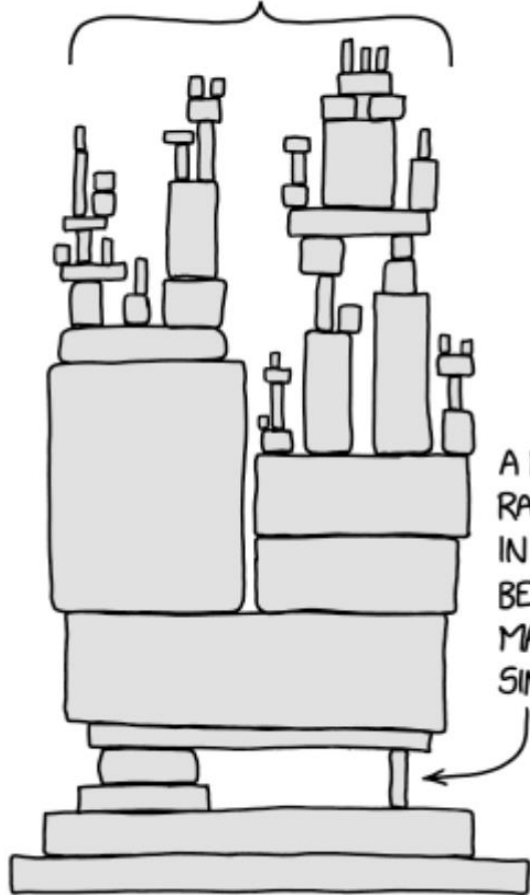
**SUSTAINING  
THE OPEN**

**HELPING SECURE THE VITAL  
INFRASTRUCTURE ON WHICH  
OPEN SCIENCE DEPENDS**

Everything you need to know about SCOSS



# ALL MODERN DIGITAL INFRASTRUCTURE



A PROJECT SOME  
RANDOM PERSON  
IN NEBRASKA HAS  
BEEN THANKLESSLY  
MAINTAINING  
SINCE 2003

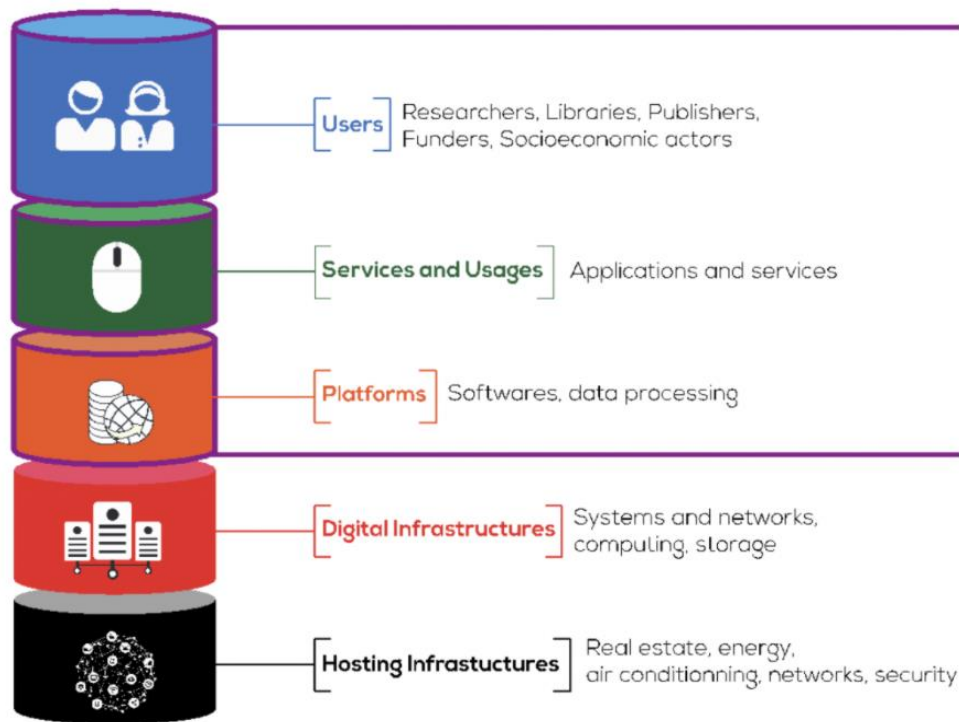
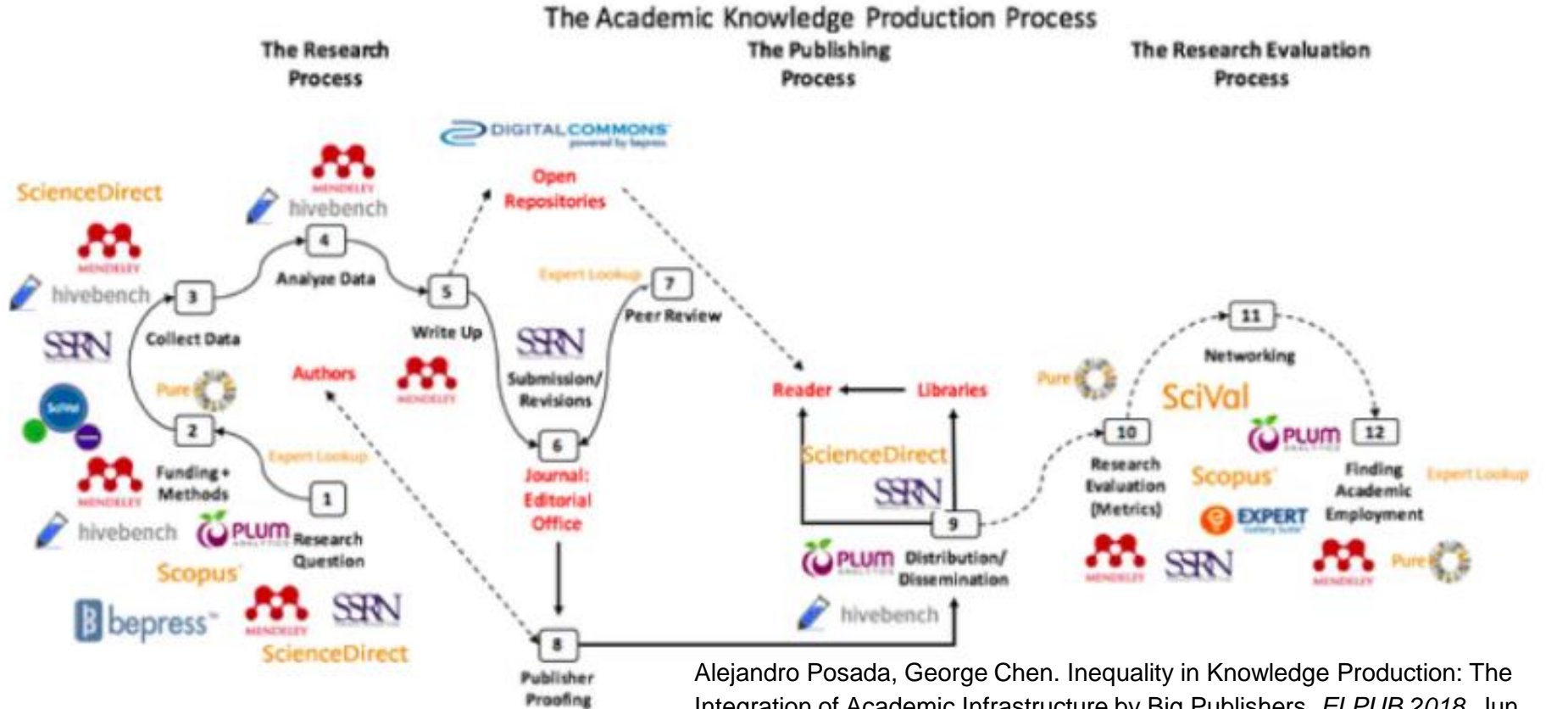


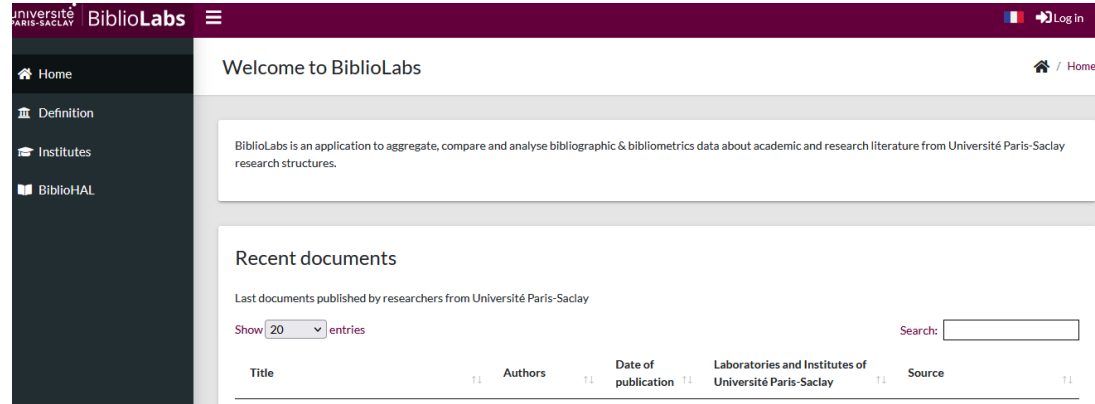
Figure 5: Elsevier Presence Throughout the Lifecycle



Alejandro Posada, George Chen. Inequality in Knowledge Production: The Integration of Academic Infrastructure by Big Publishers. *ELPUB 2018*, Jun 2018, Toronto, Canada. [10.4000/proceedings.elpub.2018.30](https://doi.org/10.4000/proceedings.elpub.2018.30). [hal-01816707](https://hal.archives-ouvertes.fr/hal-01816707)

# Research assessment needs a major reform

- We need a fair evaluation of research, (nearly) everyone is aware of that
- Impact factor has nothing to do with that
- Research assessment is facing many unsolved issues – an exhausting peer-reviewing system, a run for quantity versus quality, publication pressure enabling predatory journals, the urge to have positive results to publish versus negative ones, ...
- Libraries are surely not central there
- but they will certainly help / they manage most of the open access tools, they deliver bibliometric services to their institution, they have a transversal view on different situations among disciplines and know suitable solutions



The screenshot shows the BiblioLabs website interface. The header includes the Université Paris-Saclay logo and the BiblioLabs name. A navigation menu on the left lists Home, Definition, Institutes, and BiblioHAL. The main content area features a welcome message, a description of the application's purpose, and a section for 'Recent documents'. Below this, there is a search bar and a table with columns for Title, Authors, Date of publication, Laboratories and Institutes of Université Paris-Saclay, and Source. The table is currently empty.

*The reform of the evaluation system is research-driven, but libraries can bring useful support*



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**University Librarian**

**Director of the libraries and learning center**

**Chief data officer**

University of Lille

**Co-chair of the European and international  
college, French national Committee for Open  
Science.**

<https://www.ouvrirlascience.fr>