CIVIS Open Science Strategy

Open Science Task force

The Open Science Task force mission is to propose to CIVIS' Board of Rectors a common open science strategy and an action plan to be implemented during the 2021-2023 period.

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This document presents the results of the group's reflections and analysis regarding the position CIVIS should hold regarding Open Science.

Objectives

The main objective of the strategy is to create an appropriate institutional framework for the development of Open Science within the CIVIS alliance, through a set of recommendations approved by the highest instance of the European university.
This framework should allow the development of OS in its eight aspects[1], as they are defined by the European Commission's "Open Science Policy Platform" working group (OSPP[2]). It is to be mentioned that the OSPP recommendations have been taken into account by the task force.
For the first period of the project (2020-2021), in strong connection with the RIS4CIVIS proposal (Module 5: "Mainstreaming of Open Science"), the task force suggests to work on:

- A statement on Open Science
- Open Educational Resources
- Communication and training
- Shared infrastructure

Developing citizen science implies a collaboration with other task forces and will therefore be addressed at a later stage of the project (2022-2023).

Recommendations

1. Open Science Statement

The task force recommends that all Universities of the alliance adopt a common statement on Open Science (all dimensions) in balance with intellectual property.

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[1] Rewards and Incentives · Research Indicators and Next-Generation Metrics · Future of Scholarly Communication · European Open Science Cloud · FAIR Data · Research Integrity · Skills and Education · Citizen Science

[2] OSPP : https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform

This document must be compliant with policies already enforced in each university and *de facto* with national reglementations and European recommendations about Open Science.

<u>Actions</u>
- Drafting of a Common Proposal (2020-2021)
- Approval of the proposal at each University (2021)

The task force suggests that the statement should include the following items :

Rewards and Incentives

The 1st recommendation of the OSPP[3] regarding rewards and incentives states that:

"Funders, research institutions and other evaluators of researchers should actively develop/adjust evaluation practices and routines to give extra credit to individuals, groups and projects who integrate Open Science within their research practice".

Since the human factor is the key to the success of OS, it is proposed, at each University, and in compliance with their current national legislations, to establish an incentive policy for increasing open access publications by the research community, using a new system of indicators and metrics.

This may be developed along the following main points:
- CIVIS calls : the evaluation system of the projects submitted should take into account open access publications.
- Creation of a CIVIS Best Practices Award in Open Science

Research Indicators and Next-Generation Metrics

"Evaluations of individual researchers or of research groups should not use journal brand or Impact Factor as a proxy for research quality. Those responsible for hiring, promotion, funding and/or the evaluation of researchers must use a broader, tailored range of quantitative and qualitative indicators of research activity, progression and impact that incentivises and rewards open research practice."[4]

A common table of indicators, to measure research activity and scientific production from an OS perspective, could be developed.

This may be developed along the following main points:
- Career assessment: a criteria for professional promotions could be based on the open publication practices of the researchers.
- Recommendations of OS indicators to CIVIS universities that may be based on the analysis of the existing initiatives regarding open metrics (OSPP, YERUN[5])

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[3] "Progress on Open Science: Towards a Shared Research Knowledge System" - OSPP Final report, pp. 30 : https://ec.europa.eu/research/openscience/pdf/ec_rtd_ospp-final-report.pdf
[4] Op. Cit. pp.33
[5] Young European Research Universities : https://www.yerun.eu/

FAIR Data

"Funders and Research Performing Organisations should give credit for Findable, Accessible, Interoperable and Reusable (FAIR) data resulting from research work, similar to publications, methods, code etc"[6].

Although several universities in the alliance do not have a data repository, initiatives should be proposed regarding research data management. The statement could include a recommendation on the development of RDM policies supporting the FAIR data principles.

Future of Scholarly Communication

"All published research outputs from public funding in Europe must be made public in a way that ensures both immediate Open Access and full text and data mining rights of that content, while being sensitive to disciplinary differences"[7].

This may be developed along the following main points:
- Promote bibliodiversity : innovative business models, diamond open access, fair publishing...

- Enhance the use of institutional repositories (green OA) among the research communities

2. Open education and Open educational resources (OER)

The task force recommends that all educational material produced within the CIVIS project should be provided as OER.
To reach this goal, the task force proposes three main actions:

Develop guidelines for OER

A CIVIS policy and/or guidelines for OER should address the following issues:

- Open Education
- Open licenses
- Intellectual Property Rights (IPR)
- Incentives for teaching and research faculty, departments and schools
- Cooperation among CIVIS members to develop common open education resources
- Sharing OER support services & infrastructure (learning management systems, platforms, applications, tools)
- Funding, sustainability

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[6] Op. Cit. pp.44
[7] Op. Cit. pp.37

Raise OER Awareness and Training

CIVIS should promote OER awareness in the academic communities of its members and develop training modules (open courses, moocs...) for teaching and research staff, library staff and students on:
- IPR and open licenses
- Accessibility for people with disabilities
- Technical issues and tools for open content creation

Create a common presentation for OER

A CIVIS OER repository should be created to host the CIVIS-produced open educational material. The interoperable interconnection (metadata harvesting) of existing OER repositories maintained by the CIVIS members is an opportunity for collaboration.

3. Communication and training

The task force recommends that all CIVIS PhD students and researchers are made aware of open science practices.

Promote Open Science concept and best practices by researchers in CIVIS universities

- Analyze the existing material explaining and promoting OS in use in our respective universities (in English, or to be translated in English): leaflets, graphs, videos… This material could be adapted and "labelled" CIVIS and disseminated on the CIVIS website and in the newsletters of each university.
- Collect examples of best OS practices by researchers, available in English in the CIVIS universities: testimonies, videos,... and dissemination on the CIVIS website and in the universities information outlets.
- Promote the future common OS policy of CIVIS universities

Propose a PhD/early researchers' training program on Open Science

- List existing training programs on OS in the CIVIS universities
- Identify workshops/training sessions which could be provided online in English and possibly create new joint training sessions
- Create a shared program for CIVIS early researchers training on OS

Propose an OS training program for library and research support staff

- Translate the Competency Matrix in English [The Competency Matrix describes Open Science skills of research library staff](#) (Danish project) The matrix describes Open Science skills in two dimensions: areas of expertise and levels of expertise. The matrix comprises 11 areas of expertise and three levels of expertise, resulting in the description of 33 different competency profiles.
- List existing staff training programs/sessions in the universities and use the competency matrix to determine which competencies existing trainings aim to develop
- Identify which training sessions are/could be provided online in English
- Make a "gap analysis" to identify which trainings could be further developed

- Develop new trainings to fill the gaps, in collaboration among the CIVIS partners

Possible OS areas for training support staff[8]:
- Open Science policies (institutional/national OA policy, Code of Conduct for Research Integrity, FAIR Principles, institutional and EU OS policies);
- Data Management Plan;
- Rights & licenses (Copyright, GDPR, Creative Commons and licensing restrictions on data collections);
- Searching and collecting data (Search techniques, features and options in existing databases, archives and repositories; Data collections, methods and tools for data extraction, TDM (text and data mining), creation of new data collections);
- Data storage (Data security, sharing platforms, access conditions, protection of personal data, anonymization, pseudonymization and metadata);
- Processing data (Methods and tools for visualization, programming, modeling and structuring);
- Open Reproducible Research (open methodology: Methods and tools for visualization, programming, modeling and structuring);
- Archiving data and long-term storage (FAIR principles, FAIR vs. open data, data types, metadata & documentation, access to data, PID, licenses, data curation, repositories & archives, archiving and preservation of data (short and long term preservation));
- Publishing data (Data publishing platforms, FAIR principles, FAIR vs. open data, PID, licenses, Open Linked Data, RDM);
- Scientific publishing / scholarly communication (Publication types, OA and non-OA, peer-reviewed journals and other media);
- Open Access publishing and dissemination (Open Access journals and publishing platforms; open repositories, related legal requirements, copyright issues and costs (e.g. APC)).

4. Shared Infrastructure

The task force recommends that CIVIS fosters a better connection with the European research and training infrastructures. This objective can be achieved by :
- Ensuring that all the CIVIS repositories are compliant with OpenAire
- Creating a CIVIS gateway on OpenAire (for metadata harvesting of Open Access scientific publications)
- Creating a CIVIS Zenodo community (for harvesting and/or depositing of Research Data).

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[8] Based on The Competency Matrix describes Open Science skills of research library staff