Research Activity Identifier (RAiD)

The Persistent Identifier (PID) for Research Projects

Chorus Forum

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ARDC STRATEGY

PURPOSE
To provide Australian researchers with competitive advantage through data.

MISSION
To accelerate research and innovation by driving excellence in the creation, analysis and retention of high-quality data assets.

PEOPLE & POLICY
Connecting the ARDC
- Communications
- Engagements
- Skills & Workforce Development
- Data Policies

PLATFORMS & SOFTWARE
Accelerating research insights and supporting collaboration
- Platforms for Analysis & Curation
- Research Software

DATA & SERVICES
Maximising the value of Australia’s data assets
- Data Assets
- Information Infrastructure
- Data Capability

STORAGE & COMPUTE
Providing foundation infrastructure
- Research Computing Cloud
- Data Retention

AUSTRALIA’S NATIONAL RESEARCH DATA COMMONS
What is RAiD?

A RAiD is a persistent identifier for…

● Research projects and activities, linking organisations, people, inputs, and outputs to a project and providing key project information found nowhere else
● RAiD is governed by ISO Standard 23527:2022
  ○ The ARDC is the international Registration Authority
  ○ The ARDC is also a Registration Agency focusing on Australasia

A RAiD is not for…

● Grants
● Researchers
● Durable organisations or organisational units (teams, centres, groups, departments, etc.)
● Documents, papers, articles, books, recordings, or other digital objects
● Software or datasets
● Instruments
● Samples or specimens
How does RAiD work?

A RAiD has two parts: The **RAiD identifier** and the **RAiD metadata record**.

RAiD uses the Handle system to create **globally unique, persistent identifiers**. The Handle is like the address on an envelope, while the metadata record makes up its contents.

The **metadata record** includes other PIDs for various project inputs and outputs like:
- Collaborators (people)
- Organisations (institutions)
- Grants, awards, and investments
- Infrastructure, tools, instruments, and services
- Data and software
- Publications, reports, and events

Where necessary, the **RAiD metadata record** captures project information found nowhere else, such as a project’s title, description, and subject. Many RAiD elements can be time-bound. Relationships between elements can be described or qualified.
Example RAiD metadata record

Title (primary) Lorem Ipsum Project
Title (acronym) LIP
Start date 2023-01-30
Description (short) Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas vitae condimentum nisl, eget ornare felis. Morbi pretium erat eu ultrices interdum.

Principle investigator orcid.org/0000-0002-3843-0000
Role https://credit.niso.org/contributor-roles/conceptualization/

Co-investigator orcid.org/0000-0002-3639-2080
Role https://credit.niso.org/contributor-roles/data-curation/

Lead organisation ror.org/00rqqy9422
Partner organisation ror.org/03b94tp07

Grant doi.org/10.8948/908234D93EAF
Dataset doi.org/10.1594/PANGAEA.726855
Article doi.org/10.1038/nphys1170
Instrument doi.org/10.1337/jdlc-tima

Sample XXAB0001H

Local storage uq.edu.au/114/32
Cloud storage 79.152.127.243

Sub-project https://raid.org/13.1010/401XQPOI
Why a Project ID?

Projects are where research happens
- Reflects collaborative practices while accommodating sole researchers
- Time-limited but identifiable and meaningful ‘container’

Projects are not grants
- Not 1:1 - some projects never grants, others have many grants
- RAiD captures longer-term outputs, outcomes, and impacts - grants close, but projects may produce outputs for many years

Projects evolve
- PIDs aimed at stable digital artifacts provide ‘snapshots’ but projects change continuously
- RAiD metadata is designed to evolve over time as contributors, organisations, etc., change, producing a history of the project

Projects are where research can be administered
- Common concept in Research Information Systems
- Appear in other PIDs
- Appear in domain-specific metadata standards
Research components

Entities
- Researchers
- Organisations
- Data
- Software
- Publications
- Grants
- Samples
- Instruments
- Services

Actions
- Uses (infrastructure)
- Is funded by (grant)
- Creates (dataset)
- Hosted by (organisation)
The ‘project’ as nexus of research inputs and outputs

- Project has Persistent ID
- Project components (people, organisations, inputs, outputs) in metadata record using PIDs
- Additional project information captured when necessary
- Research actions and project changes reflected in history
What are the problems with current practice?

**Information about projects is distributed and siloed**
- Partly in institutional Current Research Information Systems (CRISes)
- Sometimes in other university systems (e.g., finance)
- Other information on project websites or staff profiles
- Lots of double-entry of data

**Output, outcome, and impact tracking is hard**
- Longer timeframes not accommodated by grant reporting
- Project outcomes not fully captured by individual ORCID records

**Project metadata not routinely or comprehensively captured**
- Project-level metadata often required by data repositories, but may be incomplete
- Project information often maintained in an ad-hoc manner, sometimes lost
- Important for output provenance (e.g., datasets, publications)

**No standardisation**
- Information about projects, where it exists, is non-standard
- Often not machine readable
What are the benefits of using RAiD?

**Provides a ‘single source of truth’**
- Reduces double-entry of data
- Ensures coordination across organisations
- Saves time on administration and reporting

**Supports reporting and impact measurement**
- Facilitates tracking and reporting of inputs and outputs
- Grants insights into investments and outputs
- Collects evidence for understanding impact
- Facilitates better strategic intelligence on outcomes
- Supports better tools for analysis and decision-making

**Captures research provenance**
- Captures the evolution and history of a project
- Create a timeline of (inter)actions
- Comprehensive record of project make-up

**Standardising project identification**
- Governed by an ISO standard
What is the potential efficiency impact?

Estimate of active research projects in any given year
- 50k projects in the UK
- 21k projects in Australia
- 625k projects in the US
- 1.5M projects in the OECD

In Australia, elimination of double-entry of project metadata could save approximately:
- 2.9k person-days per year
- AUD $2.7M per year

Combined with publication and grant PIDs, could save approximately:
- 37.9k person-days per year
- AUD $23.8M per year

Prototyping
Extended ARDC RAiD service
Explore co-development and reimplemention

Iterating
Extended RAiD beta release
Policy and governance
Model deployment

Growth
Expand RAiD use and adoption

Where are we now?

- **Done**: ISO certification with ARDC as Registration Authority and multiple Registration Agencies
- **Done**: Redevelop existing ARDC service while gathering requirements and consulting with stakeholders
- **In progress**: Extend service with new metadata schema, landing pages, updated API, new user interface, improved integration with other PIDs.
- **In progress**: RAiD Registration Agency handbook encapsulates policy and governance
- **Future**: International outreach and engagement to drive uptake
THANK YOU

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