



*Fostering Cooperation Among Open Science Platforms
March 2021*



With this document, the four major international data organisations outline how the RDA Global Open Research Commons (GORC) and Global Open Science Cloud (GOSC) fit together within the framework of the Data Together Collaboration.

Background and Objectives

Collectively referred to as Data Together, the four collaborating international data organisations—CODATA, GO FAIR, RDA, WDS—have a joint commitment¹ to work together to optimise the global research data ecosystem and to identify opportunities that will trigger federated infrastructures to service the new reality of data-driven science. These infrastructures are typically referred to as science clouds or platforms, or research commons, and can be defined at a high level as forming a global trusted ecosystem that provides seamless access to high quality interoperable research outputs and services.

Science clouds and commons are developing around the world to address the need for infrastructures to support cross-geographical and cross-disciplinary open science. These include, but are not limited to, the European Open Science Cloud (EOSC)², the China Science and Technology Cloud (CSTCloud)³, the Australian Research Data Commons (ARDC)⁴, the Malaysian Open Science Platform⁵, the African Open Science Platform⁶, the planned broadening of LA Referencia⁷ in Latin America, as well as Canada’s New Digital Research Infrastructure Organization (NDRIO) and Germany’s National Research Data Infrastructure (NFDI)⁸. It can also comprise global domain focused research infrastructures such as the International Virtual Observatory Alliance (IVOA)⁹, Global Oceans Observing System (GOOS)¹⁰, and many others.

Both RDA and CODATA have major initiatives to work with the development of such open research infrastructures: RDA’s Global Open Research Commons (GORC), developed in collaboration with the WDS, and CODATA’s Global Open Science Cloud (GOSC). These came out of a series of meetings held at RDA Plenaries, International Data Week, CODATA Conferences and the FAIR Convergence Symposium, and ultimately include all the Data Together organisations as partners. The GORC and GOSC initiatives aim to encourage cooperation, alignment and interoperability among these infrastructures.

Global Open Research Commons (GORC)

In alignment with RDA’s core mission to ‘*set international Research Data and Protocol agreements and standards*’¹¹, the RDA Global Open Research Commons Interest Group (GORC IG)¹² is helping to support coordination amongst regional, national, pan-national and domain-specific organizations. Those organizations are developing the interoperable resources necessary to enable researchers to address societal grand challenges across disciplines, technologies and countries.

1 Data Together Statement (March 2020) <https://www.rd-alliance.org/sites/default/files/attachment/Data%20Together%20Final%20Version%20March%202020%5B%5D.pdf>

2 <https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud/>

3 <http://www.cstcloud.cn/>

4 <https://ardc.edu.au/>

5 <https://www.akademisains.gov.my/mosp/about/>

6 <http://africanopenscience.org.za/>

7 <http://www.lareferencia.info/en/>

8 <https://engagedri.ca/>

9 <https://ivoa.net/>

10 <https://www.goosocean.org/>

11 <https://www.rd-alliance.org/about-rda>

12 <https://www.rd-alliance.org/groups/global-open-research-commons-ig>

The GORC IG and the new GORC Benchmarking Working Group (WG) are currently consolidating the definition of the Global Open Research Commons, validating the typology that could serve as a framework for benchmarking, comparing descriptions of the implementation of each component, and defining benchmarks to track status and global maturity. Ultimately those inputs will inform the final deliverable from the project: a roadmap for integrating commons. The building blocks of the GORC IG/WG reflect input from global initiatives (NIH data commons, ARDC, EOSC, Canadian NDSF), further enabling the Data Together agenda with its data-oriented mission and facilitating a connection with other developments across the world.

Global Open Science Cloud (GOSC)

The Global Open Science Cloud (GOSC)¹³ initiative has its roots in the same series of meetings. It was proposed in 2019 at the CODATA conference in Beijing with the objective to assist the alignment and interoperation of open science cloud activities. GOSC aims to co-design and build a cross-continental, federated e-infrastructure and virtual research environment for global cooperation and open science using harmonized policies, interoperable protocols and transparent services. Network connectivity, secure AAI (Authentication and Authorization Infrastructure), computing federation, FAIR data, and policy alignment are the key components.

A CODATA GOSC Working Group¹⁴ was established in October 2020 to steer the initiative. Underpinning the first stage, funding from the Chinese Academy of Sciences (CAS) has been obtained for a five-year project to develop cooperation, coordination, interoperability, and (where possible) federation between national and regional Open Science Clouds. The project will encourage cooperation in four areas of interoperability (governance and participation, policy and legal, infrastructure and semantics). It will also conduct four case studies in how international collaborative research projects can be supported by Open Science Platforms. Finally, the project will play a major international coordinating role as a part of the CODATA Decadal Programme.

A key activity of the project will be an annual symposium, the first being proposed for Beijing, the International Symposium on Open Science Cloud (ISOSC), which will provide a forum for collaboration and exchange of ideas towards the vision of alignment and interoperation of open science cloud initiatives and the implementation of a cross-continental GOSC.

Moving Forward

The ongoing activities of the GORC and the GOSC initiatives have the potential to be key aspects in the implementation of the Data Together commitment to improving the availability and integrity of research data and relevant policies. In turn, Data Together can

¹³ <https://www.cstcloud.net/gosc/>

¹⁴ https://docs.google.com/document/d/1banGB46b183_HoIGBedIMCSX9HGkU9iEBeeHhCM7a3Y/edit

support the coordination of the large number of stakeholders whose inputs are necessary for the work of the GOSC and GORC initiatives to be as impactful as possible. Teams from both initiatives will communicate regularly and ensure shared membership to minimise divergence and duplication. The activities will be complementary: where possible, GOSC will seek to implement recommendations from the GORC IG/WG and, in turn, will feed findings from its work on alignment and interoperability and its case studies into shared discussions. While the GORC initiative focuses on a roadmap for commons integration, the GOSC is creating a cooperation mechanism and testbed implementations for science clouds that arise from that roadmap. Developing and sustaining collaboration between GORC and GOSC, through the Data Together partnership will enhance the impact of each initiative and result in sustainable benefits for the wider research community. In addition, members of the Data Together group are working with the various platforms to convene a roundtable of senior representatives from the organizations to facilitate these efforts.

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