



NFDI4BioDiversity - The NFDI consortium for Biodiversity, Ecology & Environmental Data

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Abstract

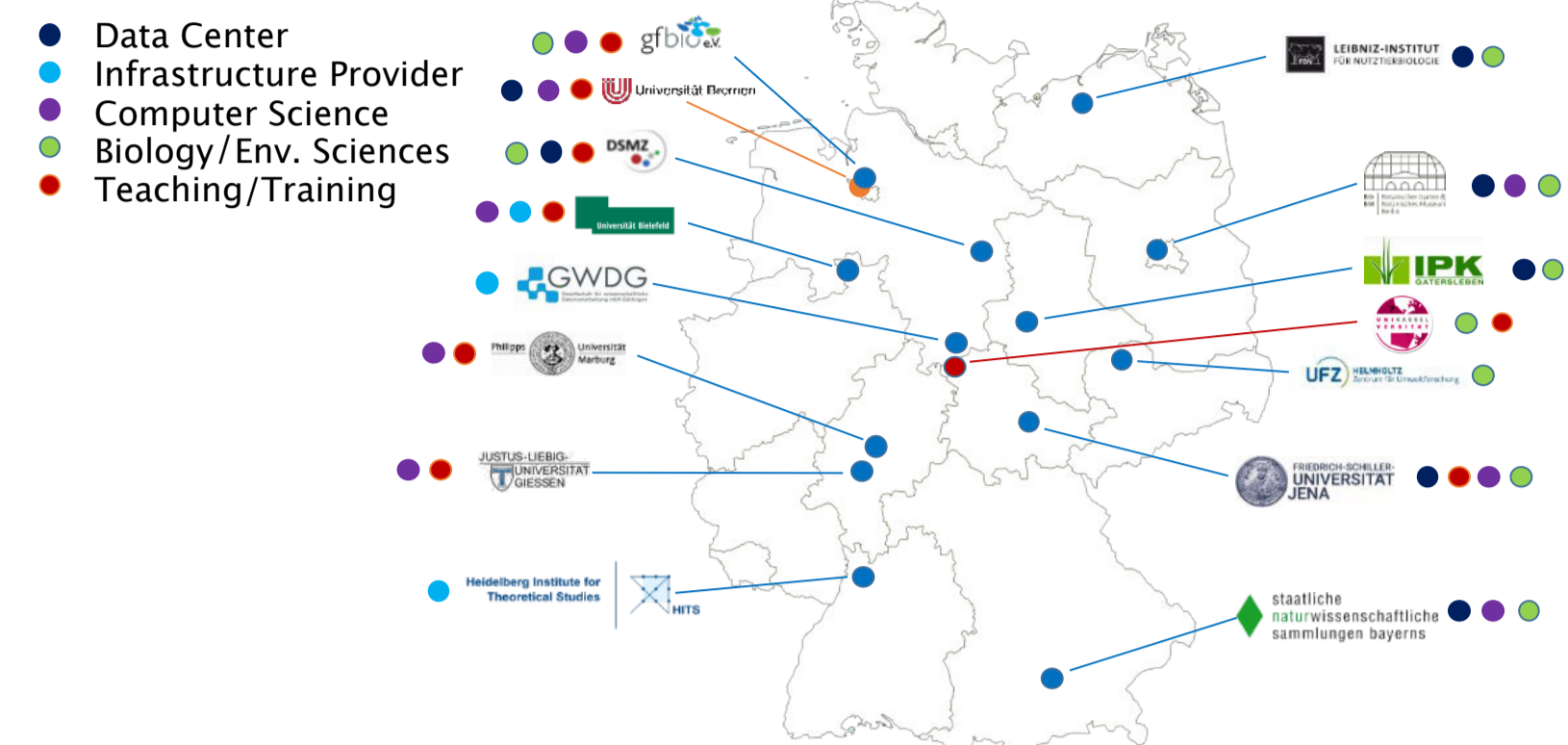
The NFDI4BioDiversity consortium comprises 48 partners ranging from universities, research institutes to authorities and educated societies located throughout Germany; all united in their passion for biodiversity and data.

For us, biodiversity is more than just the diversity of living species. It includes genetic and phenotypic diversity of organisms, functional diversity, interactions and the diversity of populations and whole ecosystems.

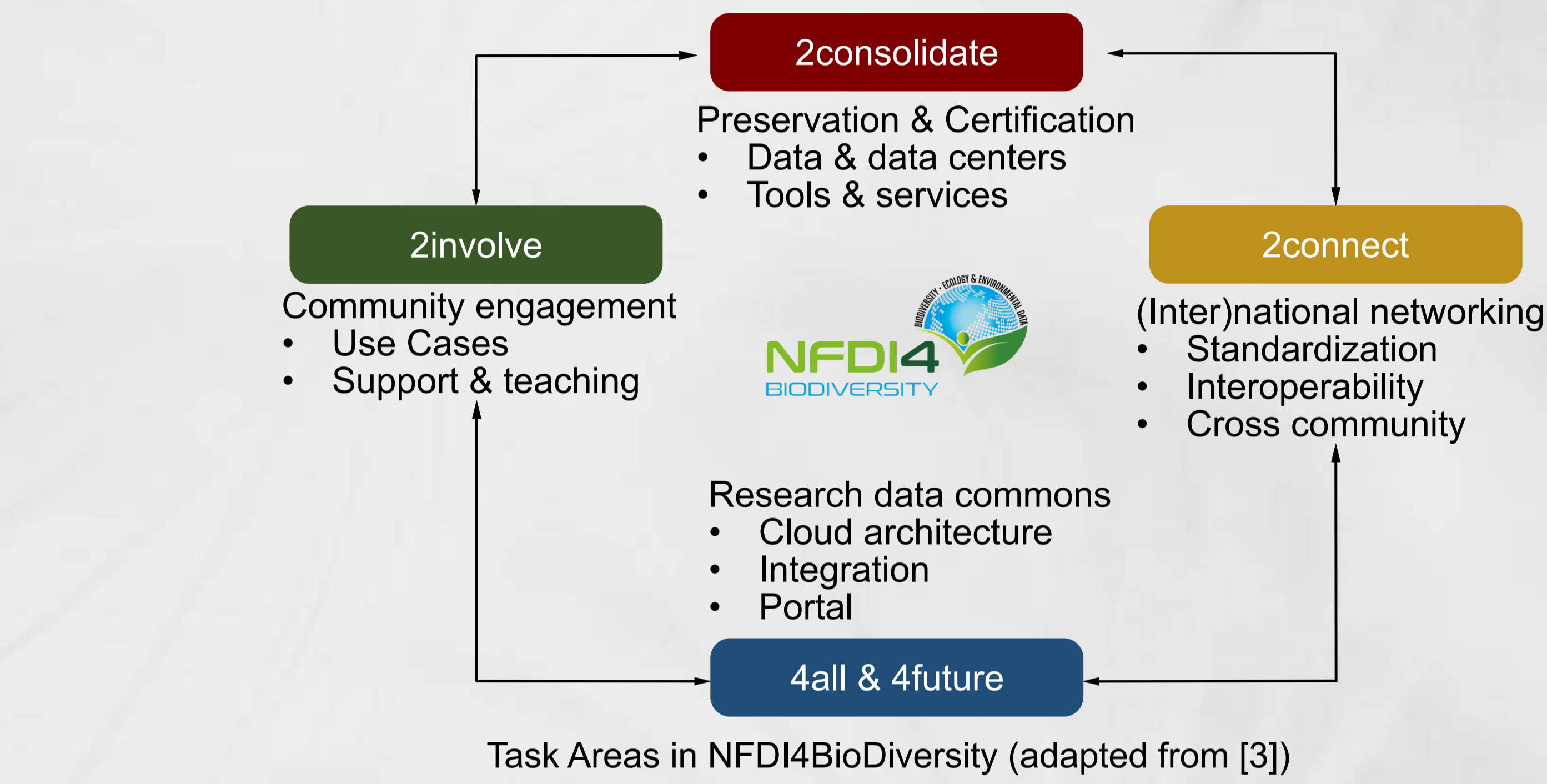
Answers to scientifically and societal relevant questions can only be found based on the availability of quality data integrated from multiple sources. The FAIR (Findable, Accessible, Interoperable, Re-usable) data principles provide a framework towards such data integration [2].

NFDI4BioDiversity is dedicated to deliver practical tools for researchers to mobilise, manage and publish their data in line with the FAIR principles.

We are part of the German National Research Data Infrastructure (NFDI) network (www.nfdi.de).



- Data Center
- Infrastructure Provider
- Computer Science
- Biology/Env. Sciences
- Teaching/Training



Community driven approach

Engaging researchers, authorities, societies, associations and citizen scientists

Innovation to understand and protect biodiversity is driven by participation. In times of global change, biodiversity loss and pandemic threat, there is an enormous potential and interest present in the general public to contribute data and expertise.

By actively involving the communities including authorities, societies, associations and citizen scientists we aim to value & secure expert knowledge, provide visibility & active participation and professionalise data management.

23 Use Cases are central to our bottom-up, community driven approach: They provide a wide range of "hands-on" to "in-silico" approaches to mobilise data for knowledge generation.



Data users search, access, explore, and analyse data via a data portal (as GFBio [4]).

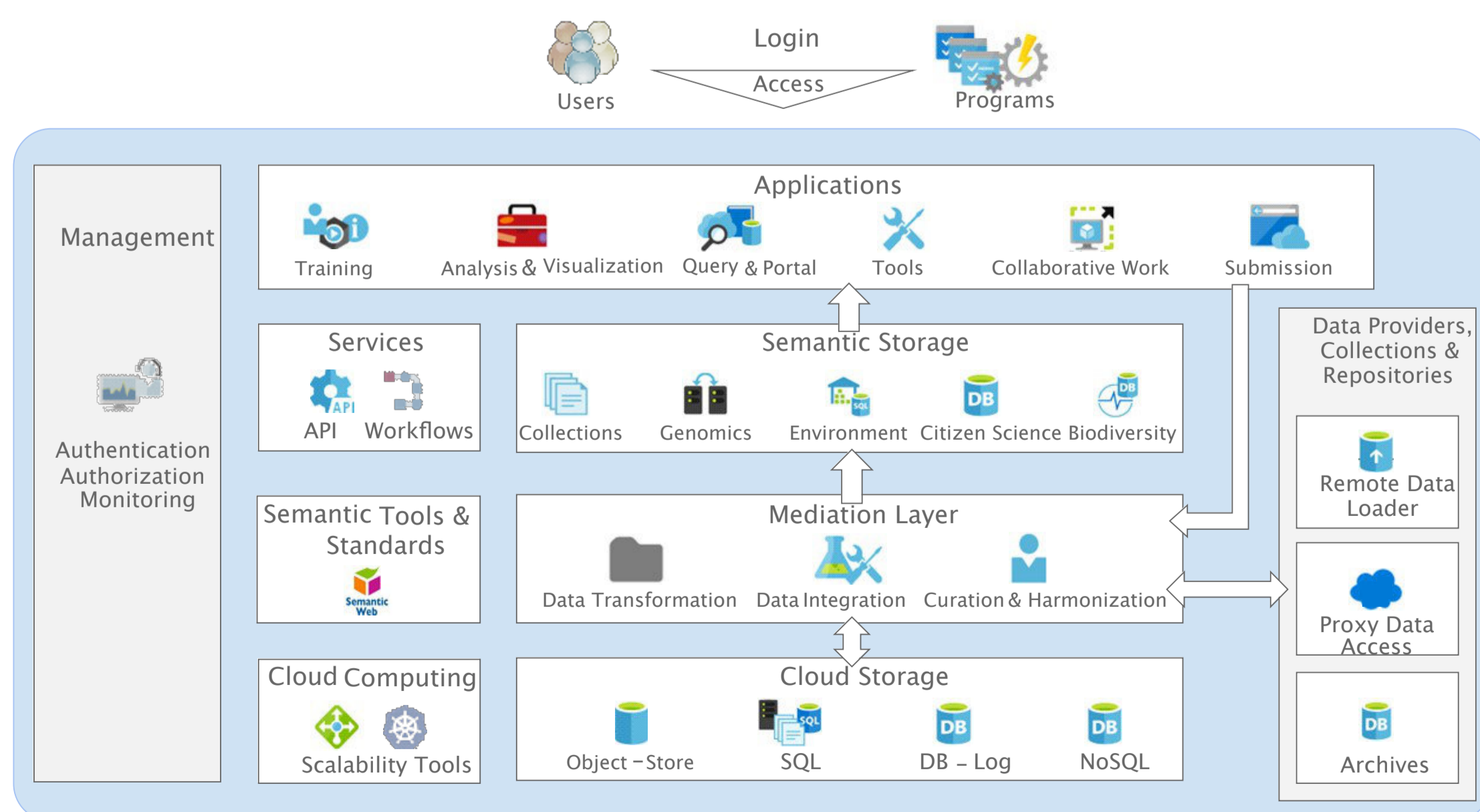
The NFDI Research Data Commons (NFDI-RDC)

Building the bridge between data providers and users

The NFDI-RDC is designed as a cloud-based infrastructure to support data-driven research in biodiversity and beyond. The guiding principle is function-shipping instead of data-shipping.

The NFDI-RDC envisions the systematic pooling, harmonization and integration of metadata and data in the cloud for easy access and delivery. Data centers will be connected to the RDC; users can upload their data and analyse, integrate, and/or publish their data.

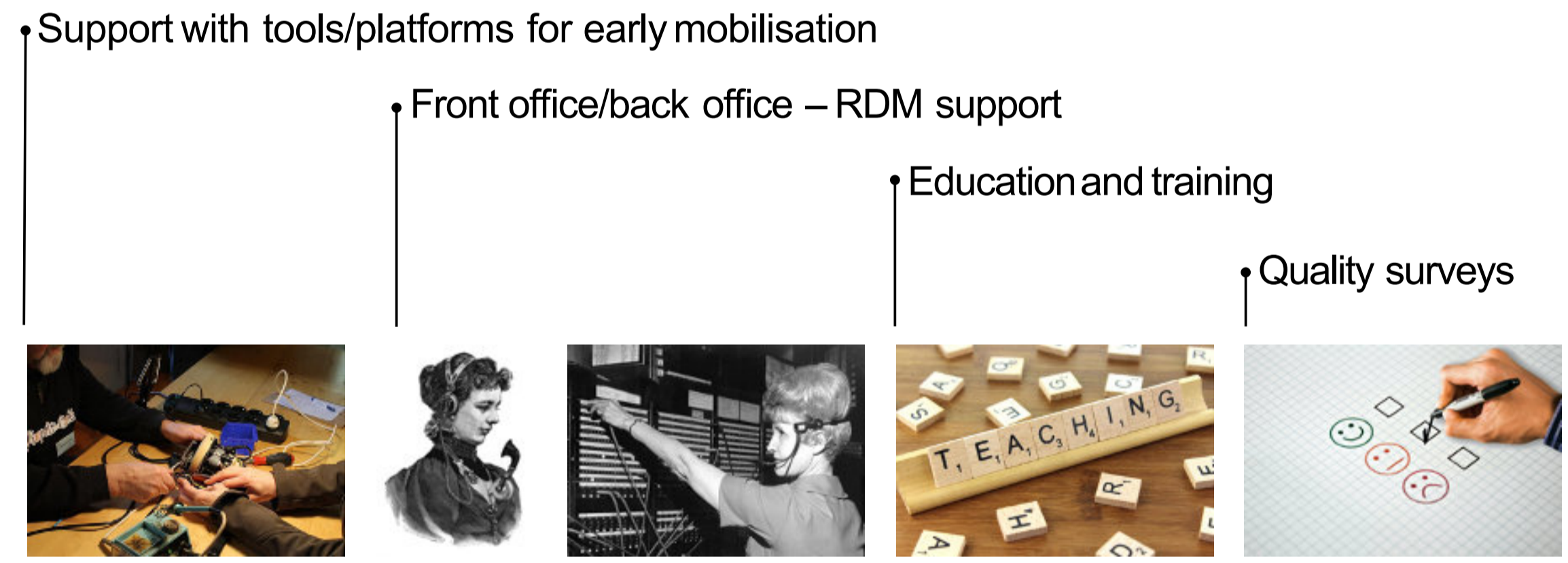
The RDC is a "Cross Cutting Topic", co-designed with our 23 Use Cases and jointly developed within the NFDI network.



(Heterogeneous) Data is transformed and integrated from different sources, annotated and prepared for analysis by compliant tools in the RDC.

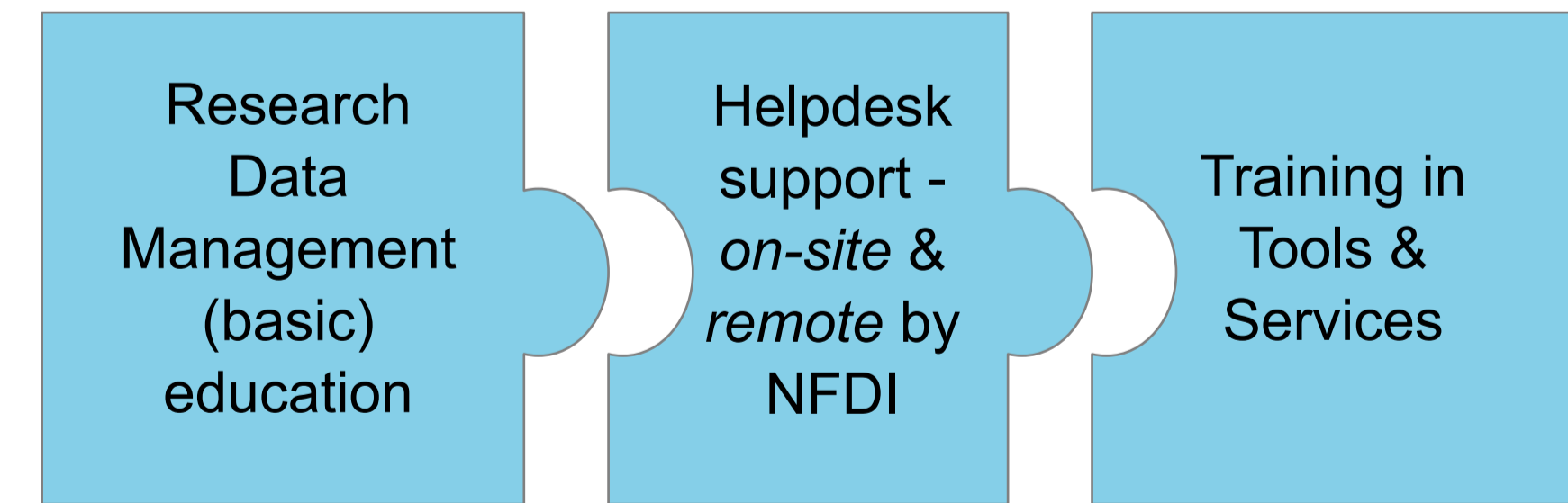
Support model

Teaching and Training are key



Success of NFDI4BioDiversity - and the NFDI as a whole - will depend on the broad application of data management tools and services in the day-to-day work of researchers.

Our approach is based on three pillars:



A specific example is "Data Train" - a cross NFDI (currently NFDI4BioDiversity, NFDI4Health, KonsortSWD, NFDI4Ing) teaching series in data management and data science for graduate students in Bremen [5].

REFERENCES AND LINKS

- www.nfdi4biodiversity.org/consortium
- Wilkinson *et al.* (2016) The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>
- Glöckner, F O, *et al.* (2020) NFDI4BioDiversity - A Consortium for the National Research Data Infrastructure (NFDI). Zenodo. <http://doi.org/10.5281/zenodo.3943645>
- www.gfbio.org & info@gfbio.org
- www.uni-bremen.de/research-alliance/forschungsdaten/data-train