International Initiatives on Research Data Management: from Policy to Practice

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STFC - Head Data Division

RCUK - Chair Data Policy sub-Group

RDA - Chair Organisational Advisory Board

E-IRG

~~Amsterdam, 3 December 2012~~

Athens, 9 June 2014

Overview

- Policy Context update
  - A quick overview of some recent policy statements

- The Research Data Alliance
  - What is the RDA?
  - Where are we now?
  - What's next?

The Policy Context

- **OECD, 2004-2006**
  - Principles and *Guidelines* for Access to Research *Data* from *Public* Funding

- **EC, 2007-2012**
  - Recommendation on access to and preservation of scientific information

- **G8+5, 2011-2012**
  - Global Research Infrastructure Sub Group on Data

- **Research Councils UK, 2011**
  - Joint Principles on Data

- **Royal Society, 2011-2012**
  - Science as an Open Exercise

- **US OSTP (2013)**
  - **Increasing Access to the Results of Federally Funded Scientific Research**

- **G8 Science Ministers Statement (2013)**
  - **Open Scientific Research Data**

The views expressed herein are the personal views of the author and do not necessarily reflect the views of the policy makers

Research Drivers

- National Academy of Science (2009).
  - researchers should make research data, methods, and other information integral to their publicly reported results publicly accessible, in a timely manner, **to allow verification of published findings and to enable other researchers to build on published results**, ….

- Royal Society (2012)
  - Open inquiry is at the heart of the scientific enterprise. Publication of scientific theories - and of the experimental and observational data on which they are based - **permits others to identify errors, to support, reject or refine theories and to reuse data for further understanding and knowledge.** Science's powerful capacity for self-correction comes from this openness to scrutiny and challenge.

What is meant by Data

US OSTP:

"data is defined …

- as the digital recorded factual material commonly accepted in the scientific community as **necessary to validate research findings** including data sets used to support scholarly publications,

  - but does *not* include laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens.

What is meant by openness

Royal Society:

"*Intelligent openness*"

- ***Discoverable*** – readily found to exist by online search
- ***Accessible*** – when discovered they can be interrogated
- ***Intelligible*** – they can be understood
- ***Assessable*** – the reliability of their source can be evaluated
- ***Useable*** – they can be re-used

Some quotes

OECD (2004-7)

- Publicly-funded research data are a public good, produced in the public interest
- Publicly-funded research data should be openly available to the maximum extent possible

EC (2012)

- …research data that result from publicly funded research become publicly accessible, usable and re-usable through digital e-infrastructures. …

US OSTP (2013)

- digitally formatted scientific data resulting from unclassified research supported wholly or in part by Federal funding should be stored and be publicly accessible to search, retrieve, and analyze.
- Increasing access to research data prevents the duplication of effort, provides accountability and verification of research results, and increases opportunities for innovation and collaboration.

G8 Ministerial Statement (2013)

- We are committed to openness in scientific research data to
  - speed up the progress of scientific discovery,
  - create innovation,
  - ensure that the results of scientific research are as widely available as practical,
  - enable transparency in science and engage the public in the scientific process.
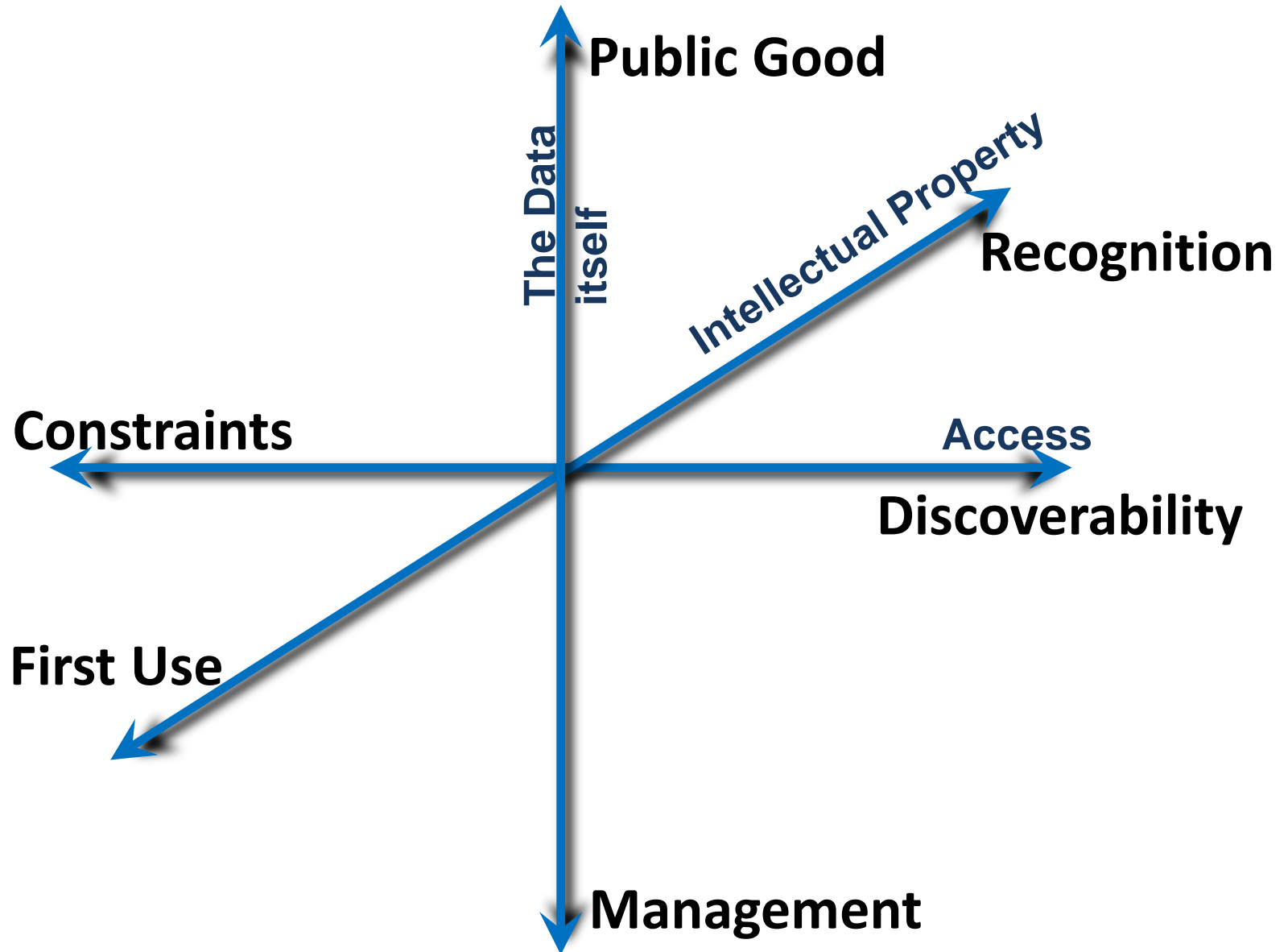
3 Dimensions of Policy

RCUK Principles on Data Policy (paraphrased):

1. Data are a public good….

2. Data should be managed…

3. Data should be discoverable…

4. There may be constraints…

5. Originators may have first use…

6. Reusers have responsibilities…

7. Data sharing is not free…

3 Dimensions of policy

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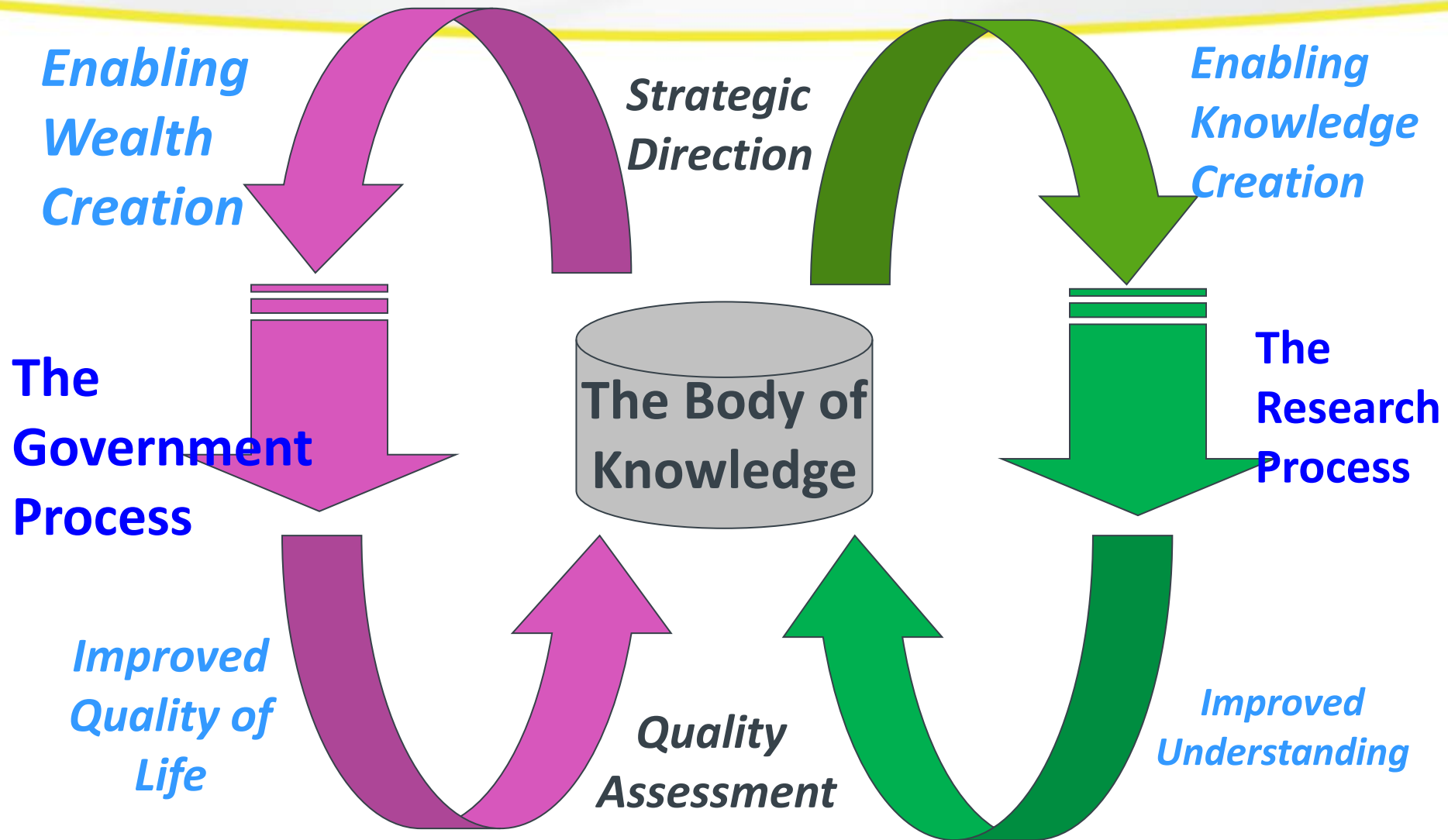
RDA - Vision and Purpose

Vision

Researchers around the world
    sharing and using research data without barriers.

Purpose

... to accelerate international
    data-driven innovation and discovery
by facilitating research data
    sharing *and* ***exchange****,*
    use *and* ***re-use****,*
    standards harmonization*, and* ***discoverability****.*
...through the development and adoption of
infrastructure, policy, practice, standards*, and other*
deliverables.

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RDA
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The Innovation Lifecycle

Enabling Wealth Creation

Strategic Direction

Enabling Knowledge Creation

The Government Process

The Body of Knowledge

The Research Process

Improved Quality of Life

Quality Assessment

Improved Understanding

Aggregation of Knowledge lies at the heart of the innovation lifecycle

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RDA
RESEARCH DATA ALLIANCE

RDA Principles

Openness
- Membership is open to all interested organizations
- Meetings are public
- Processes are transparent
- Products are freely available to the public

Consensus
- RDA moves forward by achieving consensus
- resolves disagreements through appropriate voting mechanisms;

Balance
- Organized on the principle of balanced representation for individual organizations and stakeholder communities;

Harmonization
- Works to achieve harmonization across standards, policies, technologies, tools, and other data infrastructure elements;

Voluntary
- The RDA is not a government organization or regulatory body
- is a public body responsive to its members

Non-profit
- Not a commercial organization and will not design, promote, endorse, or sell commercial products, technologies, or services.

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"Building Bridges"

- Bridges to the future
  - data preservation
- Bridges to research partners
- Bridges across disciplines
- Bridges across regions
- Bridges to integration
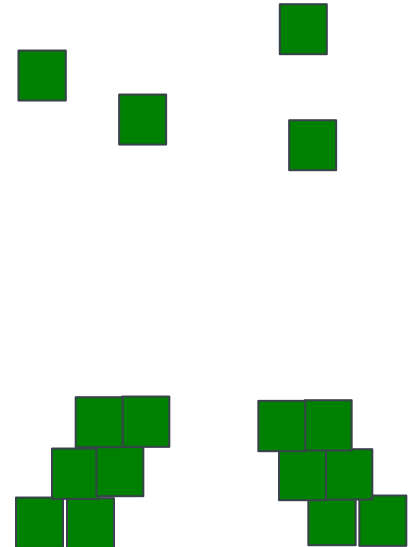
Two types of bridges we can build:

- **Connecting Data**

- **Connecting People**

What kind of organisation do we need to do this?

RDA Organizational Structure Provides Coordinating Framework

RDA Membership

RDA Council
Responsible for overarching mission, vision, impact of RDA

Technical Advisory Board
Responsible for Technical roadmap and interactions

Secretary-General and Secretariat
Responsible for administration and operations

Organizational Advisory Board and Organizational Assembly
Responsible for organizational and strategic advice

Working Groups
Responsible for impactful, outcome-oriented efforts

Interest Groups
Responsible for defining and refining common issues

RDA Colloquium (Research Funders)
Operational and community sponsorship

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RESEARCH DATA ALLIANCE

RDA 1,585 MEMBERS – WHERE ARE THEY FROM?

March 2014

from 71 countries worldwide

ORGANISATION TYPE	Total	%
Academia/Research	1020	64%
Government/Public Services	255	16%
IT Consultancy/Development	53	3%
Large Enterprise	26	2%
Other	110	7%
Policy/Funding Agency	29	2%
Press & Media	11	1%
Small and Medium Enterprise	81	5%
TOTAL	1585	

Region	MARCH 2014	%
EU	774	49%
AU	51	3%
US	592	37%
Others	168	11%
TOTAL	1585	

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RDA 1,585 MEMBERS – HOW ARE THEY GROWING?

March 2014
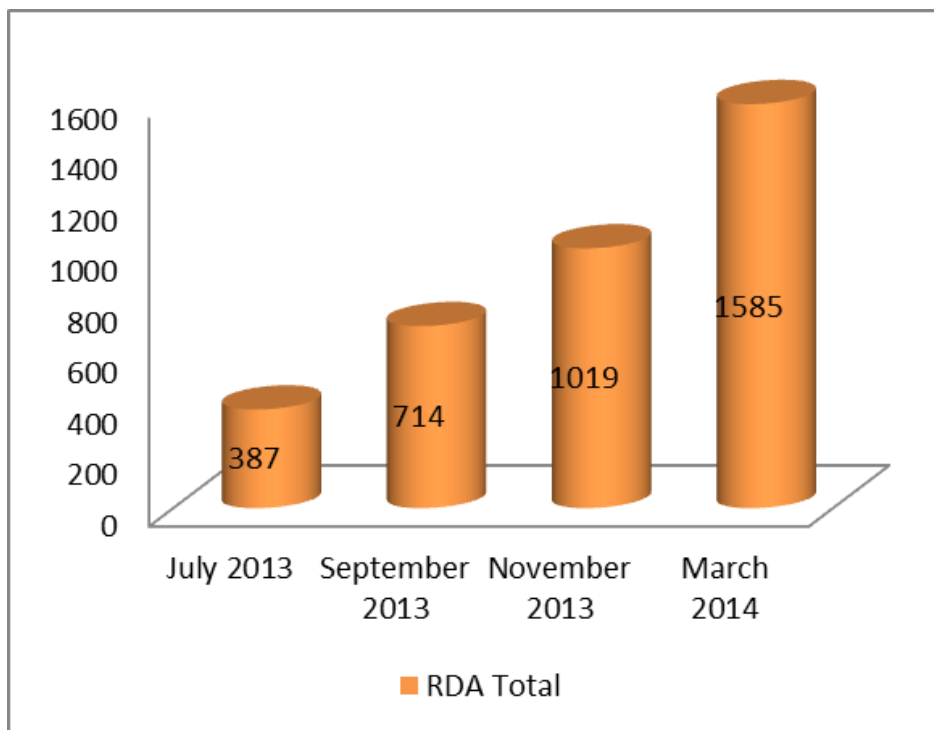
x4 in 9 months!!

Country/ Total	JULY 2013	SEPT 2013	NOV 2013	MARCH 2014
EU	178	271	416	774
AU	11	17	32	51
US	165	370	473	592
Others	33	56	98	168

RDA 1,585 MEMBERS – WHERE ARE THEY ON THE MAP?

March 2014

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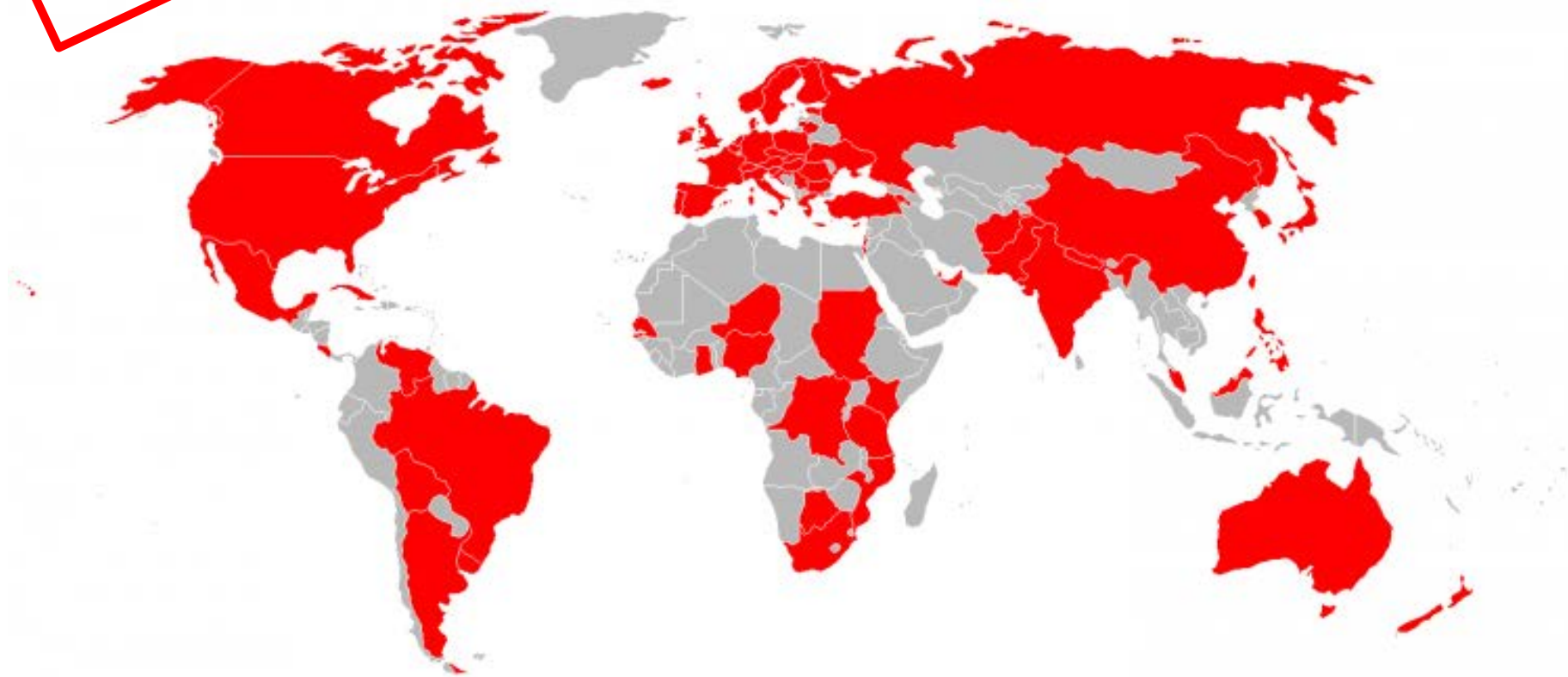
RDA 3rd Plenary - 477 Participants
What do they do?

March 2014

Role	Count
Researcher	85
Programme Manager/Project Manager	62
Professor	41
Policy development manager/Policy…	11
PhD Student / Student	35
Other	83
Librarian	27
Journalist/Editor/Copywriter	6
IT Specialist/IT Architect	53
CTO/IT Director	19
CEO/Managing Director/Chief Executive	33
Advisor/Consultant	22

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RDA 3rd Plenary - 477 Participants
Where are they from?

March 2014

Other
7%

Australia
3%

United
States
16%
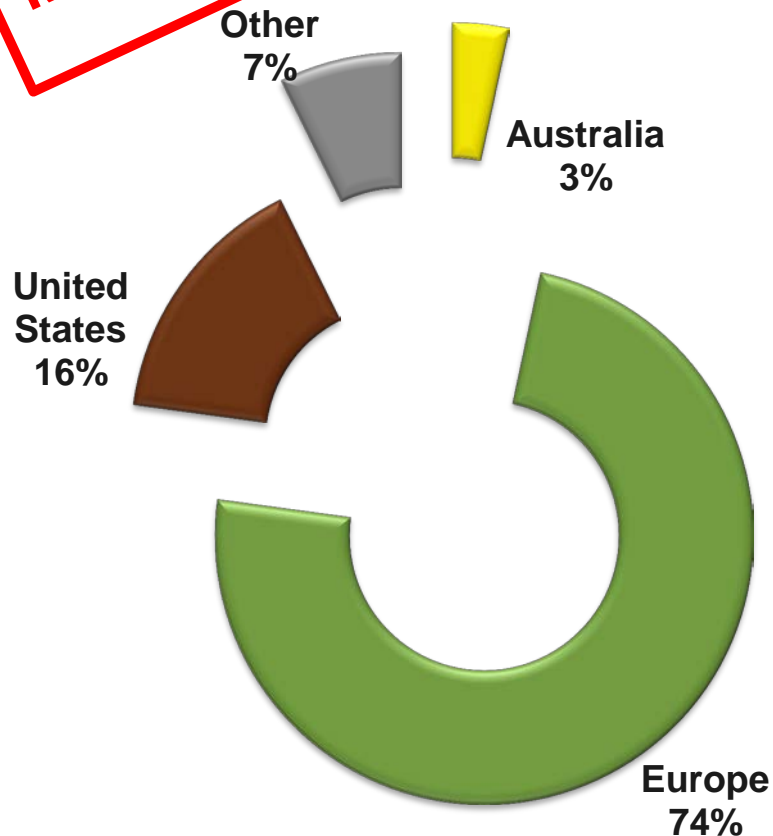
Europe
74%

Australia	16
Europe	352
United States	74
Other	35

477 participants from 36 countries

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RDA Plenary 3 – 477 Participants Registrants by Country

March 2014

Country	Registrants
Australia	15
Austria	3
Belgium	7
Botswana	1
Canada	10
China	4
Croatia	1
Czech Republic	3
Denmark	2
Estonia	4
Finland	15
France	17
Germany	55
Greece	6
India	2
Ireland {Republic}	41
Italy	18
Japan	11
Korea South	2
Lithuania	2
Netherlands	28
New Zealand	1
Nigeria	1
Norway	2
Poland	2
Portugal	1
Romania	1
South Africa	3
Spain	5
Sweden	5
Switzerland	12
Turkey	1
United Kingdom	81
United States	75

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What are they doing now?

June 2014

- ## 10 Working Groups
  - Mostly tech focused, some domain focused
- ## 28 Interest Groups
  - 50/50 Tech and Domain focused
- ## 3 BoFs
  - "cultural"

- ## ~30 Organisational Members
  - poised to join

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Presented at Plenary 1 March 2013

Research Data Alliance @ T=0: Goals, Principles, Component Groups
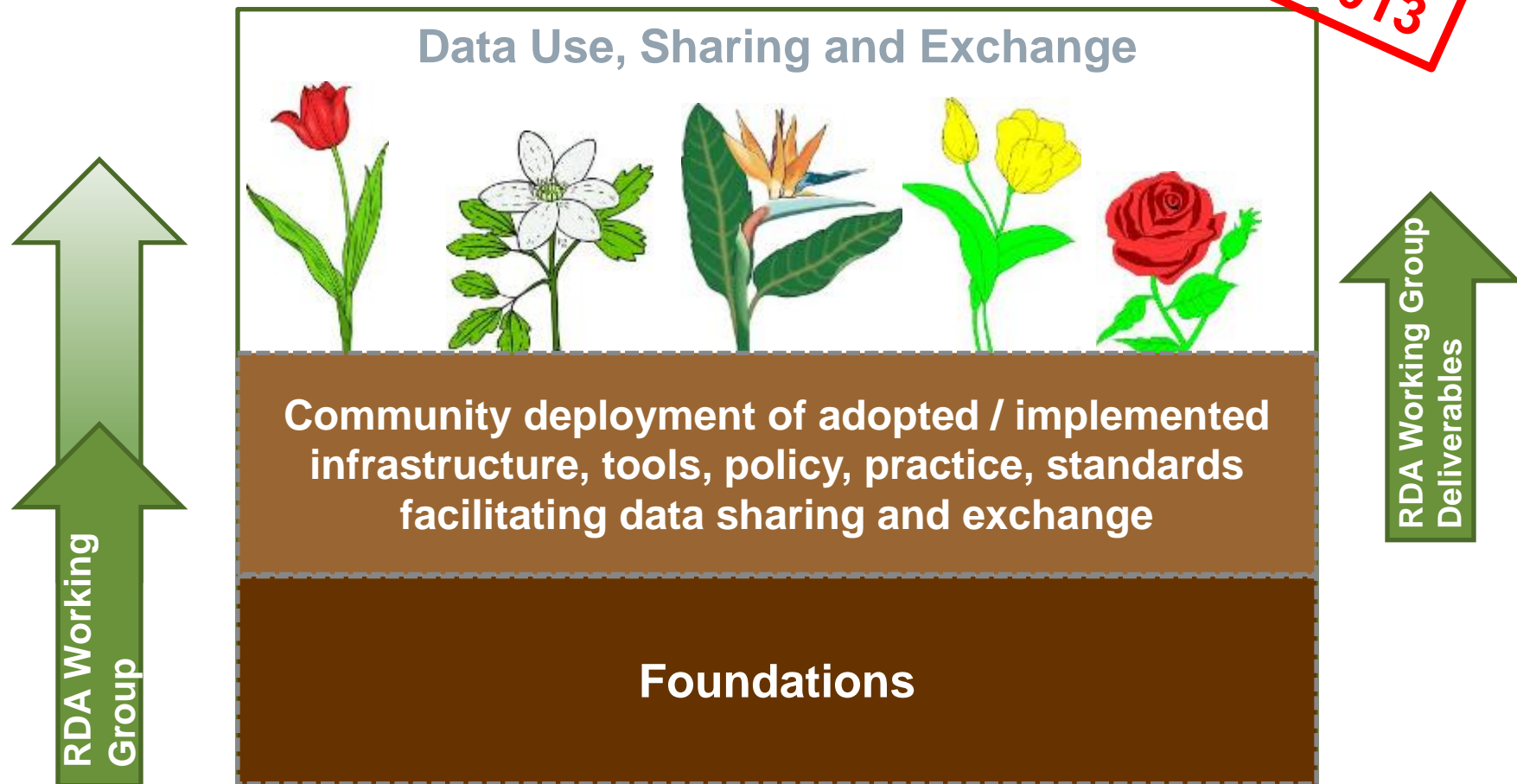
Francine Berman, Ross Wilkinson, Juan Bicarregui

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RDA Working Groups Create Enabling Infrastructure
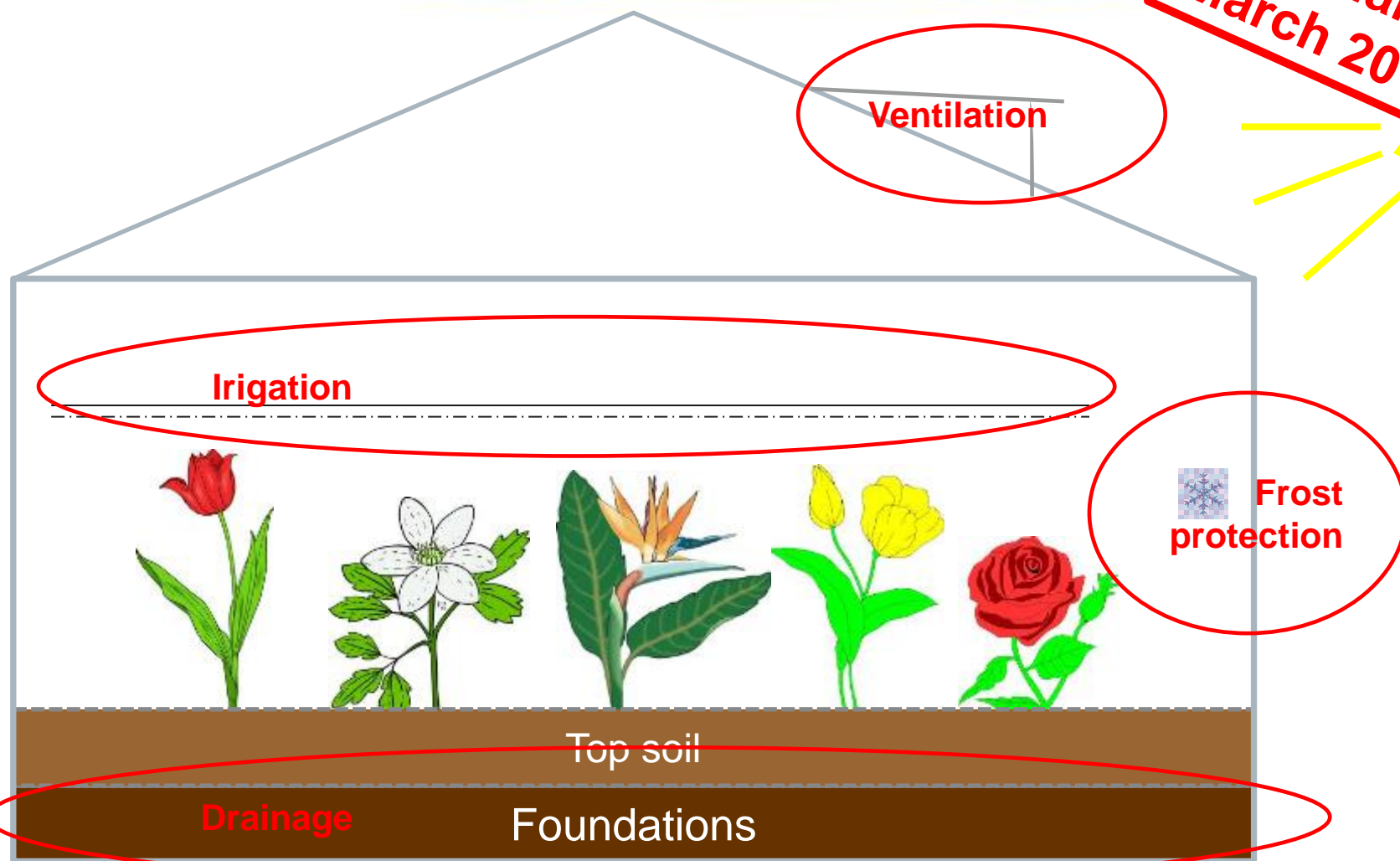
Presented at Plenary 1 March 2013

Data Use, Sharing and Exchange

RDA Working Group

Community deployment of adopted / implemented infrastructure, tools, policy, practice, standards facilitating data sharing and exchange

Foundations

RDA Working Group Deliverables

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Let the flowers grow....

Ventilation

Irigation

Frost protection

Top soil

Drainage   Foundations

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The orchard needs to be managed

June 2014

Toxico genomics

Photon & Neutron

Structural Biology

Applications draw up data from the ground like water

Wheat Interop

History & ethnogr'y

Agricultural

Public Sector info

RDA is the trunk that brings the two together

Federated Ids

Data Types

Technologies make data discoverable and accessible

Data citation

PIds

Data publication

Metadata

Data bibliometrics

Provenance

Semantic Interop

Preservation

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- Expand Regional Representation
- Build a vibrant RDA regionally
  - Including National RDAs?
- Strengthen liaisons and affiliations
  - with related organisations
  - with disciplinary initiatives
  - With industrial members
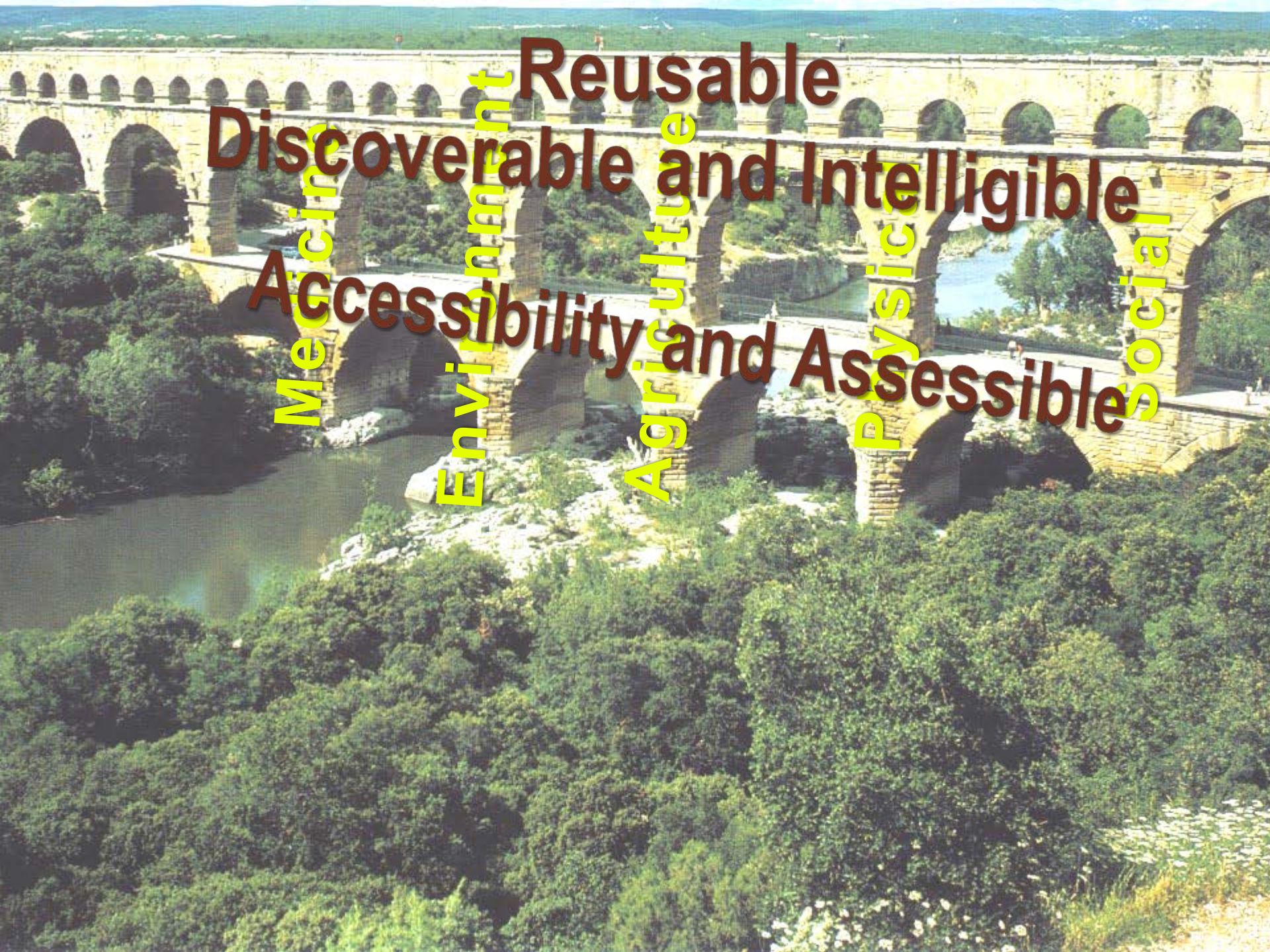- Oil the machine: BoF → IG → WG → Outputs
- Build the Bridge
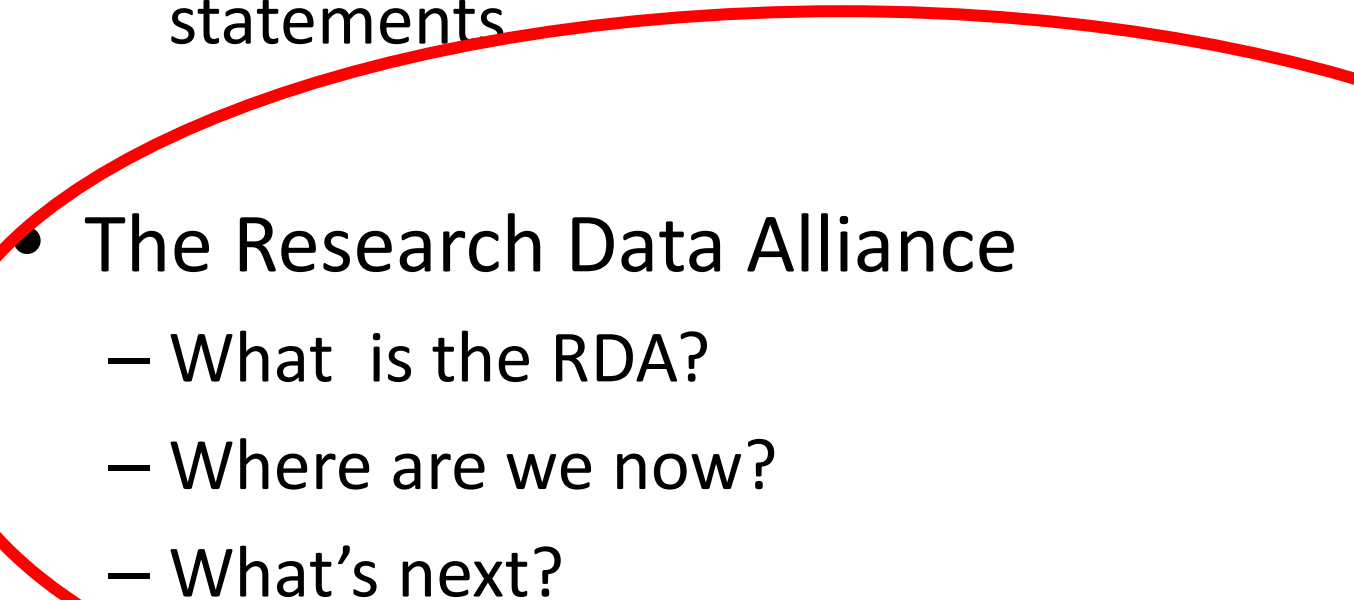
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