



argos

Create. Manage. Share.
FAIR & ma-DMPs

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argos

+ PROVIDE

+ CONNECT

+ MONITOR

+ EXPLORE

EPIsciences

OpenPlato

zenodo

open@ppc

amnesia



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Data Management
Plans are **mandatory**
by research funders
and institutions.





They need to know **what-when-how-where** data, software and other research outputs are created, re-used, and preserved (FAIR).

What is a DMP?

“Data Management Plans (DMPs) are crucial in implementing Research Data Management (RDM) policies and outlining the necessary activities, means, and effort required to manage research data effectively.”

“Living document”	Project Deliverable
The content of the DMP is modified according to the data developments until the project ends.	Public funders increasingly require DMPs to be produced and delivered by beneficiaries as part of their grant obligations.

DMPs and RDM

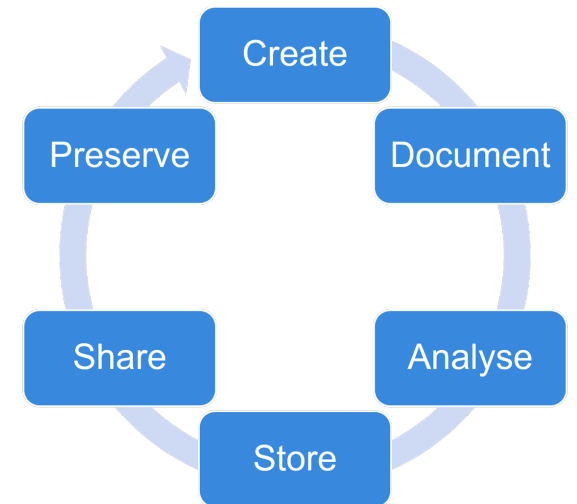
RDM (Research Data Management) is the process of *organising, storing, preserving, and sharing* data in a research project. Data might be collected, generated or re-used (secondary) throughout research.

DMPs in RDM - First stage of RDM

DMPs are drafted at the beginning of the project and implemented throughout its lifetime.

DMPs for RDM - Describe RDM activities

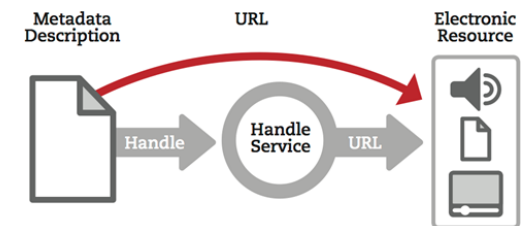
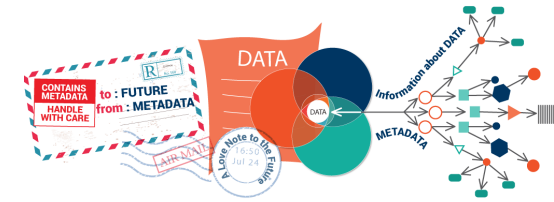
DMPs outline and contain information about all RDM activities to be followed in the project.



<https://www.openaire.eu/rdm-in-horizon-europe-proposals>

DMPs content

- **Metadata:** “meta” (greek) + “data” (latin), the data that describe other physical and digital data and information. They are linked so that data can be searchable, modified and re-used. They are main categorized in: descriptive, structural and administrative metadata. (wiki & <https://www.ontotext.com/knowledgehub/fundamentals/metadata-fundamental/>)
- **Repositories:** like a library where datasets, software, etc are stored and preserved so they can be searchable and re-used
- **Controlled vocabularies:** a way to organize the knowledge for future use. It is a collection of terms and phrases for a concept. They are used in knowledge organization systems.
- **Persistent Identifiers:** PI or PID is a long-lasting reference to a resource that can be found in the Internet. There are different types of PIDs: for objects, for people, for projects, etc. (Wiki & <https://www.openaire.eu/what-is-a-persistent-identifier>)
- **License:** the permission which is given by the associate about how someone can use the files and the content. The type of license is depending on what terms want the associate. Also, it is referred as copyright license.



Are DMPs only for data?

No! A DMP can contain:

- Datasets: a collection of data. They can be in the form of a table, a set of documentation or files. The properties and structure of datasets depending of the types and the number of the attributes and the statistics. (wiki)
 - underlying data of publications: data that needed to be validated with their metadata to confirm scientific publications

(the 'underlying data' (the data needed to validate the results presented in scientific publications), including the associated metadata (i.e. metadata describing the research data deposited), as soon as possible

https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf)

- auxiliary data: data from another source to be used to process other data
- Software: collection of computer programs, data. documentation and instructions which control the functionality of the computer
- Workflows: the process of an activity that have been done step by step by a person or a team. It can describe a service, document or product represented by a view or representation of a real work. (wiki)
- 'Other research outputs': sources can be used for a research such as research articles, books, reports, interviews, etc.

What is a DMP Template?

A DMP Template is a prototype file with questions and guidance to support researchers with filling in the DMP with content.

-> Templates offer researchers a more structured way to provide input in their DMPs.

DMP Templates may be provided by funders and institutions that have RDM policies in place; Librarians, data stewards and support staff might also create DMP Templates to help researchers.

How does ARGOS help?



For researchers:

- Provides a collection of **DMP templates**
- Creates, manages shares and links **FAIR DMPs**
 - **Qualified references** connecting different research outputs
- Promotes **collaboration** with colleagues to create DMP living documents

For Admins:

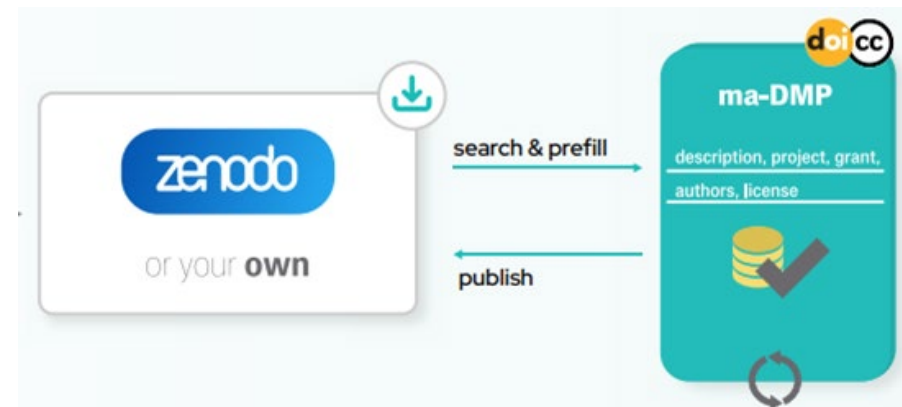
- **Tracks** DMPs
- Has an editor to **create templates**

FAIR & Automated DMPs

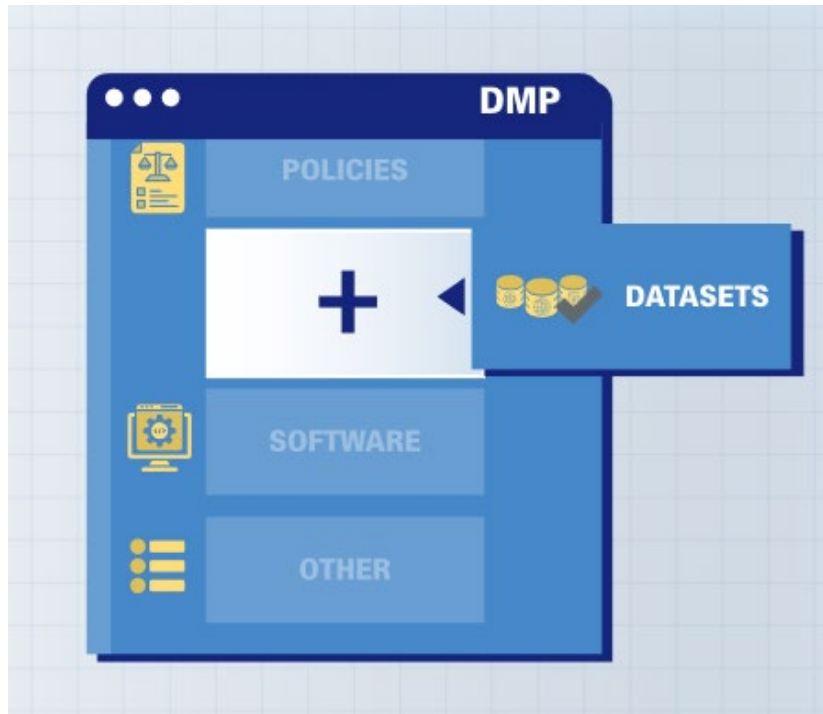
- **Findable:** OpenAIRE EXPLORE
- **Accessible:** PIDs: ORCIDs, DOIs, DMP IDs
- **Interoperable:** RDA DMP Common Standard;
- **Reusable:** Licenses
- **Versioned** (history/provenance)
- **Published and preserved** in Zenodo

- **Automated**

- **Writing:** inferred content and **allocation** in Templates as answers
- **Searching:** Published Dataset / Software metadata
- **Publication:** DMP metadata and files in Zenodo



Towards outputs management plans!



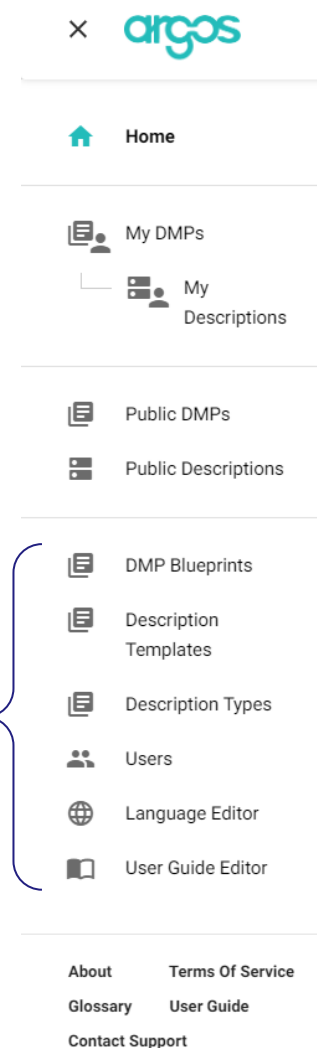
- **Blueprints** of research outputs management activities
 - Combines templates for *data* management, *software* management, *policies*, *other outputs*, etc
- **Types** define the content supported
 - Data, software, workflows, policies, ethics, ...
- **Templates** describing content
 - Prefilling available from custom APIs

How can I use Argos?

All logged in users can create, link, share and publish DMPs as owners or members of the DMPs (through invitation).

Users that have advanced rights, e.g. Administrator or Template Editor, are able to create Templates and use additional features, such as for *making changes to the Language and the guide via the corresponding editors*.

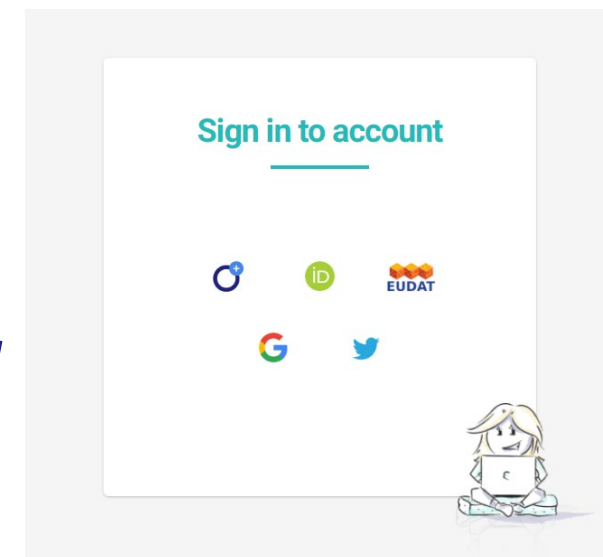
Additional features of an administrator



LOGIN & START

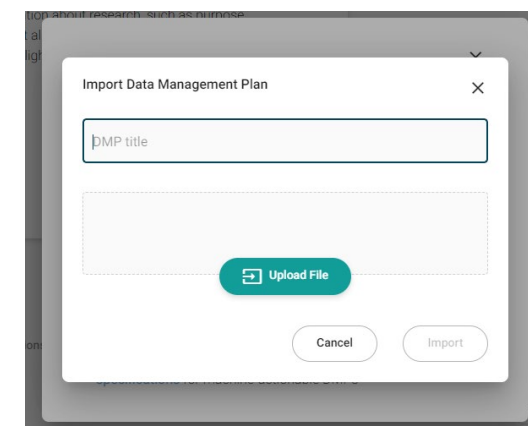
Log in to Argos from the five providers that are available.

** In case you decide to create an ORCID account during the ARGOS Login, you should confirm the email sent to your inbox in order to continue.*



From “Start new DMP”, choose the option that works best for you:

- “Import from file” - upload the DMP in .json format and write the title that you want to name the DMP.
- “Start wizard” - follow the steps to create your DMP.

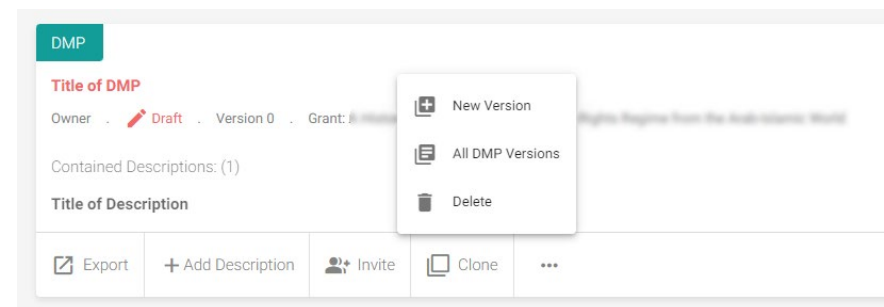
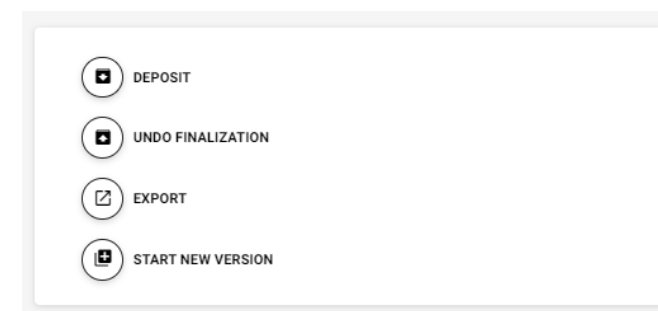
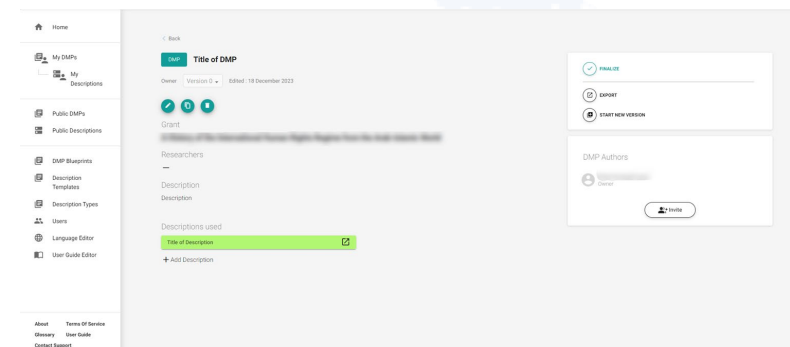


ARGOS Features

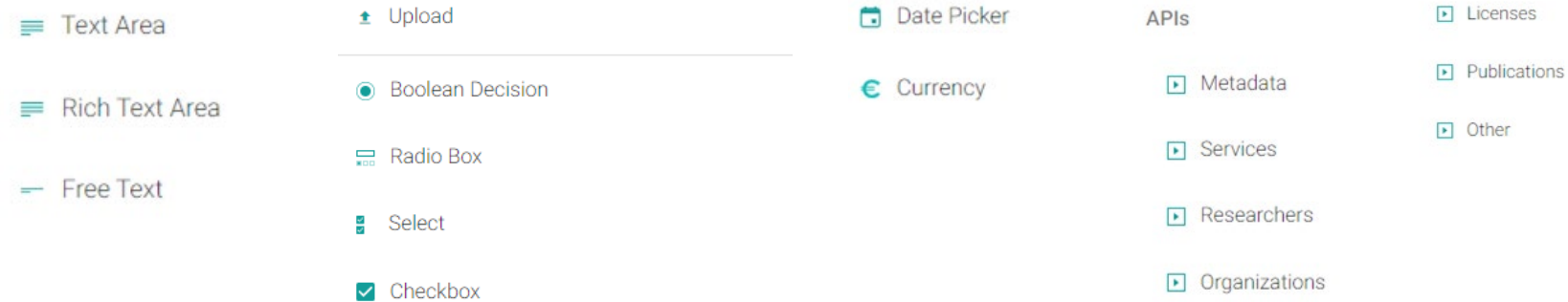
The main features of Argos are:

- **Edit:** Navigate to the editor
- **Finalize**
- **New version:** Create a new version of the content
- **Clone:** Copy of the DMP with all or some of the descriptions
- **Export:** The DMP in pdf, document, .xml and rda json
- **Undo finalization:** Using this button the DMP is editable again
- **Delete:** Delete of the DMP but only if it has not content
- **Deposit**
- **Invite:** Invitation of a colleague that has already an Argos account to see the DMP (invitation as member) or to help editing it (invitation as owner)

All features are in DMP and Description dashboards.



ARGOS Template inputs

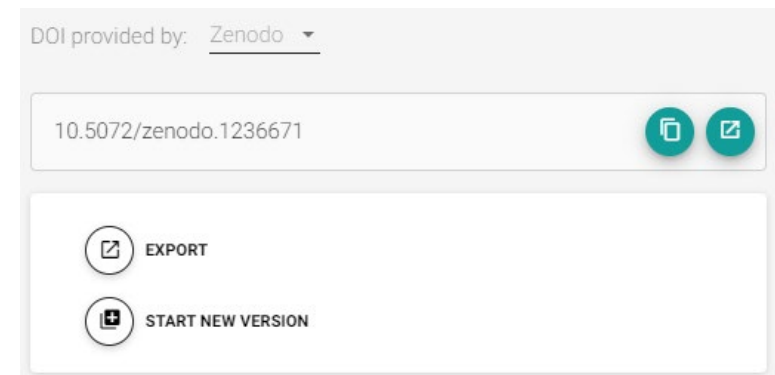
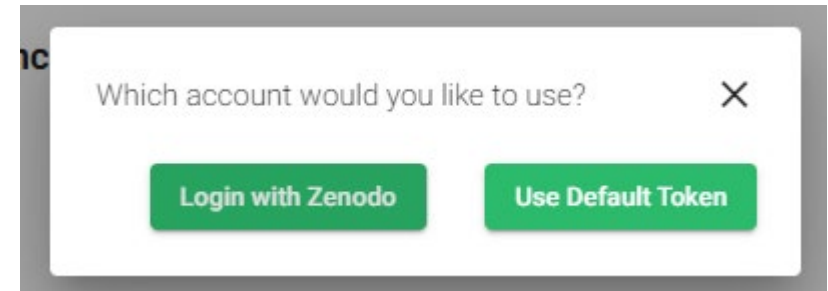


There are many types to add depending on the questions.

- **Text Area, Rich Text area** and **Free Text** are chosen for questions that need texts depending on the size of the answer.
- **Upload** in case it is needed to upload a file
- **Boolean Decision** is about the Yes/No answers
- **Radio Box** is about multiple choice
- **Select** is a drop-down list where more than one answers can be chosen
- **Checkbox** for positive or negative choices
- **Date Picker** in case it is needed to choose a date from the calendar
- **Currency** to choose from a list a currency from different countries
- **APIs** depending on the question choose category from the list of external resources ex. Researchers, Metadata etc.

Publish with a click!

After the finalization the DMP can be deposited to Zenodo with credentials of the user (Login with Zenodo) or ARGOS account (Use Default Token) and get a DOI.



Integrations w/services



Argos Integration – DMPs

1. ROHub imports DMP (based on supported template). This operations expects DMP in XML. Optionally, it can be provided the URL of original DMP, and DMP in JSON (to complement XML)
2. It is possible to retrieve folders that corresponds to DMP datasets for given RO
3. It is possible to return all machine readable metadata for given folder (DMP dataset)

The screenshot displays the RSpace interface with a 'Setup Repository' dialog box open. The dialog prompts the user to choose a repository for export. Below the dialog, a preview of a DMP dataset is shown, including a 'Method' section with text describing a biochemical and RNAi analysis of INCENP and aurora B kinase in Drosophila melanogaster cells. The interface also shows navigation options like 'Workspace', 'Gallery', 'Messaging', 'Apps', 'Inventory', and 'My RSpace'.

<https://zenodo.org/record/7669563#.ZJBLhXZBy5c>

openaire.eu/powering-rspace-collections-with-argos-machine-actionable-dmps

Case studies



Poznańskie Centrum Superkomputerowo-Sieciowe
afiliowane przy Instytucie Chemii Bioorganicznej PAN

Poznan Supercomputing and Networking Center, an international node of the European Research Area on IT (Poland)

Topic: ICT, Generic

National Instance of Argos, local Installation
Connected to RO-Hub platform

<https://mitraria.man.poznan.pl/home>



Consortium to provide the quality of library services (Spain)

Topic: Generic

Local installation
Migration of DMPs and users from DMP Roadmap

<https://argos.consorciomadrono.es/home>



Portal de Investigação para a Ciência Aberta

Project (Research Portal for Open Science) promoted by University of Minho (UMinho) and the Polytechnic Institute of Bragança (IPB)

Topic: Generic

Local installation
Select from two repositories to publish DMPs

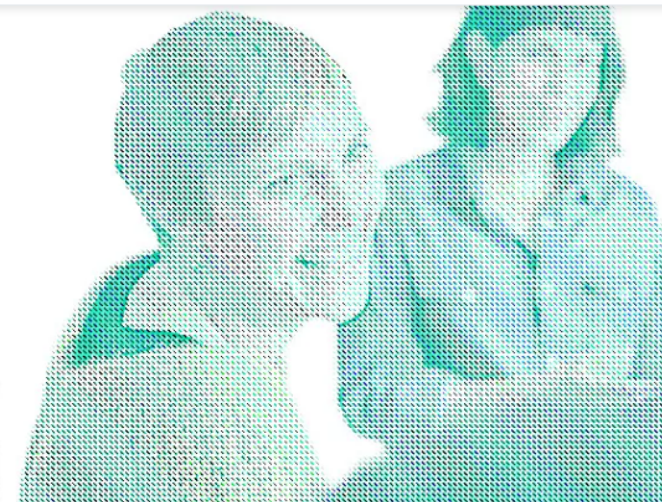
<https://opendmp.portaberta.pt/>

Get involved!

Argos

Community Calls

Are you a researcher or administrator of Argos? Got questions on how to write your Data Management Plan (DMP) or how to create your Template and connect DMPs with other data services and outputs? Join us and learn more!



OpenAIRE is running a series of **community calls for Argos** to support all researchers in meeting their **Horizon Europe requirements** by creating **FAIR (Findable, Accessible, Interoperable, Reusable) DMPs**. Similarly, it supports **all research performing and funding organisations** to orchestrate their data services around Argos and **connect data workflows** contributing to **interconnected Research Data Management ecosystems**.

These calls offer the opportunity to discover Argos novelties and learn how to benefit from them in your practice, share feedback and discuss the future of DMPs as FAIR and machine actionable outputs, i.e. as complete outputs that bring validated information, qualified references and automations to the table to assist the processes of collecting, documenting and publishing your data.

The **Argos Community Calls** will run **every last Wednesday of the month at 14.00 CEST**, starting from June 29th!

<https://www.openaire.eu/argos-community-calls>

Coming in 2024

The logo for 'ostrails' is written in a large, black, rounded sans-serif font. The letter 'o' has a green dot above it, the 't' has a blue dot to its right, and the 'i' has a red dot above it. Horizontal lines connect the top and bottom of the 'o', 't', and 'i'.

Aims to advance processes and instruments for **Planning, Tracking, and Assessing scientific knowledge production** beyond state-of-the-art, working with various national and thematic contexts and stakeholders, improving existing infrastructure, and connecting key components to enable an operational, open and FAIR EOSC ecosystem.

References

- Papadopoulou, E., Bardi, A., Kakalettris, G. et al. Data management plans as linked open data: exploiting ARGOS FAIR and machine actionable outputs in the OpenAIRE research graph. J Biomed Semant 14, 17 (2023).
<https://doi.org/10.1186/s13326-023-00297-5>
- DMP Common Standard: <https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard>
- Data Management Plans in Horizon 2020: what beneficiaries think and what we can learn from their experience:
<https://open-research-europe.ec.europa.eu/articles/1-42>
- Monitoring the open access policy of Horizon 2020: <https://op.europa.eu/en/publication-detail/-/publication/56cc104f-0ebb-11ec-b771-01aa75ed71a1/language-en>
- Presenting a Framework for Discipline-specific Research Data Management:
https://www.scienceeurope.org/media/nsxdyvqn/se_guidance_document_rdmps.pdf

THANKS

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