

July 2020

## Comment on the UNESCO Open Science Initiative

The German Council for Scientific Information Infrastructures (*Rat für Informationsinfrastrukturen* - RfII) provides advice to the German Federal Government, the *Länder* (state governments), and the academic communities on the development of modern and sustainable infrastructures for scientific information. RfII recommendations serve both to inform the debate and to support the development and communication of German positions in the wider international arena.

The UNESCO has launched an international consultation to prepare a “Recommendation on Open Science” as an international standard-setting instrument. The Recommendation is expected to define shared values and principles for Open Science, and to identify concrete measures on Open Access and Open Data, facilitating the production and dissemination of scientific knowledge around the world.<sup>1</sup>

The work of the RfII is strongly oriented towards the process of scientific knowledge production and good scientific practice. From this perspective, the Council has recently commented on current European efforts to give new political impetus to the “transition to openness”.<sup>2</sup> Based on this work and following the regional consultation for Europe and North America on July 23rd, 2020, the following comments are submitted to the UNESCO process on behalf of the RfII.

### *Responsible sharing in research*

1. The transition to openness offers opportunities to science, as many examples and use cases show. Substantial challenges remain, however, some of which are related to insufficient framework setting for research in general - for example, vague regulatory frameworks regarding data and a certain dependence on commercial products and services. In 2016 RfII has recommended establishing binding rules of conduct to shape the unregulated flow of data when the services of private software, communication, and storage providers are used. All stakeholders should work towards affecting a cul-

---

<sup>1</sup> Cf. <https://en.unesco.org/science-sustainable-future/open-science/consultation> (last accessed on: 30.06.2020) and Deutsche UNESCO Kommission (2020) – Open Science – Perspektiven aus Deutschland auf die Erarbeitung der geplanten Empfehlung der UNESCO, [https://www.unesco.de/sites/default/files/2020-06/OpenScience\\_Reader\\_2020.pdf](https://www.unesco.de/sites/default/files/2020-06/OpenScience_Reader_2020.pdf) (German only, last accessed on: 30.06.2020).

<sup>2</sup> RfII (2019) – Statement on current developments concerning Open Data and Open Access, Göttingen 2019, <http://www.rfii.de/?p=3814>.

tural transformation that links the subject of openness for scientific use with the idea of responsibility for scientific data.<sup>3</sup>

### *Scientific quality*

2. From the viewpoint of the RfII, it must be a key concern of science and science policy that openness is practiced in combination with quality assurance. As the RfII pointed out in 2019, expected benefits associated with open access to data and publications are only accessible when the data and publications are of high quality, i.e. when standardised (and tailored) quality assurance procedures have been applied and sufficient context is provided.<sup>4</sup> This requires time, know-how, and resources.
3. Currently, the term “open” is often incorrectly equated with the term “online” (meaning available on the Internet, regardless of whether this information can be re-used). The implementation of FAIR data principles<sup>5</sup> is an important step towards achieving genuine openness of data, which also includes machine-readability. However, FAIR practices need community-specific quality-definitions and standards, which in many domains are only just being developed or disseminated. Supporting these processes can be a valuable target for responsible policy making.
4. In terms of publications, the RfII has recently pointed out quality problems that result from the quantitative expansion of scholarly publication output and an overloaded review system.<sup>6</sup> Open Science policies should not increase the pressure on an already overstretched system, but provide stimulation and support.

### *Balanced political incentives*

5. It has been pointed out that Open Science practices should be incentivised more strongly. This should be done with care and regard to interventions made in the past, where misguided incentives have led to a focus on quantity in publication output. Similar effects should not be repeated in Open Science.
6. Potential negative effects or misdevelopments made with the claim of openness can include the rise of inadequately or unsustainably maintained service provisions (such as portals or apps), or public, but unusable information. Care should be taken to implement more important and scientifically appropriate measures (e.g. establishing professional data management).

---

<sup>3</sup> Cf. Recommendation 4.9 in RfII (2016) – Enhancing Research Data Management: Performance through Diversity. Recommendations regarding structures, processes, and financing for research data management in Germany, Göttingen 2016, 90 p., <http://www.rfii.de/?p=2075>.

<sup>4</sup> Cf. Recommendation 4 in RfII (2019) – Statement on Open Access and Open Data (Footnote 2).

<sup>5</sup> <https://www.force11.org/group/fairgroup/fairprinciples> (last accessed on: 30.06.2020).

<sup>6</sup> Cf. Chapter 3 in RfII (2020) – The Data Quality Challenge. Recommendations for Sustainable Research in the Digital Turn, Göttingen 2020, 120 p., <http://www.rfii.de/?p=4203>. The German Council for Science and Humanities has criticised the current practice, commenting that “unreceivable quantities of publications counteract the original purpose of scientific publishing” – cf. Wissenschaftsrat (2015) – Recommendations on scientific integrity, p. 32.

7. Market trends should be avoided that increase the cost of information supply, e.g. exploding publication fees or other business models in which data is being privatised after it has been disclosed.<sup>7</sup>

#### *Infrastructure for research, including Open Science*

8. The RfII particularly welcomes the emphasis on digital infrastructure for research in the debate on Open Science. The RfII has repeatedly advocated sustainable investments, both in Germany and in the European Union. In Germany, a coordinated, publicly funded Research Data Infrastructure becomes operational in the Autumn of 2020. The aim is to serve researchers in general, providing safe and up-to-date service portfolios suited to the respective research domains.<sup>8</sup>
9. Digital services are needed as enabling technologies for the research process as a whole. They will also support Open Science practices in the sense that they help to organise research data early on, and provide tools for sharing outputs with researchers around the world. Reliable data products for a more general audience can be prepared on this basis. Dependences on commercial providers can be reduced.

#### *Importance of research networks*

10. Open and collaborative work supported by digital tools has shown strong impact wherever communities chose this approach to tackle common challenges and/or information needs, and organised their work accordingly. During the first months of the COVID-19 epidemic, such networks were missing. While piles of freely available information were generated, much of it is unconnected bits and pieces which now prove (too) difficult to process for a wider picture of the disease and its implications. Advocating Open Science is often about changing individual behaviour. If we hope that Open Science will help solve big problems, additional consideration should be given to building strong scientific networks and stimulating co-design approaches.

#### *Impact assessments*

11. Policy interventions are experiments that can have desirable and undesirable effects on scientific communities and the way research is practiced. Independent accompanying research<sup>9</sup> and technology assessment should therefore ensure that the measures meet the expectations.

---

<sup>7</sup> Cf. Recommendation 5 in RfII (2019) – Statement on Open Access and Open Data (Footnote 2).

<sup>8</sup> Nationale Forschungsdateninfrastruktur – NFDI ([www.nfdi.de](http://www.nfdi.de)).

<sup>9</sup> Cf. Recommendation 4.10 in RfII (2016) – Enhancing research data management (Footnote 3).

Rfll recommendations submitted together with this comment:

German Council for Scientific Information Infrastructures (Rfll) – Statement on current developments concerning Open Data and Open Access, Göttingen 2019, 8 p., <http://www.rfii.de/?p=3814> .

German Council for Scientific Information Infrastructures (Rfll) – The Data Quality Challenge. Recommendations for Sustainable Research in the Digital Turn, Göttingen 2020, 120 p., <http://www.rfii.de/?p=4203> .

**Imprint**

This comment was submitted to the UNESCO Office in July 2020 and published following a decision taken at the 19th Rfll meeting.

German Council for Scientific Information Infrastructures (Rfll) - Head Office

Papendiek 16, 37073 Göttingen, Germany

Phone +49 551 392 70 50

Email [info@rfii.de](mailto:info@rfii.de)

Web [www.rfii.de](http://www.rfii.de)

SUGGESTED CITATION

Rfll – German Council for Scientific Information Infrastructures: Comment on the UNESCO Open Science Initiative, Göttingen 2020, 4 p.

This work is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) License.



The German National Library lists this publication in the German National Bibliography; detailed bibliographic data are available on the Internet at [urn:nbn:de:101:1-2020052620](https://nbn-resolving.org/urn:nbn:de:101:1-2020052620).