



# The BonaRes infrastructure for open soil and agricultural research data: basis for efficient data access and reuse

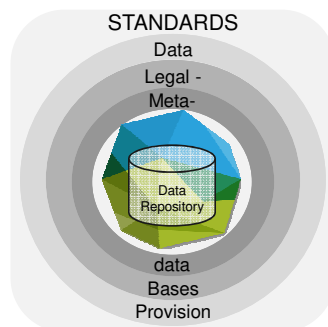
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## Background

The BonaRes Data Centre provides a **repository for soil and agricultural research data** from soil research projects and long-term field experiments (LTFE) in Germany adopting the **FAIR data** principles. Aims are to enable the research community to...

- bring together, upload, describe, distribute, share, and archive their research data
- search, find, reuse and cite well documented, quality assured, interoperable data, metadata and services in a standardized form



## Data Acquisition

- (financial) Support for data preparation (LTFE)
- No specific standards obligatory but: "use standards and document!"
- Transformation between systems (e.g. derivation tools by BGR)

## Data Repository

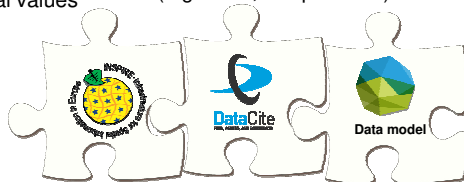
- Relational database (MSSQL)
- Provide long-term data availability
- FME-Tool for import/export data transformation
- First data DOI: January 2018
- Supporting OGC: WMS, WFS, CSW

## (Meta)data quality

- Metadata review
- Automated data checks like
- Software tool for homogenization and quality insurance: the Conformance key
- QA Database with typical values (planned)

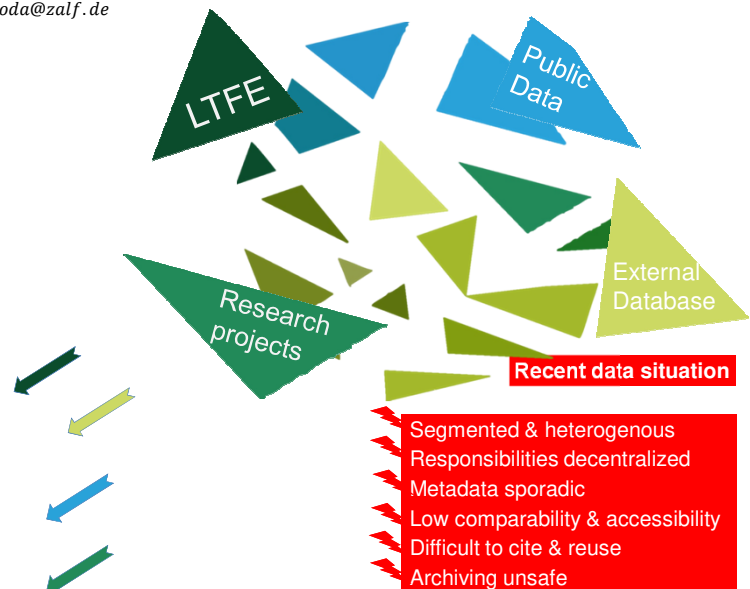
## Metadata

- Data sets must be described by metadata following the BonaRes metadata schema
- External Metadata via harvesting (e.g. BGR, Edaphobase)



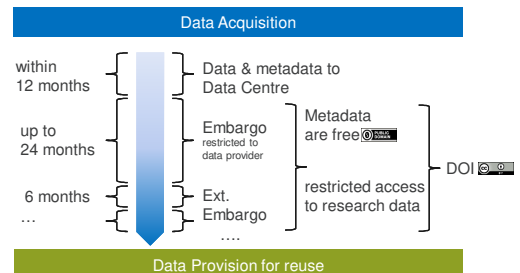
Mapping INSPIRE with DataCite + Data model elements

<https://doi.org/10.20387/BonaRes-5PGG-8YRP>



## Legal Bases: Data guideline

- Embargo: access is restricted to the data provider
- Disclaimer
- Intellectual property rights & right to the first scientific use
- Licence: Creative Commons CC 4.0 (CC0 & CC-BY)



## Data Provision (Data Portal)

- Based on interoperable Service-oriented architecture (SOA)
- Use distributed geo-data on single working desk by WMS services, ArcGIS Server

