

Citizen Science as an act of innovation

librarians, scientists and citizens claiming new knowledge structures

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**440
libraries**



**One
mission**



DEVOTED TO OPEN SCIENCE

Our policies, tools and infrastructures are reshaping research processes and mindsets in favour of Open.

WORLD CLASS RESEARCH

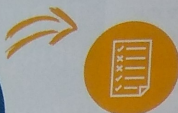
We aim to enable outstanding research and, by extension, the growth and sharing of knowledge.

Vision

"Libraries Powering
Sustainable Knowledge
in the Digital Age"
LIBER Strategy '18-'22

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

LIBRARIES SUPPORT THE ENTIRE RESEARCH PROCESS



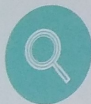
1. PLANNING

- Develop Data Management Plans and support researchers in their implementation
- Develop and provide tools for FAIR data management
- Help researchers to manage their personal identifiers (ORCID, ISNI)
- Provide information about research funding possibilities



6. REUSING

- Raise awareness and provide training about reuse requirements
- Promote reuse with copyright and contract management, and through the use of Creative Commons licenses



5. ASSESSING

- Participate in projects and pilots to learn about next-generation metrics
- Advance the adoption of next-generation metrics



4. PUBLISHING

- Encourage researchers and students to use Institutional Repositories for publishing
- Provide training in Open Access publishing and the requirements of publishers

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2. SUPPORT

- Support access to journals and databases
- Ensure your services support research Open Science
- Turn the library into a research support service, especially for small departments



3. MANAGING

- Ensure research outputs are interoperable by supporting researchers in the use of identifiers, metadata and vocabularies
- Provide training in managing data sets, in programming languages, support in statistics and in using high computing power
- Develop infrastructures: Institutional Repositories for publications and data, ontologies and other tools to describe content

Cultural Change

The openness I am advocating would be a giant cultural shift in how science is done, a second open science revolution extending beyond completing the first open science revolution, of the 17th and 18th centuries.⁴

Open Science Roadmap

<https://zenodo.org/record/1303002>

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Reflecting a commitment to Open Science across all services. Provide a certified repository. Create a data catalogue. Publish content with a machine-readable license. Use open APIs to provide access to library services. Develop intelligent tools to automate metadata production and support FAIR data management during the entire data life-cycle. Ensure that contracts with publishers are transparent.

Sharing inspiring examples. Highlight your own library's successes and those of Open Science champions from across the community.

Institution has an Open
This policy should be informed by the insights and needs of your library and users.

⁴ Bartling, S., & Friesike, S. (2014). *Towards Another Scientific Revolution*. Available at http://dx.doi.org/10.1007/978-3-319-00026-8_1

The graphic consists of four concentric circles of varying shades of blue, centered on the left side of the slide. The word "Topics" is written in a yellow, italicized serif font within the innermost circle.

Topics

of the Open Science Roadmap

- Scholarly Publishing
- FAIR Data
- Research Infrastructure & the EOSC
- Metrics & Rewards
- Open Science Skills
- Research Integrity
- **Citizen Science**

Recommendation

1 / 4

- **Promote the library as an active partner in Citizen Science and develop the necessary infrastructure to effectively support public researchers.**
- Develop the right research -physical and digital- infrastructures.
- Recommend the right toolkits for Citizen Science.
- Provide and preserve tools, protocols and outcomes.



Recommendation

2 / 4

- **Use the library as an organizing and managing body to ensure that responsible conduct and good scholarly practice are respected when participating in Citizen Science.**
- Promote the right research ethics and integrity.
- Make Citizen Science-enabled data FAIR.
- Explore Citizen Science practices in various research fields.



Recommendation

3 / 4

- **Develop a set of guidelines including methodologies and policies for Citizen Science activities involving the library.**
- Incentivize and reward participation.
- Facilitate networking by bridging demand and supply.
- Support the evaluation of outcomes and processes > feed with results > iterate.



Recommendation

4 / 4

- **Develop the necessary skills to be a strong and active partner in Citizen Science.**
- Skills and competencies development for librarians, researchers and -of course- citizens.
- Promote scientific understanding, rationalism and social engagement through Citizen Science.







Citizen Science

as a Working Group in LIBER

- Citizen Science is an innovation that can promote constructive changes of libraries, as envisaged in the OS Roadmap:
- Libraries as a **Hub** for digital skills and services
- Libraries as a **Platform** for innovative scholarly communication
- Libraries as **Partners** in research infrastructures

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Critical questions

- What will be the role of libraries in terms of citizen education and instruction?
- What are the services needed to be deployed?
- Can libraries help Citizen Science initiatives to be viable, operational, as well as their results sustainable?
- How can libraries help various stakeholders in openly licensing their efforts?
- Can libraries help balancing the efforts in the various disciplinary and expand the practices of Citizen Science?

Thank you for your attention!
Questions?

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