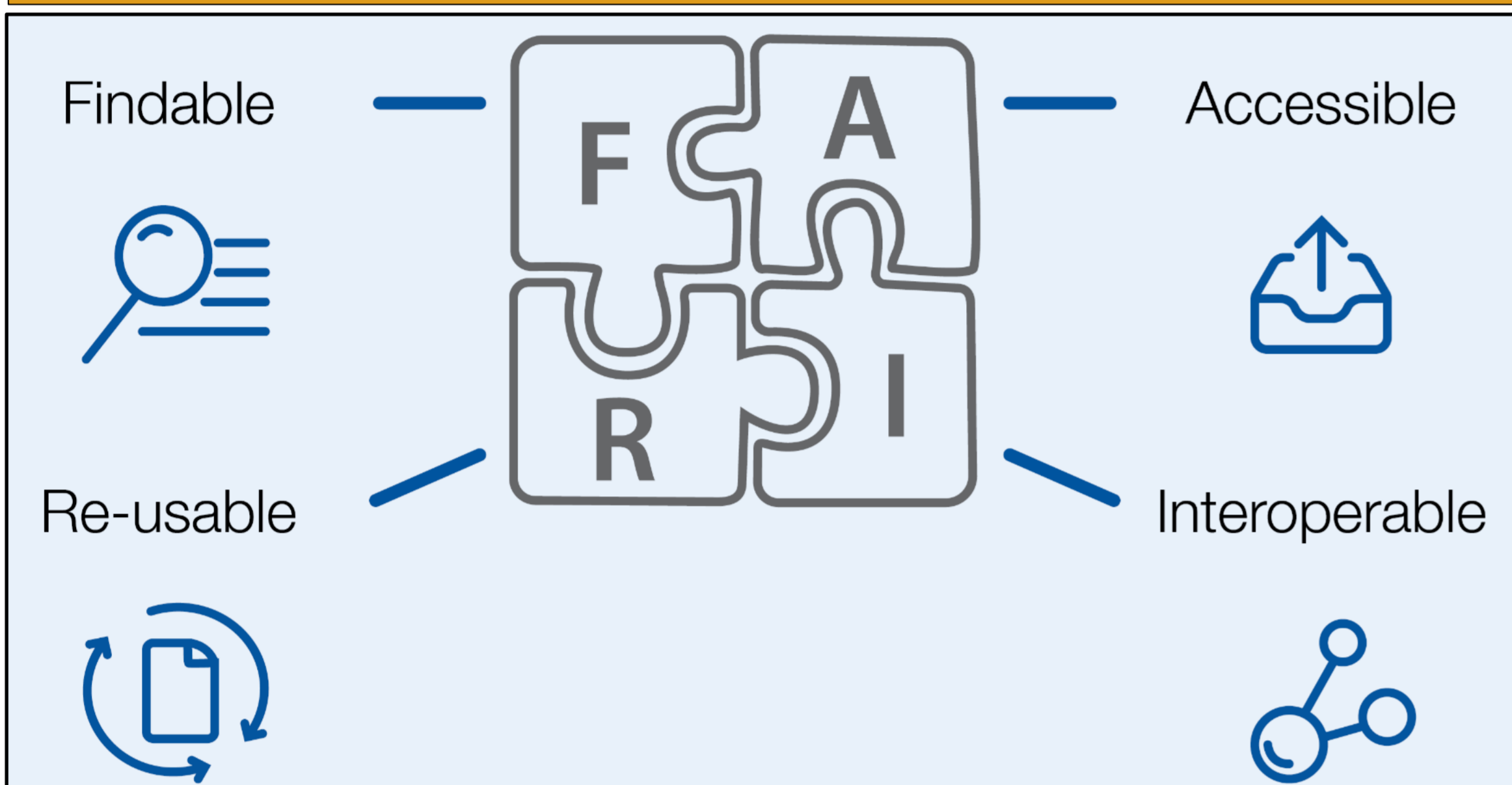


Long Term Interoperability of Distributed Research Data Infrastructures

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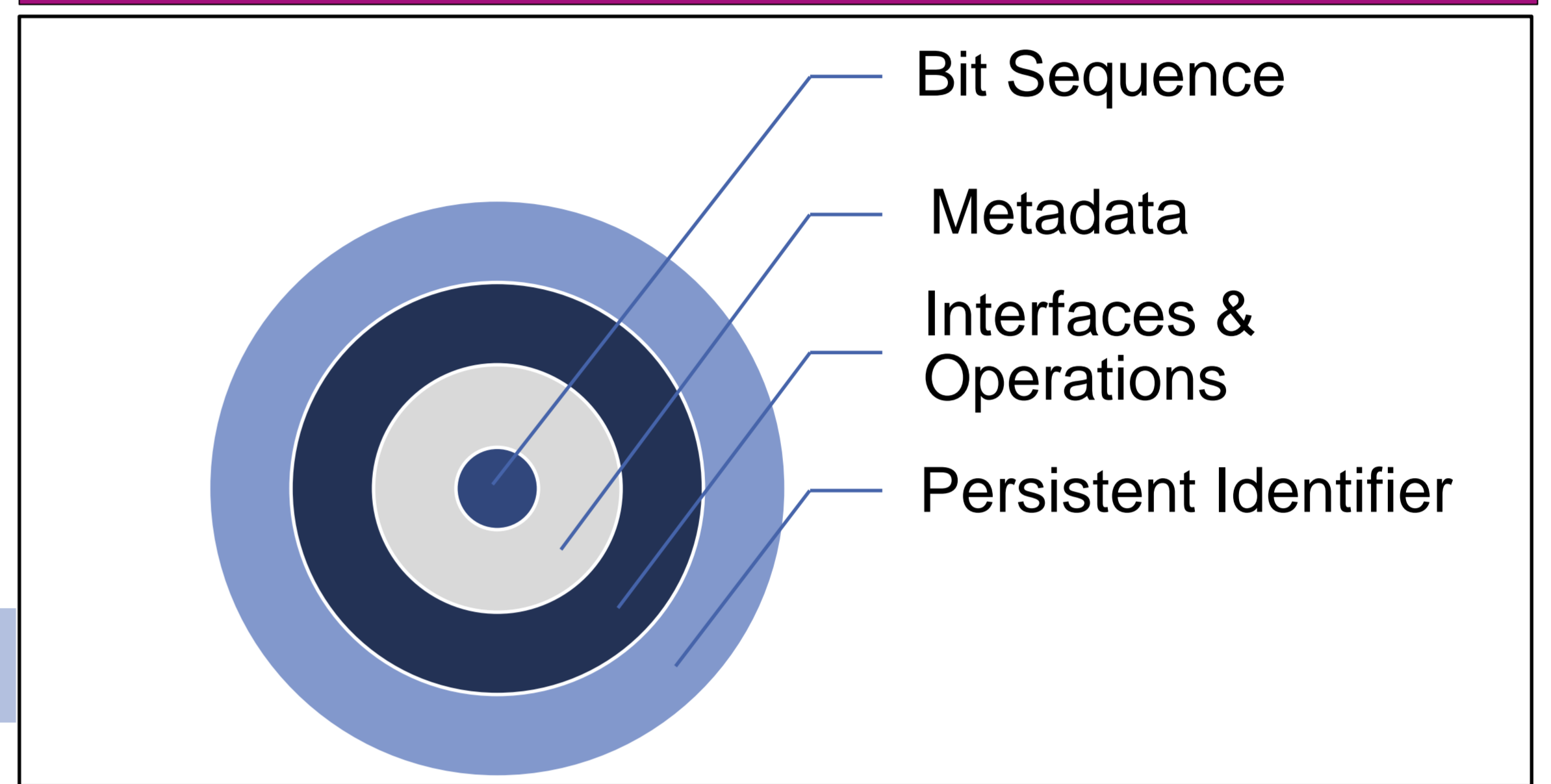
Our objective is to introduce and further implement the FAIR DO concept to ease researchers in handling their data according to the FAIR principles. This comprises developing the required infrastructure components to further ensure these recommended data management practices.

FAIR Principles



Enabling the interconnection with FAIR principles, results in FAIR DOs

FAIR Digital Object (FAIR DO)



A FAIR DO is a unit of data, represented as a sequence of bits, structured (typed) in a way that makes it interpretable by machines. The essential elements of a FAIR DO are: an associated unique persistent identifier, a type definition for the object as a whole and a metadata description of the properties of the object.

The FAIR DO implemented within the infrastructure, resulting in our architecture concept

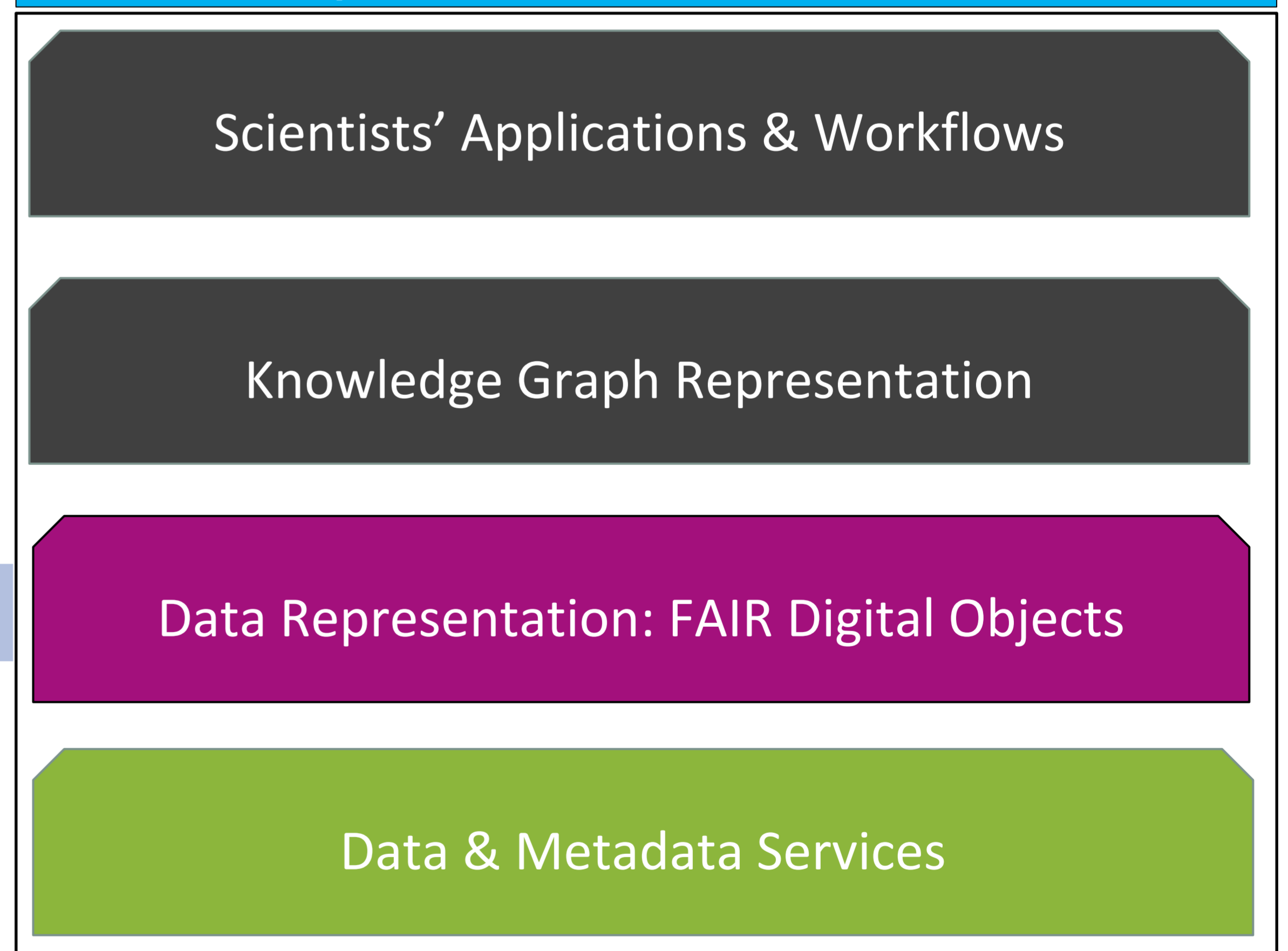
Our Services (RWTH Aachen + KIT)

We present a set of collectively working examples of this approach based on the FAIR DO concept, as recommended by the RDA and the European Commission.

- Coscine (RDS Research data storage)
- MatWerk Data Repository (Data and metadata storage)
- Typed PID Maker (FAIR DO creation)
- FAIR-DOscope (Visualisation and exploration)

Working examples for FAIR DOs

Our Concept for an IT Infrastructure



Schematic overview of the envisioned architecture comprising the implementation of the FAIR DO concept. RWTH Aachen and KIT jointly propose this architecture for exemplary implementation within NFDI-MatWerk.

By allowing existing data infrastructures to make data FAIR, we enable researchers to access and reuse data from different domains, facilitating cross-disciplinary research and advancing new methods for scientific discoveries. The results will be transferred to other projects, for instance, the Helmholtz Metadata Collaboration (HMC) and various NFDI consortia, including NFDI4Chem, NFDI4Ing and NFDI4Microbiota.