The Research Data Alliance: growing, consolidating, innovating. What is going on and what is planned?

Hilary Hanahoe, Secretary General, Research Data Alliance (RDA)

RDA France Annual Event

Friday 25 Nov 2022

Remerciement Spécial

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR,
DE LA RECHERCHE
ET DE L'INNOVATION

cnrs

The Research Data Alliance (RDA) is truly grateful for the support of the French Ministry for Higher Education, Research and Innovation - Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation
And the French National Scientific Research Centre - Centre national de la recherche scientifique

The Research Data Alliance (RDA)

RDA is an international community-driven, **member-based organisation** focused on the development of infrastructure and community activities that reduce barriers to data sharing and exchange, and the acceleration of data-driven innovation worldwide.

Vision, Mission & Values

Vision

Researchers and innovators openly **share** and **re-use** data across technologies, disciplines, and countries to address **the grand challenges of society**.

Mission

RDA builds the **social** and **technical** bridges that enable open sharing and re-use of data.

RDA Guiding Principles

- ✓ Openness
- ✓ Consensus
- ✓ Inclusive
- ✓ Harmonization
- ✓ Community-driven
- ✓ Non-profit and technology-neutral

What is going on?

RDA

RESEARCH DATA ALLIANCE

Who: The RDA Family

RESEARCH DATA ALLIANCE

Individuals (13,000+)

"a strategic think tank to enhance a **constructive dialogue and collaboration on themes relevant to data science** and to present the latest research results in many areas"

Create groups, collaborate & generate outputs

Organisations (70+)

"one of the few places where **researchers and data managers / information professionals** directly interact and collaborate to develop solutions and best practices"

Adopt, Implement, Customise

Nations / Regions (30+)

"a global perspective to assist in **sharing best practices, experiences and common needs** to achieve efficiency and reduce duplication of efforts"

Localise (linguistically & culturally), network

How: The HEART of RDA:

Working Groups

- develop and implement **tools, policy, practices & products** for data management that are adopted and used by projects, organisations, communities
- TIMING: 12-18 MONTHS
- TOTAL: **38 Working Groups**

RECOMMENDATIONS: Concrete deliverables - "Running code", tools, standards, etc.

Interest Groups

- focus on solving a specific **data sharing problem** and identifying what kind of infrastructure needs to be built.
- TIMING: as long as group is active
- TOTAL: **56 Interest Groups**

OUTPUT: Possibly case statements for new WGs, guidelines, best practice, etc.

Communities of Practice

- **Domain / disciplinary focus**, coordination and awareness raising role. "Umbrella group"
- TIMING: as long as CoP is active (review every 18 months)
- TOTAL: **1 CoP on Agricultural Data**

OUTPUT: New WGs & IGs, bridge building across RDA and externally.

Groups: RDA4RDM support and education

RDA Recommendations

RDA Recommendations are produced by RDA Working Groups

The official, endorsed results of RDA and considered our “flagship” Outputs.

Undergone formal phases of discussion, comment, and decision-making, and can be compared to “specifications” or “standards” created and endorsed by other organisations.

Documents in a very broad sense and may include specifications, taxonomies or ontologies, workflows, schemas, data models, etc.

To be endorsed, they meet specific criteria, including being made publicly available and usable, and adoptable and adopted.

https://www.rd-alliance.org/recommendations-and-outputs/catalogue

Outputs: RDA4RDM support and education

Engaging Researchers with Data Management: The Cookbook

23 Things: Libraries for Research Data (Supporting Output)

Engaging Researchers with Data Management: The Cookbook

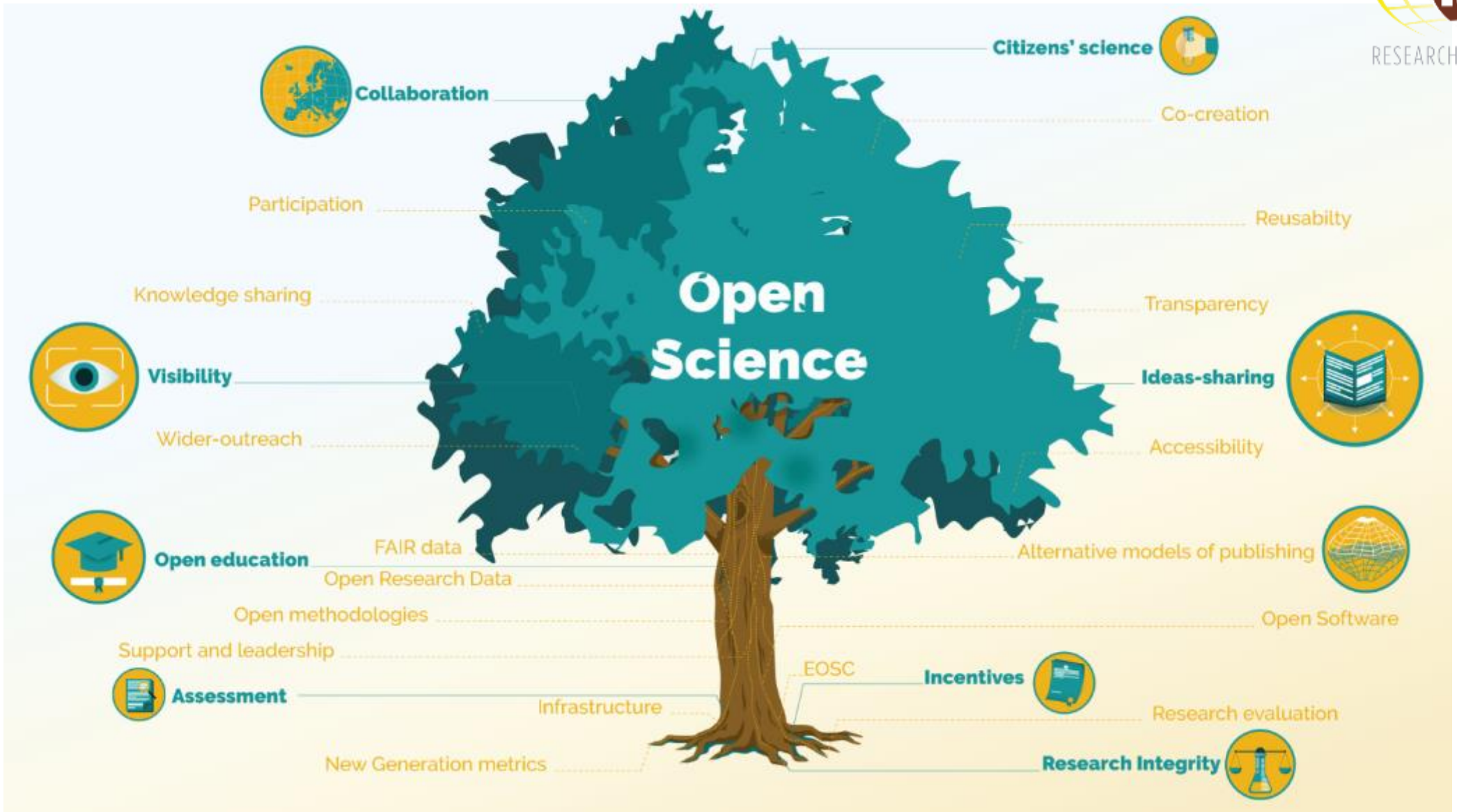
Top 10 FAIR Data & Software Things

Core Characteristics of Learning Resource Collectors

Recommendations for a minimal metadata set to aid harmonised discovery of learning resources

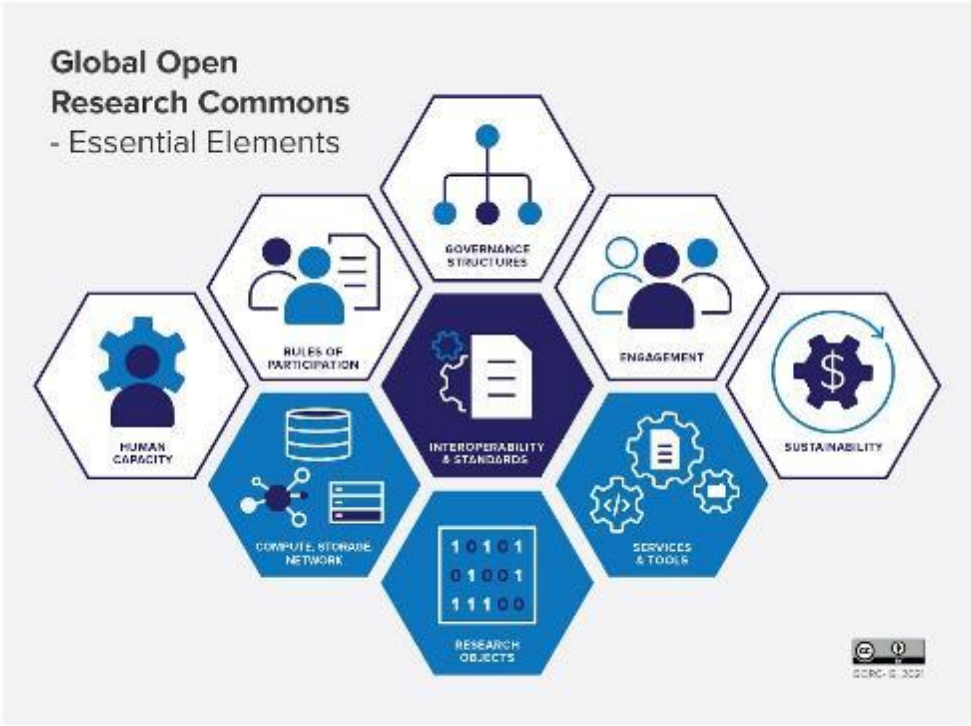
CODATA/RDA Summer School in Data Science and Cloud Computing in the Developing World WG Recommendations

A curriculum for foundational Research Data Science skills for Early Career Researchers

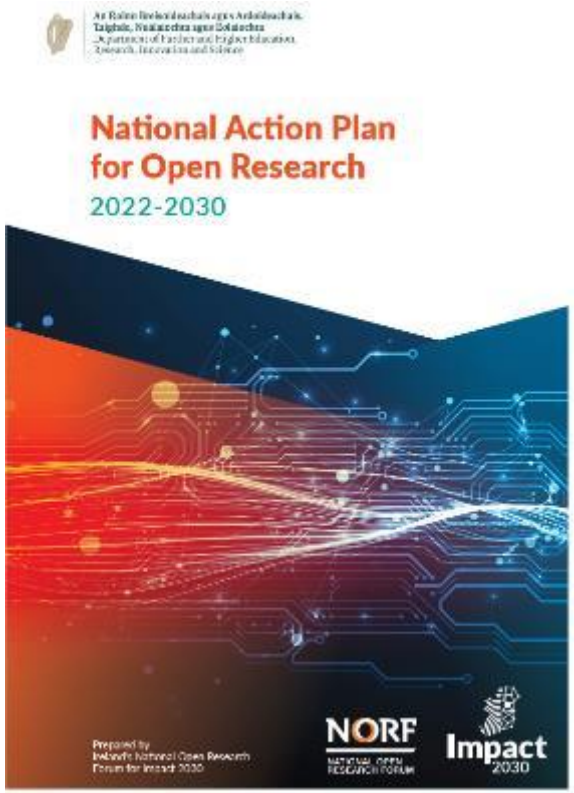


Source: [YERUN – Young European Research Universities Network]

Global | National | Thematic Open Research / Science Commons



Global Open Research Commons [Working Group](#) & [Interest Group](#)



RDA in National Open Science Plans

RDA
RESEARCH DATA ALLIANCE

The unambiguous conclusion is that open is better for science

"If rapidly and openly sharing research data and papers is critical to understanding and combating coronavirus, doesn't the same hold true for cancer? Heart disease? Climate change? The scientific community—moving with great speed and clarity of purpose—has clearly signaled that open science is the most efficient way to tackle issues that have a significant and direct effect on the lives of the general public."

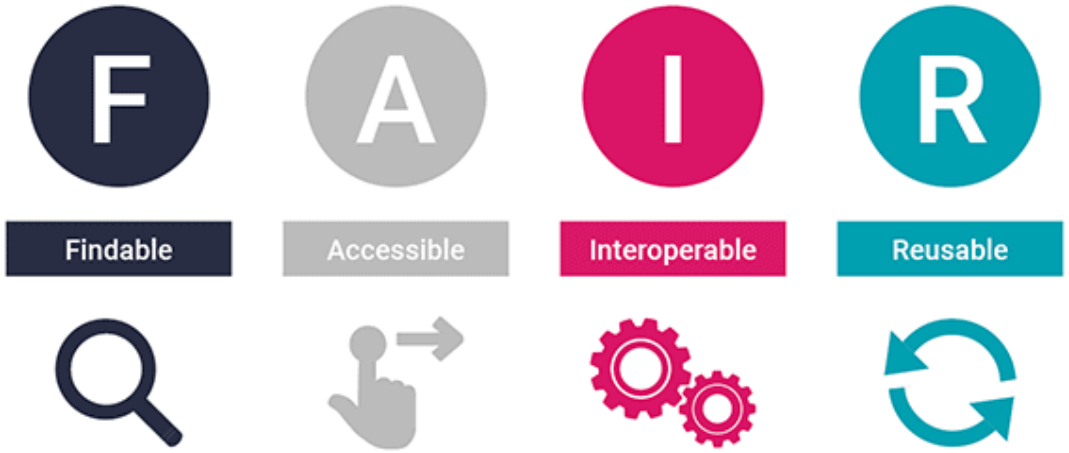
RDA COVID-19 WG Recommendations and Guidelines on Data Sharing: https://doi.org/10.15497/rda00052

POLICY | OPINION

We Must Tear Down the Barriers That Impede Scientific Progress

Open science would eliminate article paywalls, data hoarding and siloed lab work

By Michael M. Crow, Greg Tananbaum on December 18, 2020



FAIR “Things”

FAIR data are data which meet principles of findability, accessibility, interoperability, and reusability.

RDA in Practice

RESEARCH DATA ALLIANCE

RDA in Practice: Engagement by Funders

RDA Funders Forum

International, neutral forum for funder – to - funder discussions

Networking & bilaterials opportunity

Insights from RDA governance & community

Presentation of Outputs & Recommendations

RDA Funders Interest Group

substantiate their engagement with RDA

be fully aligned with the RDA principles of openness, harmonization and being community-driven.

significant value-added contribution to the RDA community as a vehicle for open discussion of policy-driven topics

Research Funders and Stakeholders on Open Research and Data Management Policies and Practices IG

RESEARCH DATA ALLIANCE

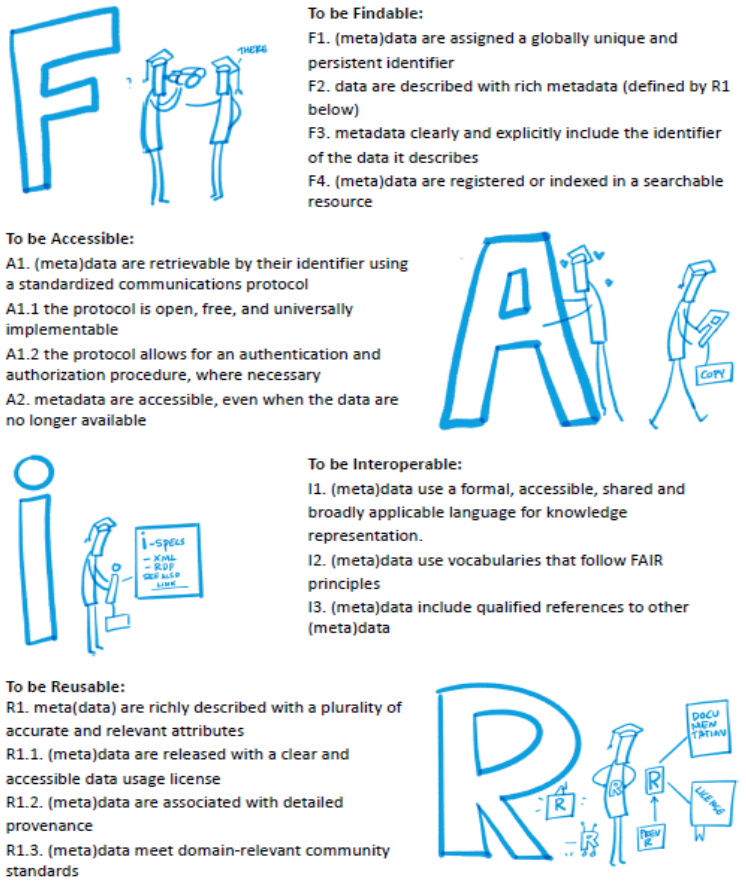
RDA in Practice: reducing the silos

Culmination of a cooperative effort between the **Data Seal of Approval (DSA)** and the **World Data System of the International Science Council (WDS)** under the umbrella of the Research Data Alliance (RDA) to harmonize their data repository certifications

RDA in Practice: The FAIR Principles

RDA FAIR DATA GROUPS

- FAIR Data Maturity Model WG
- CURE-FAIR WG
- FAIR Digital Object Fabric IG
- RDA/WDS Publishing Data Workflows WG
- Data Discovery Paradigms IG



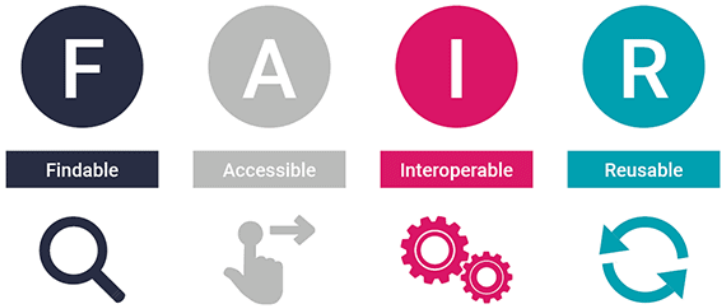
To be Findable:
F1. (meta)data are assigned a globally unique and persistent identifier
F2. data are described with rich metadata (defined by R1 below)
F3. metadata clearly and explicitly include the identifier of the data it describes
F4. (meta)data are registered or indexed in a searchable resource

To be Accessible:
A1. (meta)data are retrievable by their identifier using a standardized communications protocol
A1.1 the protocol is open, free, and universally implementable
A1.2 the protocol allows for an authentication and authorization procedure, where necessary
A2. metadata are accessible, even when the data are no longer available

To be Interoperable:
I1. (meta)data use a formal, accessible, shared and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles
I3. (meta)data include qualified references to other (meta)data

To be Reusable:
R1. meta(data) are richly described with a plurality of accurate and relevant attributes
R1.1. (meta)data are released with a clear and accessible data usage license
R1.2. (meta)data are associated with detailed provenance
R1.3. (meta)data meet domain-relevant community standards

Source: FAIRsFAIR D7.4 How to be FAIR with your data. A teaching and training handbook for higher education institutions
https://zenodo.org/record/6425568#.YqdfMXZBy3A



RDA FAIR DATA OUTPUTS

- FAIR Data Maturity Model: specification and guidelines
- Member survey on bridging the gap between funders and communities – perspectives on benefits and challenges of FAIR assessments V2.0
- Results of an Analysis of Existing FAIR Assessment Tools
- 10 Things for Curating Reproducible and FAIR Research
- Challenges of Curating for Reproducible and FAIR Research Output
- Summary of Virtual Layer Recommendations
- Persistent identifiers: Consolidated assertions
- RDA/WDS Publishing Data Workflows WG Recommendations
- Data Discovery Paradigms: User Requirements and Recommendations for Data Repositories
- Eleven Quick Tips for finding Research Data
- A survey of current practices in data search services

RDA in Practice: The FAIR Principles

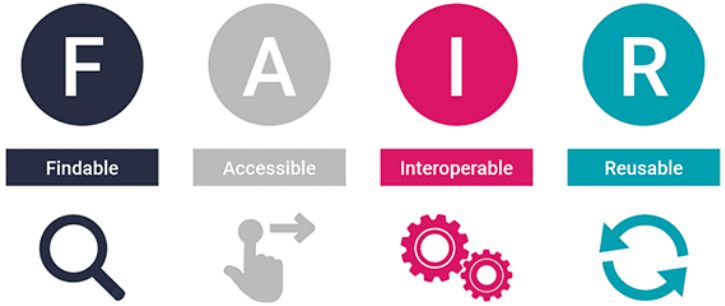
RDA in Practice: FAIR Software

RDA Groups for FAIR Software

- FAIR for Research Software (FAIR4RS) WG
- Software Source Code IG
- Skills and training curriculums to support FAIR research software IG

RDA Outputs for FAIR Software

- FAIR Principles for Research Software (FAIR4RS Principles



RDA in Practice: Repositories

make it easier for people and machines to find data repositories, to **select the data repository that is the most appropriate for their needs and kinds of data**, and to enable the integration of data repositories with other tools and infrastructure.

Examples of users:

- Researchers
- Funders
- Publishers
- Repository managers
- Librarians
- Registries and other research data infrastructures

Courtesy of: RDA Data Repository Attributes Working Group - Michael Witt, Washington Segundo, Kathleen Shearer, Kazu Yamaji, Allyson Lister & Matthew Cannon (chairs). Presentation available here PODCAST

Open Science, Open Data, and Open Scholarship: European Policies to Make Science Fit for the Twenty-First Century

Changing the **reward and incentive system** for researchers is a key open science challenge and a broader issue for which primarily the responsibility lies in the scientific community (universities and funders). This includes **making open science practices rewardable and fundable** as well as the employment of specific indicators for researchers' engagement with open science. A change of the reward and incentive system can only be **stakeholders-driven, and it has to be bottom-up**.

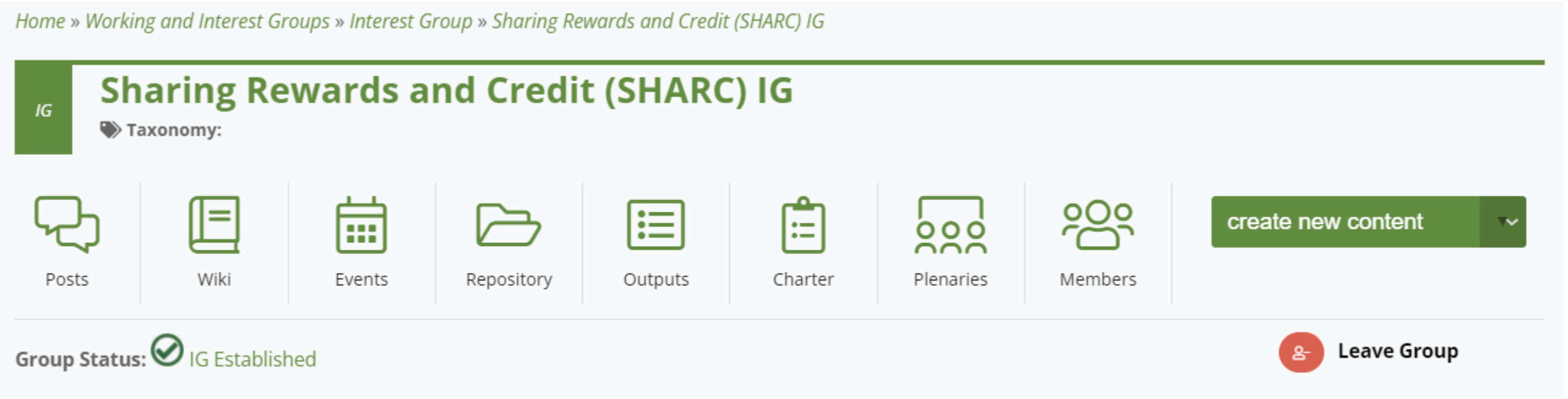
Source: PERSPECTIVE article
Front. Big Data, 10 December 2019
Sec. Data Mining and Management
https://doi.org/10.3389/fdata.2019.00043

RESEARCH DATA ALLIANCE

Research Assessment Reform

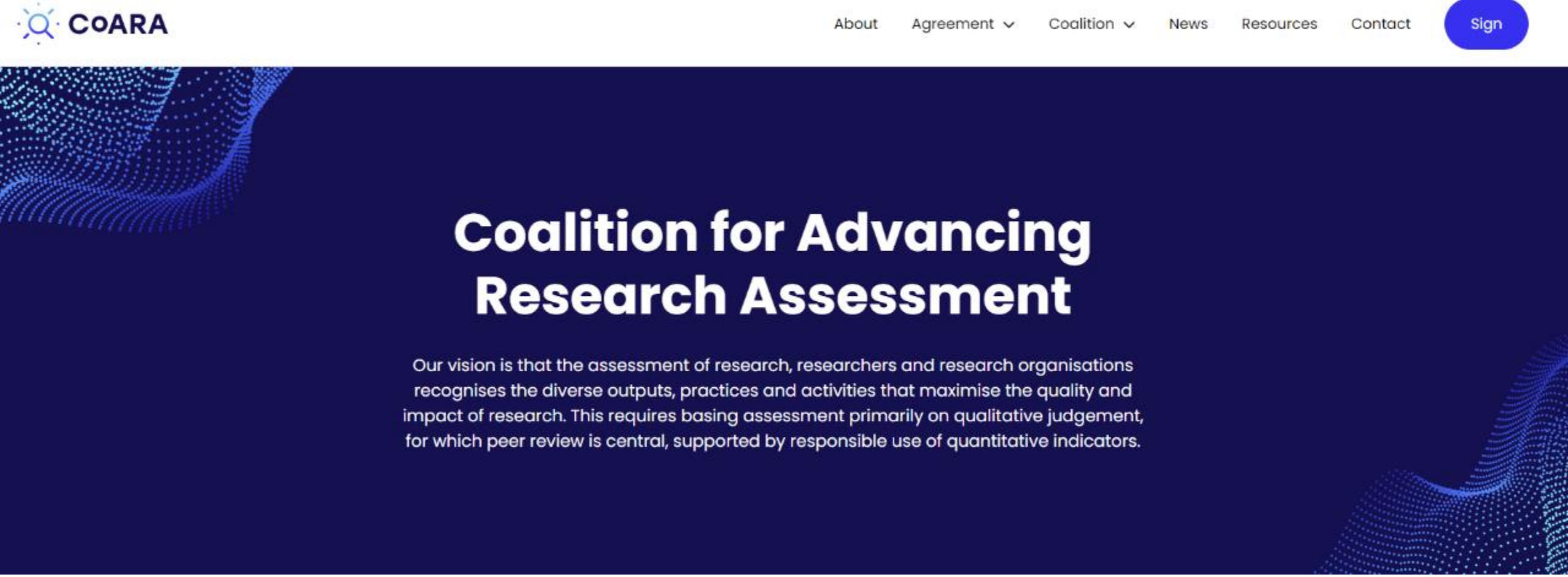
Driven by Europe, for the world

RDA for Research Assessment



[RDA Sharing Rewards & Credit Interest Group (IG)]

[RDA Evaluation of Research Birds of a Feather (BoF)]



COARA Agreement

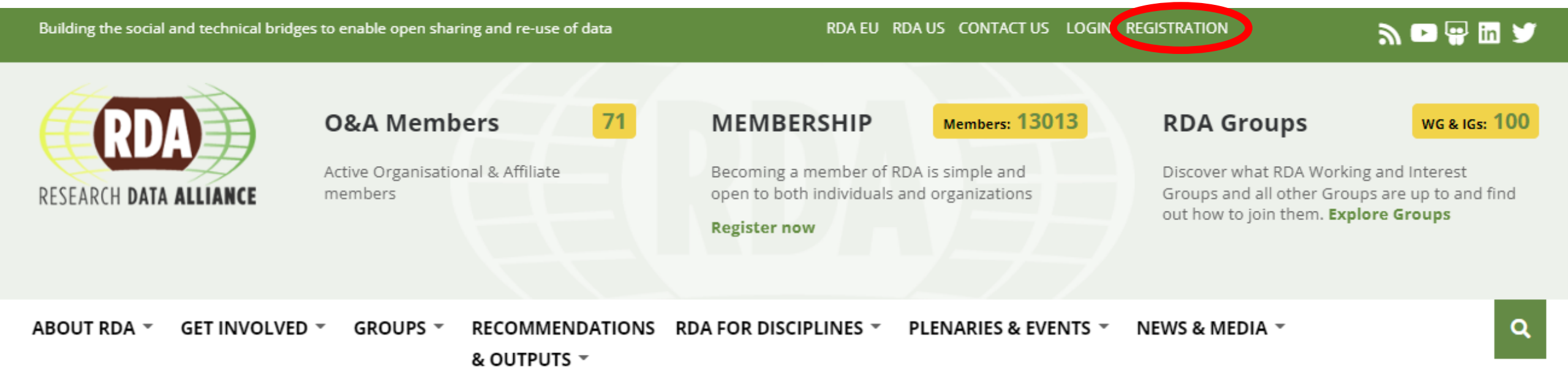
Drafted by over 350 organisations from 40 countries

Signed by over 150 organisations to date including RDA

Constitutive Assembly: 1 December 2022

RDA: How to get involved

Join RDA


Building the social and technical bridges to enable open sharing and re-use of data
RDA EU
RDA US
CONTACT US
LOGIN
REGISTRATION
RESEARCH DATA ALLIANCE
O&A Members
71
Active Organisational & Affiliate members
MEMBERSHIP
Members: 13013
Becoming a member of RDA is simple and open to both individuals and organizations
Register now
RDA Groups
WG & IGs: 100
Discover what RDA Working and Interest Groups and all other Groups are up to and find out how to join them. Explore Groups
ABOUT RDA
GET INVOLVED
GROUPS
RECOMMENDATIONS & OUTPUTS
RDA FOR DISCIPLINES
PLENARIES & EVENTS
NEWS & MEDIA

Useful Links to get started

***RDA for Newcomers* page:**

https://www.rd-alliance.org/about-rda/rda-newcomers

Group search by focus/domain:
https://www.rd-alliance.org/rda-for-you

RDA Recommendation/Output search:
https://www.rd-alliance.org/recommendations-and-outputs/catalogue

RDA in a Nutshell (Monthly stats on RDA community & Quarterly Updates on Groups & Outputs):

https://www.rd-alliance.org/about-rda

Celebrating 10 years of The Research Data Alliance (RDA)

It’s your «Decaversary»

Community cross-fertilisation workshops: Building the RDA bridges & identifying future collaboration activities

Connie Clare
RDA Community Development Manager
4TU.Research Data Community Manager
PhD in Developmental Biology

Thematic community cross-fertilisation workshops aim to (see the proposal):

- **Connect** chairs and members of RDA groups with similar interests and focus.
- **Facilitate discussion** about an RDM-related theme of relevance.
- **Showcase** and **celebrate** community group efforts and achievements.
- **Identify challenges** within the community
- **Brainstorm solutions** and **exchange initiatives** to address challenges.
- Provide chairs and members with a voice to **direct, define and align goals** and group activities.

Community Cross-fertilisation Workshop Series

RDA for Data Management Planning

Thursday, 10 November 2022
16:00-17:45 UTC

Photo by Brands&People on Unsplash

Community Cross-fertilisation Workshop Series

RDA for Agricultural Data

Thursday, 17 November 2022
16:00-17:45 UTC

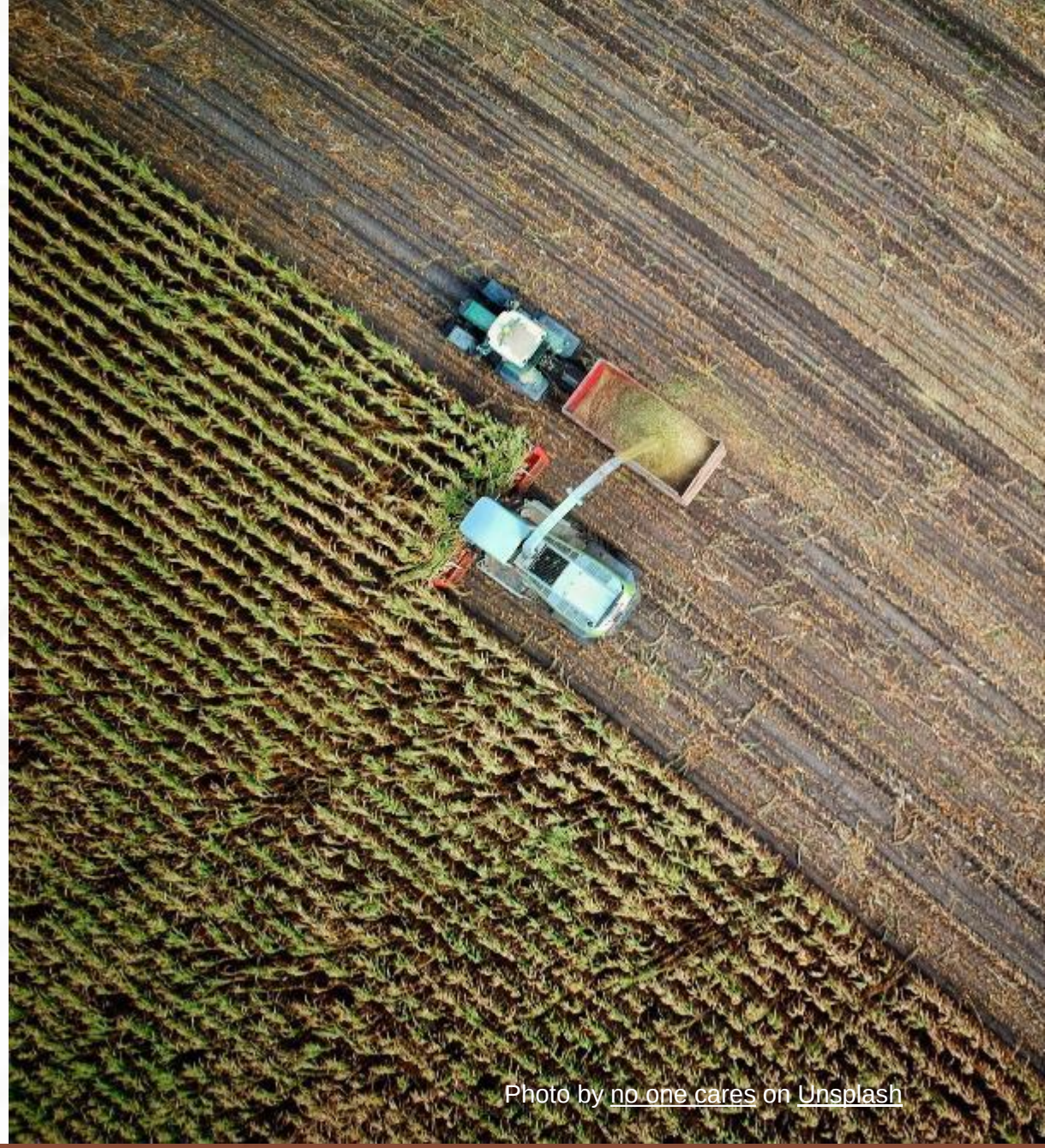


Photo by no one cares on Unsplash

Challenges associated w/ DMPs

Raising awareness and understanding	Practical adoption and implementation	Evaluation and assessment
Lack of awareness that DMPs are useful documents and part of good research planning. DMPs are seen as deliverables and not as RDM support tools.	Unclear definitions (e.g., 'other research outputs') and how FAIR principles can be implemented and described in DMPs.	Lack of accountability on following through on implementing DMPs that support funded research.
Creation of a DMP requires researchers to have knowledge and a skillset concerning RDM. They have to understand how to use specific tools.	Lack of automation of RDM tasks and machine-actionable descriptions of data, services, policies, etc.	We develop dynamic tools and try to support best practices in DMPs, but we don't have a clear view on how DMPs are evaluated, under which criteria.
Limited support as RPOs lack sufficient qualified staff and services to assisted with DMPs.	Lack of workflows on how DMPs can be implemented in research.	
Lack of incentives, reward and credit for good RDM practice and DMPs.	Making DMPs FAIR and encouraging reuse of existing information.	

CC BY SA

Solutions to address the challenges…

Strengthen communication and collaboration between RDA groups.

Creation of new WGs to address the challenges listed.

DMP writing split between relevant stakeholders (not just researchers). RPOs offer services and info to make them a trusted resource.

Create software to automate processes to limit researchers' burden in writing DMPs.

Submission of joint proposals for RDA Plenaries with existing groups.

Create recommendations, technical standards and documents

Work towards ensuring that DMPs are FAIR.

Create a framework for the evaluation of DMPs

Continue to expand RDA community work to focus on funders as a key stakeholder.

Collaborate with existing standardisation entities/orgs.

Make DMPs central tools for policy making and best practices that link across services and workflows

Collect **disciplinary gold standard use cases** that show how to write and integrate a DMP

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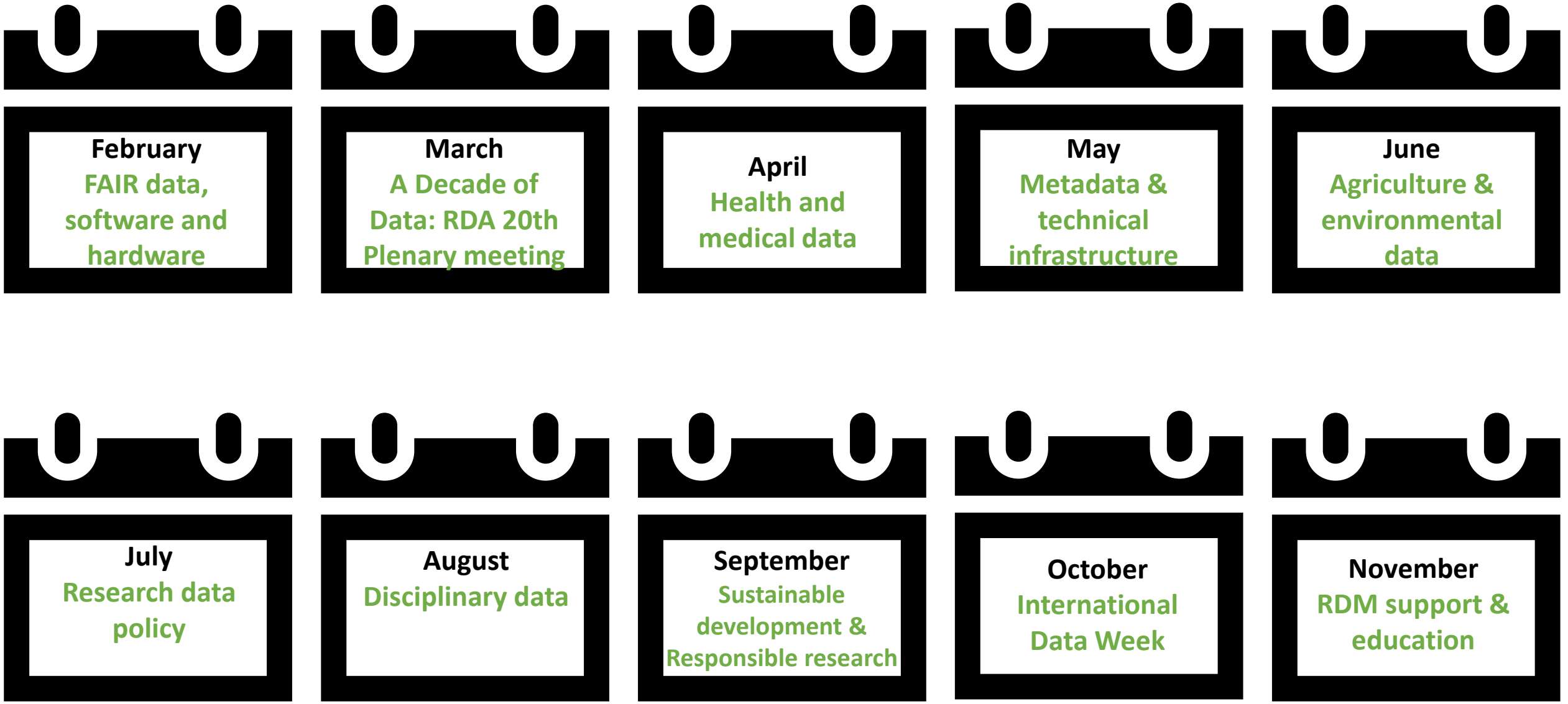
Next steps…

The main findings of the community cross-fertilisation workshops will be presented as a summary document and published online.

RDA
A Decade of Data 2013-2023
Research Data Alliance

Monthly themes: 10 months to celebrate 10 years of the RDA



A Decade of Data 2013-2023

GET INVOLVED – BE PART OF THE CELEBRATIONS

- **RDA community members and group chairs**
  - Community members and group chairs can organise events and activities with or without the support of the RDA Secretariat.
- **Non-members (external research data management community)**
  - Organisations may elect to organise their own event/activity within a particular month to **leverage the enthusiasm and expertise** of the global RDA community.
- All events/activities will be promoted as part of the RDA's 10th Anniversary in all the RDA communication channels.

Please contact our Community Development Manager, Connie Clare (connie.clare@rda-foundation.org) with questions, comments or suggestions about the RDA's 10th Anniversary schedule. More details on RDA Web site

Research Data Alliance 20th Plenary Meeting

Celebrating 10 years of the RDA

A Decade of Data

GOTHENBURG, SWEDEN

21-23 March 2023

CHALMERS

UNIVERSITY OF GOTHENBURG

SND Swedish National Data Service

RDA RESEARCH DATA ALLIANCE

A Decade of Data 2013-2023

23-26 OCT
2023
SALZBURG

International Data Week

A FESTIVAL OF DATA

https://www.rd-alliance.org/plenaries/international-data-week-2023-salzburg

Organised by

CODATA COMMITTEE ON DATA INTERNATIONAL SCIENCE COUNCIL

RDA RESEARC- DATA ALLIANCE

WORLD DATA SYSTEM

Hosted by:

SALZBURG CONVENTION BUREAU

PARIS LODRON UNIVERSITY SALZBURG

SALZBURG CONGRESS

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What is planned?

RDA … another 10 years

RDA Web Platform (2023)

Implement	•**community centric web platform**
Provide	•**modern, feature rich Content Management System**
Enable	•discussion forums, networking, internal messaging, document sharing, member directories.
Support	•**robust platform for the end to end management of conferences**
Store	•**membership data for existing and new members across a variety of categories**

RDA Maintenance Facilities (2023)

Web-based search interface that enables the annotation, classification and discoverability of RDA outputs. The Maintenance Facility is being developed by DANS (Netherlands based Data and Archiving Networking Services)

Source: DANS – Mock up for demo purposes only not to be reproduced

RDA Strategic Plans (2023 onwards)

- Complete implementation of RDA Strategic Plan 2020 – 2023
- Continue Financial Sustainability Implementation
- Develop next 5 year Strategic Plan 2024 – 2028

RESEARCH DATA ALLIANCE

RDA Plenary Meetings

RESEARCH DATA ALLIANCE

- Continue hybrid (in person & remote) model from 2022
- From 2024, 1 fully virtual and 1 hybrid plenary meeting per annum

INTERNATIONAL DATA WEEK 2025

Trusted research data driving innovation and a better world

Australian Research Data Commons

NCRIS National Research Infrastructure for Australia
An Australian Government Initiative

The ARDC is enabled by NCRIS

CODATA Committee on Data International Science Council

RDA Research Data Alliance

World Data System

INTERNATIONAL DATA WEEK 2027

20 - 23 SEPTEMBER 2027

Cape Town International Conference Centre (CTICC)

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

CSIR
Touching lives through innovation

The African Open Science Platform

NRF National Research Foundation

ASSAf

University of Botswana

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Conclusions

- ✓ RDA has an abundance of resources available
- ✓ RDA offers global solutions & global network to collaboratively develop new ones
- ✓ Global challenge, global opportunity
- ✓ Cooperation helps build Trust and supports Integrity

IF YOU WANT TO GO FAST,
GO ALONE.

IF YOU WANT TO GO FAR,
GO TOGETHER.

RDA
RESEARCH DATA ALLIANCE

Hilary Hanahoe

SECRETARY GENERAL

RESEARCH DATA ALLIANCE

email: hilary.hanahoe@rda-foundation.org
Twitter: @hilaryhanahoe
Orcid ID: 0000-0002-0328-3419
Web: www.rd-alliance.org

RDA Global Community

13,000 VOLUNTEER DATA PROFESSIONALS

email: enquiries@rd-alliance.org
Twitter: @resdatall
Web: www.rd-alliance.org

RDA Groups by Thematic Areas

25 November 2022

Not presented during the talk, additional resource for attendees

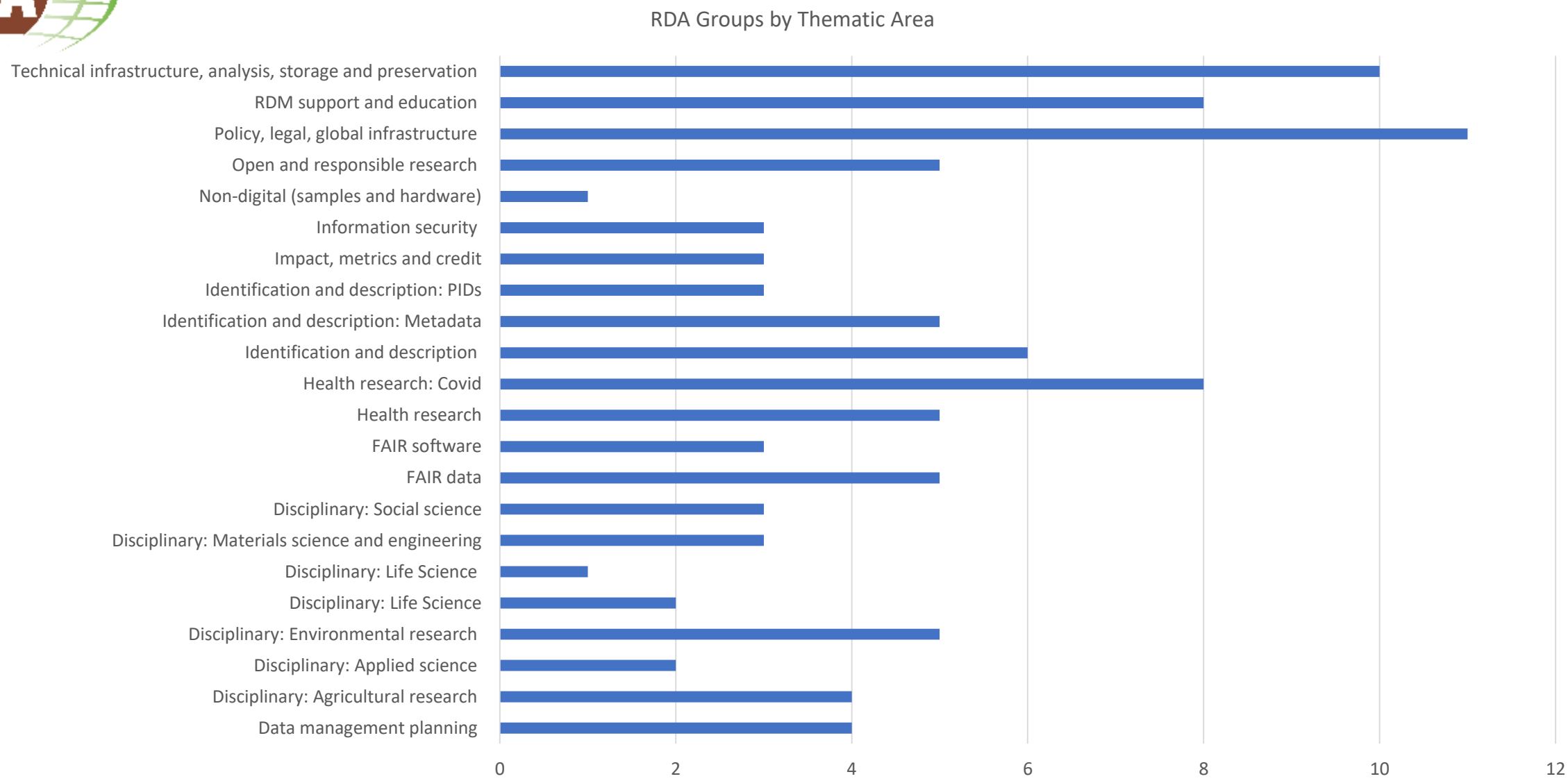
100 Active Groups – 20 Thematic Areas

Disciplinary:

- Agricultural research
- Applied science
- Environmental research
- Health research & Covid
- Life Science
- Materials science and engineering
- Social science

Domain-agnostic:

- Data management planning
- FAIR data
- FAIR software
- Identification and description
- Identification and description: MetaData
- Identification and description: PIDs
- Impact, metrics and credit
- Information security
- Non-digital (samples and hardware)
- Open and responsible research
- Policy, legal, global infrastructure
- RDM support and education
- Technical infrastructure, analysis, storage and preservation


RDA Groups by Thematic Area
Technical infrastructure, analysis, storage and preservation
RDM support and education
Policy, legal, global infrastructure
Open and responsible research
Non-digital (samples and hardware)
Information security
Impact, metrics and credit
Identification and description: PIDs
Identification and description: Metadata
Identification and description
Health research: Covid
Health research
FAIR software
FAIR data
Disciplinary: Social science
Disciplinary: Materials science and engineering
Disciplinary: Life Science
Disciplinary: Life Science
Disciplinary: Environmental research
Disciplinary: Applied science
Disciplinary: Agricultural research
Data management planning
0
2
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12

Disciplinary: Agricultural research

RDA GROUPS

Agrisemantics WG
Capacity Development for Agriculture Data WG
Wheat Data Interoperability WG
IGAD Community of Practice

RDA OUTPUTS

- 39 Hints to Facilitate the Use of Semantics for Data on Agriculture and Nutrition
- Recommendations and Capacity Development Resource Kit
- Wheat Data Interoperability Recommendations

Disciplinary: Applied Science & Environmental research

APPLIED SCIENCE RDA GROUPS

- Chemistry Research Data IG
- Research data needs of the Photon and Neutron Science community IG

ENVIRONMENTAL RESEARCH RDA GROUPS

- ESIP/RDA Earth, Space, and Environmental Sciences IG
- Geospatial IG
- Global Water Information IG
- Earth, Space, and Environmental Science Complex Citations Working Group
- Coordinating Earth, Space, and Environmental Science Data Preservation and Scholarly Publication Processes

Disciplinary: Health Research & COVID-19

RDA GROUPS

- Health Data Interest Group
- Raising FAIRness in health data and health research performing organisations (HRPOs) WG
- Reproducible Health Data Services WG
- Blockchain Applications in Health WG
- Neuroimaging IG
- RDA COVID-19 Epidemiology
- RDA COVID-19
- RDA COVID19-Legal-Ethical
- RDA-COVID19-Clinical
- RDA-COVID19-Community-participation
- RDA-COVID19-Omics
- RDA-COVID19-Social-Sciences
- RDA-COVID19-Software

RDA OUTPUTS

- Sharing COVID-19 Epidemiology Data
- The final version of the RDA COVID-19 Recommendations and Guidelines for Data Sharing, published 30 June 2020
- RDA COVID-19 Zotero Library - March 2021RDA COVID-19 Zotero Library - March 2021

Disciplinary: Life Sciences

RDA GROUPS

Life Science Data Infrastructures IG

Physical Samples and Collections in the Research Data Ecosystem IG

Biodiversity Data Integration IG

RDA OUTPUTS

23 Things Physical Samples

Disciplinary: Materials science and engineering

RDA GROUPS

Research Data Management in Engineering IG
International Materials Resource Registries WG
RDA/CODATA Materials Data, Infrastructure & Interoperability IG

RDA OUTPUTS

International Materials Resource Registries Working Group: Final Report and Recommendations

Disciplinary: Social science

RDA GROUPS

Linguistics Data IG

Social Science Research Data IG

Psychological Data WG

RDA OUTPUTS

Tromsø recommendations for citation of research data in linguistics

Data Management Planning

RDA GROUPS

- Active Data Management Plans IG
- Discipline-specific Guidance for Data Management Plans WG
- Exposing Data Management Plans WG
- DMP Common Standards WG

RDA OUTPUTS

- RDA DMP Common Standard for Machine-actionable Data Management Plans

FAIR Data

RDA GROUPS

FAIR Data Maturity Model WG
CURE-FAIR WG
FAIR Digital Object Fabric IG
RDA/WDS Publishing Data Workflows WG
Data Discovery Paradigms IG

RDA OUTPUTS

FAIR Data Maturity Model: specification and guidelines Member survey on bridging the gap between funders and communities – perspectives on benefits and challenges of FAIR assessments V2.0 Results of an Analysis of Existing FAIR Assessment Tools
10 Things for Curating Reproducible and FAIR Research Challenges of Curating for Reproducible and FAIR Research Output
Summary of Virtual Layer Recommendations Persistent identifiers: Consolidated assertions
RDA/WDS Publishing Data Workflows WG Recommendations
Data Discovery Paradigms: User Requirements and Recommendations for Data Repositories Eleven Quick Tips for finding Research Data A survey of current practices in data search services

FAIR Software

RDA GROUPS

- FAIR for Research Software (FAIR4RS) WG
- Software Source Code IG
- Skills and training curriculums to support FAIR research software IG

RDA OUTPUTS

- FAIR Principles for Research Software (FAIR4RS Principles)

Identification and description

RDA GROUPS

Data Versioning IG
Structure of Information
Data Citation WG
InteroperAble Descriptions of Observable Property Terminology WG (I-ADOPT WG)
RDA/WDS Scholarly Link Exchange (Scholix) WG
Data Granularity WG

RDA OUTPUTS

Compilation of Data Versioning Use cases from the RDA Data Versioning Working Group
Principles and best practices in data versioning for all data sets big and small
Scalable Dynamic Data Citation Methodology
InteroperAble Descriptions of Observable Property Terminologies (I-ADOPT) WG Outputs and Recommendations
Scholix Metadata Schema for Exchange of Scholarly Communication Links

Identification and description: Metadata

RDA GROUPS

- Vocabulary Services IG
- Research Metadata Schemas WG
- Metadata IG
- Metadata Standards Catalog WG
- RDA / TDWG Metadata Standards for attribution of physical and digital collections stewardship

RDA OUTPUTS

- A Collection of Crosswalks from Fifteen Research Data Schemas to Schema.org
- Guidelines for publishing structured metadata on the Web
- Metadata Principles
- RDA/TDWG Attribution Metadata Working Group: Final Recommendations

Identification and description: PIDs

RDA GROUPS

- National PID Strategies WG
- PID IG
- Persistent Identification of Instruments WG

RDA OUTPUTS

- Metadata Schema for the Persistent Identification of Instruments

Identification and description: PIDs

RDA GROUPS

- National PID Strategies WG
- PID IG
- Persistent Identification of Instruments WG

RDA OUTPUTS

- Metadata Schema for the Persistent Identification of Instruments
- Persistent Identification of Instruments

Impact, metrics and credit

RDA GROUPS

- Sharing Rewards and Credit (SHARC) IG
- IG for Surveying Open Data Practices
- Data Usage Metrics WG

RDA OUTPUTS

- RDA Data Usage Metrics WG Recommendations

Information security

RDA GROUPS

Federated Identity Management IG

RDA Privacy Implications of Research Data Sets IG

Sensitive Data Interest Group

RDA OUTPUTS

Federated Identity Management for Research Collaborations

Non-digital (samples and hardware)

RDA GROUPS

FAIR Principles for Research Hardware

Policy, legal, global infrastructure

RDA GROUPS

- RDA/CODATA Legal Interoperability IG
- Data policy standardisation and implementation IG
- Working Group on Ethical and Legal best practices for Drone Data in a global research context (WELDD)
- FAIRsharing Registry: Connecting data policies, standards and databases RDA WG
- Research Funders and Stakeholders on Open Research and Data Management Policies and Practices IG
- GO FAIR Liaison IG
- Social Dynamics of Data Interoperability IG
- Open Science Graphs for FAIR Data IG
- Global Open Research Commons IG
- GORC International Model WG
- Brokering Framework Working Group

Policy, legal, global infrastructure

RDA OUTPUTS

RDA & CODATA Legal Interoperability Of Research Data: Principles And Implementation Guidelines
The FAIRsharing Registry and Recommendations: Interlinking Standards, Databases and Data Policies

RDM support and education

RDA GROUPS

- Engaging Researchers with Data IG
- Libraries for Research Data IG
- Education and Training on Handling of Research Data IG
- Early Career and Engagement IG
- Professionalising Data Stewardship IG
- Science communication for research data
- CODATA/RDA Research Data Science Schools for Low and Middle Income Countries
- RDA/CODATA Summer Schools in Data Science and Cloud Computing in the Developing World WG

RDM support and education

RDA OUTPUTS

Engaging Researchers with Data Management: The Cookbook

23 Things: Libraries for Research Data (Supporting Output)

Engaging Researchers with Data Management: The Cookbook

Top 10 FAIR Data & Software Things

Core Characteristics of Learning Resource Collectors

Recommendations for a minimal metadata set to aid harmonised discovery of learning resources

CODATA/RDA Summer School in Data Science and Cloud Computing in the Developing World WG Recommendations

A curriculum for foundational Research Data Science skills for Early Career Researchers

Technical infrastructure, analysis, storage and preservation

RDA GROUPS

- Preservation Tools, Techniques, and Policies
- Domain Repositories IG
- Research Data Architectures in Research Institutions IG
- Virtual Research Environment IG (VRE-IG)
- Repository Platforms for Research Data IG
- FAIR for Virtual Research Environments WG
- CoreTrustSeal Maintenance WG
- Archives and Records Professionals for Research Data IG
- RDA/WDS Certification of Digital Repositories IG
- Data Repository Attributes WG

Technical infrastructure, analysis, storage and preservation

RDA OUTPUTS

Matrix of use cases and functional requirements for research data repository platforms
Repository Audit and Certification DSA–WDS Partnership WG Recommendations