

Long Term Interoperability of Distributed Research Data Infrastructures



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Motivation

Huge variety of highly complex data present in silos as various repositories, cloud storage, local storage, etc.

- Accessing data in silos can be quite challenging
- Lack of a harmonized representation of data and metadata for research data management

Our goal:

To achieve “Long Term Interoperability” of Distributed Research Data Infrastructures



Apply the FAIR Digital Object concept to interconnect infrastructure components

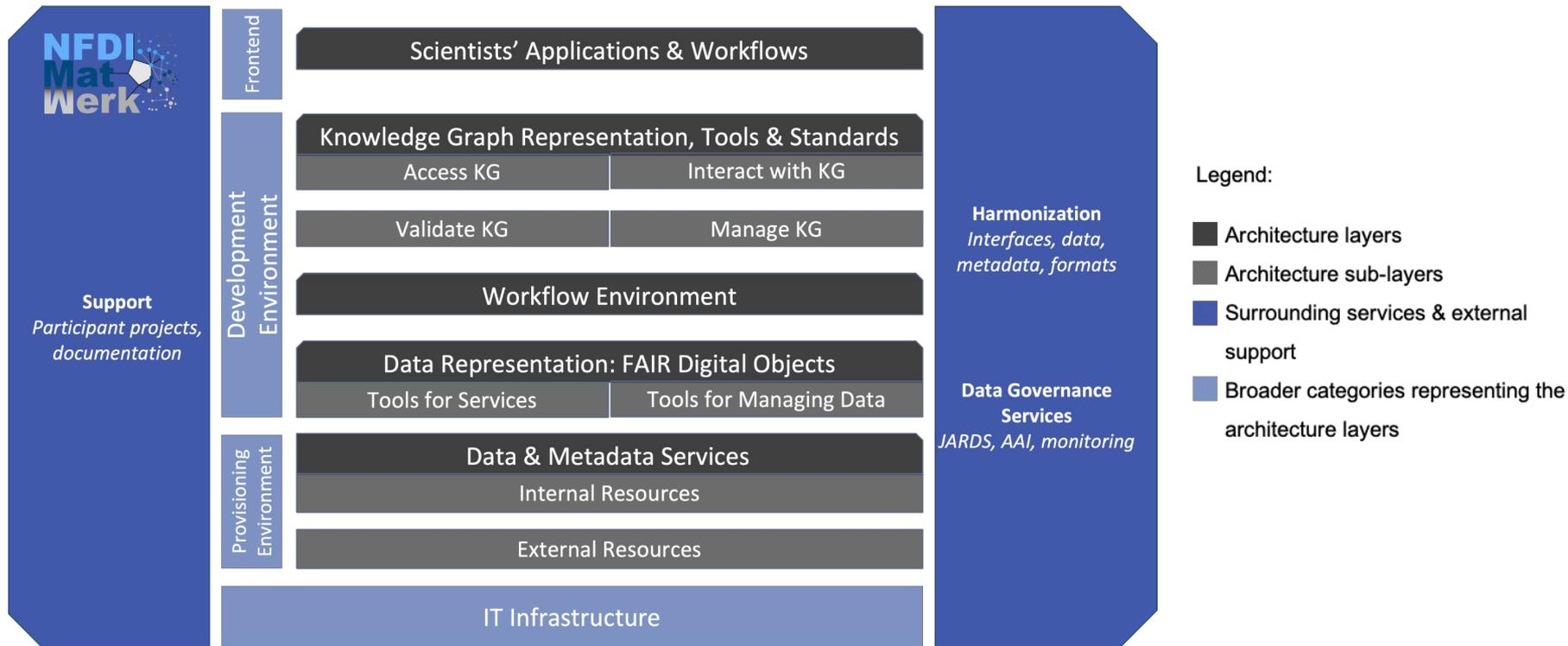
FDO Basics

A FDO is a unit of data, represented as a sequence of bits that binds all critical information about an entity in one place and creates a new kind of actionable, meaningful and technology-independent object

Long Term Interoperability

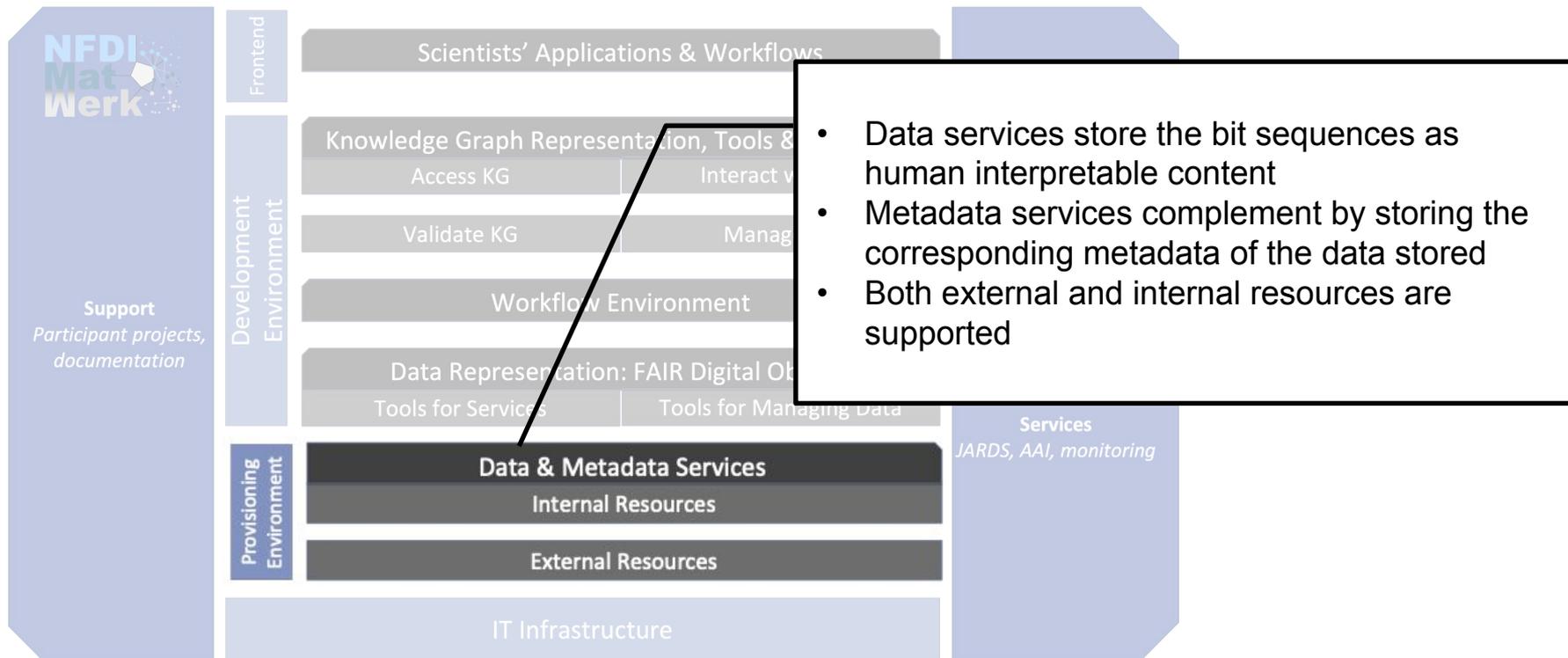
- Ability to connect different build systems to share data
- Achieved by applying the FDO concept:
 - Bridges between data repositories, disciplines, etc.
 - Applies all aspects of the FAIR principles
 - Technology agnostic
 - Implementation:
 - Handle Persistent Identifier (PID)
 - Information Record = DO's Metadata

NFDI-MatWerk Shared Service Architecture

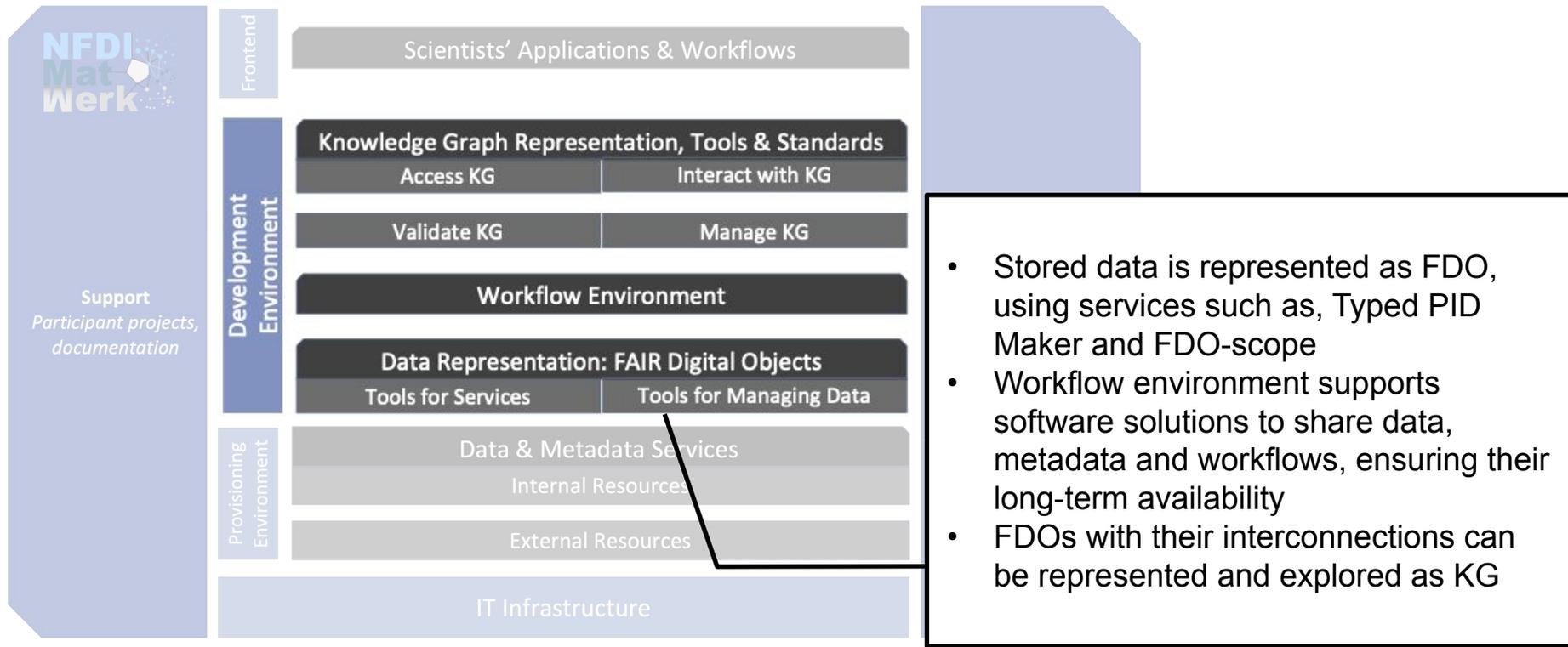


(Additional contributors: Tilmann Hickel, Angelika Gedsun)

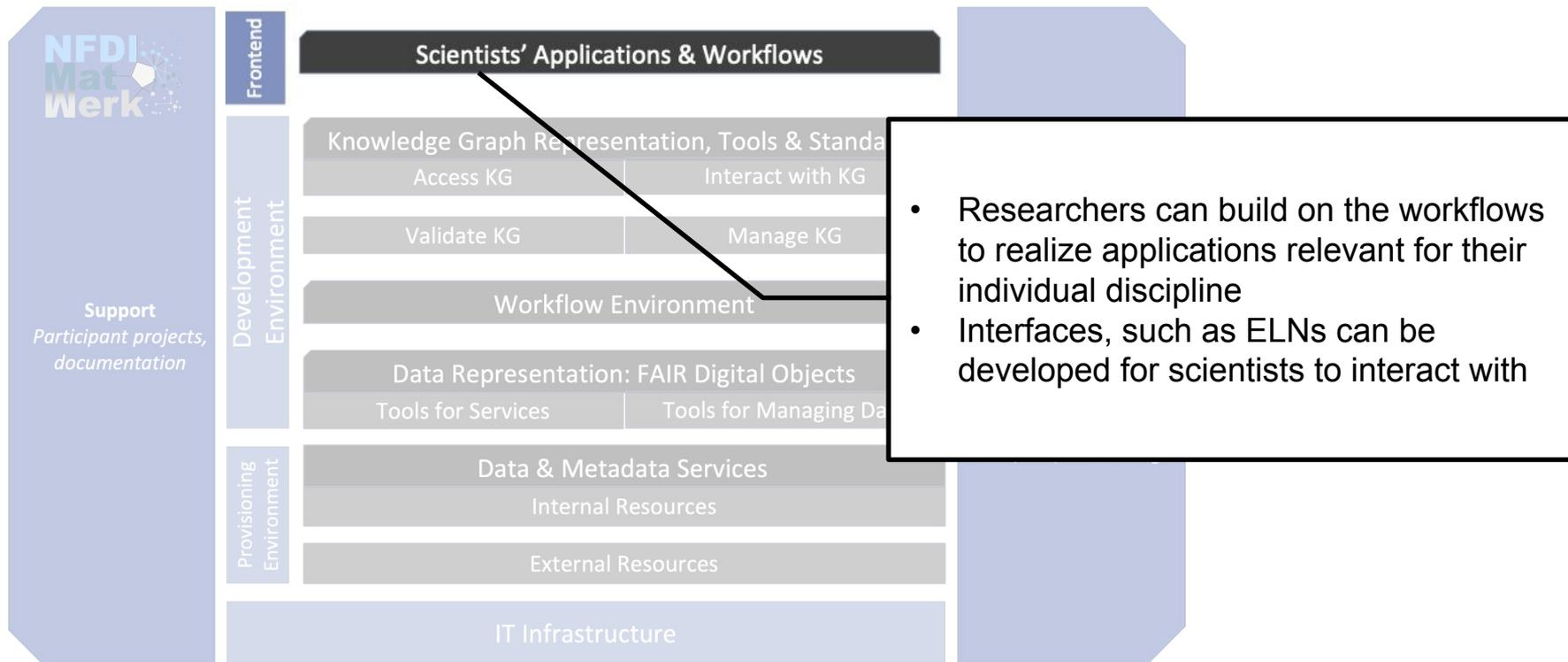
NFDI-MatWerk Shared Service Architecture



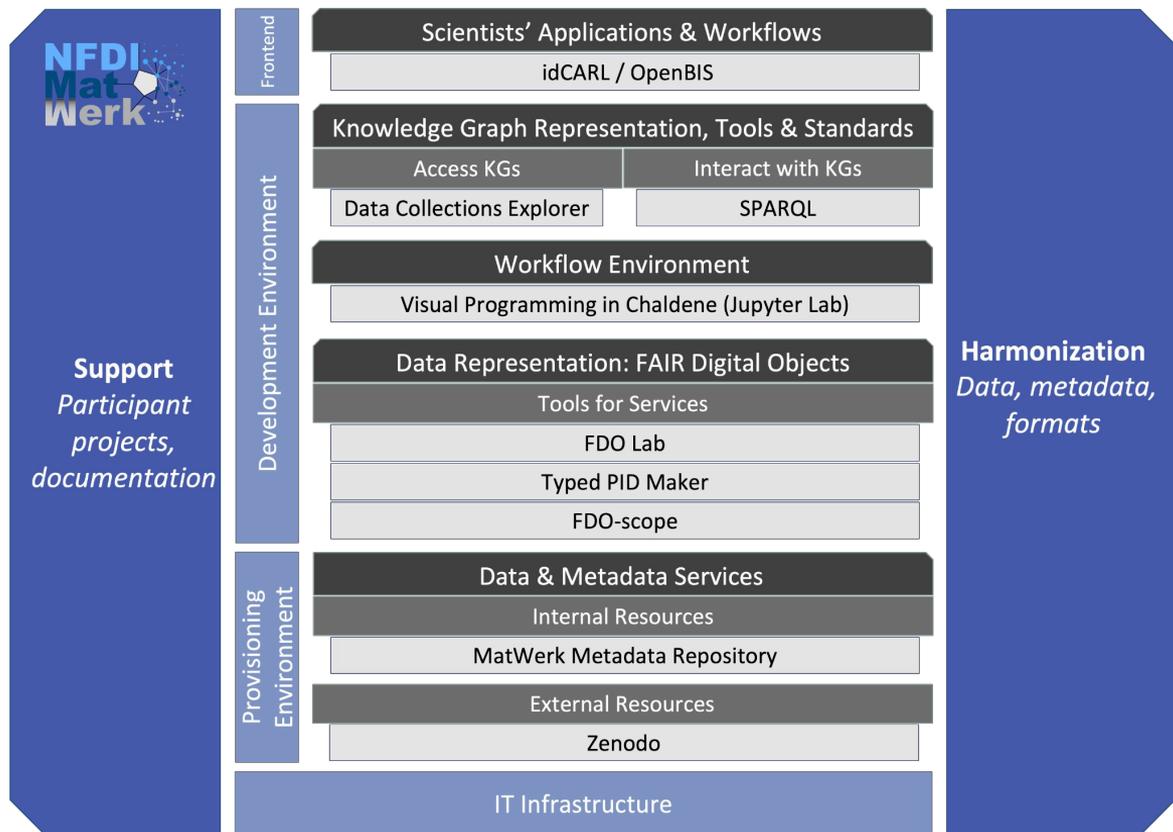
NFDI-MatWerk Shared Service Architecture



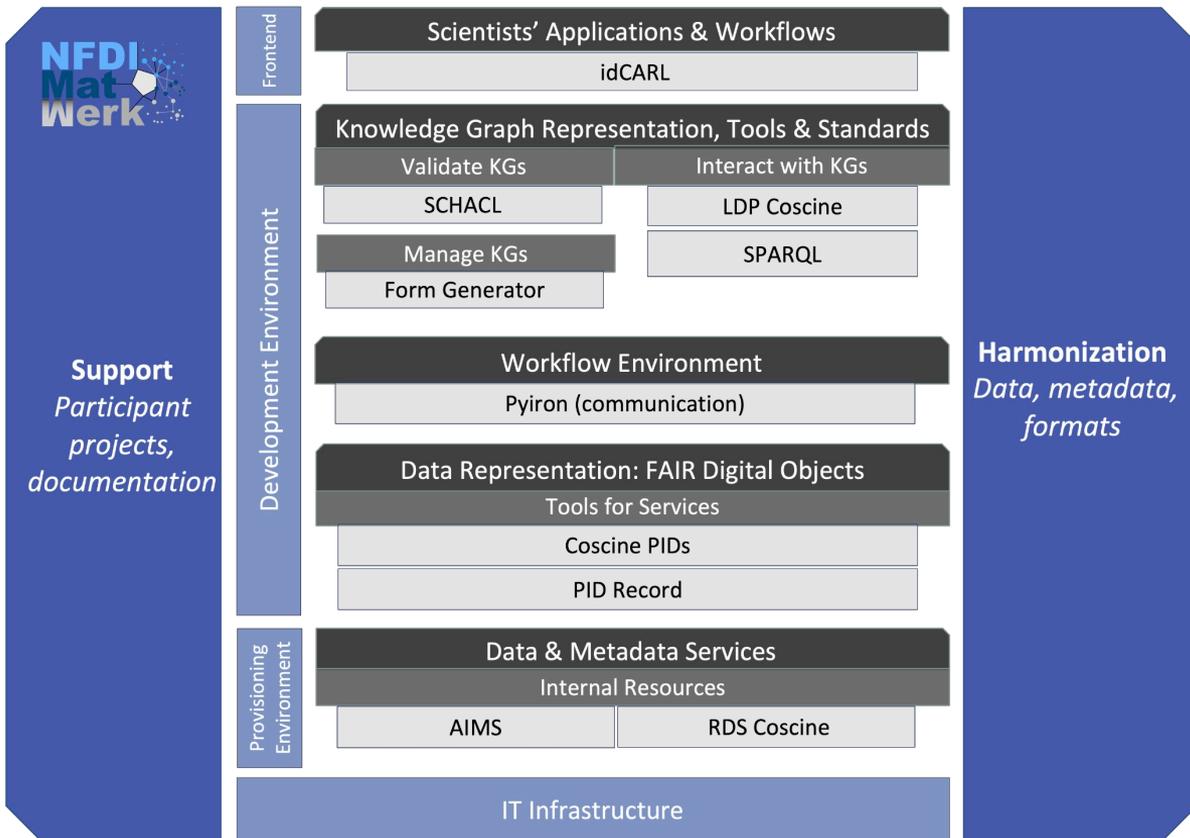
NFDI-MatWerk Shared Service Architecture



Working Example I ^[1]



Working Example II



Wrap-up



- Efficiently manage their data
- Adhere to a standard for handling their research data
- To adapt the proposed architecture for other NFDI communities
- Combine data from different resources through interoperability
- Use existing services without worrying about the technical details of the backend processes



Thank you!

NFDI-MatWerk Shared Service Architecture

