



# *What happened at the Montreal Plenary?*



October, 25 2017  
Ingrid Dillo

# THE RESEARCH DATA ALLIANCE

[www.rd-alliance.org](http://www.rd-alliance.org)

*building the social and technical  
bridges that enable open sharing of  
data*

## 18 FLAGSHIP OUTPUTS

of which 4 ICT  
Technical  
Specifications

## 75 ADOPTION CASES

across multiple  
disciplines,  
organisations &  
countries

## 88 GROUPS WORKING ON GLOBAL DATA INTEROPERABILITY CHALLENGES

of which 30 WORKING GROUPS  
& 58 INTEREST GROUPS

## 6,193 INDIVIDUAL MEMBERS FROM 130 COUNTRIES

67% Academia & Research  
15% Public Administration  
11% Enterprise & Industry

## 43 ORGANISATIONAL MEMBERS & 8 AFFILIATE MEMBERS



## Vision

Researchers and innovators openly share 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 of data.

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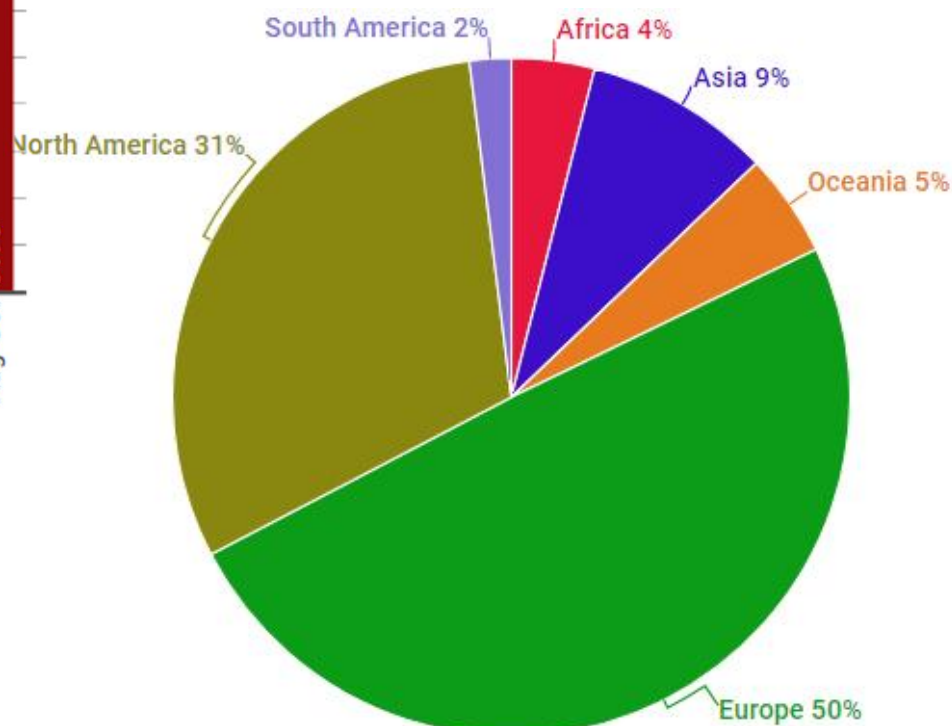
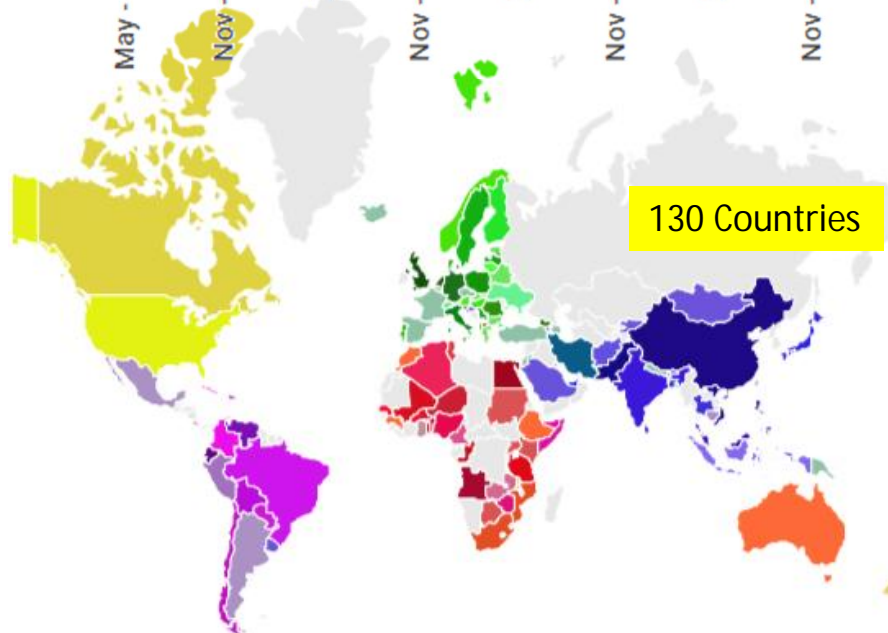
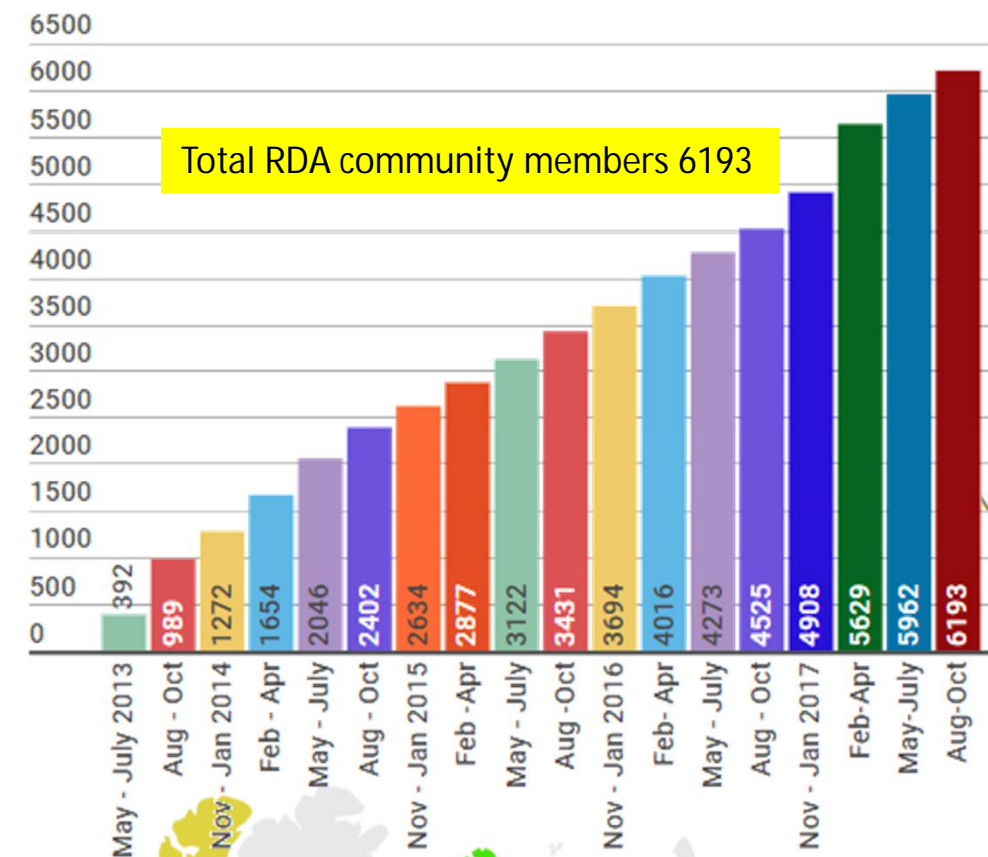
# What is RDA?

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.

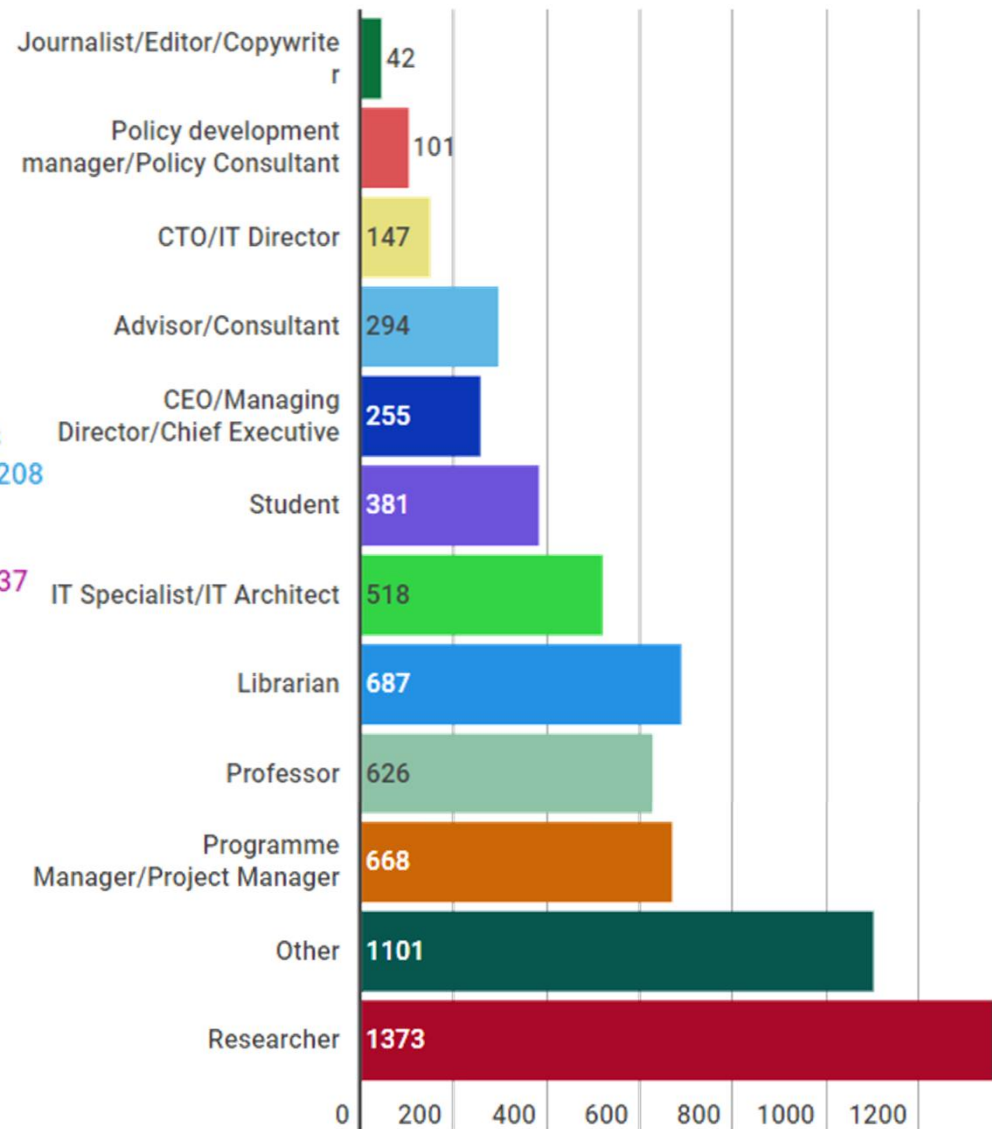
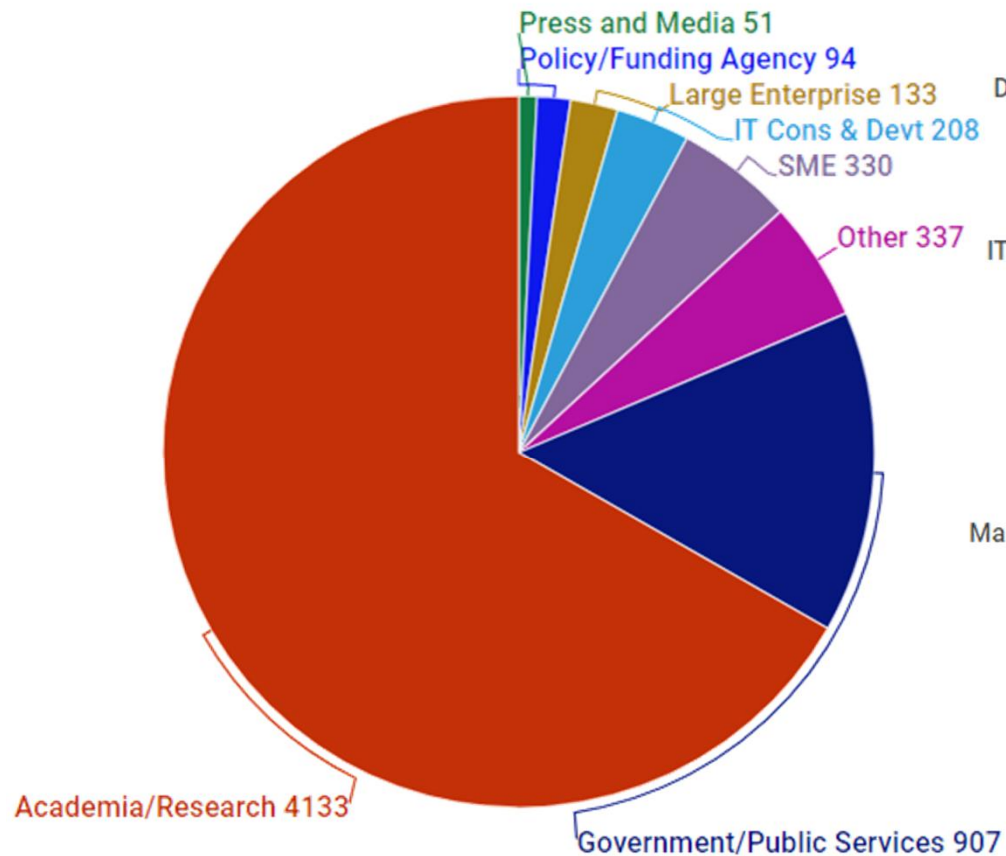
With more than 6,100 members globally representing 130 countries, RDA includes researchers, scientists and data science professionals working in multiple disciplines, domains and thematic fields and from different types of organisations across the globe.

*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.*

# RDA worldwide growth



# Who is RDA?





# Organisational & Affiliate Members

## 43 Organisational Members

## 8 Affiliate Members



[rd-alliance.org/get-involved/organisational-membership](http://rd-alliance.org/get-involved/organisational-membership)

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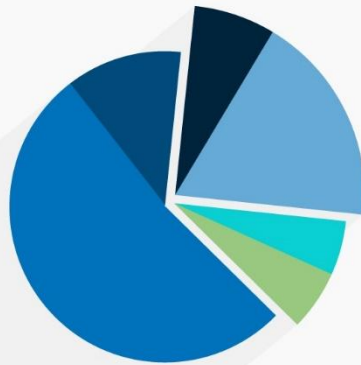
# What does RDA do?

*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!





- 52% Natural Science
- 20% Social Science
- 20% Agricultural Science
- 17% Engineering and Technology
- 4% Humanities
- 4% Medical and Health Sciences

## Agricultural Science % members

Other agricultural sciences	62%
Agriculture, forestry, and fisheries	24%
Agricultural biotechnology	11%
Animal and dairy science	3%

## Humanities % members

History and archaeology	38%
Other humanities	33%
Languages and literature	19%
Art (arts, history of arts, performing arts, music)	5%
Philosophy, ethics and religion	4%

## Medical and Health Sciences % members

Health sciences	44%
Other medical sciences	31%
Health biotechnology	11%
Basic medicine	9%
Clinical medicine	6%

## Engineering and Technology % members

Electrical engineering, electronic, engineering, information engineering	60%
Other engineering and technologies	18%
Environmental engineering	6%
Materials engineering	6%
Civil engineering	3%
Industrial Biotechnology	2%
Chemical engineering	2%
Medical engineering	1%
Mechanical engineering	1%
Environmental biotechnology	1%
Nano-technology	0%

## Social Sciences % members

Economics and business	13%
Educational sciences	44%
Media and communications	13%
Other social sciences	8%
Law	7%
Sociology	6%
Political Science	5%
Psychology	2%
Social and economic geography	3%

## Natural Sciences % members

Computer and information sciences	67%
Earth and related environmental sciences	17%
Biological sciences	7%
Physical sciences	3%
Other natural sciences	3%
Chemical sciences	2%
Mathematics	1%

Based on the OECD's Frascati Manual classification

Figures based on 5000 members

Total 88 groups:  
30 Working Groups & 58 Interest Groups

# RDA Recommendations that make data work

## “Create - Adopt - Use”

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- ✓ Adopted code, policy, specifications, standards, or practices that enable data sharing
- ✓ “Harvestable” efforts for which 12-18 months of work can eliminate a roadblock
- ✓ Efforts that have substantive applicability to groups within the data community but may not apply to all
- ✓ Efforts that can start today

18 flagship recommendations & outputs with over  
75 cases of adoption in different domains, organisations and countries

# ICT Technical Specifications

The European Commission has a flexible approach to standardisation when identifying new ICT technical specifications.

*Once identified and approved, these specifications can then be referenced in European public procurement.*

*Encourage competition, promote interoperability and innovation, and facilitate the provision of cross-border services.*

- ✓ *Research Data Alliance is recognised as an organisation compliant with the requirements to issue ICT Technical Specifications*
- ✓ *4 RDA recommendations identified as ICT Technical Specifications (published in Official EC Journal)*
- ✓ *5 further RDA recommendations currently under approval process*

# Adoption & Implementation

*"Solving the problem must include **adopters** in the process, to ensure that real problems are addressed. Open problem solving is the key."*

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.

## RECOMMENDATIONS & OUTPUTS

All Recommendations & Outputs

Adoption Use Cases

Become an RDA Adopter

Addressing data challenges

<https://www.rd-alliance.org/recommendations-and-outputs/all-recommendations-and-outputs>

75 Adoption Cases

<https://www.rd-alliance.org/recommendations-outputs/adoption-recommendations>

Find out how you can become an Adopter

<https://www.rd-alliance.org/recommendations-and-outcomes/become-rda-adopter>

[rd-alliance.org/recommendations-and-outputs/all-recommendations-and-outputs](https://www.rd-alliance.org/recommendations-and-outputs/all-recommendations-and-outputs)

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RESEARCH INFRASTRUCTURES  
IMPLEMENTING RDA OUTPUTS FOR  
MAPPING METADATA STANDARDS



IMPLEMENTING RDA OUTPUTS FOR  
SCHOLARLY COMMUNICATION



RDA Adoption & Implementation  
Stories - Tell us yours!



ADOPTING RDA OUTPUTS  
FOR ... CLIMATE DATA

DKRZ adopts 6 RDA outputs for climate data modelling

DKRZ is integrating paradigm identifiers for use cases supporting specific data tracking, automated replication and monitoring, custom and early data transfer into the Earth System Grid Federation data infrastructure which supports ICOS/CIRES data provisioning. This requires elemental RDA information to be interoperable across multiple services and tools and formulating community-specific RDA profiles. Furthermore, future automated processing workflows could leverage such information as well if bound to specific data types and broken down through a dedicated service. To give structure to possibly huge numbers of objects and their identifiers, the services and tools involved can also benefit from a possible RDA recommendation on research data collection.

**The Challenge**

"Current data management practices still rely largely on managing files and directories in file systems. Factors such as the relative increase of data volumes compared to available network bandwidth and the easy availability of remote and on-demand computing resources are drivers behind bringing processing and data closer together. National and international policy changes in Earth Science funding may also cause a shift in the skills and expectations of end-user data service users."

Says Tobias Weigel, a Computer scientist at the adopting organisation, Deutsches Klimarechenzentrum (DKRZ)

Together, these factors lead to scenarios where it will be increasingly difficult to manage data on a per-file or per-directory basis and deal with data transfer, replication and the cycle management at a comparatively low level of automation. Future tools may increasingly hide the location and structure of scientific data objects from the user, resulting from challenges from background services. Services that provide easy data preparation and processing and make data provenance transparent may be particularly valuable for interdisciplinary users unfamiliar with established community practices.

Weigel continues "With the evolution of the increase automation, cost of realising services will increase, which would have a demotivating effect on service quality or lesser resources available for developing new services required for future user demands. Their experience has shown that many tasks such as data transfer or replication suffer from manual intervention required as long as no comprehensible data trading solution is in place. Such tasks may take up even more resources given that the data volume and number of objects to manage increases exponentially.

**RDA RECOMMENDATIONS ADOPTED**

Basic Foundations and Terminology simplify data sharing and communication about basic concepts such as digital object and persistent identifiers.

RDA Information Types describe RDA record profiles and workflow types closely with service communities.

Basic Fabric: get a better understanding of high-level productivity and make decisions concerning operations and strategic development.

Basic Types Register/recognize RDA information types and eventually link types with processing services.

Represent Basic Challenges: clarify data characteristics and evaluate implementation options for potentially reusable data.

**ANSWERING COMMUNITY NEEDS**

The community that benefits from individual transformation of diverse data management services into multiple interoperable internationally. Of particular mention within the European context is the European Research Infrastructure for Earth System Modelling (ESMOS). The ESMOS project is a user-driven research project beyond the core climate modelling community and can involve other disciplines such as climate impact research, adaptation and mitigation policies, public services, agriculture and so on. As climate change is a global phenomenon and challenge and touches on a huge number of areas.

**WHY RDA**

RDA put itself forward as a venue where experts from different disciplines and shared by different community practices can combine their collective knowledge to build reusable, reliable, stable, interoperable data spaces. The RDA outputs to move to pilot adoption were selected by projecting future challenges, scenarios and long-term challenges and finding good matches with manageable goals with the existing solutions in DKRZ.

Find out more

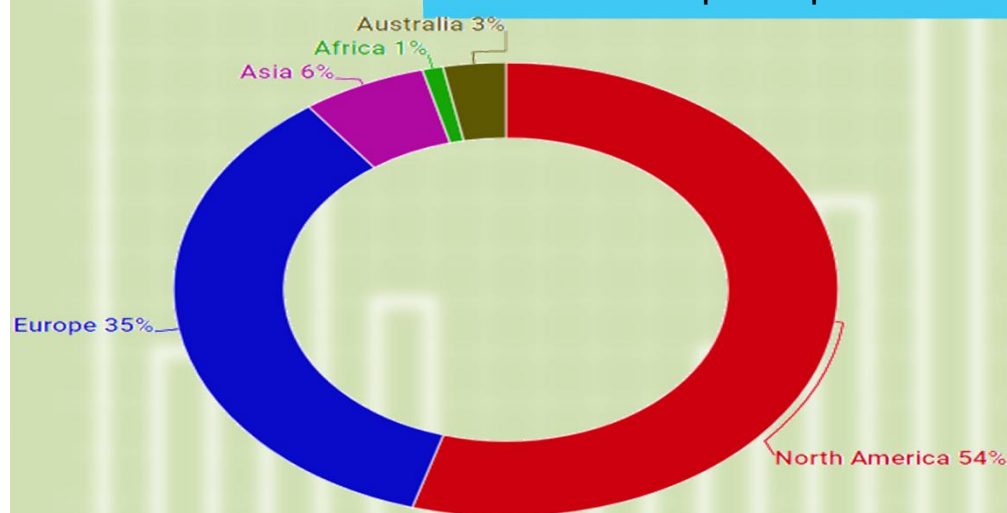
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<https://www.rd-alliance.org/recommendations-and-outputs>

Adopting RDA Outputs for Climate



Over 430 participants from 30 countries



Increased female participation 44%  
the highest so far

73 Breakout meetings  
of which 14 Working Groups  
of which 37 Interest Groups  
of which 6 Joint Working & Interest Groups  
of which 16 Birds of a Feather  
6 Outputs presented / 1 Final Release  
60 Posters



[rd-alliance.org/plenaries/rda-tenth-plenary-meeting-montreal-canada](http://rd-alliance.org/plenaries/rda-tenth-plenary-meeting-montreal-canada)

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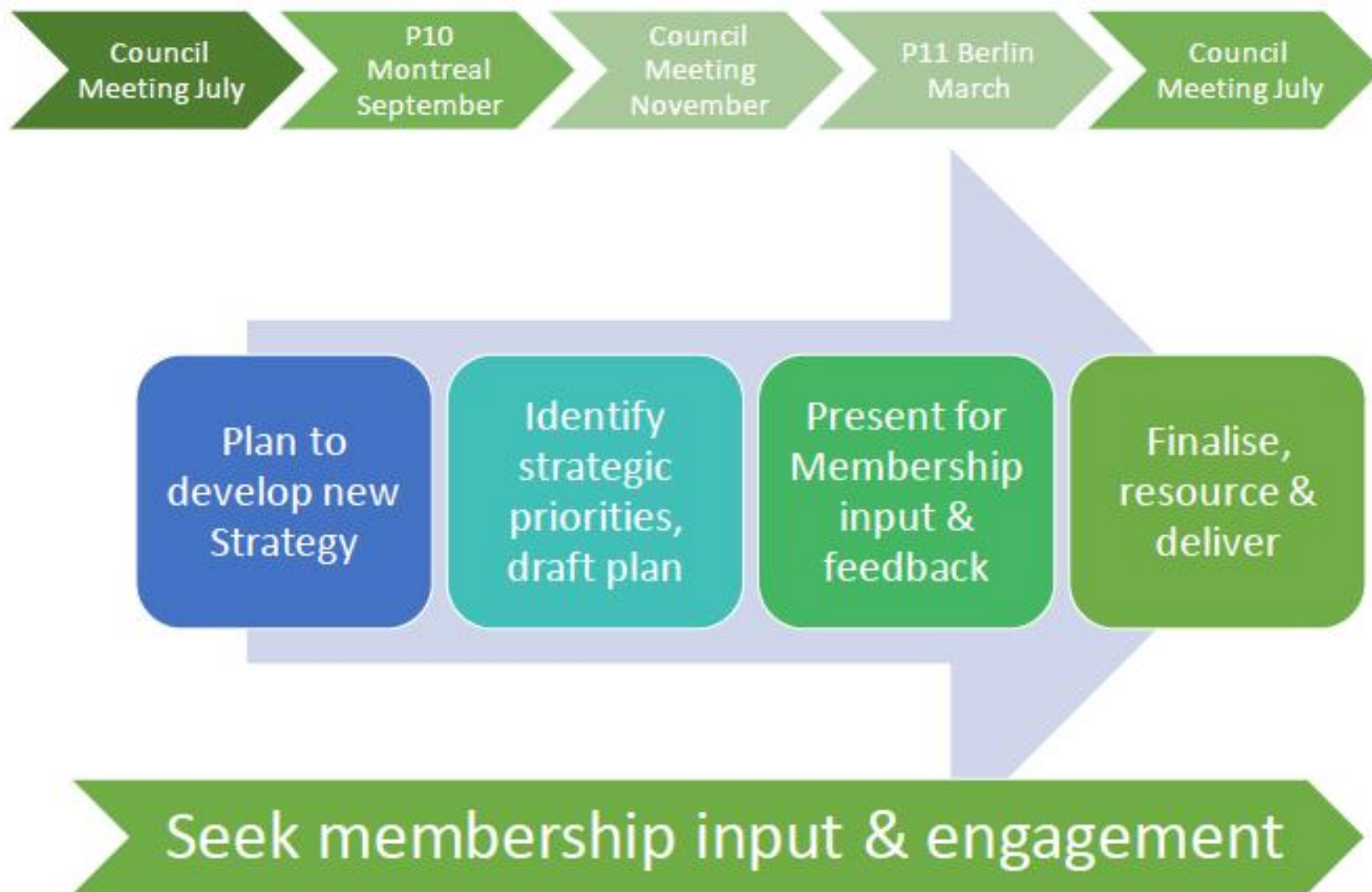


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# RDA Strategy 2018-2020

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- Now is the time for a forward-looking strategy for RDA
- Important issues to address: scalability, governance, regional and disciplinary engagement, new domains, sustainability, business models
- Examples of what we need to answer:
  - How we can work with other data initiatives and other data stakeholders?
  - How can RDA cope with twice as many working groups?
  - How can we grow and still retain our dynamic membership culture?
  - How do we make global solutions from distinct, diverse regions?
  - How can we make sure that we remain sustainable?
- Action-focused, fast but consultative, clear tracked deliverables
- Working throughout with Council & Subcommittees, TAB, Secretariat, and RDA membership



# Moving Towards Plenary 11: Berlin!

**RDA**

**11 PLENARY**

**MEETING**

**21-23 MARCH 2018**

Berlin, Germany



From Data to Knowledge

To find out more visit: <https://www.rd-alliance.org/plenaries/rda-eleventh-plenary-meeting-berlin-germany>

# Looking Forward to Plenary 12: Botswana

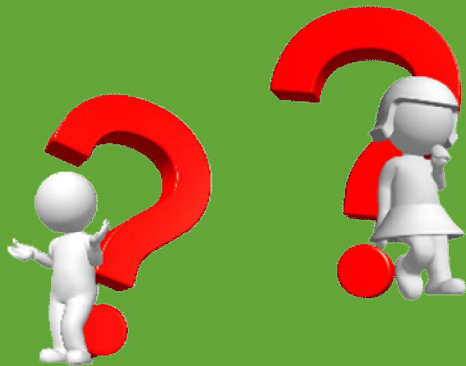


To find out more visit: <https://www.rd-alliance.org/plenaries/rda-twelfth-plenary-meeting-part-international-data-week-2018-gaborone-botswana>

Co-organised within the framework of  
International Data Week with CODATA & WDS

## RDA in a Nutshell

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### RDA Global

Email - [enquiries@rd-alliance.org](mailto:enquiries@rd-alliance.org)

Web - [www.rd-alliance.org](http://www.rd-alliance.org)

Twitter - [@resdatall](https://twitter.com/resdatall)

LinkedIn - [www.linkedin.com/in/ResearchDataAlliance](http://www.linkedin.com/in/ResearchDataAlliance)

Slideshare -

<http://www.slideshare.net/ResearchDataAlliance>

### RDA Europe

Email - [info@europe.rd-alliance.org](mailto:info@europe.rd-alliance.org)

Twitter - [@RDA\\_Europe](https://twitter.com/RDA_Europe)

### RDA US

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