



Research Data Management for data on renewable materials and products

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Paris, 9. 9. 2019



Outline

- 🌐 Why should this interest us?
- 🌐 What is Research Data Management?
- 🌐 What is the Research Data Alliance?
- 🌐 RDA Recommendations and Outputs
- 🌐 How to get involved?



Why should this interest us?

1. Ethics

- RDM is part of the responsible conduct of research, i.e. the practice of scientific investigation with integrity
- Reproducibility crisis in science (well-managed and accessible data allows others to validate and replicate findings)

2. Requirements imposed by funders and publishers

- DMP as a deliverable in Horizon2020
- Open Science will be one of the pillars of the Horizon Europe, the next EU framework programme for research and innovation

3. Saves times and resources (in the long run)



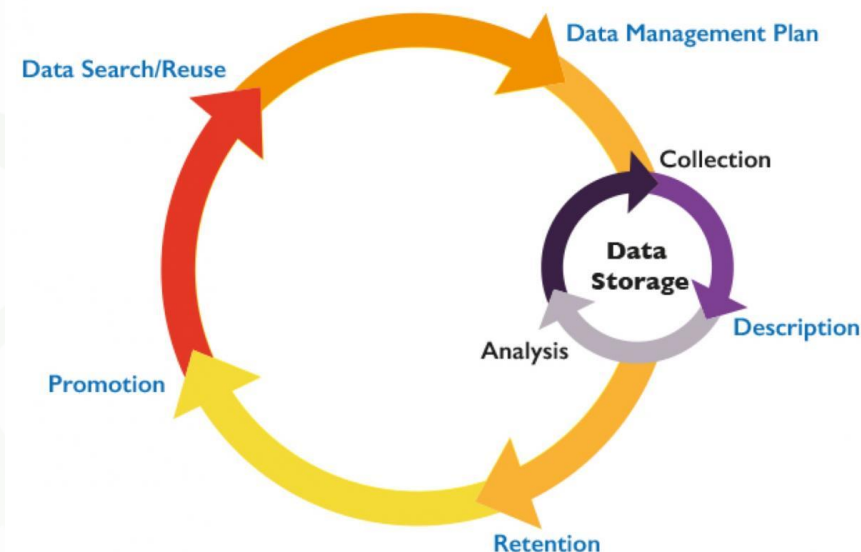
Research data management (RDM)



RDM lifecycle

- RDM describes the organisation, storage, preservation, and sharing of data collected and used in a research project.
- It involves decision about how data will be preserved and shared after the project is completed.

The Research Data Management Lifecycle





Data management plan (DMP)

- 🌐 A formal document that outlines how data are to be handled during a research project, and after the project is completed
- 🌐 What should a DMP include?
 - Description of data to be collected/created (content, type, format, volume)
 - Standards/methodologies for data collection and management
 - Ethics and intellectual property (highlight any restrictions on data sharing)
 - Plans for data sharing and access
 - Strategy for long-term preservation



The FAIR data principles

- 🌐 **Findable:** metadata and data should be easy to find for both humans and computers
- 🌐 **Accessible:** once the users finds the required data, they need to know how can they be accessed, possibly including authentication and authorisation
- 🌐 **Interoperable:** data usually need to be integrated with other data be interoperable with applications or workflows for analysis, storage, and processing
- 🌐 **Reusable:** metadata and data should be well-described so that they can be used in different settings



Research data repositories

- 🌐 General purpose repositories (e.g. Zenodo, Figshare)
- 🌐 Institutional data repositories
- 🌐 Domain specific repositories
- 🌐 Registry of research data repositories: <https://www.re3data.org/>





Research Data Alliance (RDA)



What is RDA?

RDA is an international **member based organization** 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.

With more than 8,800 members globally representing 137 countries, RDA includes **researchers, scientists and data science professionals** working in multiple disciplines, domains and thematic fields and from different types of organisations across the globe.

RDA is building the social and technical bridges that enable open sharing of data to achieve its vision of researchers and innovators openly sharing data across technologies, disciplines, and countries to address the grand challenges of society.



What does RDA do?

Members come together through self-formed, volunteer, focussed Working Groups, exploratory Interest Groups to exchange knowledge, share discoveries, discuss barriers and potential solutions, explore and define policies and test as well as harmonise standards to enhance and facilitate global data sharing & re-use.

RDA members collaborate together across the globe to tackle numerous infrastructure & data sharing challenges related to:

- 🌐 Reproducibility
- 🌐 Data preservation
- 🌐 Best practices for domain repositories
- 🌐 Legal interoperability
- 🌐 Data citation
- 🌐 Data type registries
- 🌐 Metadata
- 🌐 and so many more!



DATA SHARING



Who Can Join RDA?

Any individual or organization, regardless of profession or discipline, with an interest in **reducing the barriers to data sharing and re-use** and who agrees to RDA's guiding principles of:

- 🌐 Openness
- 🌐 Consensus
- 🌐 Balance
- 🌐 Harmonization
- 🌐 Community-driven
- 🌐 Non-profit and technology-neutral

Individual Membership is free at <https://www.rd-alliance.org/user/register>



Why Join RDA as an Individual Member?

Individual Member Benefits

- **Contribute** to acceleration of data infrastructure development
- Work and **share experiences** with collaborators throughout the world
- **Access** to extraordinary network of colleagues with various levels of experience, perspectives and practices
- Gain greater **expertise** in data science regardless of whether one is a student, early or seasoned career professional
- **Enhance** the quality and effectiveness of personal work and activities
- **Improve** one's competitive advantage professionally and positioning oneself for leadership within the broader research community

Individual RDA Members 8,810



How to get involved?



RDA IGs and WGs

| | Interest groups | Working groups |
|-----------------|--|---|
| Number (Aug 19) | 61 | 33 |
| Members | Experts from the community | Experts from the community |
| Purpose | Platform for exchange on various topics | Focus on specific goal (concrete output) |
| Outputs | Supporting outputs | Recommendations and supporting outputs |
| Duration | Active over longer periods | Fixed period 12-18 months |
| Example | RDA/CODATA Materials Data, Infrastructure & Interoperability IG: https://www.rd-alliance.org/groups/rdacodata-materials-data-infrastructure-interoperability-ig.html | International Materials Resource Registries WG: https://www.rd-alliance.org/groups/working-group-international-materials-resource-registries.html |



Call for Supporting and Other RDA Outputs

RDA Recommendations and Outputs take the form of technical specifications, code, policies or practices, harmonized standards or reference models. In the widest sense these aim for:

- ☐ Greater data sharing, exchange, interoperability, usability and re-usability;
- ☐ Greater discoverability of research data sets;
- ☐ Better management, stewardship, and preservation of research data;
- ☐ New data standards or harmonization of existing standards.

Become one of the next RDA adopters!

If you are interested in any of the RDA's recommendations or would like to share your group's results with our international community, please fill the contact form at <https://www.rd-alliance.org/interest-rda-recommendations> or write to enquiries@rd-alliance.org.

Previous call:

<https://grants.rd-alliance.org/OpenCalls/call-europe-adoption-grants>



**RDA Adoption & Implementation
Stories - Tell us yours!**



What are Plenary Meetings?

- Organised around the world every 6 months
- exciting & productive events bringing together a unique community of **data science professionals, from multiple disciplines and domains;**
- help move the community forward in **creating tangible deliverables** that improve data sharing across disciplines, technologies, and countries;
- heart of the plenaries are working meetings of **RDA Working & Interest groups** and new potential groups through **Birds of a Feather** meetings
- presentation of new **Outputs and Adoption** cases



14th Plenary Meeting





15th Plenary Meeting

15th Research Data Alliance Plenary Meeting

18-20
MARCH
2020

MELBOURNE
AUSTRALIA



RESEARCH DATA ALLIANCE



Australian Research Data Commons

www.rd-alliance.org

10/09/2019

rd-alliance.org

@resdatall | @rda_europe

19





RDA in France

 Website:

<https://www.rd-alliance.org/groups/rda-france>

 Contact persons:

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RESEARCH DATA ALLIANCE
EUROPE





Acknowledgments and resources

- 🌐 Jeuse, A. 2019. Adopting RDA Recommendations and Outputs Across the research data lifecycle: <https://www.rd-alliance.org/rda-outputs-overview-presentation>
- 🌐 RDA in a Nutshell (August 2019). <https://www.rd-alliance.org/sites/default/files/attachment/RDA-in-a-nutshell-August-2019.pptx>



This work has been produced with the support of the RDA Europe Ambassador programme. It has received funding from the European Union's Horizon 2020 (H2020) research and innovation programme via the RDA EU 4.0 project (ref. GA no. 777388).





Let's stay in contact



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RDA Europe Ambassador for Engineering/Renewable materials: <https://www.rd-alliance.org/rda-disciplines/rda-europe-ambassadors>



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