



RESEARCH DATA ALLIANCE

RDA: State of the Art WG, IG & BoF

RDA Plenary 8, 2016

Denver

research data sharing without barriers

rd-alliance.org

Research Data Alliance

Vision:

Researchers openly **sharing data** across technologies, disciplines, and countries

Mission:

Building the social and technical **bridges**

Guiding Principles

- Openness
- Consensus
- Balance
- Harmonization
- Community-driven
- Non-profit

> 700 active members

- Working Groups
- Interest Groups
- Plenaries



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28 RDA Working Groups

Experts that are engaged in creating deliverables that will directly enable data sharing, exchange, or interoperability.

- **Concrete problem**
- Short time frame (~18 months)
- Consensus-driven
- **Concrete output** improving data exchange, deliverables
 - Technical specifications and implementation practices,
 - Conceptual models or frameworks,
 - Policies, and
 - Other documents and practices
- Clear adoption by one or more specific communities



Working groups and their deliverables undergo a community review process.

44 RDA Interest Groups

Experts that are engaged in creating deliverables that will directly or indirectly enable data sharing, exchange, or interoperability.

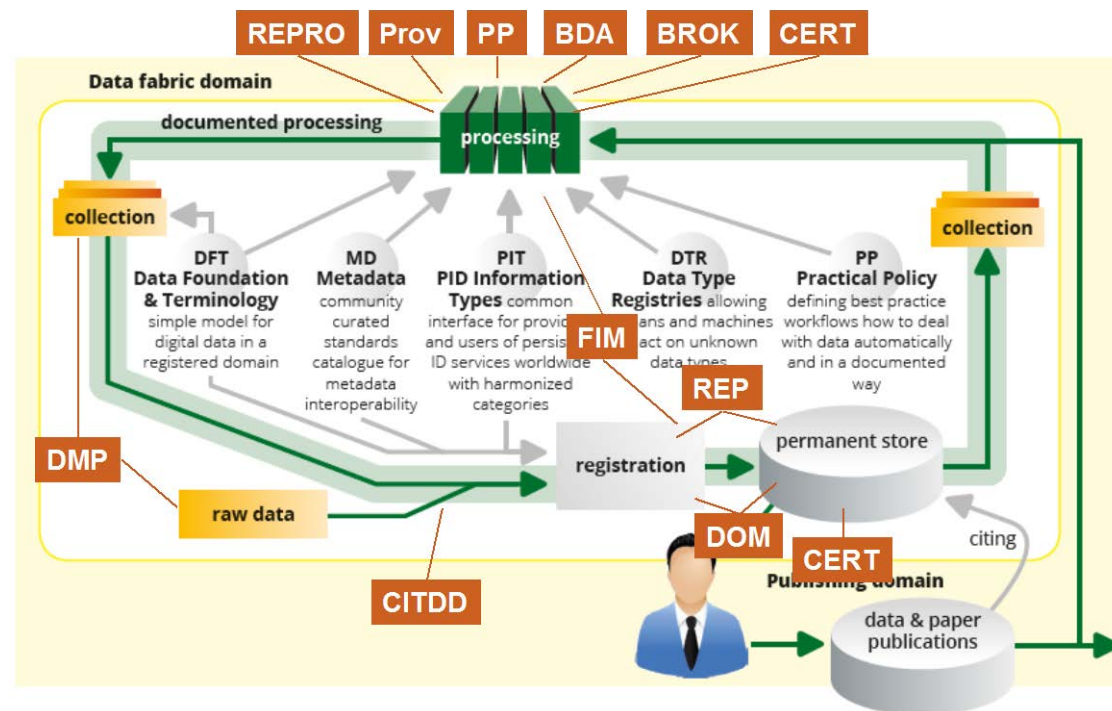
- Group around a common interest
- Exist as long as they are active
- **Coordination and communication**
- Outputs:
 - Platform that leads to the formation of one or more Working Groups
 - Communication and coordination across Working Groups/Interest Groups
 - Communication and coordination with communities outside RDA
 - Important deliverables such as surveys, recommendations, reports



Huge Diversity

Diversity is not chaos!

- Landscape evolution followed by the Technical Advisory Board
- Regular Chair and TAB/Chair meetings
- Many Joint Sessions on topics of common interest
- Bottom-up clustering of groups, e.g.
 - Data Fabric IG
 - Publishing Cluster
 - Metadata & Vocabulary groups



Group Clustering

Solutions

Social

Technical

Beneficiary

Data providers

Data consumers

Group Clustering



Outputs & Benefits

Data Citation

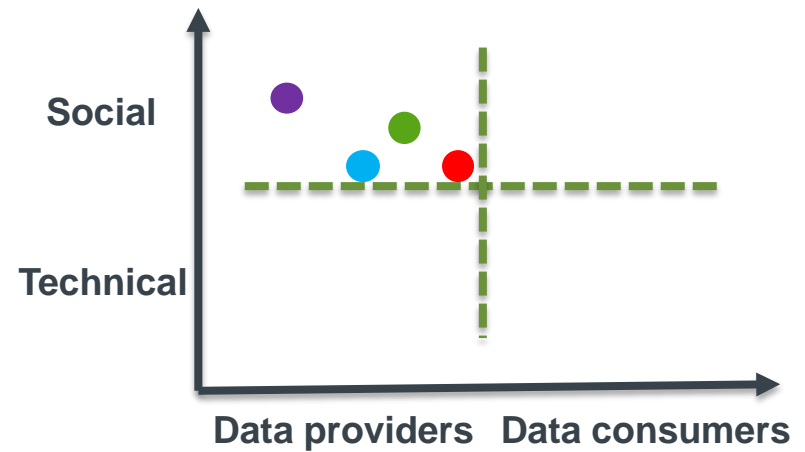
- Cite data that is subjected to change
- All changes are reflected in the citation information that includes a time-stamp & version history

DSA-WDS Repository Audit and Certification

- Convergent DSA-WDS certification standard

RDA/WDS Publishing Data Services

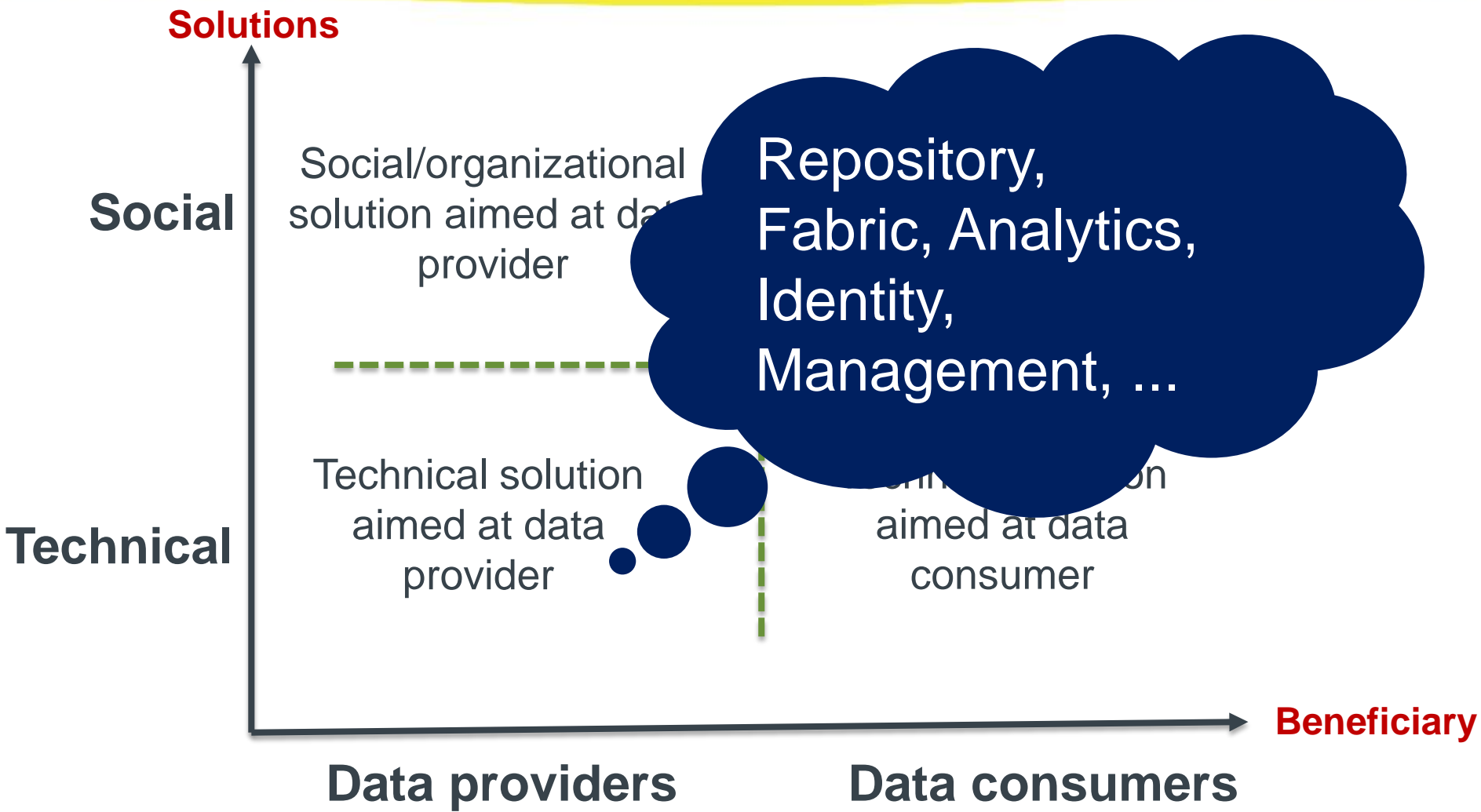
- Universal linking service between data and the scientific literature



Data Foundation & Terminology (DFT)

- Increased cross disciplinary data exchange and interoperability
- Common data model
- Foundational vocabulary and query tool

Group Clustering



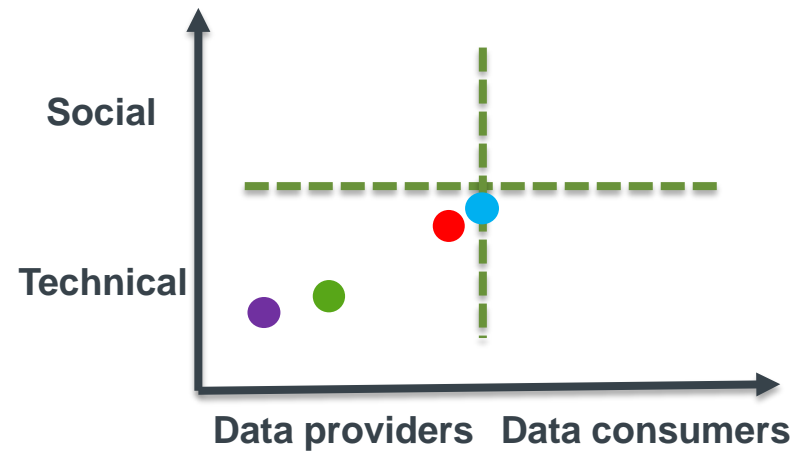
Outputs & Benefits

Data Type Registry

- “MIME-types” for data
- Information for tools to interpret, process, and display data

RDA/WDS Publishing Data Workflows

- Workflows for Research Data Publishing: Models and Key Components:
<http://dx.doi.org/10.5281/zenodo.20308>
- Dataset:
<http://dx.doi.org/10.5281/zenodo.19107>



PID Information Types (PIT)

- Generic API
- Set of basic attributes

Practical Policies

- Template of policy descriptions for automation
- Basic set of 11 policy areas

Group Clustering

Solutions

Interoperability,
Harmonization,
Integration,
Metadata, ...

Social/organizational
solution aimed at data
consumer

Technical solution
aimed at data
provider

Technical solution
aimed at data
consumer

Technical

Beneficiary

Data providers

Data consumers

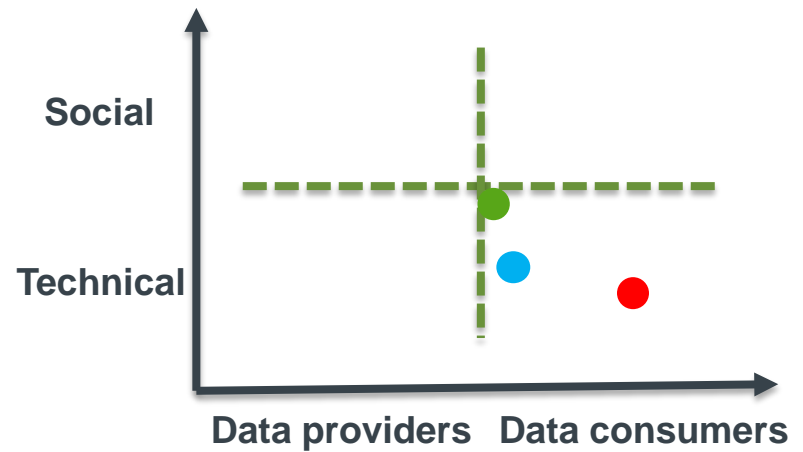
Outputs & Benefits

Data Description Registry Interoperability (DDRI)

- Find connections across research data registries and create global views of research data

Wheat Data Interoperability

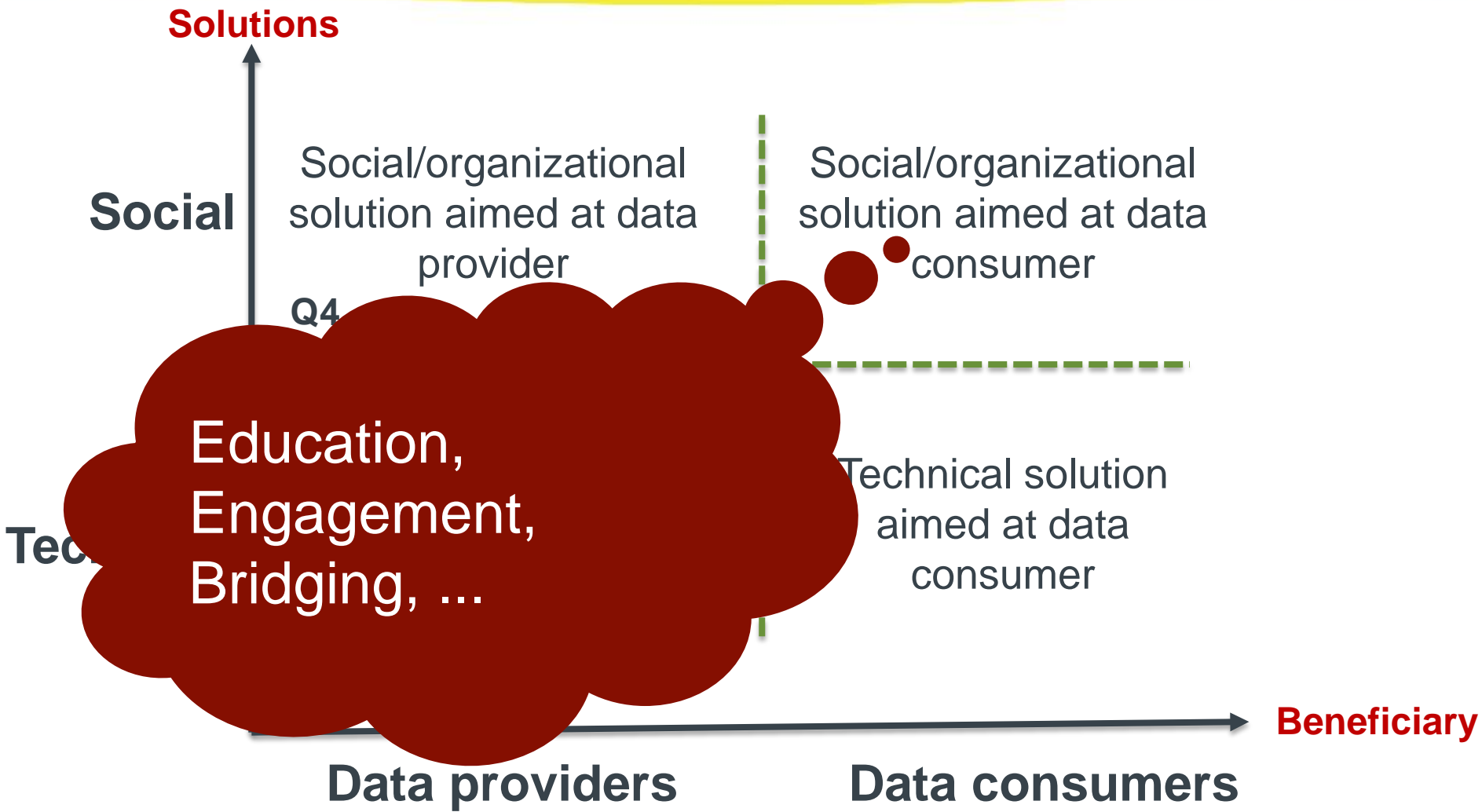
- Framework to support the establishment of a global wheat information system
- Interoperability by:
 - Creating an interoperability framework
 - Providing guidelines on wheat data (cookbook)
 - Repository of linked vocabularies



Metadata Standards Directory

- Community curated standards catalogue for metadata interoperability

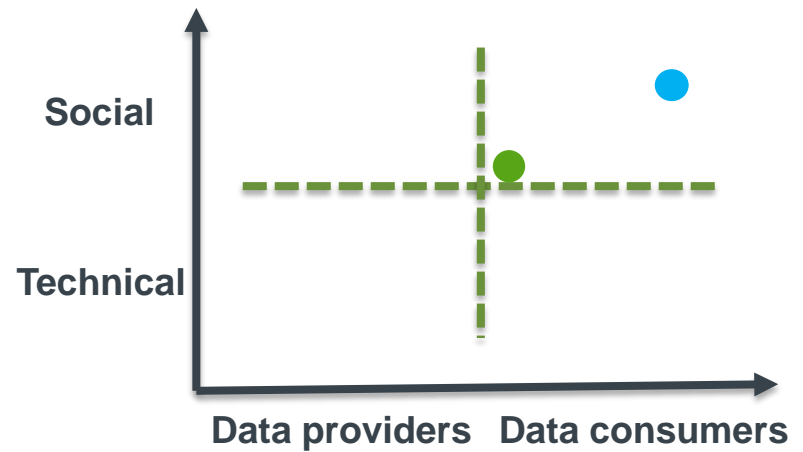
Group Clustering



Outputs & Benefits

RDA/CODATA Summer Schools in Data Science and Cloud Computing in the Developing World

- First summer school course in the data science approaches and skills that are essential for 21st century research



Metadata Standards Directory

- Community curated standards catalogue for metadata interoperability

RDA “Birds of a Feather” at P8

New groups forming:

- BOF Accreditation and certification schemes
- BOF Agile Data Curation
- BOF Data publishing: data usability certification services
- BOF Data Versioning
- BOF Developing International e-Infrastructure for Global Change Research
- BOF Domain Vocabularies
- BOF GEO
- BOF Global Collaborations in Building Research Data Infrastructures
- BOF on Research Data Management Literacy
- BOF Software for Better Description and Retrieval of Online Scientific Data

RDA: Accelerate Data Sharing and Interoperability Across Cultures, Communities, Scales, Technologies

■ **Technical parts of the data engine:**

- Data type registries reference model
- Wheat data interoperability framework

■ **Rules of the road:**

- Common agreement on data citation
- Common practice for data repositories
- Principles of legal interoperability

■ **Better drivers**

- Summer schools in data science and cloud computing in the developing world (with CODATA)
- Active data management plan development and monitoring

Systems
Interoperability



Policy and Practice