



Research Data Alliance - Research Data Sharing without barriers

**Big Data & Open Data Workshop 2014, Brussels
7-8 May 2014**

Leif Laaksonen / RDA Europe

research data sharing without barriers

rd-alliance.org

Strong engagement and impact

Bottom-up meeting top-down

“Knowledge is the engine of our economy. And data is its fuel.”

(Neelie Kroes, Vice-President of the European Commission)



Community engagement through the researchers global involvement in the working and interest group activities



How to tackle big challenges if data is highly fragmented by disciplines, domains and countries?

RDA is building bridges to overcome the hurdles for **easy data access, data *sharing* and interoperability** by facilitating collaboration between experts from all over the world belonging to different disciplines and organisations

What is Research Data Alliance about?

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



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

Researchers, scientists, data practitioners from around the world are invited to work together to achieve the vision

Who founded and supports RDA? RDA Colloquium

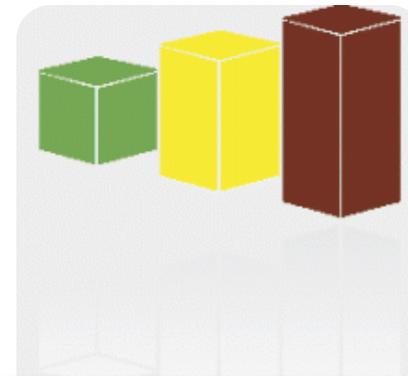
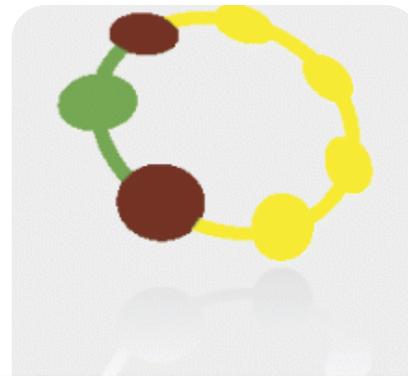
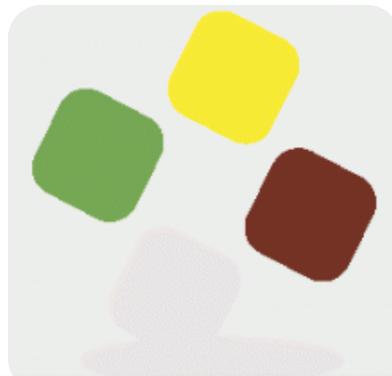
Global initiative with the support & funding of European Commission, Australian National Data Service and US National Science Foundation



National Science Foundation
WHERE DISCOVERIES BEGIN

RDA – How does it work?

*Experts and Data practitioners come together in
RDA Working and Interest Groups
to overcome concrete hurdles*



Working together at 6 monthly plenary meetings & on the collaborative web platform

The RDA Engine – Working & Interest Groups

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- **9 Working groups** including Community Capability Model, Data Citation, Data Foundation and Terminology, Data Type Registries...
<https://rd-alliance.org/workinggroup-list.html>
- **24 Interest groups** including Agricultural Data Interoperability, Big Data Analytics...
<https://rd-alliance.org/interestgroup-list.html>
- including joint groups with **CODATA** and **WDS**



Community-Driven RDA Groups by Focus

Domain Science - focused

- Toxicogenomics Interoperability IG
- Structural Biology IG
- Biodiversity Data Integration IG
- Agricultural Data
- Interoperability IG
- Digital History and Ethnography IG
- Defining Urban Data Exchange for Science IG
- Marine Data Harmonization IG
- Materials Data Management IG

Community Needs - focused

- Community Capability Model IG
- Engagement IG
- Clouds in Developing Countries IG

Reference and Sharing - focused

- Data Citation IG
- Data Categories and Codes WG
- Legal Interoperability IG

Data Stewardship - focused

- Research Data Provenance IG
- Certification of Digital Repositories IG
- Preservation e-infrastructure
- Long-tail of Research Data IG
- Publishing Data IG
- Domain Repositories IG
- Global Registry of Trusted Data Repositories and Services IG

Base Infrastructure - focused

- Data Foundations and Terminology WG
- Metadata Standards WG
- Practical Policy WG
- PID Information Types WG
- Data Type Registries WG
- Metadata IG
- Big Data Analytics IG
- Data Brokering IG

- ***Form the Foundation for RDA Community Impact!***
- ***... envisioned as accelerants to data sharing practice and infrastructure in the short-term*** with the overarching goal of advancing global data-driven discovery and innovation
- RDA Working Group profile:
 - *Short-term: 12-18 months*
 - *Focused efforts with specific actions adopted by specific communities*
 - *International participation*
 - *Open, voluntary, consensus-driven*
 - *Complementary to effective efforts elsewhere*

Outcomes / deliverables:

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



PID information types WG

- *Persistent identifiers (PID) are the core of proper data management and access*
- *.... first solution for standardized PID info types*
- *Later, ... will design and implement an API for interaction with typed information*
- *Automated data management across disciplines and repositories can highly benefit from standardized types*



Data Type Registry WG

- *There are so many data types in use, and new ones are continuously defined in science*
 - *The result is that often researchers see interesting data, but don't know how to open, process or visualize the data*
 - *... implementing a type registry for data, which explains how to open, visualize and process the data*
 - *In 2014 a worldwide setup for a type registry is expected...*

RDA Interest Groups

- *An **Interest Group (IGs)** can be established prior to a Working Group for community discussion of issues and areas that facilitate data-driven research.*
- *IGs are longer-term groups defining common issues and interests.*



Agricultural Data Interoperability IG

Status: Recognised & Endorsed
 The Agricultural Data Interest Group is a domain oriented interest group to work on all issues related to data important for the development of global agriculture. The interest group aims to represent all stakeholders producing, managing, aggregating, sharing and consuming data for agricultural research and innovation.

Agricultural Data Interoperability IG

Big Data Analytics IG

Biodiversity Data Integration IG

Brokering IG

Community Capability Model IG

Data Citation WG

Data Description Registry Interoperability

Data Description Registry Interoperability

Data Citation WG



RDA Outputs .. What's coming in 2014 (1/2)

■ Data Type Registries WG

- Defining a **system of data type registries**
- Defining a formal model for describing types and building a working model of a registry.
- To be **adopted by CNRI**, International DOI Foundation, and used by the Deep Carbon Observatory and others
- (working in conjunction with PID group)
- Scheduled to complete Summer, 2014

■ Persistent Identifier Information Types

- Defining a minimal set of types that must be associated with a PID (e.g. checksum, author). Specifying an API for interaction with PID types
- **Adopted and used by Data Conservancy and DKRZ**
- (working in conjunction with DTR group)
- Scheduled to complete Summer, 2014



■ Metadata Standards

- Creating **use cases and prototype directory** of current metadata standards from starting point of DCC directory and stakeholder contributions.
- To be **hosted and used by JISC, DataOne** and others
- Scheduled to complete Fall, 2014

RDA Outputs .. What's coming in 2014 (2/2)

■ Language Codes

- Operationalization of **ISO language categories for repositories**
- Adopted and used by the **Language Archive, PARADISEC**
- Proposal of data categories associated with the CMDI schema as ISO standards.
- Scheduled to complete Fall, 2014



■ Data Foundations and Terminology

- Defining a **common vocabulary for data terms based on existing models**.
- Creating formal definitions in a structured vocabulary too which also provides an open registry for data terms.
- (active input from all RDA WGs)
- Tested and adopted by **EUDAT, DKRZ, Deep Carbon Observatory, CLARIN, EPOS**, and others
- Scheduled to complete Summer, 2014

■ Practical Code policies (rules)

- Survey of **policies in production use across data management centers**. Test bed of machine-actionable policies (IRODS, DataVerse, dCache) at RENCi, DataNet Federation Consortium, CESNET, Odum Institute.
- **Deployment of 5 policy sets** (integrity, access control, replication, provenance / event tracking, publication) on test beds. Publication of standard policies for use as starter kits.
- Scheduled to complete Summer, 2014

RDA Plenary Meetings ...

✓ Working & interest groups get together and hold face-to-face discussions

✓ New groups proposals & Birds of a Feather

✓ RDA member networking

✓ Co-located events

Plenary 1 – 18- 20 March 2013 Göteborg, Sweden

- 240 participants
- 3 WG, 9 IG



Plenary 2 - 18-20 September 2013 in Washington, DC, USA

- 380 participants
- 6 WG, 17 IG, 5 BOF



Plenary 3 - 26-28 March 2014 in Dublin, Ireland

- 490 participants
- 16 WG, 35 IG and 20 BOF meetings
- 10 co-located workshops & meetings



Plenary 4 - 22-24 September 2014 , Amsterdam, Netherlands



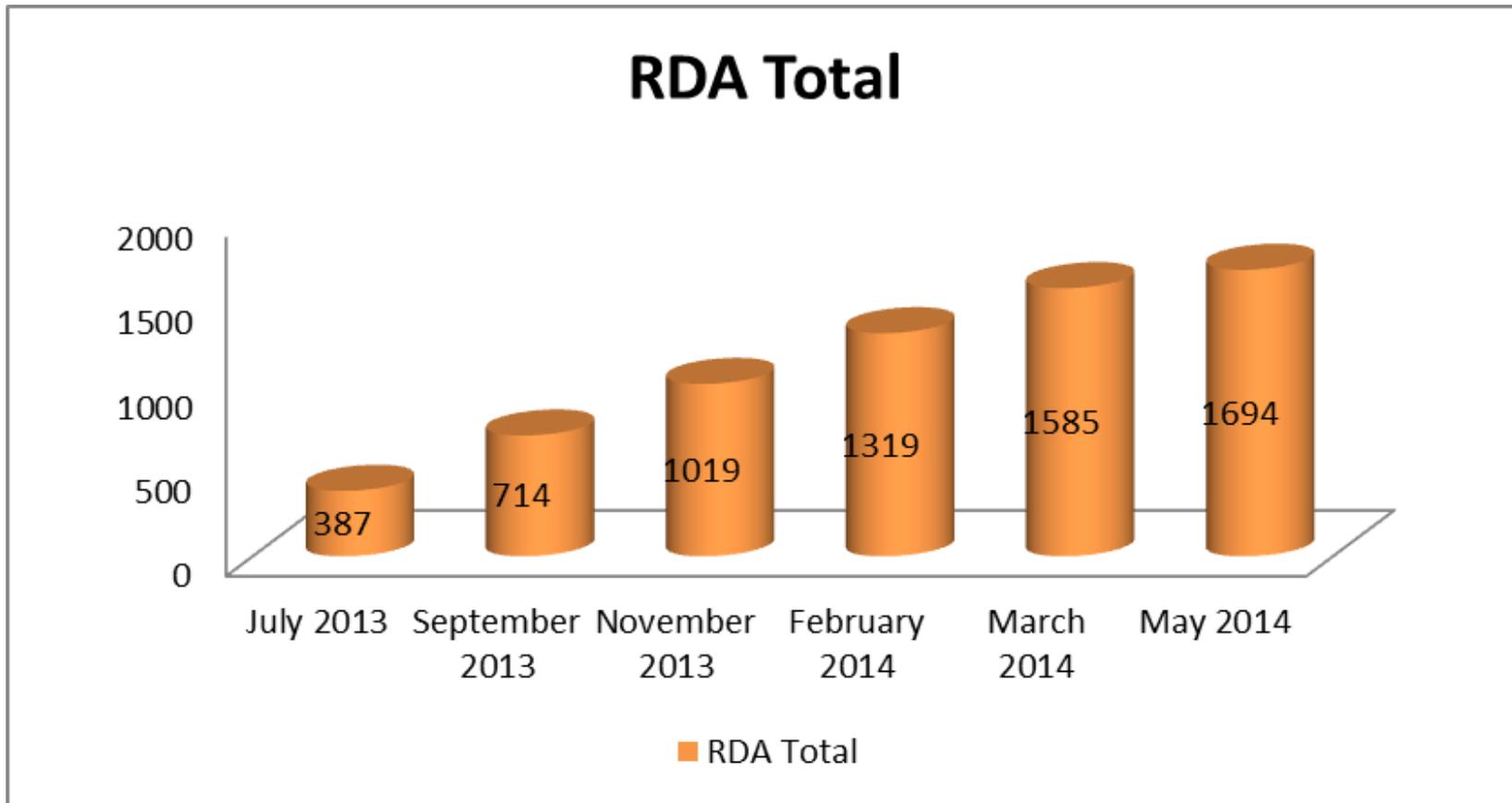
RDA Members – who's engaged?

- Afghanistan
- Argentina
- Armenia
- Australia
- Austria
- Belgium
- Bolivia
- Botswana
- Brazil
- Bulgaria
- Canada
- China
- Congo {Democratic Rep}
- Costa Rica
- Croatia
- Cuba
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Ghana
- Greece
- Hungary
- Iceland
- India
- Ireland {Republic}
- Israel
- Italy
- Japan
- Kenya
- Korea South
- Lithuania
- Malaysia
- Mexico
- Mozambique
- Nepal
- Netherlands
- New Zealand
- Niger
- Nigeria
- Norway
- Pakistan
- Palestine
- Philippines
- Poland
- Portugal
- Qatar
- Romania
- Russian Federation
- Senegal
- Serbia
- Singapore
- Slovenia
- South Africa
- Spain
- Sudan
- Sweden
- Switzerland
- Taiwan
- Tanzania
- Turkey
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- Uruguay
- Vatican City
- Venezuela

~1694 members
from
73 countries

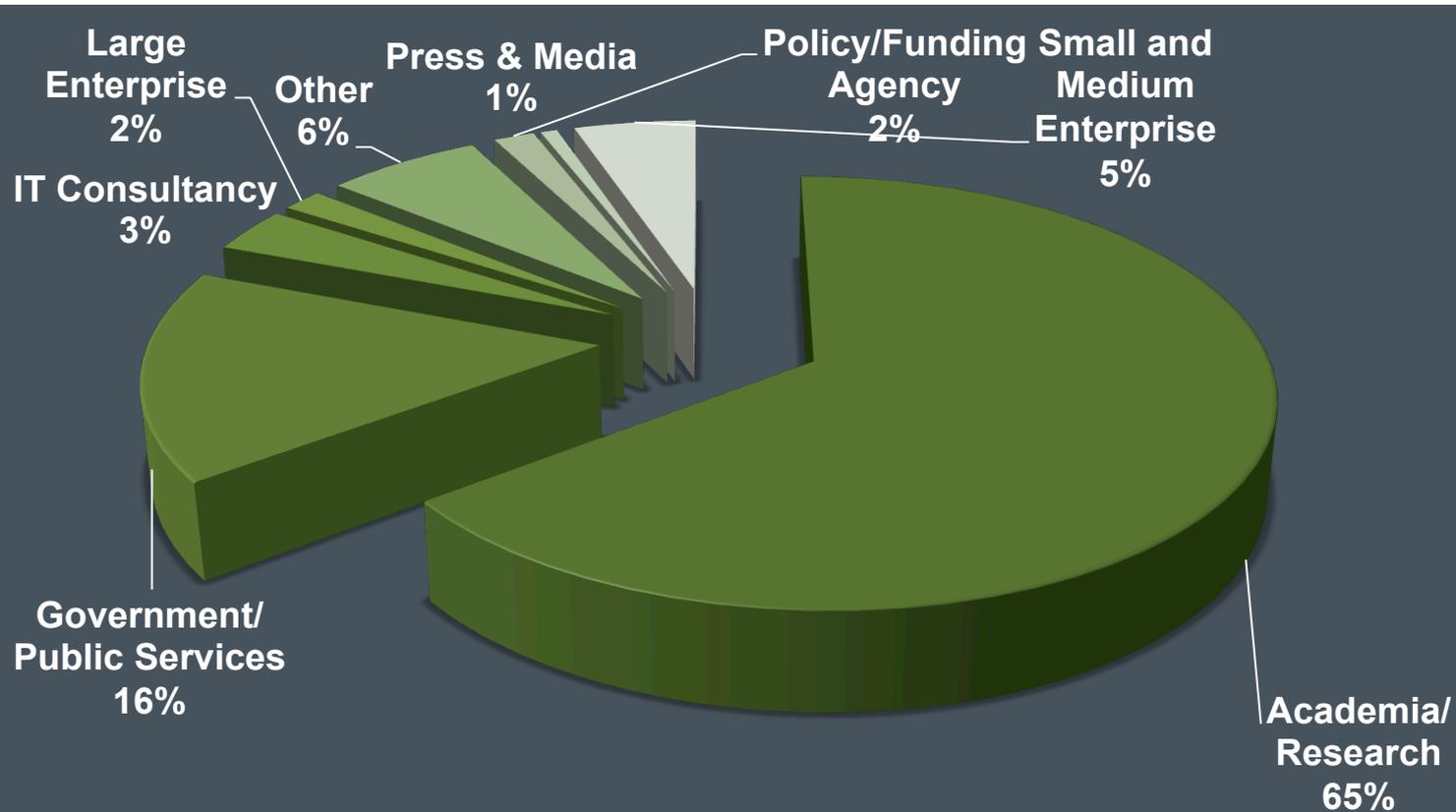
Region	MARCH 2014	%
EU	823	49%
AU	62	4%
US	620	37%
Others	189	11%
TOTAL	1694	

RDA MEMBERS – HOW ARE THEY GROWING?



RDA MEMBERS – what type of organisations...?

Academia/Research	1096	Other	110
Government/Public Services	273	Policy/Funding Agency	29
IT Consultancy/Development	58	Press & Media	12
Large Enterprise	29	Small and Medium Enterprise	87



How can you become a member?

- *Register to the on-line community and become a Member of RDA.*
- *No fees involved for individual participation.*
- *Membership is open to any individual who subscribes to the RDA Guiding Principles.*
- *As a Member one may join and form Working and Interest Groups and participate in RDA elections.*
- <https://www.rd-alliance.org/user/register>

Become a member ...

- *Member benefits: join and form Working & Interest Groups, participate in RDA elections, contribute to discussions & debates, comment on emerging groups, attend plenaries, news & updates, etc.*
- *Register to the on-line community and become a Member of RDA - open & free*
- <https://www.rd-alliance.org/user/register>



Can your Organisation become a member?

- ... include R&D agencies, for-profit companies and non-profit foundations, community organizations, institutions, etc. (Annual membership fee based on size of organisation (# persons))

Why should it become a member?

- Affiliation with likeminded organisations to coordinate efforts in mutual areas of interest & to avoid unnecessary duplication ...



Helping you to find,
access, and reuse data



ORCID



research data sharing without barriers
rd-alliance.org



WORLD DATA SYSTEM

The European plug-in to RDA ...

RDA Europe, the European plug-in to the global RDA, supports RDA global and brings European voice to the table

- ✓ *RDA Europe Forum – strategic advice*
- ✓ *RDA Europe Science Workshops – interaction & feedback from target audience*
- ✓ *RDA Europe national & pan-European outreach – to engage new members & disseminate outputs*
- ✓ *RDA Europe policy report – to support European policy-makers & funders*



All the links



RDA Collaborative Web Platform rd-alliance.org

Interaction with RDA enquiries@rd-alliance.org

RDA Europe - rd-europe@rd-alliance.org | europe.rd-alliance.org

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

Facebook -

<https://www.facebook.com/pages/Research-Data-Alliance/459608890798924>

LinkedIn - www.linkedin.com/pub/research-data-alliance/77/115/7aa/

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

Thank you!

