

## Considerations for Developing Policy with Global Impact

## THE GLOBAL OPEN RESEARCH COMMONS (GORC)

The Global Open Research Commons (GORC) is an ambitious vision for a global set of interoperable resources necessary to enable researchers to address societal grand challenges including climate change, pandemics, and poverty. Once realised, the vision of GORC will provide frictionless access to all research artefacts including, but not limited to: data, publications, software and compute resources as well as associated metadata, vocabulary, and identification services.



The GORC is being built by working across a set of national, pan-national and domain-specific organisations such as the European Open Science Cloud, the African Open Science Platform, and the International Virtual Observatory Alliance.

## ABOUT RDA

The Research Data Alliance (RDA) is a community-driven initiative, with a goal to build the social and technical infrastructure to enable open sharing and re-use of data. RDA has a grass-roots, inclusive approach, covering all data lifecycle stages, and engaging data producers, users and stewards, addressing data exchange, processing, and storage. It is a neutral social platform where international research data experts meet to exchange views and to agree on topics, such as social hurdles on data sharing, education and training challenges, data management plans and certification of data repositories. RDA also tackles disciplinary and interdisciplinary interoperability, as well as the technological aspects of these.

RDA addresses the need for open and interoperable sharing of research data and builds the social, technical and cross-disciplinary links to enable such sharing on a global scale. RDA Members come together through general Interest Groups (IGs) and more focused Working Groups (WGs), formed by experts from all around the world – from academia, private sector and government.

RDA currently has 48 WGs, 65 IGs and 1 Community of Practice (CoP), with over 13,000 members from 151 countries. Several impactful recommendations have been produced by the RDA Community, including the 'Results of an Analysis of Existing FAIR Assessment Tools (FAIR Data Maturity Model WG)'<sup>1</sup>, the 'Scalable dynamic-data Citation Methodology (Data Citation WG)'<sup>2</sup> and the 'COVID-19 Recommendations and Guidelines for Data Sharing (COVID-19 WG)'<sup>3</sup>.

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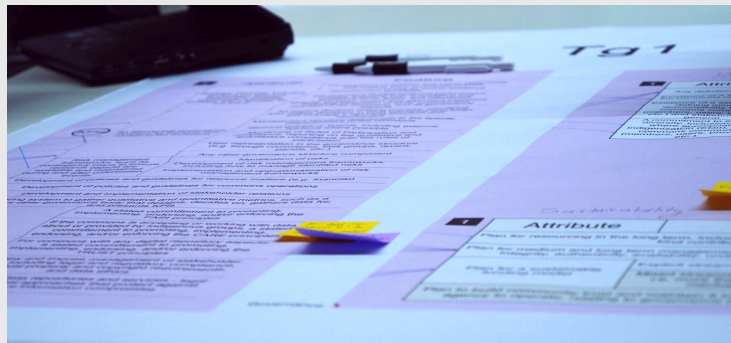
1. <https://doi.org/10.15497/rda00035>

2. <http://dx.doi.org/10.15497/RDA00016>

3. <https://doi.org/10.15497/rda00052>

# GLOBAL OPEN RESEARCH COMMONS (GORC) INTERNATIONAL MODEL RDA WORKING GROUP (WG)

The Global Open Research Commons (GORC) International Model WG<sup>4</sup> works under the umbrella of the GORC Interest Group (IG)<sup>5</sup>, which aims to support coordination amongst organisations, including through the development of a roadmap for global alignment to help set priorities for commons development and integration. In support of this roadmap, the GORC International Model WG developed a set of attributes for GORC organisations to measure their user engagement and development internally within the organisation, gauge their maturity and compare features across commons.



*Collaborative work on the GORC International Model during RDA Plenary 20 in Gothenburg, Sweden, in March 2023.*

In the first case, the WG collected information about how existing commons are measuring success, adoption or use of their services within their organisation, such as data downloads, contributed software, and other KPI and access statistics. The WG also developed, validated, collected and curated a set of elements of such Commons along with the attributes that will allow commons developers to compare and develop plans for improvement and interoperability. The primary output of the WG is an organisational structure and a framework that can provide guidance on commons elements, attributes, KPIs and implementations currently in use or expected in research commons (hereafter referred to as the 'Model'<sup>6</sup>).

## A GLOBAL SET OF CONSIDERATIONS

The WG's outputs are based on the analysis of an extensive number of sources. The foundation of the model is based on the GORC IG Typology and Definitions<sup>7</sup>, which defines essential elements of commons. The model further refines these essential elements by defining categories and subcategories of the essential elements as well as attributes and features of these entities.

The items in the model were found in examples provided in the GORC IG Typology and Definitions, observed through 12 speaker series presentations from commons around the globe<sup>8</sup>, an analysis of other relevant RDA IGs and WGs, and an analysis of relevant community groups, publications, and reports external to RDA.

4. <https://www.rd-alliance.org/groups/gorc-international-model-wg>

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

6. <https://doi.org/10.15497/rda00099>

7. <https://doi.org/10.15497/RDA00087>

8. <https://www.rd-alliance.org/group/gorc-international-model-wg/wiki/gorc-wg-speaker-series>

The sources and analysis were international in scope, surveying commons representatives from around the world and conducting an analysis of initiatives including the European Open Science Cloud (EOSC), the International Virtual Observatory Alliance (IVOA), NII Research Center for Open Science and Data Platform (NII RCOS), Australian Research Data Commons (ARDC), Korea Research Data Commons / Korea Institute of Science and Technology Information (KISTI), the Malaysian Open Science Platform (MOSP), Instituto Brasileiro de Informação em Ciência e Tecnologia (IBICT), the Nordic e-Infrastructure Collaboration (NelC), the China Science and Technology Cloud (CSTCloud), and the African Open Science Platform (AOSP)<sup>9</sup>.

The WG also consulted their membership of over 60 individuals globally, as well as the wider RDA Community during Plenary Meetings, dedicated workshops, and online asynchronous reviews.



*The GORC WG in action during RDA Plenary 20 in Gothenburg, Sweden, in March 2023.*

The Group's Outputs provide guidance on the considerations that should be made when undertaking the implementation of a commons at any stage. However, the decisions on what should ultimately be included in the implementation will vary depending on the environment. This flexibility allows policy makers to respond to the specific needs of different stakeholders, in the knowledge that the commons elements described by the WG will facilitate alignment with other national and international commons initiatives.

The categories and attributes<sup>10</sup> in the Model are grouped by essential elements, as defined by the GORC Typology: Governance & Leadership, Rules of Participation & Access, Engagement, Human Capacity, Sustainability, Interoperability, Standards & Conventions, Services & Tools, and Research Objects<sup>11</sup>.

According to the WG co-chairs who led the development of the Outputs, when developing policy about the adoption of different commons elements, the inclusion of elements should be approached similarly to how one would approach a balanced diet: by including several items from each food group - not all foods are essential, available, or healthful for everyone, but something in each food group and a variety is needed. All food groups (and elements) are essential, and should one decide to exclude any of them, this should be done with careful consideration and following consultation with the relevant professionals.

9. A full list of organisations and more details on the methodology are available at <https://doi.org/10.15497/RDA00097>

10. Please see the Glossary for all definitions: <https://doi.org/10.15497/RDA00099>

11. For the detailed list of categories ( sub-elements or classes of the essential elements of a commons), attributes (the characteristics of essential elements, categories, and subcategories) as well as features that belong to attributes please see <https://doi.org/10.15497/RDA00099>



How each element should be realised in the make-up of a commons is a matter of the specific needs of stakeholders in many cases, depending on their specific mission and availability of resources, among other factors. For example, ‘Governance’ is crucial, but not all of the categories and subcategories within Governance may be relevant or feasible for all commons; the Model is intended as guidance that can be adapted for specific needs.



The GORC model describes the essential ingredients, but what quantities you chose and how you prepare them is up to you.

## ADOPTION CONSIDERATIONS

Depending on the level of maturity of a commons, some of the items in the Model may be more immediately appropriate. From a policy perspective, a commons just starting out may identify a minimum set of aspects that will be required in the beginning of the process. An example of such a set of requirements in Europe is the identification of core operational elements of the EOSC Federation,<sup>12</sup>

12. <https://eosc.eu/wp-content/uploads/2023/08/SRIA-1.1-final.pdf>

In that case, three layers were determined which together were intended to provide the core functions required to operate the platform and bring added value to researchers and other users.

The type of commons in question is also crucial in deciding which considerations to adopt. Whether the initiative is discipline-focussed, national, pan-national or international, will affect the implementation decisions.

It is also important to note that commons react to the needs of researchers and policy, and researchers in turn respond to such policy mandates. Therefore, relevant policy should reflect values and principles that support and facilitate good research, such as openness, transparency, interoperability, adherence to the FAIR principles, and so on.

## ALIGNMENT AND INTEROPERABILITY

One important incentive for the adoption of the GORC International Model Outputs, as mentioned previously, is its truly global nature. As such, adopting and using the model enables a commons to facilitate alignment and interoperability with other global initiatives. As current endeavours focus on developing and deploying services, more effort can be dedicated to ensuring there is a strategy in place for global collaboration; this Model facilitates exactly that.

## THE FUNDER AND POLICY-MAKER PERSPECTIVE

Finally, policies related to commons development should facilitate the support of commons by the funder community. By developing policies that enable funder support of commons, policymakers can play a crucial role in advancing research, innovation, and knowledge sharing while promoting a more open and collaborative research ecosystem. This can be achieved by clearly acknowledging the value of commons, incentivising funders to engage with and support commons, aligning policy with open research principles, and encouraging global cooperation.

The Model produced by the WG is a crucial tool for funders and policy-makers, with both of their roles being closely interlinked.

Funders should utilise the Model when deciding where to allocate funding and other resources. For example, an essential element in the model is Sustainability.



Sustainability also appears throughout other essential elements of the model, in particular for the sustainability of knowledge in the commons and maintenance of services, tools, and research objects. This highlights the critical need for maintenance and curation activities and roles to be adequately funded, and to not only focus on expansion or seed funding projects for commons

When writing policies, those responsible should consider the elements, their categories and sub-categories, and bear in mind what a commons needs in order to be interoperable on a global scale.

Policy needs to be applicable to practical situations; there needs to be alignment of what is required of commons and the researchers that are supported, and what funders are expecting to be accomplished through their funds. For example, a main category of the "Engagement" essential element is engagement with other research commons and institutions. Policies that enable partnership instead of promoting silos in the research landscape would directly serve this consideration and others in the model, bringing affected commons closer to global interoperability and being a part of the GORC

## JOIN THE GLOBAL OPEN RESEARCH COMMONS INTEREST GROUP

The GORC WG invites you to join the Global Open Research Commons IG<sup>13</sup> and browse their Output describing a typology of the essential elements in a Commons.<sup>14</sup> The WG urges the reader to consider the critical nature of the elements and their categories and sub-categories in the Model, in particular when making decisions with regards to funding allocation and policy-making.



THE GLOBAL OPEN RESEARCH COMMONS  
INTERNATIONAL MODEL, VERSION 1



THE GLOBAL OPEN RESEARCH COMMONS  
INTERNATIONAL MODEL REPORT, VERSION 1

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

14. <https://www.rd-alliance.org/group/global-open-research-commons-ig/outcomes/gorc-ig-typology-and-definitions>

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