

Navigating the future of PIDs in scholarly publishing

PIDs in research workflows

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“A PID is a digital identifier that is **globally unique, persistent, machine resolvable**, has an associated **metadata** schema, **identifies** an entity and is frequently used to **disambiguate** between entities.”

US Department of Energy’s Office of Science and Technical Information

Some examples of research workflow challenges

- Researchers spend too much time on administrative tasks and too little on their research
- Demonstrating ROI in research is challenging
- The research evaluation process for grants, and for promotion and tenure, is “detested and a huge administrative burden”
- Conducting research analysis — especially over time — is difficult



| PIDs can help us address these challenges

Researchers spend too much time on administrative tasks

- **PIDs allow data to be entered once and reused** across multiple systems, freeing up more time for actual research while also improving accuracy

The research evaluation process is burdensome

- **PIDs can help by storing and maintaining the data** used for evaluation in ORCID records, and pulling it directly from there when needed

Demonstrating ROI in research is challenging

- **PIDs enable reliable connections** between researchers, their organizations, grants, and outputs

Conducting research analysis – especially over time – is difficult

- **Tracking those metrics and connections over time will be much easier** if PIDs are widely adopted

Example of a PID solution to a research workflow problem



“Before using ORCID, an average application used to take a few weeks; formatting took time, getting the publications right took many days of work. If I want to put in an ARC [Australian Research Council] grant now and include all of my research track record, it’s sitting there and ready to reuse and is being continually updated. This saved me 3-4 days per grant application - the difference in workload was staggering!”

Joe Shapter, Pro-Vice-Chancellor, University of Queensland, Australia

Some examples of research workflow opportunities

- Making data FAIR
- Better support for collaboration
- Improving attribution and recognition
- Making research more diverse, equitable, and inclusive



| PIDs can help us benefit from these opportunities

Making data FAIR

- **You can't be FAIR without PIDs!** PIDs and their metadata underpin many of the FAIR principles

Better support for collaboration

- **PIDs enable reliable connections** between researchers, their organizations, grants, and outputs

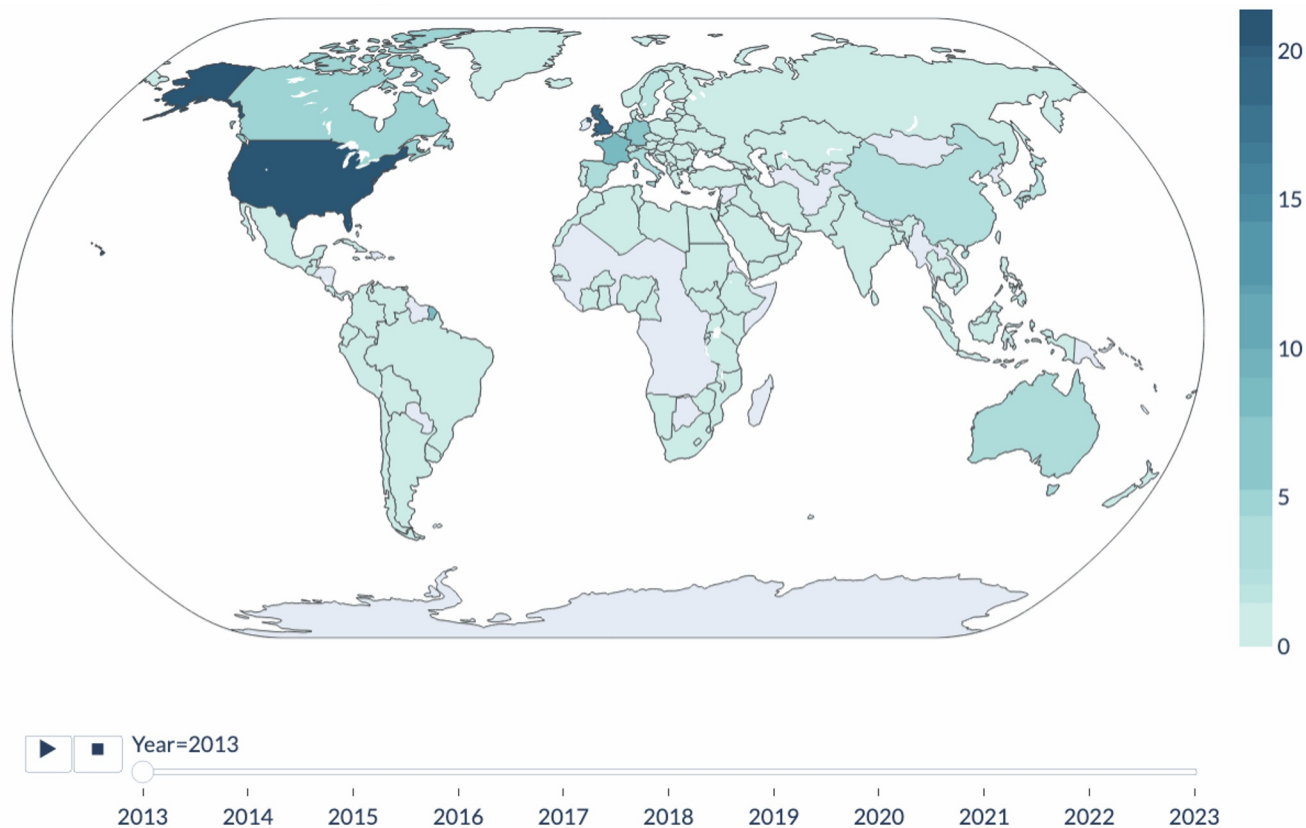
Improving attribution and recognition

- **PIDs help ensure credit** for the right people, organizations, and more (funders, institutions, equipment and instruments, archives, etc)

Making research more diverse, equitable, and inclusive

- **Open PIDs are available to everyone**, for example, through open APIs and metadata

Example of a PID-enabled opportunity



Percentage of global /Irish co-authorships - powered by PIDs!

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Priority entities for PIDs

- Research outputs (DOIs, eg, Crossref and Datacite)
- Researchers and contributors to research (ORCID)
- Research projects (eg, Research Activity Identifier - RAiD)
- Research institutions, funders, and other organizations (eg, ROR)



Which PID(s) should your organization use?

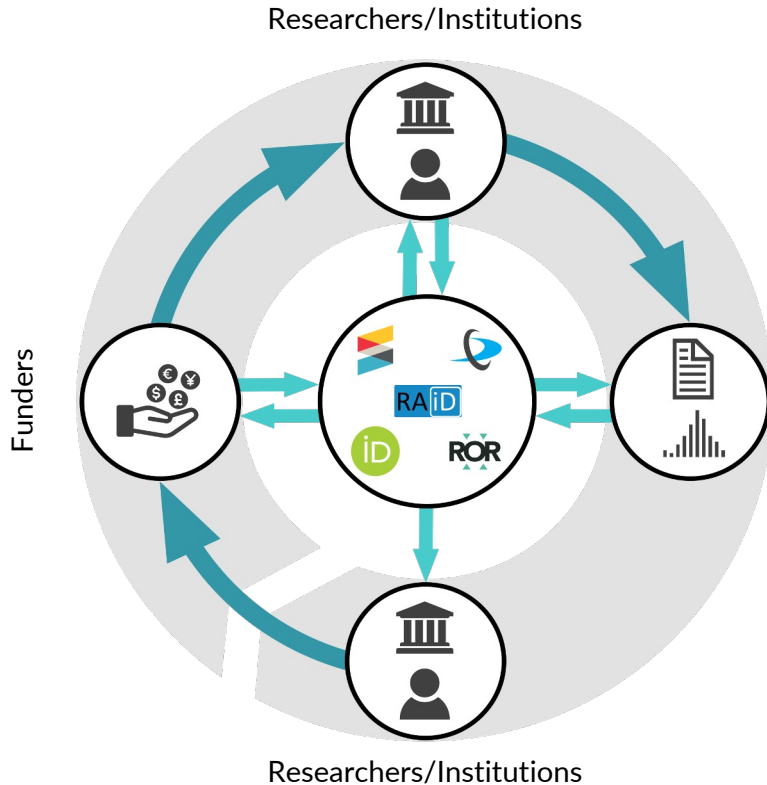
Choosing the right PID

Identifier name	Coverage			Openness					Interoperability				Descriptive							
	Entity/entities identified	Geographical coverage	Disciplinary coverage	Proprietary	Open metadata (specify license)	Open source code (specify license)	Open documentation	Free/ public API access available	PID functionality freely and openly accessible	APIs that use open web standards	Resolvable	Formalized as a technical standard	Support for content negotiation	Publicly available metadata schema	Updatable metadata records	Version and relationship management	Transparent provenance	Stakeholder governance	Transparent governance	Electe
Free text			If discipline focused.				URL							URL				Free text	URL	

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	Entity/entities identified	Geographical coverage	Disciplinary coverage	Proprietary	Open metadata (specify license)	Open source code (specify license)	Open documentation	Free/ public API access available	PID functionality freely and openly accessible
Free text			If discipline focused, provide subject code/field of research or similar				URL		

PID selection matrix developed for CRKN/DRA-led national PID strategy for Canada project (will be made openly available)

PID-optimized research cycle



- **Open:** Metadata can move from one system to another
- **Efficient:** Automated movement of information results in complete and timely records
- **Trackable:** Links between PIDs enable connections to be analysed
- **Persistent:** A social rather than technical construct, requiring community/organizational investment by
 - Funders
 - Research institutions
 - Publishers

<https://resources.morebrains.coop/pidcycle/>
<https://doi.org/10.5281/zenodo.4991733>

Brown, Josh, Jones, Phill, Meadows, Alice, & Murphy, Fiona. (2022, September 16). PID-optimised workflows: A vision of a more efficient future. Zenodo.

<https://doi.org/10.5281/zenodo.7085489>