'How should the EOSC Interoperability Framework evolve; what is missing?'
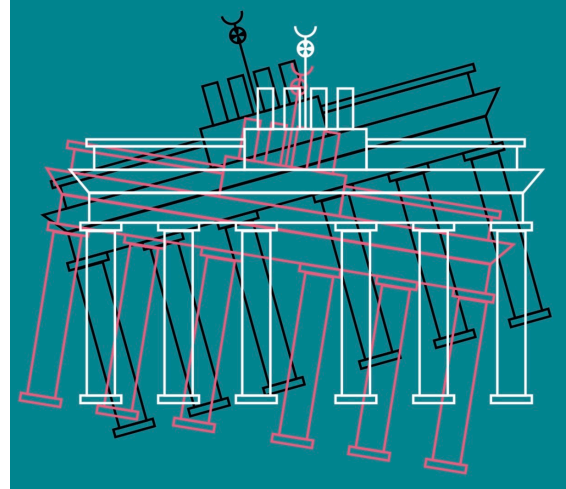
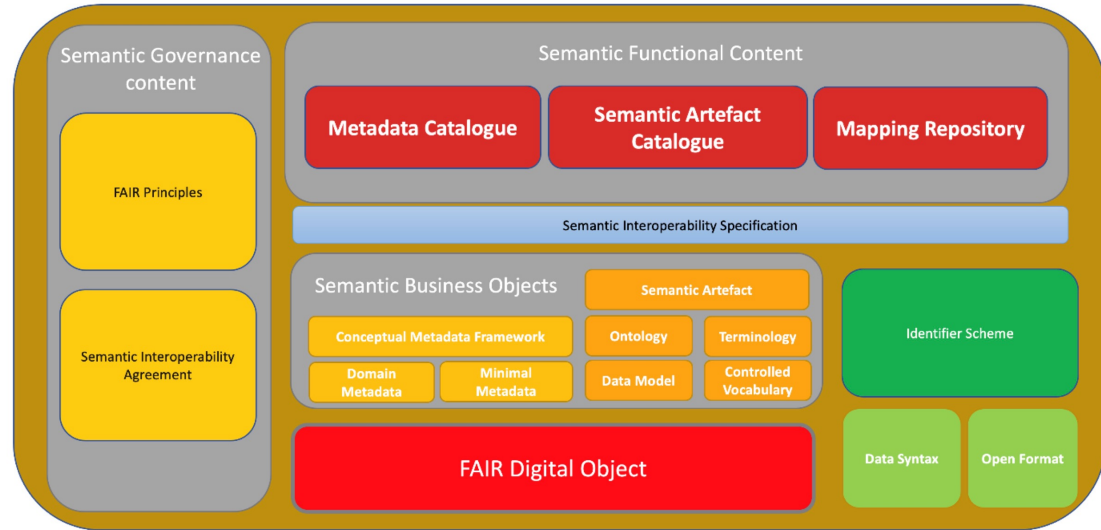Simon Hodson, Executive Director, CODATA

Coordinator, WorldFAIR

WorldFAIR

What is the EOSC IF?

- EOSC IF is a high-level framework to break up the problem space.

- We need more detail for technical, semantic, legal and organisational interoperability.

- The Cross-Domain Interoperability Framework offers additional detail and recommendations in relation to technical and semantic interoperability.
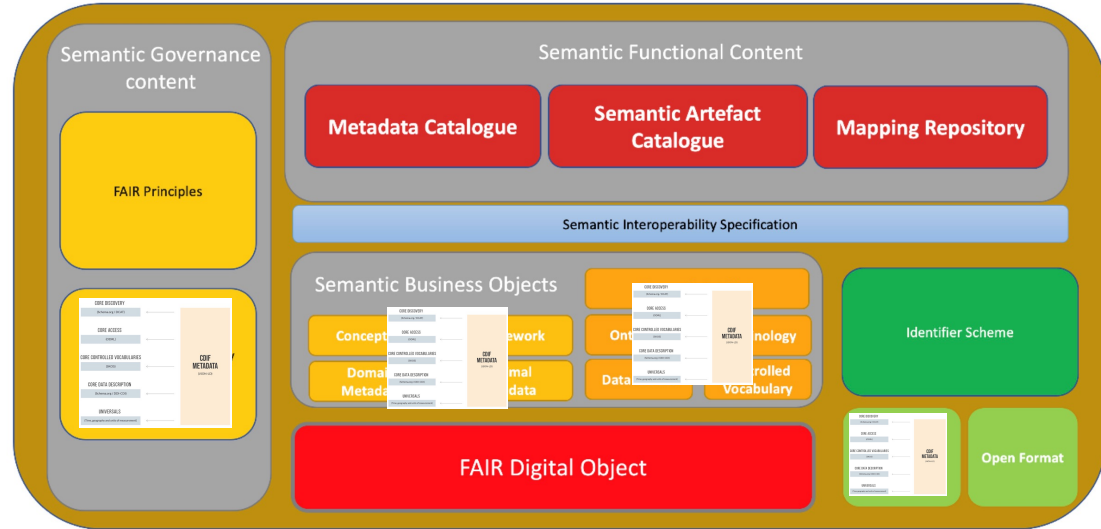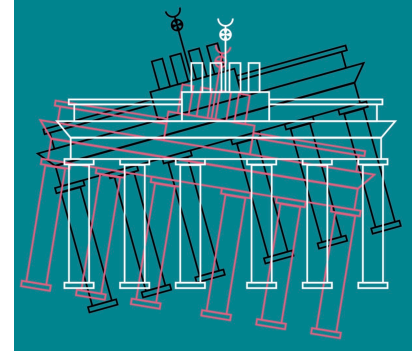
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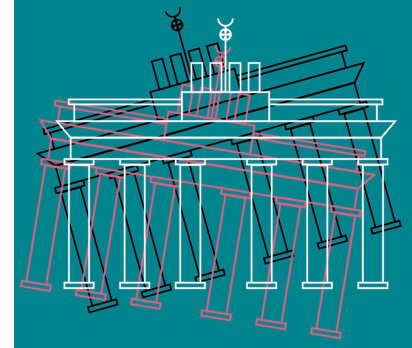
Why do we need interoperability?

- To enable science, to support interdisciplinary research, we need **data aggregation and data integration services** as part of EOSC and globally.

- To **reduce the opportunity cost** of not having FAIR data (the excessive cost and inefficiency of data wrangling), data and metadata need to be FAIR and machine-actionable.

- We need a shift **from a bibliographic model to a data engineering model** for data stewardship.

- Need to **enable research data infrastructures** to provide data aggregation and data integration services.

  ➢ WorldFAIR Policy Brief https://doi.org/10.5281/zenodo.11242702

Interoperability Framework

- Needs to be based on **standards**, **supported by implementation guidelines**.
    - Identify widely used standards for the purposes required.
    - Identify formats and technologies that will enable implementation.
- Needs to **address functional requirements based on common use cases**, and derive those use cases from close engagement with research disciplines and cross-domain research areas.

CDIF, the Cross-Domain Interoperability Framework

- The Cross Domain Interoperability Framework (CDIF) is based on a set of concrete, implementation-level principles intended to enhance any community's data management approaches and reduce the barriers to reusing data across domains.

- CDIF provides recommended standards and approaches to building different levels of interoperability needed for cross-domain data reuse.

- Adds specific detail to parts of the EOSC IF.

- Identifies a set of functional requirements and takes a modular approach.

- Makes standards-based recommendations informed by good practice in a range of research areas internationally.

- Provides a practical implementation guide.

  ➢ CDIF https://doi.org/10.5281/zenodo.11236871

  ➢ CDIF Book https://cross-domain-interoperability-framework.github.io/cdifbook/introduction.html

  ➢ Apply to join the Working Group or Advisory Group: : https://bit.ly/CDIF-AG-WG-Apply

CDIF: current profiles

CORE DISCOVERY

(Schema.org / DCAT)

CORE ACCESS

(ODRL)

CORE CONTROLLED VOCABULARIES

(SKOS)

CORE DATA DESCRIPTION

(Schema.org / DDI-CDI)

UNIVERSALS

(Time, geography and units of measurement)

CDIF METADATA

(JSON-LD)

CDIF: current work

CORE DISCOVERY
(Schema.org / DCAT)

UNIVERSALS
(Time, geography and units of measurement)

CORE ACCESS
(ODRL)

CONTEXT
(DDI-CDI / I-ADOPT?)

EXTENDED ACCESS
(ODRL)

PROVENANCE / PROCESS
(PROV?)

CDIF
METADATA
(JSON-LD)

Uses variables

CORE CONTROLLED VOCABULARIES
(SKOS)

MAPPINGS
Level 1 (SSSOM?)

Uses (Pairwise)

Uses

Uses

Uses

CORE DATA DESCRIPTION
(Schema.org / DDI-CDI)

DATA DESCRIPTION
Integration

Uses (Inputs & Result)