

A pilot for data & code peer-review

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VU Data Conversation

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Today, we'll talk about...

- 4TU.ResearchData & the community
- About data & code peer-review
- Plans for our pilot project (ThES & CODECHECK)
- Q&A... *Let's have a data conversation!*



What is 4TU.ResearchData?

- International data repository
<https://data.4tu.nl/portal>
- Available to researchers globally
- Founded in 2010

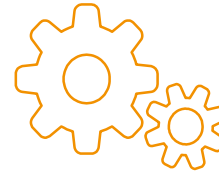


UNIVERSITY
OF TWENTE.

4TU.Federation



Science



Engineering



Design

Sharing

Curation



Access



Preservation



8,000+
datasets



The 4TU.ResearchData community

<https://community.data.4tu.nl/>



Community-driven infrastructure to support FAIR data & code

Services & initiatives that...

- Meet community **needs**
- **Quick & easy** to publish
- Improve **quality**
- **Reproducibility & reuse**
- **Recognition & reward**

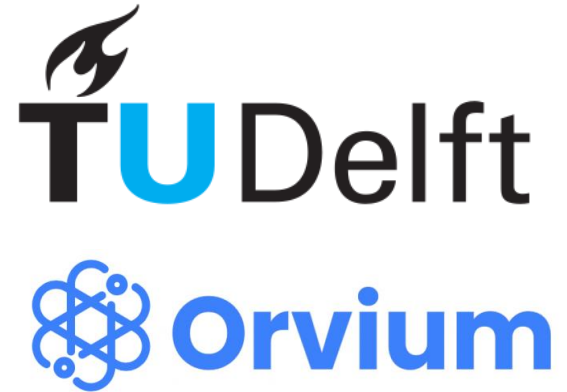


What is data/code peer-review?

- Traditionally used to assess quality of **articles**.
- **Extended to data & code as first-class research objects.**
- **Optional evaluation & validation** of **OA** data and software code.
- Pool of **reviewers** = people with similar **competencies** as the producers (**connect & build!**)



Peer-review of data



- **Multidisciplinary, community-driven, open access** journal.
- Managed by team at TU Delft OPEN, library and Orvium.
- Open peer-review process to **disclose** and **credit** authors/**data owners, moderators, reviewers**, wider **research community**.



You need to complete the onboarding process and validate your email!

DISMISS FIX IT NOW

My Publications

Communities

My Reviews

Invite to Orvium



The Evolving Scholar | 4TU Research Data

Community

Delft, Netherlands

1 Members

4TU.ResearchData is an international data repository for science, engineering and design. Its services include curation, sharing, long-term access and preservation of research datasets. These services are available to anyone around the world. In addition, 4TU.ResearchData also offers training and resources to researchers to support them in making research data findable, accessible, interoperable and reproducible (FAIR).

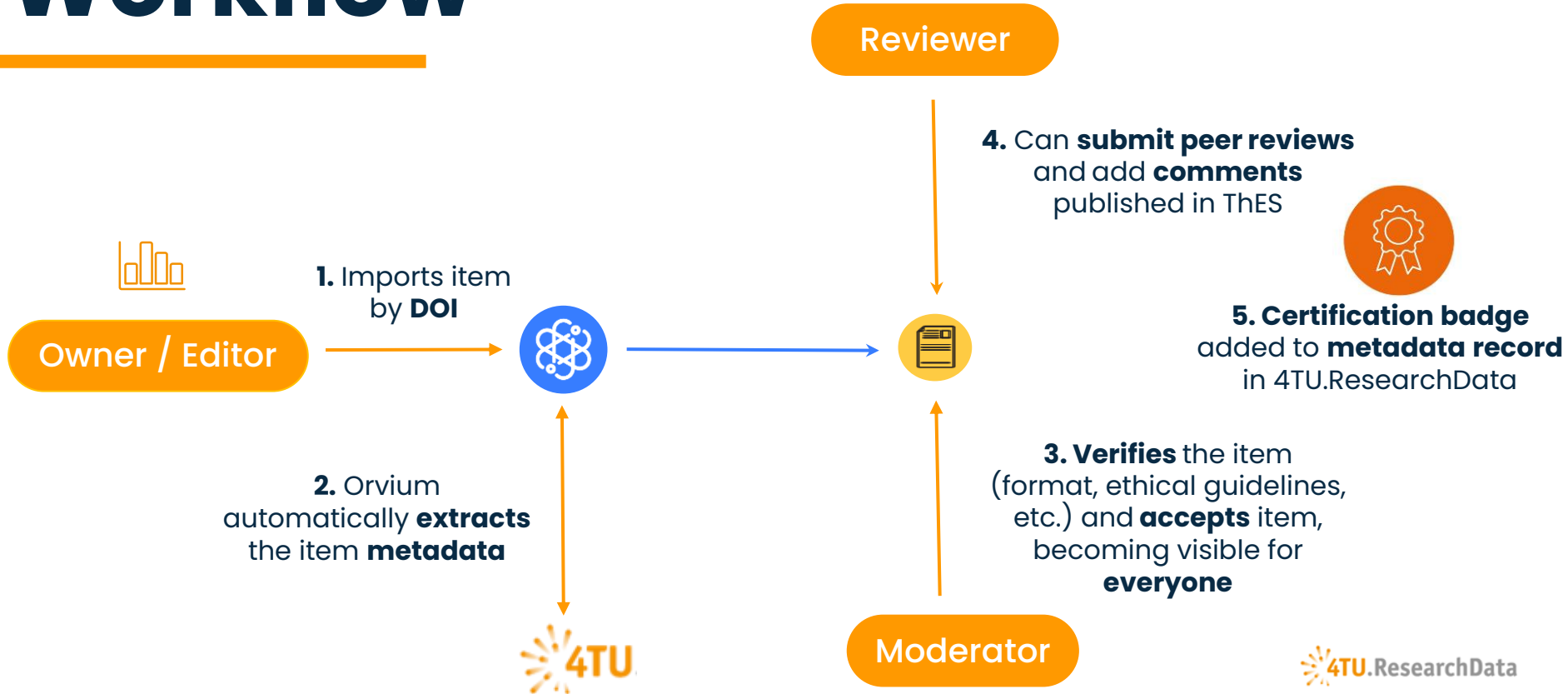
<https://data.4tu.nl/info/en/>

Join the community

Check guidelines

How to upload

Workflow



Criteria	Description
General	<ul style="list-style-type: none">• Are there any major flaws with data/metadata?
Editorial assessment	<ul style="list-style-type: none">• Is the dataset associated with a research article?• If yes, is it properly cited in the article?
Metadata quality	<ul style="list-style-type: none">• Is the dataset title, description and README file clear, descriptive and understandable?• Are selected keywords appropriate?
Data/code quality	<ul style="list-style-type: none">• Is the dataset technically sound, logical and consistent?• Are outliers/anomalies described?• Do disciplinary standards and (non-proprietary) formats apply?• Are quality control measures employed and described?• Are sources of error/noise described?• Is software used for analysis described?
Methodology	<ul style="list-style-type: none">• Are data collection methods and equipment described?• Is the study design replicable?

Peer-review of code

- Researchers interested in **solutions** for **software publication**.
- **GitHub** and **GitLab** integration makes publishing of code **easier**.
- **DOIs** make code **citable**.

Collaborative opportunity to:

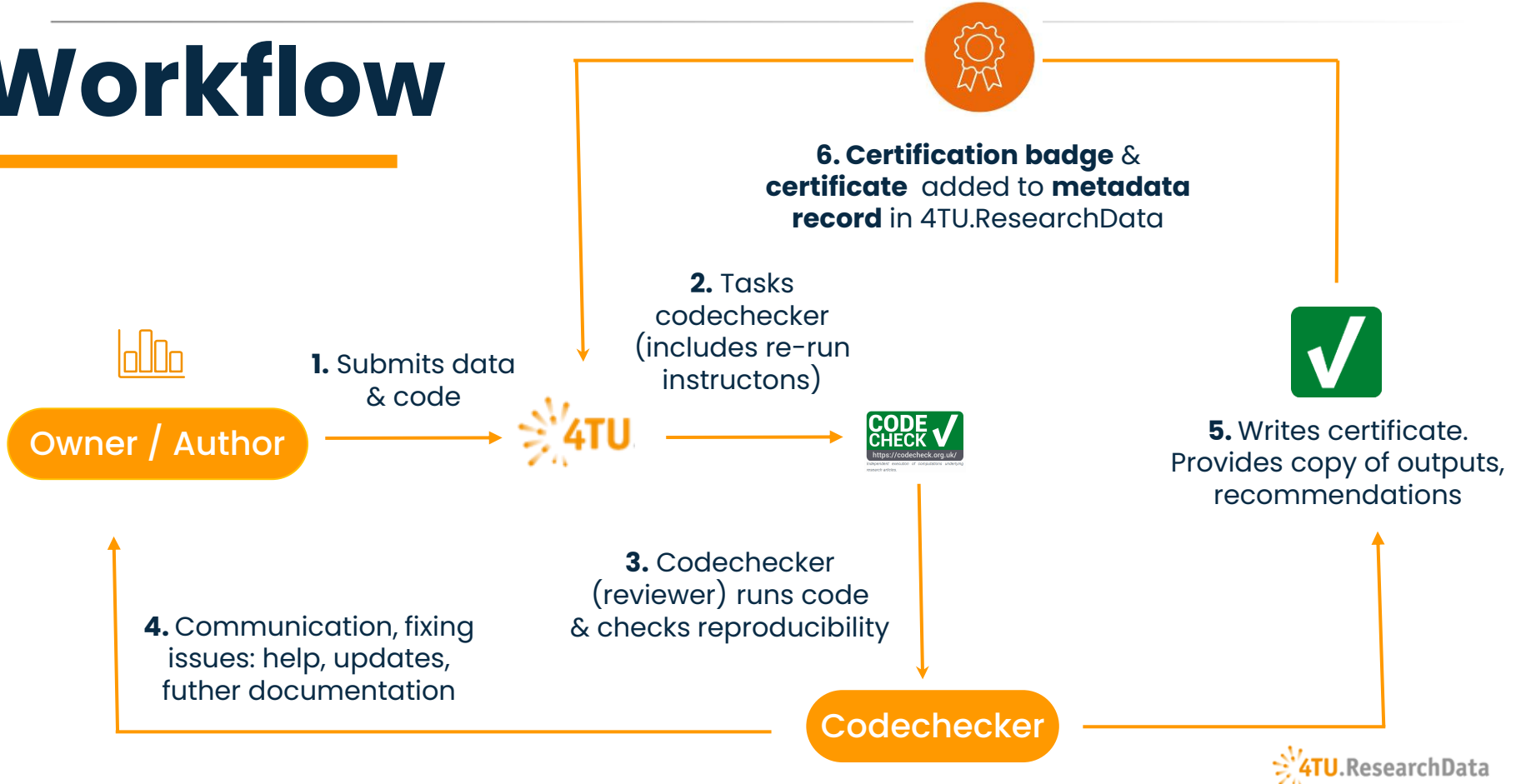
- Explore **value** of code peer-review.
- **Test CODECHECK workflow** with repository.



Independent execution of computations underlying research articles.

- **Stephen Eglén**
(University of Cambridge)
- **Daniel Nüst**
(University of Münster)

Workflow



1. Submits data & code

Owner / Author



2. Tasks codechecker (includes re-run instructions)



3. Codechecker (reviewer) runs code & checks reproducibility

Codechecker

4. Communication, fixing issues: help, updates, futher documentation

5. Writes certificate. Provides copy of outputs, recommendations



6. Certification badge & certificate added to metadata record in 4TU.ResearchData



Plan for CODECHECK pilot:

- Call for applications open to 4TU.ResearchData community & ThES
- Max. 3 voluntary participants (selection process)
- Working on the proposal 😊



Rewards?

Awards/badges for contributions

Monetary compensation

Increased citation rates

Improved quality, credibility and trustworthiness



Transparent and fair credit (list as contributors and collaborators)

Training workshops and support

Invitation to present at a webinar

Mentorship programme to become a reviewer

Useful links...

- [4TU.ResearchData repository](#)
- [The data portal](#)
- [The community](#)

