



## Annex 4

# **G7 EXPERT GROUP ON OPEN SCIENCE**

## **Executive Summary**

*28<sup>th</sup> September 2017*

The G7 Open Science Working group (OS WG) recognizes that an international approach for some actions can help the speed and coherence of the transition towards Open Science. Overall, the G7 Open Science Working Group recommends that each G7 nation convene and engage with relevant stakeholders who can support moves towards incentivizing the increased adoption of Open Science in their national context.

Alongside these efforts, it would be useful for G7 nations to continue sharing their perspectives and progress on developing policies and fostering adoption of Open Science principles and practices, and working together to find common areas of action to support more effective implementation of Open Science practices. The OS WG focused its efforts on developing recommendations for two important aspects of Open Science: Incentives and Infrastructure, as described below.



**Focus: Incentives and the researcher ecosystem**

**Ambition:** Foster a research environment in which career advancement takes into account Open Science activities, through incentives and rewards for researchers, and valuing the skills and capabilities in the Open Science workforce.

**Recommendations:**

At national levels: G7 nations should each engage with research stakeholders to identify and implement enhancements to research evaluation and reward systems that take into consideration the Open Science activities carried out by researchers and research institutions. Topics that could be discussed include:

- Recognizing Open Science practices during evaluation of research funding proposals, and research outcomes;
- Recognizing and rewarding research productivity and impact that reflect open science activities by researchers during career advancement reviews;
- Including credit for service activities such as reviewing, evaluating, and curation and management of research data; and,
- Developing metrics of Open Science practices.

Potential future discussion at the G7 level: Consider approaches towards developing principles, for measuring the quality and impact of research enabled by Open Science practices. Discussions could also include means to identify, promote and implement best practices for Open Science, for example, through codes of conduct that build on existing procedures. This might lead to international consensus on the roles and responsibilities of researchers, institutions, and funders under Open Science.

**Focus: Infrastructures for an optimal use of research data**

**Ambitions:** All researchers are able to deposit, access and analyse scientific data across disciplines and on international scales. Research data management adheres to the FAIR principles whereby data is findable, accessible, interoperable, and reusable.

**Recommendations:**

At the national level: G7 nations can each work to promote the development of practices and the use of technologies and infrastructure in the research community that foster Open Science principles and data sharing, including:

- Working towards use of data management plans as part of new research projects, and other approaches, as important instruments to ensure data quality along the whole data life cycle, data preservation and access.
- Development of common interfaces and data standards, including software whenever appropriate.
- Supporting development of plans and approaches for maximizing the accessibility, long-term preservation and reproducibility of research data and



results, while protecting privacy, confidentiality, national security, and intellectual property concerns

Potential future discussion at the G7 level: Establish a forum for continued multilateral discussion to share information about major research data infrastructure initiatives in G7 countries and beyond. Discussion objectives could include:

- Development of a common understanding of Open Science and the related infrastructure requirements (e.g. for whom? Under which conditions?), including consideration of best practices in different disciplines of science and technology as well as in social sciences, humanities and the arts.
- Agreement to promote the FAIR principles for data resulting from government-funded research, increase discussion on sustainability and working towards shared guidelines for incorporating FAIR principles into the operations of infrastructure that support Open Science.
- Raising awareness of the necessity of well-qualified human resources and professional expertise for curation, annotation and other management of research data and incorporate them in the research processes.

These actions will help to ensure good communication and coordination, among of the numerous initiatives that are under way in countries around the world that aim at professional research data management and sharing.

