ExPaNDS

European Open Science Cloud Photon and Neutron Data Services

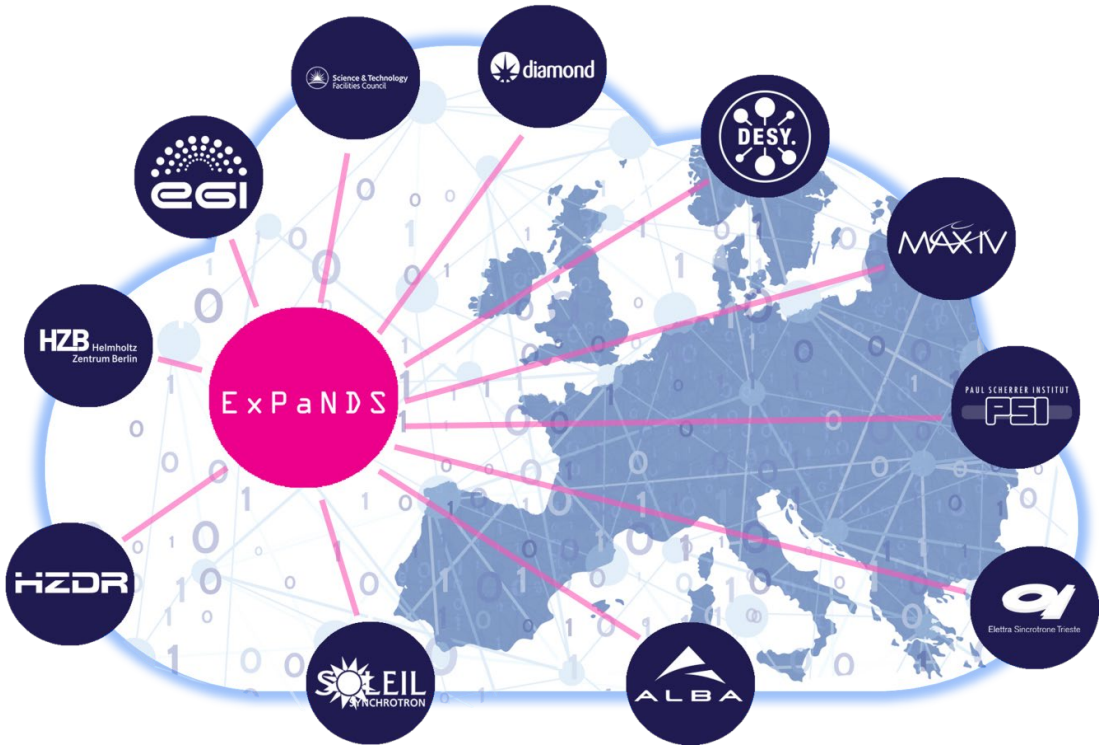
ExPaNDS Symposium for Librarians and Data Managers

30 September 2021

This project receives funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 857641

EUROPEAN OPEN SCIENCE CLOUD

Working towards FAIR data for experimental facilities.



www.expands.eu

paNOSC

www.panosc.eu

ExPaNDS WP2: Enabling FAIR data
PaNOSC WP2: Data Policy and Stewardship

- No cluster project in H2020 EOSC programme targeted specifically at chemistry and materials, but:
  - ESFRI Cluster project: PaNOSC
  - Thematic project for national institutions: ExPaNDS
- Review and recommend the policies, practises, standards and tools which would develop best practise for FAIR data generation and use in the National Photon and Neutron RIs.
  - In the policies of the RIs
  - In the data-generation, collection and analysis process
  - In Data Management Planning
- Raising awareness and competence in FAIR data of our scientific communities.

To guide services to support FAIRness

Findable Accessible Interoperable Reusable : a recipe for Open Science

Image credit: Sungya Pundir, Wikimedia Commons CC BY-SA 4.0

- With general criteria
- FAIR is not the same as OPEN - Specify conditions of access
- FAIR is being open about data

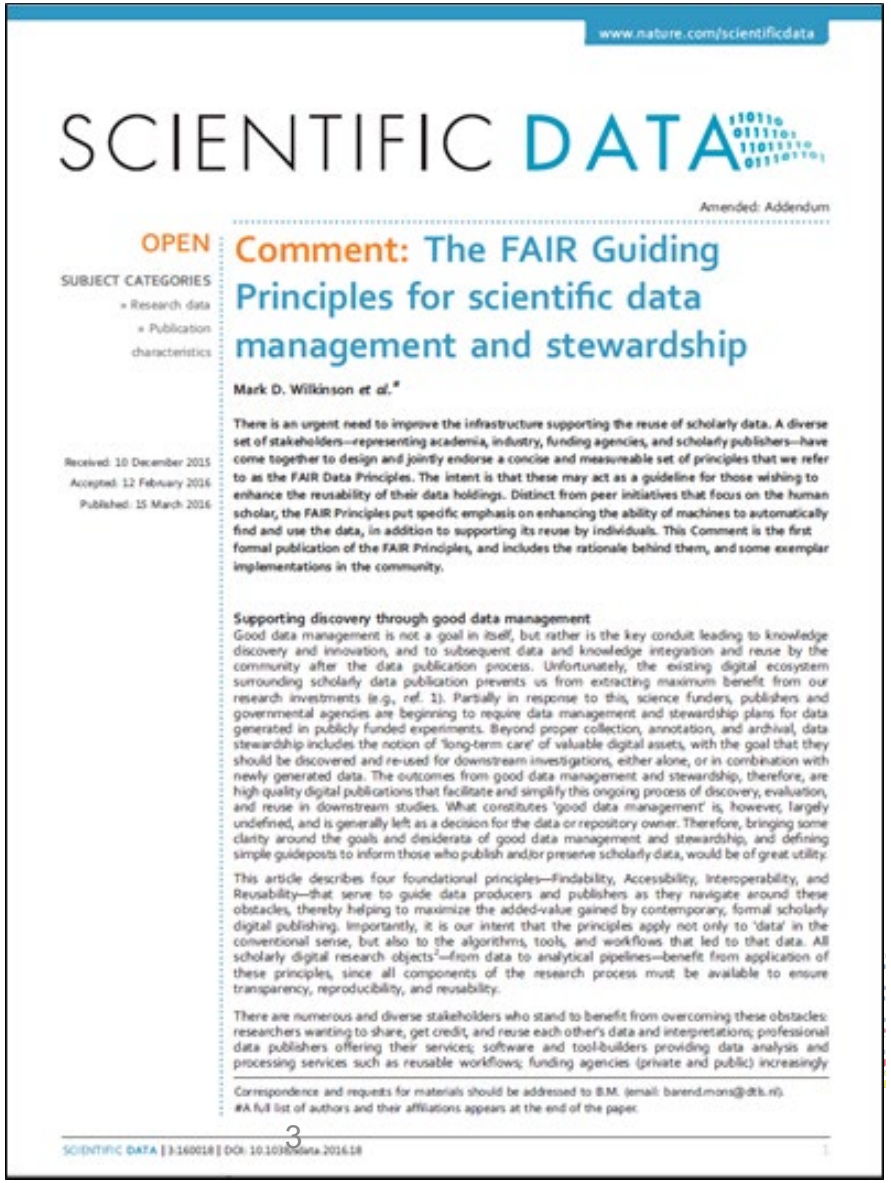
General Recommendations give a general framework for FAIR

Reflected in funder policies – e.g. in the EOSC.

How should researchers working in a discipline modify their work practices to make it FAIR ?

How should institutes within a discipline support FAIR science ?

How do we Enable FAIR Data Science within P&N RIs ??



www.nature.com/scientificdata

SCIENTIFIC DATA

Amended: Addendum

OPEN

SUBJECT CATEGORIES
» Research data
» Publication characteristics

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Comment: The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson *et al.*#

There is an urgent need to improve the infrastructure supporting the reuse of scholarly data. A diverse set of stakeholders—representing academia, industry, funding agencies, and scholarly publishers—have come together to design and jointly endorse a concise and measureable set of principles that we refer to as the FAIR Data Principles. The intent is that these may act as a guideline for those wishing to enhance the reusability of their data holdings. Distinct from peer initiatives that focus on the human scholar, the FAIR Principles put specific emphasis on enhancing the ability of machines to automatically find and use the data, in addition to supporting its reuse by individuals. This Comment is the first formal publication of the FAIR Principles, and includes the rationale behind them, and some exemplar implementations in the community.

Supporting discovery through good data management

Good data management is not a goal in itself, but rather is the key conduit leading to knowledge discovery and innovation, and to subsequent data and knowledge integration and reuse by the community after the data publication process. Unfortunately, the existing digital ecosystem surrounding scholarly data publication prevents us from extracting maximum benefit from our research investments (e.g., ref. 1). Partially in response to this, science funders, publishers and governmental agencies are beginning to require data management and stewardship plans for data generated in publicly funded experiments. Beyond proper collection, annotation, and archival, data stewardship includes the notion of 'long-term care' of valuable digital assets, with the goal that they should be discovered and re-used for downstream investigations, either alone, or in combination with newly generated data. The outcomes from good data management and stewardship, therefore, are high quality digital publications that facilitate and simplify this ongoing process of discovery, evaluation, and reuse in downstream studies. What constitutes 'good data management' is, however, largely undefined, and is generally left as a decision for the data or repository owner. Therefore, bringing some clarity around the goals and desiderata of good data management and stewardship, and defining simple guideposts to inform those who publish and/or preserve scholarly data, would be of great utility.

This article describes four foundational principles—Findability, Accessibility, Interoperability, and Reusability—that serve to guide data producers and publishers as they navigate around these obstacles, thereby helping to maximize the added-value gained by contemporary, formal scholarly digital publishing. Importantly, it is our intent that the principles apply not only to 'data' in the conventional sense, but also to the algorithms, tools, and workflows that led to that data. All scholarly digital research objects[2]—from data to analytical pipelines—benefit from application of these principles, since all components of the research process must be available to ensure transparency, reproducibility, and reusability.

There are numerous and diverse stakeholders who stand to benefit from overcoming these obstacles: researchers wanting to share, get credit, and reuse each other's data and interpretations; professional data publishers offering their services; software and tool-builders providing data analysis and processing services such as reusable workflows; funding agencies (private and public) increasingly

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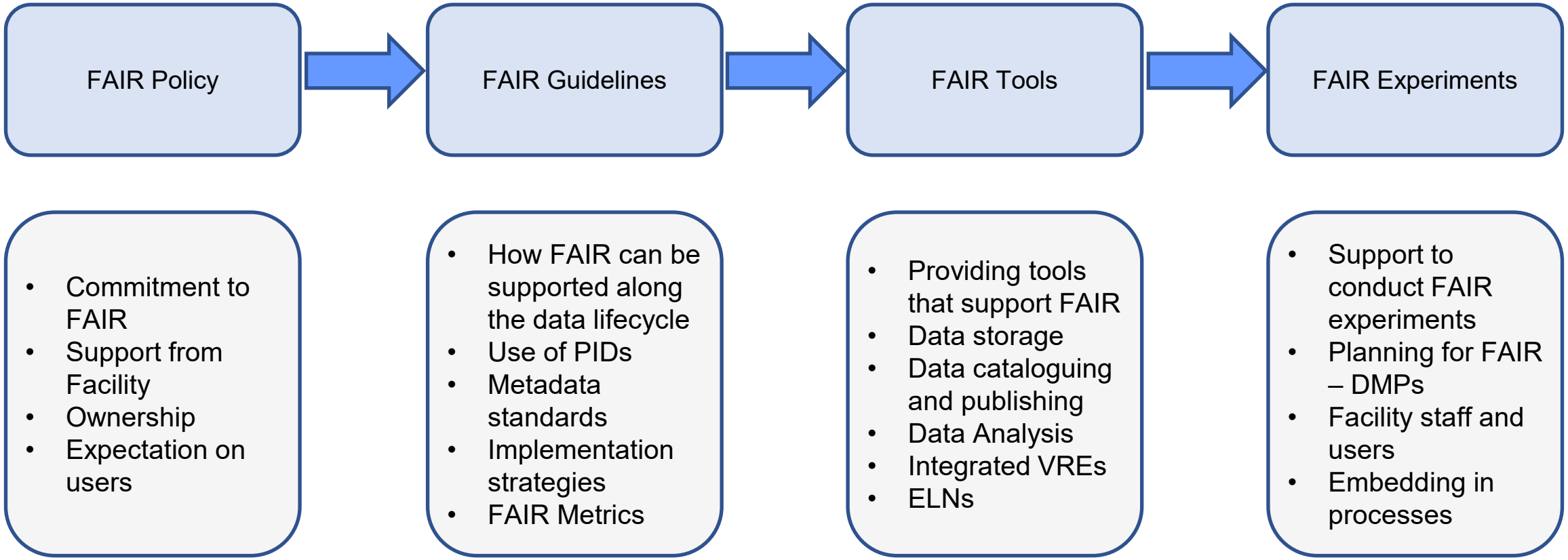
Steps towards FAIR Facilities



The Role of Facilities Librarians

- Facilities Librarians play a role in making research FAIR
  - Curating and maintaining the records of Science
  - Communicating those records with the research community
  - Recording the citation and impact of Science
- Working with Data Managers, Policy Makers, Instrument Scientists

Programme for the Day

Chose some key themes on particular concern to Facilities Librarians

10:00 – 10:10	Introduction	**Brian Matthews** (UKRI / STFC)
10:10 – 11:00	Data Licensing & Legislation	**Lauro Fava** (Pinsent Masons) **Rebecca Grant** (F1000, T&F)
11:00 – 11:50	Linking & Inter-relationships	**Vasily Bunakov** (UKRI/STFC) Persistent Identifiers (PIDs) **Renaud Duyme** (ESRF) PUMA Project
11:50 – 12:00	Wrap up AM session	**Abigail McBirnie** (UKRI/STFC)

15:00 – 15:10	Introduction – afternoon session	**Abigail McBirnie** (UKRI/STFC)
15:10 – 16:00	Impact & FAIR metrics	**Mark Thorley** (UKRI/STFC) : OECD research data recommendations **Robert Huber** (Universität Bremen) : F-UJI Tool
16:00 – 16:20	Publishing the experiment	**Oliver Knodel** (HZDR)
16:20 – 16:50	Final Q&A session from across the day	**Brian Matthews** (UKRI/STFC)
16:50 – 17:00	Wrap up PM session	**Brian Matthews** (UKRI/STFC)