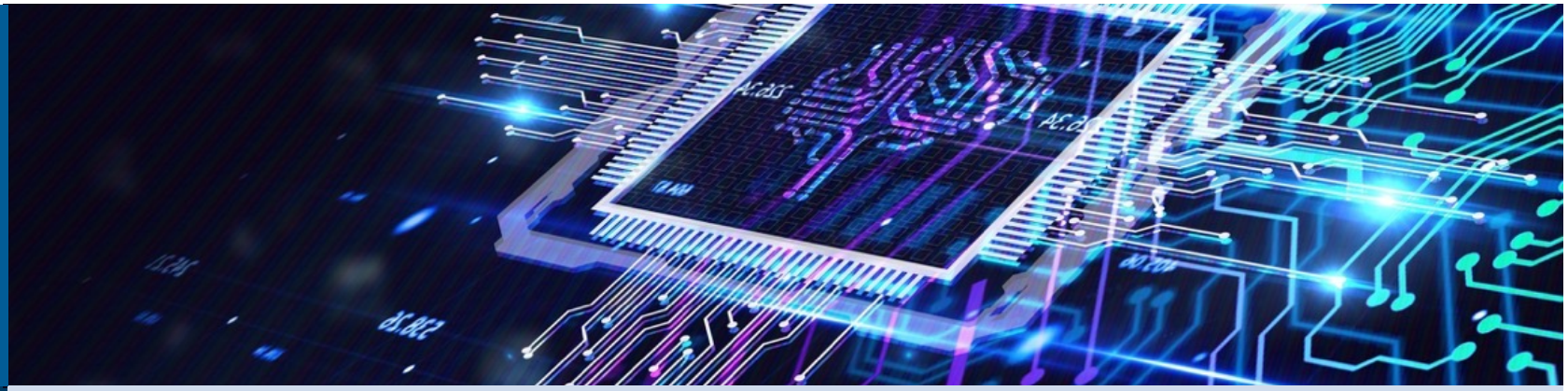
CSC

ICT Solutions for Brilliant Minds



FAIR & CARE principles

Géant Infoshare 18 November 2024

Jessica Parland-von Essen

The FAIR Principles

Findable

Accessible

Interoperable

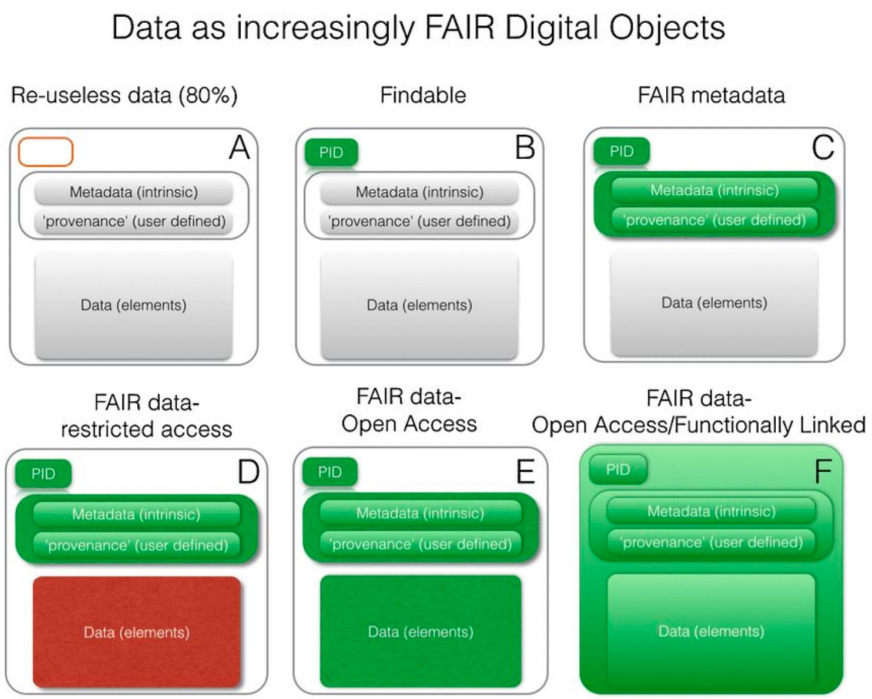
Reusable

Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* **3**, 160018 (2016). https://doi.org/10.1038/sdata.2016.18

FINDABLE

- F1. (Meta)data are assigned a globally unique and persistent identifier
- F2. Data are described with rich metadata (defined by R1 below)
- F3. Metadata clearly and explicitly include the identifier of the data they describe
- F4. (Meta)data are registered or indexed in a searchable resource

ACCESSIBLE



Mons B, Neylon C, Velterop J, Dumontier M, Da Silva Santos LOB, Wilkinson MD. Cloudy, increasingly FAIR; revisiting the FAIR Data guiding principles for the European Open Science Cloud. *Inf Serv Use*. 2017;37(1):49-56. https://doi.org/doi:10.3233/ISU-170824

A1. (Meta)data are retrievable by their identifier using a standardised communications protocol

- A1.1 The protocol is open, free, and universally implementable
- A1.2 The protocol allows for an authentication and authorisation procedure, where necessary

A2. Metadata are accessible, even when the data are no longer available

INTEROPERABLE

I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.

I2. (Meta)data use vocabularies that follow FAIR principles

I3. (Meta)data include qualified references to other (meta)data

Legal interoperability

Organisational interoperability

Technical interoperability

Semantic interoperability

REUSABLE

R1. (Meta)data are richly described with a plurality of accurate and relevant attributes

- R1.1. (Meta)data are released with a clear and accessible data usage license
- R1.2. (Meta)data are associated with detailed provenance
- R1.3. (Meta)data meet domain-relevant community standards

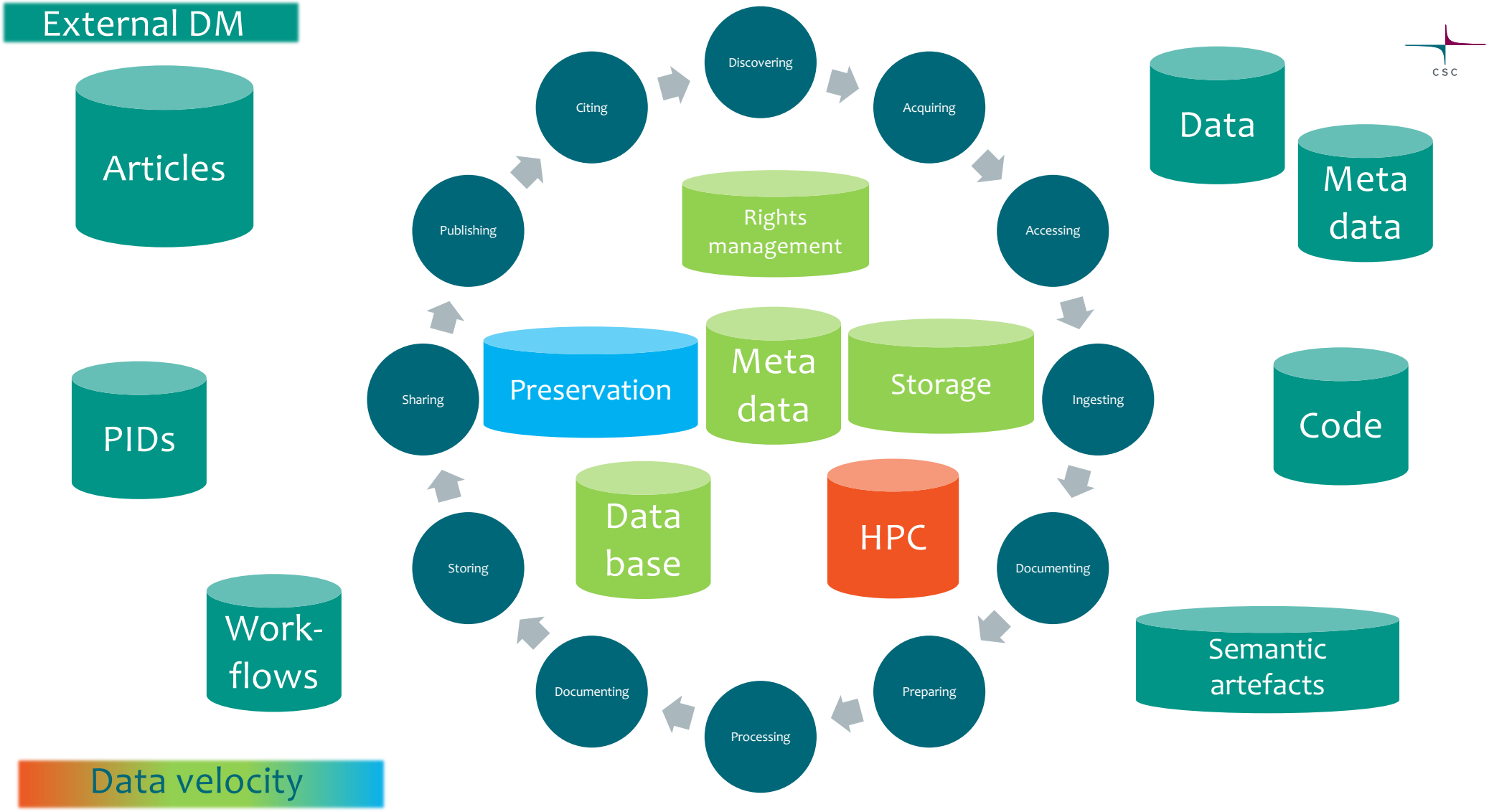
Leveraging the FAIR principles to support reproducibility and user centricity

Yann Le Franc, Luiz Bonino, Hanna Koivula, Jessica Parland-von Essen, & Robert Pergl. (2022). D2.8 FAIR Semantics Recommendations Third Iteration (V1.0). https://doi.org/10.5281/zenodo.6675295

RESEARCH DATA ALLIANCE WORKING GROUP SUPPORTING OUTPUT Research Hardware Definition

Barker, M., Chue Hong, N.P., Katz, D.S. et al. Introducing the FAIR Principles for research software. Sci Data 9, 622 (2022). https://doi.org/10.1038/s41597-022-01710-x

Sean Wilkinson, Meznah Aloqalaa, Khalid Belhajjame, Michael R. Crusoe, Bruno de Paula Kinoshita, Luiz Gadelha, Daniel Garijo, Ove Johan Ragnar Gustafsson, Nick Juty, Sehrish Kanwal, Farah Zaib Khan, Johannes Köster, Karsten Peters-von Gehlen, Line Pouchard, Randy K. Rannow, Stian Soiland-Reyes, Nicola Soranzo, Shoaib Sufi, Ziheng Sun, Baiba Vilne, Merridee A. Wouters, Denis Yuen, Carole Goble (2024): Applying the FAIR Principles to Computational Workflows. arXiv 2410.03490 [cs.DL] https://doi.org/10.48550/arXiv.2410.03490


External DM
Articles
PIDs
Work-flows
Discovering
Acquiring
Accessing
Ingesting
Documenting
Preparing
Processing
Documenting
Storing
Sharing
Publishing
Citing
Rights management
Preservation
Meta data
Storage
Data base
HPC
Data
Meta data
Code
Semantic artefacts
Data velocity

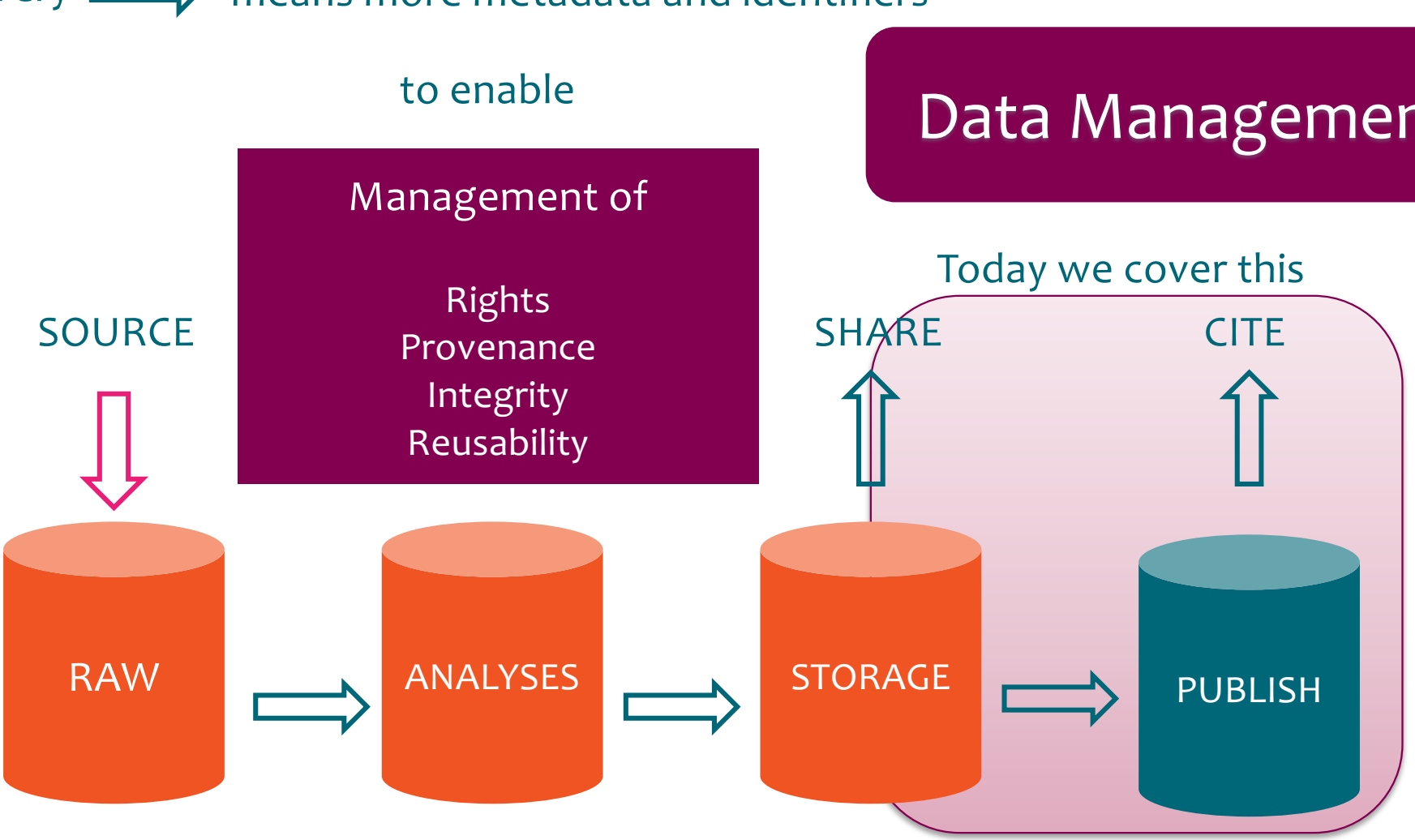
every ⇨ means more metadata and identifiers

to enable

Data Management

Management of

Rights
Provenance
Integrity
Reusability



The CARE principles

Carroll, S, et al. 2020. The CARE Principles for Indigenous Data Governance. Data Science Journal, 19: XX, pp. 1–12. DOI: https://doi.org/10.5334/dsj-2020-042

The convergence of technology and digital connectivity has increased the global value of data

- Data, whether digitized from existing knowledge or 'born digital', significantly impacts decision-making, resource allocation, and innovation.
- Indigenous Peoples' ability to exercise self-determination is affected by data's growing importance.
- Indigenous Peoples are often excluded from decision-making processes, with their knowledge marginalized due to its oral tradition.

Indigenous data sovereignty strengthens the right to make decisions based on Indigenous values and collective interests

- The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) reaffirms their rights to self-governance and control over Indigenous cultural heritage.
- Indigenous data encompass languages, knowledge, practices, technologies, natural resources, and territories.
- These data include information collected by governments and institutions about Indigenous Peoples.

C1 For inclusive development and innovation

C2 For improved governance and citizen engagement

C3 For equitable outcomes

A1 Recognizing rights and interests

A2 Data for governance

A3 Governance of data

R1 For positive relationships

R2 For expanding capability and capacity

R3 For Indigenous languages and worldviews

E1 For minimizing harm and maximizing benefit

E2 For justice

E3 For future use

RIIKKAARKIIVA

Oktavuođadieđut

Davvisámegiella

DAIMMAT

DIEHTU MIS

RÁVA

Materiálat ja bálvalusat

Suoma Riikkaarkiiva

Ovdasiidu / Suoma Riikkaarkiiva

Sisdoallu

Oza siidduin

Oktavuođadieđut

Riikkaarkiivva

Suoma Riikkaarkiivva bargun lea sihkkarastit álbmotlaš kulturárbái gullevaš áššebáhpáriid seailuma ja ovddidit daid dutkangeavahusa. Bargguide gullá maiddái suorggi dutkan- ja ovddidandoaibma.

Finto.fi:i!

Finto.fi lea guovdilaston bálvalus sierra surggiid ovttasdoaibmi sátnerájuide, ontologiijaide ja klassifikašuvnnaide. Sáhtát geavahit Finto.fi-

Jessica Parland-von Essen

parland@csc.fi

https://www.linkedin.com/in/jessicaparlandvessen/

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