RESEARCH DATA ALLIANCE

18th RDA Plenary
Maintenance and Adoptions of the Common Standard for machine-actionable DMPs

DMP Common Standards WG

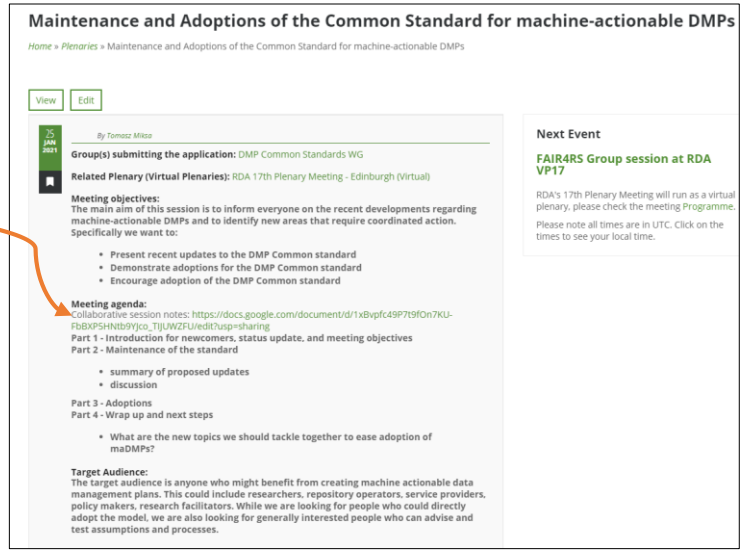
Tomasz Miksa, Paul Walk, Peter Neish

Agenda

- Part 1 – Introduction for newcomers, status update, and meeting objectives
- Part 2 – Adoptions and new use cases
  - *Now that machine actionable DMPs are becoming available, what could we do with them?*
    - by Daniel Mietchen
  - *Update on maDMPs in a government context: Developing an RDA maDMP extension and logic model*
    - by Claire Austin
  - *Automating Evaluation of Machine-Actionable Data Management Plans with Semantic Web Technologies*
    - by Lea Brugger and Raffael Foidl
  - *maDMP4LS : integration of DMP OPIDoR in the French infrastructure landscape*
    - by Benjamin Faure and Konogan Bourhy
- Part 3 – Maintenance of the recommendation
- Part 3 – Wrap up and next steps
  - What are the new topics we should tackle together to ease adoption of maDMPs?
  - Are there any updates needed in the recommendation?

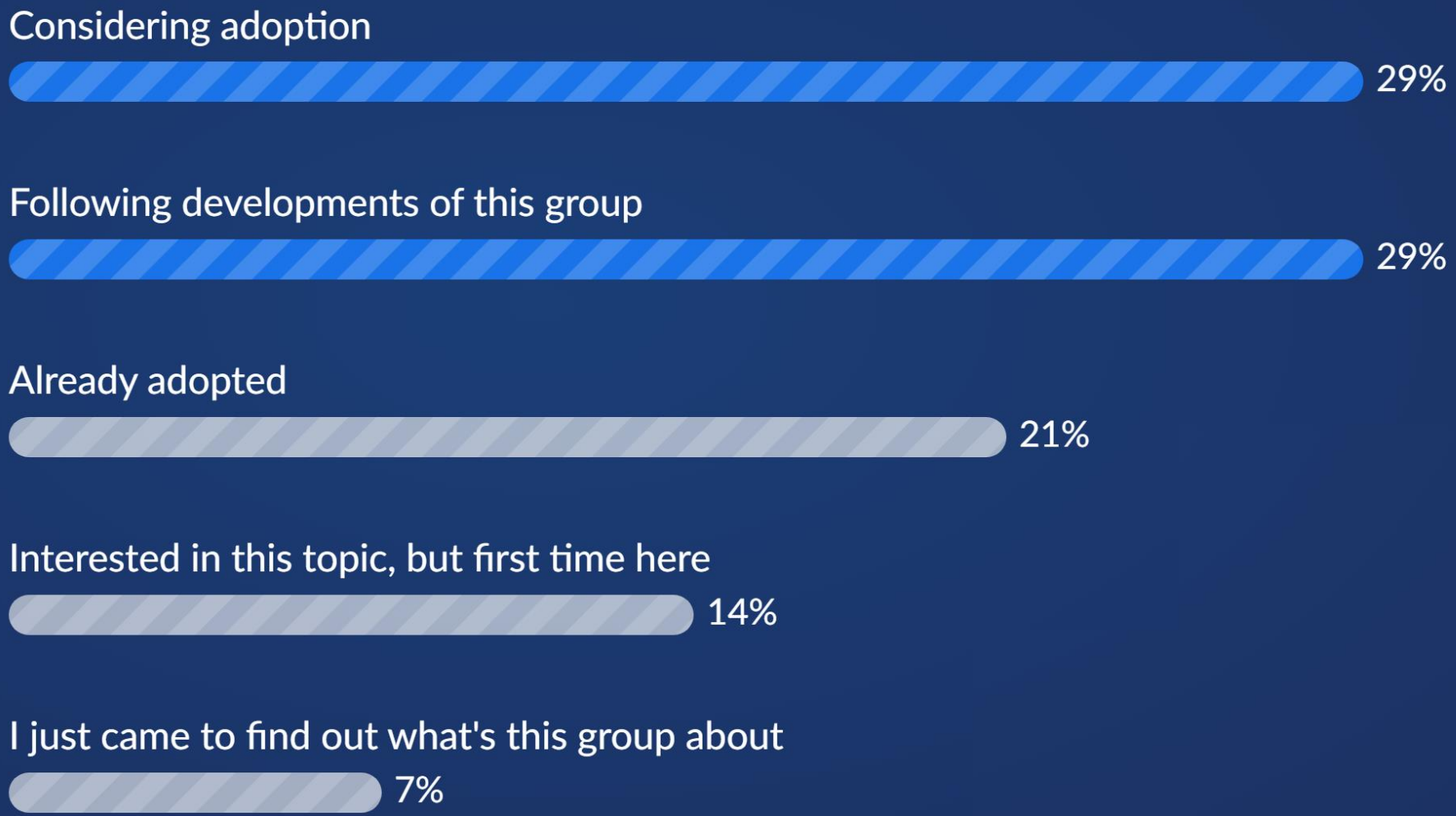
Participants

- Collaborative notes
  - LINK
  - Add your name to the list
  - Co-edit!
- Let's get to know each other



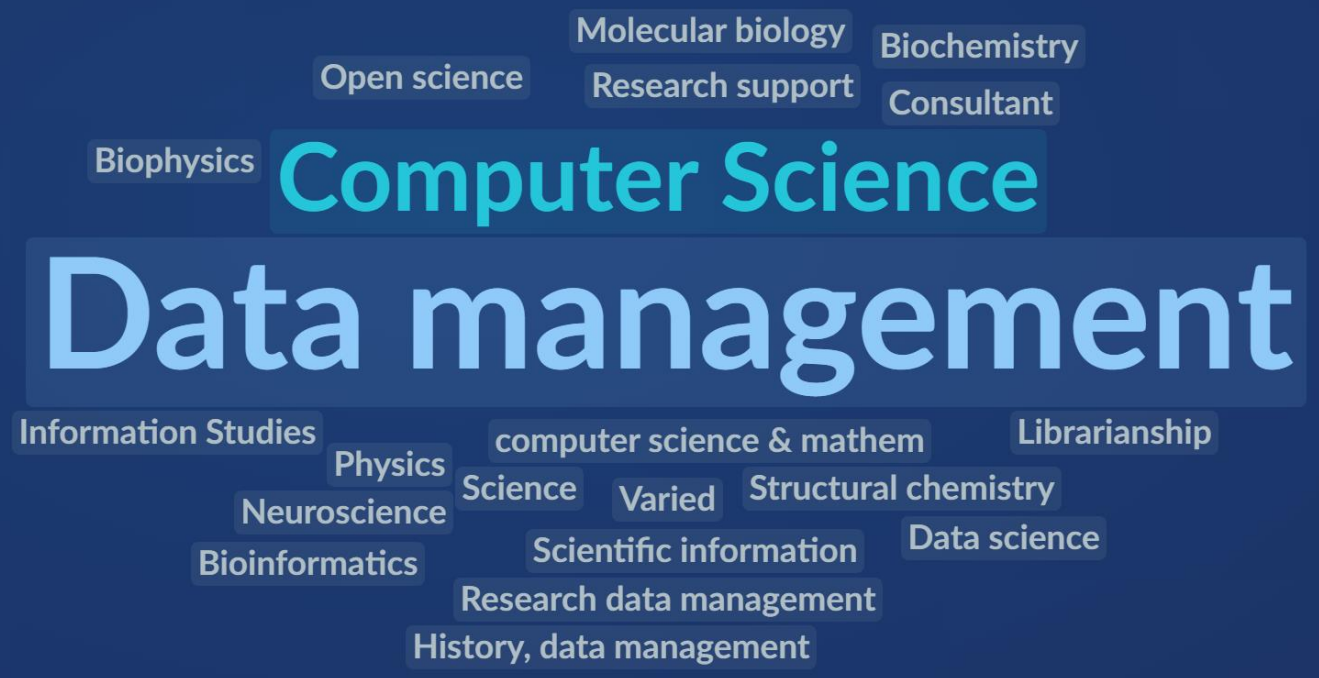
Go to **slido.com** and enter **#926 519**

How familiar are you with maDMPs?



Where are you located?

What is your background?



Introduction for newcomers

Part 1

Data Management Plans (DMPs)

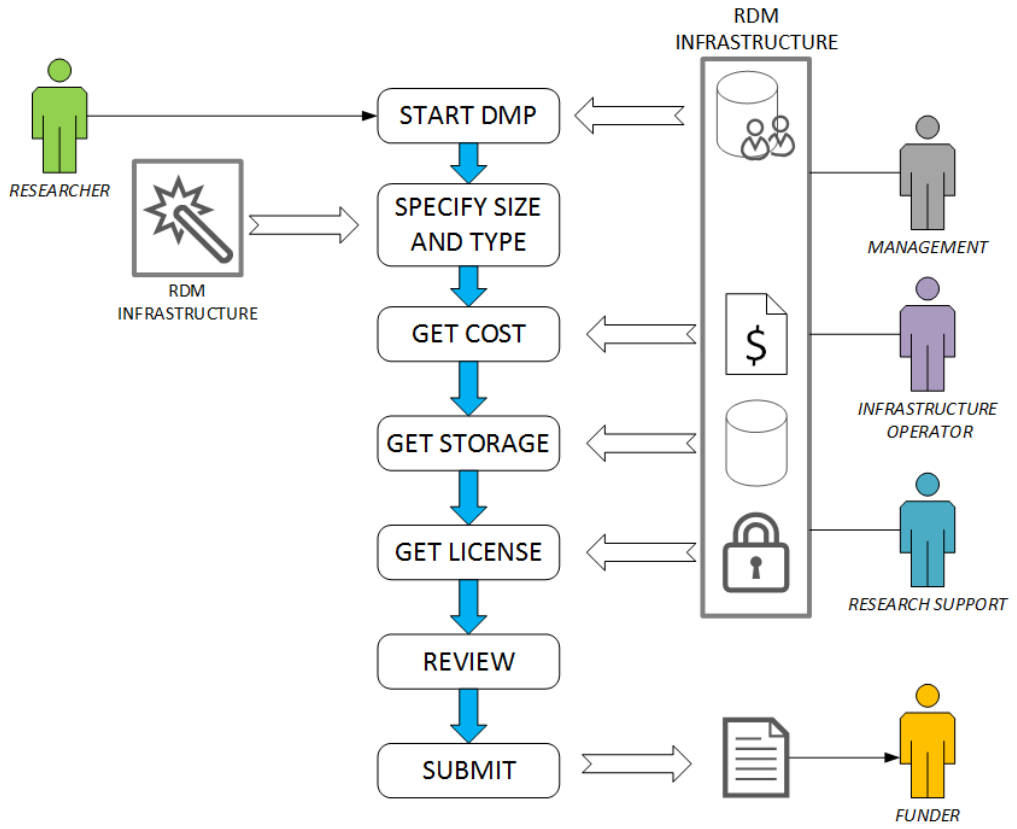
	Data Officer	*Who is responsible for the data management and the DMP of the project (name/email address)?*
I	**Data Characteristics**	
I.1	**Description of the data**	*What kinds of data/source code will be generated or reused (type, format, volume)?* *How will the research data be generated and which methods will be used?* *How will you structure the data and handle versioning?* *Who is the target audience?*
II	**Documentation and Metadata**	
II.1	**Metadata standards**	*What metadata standards (if any) will be in use and why? (see Digital Curation Centre)*
II.2	**Documentation of data**	*What information is needed for the data to be findable, accessible, interoperable and re-usable (FAIR) in the future?* *Is the data machine-readable?* *How are you planning to document this information?*
II.3	**Data quality control**	*What quality assurance processes will you adopt?* *How will the consistency and quality of data collection be controlled and documented? (This may include processes such as repeat samples or measurements, standardised data capture, peer review of data or representation with controlled vocabularies.)*
III	**Data Availability and Storage**	
III.1	**Data sharing strategy**	*How and when will the data be shared and made accessible?* *What repository will you be using?* *What persistent identifier will be used?*
III.2	**Data storage strategy**	*What data are to be preserved for the long-term, and what data will not be stored? How and where will the data be stored and backed up during the research?* *How and where will the data be stored after the project ends?* *For how long will the data be stored?* *Are there any costs that need to be covered for storage?* *At what point during or after the project will the data be stored?* *Are there any technical barriers to making the research data fully or partially accessible?*

Table of Contents

4 For procedural elements of implementing DMPs, see the RDA DMP Common Standards Working Group: https://www.rd-alliance.org/groups/dmp-common-standards-wg

Machine-actionable DMPs (maDMPs)

- Machine-actionable DMPs
  - Living documents
  - automate data management
    - collect information from systems
    - trigger actions in systems
  - facilitate validation
- This requires
  - well-defined RDM workflows
  - data management infrastructure
  - common standard to represent information



Official RDA Recommendation on maDMPs

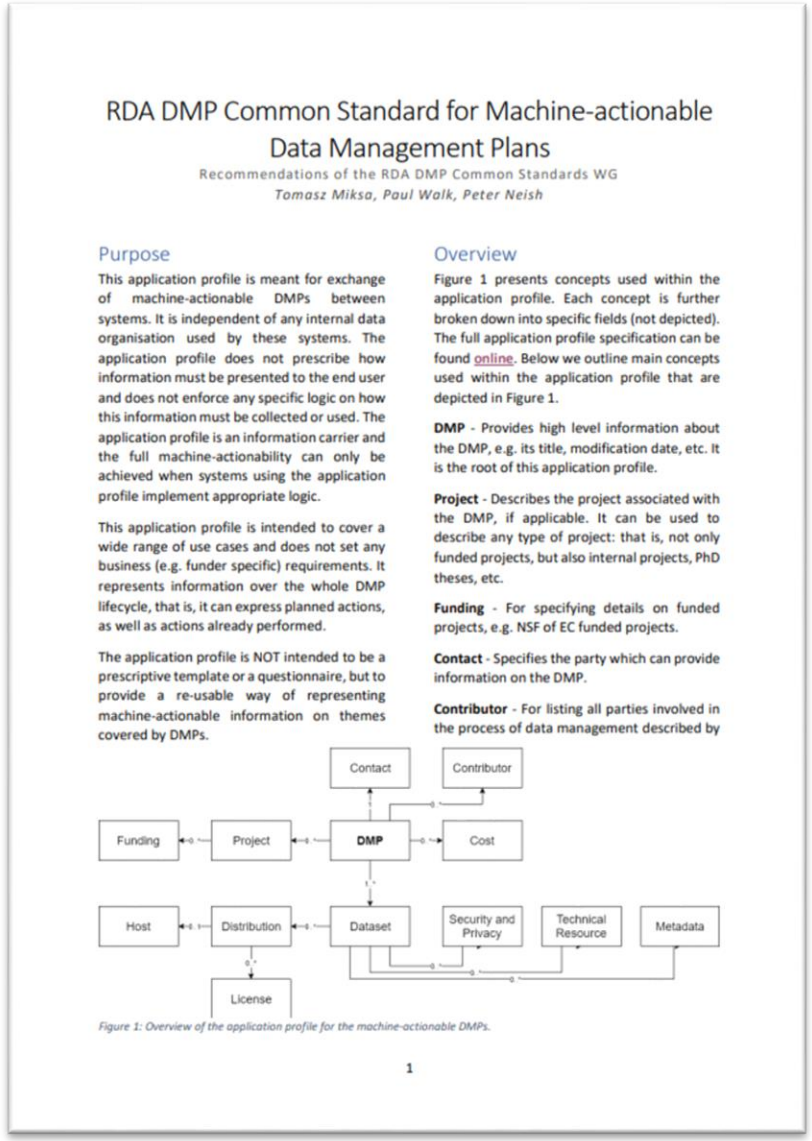
RDA DMP Common Standard for Machine-actionable Data Management Plans

The Challenge:

Data Management Plans are free-form text documents describing the data that is used and produced during the course of research activities. They specify where the data will be archived, which licenses and constraints apply, and to whom credit should be given, etc. The workload and bureaucracy often associated with traditional DMPs can be reduced when they become machine-actionable.

Produced by: DMP Common Standards WG

https://www.rd-alliance.org/groups/dmp-common-standards-wg



RDA DMP Common Standard for Machine-actionable Data Management Plans

Recommendations of the RDA DMP Common Standards WG

Tomasz Miksa, Paul Walk, Peter Neish

Purpose

This application profile is meant for exchange of machine-actionable DMPs between systems. It is independent of any internal data organisation used by these systems. The application profile does not prescribe how information must be presented to the end user and does not enforce any specific logic on how this information must be collected or used. The application profile is an information carrier and the full machine-actionability can only be achieved when systems using the application profile implement appropriate logic.

This application profile is intended to cover a wide range of use cases and does not set any business (e.g. funder specific) requirements. It represents information over the whole DMP lifecycle, that is, it can express planned actions, as well as actions already performed.

The application profile is NOT intended to be a prescriptive template or a questionnaire, but to provide a re-usable way of representing machine-actionable information on themes covered by DMPs.

Overview

Figure 1 presents concepts used within the application profile. Each concept is further broken down into specific fields (not depicted). The full application profile specification can be found online. Below we outline main concepts used within the application profile that are depicted in Figure 1.

DMP - Provides high level information about the DMP, e.g. its title, modification date, etc. It is the root of this application profile.

Project - Describes the project associated with the DMP, if applicable. It can be used to describe any type of project: that is, not only funded projects, but also internal projects, PhD theses, etc.

Funding - For specifying details on funded projects, e.g. NSF of EC funded projects.

Contact - Specifies the party which can provide information on the DMP.

Contributor - For listing all parties involved in the process of data management described by

Figure 1: Overview of the application profile for the machine-actionable DMPs.

1

Miksa, T., Walk, P., & Neish, P. (2019). RDA DMP Common Standard for Machine-actionable Data Management Plans. https://doi.org/10.15497/rda00039

maDMPs - documentation

Properties in 'dmp'

Name	Description	Data Type	Cardinality	Example Value
contact	Contact person for a DMP	Nested Data Structure	1	
contributor	To list people that play role in data management related to this DMP, e.g. resoponsible for performing actions described in this DMP.	Nested Data Structure	0..n	
cost	To list costs related to data management. Providing multiple instances of a 'Cost' allows to break down costs into details. Providing one 'Cost' instance allows to provide one aggregated sum.	Nested Data Structure	0..n	
created	Date and time of the first version of a DMP. Must not be changed in subsequent DMPs.	DateTime	1	2019-03-13 13:13
dataset	To describe data on a non-technical level.	Nested Data Structure	1..n	

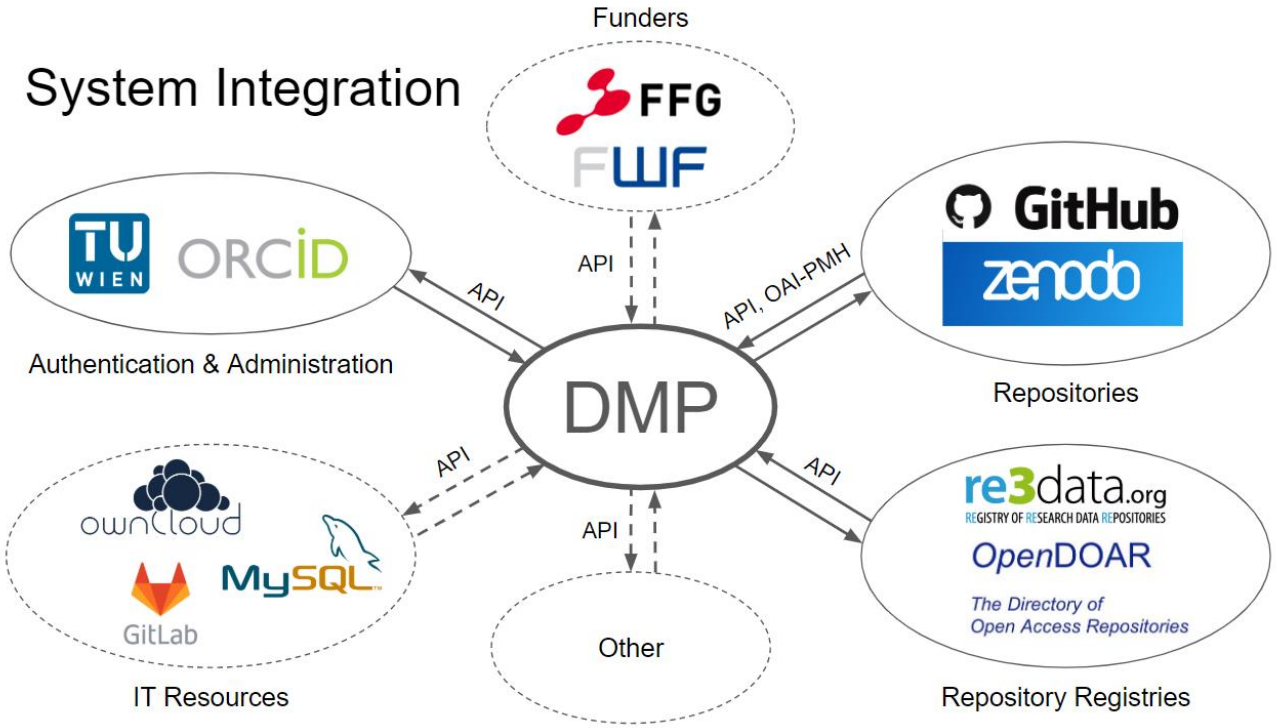
NOT a questionnaire!
NOT a template!

Most fields are optional!

https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard/blob/master/docs/index.md

RDM Infrastructure

- maDMPs are the ‘glue’ between different systems
  - Automate getting information **in** and **out**

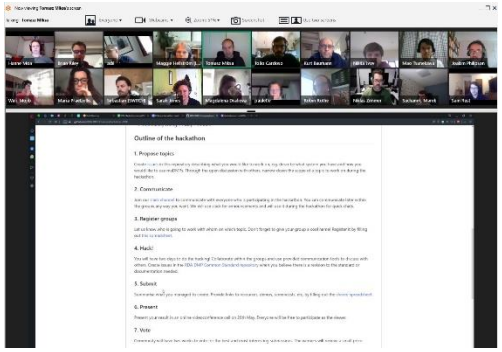


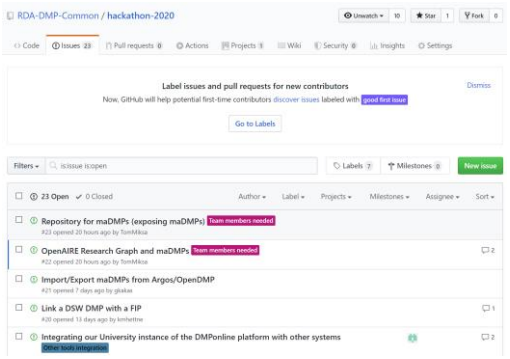
Adoptions (selected)

DMP Common Standards WG

- Maintenance mode
- Activities
  - Calls announced via mailing list
  - GitHub issues
  - RDA Hackathon on maDMPs
    - 71 participants, 12 teams, 21 countries
    - Integrations, mappings, etc.
    - Results

We have **240+** members!

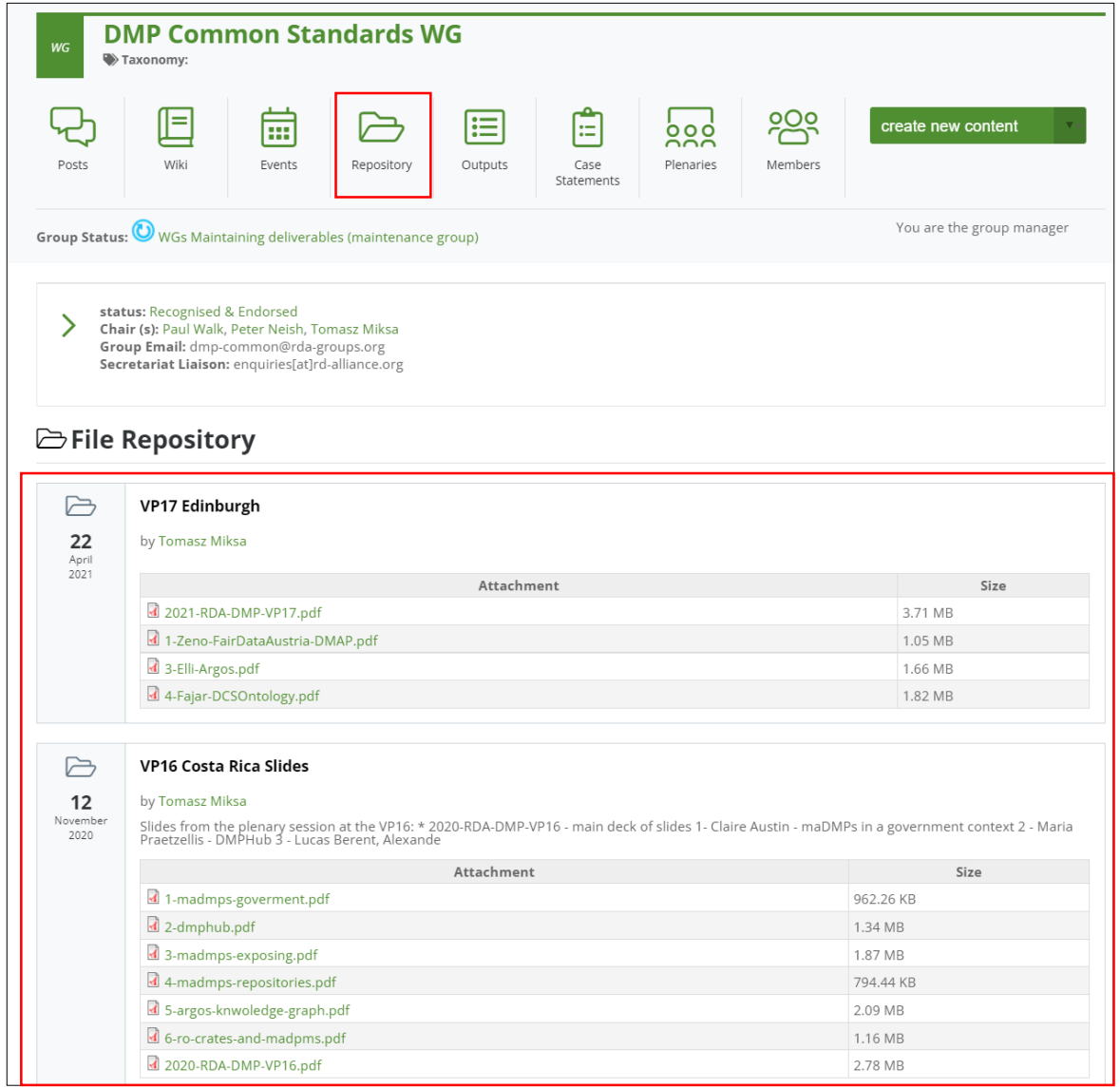




DMP Common Standards WG

- Slides from all our sessions are in the repository
- Today's presentations will also be there

https://www.rd-alliance.org/node/56938/file-repository



Papers published!

- Describes the full story of developing the recommendation
- Example of a minimal maDMP
- Presents adoptions
  - Haplo
  - Open Research Publishing Platforms
  - DMP Tool
  - DMPonline
  - DMP OPIDoR
  - Data Stewardship Wizard
  - NSD DMP
  - Argos
  - Research infrastructure at TU Wien
  - Easy DMP

DATA SCIENCE JOURNAL

Reading: Application Profile for Machine-Actionable Data Management Plans

Share:

Special Collection: Research Data Alliance Results

Research Papers

Application Profile for Machine-Actionable Data Management Plans

Authors: Tomasz Miksa, Paul Walk, Peter Neish, Simon Oblasser, Hollydawn Murray, Tom Renner, Marie-Christine Jacquemot-Perbal, João Cardoso, Trond Kvamme, Maria Praetzellis, Marek Suchánek, Rob Hooft, Benjamin Faure, Hanne Moa, Adil Hasan, Sarah Jones

Abstract

This paper presents the application profile for machine-actionable data management plans that allows information from traditional data management plans to be expressed in a machine-actionable way. We describe the methodology and research conducted to define the application profile. We also discuss design decisions made during its development and present systems which have adopted it. The application profile was developed in an open and consensus-driven manner within the DMP Common Standards Working Group of the Research Data Alliance and is its official recommendation.

Keywords: application profile, maDMPs, common standard, machine actionable, RDA

How to Cite: Miksa, T., Walk, P., Neish, P., Oblasser, S., Murray, H., Renner, T., Jacquemot-Perbal, M.-C., Cardoso, J., Kvamme, T., Praetzellis, M., Suchánek, M., Hooft, R., Faure, B., Moa, H., Hasan, A. and Jones, S., 2021. Application Profile for Machine-Actionable Data Management Plans. *Data Science Journal*, 20(1), p.32. DOI: http://doi.org/10.5334/dsj-2021-032

455 Views | 49 Downloads | 28 Twitter

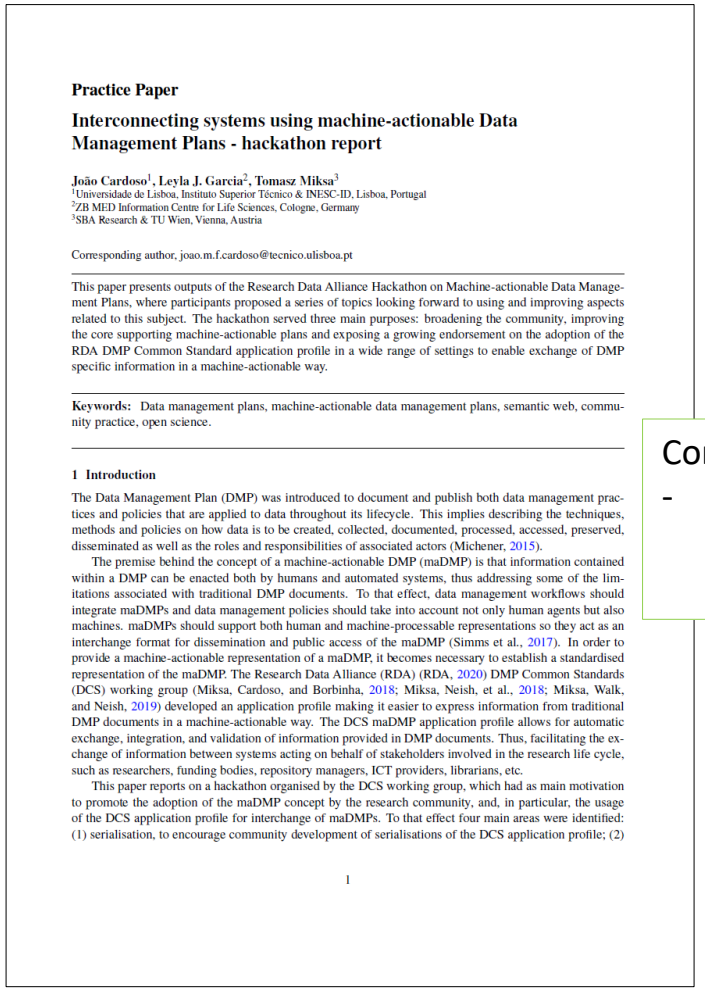
Published on 26 Oct 2021 | Peer Reviewed | CC BY 4.0

Accepted on 12 Oct 2021 | Submitted on 14 Jul 2020

Eventually! ☺

http://doi.org/10.5334/dsj-2021-032

Papers accepted!



Practice Paper

Interconnecting systems using machine-actionable Data Management Plans - hackathon report

João Cardoso[1], Leyla J. Garcia[2], Tomasz Miksa[3]
[1]Universidade de Lisboa, Instituto Superior Técnico & INESC-ID, Lisboa, Portugal
[2]ZB MED Information Centre for Life Sciences, Cologne, Germany
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Corresponding author, joao.m.f.cardoso@tecnico.ulisboa.pt

This paper presents outputs of the Research Data Alliance Hackathon on Machine-actionable Data Management Plans, where participants proposed a series of topics looking forward to using and improving aspects related to this subject. The hackathon served three main purposes: broadening the community, improving the core supporting machine-actionable plans and exposing a growing endorsement on the adoption of the RDA DMP Common Standard application profile in a wide range of settings to enable exchange of DMP specific information in a machine-actionable way.

Keywords: Data management plans, machine-actionable data management plans, semantic web, community practice, open science.

1 Introduction

The Data Management Plan (DMP) was introduced to document and publish both data management practices and policies that are applied to data throughout its lifecycle. This implies describing the techniques, methods and policies on how data is to be created, collected, documented, processed, accessed, preserved, disseminated as well as the roles and responsibilities of associated actors (Michener, 2015).

The premise behind the concept of a machine-actionable DMP (maDMP) is that information contained within a DMP can be enacted both by humans and automated systems, thus addressing some of the limitations associated with traditional DMP documents. To that effect, data management workflows should integrate maDMPs and data management policies should take into account not only human agents but also machines. maDMPs should support both human and machine-processable representations so they act as an interchange format for dissemination and public access of the maDMP (Simms et al., 2017). In order to provide a machine-actionable representation of a maDMP, it becomes necessary to establish a standardised representation of the maDMP. The Research Data Alliance (RDA) (RDA, 2020) DMP Common Standards (DCS) working group (Miksa, Cardoso, and Borbinha, 2018; Miksa, Neish, et al., 2018; Miksa, Walk, and Neish, 2019) developed an application profile making it easier to express information from traditional DMP documents in a machine-actionable way. The DCS maDMP application profile allows for automatic exchange, integration, and validation of information provided in DMP documents. Thus, facilitating the exchange of information between systems acting on behalf of stakeholders involved in the research life cycle, such as researchers, funding bodies, repository managers, ICT providers, librarians, etc.

This paper reports on a hackathon organised by the DCS working group, which had as main motivation to promote the adoption of the maDMP concept by the research community, and, in particular, the usage of the DCS application profile for interchange of maDMPs. To that effect four main areas were identified: (1) serialisation, to encourage community development of serialisations of the DCS application profile; (2)

1

Contains:
- Summary of results from hackathon

DATA SCIENCE JOURNAL

1

Automating Research Data Management Using Machine-actionable Data Management Plans

TOMASZ MIKSA, TU Wien & SBA Research, Austria
SIMON OBLASSER, TU Wien, Austria
ANDREAS RAUBER, TU Wien, Austria

Many research funders mandate researchers to create and maintain Data Management Plans (DMPs) for research projects that describe how research data is managed to ensure its reusability. A DMP being a static textual document is difficult to act upon and can quickly become obsolete and impractical to maintain. A new generation of machine-actionable DMPs was therefore proposed by the Research Data Alliance to enable automated integration of information and updates. Machine-actionable DMPs open up a variety of use cases enabling interoperability of research systems and automation of data management tasks.

In this paper we describe a system for machine-actionable data management planning in an institutional context. We identify common use cases within research that can be automated to benefit from machine-actionability of DMPs. We propose a reference architecture of a machine-actionable DMP support system that can be embedded into an institutional research data management infrastructure. The system semi-automates creation and maintenance of DMPs, and thus eases the burden for the stakeholders responsible for various DMP elements. We evaluate the proposed system in a case study conducted at the largest technical university in Austria and quantify to what extent the DMP templates provided by the European Commission and a national funding body can be pre-filled. The proof-of-concept implementation shows that machine-actionable DMP workflows can be semi-automated, thus workload on involved parties can be reduced and quality of information increased. The results are especially relevant to decision makers and infrastructure operators who want to design information systems in a systematic way that can utilise the full potential of machine-actionable DMPs.

CCS Concepts: • **Applied computing** → **Enterprise data management**; **Business process management**; **IT architectures**; • **Information systems** → **Digital libraries and archives**; • **Social and professional topics** → **Automation**.

Additional Key Words and Phrases: data management plan, machine-actionable, business processes, enterprise architecture, funder template, requirements engineering, automation, RDM, RDA, FAIR

ACM Reference Format:
Tomasz Miksa, Simon Oblasser, and Andreas Rauber. 2021. Automating Research Data Management Using Machine-actionable Data Management Plans . *ACM Trans. Manag. Inform. Syst.* 1, 1, Article 1 (January 2021), 22 pages. https://doi.org/10.1145/3490396

1 INTRODUCTION

The data revolution continues to transform every sector of science, industry, and government [AS19]. The economic and societal benefits and increased effectiveness of research funding by ensuring that data generated and (pre-) processed as part of research remains available for re-use,

Authors' addresses: Tomasz Miksa, tmiksa@sba-research.org, TU Wien & SBA Research, Vienna, Austria; Simon Oblasser, simon.oblasser@student.tuwien.ac.at, TU Wien, Vienna, Austria; Andreas Rauber, rauber@ifs.tuwien.ac.at, TU Wien, Vienna, Austria.

2158-656X/2021/1-ART1
https://doi.org/10.1145/3490396

Contains:
- Enterprise Architecture that uses maDMPs
- Examples of tasks automation at institutions using maDMPs

ACM Transactions on Management Information Systems

Adoptions and new use cases for maDMPs

Part 2

Adoptions and new use cases for maDMPs

- Rules
  - 10 minutes per presentation
  - 5 minutes for questions directly after each presentation
    - Ask questions in the zoom chat during the presentation or speak up after the presentation
- Talks

1. *Now that machine actionable DMPs are becoming available, what could we do with them?*

   by Daniel Mietchen

2. *Update on maDMPs in a government context: Developing an RDA maDMP extension and logic model*

   by Claire Austin

3. *Automating Evaluation of Machine-Actionable Data Management Plans with Semantic Web Technologies*

   by Lea Brugger and Raffael Foidl

4. *maDMP4LS : integration of DMP OPIDoR in the French infrastructure landscape*

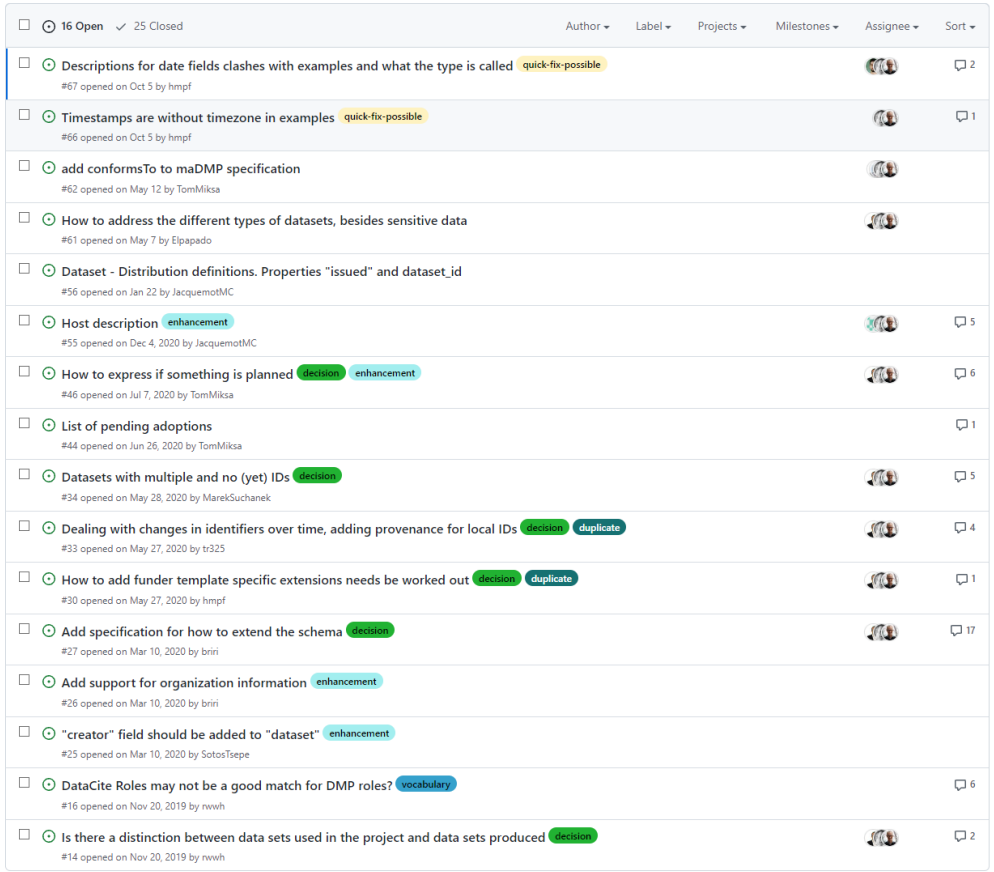
   by Benjamin Faure and Konogan Bourhy

Maintenance of the recommendation

Part 3

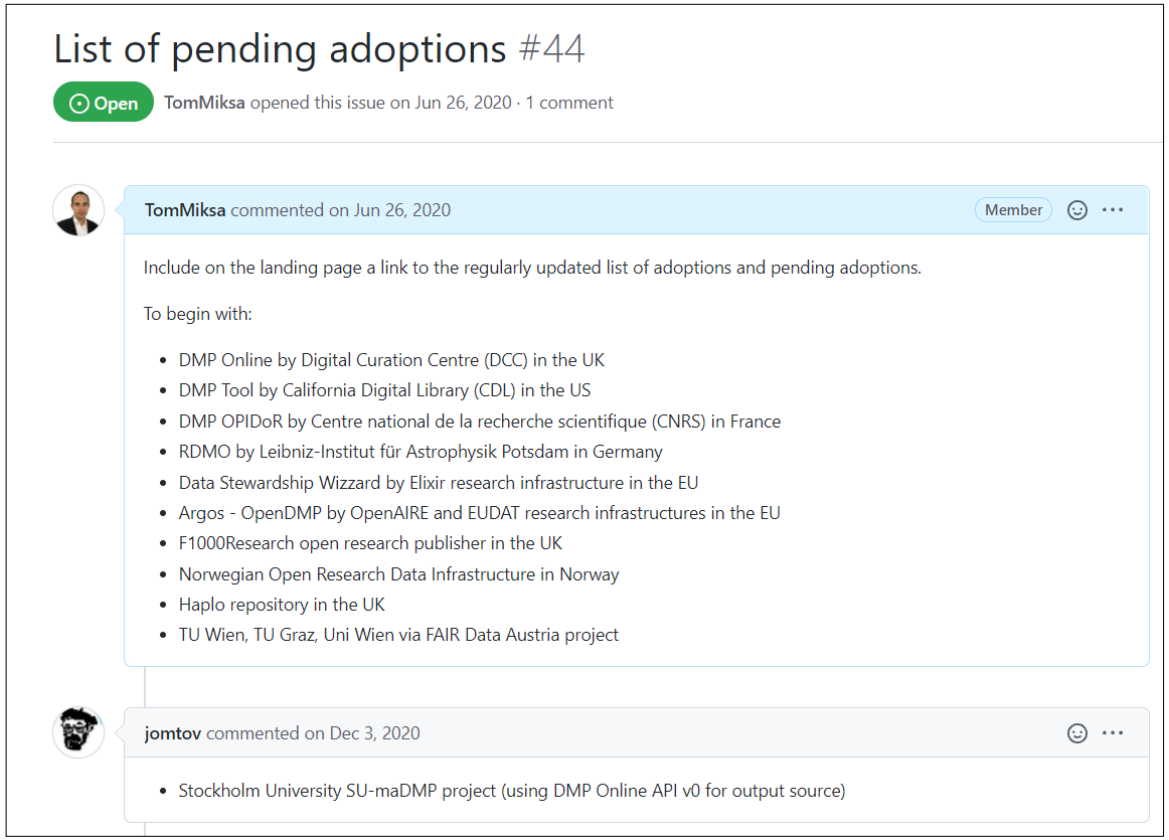
Provide feedback on issues

- Your opinion matters!
  - https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard/issues



List of pending adoptions

- Please add yours to the list
  - https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard/issues/44



List of pending adoptions #44

Open TomMiksa opened this issue on Jun 26, 2020 · 1 comment

TomMiksa commented on Jun 26, 2020 Member

Include on the landing page a link to the regularly updated list of adoptions and pending adoptions.

To begin with:

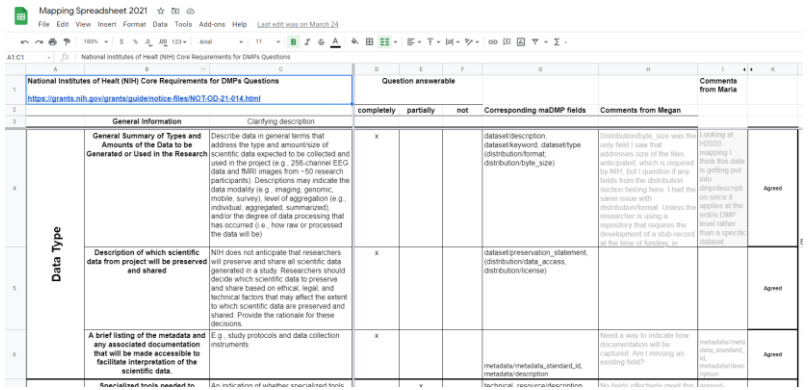
- DMP Online by Digital Curation Centre (DCC) in the UK
- DMP Tool by California Digital Library (CDL) in the US
- DMP OPIDoR by Centre national de la recherche scientifique (CNRS) in France
- RDMO by Leibniz-Institut für Astrophysik Potsdam in Germany
- Data Stewardship Wizzard by Elixir research infrastructure in the EU
- Argos - OpenDMP by OpenAIRE and EUDAT research infrastructures in the EU
- F1000Research open research publisher in the UK
- Norwegian Open Research Data Infrastructure in Norway
- Haplo repository in the UK
- TU Wien, TU Graz, Uni Wien via FAIR Data Austria project

jomtov commented on Dec 3, 2020

- Stockholm University SU-maDMP project (using DMP Online API v0 for output source)

Mapping to funder templates (pending tasks)

- Based on outputs from the hackathon
- Methodology
- Templates analysed
  - EC Horizon 2020
  - Science Europe
  - NIH DMP for 2023
  - NSF Generic Template
  - US Geological Survey
- Based on this analysis we defined
  - Proposal for changes in the standard
  - Proposal for *funder-extension*


Mapping Spreadsheet 2021

National Institutes of Healt (NIH) Core Requirements for DMPs Questions https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-014.html		Question answerable					Comments from Maria
		completely	partially	not	Corresponding maDMP fields	Comments from Megan	
	General Information	Clarifying description					
Data Type	General Summary of Types and Amounts of the Data to be Generated or Used in the Research	Describe data in general terms that address the type and amount/size of scientific data expected to be collected and used in the project (e.g., 256-channel EEG data and fMRI images from ~50 research participants). Descriptions may indicate the data modality (e.g., imaging; genomic; mobile, survey), level of aggregation (e.g., individual, aggregated, summarized), and/or the degree of data processing that has occurred (i.e., how raw or processed the data will be)	x			dataset/description, dataset/keyword, dataset/type (distribution/format; distribution/byte_size)	Distribution/byte_size was the only field I saw that addresses size of the files anticipated, which is required by NIH, but I question if any fields from the distribution section belong here. I had the same issue with distribution/format. Unless the researcher is using a repository that requires the development of a stub record at the time of funding, in	Looking at H2020 mapping I think this data is getting put into dmp/description since it applies at the entire DMP level rather than a specific dataset	Agreed
	Description of which scientific data from project will be preserved and shared	NIH does not anticipate that researchers will preserve and share all scientific data generated in a study. Researchers should decide which scientific data to preserve and share based on ethical, legal, and technical factors that may affect the extent to which scientific data are preserved and shared. Provide the rationale for these decisions.	x		dataset/preservation_statement, (distribution/data_access, distribution/license)			Agreed
	A brief listing of the metadata and any associated documentation that will be made accessible to facilitate interpretation of the scientific data.	E.g., study protocols and data collection instruments	x		metadata/metadata_standard_id, metadata/description	Need a way to indicate how documentation will be captured. Am I missing an existing field?	metadata/metadata_standard_id, metadata/description	Agreed
	Specialized tools needed to	An indication of whether specialized tools		x		No fields collected/used that		

Many thanks to:
Megan Potterbusch, Maria Praetzellis, Paulette Lieby

Please review **the documents** and comment them!

Maintenance of the recommendation

- Anything you would like to report?
- Any improvements needed?

Wrap-up and next steps

Part 4

Community of Practice?

FORMAL REQUIREMENTS

- Launched by a WG/IG that produced a recommendation
  - Recommendation on maDMPs by the DMP Common Standards WG
- Members from 10 countries and 3 continents
  - Active DMPs IG: 380+ members…
  - DMP Common Standards WG: 240+ members…
- Letters of support from institutions
  - Institutions that adopt maDMPs?
- Review every 18 months
- At least 3 co-chairs from at least 3 continents
  - No problem, right?

PROPOSAL

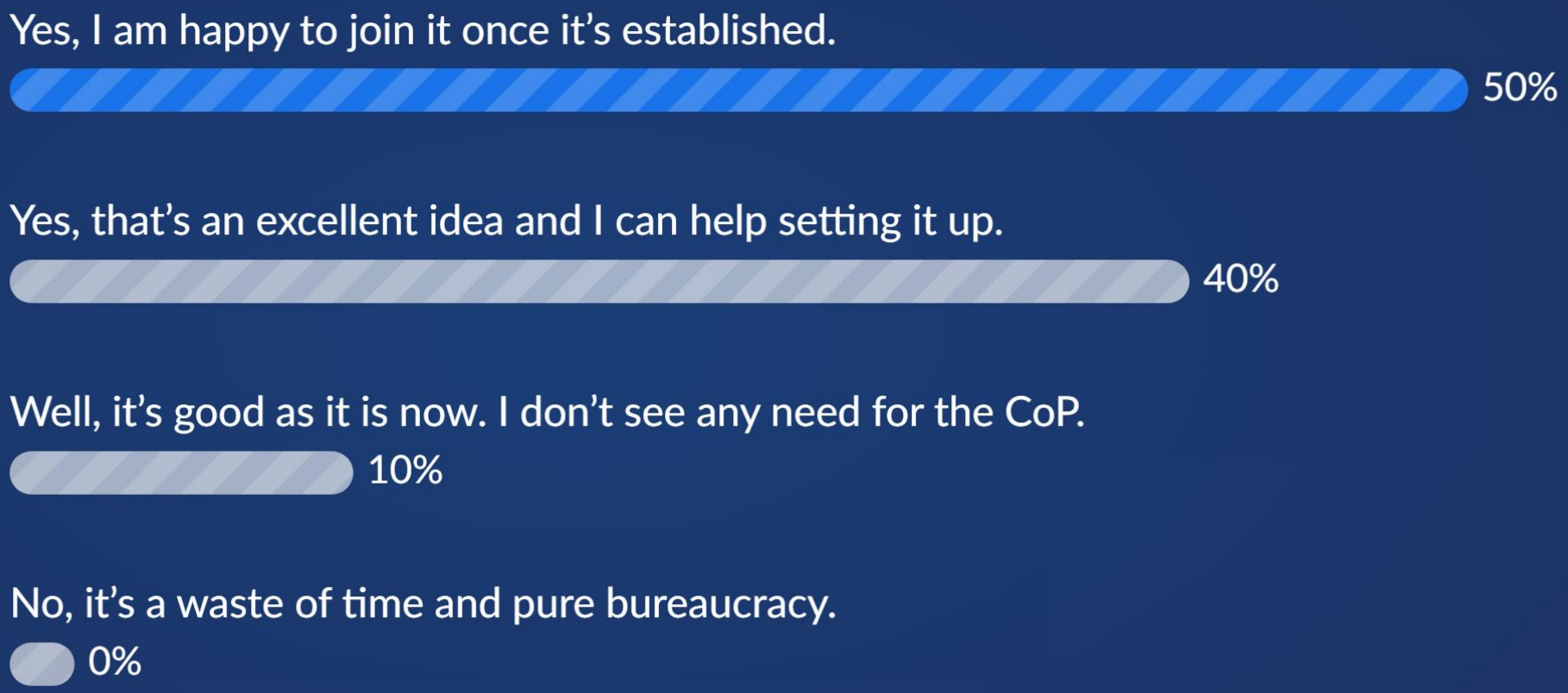
- CoP on machine-actionable DMPs
  - Focus on workflows, services, systems that use the recommendation
  - Feedback from adopters and lessons learned
  - Tackling new challenges
    - E.g. Extensions, Controlled vocabularies, Serializations, etc.
  - Supports in adoption
  - Promotes success stories / lessons learned
  - To formalize what we do and who we are anyway!
- DMP Common Standards WG continues to maintain the recommendation
  - Updates to the specification if needed
- Active DMPs IG
  - Place for discussion on all (other) topics related to DMPs

What do you think? Would you be interested? Can you help in establishing it?

Slido

- Join at slido.com **#288 176**
  - **Different number than before!**

Should we establish a community of practice (CoP) on maDMPs?



2nd hackathon on maDMPs in 2022?

- Good chance to get together and get some work done?
- Possibility to test new ideas?
- Good for onboarding?

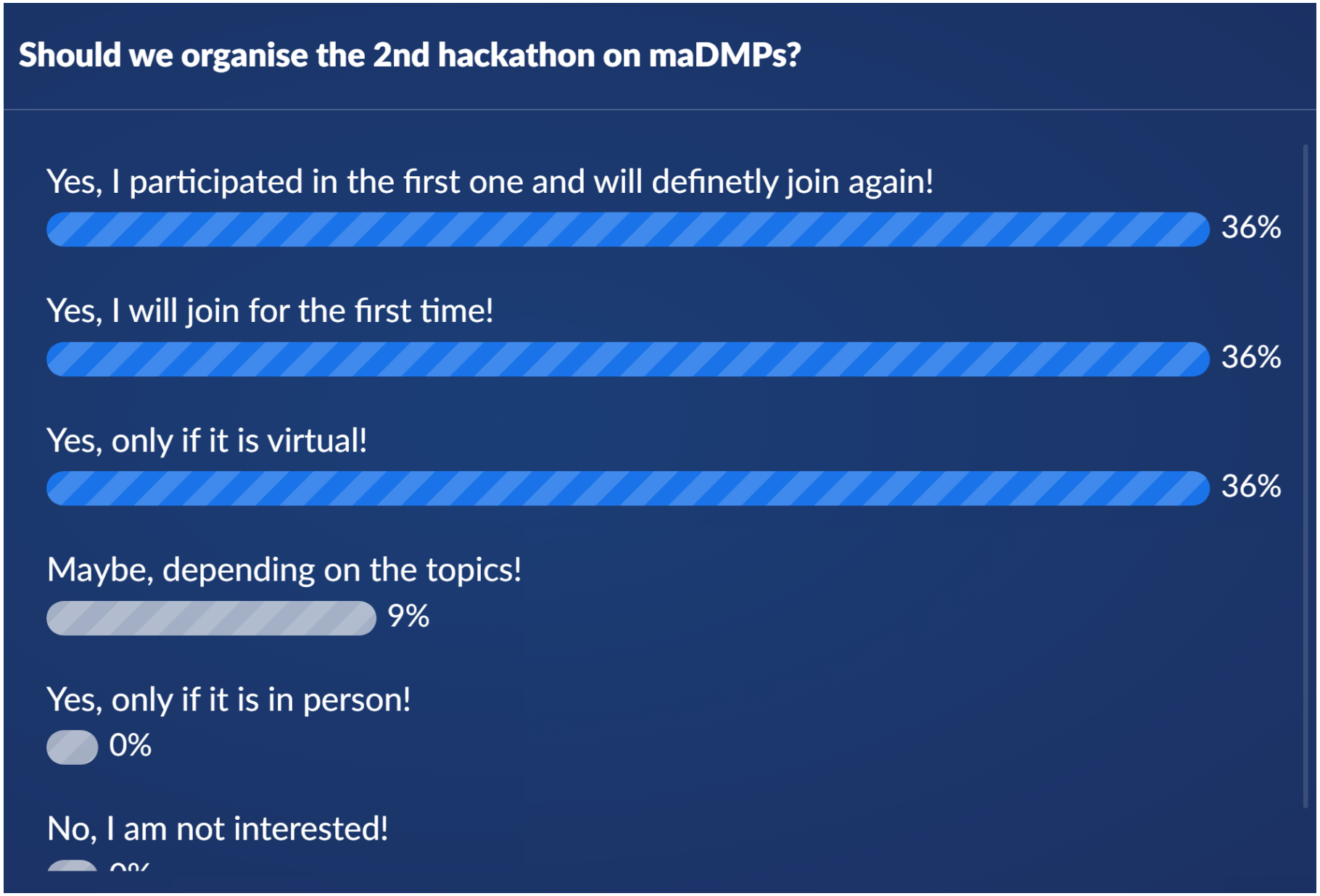
Results of the hackathon

The **recording of the Grand Finale** session can be found here. Each of the 12 teams participating in the hackathon has summarized the results. The recording also includes live demonstrations.

Table below presents a list of teams, topics they dealt with and links to the work completed during the hackathon

Team	Topic	Links
The Unaturals	New version of the DCSO (DMP Common Standard Ontology)	DCSO Repository, Issue Document, slides
maDMP Link	Integrating a Converis CRIS/RIMS with DMPRoadmap and Export/Import maDMP from Figshare	results
DSW	Export/import of maDMPs from/to Data Stewardship Wizard	report, slides
The Datatypists	Add data types and design suppor for datasets to make EasyDMP more compatible with RDA DMP Common Standard	report, json to test imports
InsTmaDMP	Aligning institution RDM to maDMP Common Standard	results
TigTag	Mapping of maDMP standard to funder templates	report
DMP Exchange	Exchange DMPs between DMP Tools using the RDA Common Standard	report
Something	maDMP integration with project data management workflow	slides
DMP InvenioRDM	maDMP integration into InvenioRDM	results
RDMO	maDMP export from RDMO	slides
DMP Ninjas	Import/Export maDMPs from Argos/OpenDMP	results
Fancycatmeme	maDMP integration with Research Data Connectome Data Pipeline	article, slides

https://github.com/RDA-DMP-Common/hackathon-2020


Should we organise the 2nd hackathon on maDMPs?
Yes, I participated in the first one and will definetly join again!
36%
Yes, I will join for the first time!
36%
Yes, only if it is virtual!
36%
Maybe, depending on the topics!
9%
Yes, only if it is in person!
0%
No, I am not interested!

What would you like to work on during the hackathon?

- Extend what is considered as minimal
- yes, extensions
- Modeling more DMP information as extensions

RESEARCH DATA ALLIANCE

What can we do to support adoption of maDMPs? What are the interesting use cases?

- Tools and use cases in practice that make life better for researchers.
- Reuse by the funders
- Better embed them in tools
- use case: creating a DMP from several several DMPs; ie, modularity
- Integration in the research workflow

maDMPs – summary

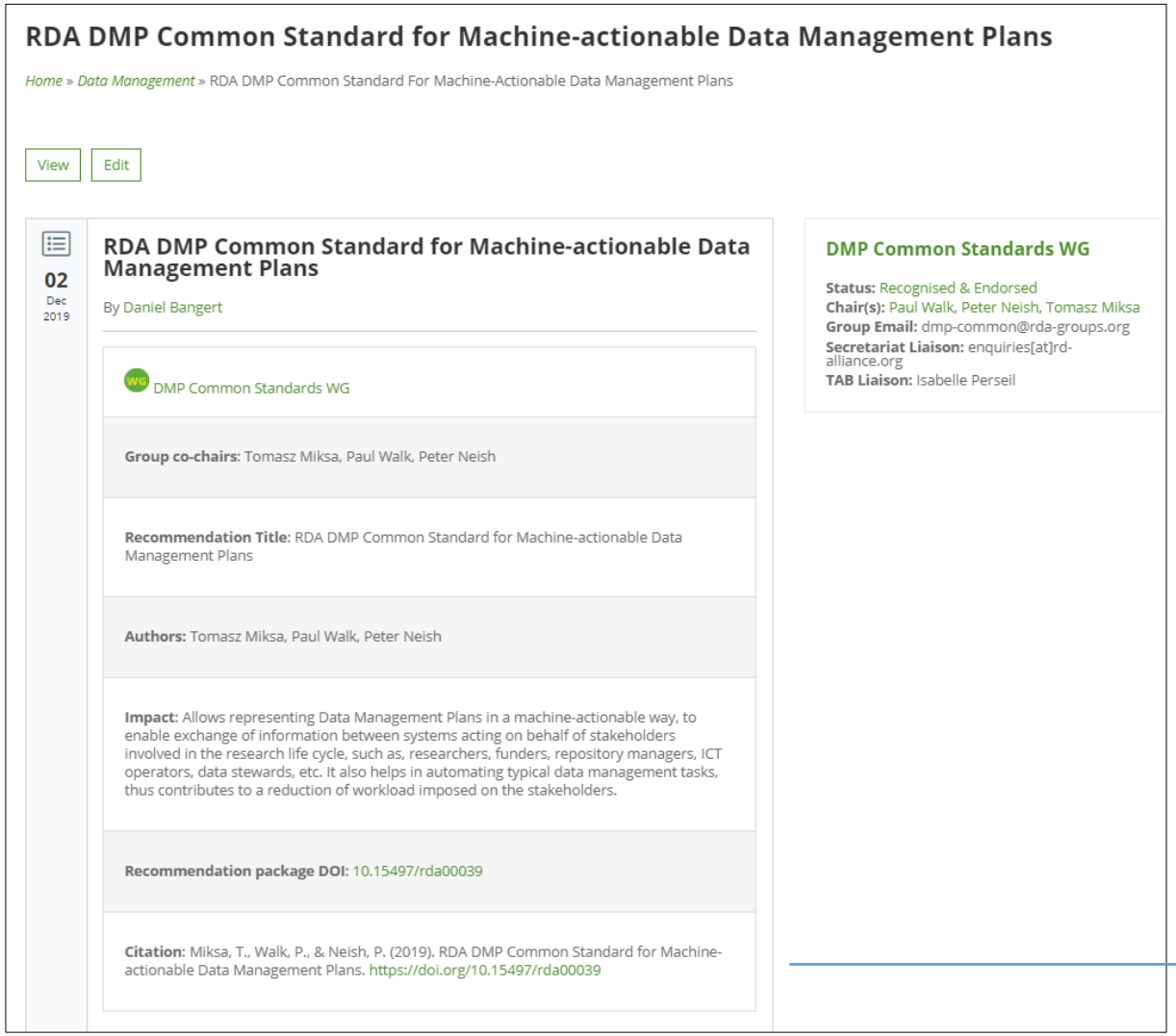
- Recommendation
  - https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard
  - http://doi.org/10.15497/rda00039
- Participate in recommendation adoption!
- Contact group chairs
  - Questions
  - Ideas
  - Success stories

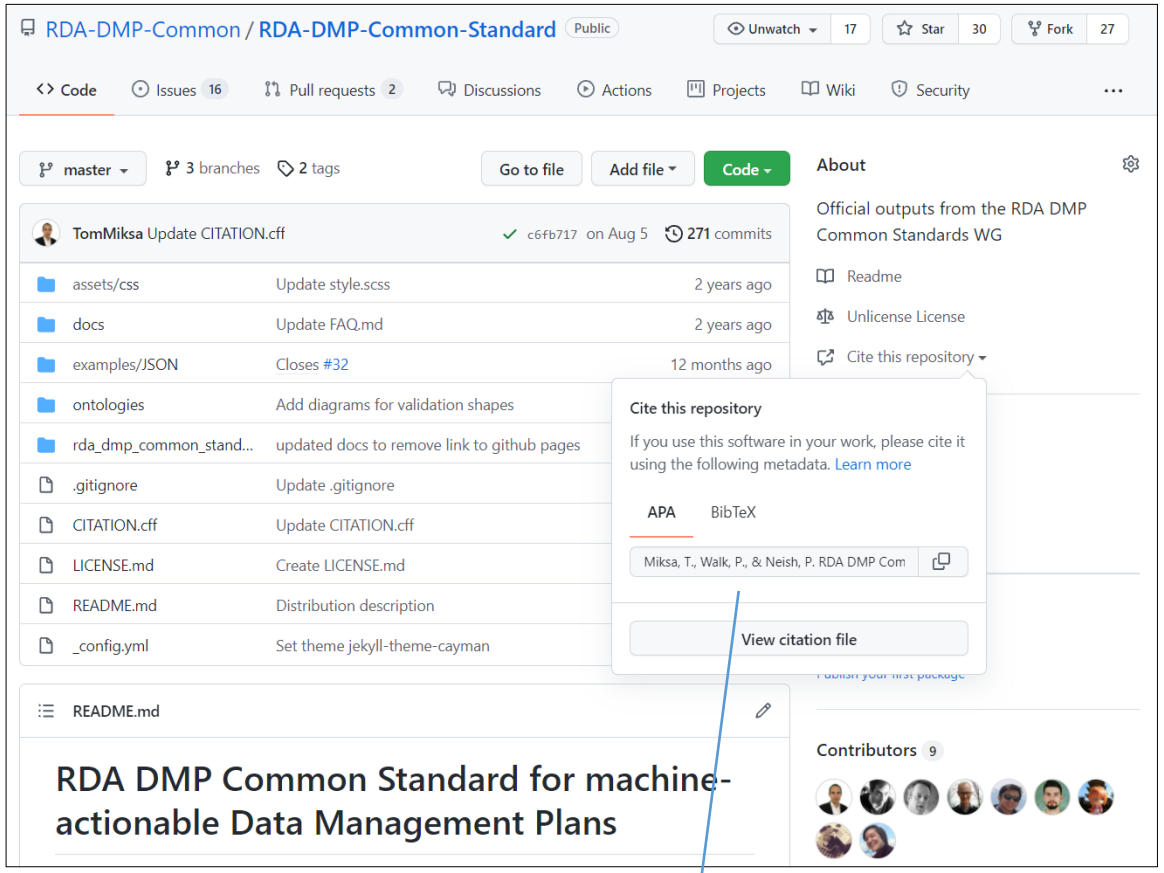
Tomasz Miksa

Paul Walk

Peter Neish

Please cite the recommendation





Miksa, T., Walk, P., & Neish, P. (2019). **RDA *DMP Common Standard for Machine-actionable Data Management Plans***. https://doi.org/10.15497/rda00039

Publications about maDMPs

- Tomasz Miksa, Paul Walk, Peter Neish, Simon Oblasser, Hollydawn Murray, Tom Renner, Marie-Christine Jacquemot-Perbal, João Cardoso, Trond Kvamme, Maria Praetzellis, Marek Suchánek, Rob Hooft, Benjamin Faure, Hanne Moa, Adil Hasan, and Sarah Jones. **Application profile for machine-actionable data management plans**. CODATA Data Science Journal, 20(1):32, October 2021

- Raffael Foidl, Lea Salome Brugger, and Tomasz Miksa. **Automating Evaluation of Machine-Actionable Data Management Plans with Semantic Web Technologies**. In DaMaLOS - 2nd Workshop on Data and Research Objects Management for Linked Open Science : Co-located at the International Semantic Web Conference ISWC 2021. PUBLISSO, November 2021.

- Tomasz Miksa, Maroua Jaoua, and Ghaith Arfaoui. **Research Object Crates and Machine-actionable Data Management Plans**. In DaMaLOS - First Workshop on Data and Research Objects Management for Linked Open Science : Co-located at the International Semantic Web Conference ISWC 2020. PUBLISSO, November 2020.

- João Cardoso, Leyla Jael Garcia Castro, Fajar Ekaputra, Marie-Christine Jacquemot-Perbal, Tomasz Miksa, and José Borbinha. **Towards semantic representation of machine-actionable Data Management Plans**. In DaMaLOS - First Workshop on Data and Research Objects Management for Linked Open Science : Co-located at the International Semantic Web Conference ISWC 2020. PUBLISSO, 2020.

- Simon Oblasser, Tomasz Miksa, Asanobu Kitamoto: **Finding a Repository with the Help of Machine-Actionable DMPs: Opportunities and Challenges**. IDCC 2020

- Tomasz Miksa, Stephanie Simms, Daniel Mietchen, Sarah Jones (2019) **Ten principles for machine-actionable data management plans**. PLOS Computational Biology 15(3): e1006750.

- Tomasz Miksa, Peter Neish, Paul Walk, Andreas Rauber: **Defining requirements for machine-actionable Data Management Plans**. iPres 2018

- Tomasz Miksa, João Cardoso, José Luis Borbinha: **Framing the scope of the common data model for machine-actionable Data Management Plans**. BigData 2018: 2733-2742

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