

FAIR Data Spaces – a common Data Space for Industry, Science and Society

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Data Exchange: Before



But I need data !!!

I will develop an AI-based defect detection system for medical 3D prints.

Leya

A young scientist

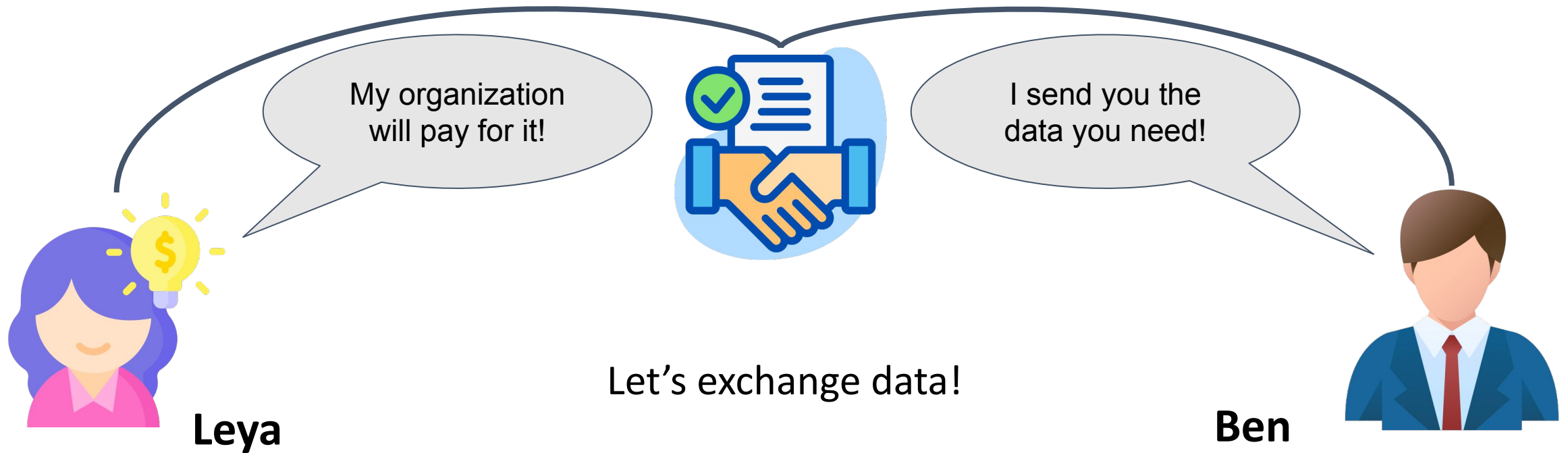
All icons are from Flaticon.com

Data Exchange: Before



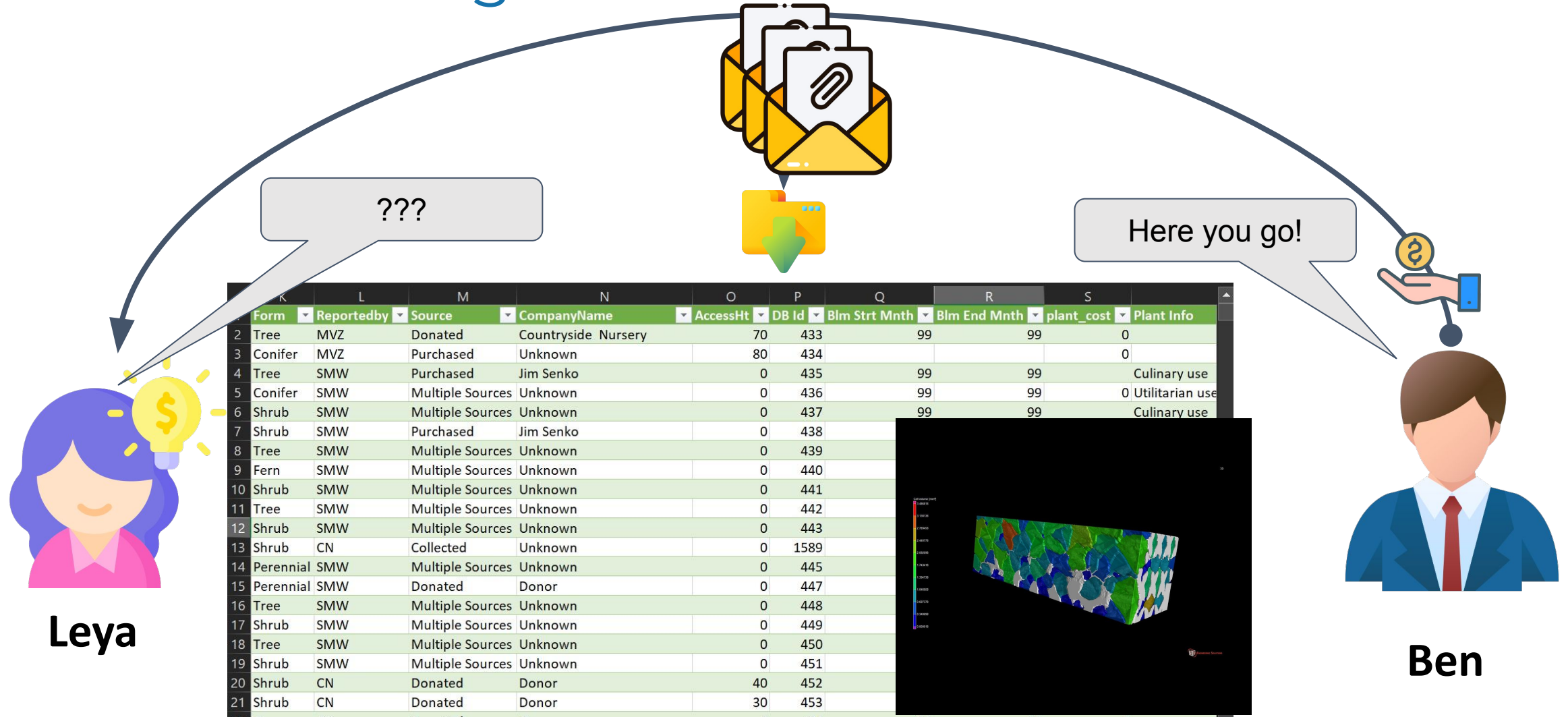
All icons are from Flaticon.com

Data Exchange: Before



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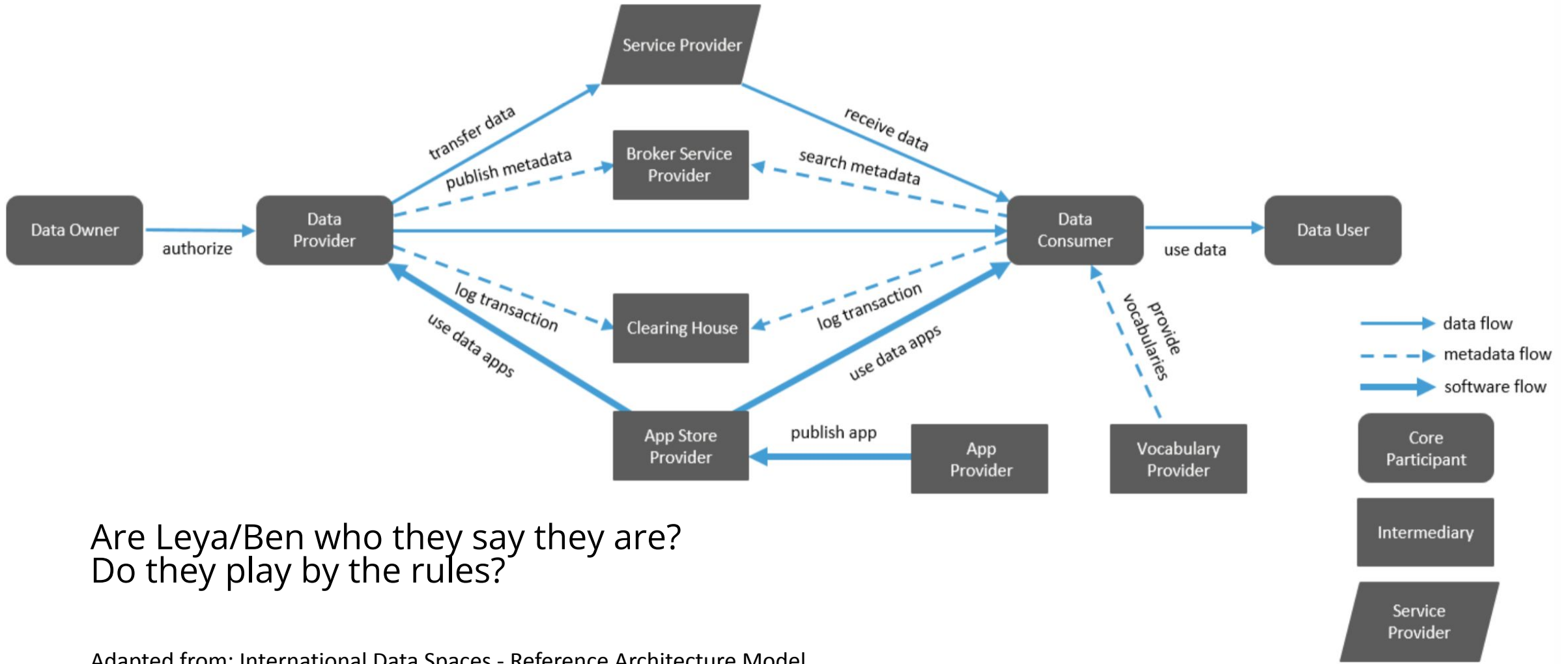
Data Exchange: Before



Leya

Ben

What do we need to overcome this?



Are Leya/Ben who they say they are?
Do they play by the rules?

Adapted from: International Data Spaces - Reference Architecture Model

Gaia-X & NFDI

Gaia-X



- Gaia-X is a federated and secure data infrastructure for Europe and beyond.
- Its development is coordinated by the non-profit Gaia-X European Association for Data and Cloud.
- Over 359 members so far, mostly **companies**.

NFDI



- The National Research Data Infrastructure (NFDI) for the German science system is set up under the coordination of the NFDI Association by around 30 consortia, in which **universities** and **research institutes** are predominantly involved.

FAIR Data Spaces: Overview

- Funded by the **Federal Ministry of Education and Research (BMBF)** from *May 2021 to May 2024*
- **Vision:** common cloud-based data space for business and science (based on the FAIR data principles)
- **Mission:** Create and expand synergies between existing technologies and communities.

	Germany	EU	World
Business	International Data Spaces (IDS): Basis for sovereign data exchange in Gaia-X	Gaia-X: Federated and Secure data Infrastructure	
Science	National Research Data Infrastructure (NFDI)	European Open Science Cloud (EOSC)	Global Open Science Cloud (GOSC)

FAIR Data Spaces: Demonstrators

Biodiversity data space

A deployment of the Geo Engine software in a Gaia-X compatible cloud.

Gaia-X + NFDI4Biodiversity

Research data quality assurance

FAIR Research Data Quality Assurance and Workflows

Gaia-X + NFDI4Ing (Engineering)

Cross-platform data analytics

The demonstrator relies on already published medical data which can be publicly accessed without any restriction and used to train a classification model in the Gaia-X setting

Gaia-X + NFDI4Health

Cross-platform data analytics

- **Centralised Analytics**

- Collect data (Data centralisation)
- Store locally
- Perform analysis

- **However...**

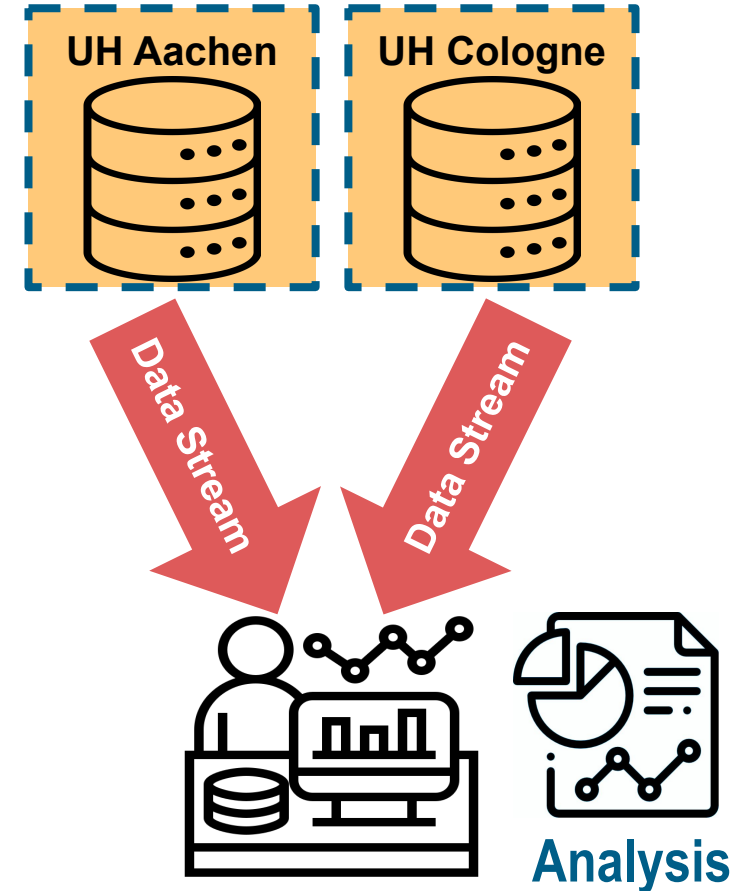
- Not GDPR-compliant
- Network load due to data amount
- Loss of data sovereignty

- **Solution**

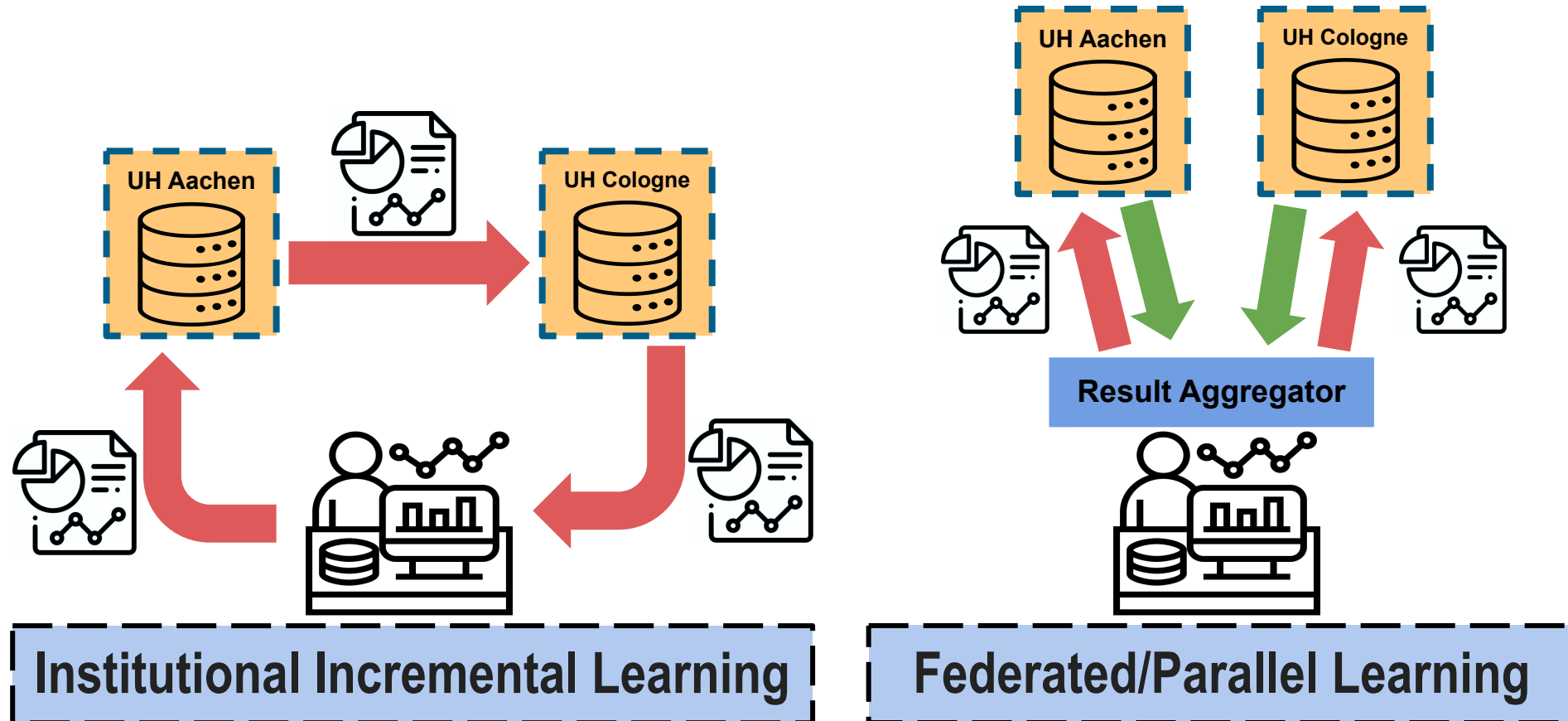
- Distributed Analytics



<https://gdpr.eu>



Cross-platform data analytics



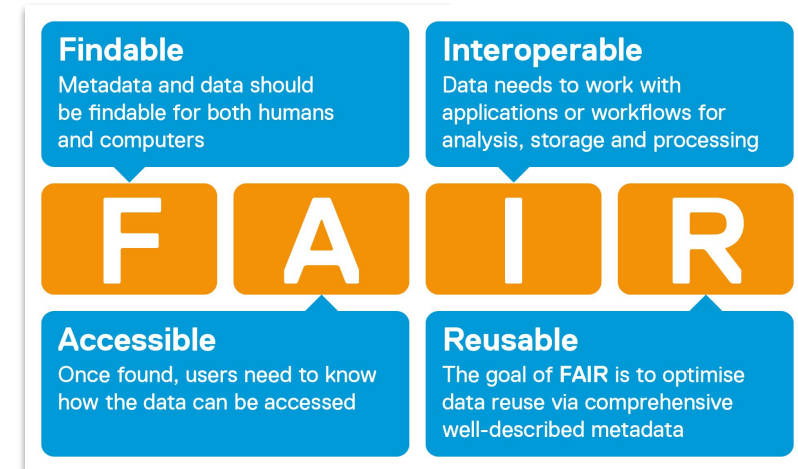
Cross-platform data analytics: Personal Health Train

- **PHT is a distributed infrastructure to support:**

- Data management
- Data analysis
- Medical decision making

- **Guiding Principles:**

- Control over data
- Reusable health data
- Distributed and federated solutions
- International interoperability
- Responsible use of health data
- Ethics-by-design
- Machine-readability at the core



Further Demonstrators: Open Call

- **FAIR Data Spaces** will soon launch the first Open Call to consider *further scenarios of data exchange* between industry and science and develop demonstrators for them
- (Partially) reusing the demonstrators of FAIR Data Spaces.

We invite all stakeholders, also those from application domains that have not yet been in the focus of Gaia-X, IDS, and NFDI, to participate.

Are you interested?



Drop us a line!

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Daniela Mockler



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Call for collaboration



All project participants



Thank you for your interest!

Contact: Zeyd.Boukhers@FIT.Fraunhofer.de

Stay in touch:



www.nfdi.de/fair-data-spaces

Community newsletter: <https://www.nfdi.de/newsletter-abo/>



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