

ΙΝΣΤΙΤΟΥΤΟ ΕΠΕΞΕΡΓΑΣΙΑΣ ΤΟΥ ΛΟΓΟΥ
(**ΙΕΛ**)/INSTITUTE FOR LANGUAGE AND
SPEECH PROCESSING(**ILSP**)/ΙΝΣΤΙΤΟΥΤΟ
ΒΙΟΜΗΧΑΝΙΚΩΝ ΣΥΣΤΗΜΑΤΩΝ(**ΙΝΒΙΣ**)/
INDUSTRIAL SYSTEMS INSTITUTE(**ISI**)/ΙΝ
ΣΤΙΤΟΥΤΟ ΤΗΛΗΡΟΦΟΡΙΑΚΩΝ ΣΥΣΤΗΜΑΤΩ
Ν(**ΙΠΣΥ**)/INSTITUTE FOR THE MANAGEME
NT OF INFORMATION SYSTEMS(**IMIS**)/ΜΟ
ΝΑΔΙΑΔΙΑΣΤΗΜΑΤΩΝ ΠΡΟΓΡΑΜΜΑΤΩΝ
(**ΜΟΔΙΑ**)/SPACE PROGRAMMES UNIT
(**SPU**)ΕΛΛΗΝΙΚΗ ΠΡΩΤΟΒΟΥΛΑ ΤΕΧΝΟΛΟ
ΓΙΚΩΝ ΣΥΜΠΕΡΑΤΙΚΩΝ ΣΧΗΜΑΤΙΣΜΩΝ/
CORALLIA CLUSTERS INITIATIVE/ΜΟΝΑ
ΔΑ ΑΝΑΛΥΣΗΣ ΚΑΙ ΜΟΝΤΕΛΟΠΟΙΗΣΗΣ ΤΗΣ
ΠΛΗΡΟΦΟΡΙΑΣ(**ΜΑΜΠ**)/INFORMATION
ANALYSIS AND MODELING UNIT(**IAMU**)

Έρευνα & Καινοτομία
Τεχνολογίες Πληροφορίας

ΑΘΗΝΑ



ATHENA

Research & Innovation
Information Technologies

Exploiting ma-DMPs through Open Science Graphs

The case of Argos and OpenAIRE Research Graph

Elli Papadopoulou

ATHENA Research & Innovation Centre
Argos Product Manager at OpenAIRE

www.athenarc.gr



Overview



Data Management Plans

- Tools
- Standards
- Argos DMP service



Open Science Graphs

- Knowledge Graphs
- OpenAIRE Research Graph

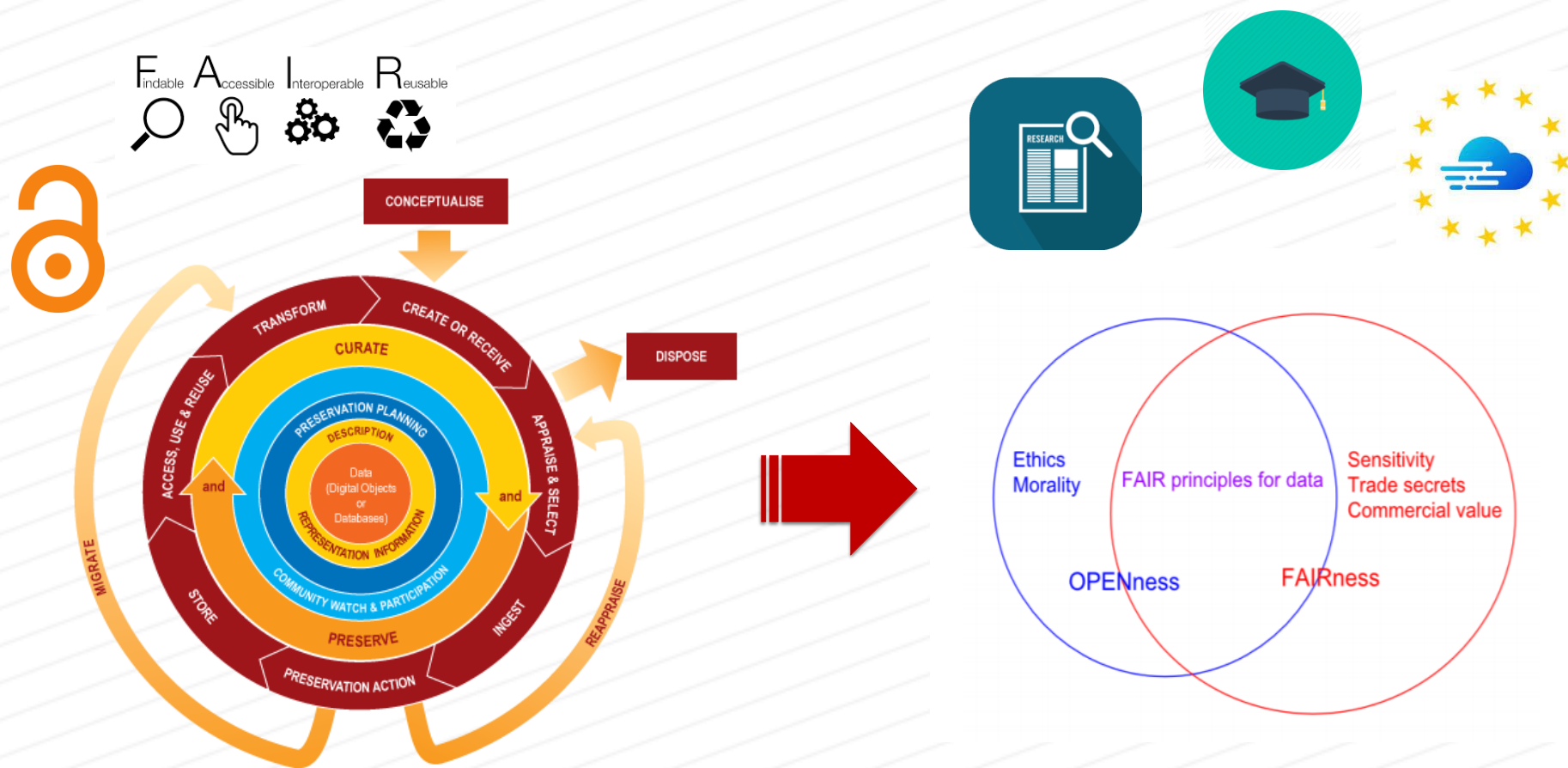


First Outcomes

- New entities and relationships
- Disambiguation

Data Management Plans

The need



Digital Curation Centre

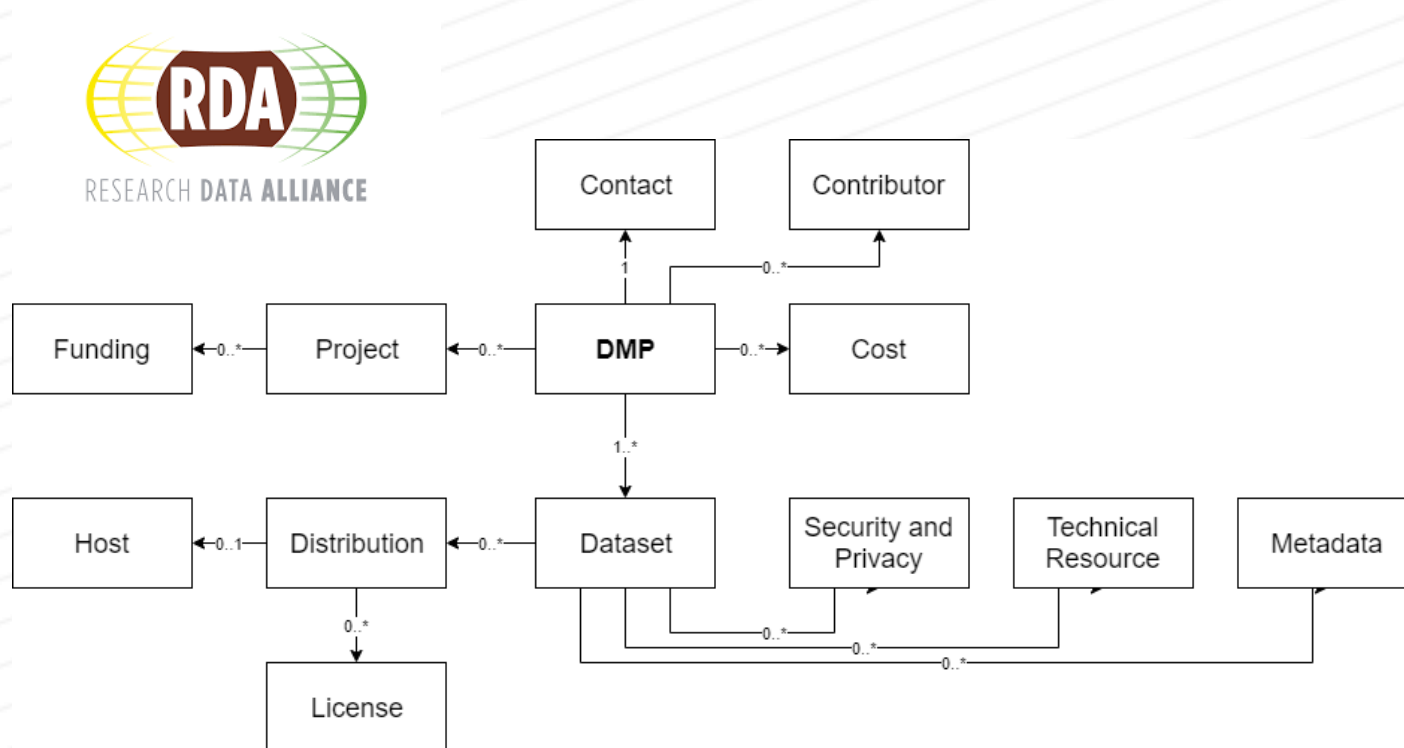
Curation Lifecycle

Implementing RDM - DMP tools

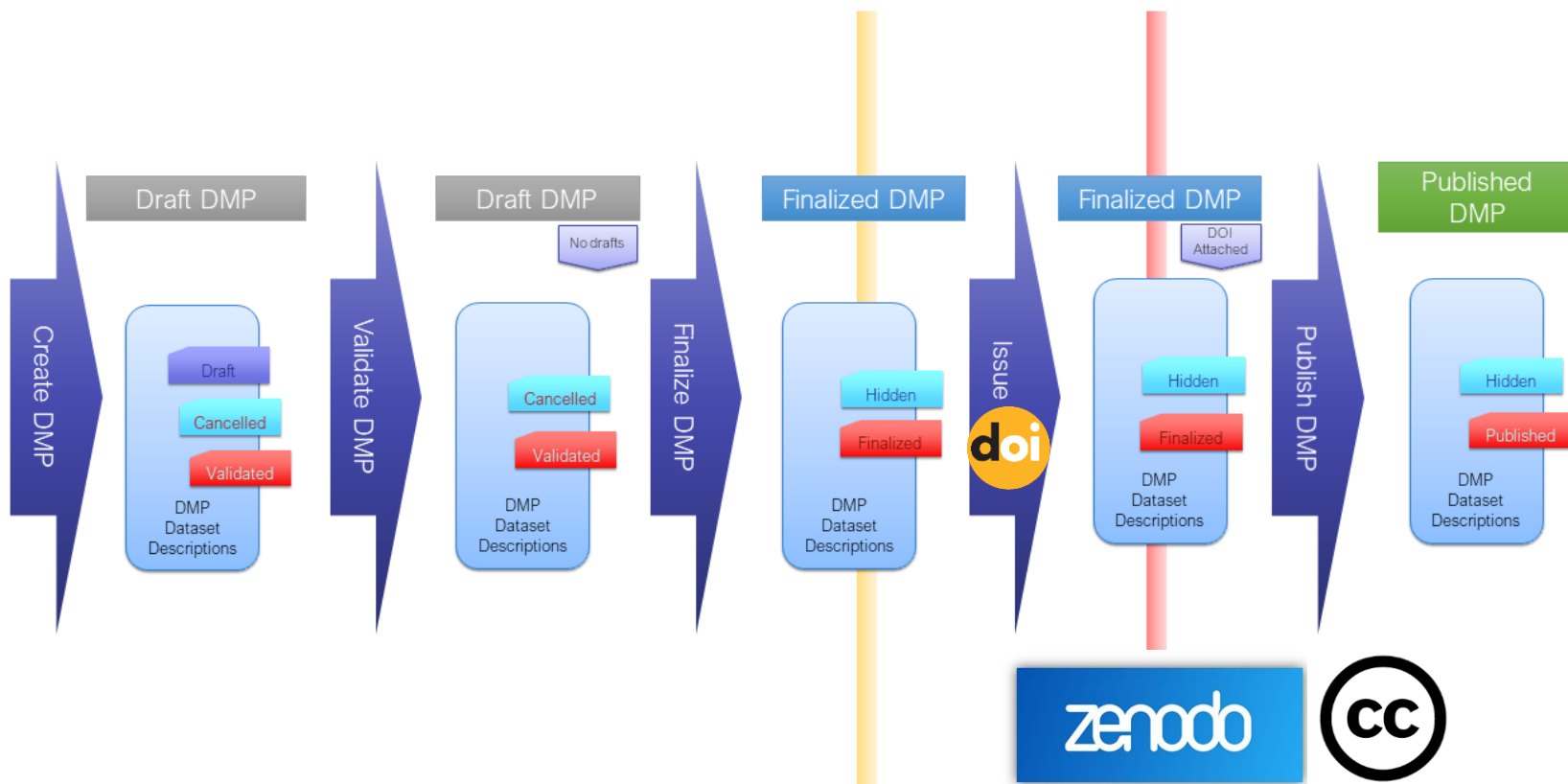


Argos	Argos is an online machine-actionable tool developed by OpenAIRE to facilitate Research Data Management (RDM) activities concerning the implementation of Data Management Plans (DMPs).	OpenAIRE	OpenDMP	https://argos.openaire.eu/about
DMP tool	part of ROADmap software (similar to DMPonline)	University of California Curation Center	DMPRoadmap	https://dmptool.org/
DMPonline	DMPonline helps you to create, review, and share data management plans that meet institutional and funder requirements.	DCC	DMPRoadmap	https://dmponline.dcc.ac.uk/
Data Stewardship Wizard	Brings together data stewards and researchers to efficiently compose data management plans (DMPs) for their research projects.	ELIXIR CZ and ELIXIR NL	own software	https://ds-wizard.org/
easyDMP	EASYDMP is a service that simplifies the task of creating data management plans. The researcher selects a data management plan template and then completes a set of easy to answer questions that cover all aspects of a funding agency's data management guidelines.	CSC/ EUDAT	easyDMP	https://easydmp.eudat.eu/login/
RDMO	A tool to support the planning, implementation, and organization of research data management.	DFG (German Research Foundation)	own software	https://rdmorganiser.github.io/

DMP Common Standard for ma-DMPs



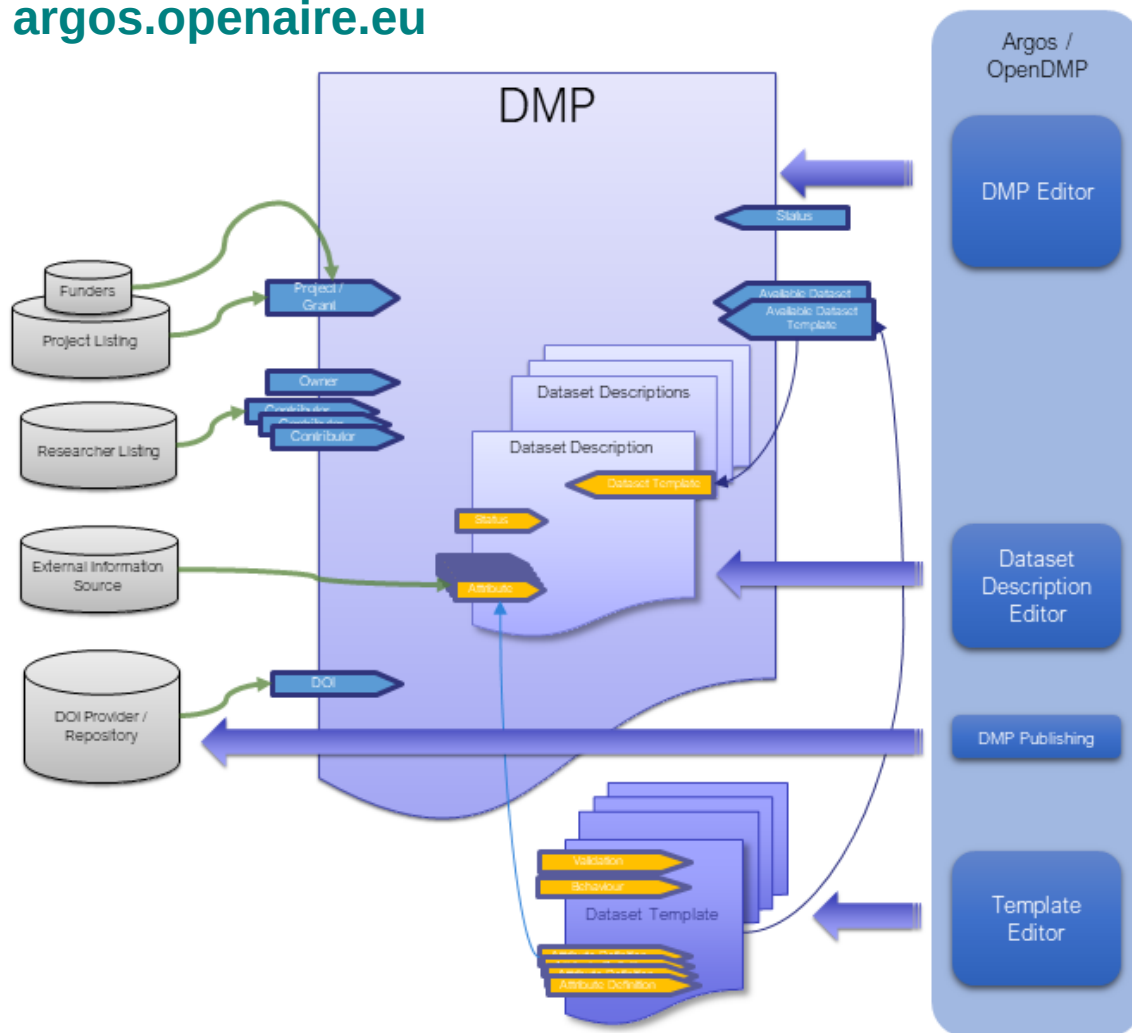
Plan and follow your data 1/2





argos.openaire.eu

Plan and follow your data 2/2



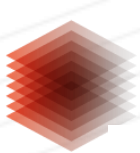
- Open source software
- Configurable
- Extensible

<https://gitlab.eudat.eu/dmp/OpenAIRE-EUDAT-DMP-service-pilot>

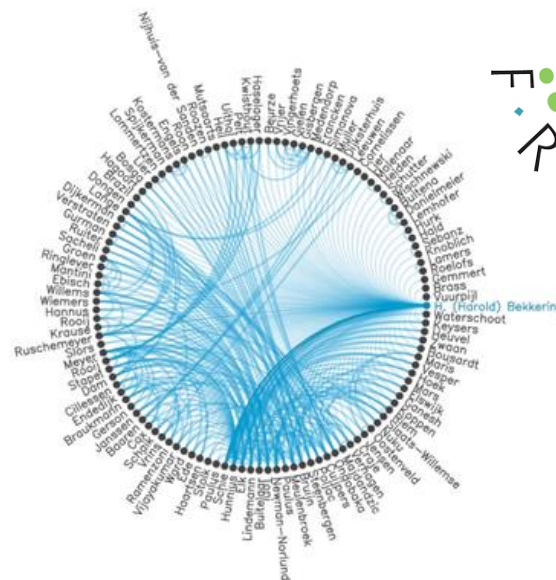
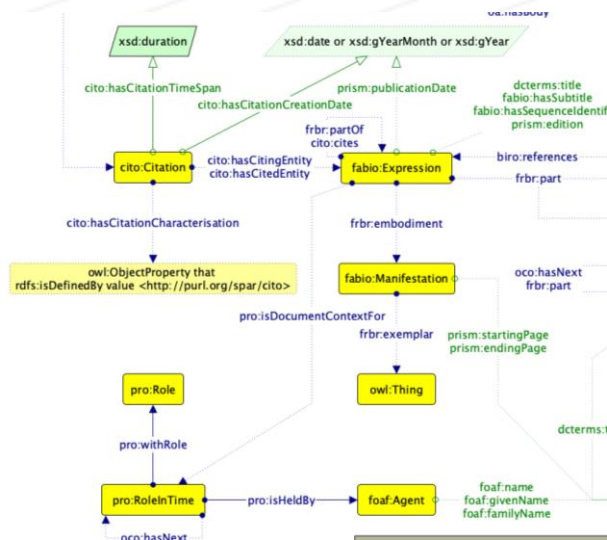


www.athenarc.gr

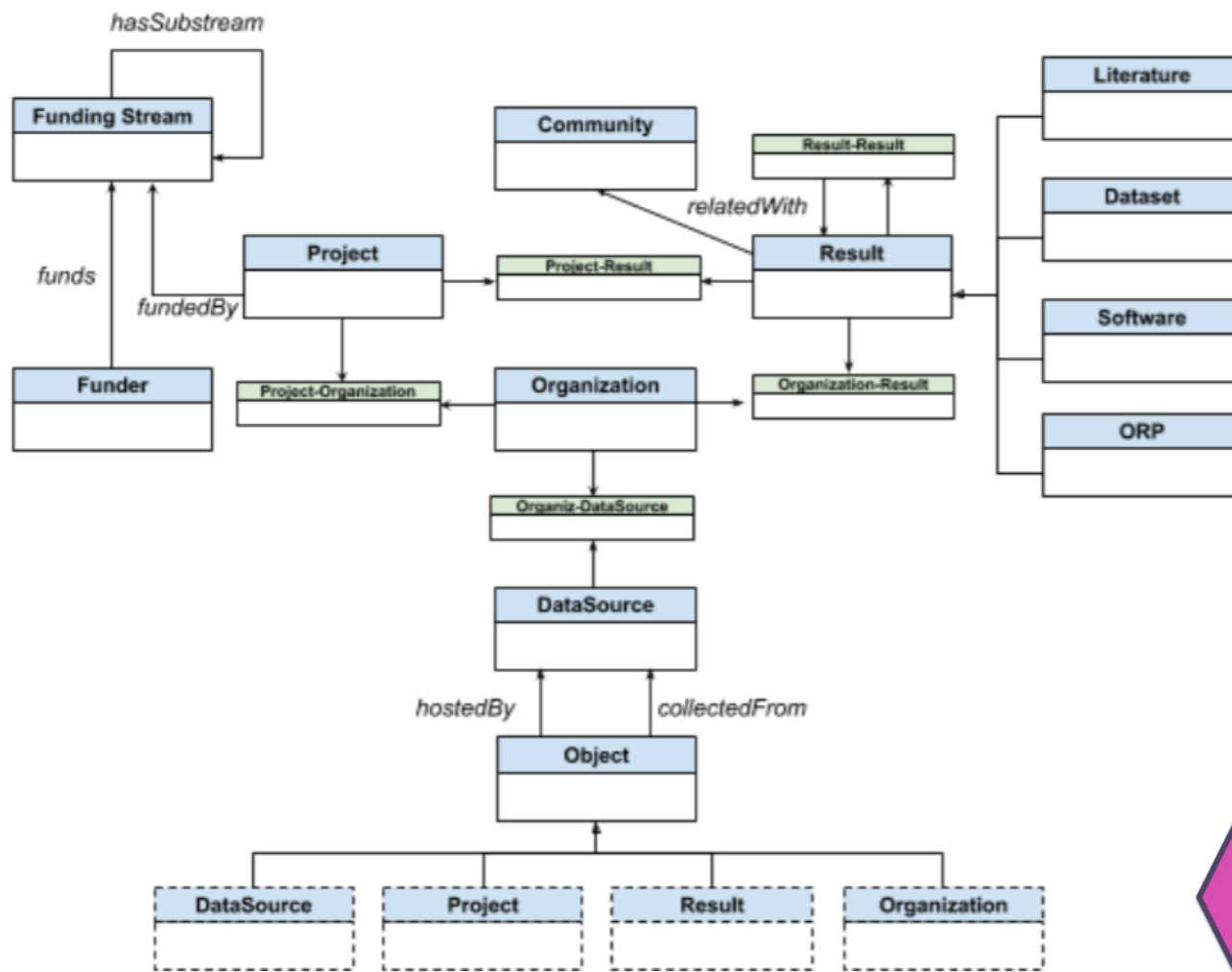
Open Science Graphs



Types of Graphs



OpenAIRE Research Graph



Questions

What are the differences between DMPs and ma-DMPs?

Are DMPs easily discoverable?

What information does the Research Graph capture?

Are DMPs described in OSGs?

How Argos ma-DMPs enrich the Research Graph?

First Outcomes

Discoverability 1/2

↑ -- data management plan --

URI	http://purl.org/coar/resource_type/c_ab20
Definition (en)	A formal document that outlines how and where data will be collected and managed, both during and after a research project (Adapted from Wikipedia)
Preferred label (en)	data management plan
Preferred label (es)	plan de gestión de datos
Preferred label (ca)	pla de gestió de dades
Preferred label (fr)	plan de gestion de données
Preferred label (de)	
Preferred label (ja)	
Preferred label (nl)	
Preferred label (ru)	
Preferred label (it)	
Preferred label (sl)	
Alternative label (ca)	Start typing a community name...
Alternative label (ru)	
Alternative label (ru)	
Alternative label (sl)	
Exact match	
Exact match	
Broader	





Open Access Commons

- Book
- Book section
- Conference paper
- Data management plan**
- Journal article
- Patent
- Preprint
- Project deliverable
- Project milestone
- Proposal
- Report
- Software documentation
- Taxonomic treatment
- Technical note
- Thesis
- Working paper
- Other



Argos DMP outputs

Upload type

Publication type

Publication

Post



CURRENT GUIDELINES

- OpenAIRE Guidelines for Literature Repositories
- OpenAIRE Guidelines for Data Archives
- OpenAIRE Guidelines for CRIS Managers
- Draft OpenAIRE Guidelines for Software Repository Managers
- Draft OpenAIRE Guidelines for Other Research Products

HOW TO CONTRIBUTE

- Contributing

APPENDIX

- How the Horizon 2020 Open Access requirements are met

Discoverability 2/2

RESEARCH OUTCOMES (84) PROJECTS (2,812,592) CONTENT PROVIDERS (78,064) ORGANIZATIONS (147,114)

Filters

X Data Management Plan

Results per page:

10

Sort by:

Relevance

Download Results

Access Mode (1)

☐ Open Access (82)

Result Types (4)

- ☐ Publications
- ☐ Research data
- ☐ Software
- ☐ Other research products

Year range

e.g. 1800 - e.g. 2030

THIS YEAR | LAST 5 YEARS | LAST 10 YEARS

Funder (1)

☐ European Commission (23)

Type (4)

Clear

- ☒ Data Management Plan (84)
- ☐ Other literature type (62)
- ☐ Article (13)
- ☐ Preprint (2)

Language (3)

- ☐ English (36)
- ☐ Portuguese (2)
- ☐ French (1)

84 RESEARCH OUTCOMES, PAGE 4 OF 9

< 2 3 4 5 6 >

Publication : Data Management Plan . Article . 2017

Data Management Plan: Opening access to economic data to prevent tobacco related diseases in Africa

OPEN ACCESS ENGLISH

Authors: Woolfrey, Lynn;

Publisher: Pensoft Publishers

The purpose of this project is to demonstrate that tobacco-related data from selected Africa countries can be collected and distributed from an Open Data platform. The platform and data will improve the capacity for tobacco control research in key sub-Saharan African co...

Publication : Other Literature Type . Data Management Plan . 2019

The data management plan of Alien-CSI

OPEN ACCESS ENGLISH

Authors:  Groom, Quentin John;  Adriaens, Tim; Cardoso, Ana Cristina;  Essl, Franz; Martinou, Kelly; Moen, Toril Loennechen;  Jan Perg, Jan;  Pocock, Michael;  Reyserhove, Lien;  Schade, Sven; ...

DOI: 10.5281/zenodo.3265765  10.5281/zenodo.3265764 

Publisher: Zenodo

This document describes the data management principles and policies of the Alien CSI COST Action. This action aims to increase public awareness and levels of participation on issues related to invasive alien species and citizen science.

Publication : Data Management Plan . Other Literature Type . 2020

WorldBank_WDI_Visulization - DMP

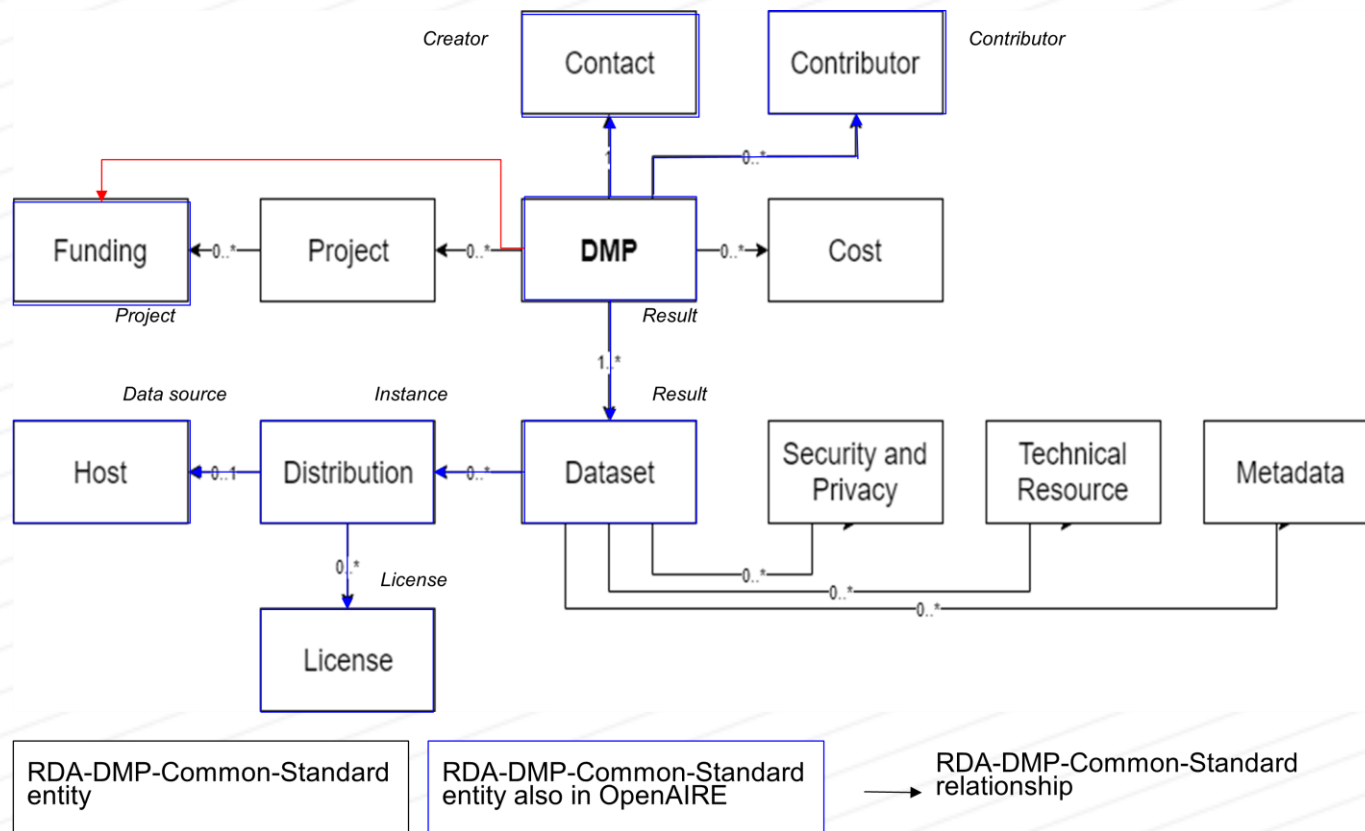
OPEN ACCESS ENGLISH

Authors:  Lincoln, Craig N;

DOI: 10.5281/zenodo.3757220  10.5281/zenodo.3757219  10.5281/zenodo.3757520 

Initial DMP

Mapping between models – RDA x RG



New entities and relationships



OpenAIRE Research Graph

- “hasDMP”/”hasProject”
- “hasDataset”
- “hasDMP”

Argos

- Contact
- Cost
- Language
- License

(More in Argos ma-DMPs

- ethics, security, quality, and preservation)

Major findings

- Mappings: When no direct mapping of entities, information ->
 - a. is still found in more abstract/ general fields of OpenAIRE or Argos, though diverged in cardinality and / or data type
 - b. might be covered by Argos ma-DMP outputs
 - c. can be tweaked to accommodate the needs of maDMPs documentation
 - d. rarely, it is omitted
- Argos accommodates some entities on the level of datasets and not on the level of DMPs, e.g. `ethical_issues_exist`
- Contextualisation of information -> datasets in ma-DMPs vs datasets in DMPs
- Adoption of term “data-management-plan” by repositories

References

- 1.A. Aryani, M. Fenner, P. Manghi, A. Mannocci and M. Stocker, "Open Science Graphs Must Interoperate!", 24th International Conference on Theory and Practice of Digital Libraries (TPDL), Lyon, France, 2020. doi: 10.1007/978-3-030-55814-7_16
- 2.European Commission. (2016). European Cloud Initiative - Building a competitive data and knowledge economy in Europe. Luxembourg: Office for Official Publications of the European Communities.
- 3.Fajar J. Ekaputra, João Cardoso, Leyla Garcia, Marie Christine Jacquemot. The standard Ontology. Retrieved from: <https://w3id.org/dcs/ns/core/3.0.2>
- 4.Manghi, Paolo, Bardi, Alessia, Atzori, Claudio, Baglioni, Miriam, Manola, Natalia, Schirrwagen, Jochen, & Principe, Pedro. (2019, April 17). The OpenAIRE Research Graph Data Model (Version 1.3). Zenodo. <http://doi.org/10.5281/zenodo.2643199>
- 5.Papadopoulou, Elli, Kakaletis, Georgios, Tziotzios, Diamadis, Moa, Hanne, & Hasan, Adil. (2020). ARGOS: a collaborative tool to plan and follow your data. Zenodo. <http://doi.org/10.5281/zenodo.3898249>
- 6.Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci Data 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>
- 7.Houssos, Nikos, et al. "OpenAIRE guidelines for CRIS managers: supporting interoperability of open research information through established standards." Procedia Computer Science 33 (2014): 33-38.
- 8.Schirrwagen, Jochen, & Baglioni, Miriam. (2018). OpenAIRE Guidelines for institutional and thematic repository managers 4.0 (Version 4.0.0). Zenodo.
- 9.European Commission. Template Horizon 2020 Data Management Plan (DMP). https://ec.europa.eu/research/participants/data/ref/h2020/other/gm/reporting/h2020-tpl-oa-data-mgt-plan-annotated_en.pdf
- 10.Miksa T, Simms S, Mietchen D, Jones S (2019) Ten principles for machine-actionable data management plans. PLOS Computational Biology 15(3): e1006750. <https://doi.org/10.1371/journal.pcbi.1006750>

Useful Resources

- What's New: <https://www.openaire.eu/openaire-welcomes-argos-new-version>
- User Guide: <https://argos.openaire.eu/user-guide>
- Factsheet:
<https://argos.openaire.eu/splash/assets/media-kit/Factsheet.pdf>
- FAQs:
<https://argos.openaire.eu/splash/about/faqs.html>
- Contact us: argos@openaire.eu

Data Management Plans and Linked Open Data: exploiting machine actionable data management plans through Open Science Graphs

Elli Papadopoulou¹[0000-0002-0893-8509], Alessia Bardi²[0000-0002-1112-1292], George Kakalet-
ris¹[0000-0002-2095-1220], Diamadis Tziotzios¹[0000-0003-1670-4611], Paolo Manghi²[0000-0001-7291-
3210] and Natalia Manola¹[0000-0002-3477-3082]

¹ Athena Research and Innovation Center, 6 Artemidos, 15125 Athens, Greece

² Consiglio Nazionale delle Ricerche, 1 Via Moruzzi
56124, Pisa, Italy

Alessia Bardi	alessia.bardi@isti.cnr.it
George Kakalettris	gkakas@athenarc.gr
Diamadis Tziotzios	dtziotzios@athenarc.gr
Paolo Manghi	paolo.manghi@isti.cnr.it
Natalia Manola	nmanola@athenarc.gr



EΥΧΑΡΙΣΤΩ/GRÀCIES/HVALA/DĚKUJI/TAK/DANK
JEWEL/AITÄH/KIITOS/MERCI/DANKE/KÖSZNÖNÖ/
GRAZIE/PALDIES/AČIŮ/GRAZZI/TAKK/DZIEKUJĘ
OBRIGADO/MULTUMESC/СПАСИБО/ХВАЛА
HVALA/БЛАГОДАРЯ/THANKYOU/TAK/GRACIAS
/KIITOS/TACK/TEŞEKKÜREDERİM/СПАСИБИ/
JUFALEMINDERIT/EΥΧΑΡΙΣΤΩ/DANKJEWEL/TAK
TACK/GRAZZI/DANKJEWEL/MULTUMESC/AITÄH
KÖSZNÖNÖ/СПАСИБО/ХВАЛА/AČIŮ/THANKYOU

EΥΧΑΡΙΣΤΩ

Elli Papadopoulou

elli.p@athenarc.gr

ORCID

0000-0002-0893-8509



@elli_lib



www.athenarc.gr

First virtual workshop on Research data* management for Linked Open Science
DaMaLOS 2020, 02/10/2020