



Implementing FAIR Workflows

PIDs in the research project lifecycle

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Co-funded by
the European Union



Agenda

- Implementing FAIR Workflows – Helena
- Practicing FAIR – the researcher's perspective – Zefan
- Purpose-built project PID – Shawn

Implementing FAIR Workflows

A Proof of Concept Study in the Field of Consciousness



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FAIR Workflows Project



4. Research design



5. Experiment conducted



6. Research code, data, other outputs deposited



7. Preprint submitted



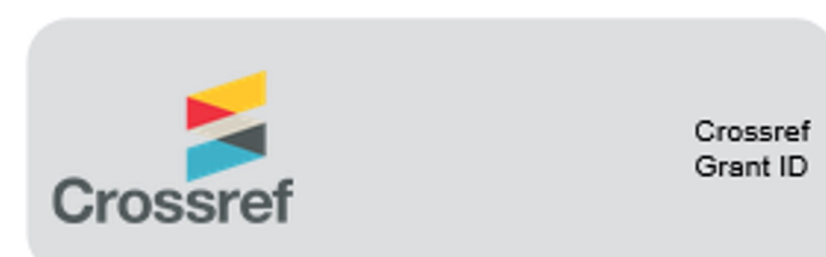
8. Research article published



1. Grant Application

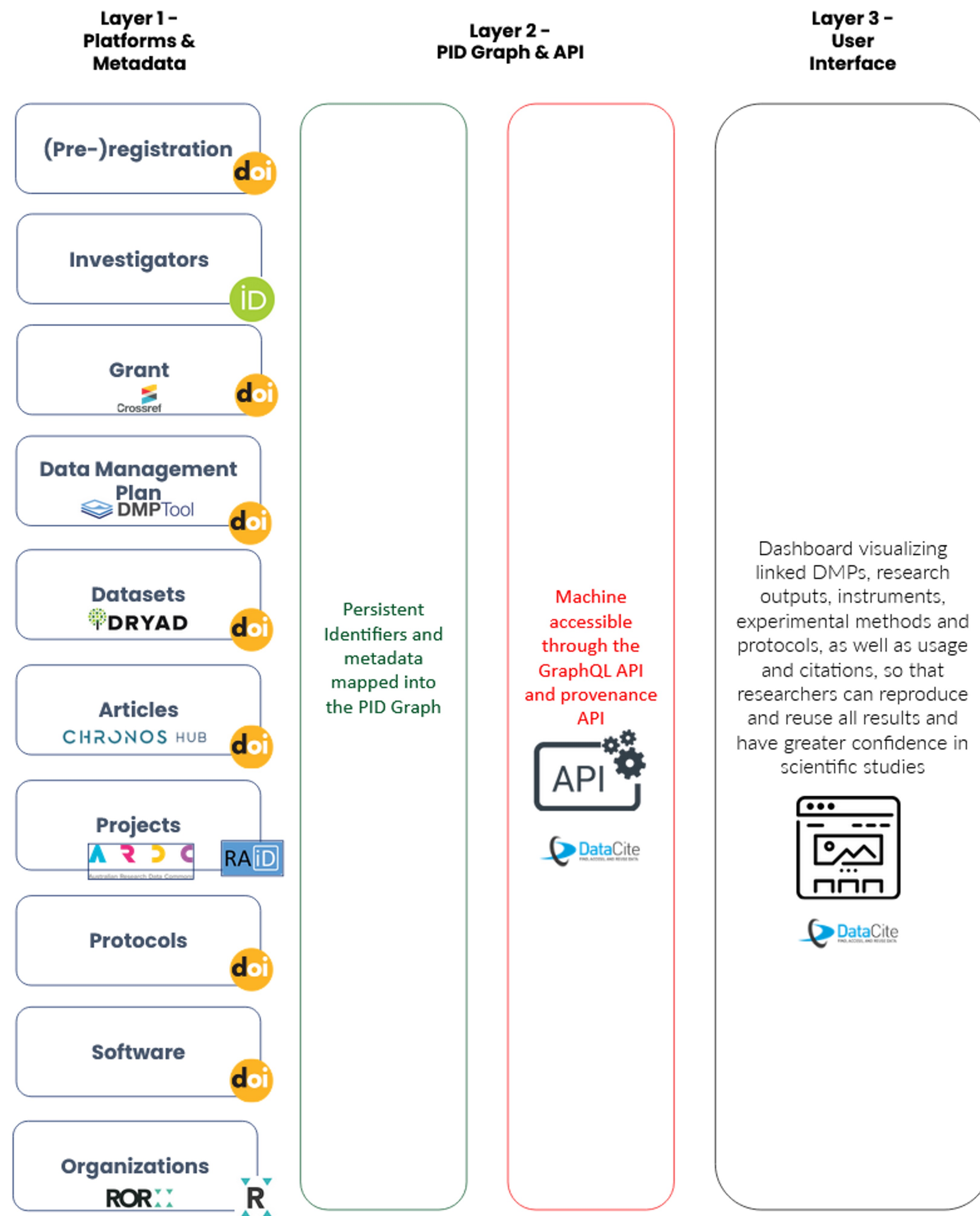


2. Register Grant



3. Submit Data Management Plan





- DMPTool – Machine-actionable DMP authoring platform

- ChronosHub - Open Access publishing management platform

[illegible]

The image is a composite of several elements related to the FAIR Workflows project. At the top center is the FAIR Workflows logo, which features a brain icon above the word 'FAIR' in a stylized font, with 'WORKFLOWS' in a blue box below it. Below the logo, the project title 'Implementing FAIR Workflows: a proof of concept study in the field of consciousness' is displayed in a bold, black font. Underneath the title, the TWCF Grant No. 'TWCF0568' is shown. The main title of the document, 'D2.4 Persistent Identifiers in Action: System Integrations Supporting FAIR Workflows', is centered in a large, black font. Below the title, the date 'Nov 30, 2023' is shown in a grey box. To the left of the date, the text 'Date' is visible. Below the date, the authors and contributors are listed in two columns: Nikolaj Borup, Yan Cao, Xiaoli Chen, Helena Cousijn, Martin Jagerhorn, Mark Musen, and Martin O'Connor on the left; and Maria Praetzellis, Brian Riley, Ryan Scherle, Shawn Ross, Kelly Stathis, and Natasha Simons on the right. Below the authors, the status 'Public' is shown in a grey box. To the left of the status, the text 'Status' is visible. At the bottom center is the Templeton World Charity Foundation logo, which consists of a circular emblem with a butterfly and the text 'TEMPLETON WORLD CHARITY FOUNDATION' to its right. Below the logo, a paragraph of text states: 'This project was made possible through the support of a grant from Templeton World Charity Foundation, Inc. The opinions expressed in this publication are those of the author(s) and do not necessarily reflect the views of Templeton World Charity Foundation, Inc.'

<https://doi.org/10.5281/zenodo.10220245>

Incentivize PID adoption from the start

Guide for funders



Funder guide harmonizing recommendations across key open infrastructure organizations (co-authored by DataCite, Crossref, ORCID, and with input from ROR and RAiD)

Role of funders in advancing FAIR research

Know and maintain Funder IDs

Create and manage Grant IDs

Provide guidance for researchers

Adoption of PIDs and metadata workflows

Influencing and accelerating adoption across stakeholder groups



Project Title **Implementing FAIR Workflows: a proof of concept study in the field of consciousness**

TWCF Grant No **TWCF0568** <https://doi.org/10.54224/20568>

D3.2 Guide for funders to support FAIR workflows & enable research tracking

Date **August 31, 2023**

Authors **Xiaoli Chen, DataCite
Helena Cousijn, DataCite
Ginny Hendricks, Crossref
Shawna Sadler, ORCID
Kelly Stathis, DataCite**

Status **Public**



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<https://doi.org/10.5281/zenodo.8289142>

Create actionable instruction manual

Guide for researchers



Flyer outlining steps researchers can take to share all their research outputs with PIDs and metadata to make their research process and practices FAIR.

- Direct benefits for researchers
- How PIDs and metadata support each facet of FAIR
- The What/Why/How of FAIR sharing
- Check-lists of specific action items through each stage of the research project.



<https://doi.org/10.5281/zenodo.11355855>

- 10.60581/zaev-6p15

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Implementing FAIR Workflows: A Proof of Concept Study in the Field of Consciousness

<https://doi.org/10.60581/zaev-6p15>

1 Citation

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Cousijn, H., & Melloni, L. (2021). *Implementing FAIR Workflows: A Proof of Concept Study in the Field of Consciousness*. DataCite. <https://doi.org/10.60581/ZAEV-6P15>

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Contributors

Zefan 5
Trübtschek, Darinka 4
Lucia 3
Nicole 1

Contributors

8
3
1
1
1
1

Description

Templeton World Charity Foundation

Implementing FAIR Workflows: A Proof of Concept Study in the Field of Consciousness

0568

Project published 2021 in [FAIR Workflows](#)

Other · Psychology · English

<https://doi.org/10.60581/zaev-6p15>

Related Works

Publication Year

Work Types

Study Registration 80%

0% 20% 40% 60% 80% 100%

Project Study Registration

Contributions to parts

Zheng, Zefan
Trübtschek, Darinka
Melloni, Lucia

Project Title
Implementing FAIR Workflows: A Proof of Concept Study in the Field of Consciousness

TWCF Grant No
TWCF0568

Date
29.02.2021

Authors
Xiaoli Chen, Helena Chen, Kelly Stauffer

Status
Public

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Replicating Attribute Amnesia Effect in the Single-Stimulus Design

Lucia Melloni, Darinka Trübtschek, Xiaoli Chen & Zefan Zheng
Pre Registration published 2022 in [Open Science Framework](#)

Attribute Amnesia refers to the phenomenon that subjects fail to report some features (e.g., colour) of a stimulus after they have been asked to repetitively report some other features (e.g., numeric parity) of the same stimulus (Chen & Wyble, 2015). This effect has

<https://doi.org/10.60581/odo.1071317>

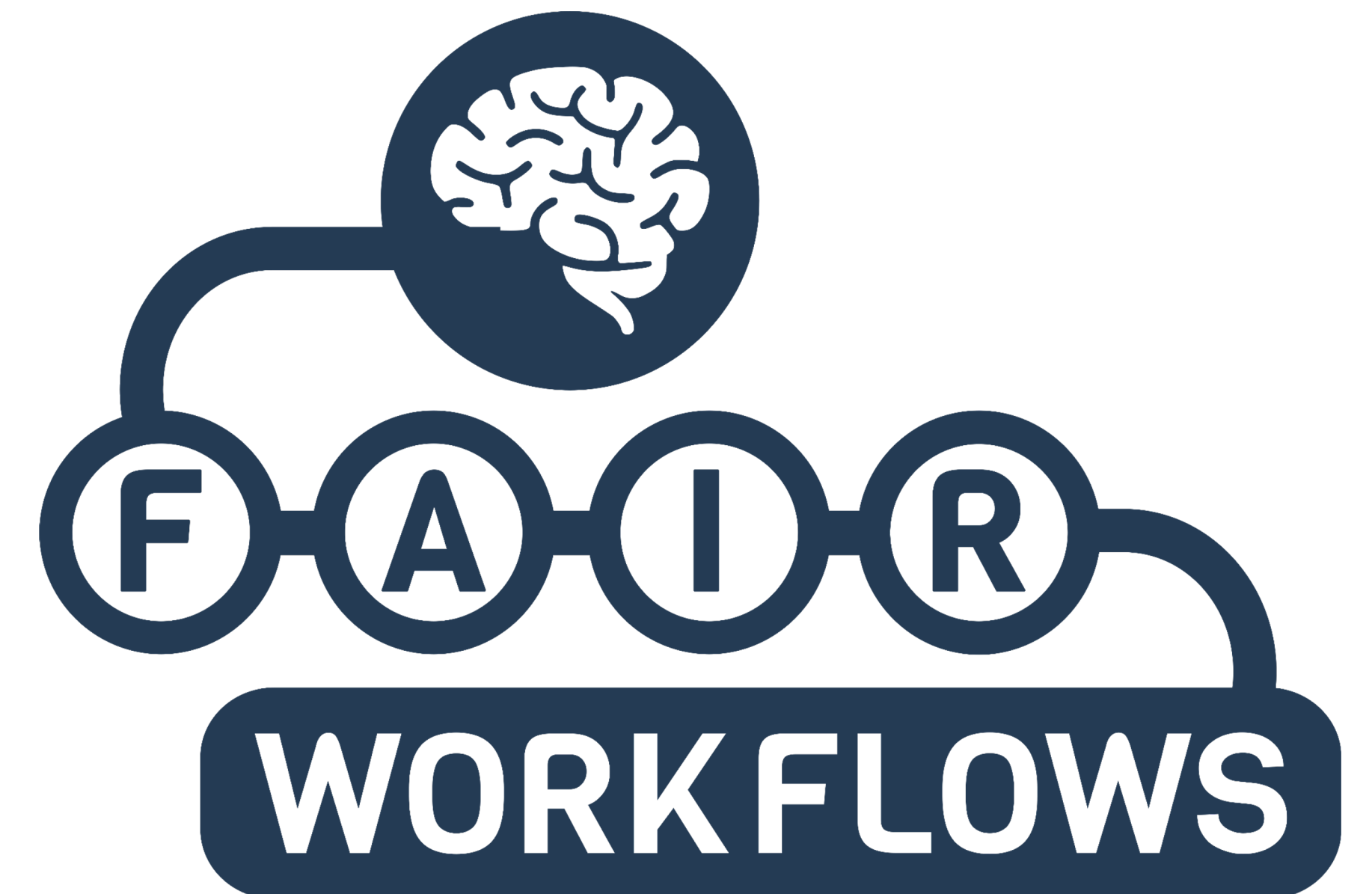
<https://commons.datacite.org/doi.org/10.17605/osf.io/h4nug>

<https://doi.org/10.5281/zenodo.10713171>

Making FAIR practices stick

Next project phase

- **Scaling:** validate the established FAIR workflows in a collaborative research environment
- **Monitoring reuse:** track the open and FAIR outputs post-project period
- **Dissemination and training:** create curriculum and training for researchers globally





Learning to be FAIR

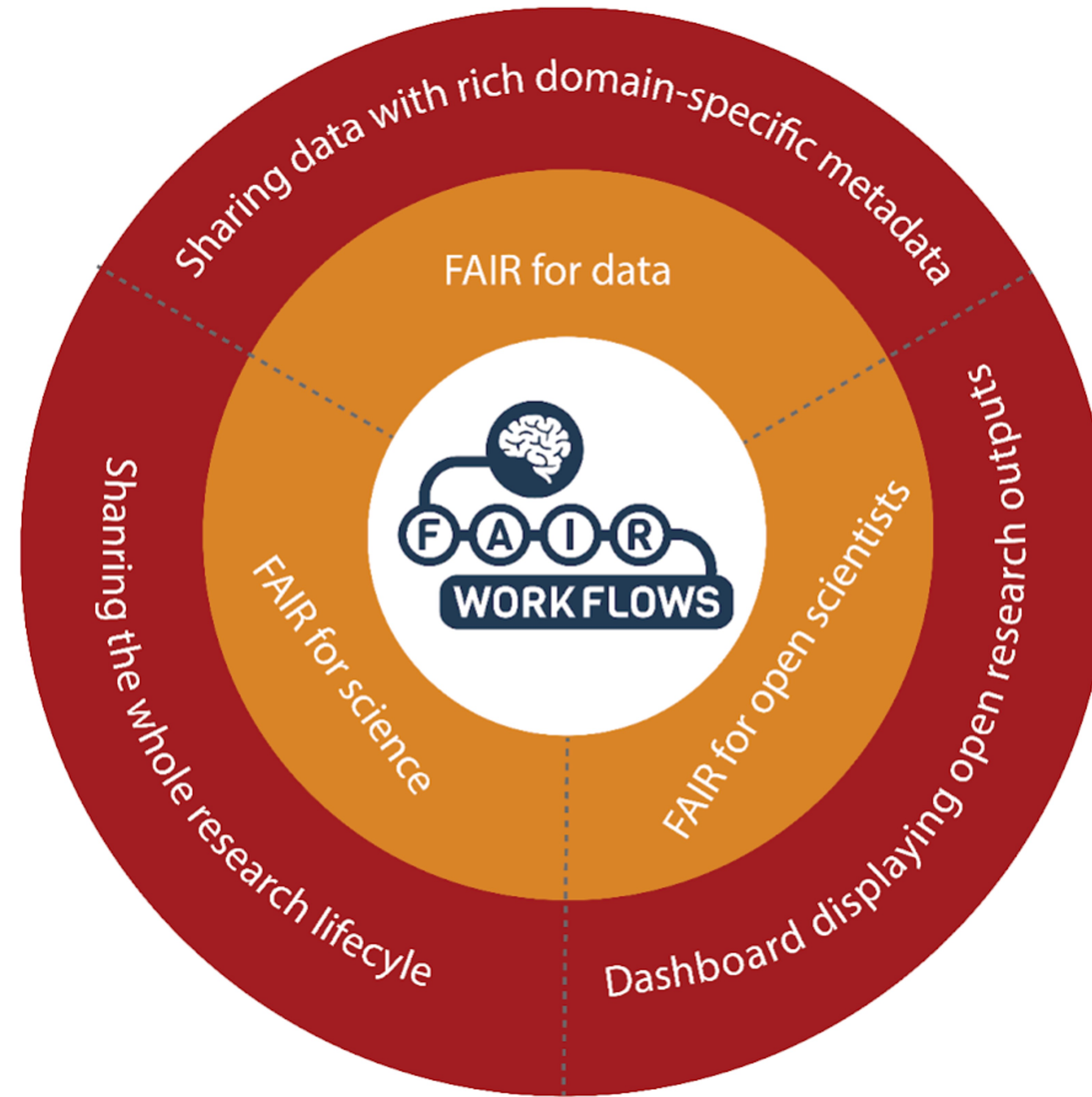
Zefan Zheng 
Max Planck Institute for Empirical Aesthetics



Co-funded by
the European Union



A recap



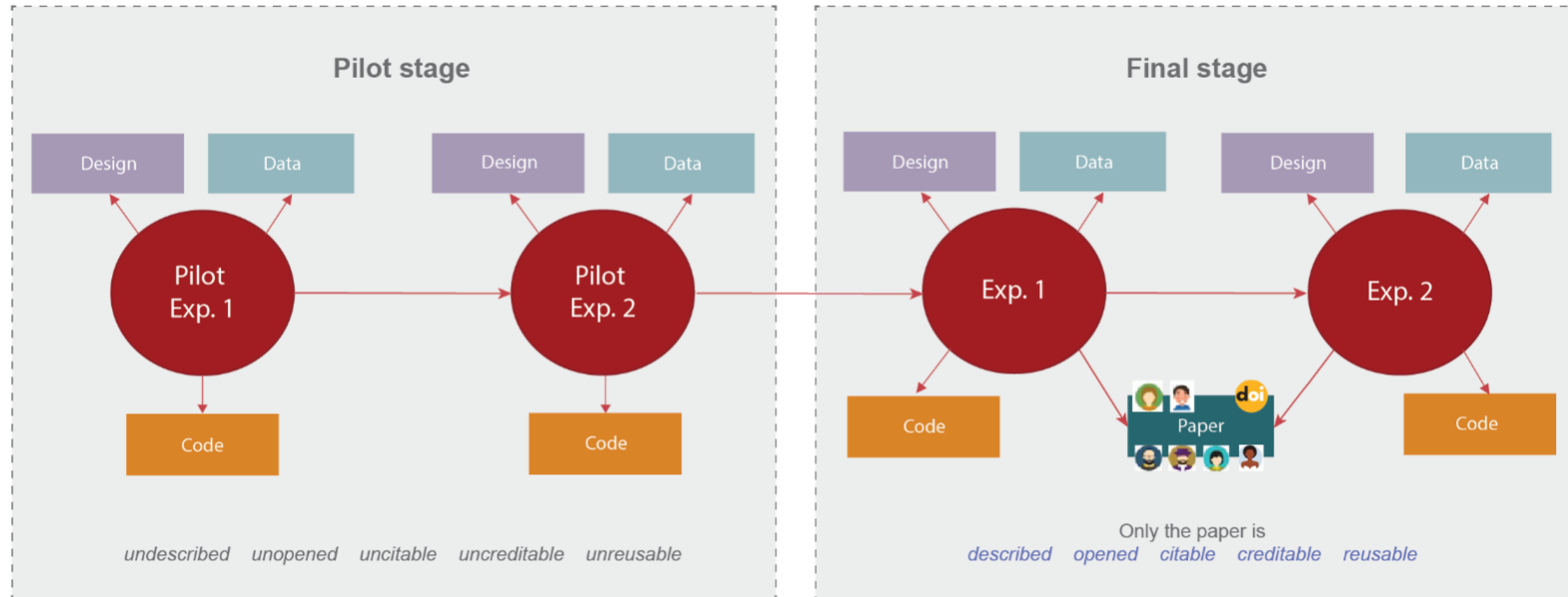
“Most senior academics will have experience of early career researchers setting out on a project that attempts to build on previous work and finding that they cannot replicate what appeared to be a robust finding.

Only later do they discover that others are aware of this problem but have not published their own null results.

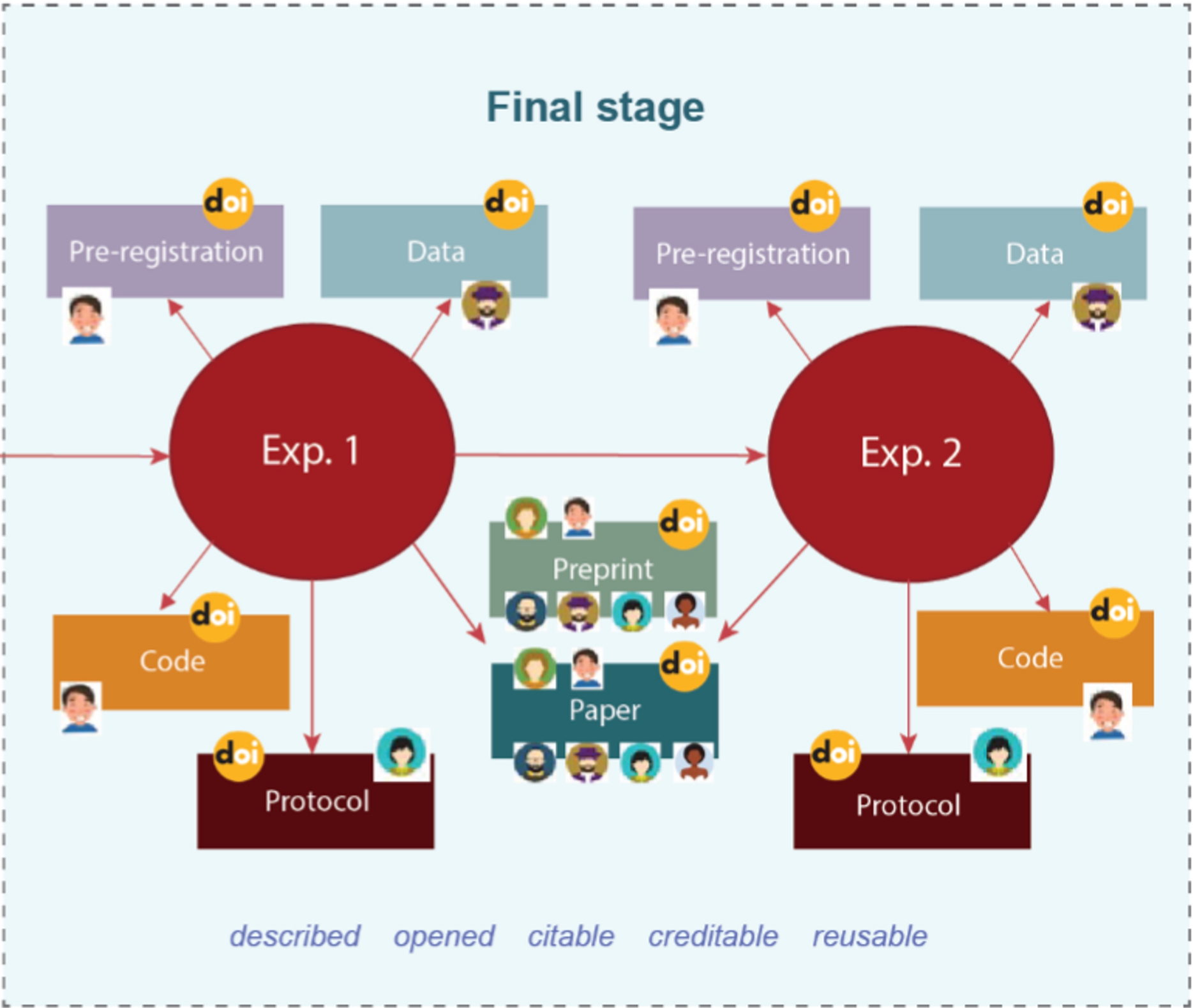
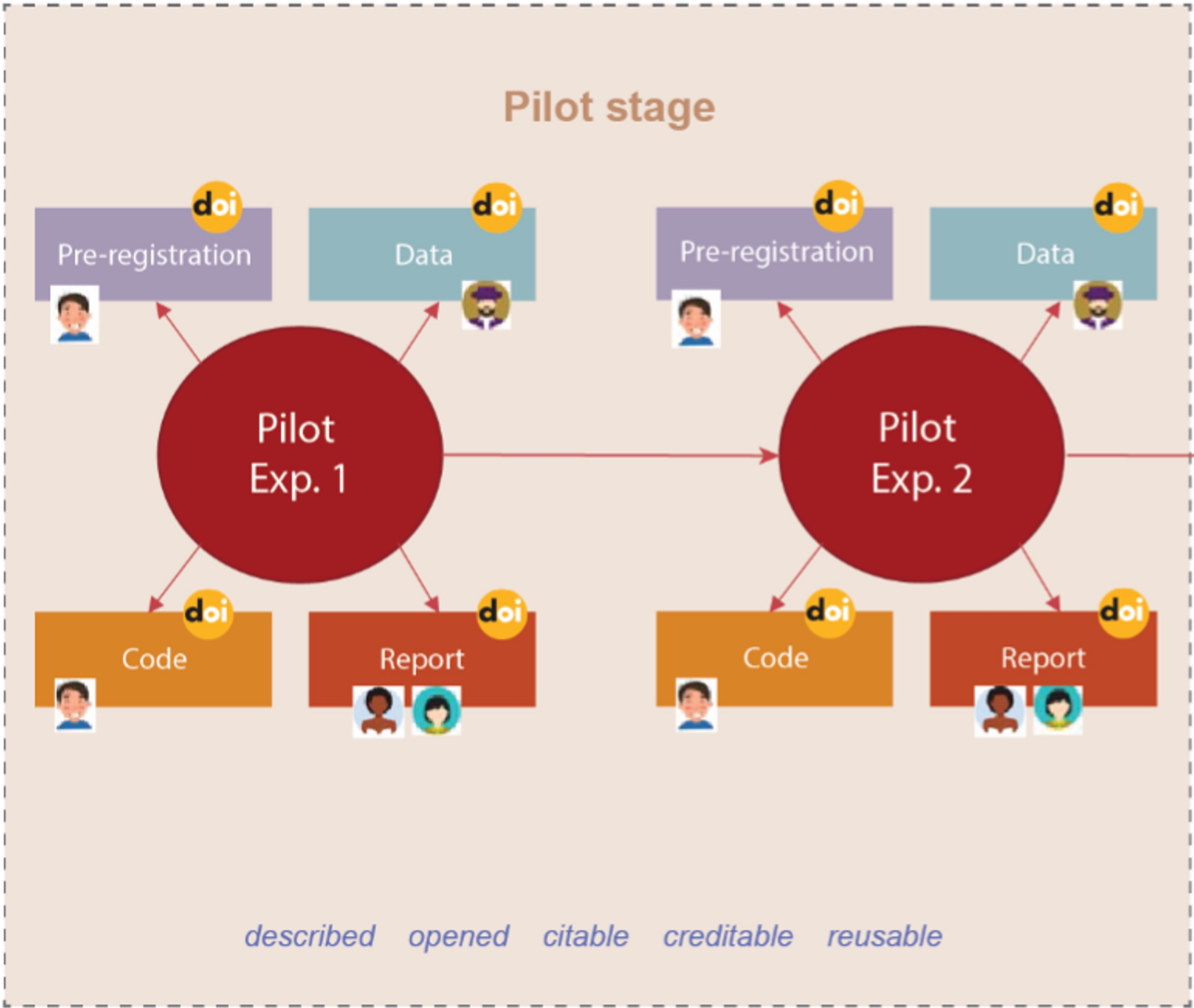
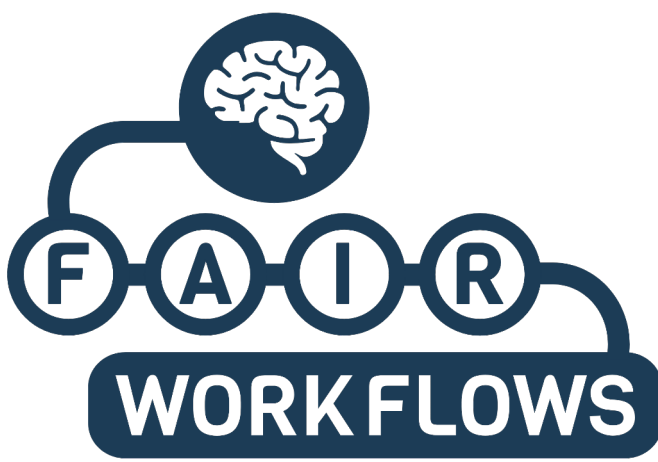
This knowledge remains hidden from the public record, to the detriment of science.”

-- Munafò & Neill (2016)

The traditional workflow



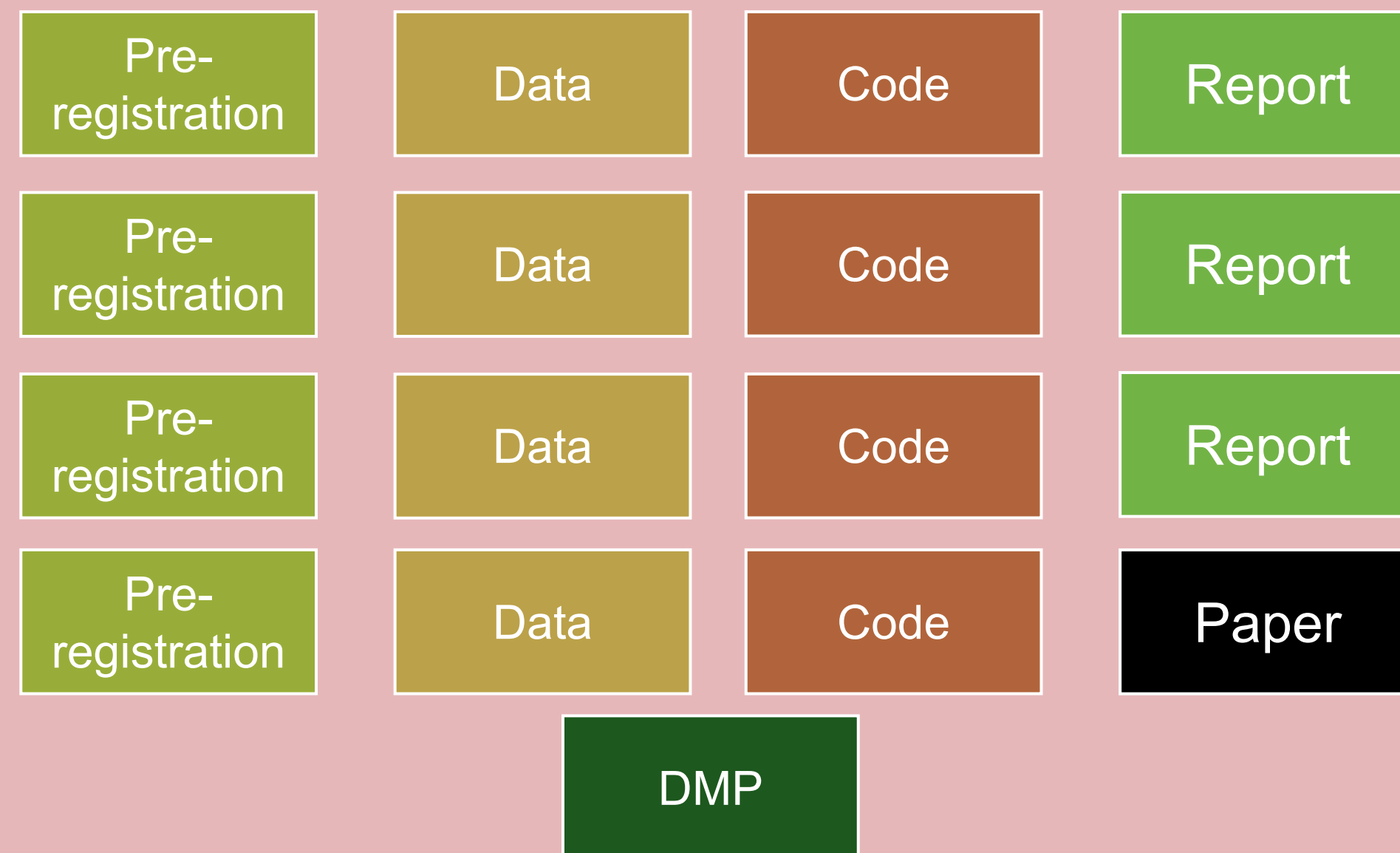
The FAIR research workflow



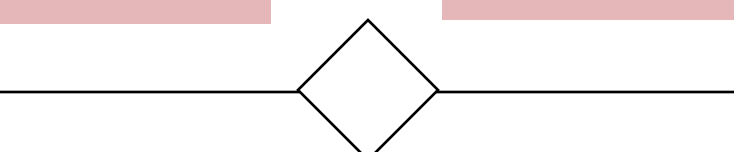
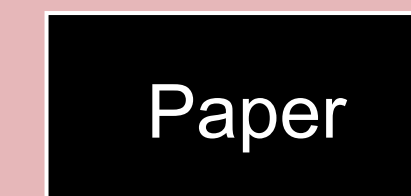
Now I am a PhD



My sharing workload for one paper



Other people's sharing workload for one paper



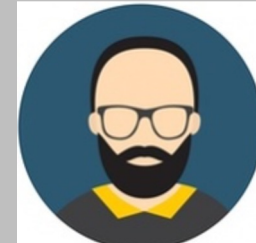
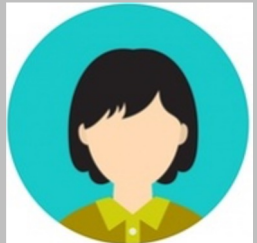
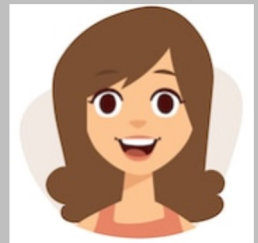
Now I am a PhD

BUT

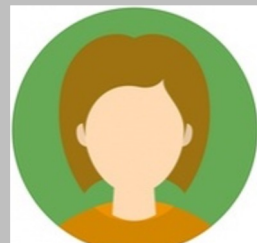


Creditable and Reusable Research
Outputs Now

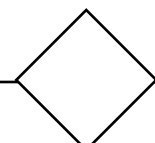
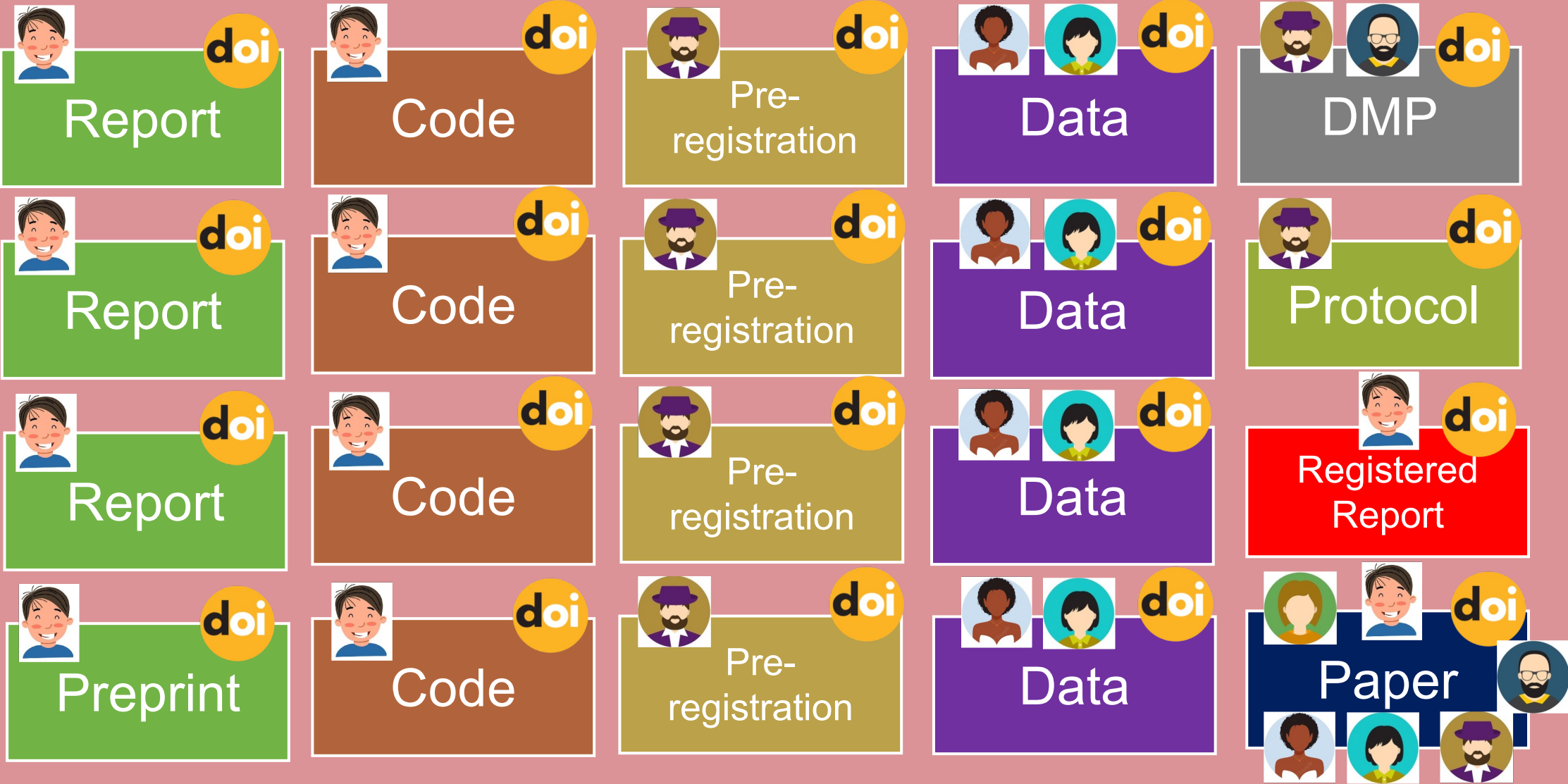
first
author



senior
author



Creditable and Reusable Research Outputs
With the FAIR Workflow



Now I am a PhD



How much time does FAIR practice actually cost?

I am recording the extra time costs on depositing these outputs on the weekly basis

Pre-registration	Data	Code	Report
Pre-registration	Data	Code	Report
Pre-registration	Data	Code	Report
Pre-registration	Data	Code	

Extra work load =

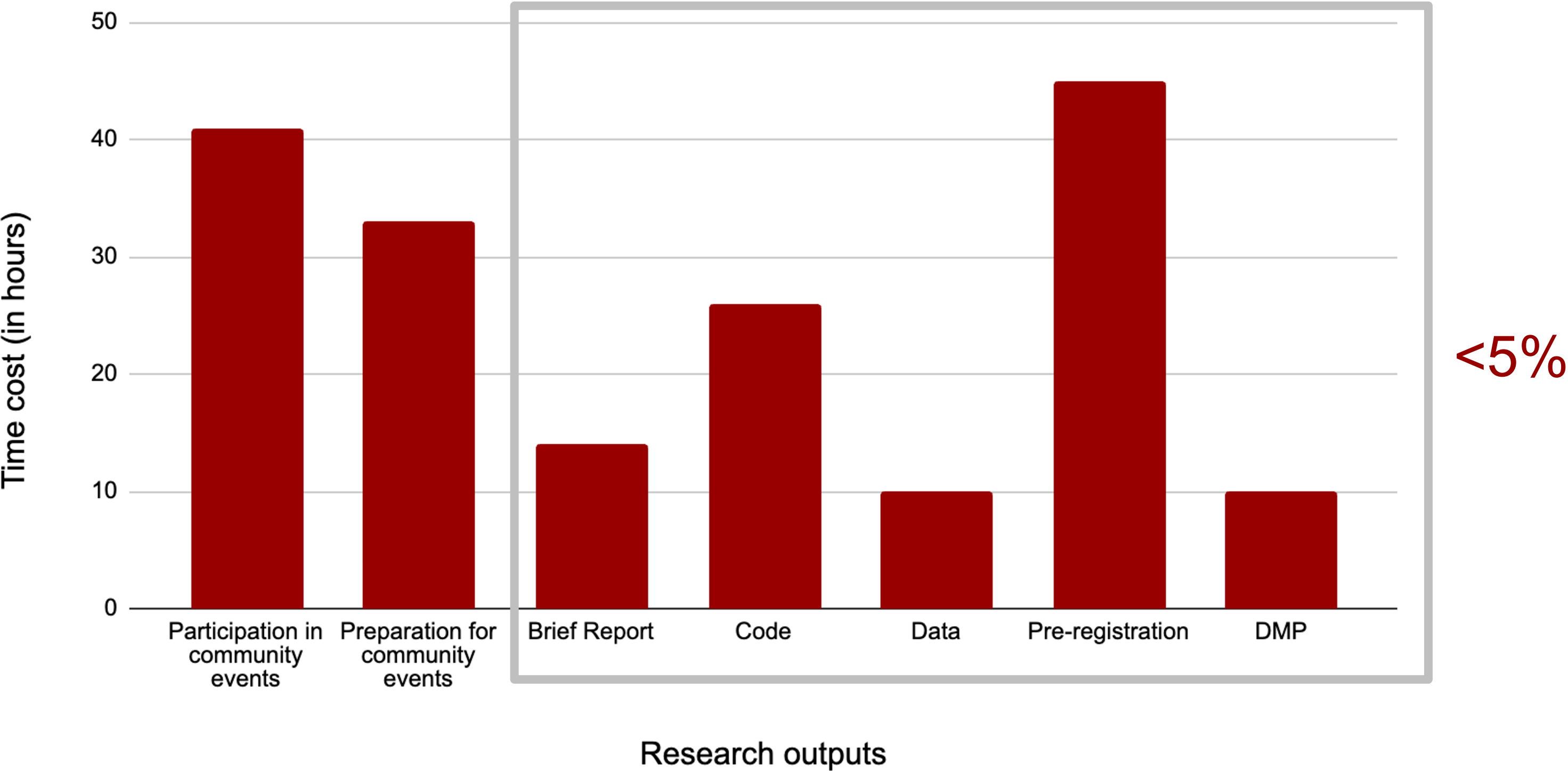
Extra time
cost

Total working
time

= ~8%

Now I am a PhD

Time cost of open practices in 2320 working hours of Author Z. Z.

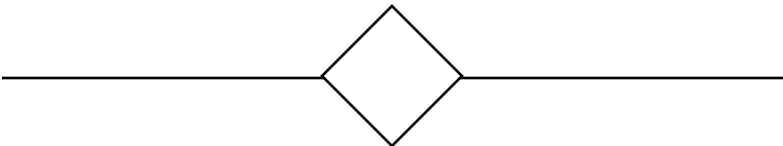


**Ideal
Practice**

Hypothesis
“Prague is more
beautiful than
Frankfurt”

Searching Engine

Measure: **Sujective** rating
Location: **Prague and Frankfurt**
No. Participants: **> 100**



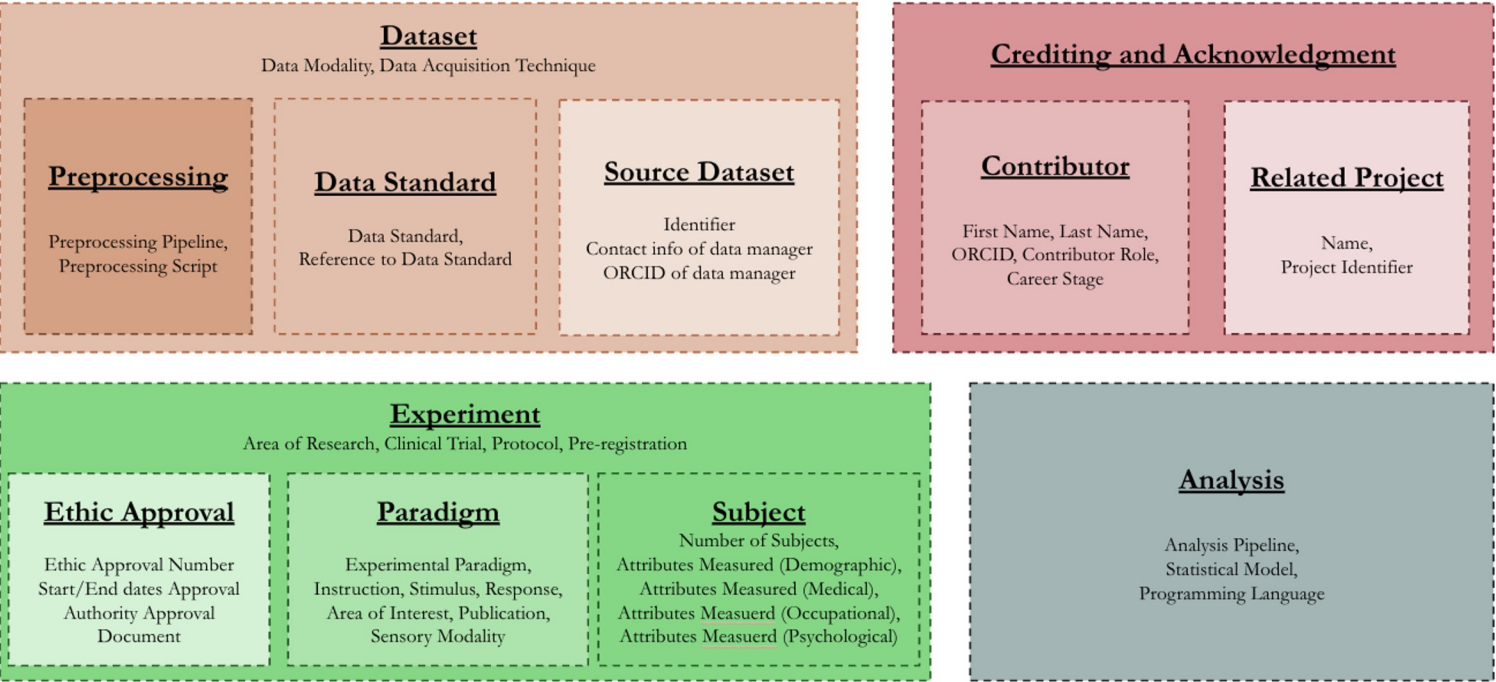
Now I am a PhD

Entries in the metadata template supported by fully controlled vocabulary:

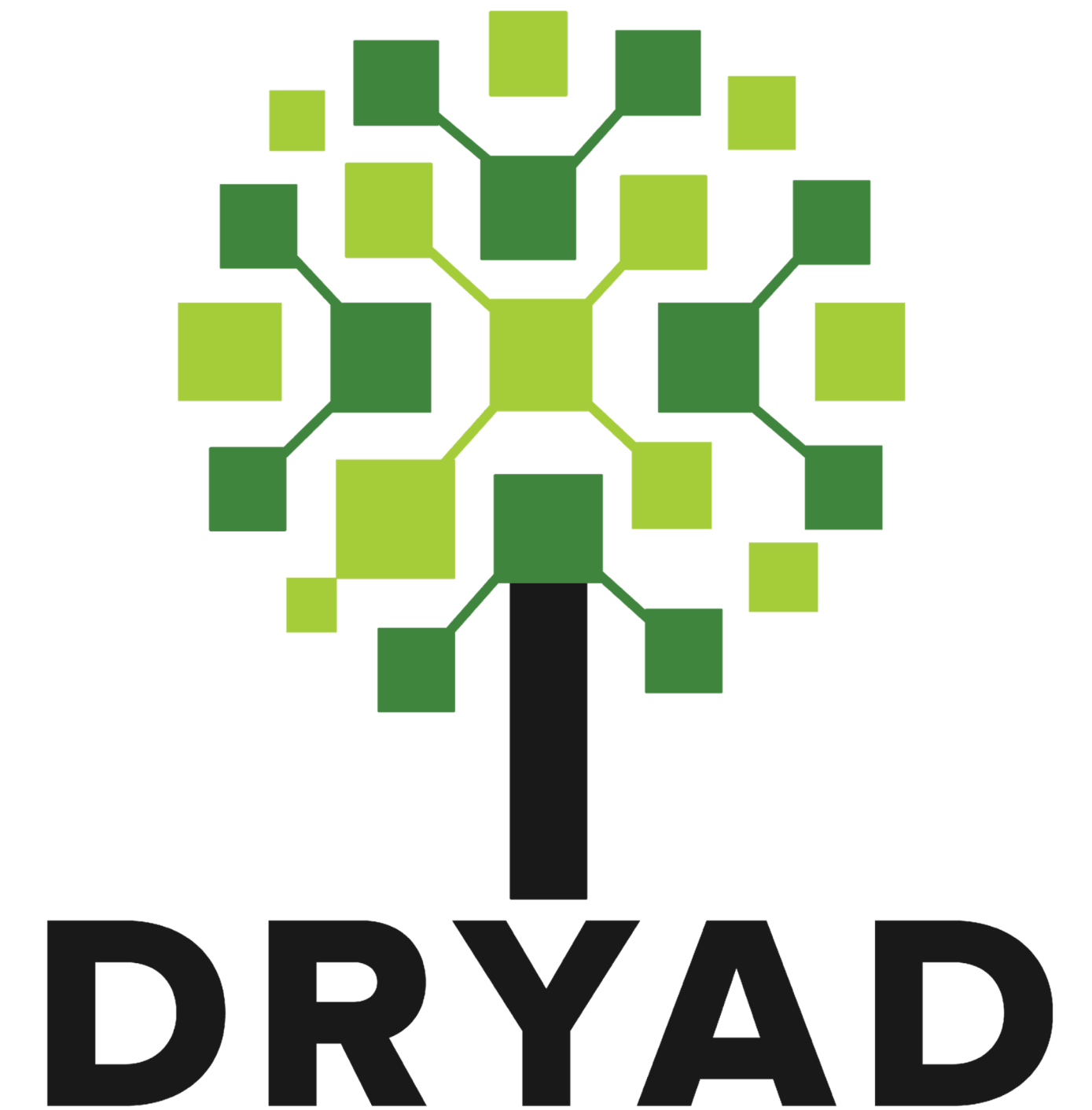
- Data Acquisition Technique
- Data Standard
- Number of Participants
- Attributes Measured (Medical)
- Instruction
- Sensory Modality
- Stimulus
- Experimental Paradigm
- Response

MEG + Behavioral dataset in BIDs format containing 30 participants diagnosed with schizophrenia who were instructed to detect + discriminate visual face stimuli that is backward masked and respond with a button press.

A metadata template for ***human cognitive neuroscience***

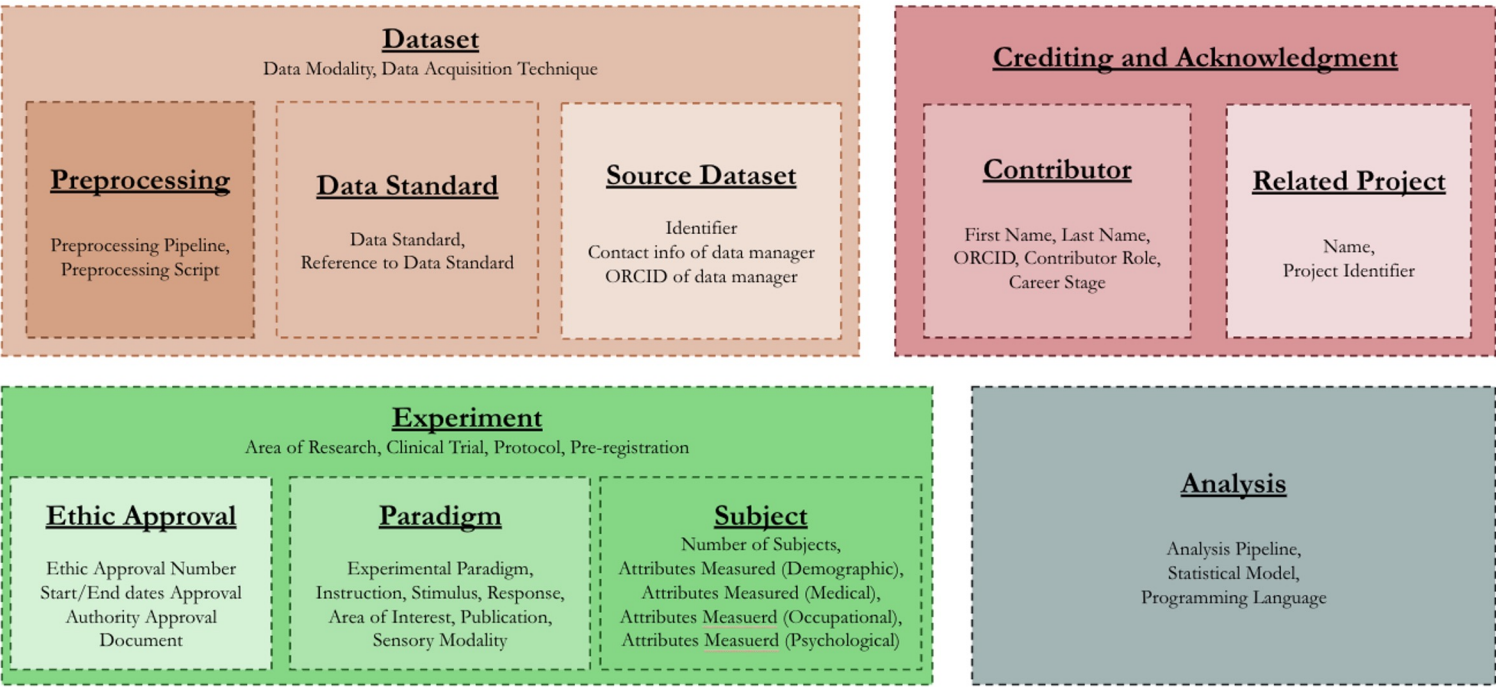


Data repository integration



DRYAD: Depositing dataset with metadata template and linking other outputs

A metadata template for *human cognitive neuroscience*



+

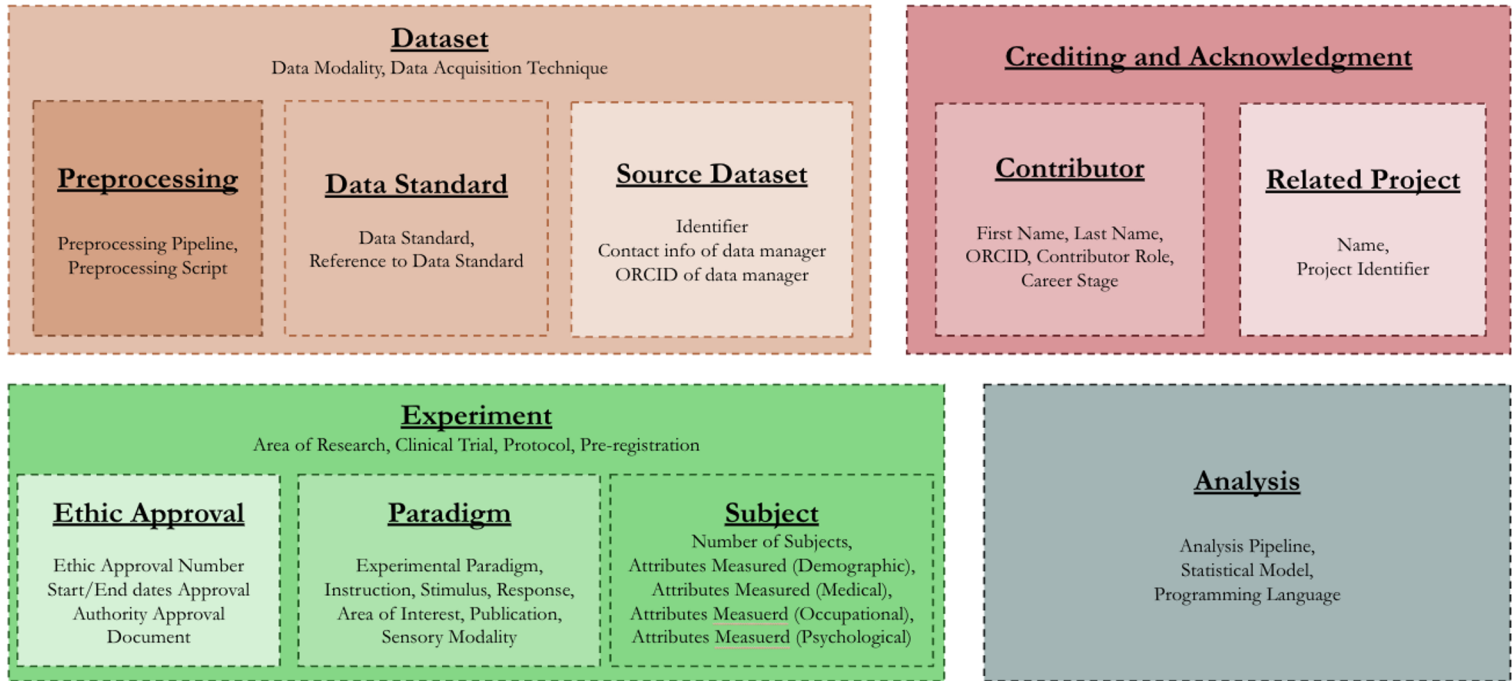


DRYAD Data e.g., csv, xls, fasta Choose files Enter URLs	zenodo Software e.g., code packages, scripts Choose files Enter URLs	zenodo Supplemental information e.g., figures, supporting tables Choose files Enter URLs
--	--	--

OSF: Depositing pre-registration with metadata template and linking other outputs



A metadata template for *human cognitive neuroscience*



+



Re-replicating Attribute Amnesia Effect Using Single-Stimulus Design after Minor Modifications for Online Setting

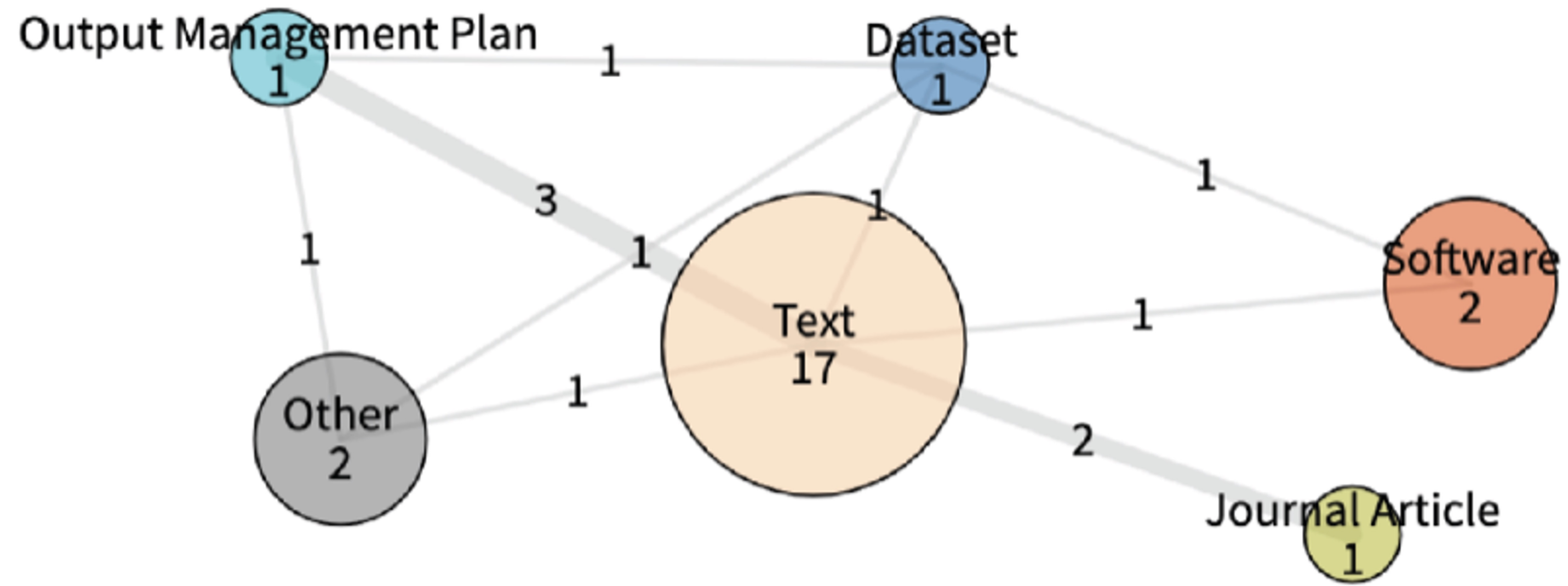
Registration OSF Preregistration
template:
Registry: OSF Registries
Registered: Mon Feb 14 2022 23:51:31 GMT+0100
Last updated: Fri Apr 05 2024 12:35:26 GMT+0200
Contributors: [Zheng](#) and [Trübutschek](#)
Description: In the previous pre-registered experiment, we successfully replicated the a...

[View](#) [Update](#)

Open resources

- Data
- Analytic code
- Materials
- Papers
- Supplements

Linked outputs displayed on DataCite Commons



Thanks to



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<https://www.templetonworldcharity.org/>



RAiD and DataCite partnership Infrastructure for project level PID workflows

Shawn Ross 
ARDC



Co-funded by
the European Union



RAiD and DataCite

A purpose-built project PID



The Australian Research Data Commons (ARDC) and DataCite recently developed a strategic partnership to deliver Research Activity Identifiers (RAiDs), a PID designed specifically for research projects, governed by ISO 23527.



DataCite



ISO 23527:2022



RAiD and DataCite

Project-specific RAiD features

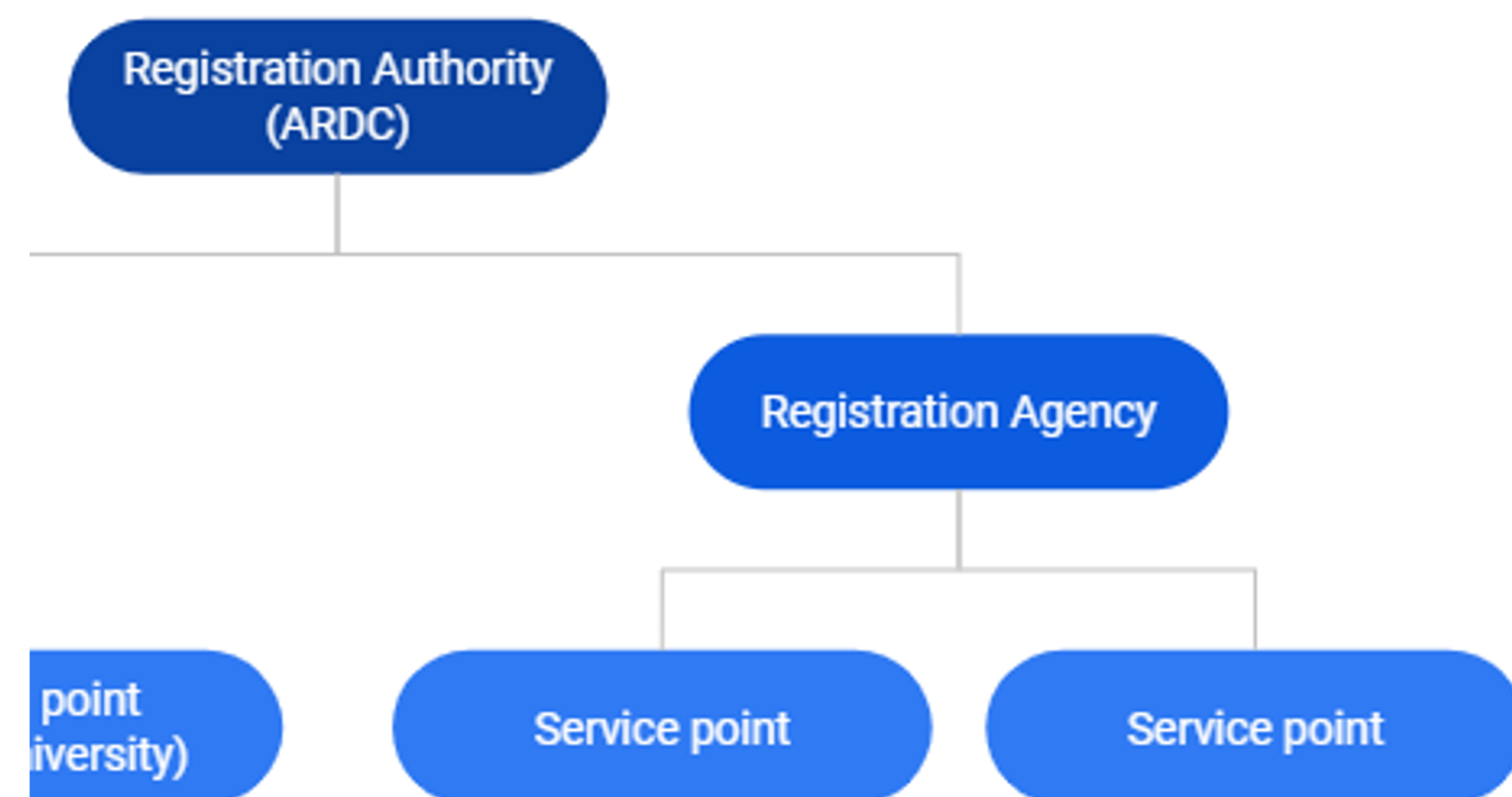
Metadata schema

Multi-party administration

Dynamic / designed to evolve

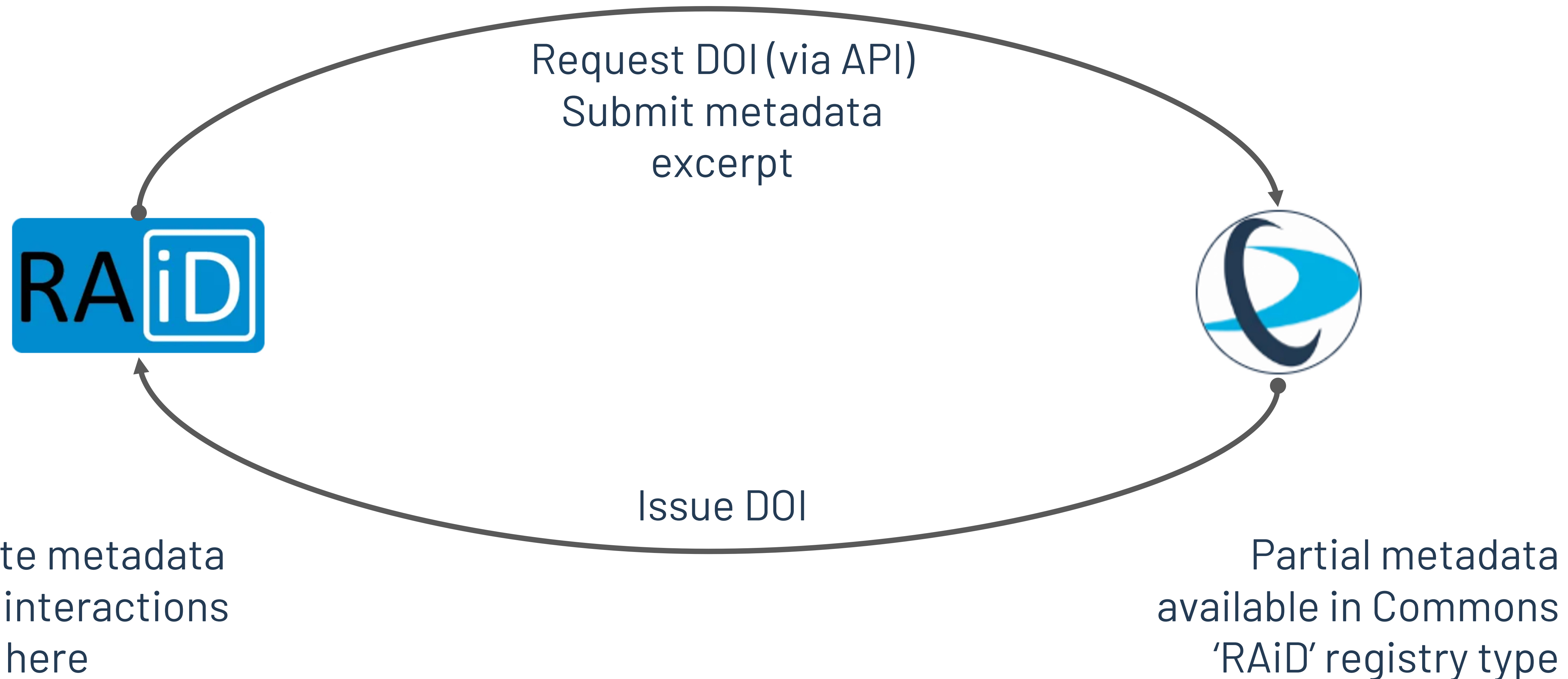
Standardised landing page provided

Extensible / customisable



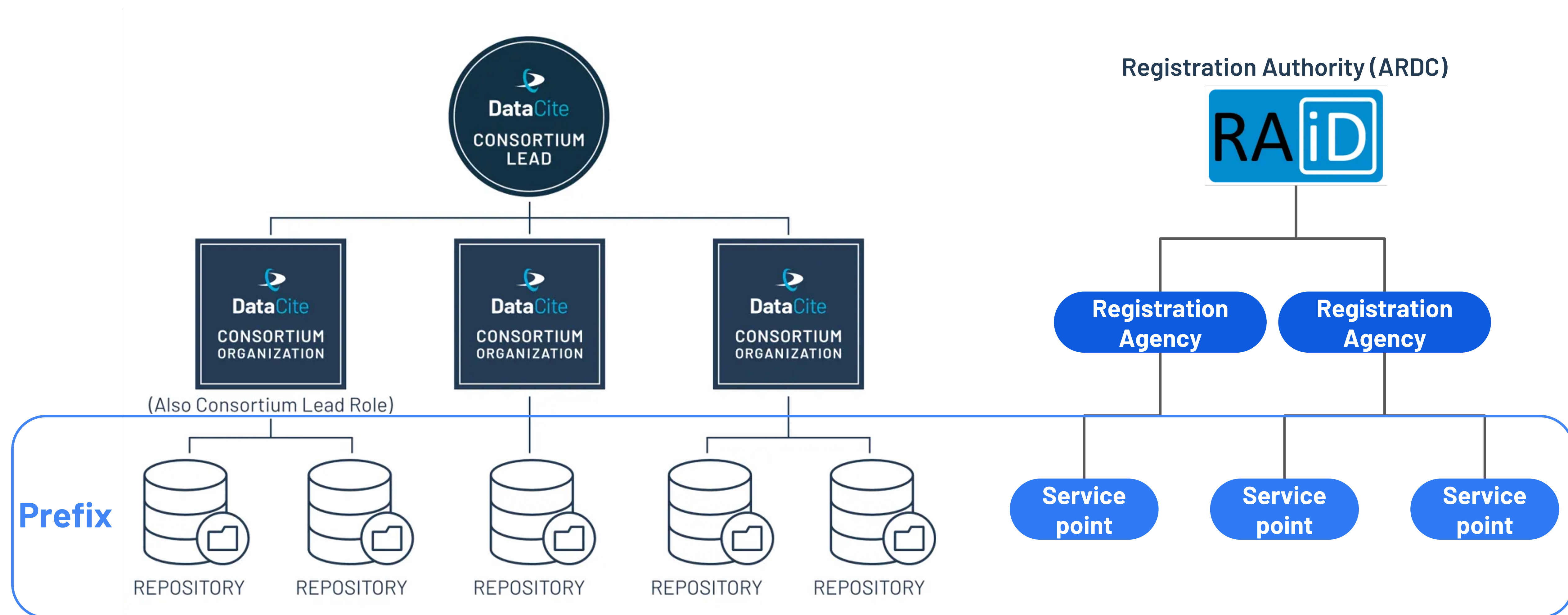
RAiD and DataCite

RAiD <-> DataCite technical interactions



RAiD and DataCite

Potential RAiD <--> DataCite organisation



RAiD and DataCite

Benefits

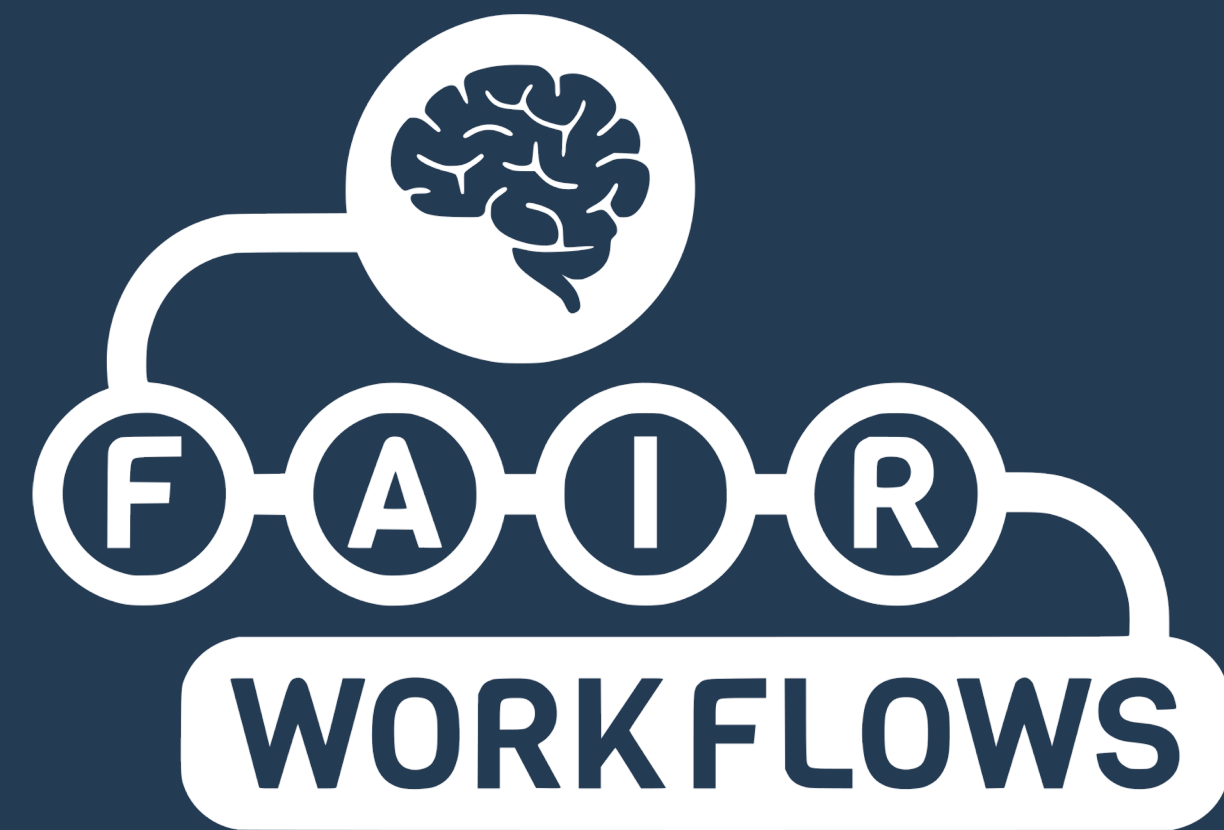


- Robustness and scalability of DataCite DOI as RAiD identifier
- Reliable, project-specific PID for DataCite community (and beyond)
- RAiD Integration into PID ecosystem: metadata excerpt immediately available in DataCite tools
- Accelerated RAiD development (e.g., cross-RA search)



DataCite





Keep in touch!



xiaoli.chen@datacite.org



[@DataCite](https://twitter.com/DataCite)
[#FAIRWorkflowsProject](https://twitter.com/DataCite)



<https://datacite.org/fair-workflows.html>



<https://doi.org/10.54224/20568>