

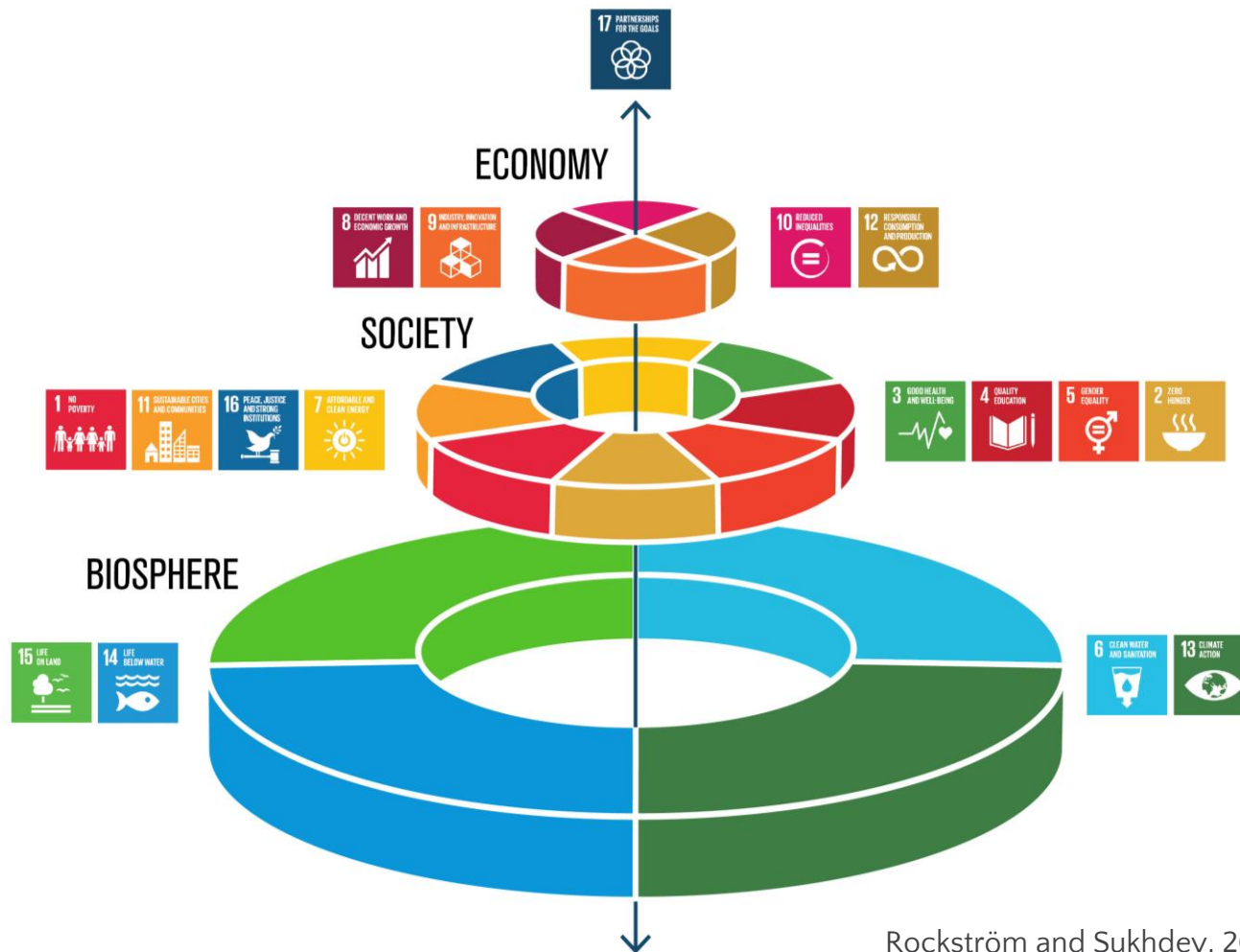
NFDI4Agri – Unlocking agricultural data silos

M.Sc. Florian Hoedt

Photo: Petair / Fotolia

Geospatial Sensing | Virtual 2020
2. September 2020

Example: Food production and the 'Sustainable Development Goals (SDG)'



It's complicated

Provide enough food while:

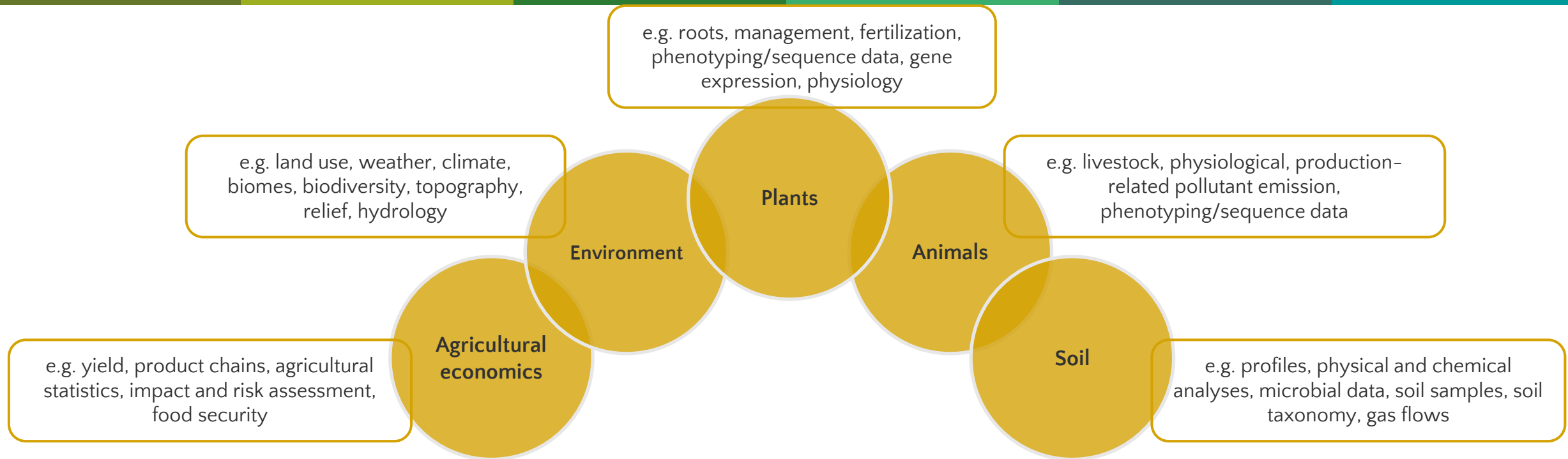
- keeping the environmental impact low
- staying economically reasonable
- being resilient against external factors
- using vast amounts of space
- in a complex (production) system

huge optimization potential
and needs to solve via
>> **science** <<

Rockström and Sukhdev, 2016

- Wide range of heterogenous infrastructures
- Limited/ restricted access to scientific data
- Hard to find
- Low interoperability
- Low level of standardization
- No common policy for sharing and reuse





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- Federated, interoperable and scalable research data infrastructure
- Central access point for interactive and repository spanning search
- Domainspecific measures for quality control
- Privacy and ethical standards and guidelines for handling sensitive data
- A living NFDI4Agri community

Findable 

Accessible 

Interoperable 

Reusable 



Quality assured 

Legally sound 

Scalable 

Long-term preserved 

1 : Project office and coordination

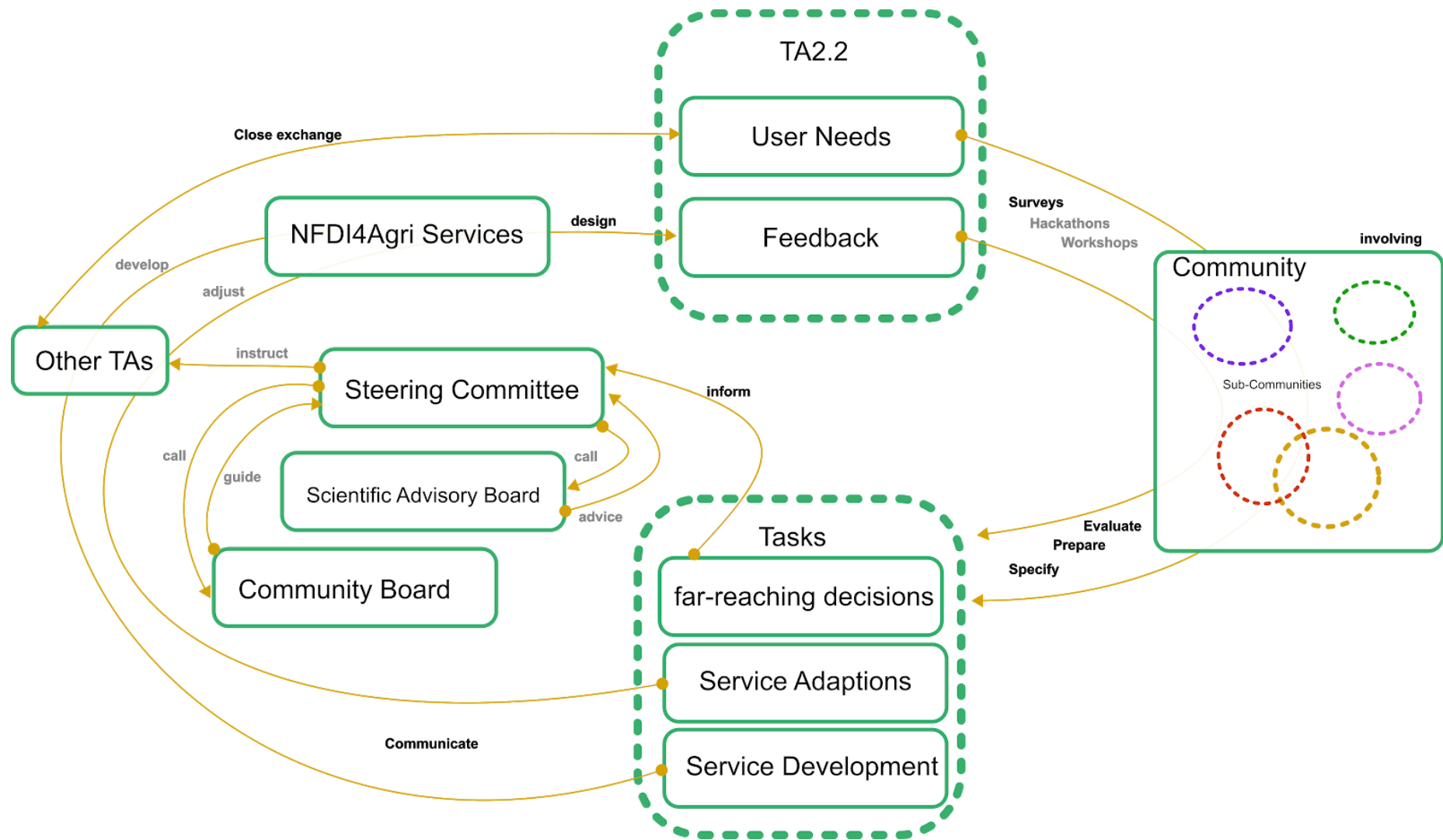
2 : Agricultural Community

3 : Data Fitness for Use in Agricultural Research

4 : Standards and Interoperability - Making Agronomic Data FAIR

5 : Agronomic Data and Infrastructure Services

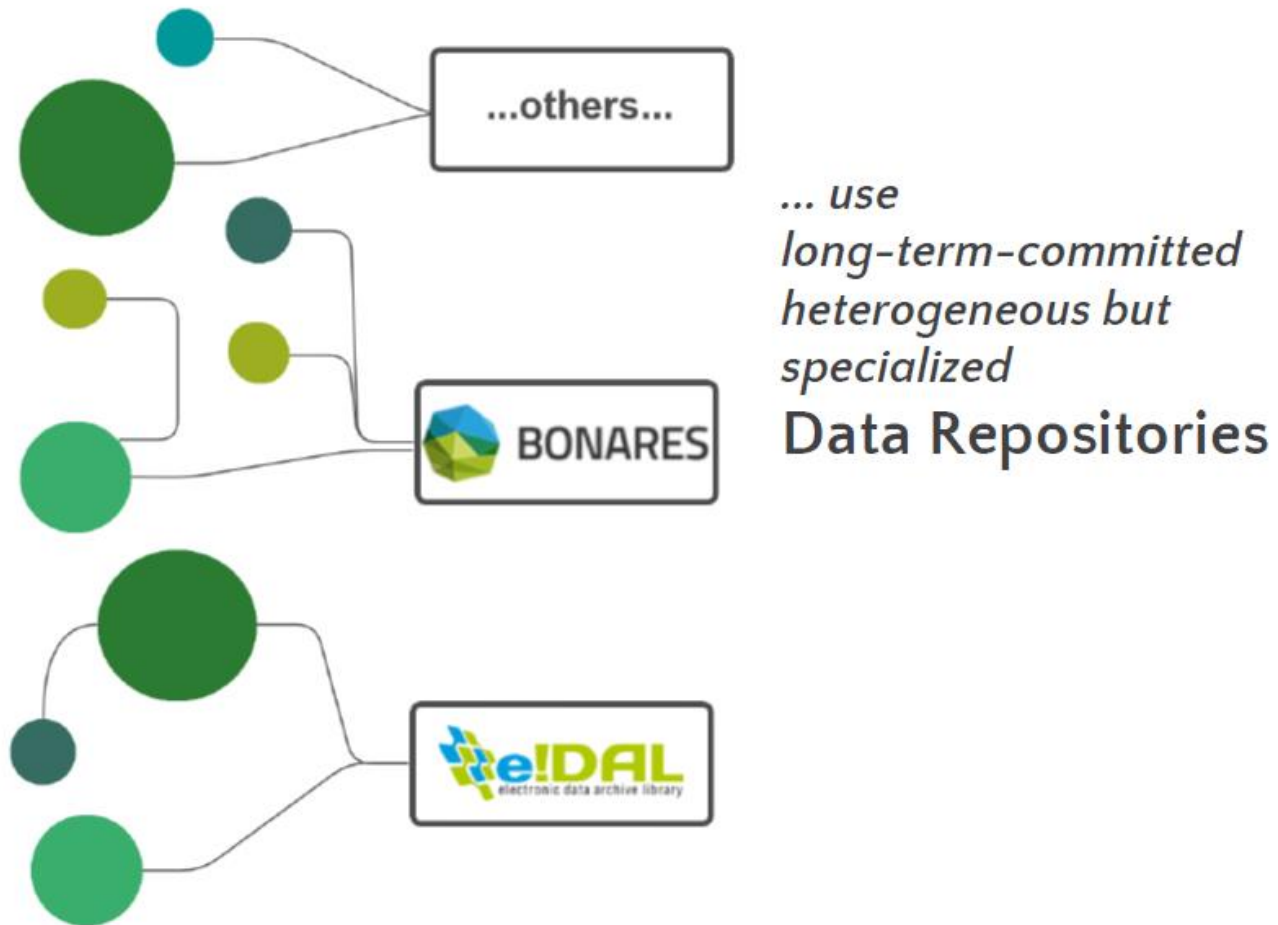
6 : Legal, Ethical and Organizational Aspects



- **Measure 4.1:** Standards for digital resources.
- **Measure 4.2:** Development of domain and overarching models.
- **Measure 4.3:** Interoperable workflows and models for digital resources.
- **Measure 4.4:** Data management and publication standards.

- **Measure 5.1:** Middleware of services for harmonized access to data sources.
- **Measure 5.2:** Searchable inventory of services and data.
- **Measure 5.3:** Open software components for research data management.
- **Measure 5.4:** Integrated data infrastructure to supply data analysis.





*... which we make interoperable by
homogeneous unified*

Data Interfaces & Services

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Components

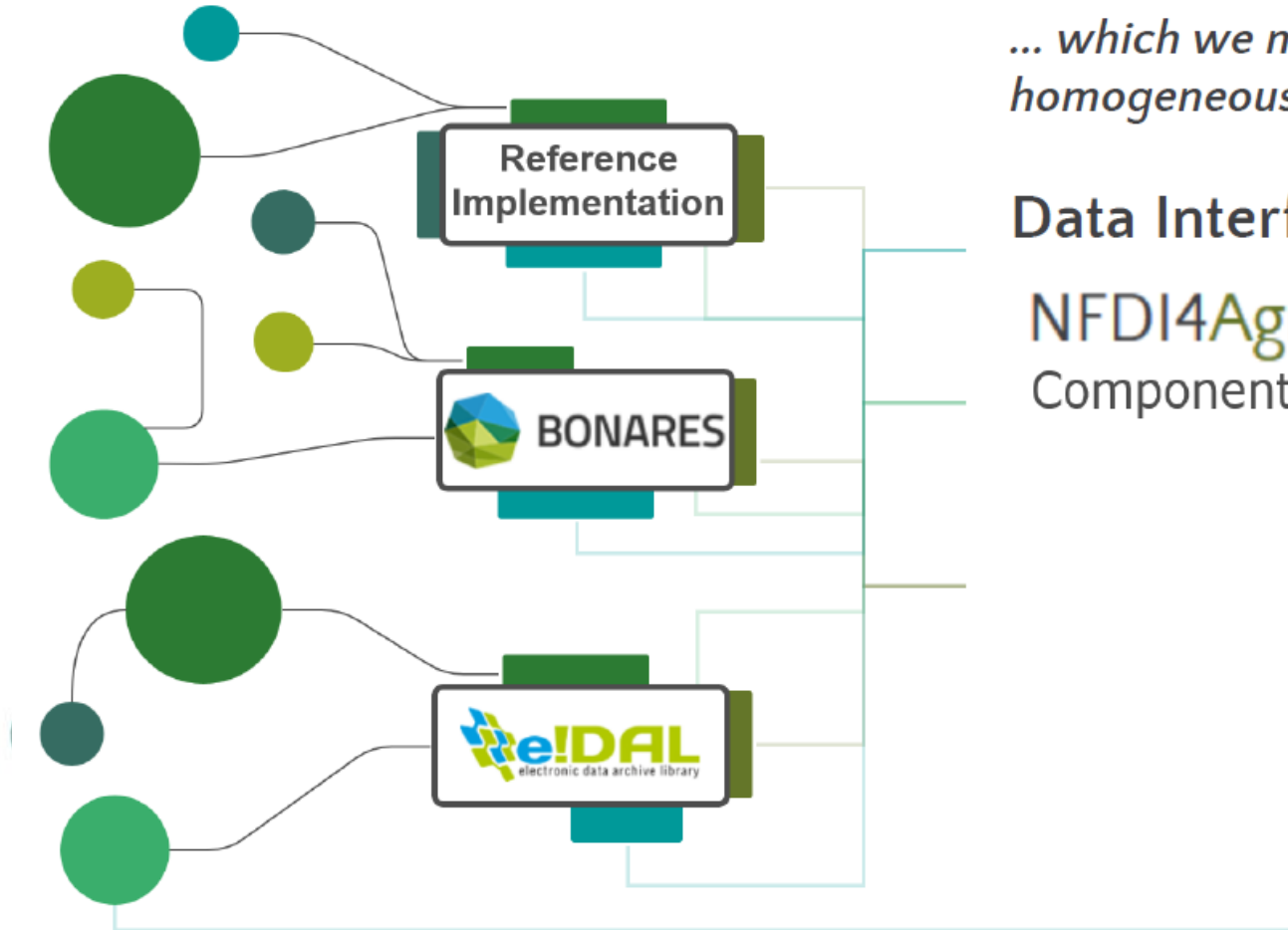
Access Middleware

Search Service

RDM Components

Data Containers

Inventory Service



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Components

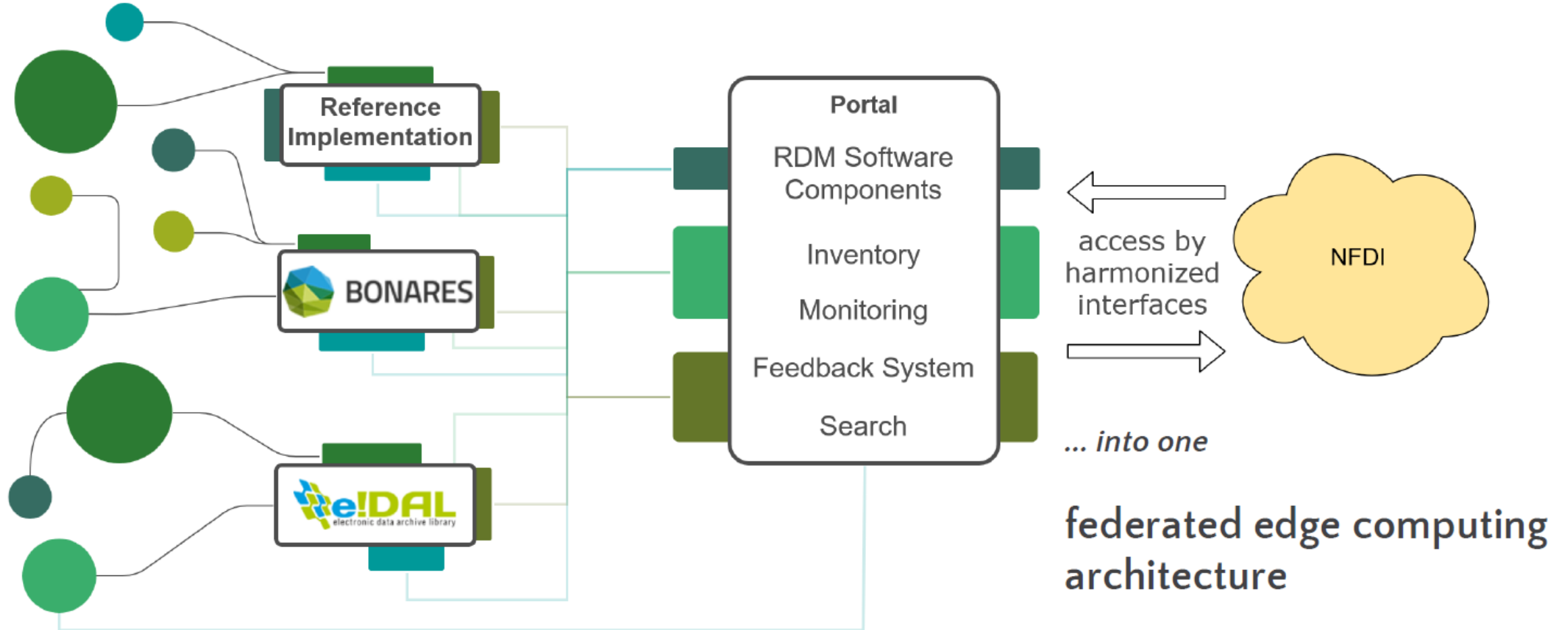
Access Middleware

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RDM Components

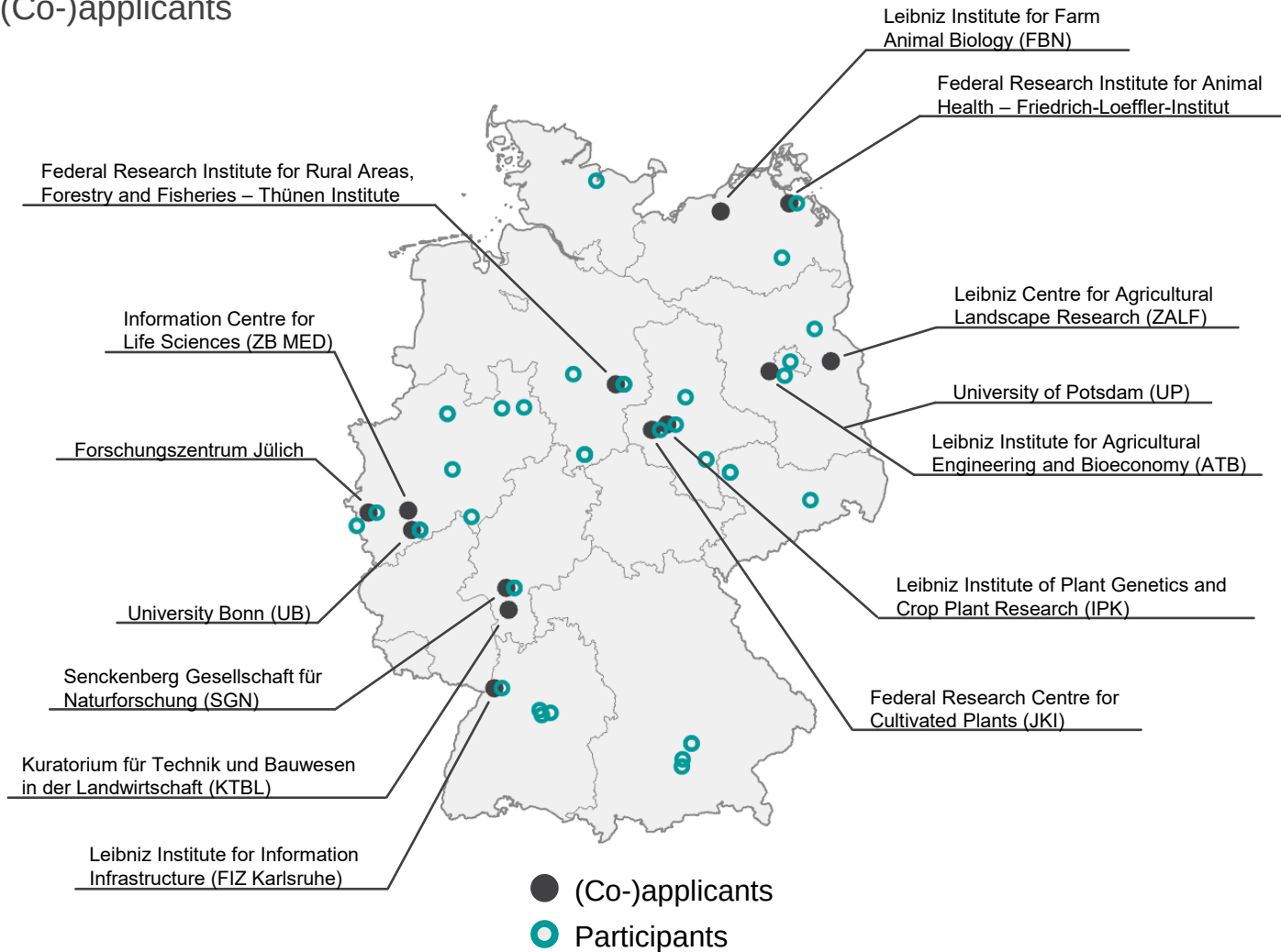
Data Containers

Inventory Service





(Co-)applicants

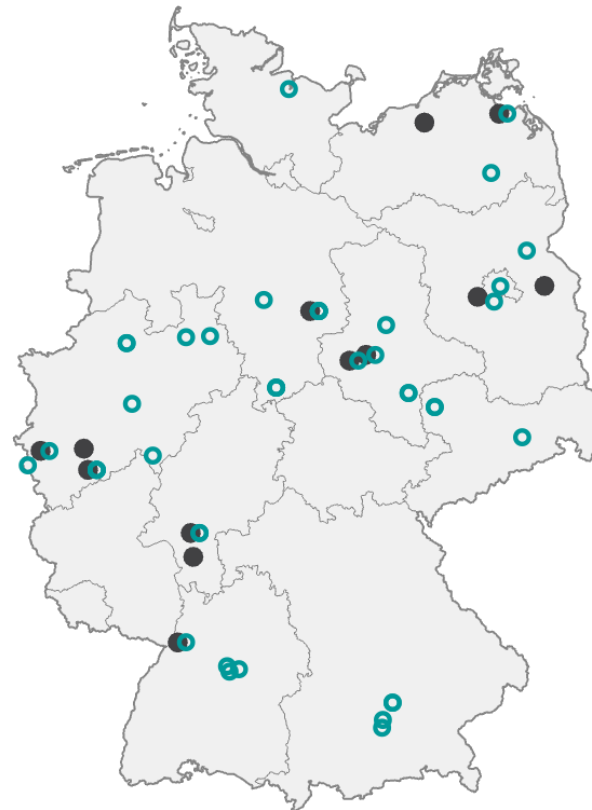


14 (co)applicant Institutions and 44 participants covering:

- universities
- Research organisations: Leibniz, Helmholtz, ...
- Infrastructures: ZB-MED, ...
- Federal research (FLI, Thünen, JKI)
- Scientific organizations

We are an open consortium

- Arbeitsgemeinschaft Hydrogeologie und Umweltschutz (GmbH) (AHU)
- Archives of the Bavarian State (Germany)
- Association for Bioeconomy Research e.V. (FBF)
- Bielefeld University
- Bonn University and State library (ULB Bonn)
- Deutsche Phytomedizinische Gesellschaft e.V. (DPG)
- Deutscher Verband Forstlicher Forschungsanstalten (DCFFA)
- Federal Institute for Risk Assessment (BfR)
- Forschungszentrum Jülich (FZJ)
- German Agricultural Research Alliance (DAFA)
- German Livestock Association e.V. (BRS)
- German Society for Animal Production e.V. (DGfZ)
- German Soil Science Society (DBG)
- Gesellschaft für Ernährungsphysiologie e.V. (GfE)
- Gesellschaft für Informatik in der Land-, Forst- und Ernährungswirtschaft e.V. (GIL)
- Gesellschaft für Pflanzenbauwissenschaften e.V. (GPW)
- Gesellschaft für Tierzuchtwissenschaften e.V. (GfT)
- Graduate Center Weihenstephan (GZW)
- Hans Eisenmann-Forum for Agricultural Sciences (HEF)
- Head Office of the GBV Common Library Network (VZG)
- Helmholtz Centre for Environmental Research (UFZ)
- Helmholtz Zentrum München – German Research Center for Environmental Health, PGSB Plant Genome and Systems Biology



- (Co-)applicants
- Participants

- Hochschule Neubrandenburg
- Julius Kühn-Institut (JKI)
- Karlsruhe Institute of Technology (KIT)
- Kiel University (CAU)
- Landesanstalt für Landwirtschaft und Gartenbau Sachsen-Anhalt (LLG)
- Leibniz Institute of Agricultural Development in Transition Economies (IAMO)
- Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)
- Leipzig University
- Martin Luther University of Halle-Wittenberg (MLU)
- Research Institute of Organic Agriculture (FiBL)
- Section Applied Botany of the German Society for Plant Sciences (DBG)
- Society for Plant Breeding (GPZ)
- South Westphalia University of Applied Sciences
- Technische Hochschule Ostwestfalen-Lippe (TH OWL)
- Technische Universität Dresden
- Thünen Institute (TI)
- Universitätsmedizin Greifswald (UMG)
- University of Bonn
- University of Göttingen
- University of Hohenheim
- University of Münster (WWU)
- University of Siegen

