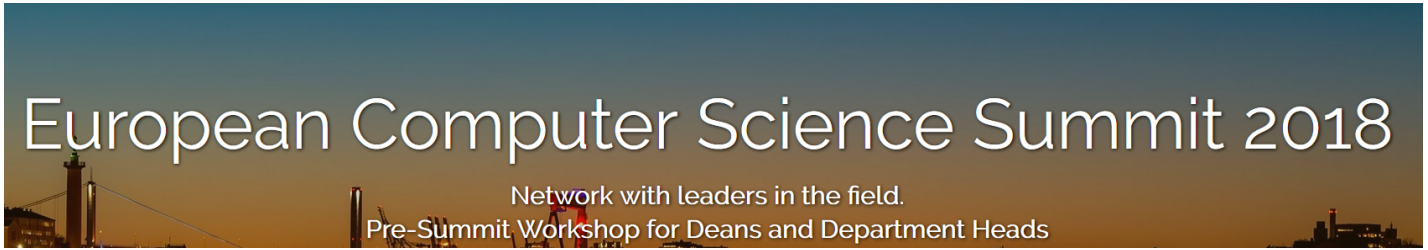
Towards the European Open Science Cloud

The Role of Computer Science



Klaus Tochtermann

ZBW –
Leibniz Information-Center for Economics

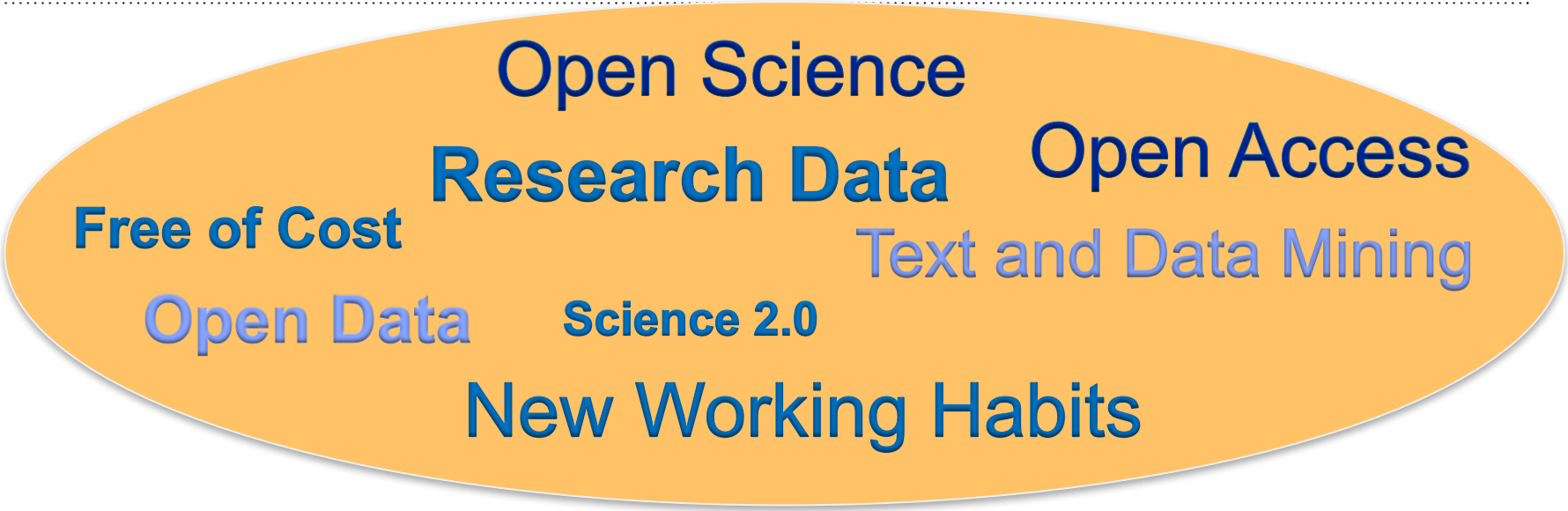
- 4,4 Mio media (print/digital)
- Access to 2,3 Mio digital fulltexts
- 5,5 Mio downloads of digital fulltexts

- 282 Staff
- 24 Mio Euro Budget/Year

- Research Topic: Open Science

Digitization of Science

Science becomes data-driven, open and interdisciplinary.

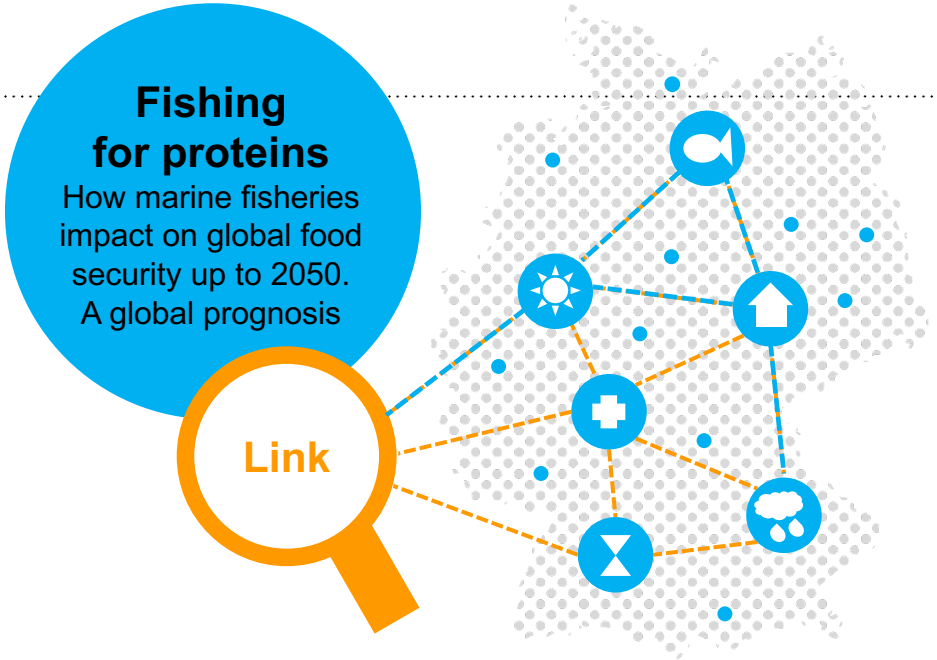


Research Data Management

Disciplinary research data repositories across Germany · Europe · World.

Image: www.digitalbevaring.dk

Science becomes cross-disciplinary



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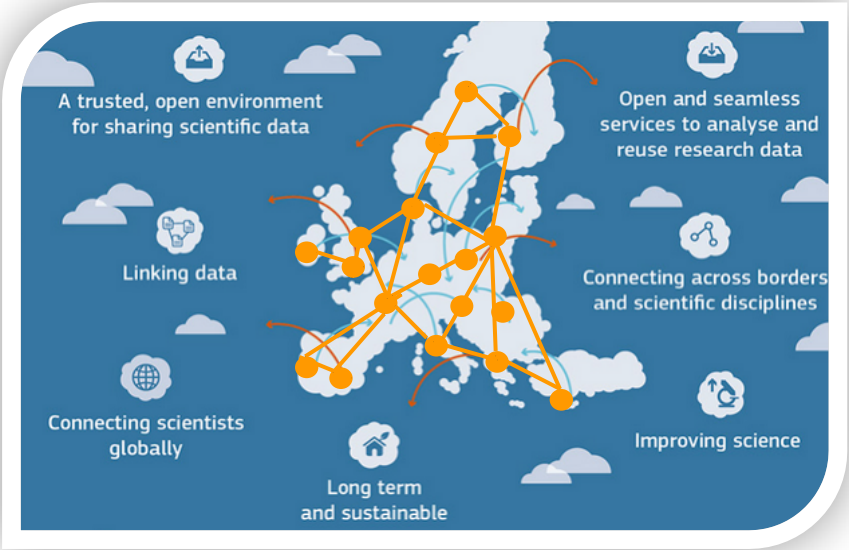
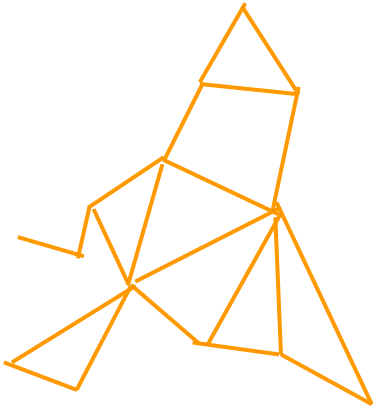
Recognized Importance

European Open Science Cloud

Vision. Bringing together current and future data infrastructures.



What does bringing together mean?



Name,
Institution
Ort, Datum

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Challenge 1 – Infrastructures

Longterm Accessible · Sustainable · Interoperable Infrastructure

Connection of

- Existing Systems
- Software Components
- Protocols
- Standards
- Policies
- Governance Structure
- …

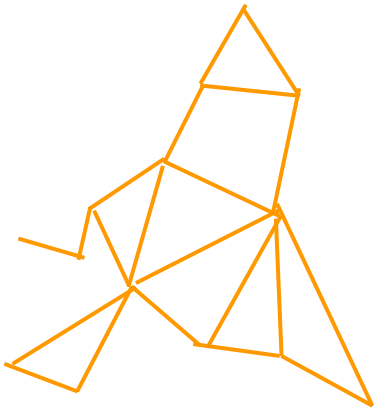

Image: www.digitalbevaring.dk

Challenge 2 – FAIR Data

FAIR Data. Findable · Accessible · Interoperable · Re-usable

Image: www.digitalbevaring.dk

Challenge 1 – Infrastructures

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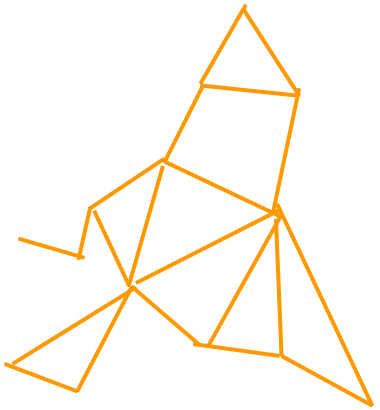


Image: www.digitalbevaring.dk

Infrastructure for interdisciplinary research

Support the professional management of research data.

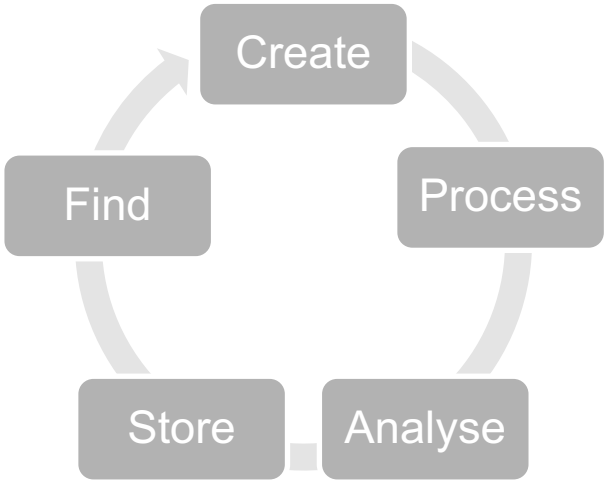
Enable scientists

- Search
- Process
- Analyze
- Store
- Share
- Manage
- Re-use

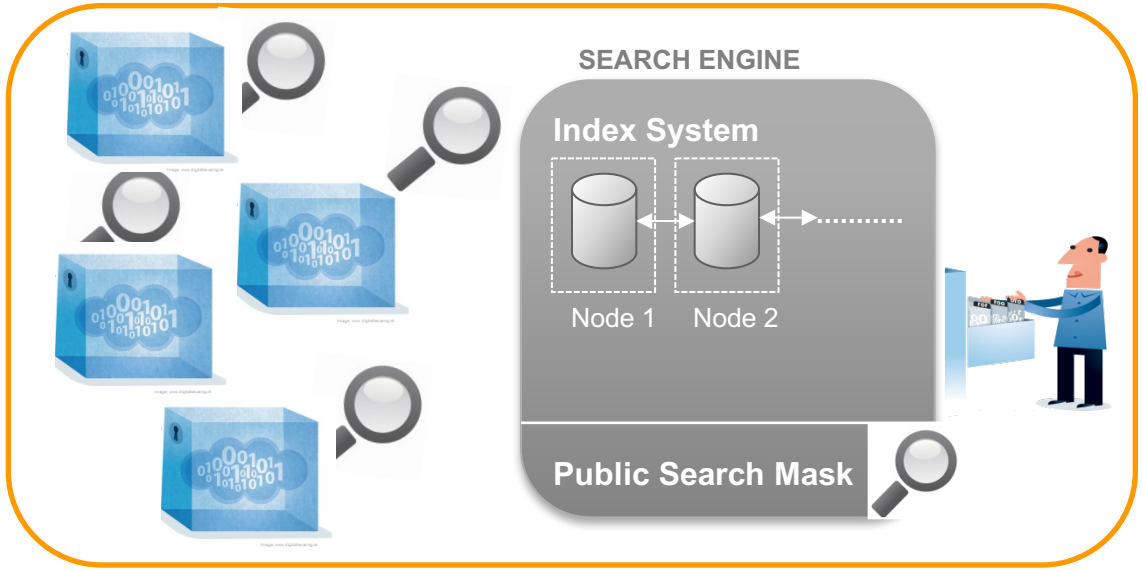
Image: www.digitalbevaring.dk

Objectives

Data Life Cycle. Consider important phases.



Find



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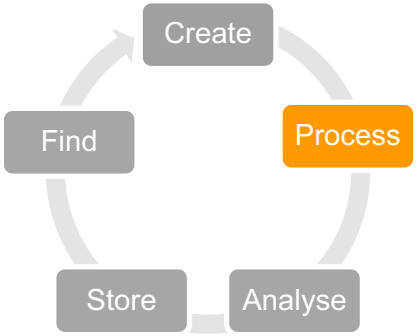
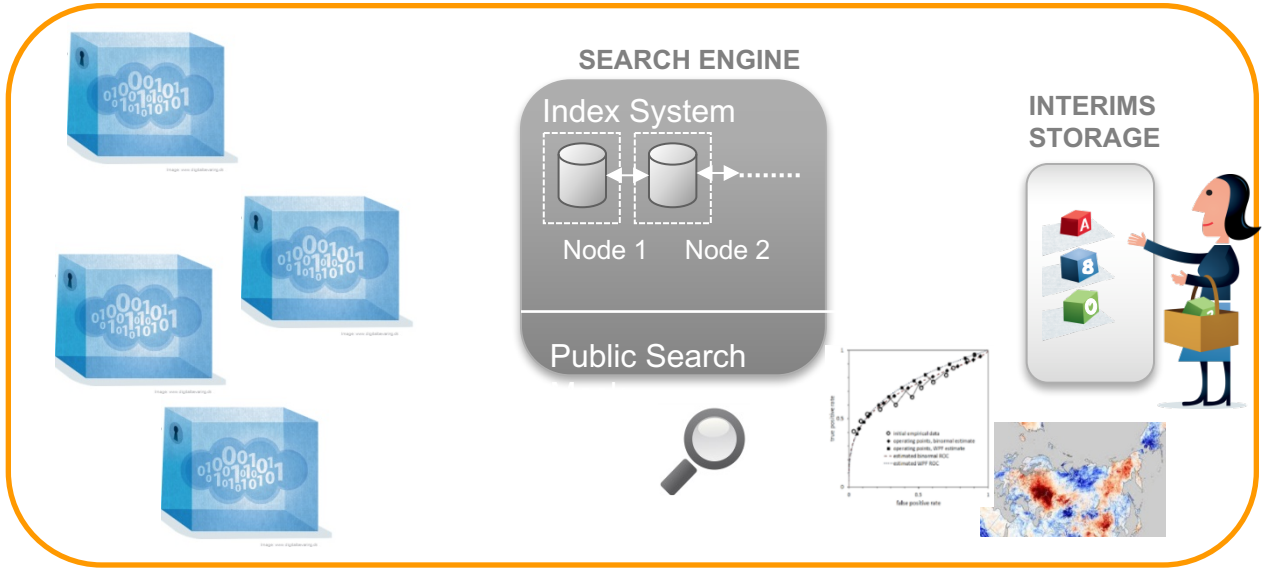
Process





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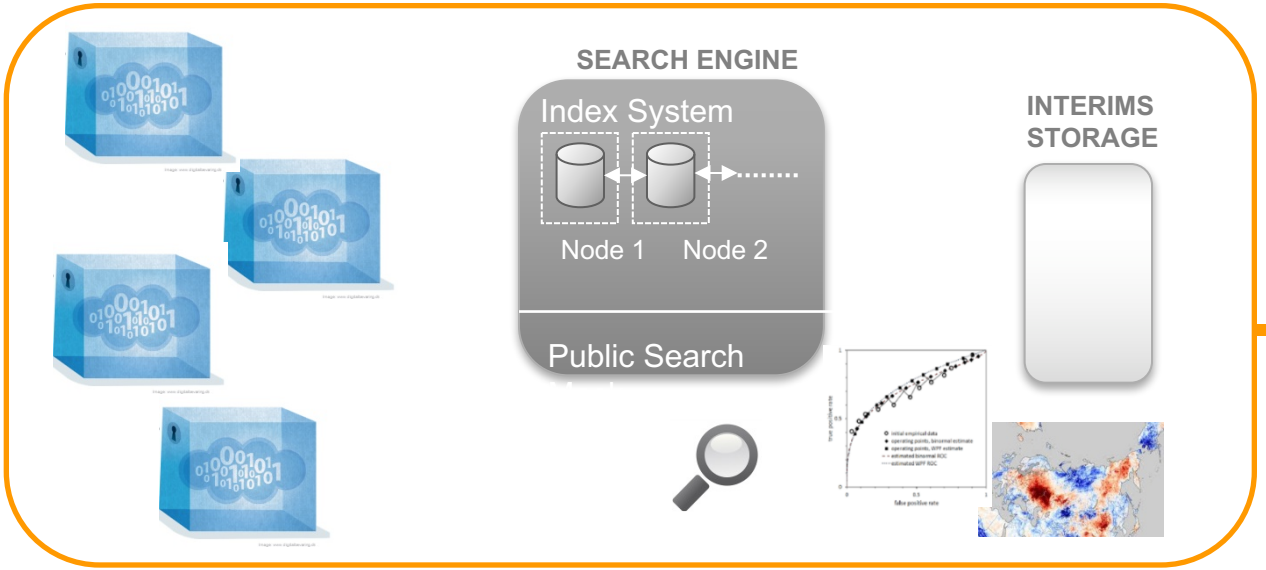
Analyse



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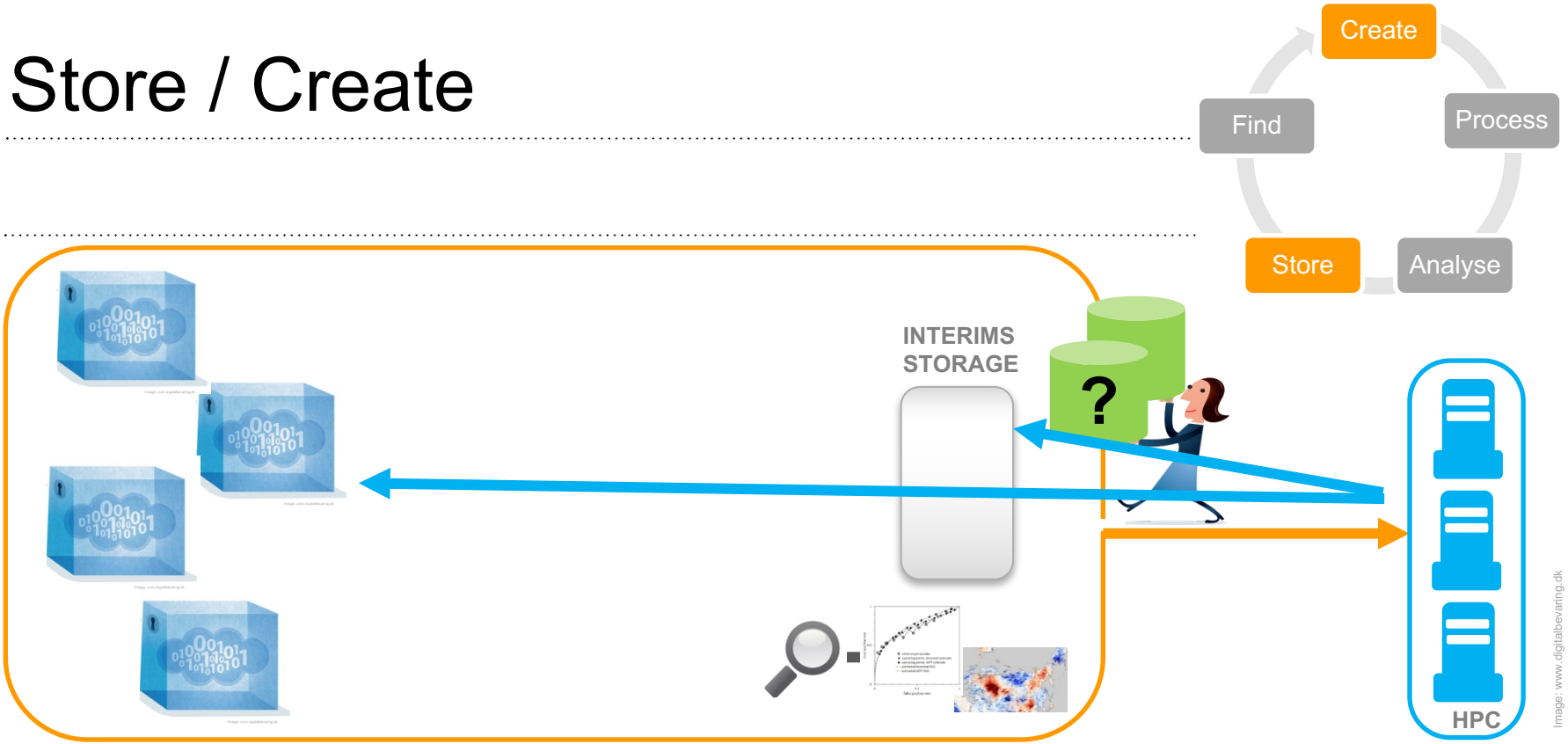
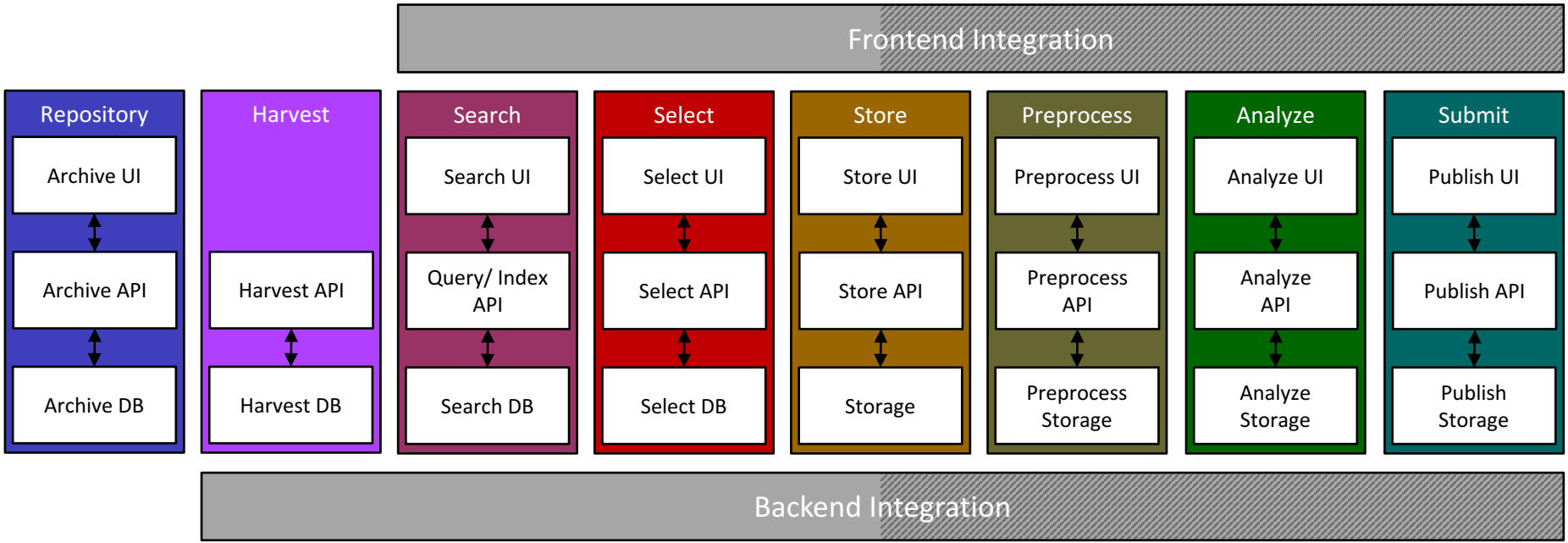
Store / Create



Micro-service architecture



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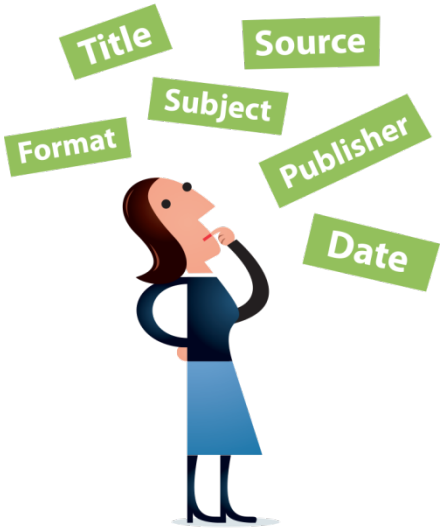
Challenges

A long-living expandable infrastructure.

- architectural decisions
- service management
- Lossless, cross-disciplinary metadata schema

Image: www.digitalbevaring.dk

Take Home Messages



Reliable service management is key success factor

Lossless, cross-disciplinary metadata standards and schemas are needed

How to cope with big players such as Google‘s **Google Dataset Search**

Challenge 2 – FAIR Data

FAIR Data. Findable · Accessible · Interoperable · Re-usable

Image: www.digitalbevaring.dk

GO FAIR: a bottom-up international approach

for the practical implementation of the European Open Science Cloud (EOSC) as part of a global Internet of FAIR Data & Services

Vision

Fostering the coherent development of the global Internet of FAIR Data & Services (IFDS), with the main focus on early developments in the European Open Science Cloud (EOSC).

GoFAIR Initiative

- **Open and inclusive environment** for anyone committed to defining and creating elements of the Internet of FAIR Data & Services (**IFDS**)

- Integrating all disciplines: **bottom up, open to all, cross border, cross discipline**

- Goal: Broad acceptance and application of **FAIR principles → IFDS**

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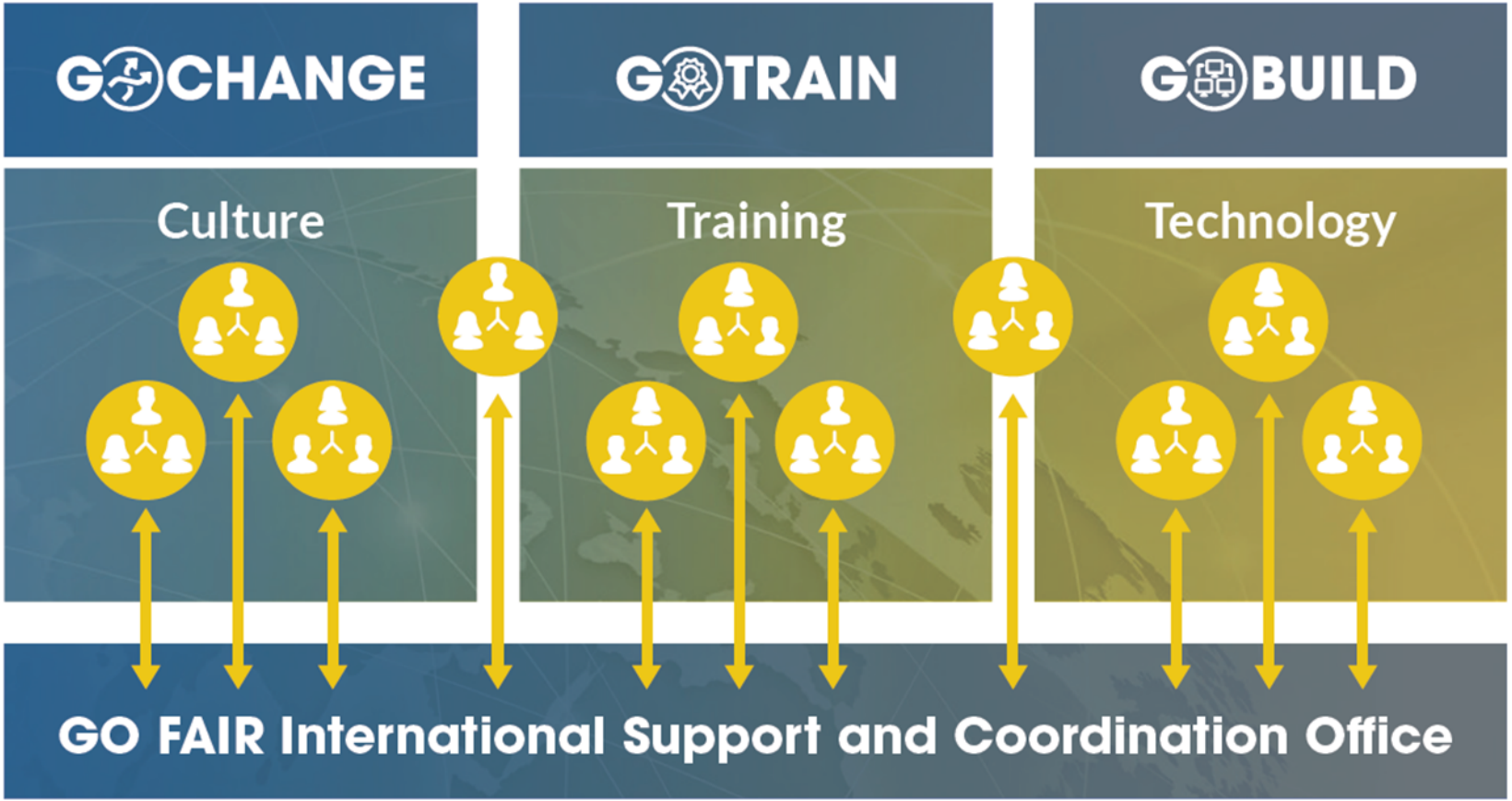
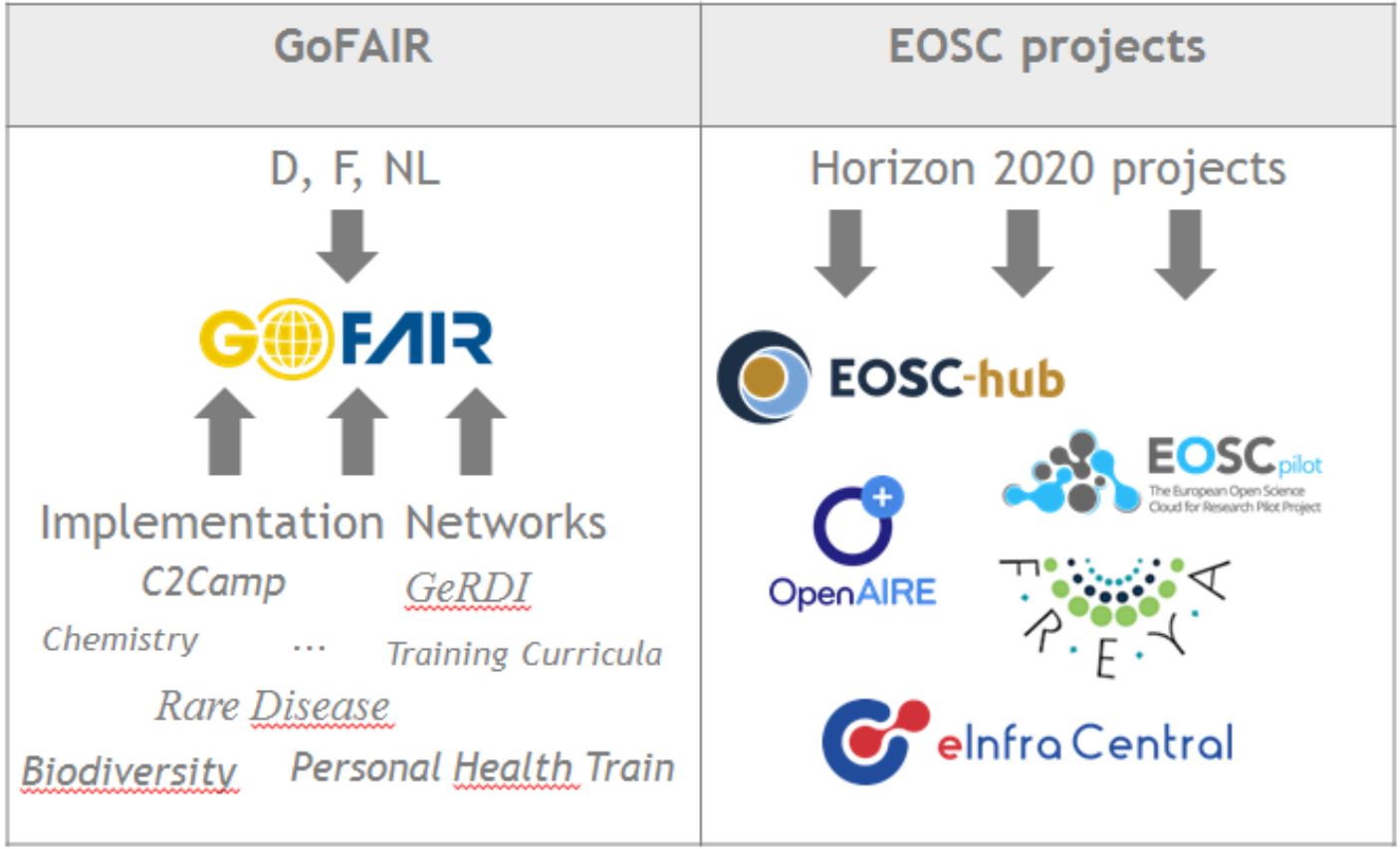

GO CHANGE
GO TRAIN
GO BUILD
Culture
Training
Technology
GO FAIR International Support and Coordination Office

Joining GoFAIR

Implementation Networks can join GoFAIR in **3 steps:**

(1) Fill in **application form** on www.go-fair.org
(2) Sign **Rules of Engagement** and select a consortium coordinator
(3) Create a **Manifesto** outlining objectives, strategy, partners etc.



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Take Home Messages

… **bottom-up approach to reach all** who do not want to engage in EC funded projects…

… members can **contribute with specific competences**, e.g. provision of harvesting/index technology, micro-services

Summary

Challenge 1 – Infrastructures

Longterm Accessible · Sustainable · Interoperable Infrastru

Connection of

- Existing Systems
- Software Components
- Protocols
- Standards
- Policies
- Governance Structure
- …

Generic Research Data Infrastructure · www.gerdi-project.eu

GeRDI Challenge 2 – FAIR Data

FAIR Data. Findable · Accessible · Interoperable · Re-usable

Generic Research Data Infrastructure · www.gerdi-project.eu

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THANK
YOU
GRACIAS
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SUKSAMA
EKHMET
MEHRBANI
GRAZIE
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GOZAIMASHITA
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MINMONCHAR