GÉANT Infoshare on New Open Science
Buzz Words and Concepts

The Global Open Research Commons: Who, Why, What, How and What's Next

Overview

Who

Why

How

What

What's Next

Questions

Who: GORC IG/WG Co-Chairs

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Why: What problem were we addressing

The coordination of data infrastructure on various levels) is on the increase. So called “Open Science Commons” or “Data commons” provide a shared virtual space, platform, and/or marketplace for data and services. Examples include the European Open Science Cloud, the Australian Research Data Commons, the African Open Science Platform, open government portals and initiatives outside traditional research contexts. **Coordinating across these initiatives to enable a network of interoperable research commons is the goal of the Global Open Research Commons.** The realized vision of GORC will provide frictionless access to all research artifacts including, but not limited to: data, publications, software and compute resources; and will rely on metadata, vocabulary, and identification services being available to everyone everywhere, at all times. (GORC IG Case Statement)

How: Origins and Inspirations

Began as a BOF at the 11th RDA plenary in Berlin in March 2018

Series of follow-up meetings at successive Plenaries

Became an endorsed RDA Interest Group in 2020

Inspiration was the English idea of land held in common, popularised in the modern sense as a way of referring to shared resources by the ecologist Garrett Hardin in his influential 1968 article “The Tragedy of the Commons”. The Nobel laureate Elinor Ostrom revisited this idea and demonstrated instead that there do exist practical algorithms for the collective use of a limited common resource.

Began by looking at existing Commons to extract common features

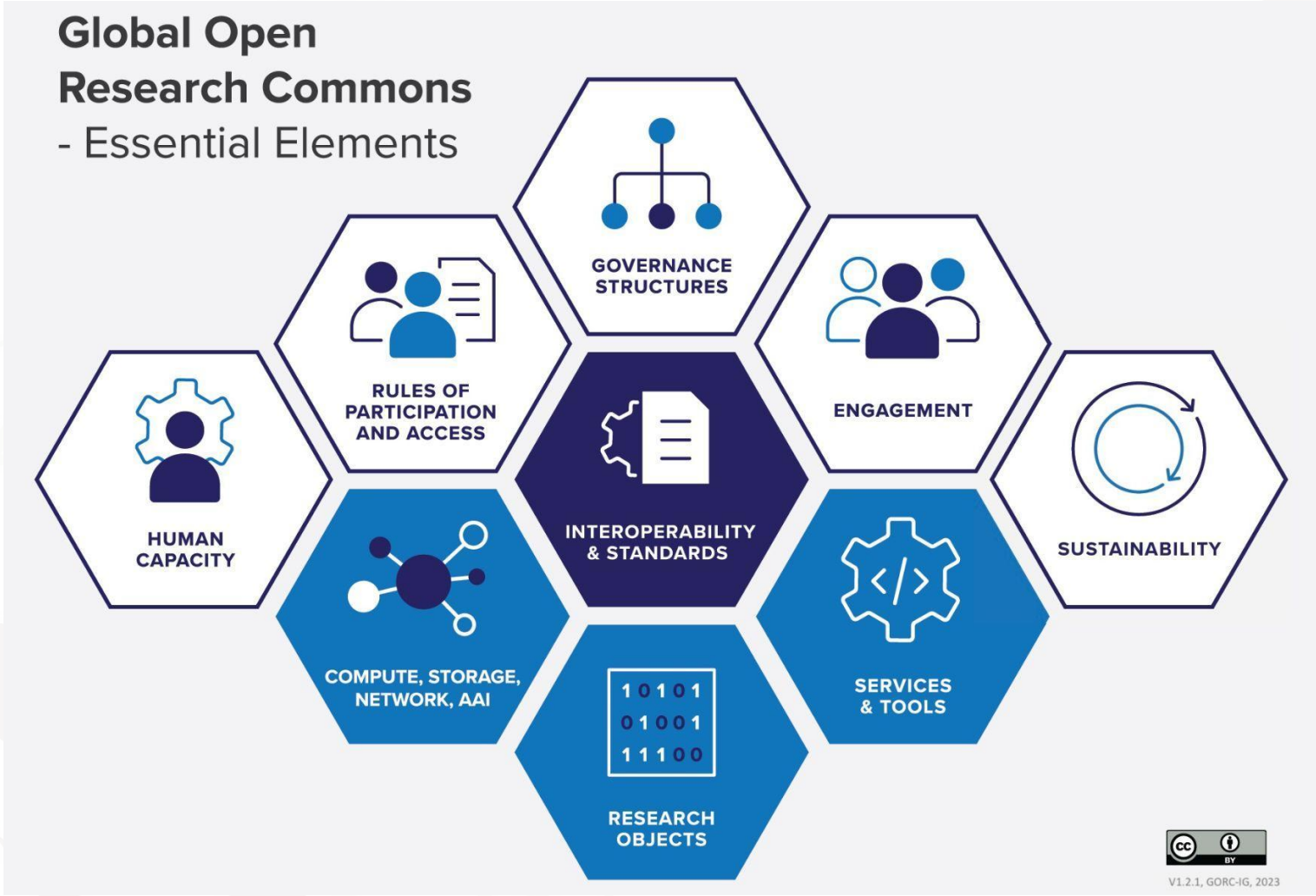
- NIH
- EOSC
- ARDC

Careful process of community validation for resulting synthesis

What: Typology of Essential Elements

Global Open Research Commons

- Research Data Alliance Interest Group
- Definitions and diagrams at https://doi.org/10.15497/RDA/00095



What: Use Cases

Retrospectively

- SURF (NL)

Prospectively

- REASON (NO, grant submission)
- BioFair (UK)
- EOSC EU Node

Analytically

- NFDI: Base4NFDI Policy Paper: "Base4NFDI Services and EOSC: Guidance for Interoperability", Version 1 (zenodo.org)

What: International Model

To address what research commons and infrastructures would need to consider to be part of the GORC, the RDA GORC IM Working Group (WG) was created in 2021.

This consolidated a large range of resources and expert feedback to generate the model. Between 2021 and 2023, the WG:

- conducted a two-stage literature analysis
- held 12 participant speaker series
- undertook multiple rounds of focused and casual community consultation.

The resulting model consists of 10 elements, with associated categories, subcategories, attributes and features, to be considered when undertaking the development of a commons of any kind, at any stage. The model does not mandate what should be implemented, or in what way.

150+
resources

EOSC interoperability framework

FAIR principles, related publications

FAIRsFAIR

RDA outputs

model

5
plenary sessions

1
workshop

35
meetings

69
members

6
task groups

12
speakers

GORC IM WG outputs: Introduction, context, intent

GORC IM V1.0
https://doi.org/10.15497/RDA/00099

model

- Non-prescriptive guide
- Spreadsheet container (for now)
- Organized by IG essential elements, broken down into categories & subcategories
- Extended description, examples, sources, consideration level.
- Glossary
- KPIs & metrics

GORC IM V1.0
https://doi.org/10.15497/RDA/00097

report

- Background information and intent
- Detailed methodology
- Narrative summary of model
- Current and intended use of the model
- Areas of future work

GORC IM V1.1
https://doi.org/10.15497/RDA/00119

A	B	C	D	E	F	G	
Essential Element*: Sustainability*		Items in active view:	12	Consideration Level* All			
Category*	Subcategory*	Attribute*	Feature*	Extended Description	Examples	Consideration Level*	Primary Source(s)
Plans, schemes, and implementations for medium and long term stewardship, contextualization, usability, and accessibility of Research Objects*, Services* and Tools*				i.e. Suitable viable plans, schemes, and implementations addressing research object*, services*, and tools* integrity, authenticity, availability, understandability, and reusability, acknowledging potential for a wide array of systems of knowledge and communities and interests "Contextualization" here means the context of the Research Objects*, Services* and Tools*, which may be done with descriptive metadata* and documentation		Core	Supplemental Inform Management and Sh for Data Resulting fr (https://grants.nih.go -OD-21-016.html) NIST Research Data (https://nvlpubs.nist.g s/NIST.SP.1500-18r1
		ICT infrastructure* considerations		i.e. the physical hardware and software supporting Tools* and Services* provided by or through the commons*, including relevant Standards & Conventions* and Interoperability* requirements for such changes	e.g. Considerations for dealing with obsolete hardware e.g. Adaptation to emergent/disruptive technologies e.g. Maintenance/adaptation of old technologies	Desirable	Supplemental Inform Management and Sh for Data Resulting fr (https://grants.nih.go -OD-21-016.html) NIST Research Data (https://nvlpubs.nist.g s/NIST.SP.1500-18r1
			Need to balance open data and cost recovery concerns in keeping with commons goals, needs, and resources	i.e. Consideration for the balancing of openness (which the commons may need to support and develop themselves) and private support (from proprietary providers that may require restrictions on access) to match their goals, needs, and resourcing	e.g. A commitment to open source infrastructure development, such as the software backend for commons* Services* and Tools* being open software such that it may be easily mapped or modified to suit Interoperability* with other Services* and Tools*	Optional	Phase 2 evaluation Supplemental Inform Management and Sh for Data Resulting fr (https://grants.nih.go -OD-21-016.html) NIST Research Data (https://nvlpubs.nist.g s/NIST.SP.1500-18r1
		Human resources considerations		i.e. what happens to Internal Personnel* and human capacity*, governance* and management of the commons* during a scale up or scale down event(s)		Desirable	Phase 2 evaluation
		Commons* operations considerations		i.e. what happens to commons* internal and external operations during a scale up or scale down event, relating to human capacity* and the Standards & Conventions* and Interoperability* requirements for such changes	e.g. engagement* is increased or decreased in specific ways	Desirable	Phase 2 evaluation
	Transition Plans			i.e. in case the commons* ceases operations entirely, or retires a specific Service*, Tool*, or infrastructure. The goals of transition plans should be defined in strategic planning, and may be for cessation of a Service* ot Tool*, continuation by another commons* or organization, changing Services* and Tools*, and for temporary unavailability due to maintenaince or upgrades.		Desirable	Supplemental Inform Management and Sh for Data Resulting fr (https://grants.nih.go -OD-21-016.html), NI (RDaF) V1.5 (https://nvlpubs.nist.g s/NIST.SP.1500-18r1

What's Next: Back to Interoperability

Caveat: This is very early thinking!

What's Next: Types of connectors

Technical:

- The "easy" ones
- "Hard" connectors
- Existing solutions that can be drawn on/adapted

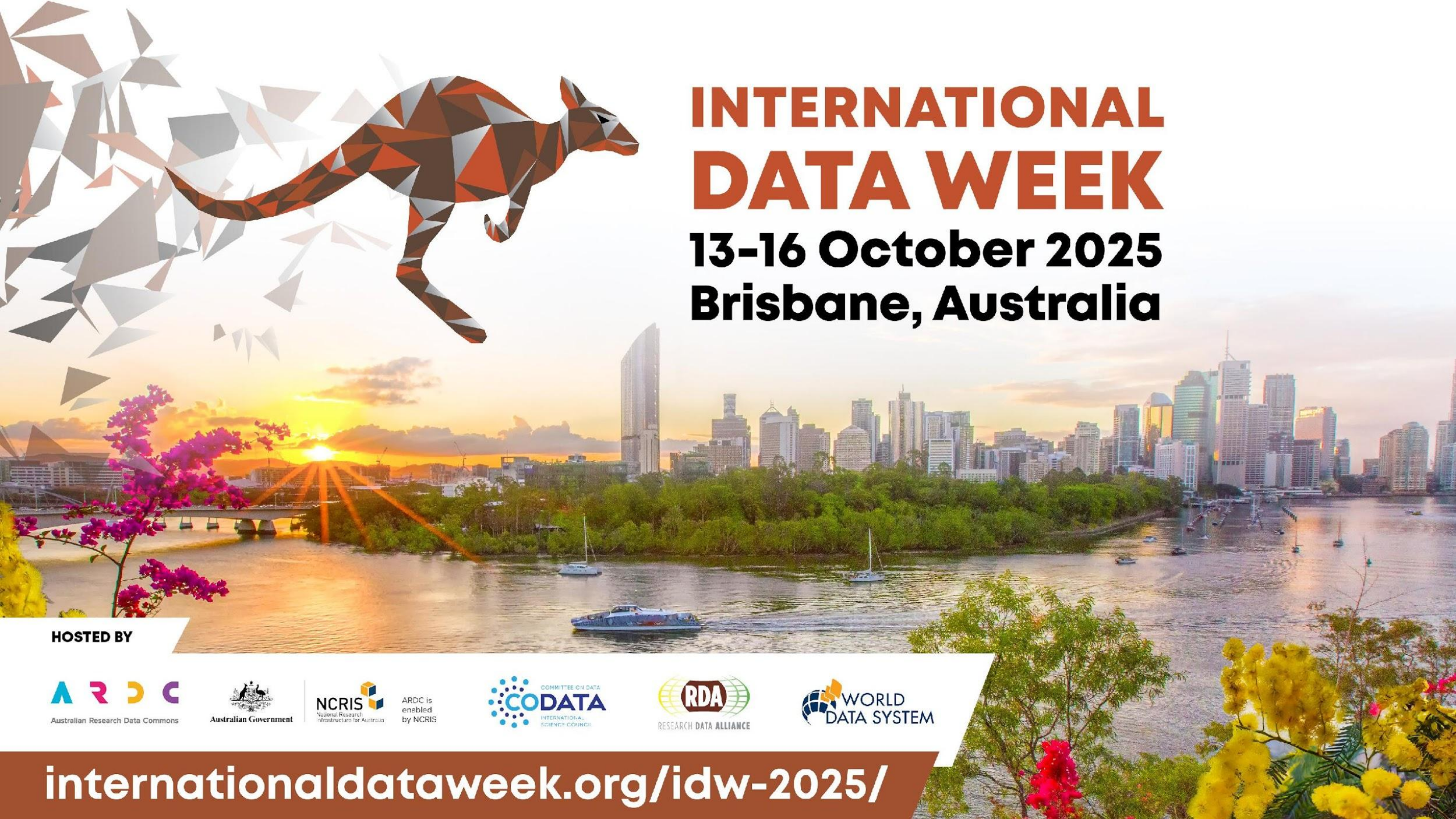
Social:

- Much less easy
- "Soft" connectors
- Fewer existing solutions that can be drawn on/adapted
  - but see RDA & CODATA Legal Interoperability Of Research Data: Principles And Implementation Guidelines as one example
- Not clear how to define interoperability for some of these elements
- Lorentz workshop submission being evaluated

What's Next: Maturity levels and connectors

- Not all commons are at the same level
- Need a way for specifying backwards-compatible connectors between commons elements
- Like the maturity level idea, but worry about the connotations of the word "maturity"
- Something to investigate: International DataSpace Connectors have very granular usage control policy classes (21!)

Questions?


INTERNATIONAL
DATA WEEK
13-16 October 2025
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