

# Introduction to the DOI (Fabrica) Service

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## What is a DOI System

The Digital Object Identifier system is used for identifying intellectual property in the digital environment. It is a more rigorous implementation of the Handle System for persistent identifiers. The International DOI Federation (IDF) appoints Registration Agencies who allocate DOI prefixes, register DOI Names, and provide the necessary infrastructure to allow registrants to declare and maintain metadata associated with a DOI.

Major applications of the DOI system currently include provision, linking and tracking of persistent citations in:

- scholarly materials (journal articles, books, etc.) through CrossRef, a consortium of around 3,000 publishers
- scientific data sets and associated outputs (e.g. grey literature, workflows, algorithms, software etc.), through DataCite, a consortium of leading research libraries, technical information providers, and scientific data centres

ARDC is a DataCite Consortium Member and also acts as a [Consortium Lead](#) within the consortium, while member organisations are called Consortium Organisations.

More information about the DOI system and the is available at the DataCite page: [DOI Basics](#)

## What are the advantages of DOIs for datasets?

A DOI is a Persistent Identifier (PID) with extra benefits:

- High level of confidence in the quality and accuracy of DOIs: supported by the International DOI Federation (IDF) and Registration Agencies infrastructure
- **Data citation:**
  - DOIs require metadata elements which create an unambiguous data citation. For example:  
*Hanigan, Ivan (2012): Monthly drought data for Australia 1890-2008 using the Hutchinson Drought Index. The Australian National University Australian Data Archive. DOI <http://doi.org/10.4225/13/50BBFD7E6727A>*
  - Metrics: DOIs are used to accurately track data citations by international publishing groups such as Thomson Reuters
  - Altmetrics: DOIs are frequently used to track references to datasets in social media
- **Persistence:** a DOI indicates that a dataset will be well managed and accessible for long-term use
- **Accessibility:** resolvable DOIs provide easy online access to research data
- **Published** data as a first-class research output: DOIs for datasets are equivalent with DOIs for other scholarly publications

## Service Scope

### The DOI service:

- Is for publicly-funded Australian research organisations or data centres relevant to Australian research, such as those run by Government agencies or Universities.
- May be used to assign DOIs to data and associated workflows, software, models, and grey literature, provided the citable item has the required metadata.
- Enables an organisation to maximise the benefits of having their data citations tracked through citation indices.
- Creates a persistent link that points to the institutional repository or other location as set out in the metadata ([see example](#)).

### Resource types in scope:

- Research datasets and collections, associated workflows, software and models
- Grey literature such as theses, reports, unpublished conference papers, newsletters, creative works, preprint journal articles, technical standards and specifications for which the institutional repository is the primary publication point

- Other resource types that are in scope for DataCite

## Resource types out of scope:

- Published peer reviewed journal articles, ephemera, teaching and learning materials and book chapters
- Digital objects that are not relevant to research

- The ARDC provides the mechanism to allow minting, resolution and updating of DOIs through the DataCite infrastructure.
- ARDC or DataCite does not manage the DOIs themselves.
- Processes and policies need to be put in place by those utilising the service to ensure that appropriate maintenance practices underpin persistence.

The DOI service is available as:

- **Machine to Machine (M2M) service** - it is a set of RESTful (*Representational State Transfer*) web services that allow registered clients to mint, update & retrieve Digital Object Identifiers (DOIs) that identify research data and grey literature. By embedding the service within data management workflows, clients are able to treat datasets as citeable unique objects in the same way as DOI identified publications.
- **Manual minting service** - a service available via [DataCite Fabrica](#) user interface. This interface not only allows you to manually mint new DOIs and update DOI metadata, it also allows users to view a listing of all the DOIs you have minted through the DOI service, either via the API or the the interface.

The service ensures that a standard level of metadata is always associated with ARDC DOIs through the use of a mandatory metadata schema, while also allowing clients to further enrich descriptions through the use of non-mandatory metadata schema elements.

## Service Fee

The ARDC DataCite DOI is a free service to publicly funded Australian institutions and government agencies who become members of the ARDC DOI consortium.