



Horizon 2020 Policy Support Facility

Mutual Learning Exercise Open Science, Challenge Paper 4: Implementing Open Science: Experiences, Strategies and Models

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Outline

- Aims of challenge paper
- Open Science implementation: priorities and principles
- Open Science strategies, experiences and models
- Lessons learnt and key concerns
- A Roadmap for Open Science implementation at the National Level
- Objectives and agenda for this working meeting

Aims of challenge paper

- outline key priorities and principles underpinning the implementation of Open Science at the national level
- review existing experiences among MLE participants
- summarise strategies, lessons learnt and models proposed so far
- propose a roadmap for researchers, funders, research institutions and national governments that can help to guide Open Science implementation across member states

Methods and sources

- policy documents outlining current and past activities undertaken within member states to support and incentivize Open Science
- presentations on specific national initiatives and European reports during the MLE meetings and country visits to Finland and Croatia
- discussions among MLE participants around how Open Science can and should be implemented and fostered
- responses provided by MLE participants to questionnaire sent out in June 2017

Open Science Implementation: Priorities for member states / 1

- Achieve *Open Access to publications*
- Go beyond Open Access and take advantage of *other aspects of Open Science*, including Open Data and Education
- Shift to *multiple indicators for research assessment*
- Clarify *responsibilities*
- Evaluate *investments in infrastructure and resourcing*
- Clarify *legal framework* relating to Open Science

Open Science Implementation: Priorities for member states / 2

- *Coordinate with European governance and other member states*
- *Involve researchers and research organisations in all aspects of Open Science implementation*
- *Enhance research outputs and quality, thus making research within each country more competitive, improving the visibility of researchers and collaborations with industry*
- *Support early career researchers and prevent brain drain*
- *Monitor the transition to Open Science and address emerging concerns in a timely and efficient manner*

Open Science Implementation: Key principles

- **Respect for diversity**
- **Collaboration**
- **Accountability**
- **Transparency**
- **Social responsibility and engagement**
- **Fairness (counter high resource bias, not necessarily the same as equality)**
- **Impact (& minimise bureaucratic burdens)**

Strategies, Experiences and Models 1: The importance of national Open Science agendas

- National agendas well-established or in progress:
 - Finland: based on principles
 - Netherlands: practical steps
 - Sweden: consulting around Research Bill (2016)
 - France: providing a legal framework
 - Portugal: early stages, in line with ERA roadmap
 - Bulgaria: OS strategy approved in July 2017
- Issues with federated countries
 - Switzerland, Belgium: institutional initiatives, policies largely on regional level
- Bottom-up initiatives clashing with national provisions
 - Croatia, Slovenia

Strategies, Experiences and Models 2: Publishing Strategies

- **Moldova: Open Access repository**
- **Croatia: HRCAK expanding into OS platform, Croatia Declaration on Open Access**
- **Belgium: Open Access and Open Data library systems at universities**
- **Switzerland: Swiss Center for Expertise in the Social Sciences (FORS) - Open Data repository**

Strategies, Experiences and Models 3: Connecting Publishing and Evaluation Strategies

Important because

- provides a strong incentive for researchers to deposit all their results in an open access repository
- reduces the administrative burden on researchers, by giving them one system in which to list their outputs
- reduces the administrative burden on research institutions and funding bodies, who can rely on one system for the acquisition of data on research productivity instead of having to develop and manage their own systems

Strategies, Experiences and Models 3: Connecting Publishing and Evaluation Strategies

Some examples:

- University of Liege, Belgium
- Croatian Scientific Bibliography & DABAR tool: great potential
- Slovenian COBISS/SciMet Tools integrating altmetrics

Strategies, Experiences and Models 4: Funding Strategies

Using Open Science as a criterion in allocation of funding can

- make a large and immediate difference in the behavior of researchers and research institutions
 - E.g. UK, Netherlands
- change the culture of the impact factor as a key measure of research excellence
 - E.g. Sweden on FAIR data
- foster better research planning, as demonstrated by requirements for a Data Management Plan (DMP)
 - E.g. Switzerland

Strategies, Experiences and Models 4: Funding Strategies

Also: ‘funding bonuses’ (Finland, under consideration elsewhere)

Strategies, Experiences and Models 5: Participate in International Open Science Activities

- Practically: participation in OpenAIRE
 - E.g. Latvia, Lithuania
- Politically: ERA Roadmap
- Key actors: research consortia and Academies of Science
 - E.g. Moldova

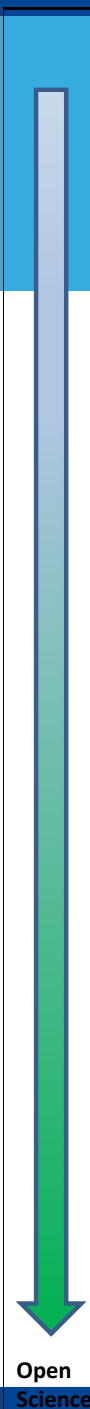
Lessons Learnt

1. Comprehensive nature of Open Science implementation
(beyond “business as usual”)
2. Dealing with costs (tackling existing sustainability issues)
3. Educating and involving government officials
4. Coordinating top-down and bottom-up initiatives within and across member states
5. Tackling the role of publishers

Lessons Learnt

6. Valorizing research in languages other than English
7. Optimising Human Resources practices for research jobs across Europe (HRS4R awards)
8. Enhancing information and training tools
9. Monitoring the transition to Open Science and its implications

Roadmap for Open Science Implementation



Stages	Target	Example of relevant activity
1	Round up key stakeholders and identify Open Science champions	Organise Open Science roundtables and venues for discussion Launch national consultation to capture ongoing Open Science activities Identify Open Science ambassadors and role models to work within relevant communities
2	Devise national strategy through consultation with stakeholders	Produce a clear, widely available national agenda for Open Science Promote the agenda among relevant stakeholders and the general public Include Open Science discussion and monitoring into ERA roadmap meetings Ensure that the development and implementation of a national Open Science agenda is transparent, with easily accessible information sources that document the steps being taken (e.g. publicly sponsored website)
3	Implement strategy, starting from Open Access	Set up national repository for Open Access journals or preprints Devise and implement a legal framework which enables and supports Open Access publishing
4	Change reward system to incentivize other aspects of Open Science, especially Open Data, Open Software, Open Notebooks and Open Education	Adopt OS-CAM Guide to research evaluation Establish funding allocation system that rewards Open Science activities, such as Open Data and Public Engagement Establish Open Science prizes and awards
5	Encourage critical and informed thinking around the implementation of Open Data	Require Data Management Plans for all publicly funded projects Establish training in data ethics and data management for researchers, administrators and research institutions
6	Participate in international initiatives to develop and maintain Open Science infrastructures	Identify and support key data repositories and data management tools (nationally and internationally) Contribute to the European Open Science Cloud
7	Monitor and tackle emerging issues as they arise, in consultation with stakeholders	Establish regular meetings among stakeholders to check on Open Science transition and outcomes Establish monitoring systems checking for Open Science activities and the availability of relevant

Key Steps in the National Roadmap

1. Round up key stakeholders and identify Open Science champions
2. Devise national strategy through consultation with stakeholders
3. Implement strategy, starting from Open Access
4. Change reward system to incentivize other aspects of Open Science, especially Open Data, Open Software, Open Notebooks and Open Education
5. Encourage critical and informed thinking around the implementation of Open Data
6. Participate in international initiatives to develop and maintain Open Science infrastructures
7. Monitor and tackle emerging issues as they arise, in consultation with stakeholders

Conclusion: Next Steps for Member States

- Consider and discuss roadmap at government level and in consultation with stakeholders
- Establish national strategy, including
 - Priorities and steps forward
 - Vision for the next ten years
 - Pilot projects and existing resources
- Integrate into discussions of ERA Roadmap
 - section 5b on "Optimal circulation and transfer of scientific knowledge"
 - to ensure coherence across government departments and international cooperation (and avoid duplication of efforts)

Conclusion: Next Steps for EC

- **Key role in guiding and coordinating activities by member states**

Priorities:

- making Open Science mandates a key part of FP9;
- speaking with one voice across all directorates, thus clarifying how intellectual property legislation intersects with Open Science mandates;
- coordinating infrastructure provision, training and the development of common standards (as in the current initiatives around the European Open Science Cloud)
- Improving information sources online

Agenda for this meeting

Objectives:

- Discussion of roadmap and principles proposed in Background/Challenge paper
- Discussion of priorities of member states and how this is reflected in current MLE documentation

Plan for this evening and tomorrow:

- Discussion and break-out sessions on feedback to the proposed roadmap and ways forward
- Wrap-up session and request for feedback on the final report (Katja Mayer)

Thank you for your
attention!

Questions and discussion

Feedback:

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