



# DMP Common Standards WG at the 12<sup>th</sup> Plenary meeting in Gaborone

Tomasz Miksa, Paul Walk, Peter Neish


# Agenda

- Part 1 – Introduction for newcomers
- Part 2 – Status update
  - Overview of two consultations performed
- Part 3 - Tools for machine-actionable DMPs
  - Examples of what can be automated
- Part 4 – Use cases and processes to include all stakeholders
  - How to define landscape of maDMPs
- Part 5 – Towards Common Data Model
  - Architecture and examples
- Part 6 – Wrap-up and next steps
- Exposing Data Management Plans WG

➤ <https://www.rd-alliance.org/wg-dmp-common-standards-rda-12th-plenary-meeting>

Building the social and technical bridges to enable open data sharing

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## WG DMP Common Standards - RDA 12th Plenary Meeting

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**Meeting title**  
Use cases for machine-actionable data management plans (Remote Access Instructions)

**Collaborative session notes**

<https://docs.google.com/document/d/1OC078BZK947ywF0QjZSSr04pY5VxGPRhSLPgjugU-E/edit?usp=sharing>

Short introduction describing the activities and the scope of the group


Data Management Plans (DMPs) are semi-structured but largely free-form text documents describing data used and produced in research projects. The workload and bureaucracy often associated with traditional DMPs can be reduced when they become machine-actionable. However, there is no common definition of what machine-actionable DMPs really are. This hinders the communication between stakeholders and leads to scepticism, or conversely to exaggerated expectations.

The RDA working group on DMP Common Standards works to clarify what machine-actionable DMPs are. It develops a common data model for machine-actionable DMPs that will enable exchange of information between systems acting on behalf of stakeholders involved in the research life cycle, such as, researchers, funders, repository managers, ICT providers, librarians, etc. The group also develops standard workflows to demonstrate how the machine-actionable DMPs can be implemented by connecting them to various systems, such as, CRIS, repositories, or funder systems.

During the session we will present use cases and prototypes that we developed based on the results of the open consultation that was presented during the last plenary in Berlin. We will also present a draft of the common model. These will facilitate the discussion on the design of the common machine-actionable model for DMPs.

**Additional links**

**Next Event**

 **SWAT4HCLS**  
**SWAT4HCLS - Semantic Web Applications and Tools for Healthcare and Life Sciences**

The 11th SWAT4HCLS on December 03-06, 2018 in **Antwerp, Belgium**

11th International SWAT4HCLS Conference  
Semantic Web Applications and Tools for Healthcare and Life Sciences  
December 3-6, 2018  
Antwerp, Belgium

[Home](#)

# Introduction for newcomers

## Part 1

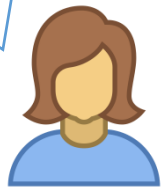
# Data Management Plans



How to discover these tools?  
Which one do I need to use?  
Why do I have to provide the same  
information again?

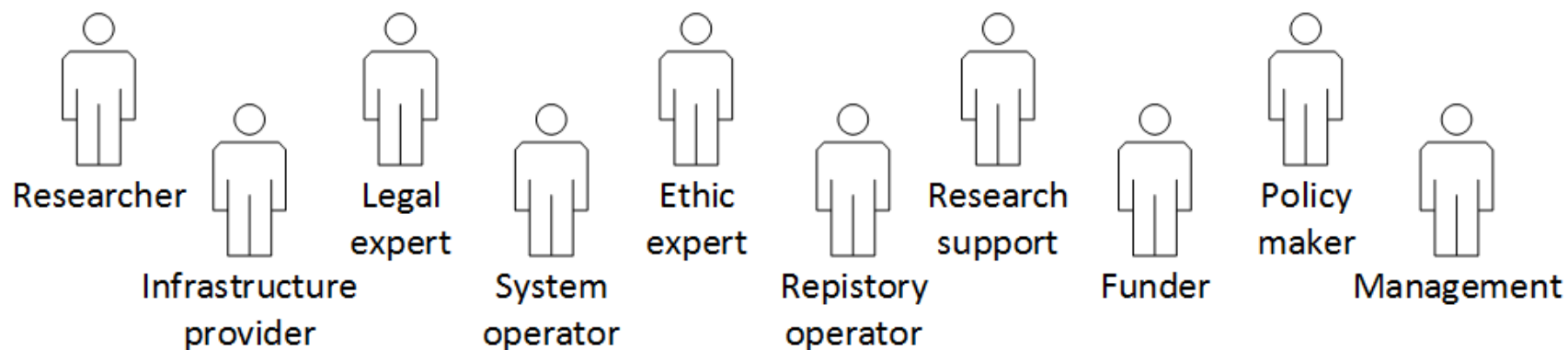


Why haven't they consulted us before?  
Who is going to pay for this?  
We don't have enough people for that!

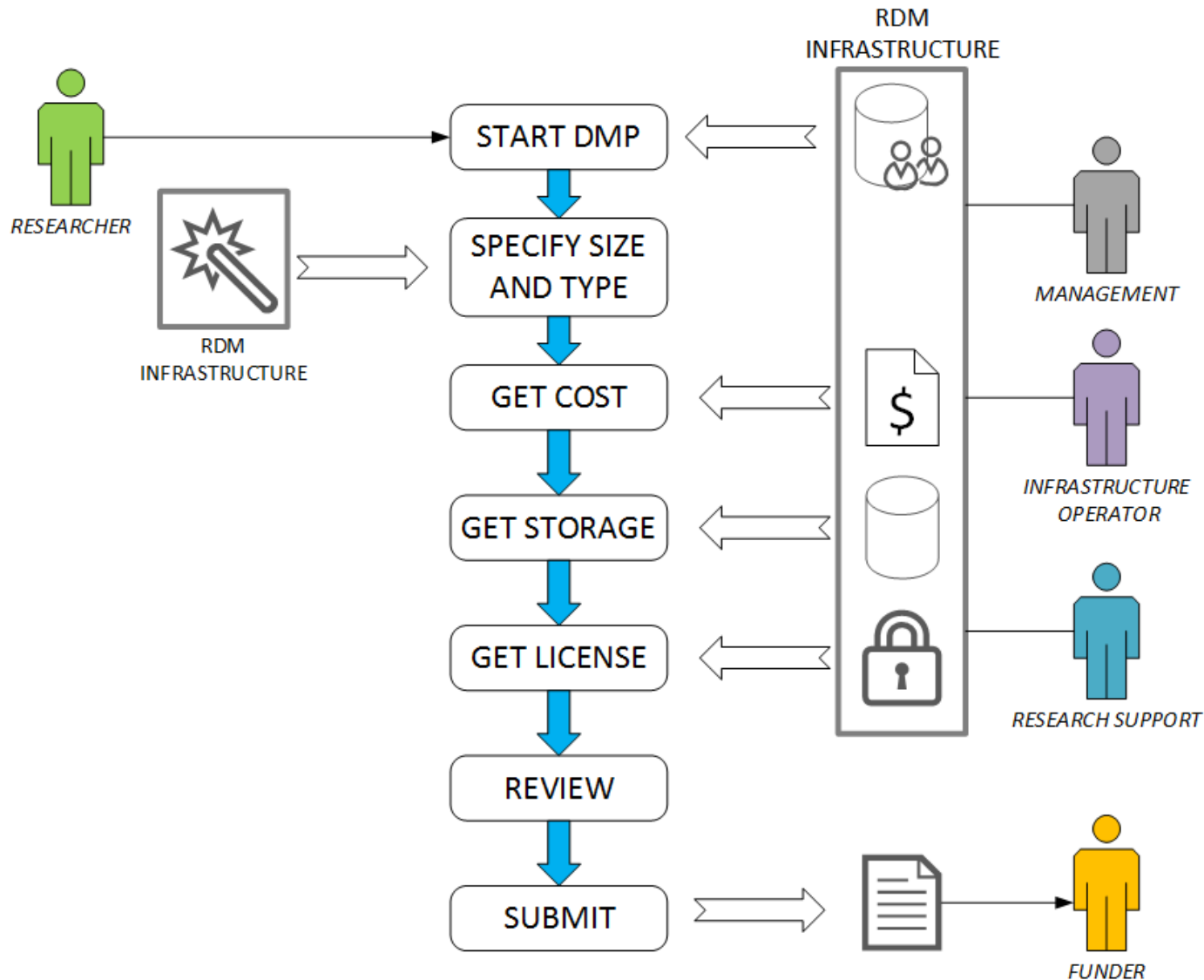


# Research data lifecycle

- Stakeholders involved in research data management
  - require information at certain stages
  - can provide information if requested at a proper stage
- Many problems can be avoided when
  - timing is right
  - information flow is ensured

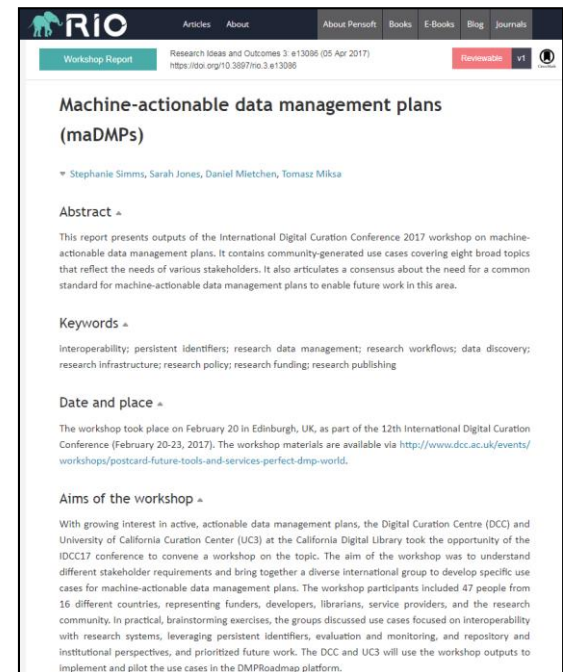


# Automated Data Management Workflow



# Why do we need this WG?

- Shortcomings of existing DMPs
  - manually completed, vague, not updated, ...
- 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 data model

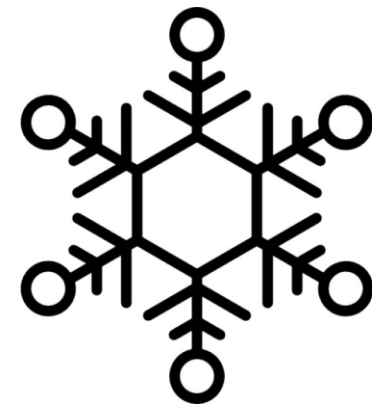


<https://doi.org/10.3897/rio.3.e13086>



# DMP Common Standards - Outputs

- **Common data model for machine-actionable DMPs**
  - to model information from standard DMPs
  - NOT a template
  - NOT a questionnaire
  - modular design
    - core set of elements
    - domain specific extensions
- **Reference implementations**
  - ready to use models
    - JSON, XML, RDF, etc.
- **Guidelines for adoption of the common data model**
  - requirements for supporting systems
  - pilot studies



# Example

- Current DMPs – model questionnaires

<administrative\_data>

<question>Who will be the Principle Investigator?</question>

<answer>The PI will be John Smith from our university.</answer>

</administrative\_data>

- Machine-actionable DMPs – model information

```
"dc:creator":[ {  
  "foaf:name":"John Smith",  
  "@id":"orcid.org/0000-1111-2222-3333",  
  "foaf:mbox":"mailto:jsmith@tuwien.ac.at",  
  "madmp:institution":" AT-Vienna-University-of-Technology"  
}],
```

# Example

- Currently available – not very useful

<administrative\_data>

<question>Who will be the Principle Investigator?</question>

<answer>The PI will be John Smith from our university.</answer>

Reuse existing  
standards, e.g. Dublin  
Core, PREMIS, etc.

able DMP

```
"dc:creator":[ {  
  "foaf:name":"John Smith",  
  "@id":"orcid.org/0000-1111-2222-3333",  
  "foaf:mbox":"mailto:jsmith@tuwien.ac.at",  
  "madmp:institution":"AT-Vienna-University-of-Technology"  
}],
```

# Example

- Currently available – not very useful

<administrative\_data>

<question>Who will be the Principle Investigator?</question>

<answer>The PI will be John Smith from our university.</answer>

</administrative\_data>

- Machine-actionable DMP

Use PIDs whenever possible, e.g. ORCID

```
"dc:creator":[ {  
  "foaf:name":"John Smith",  
  "@id":"orcid.org/0000-1111-2222-3333",  
  "foaf:mbox":"mailto:jsmith@tuwien.ac.at",  
  "madmp:institution":"AT-Vienna-University-of-Technology"  
}],
```

# Example

- Currently available – not very useful

<administrative\_data>

<question>Who will be the Principle Investigator?</question>

<answer>The PI will be John Smith from **our university**.</answer>

</administrative\_data>

- Machine-actionable DMP

```
"dc:creator":[ {  
  "foaf:name":"John Smith",  
  "@id":"orcid.org/0000-1111-2222-3333",  
  "foaf:mbox":"mailto:jsmith@tuwien.ac.at",  
  "madmp:institution":"AT-Vienna-University-of-Technology"  
}],
```

Use controlled  
vocabularies

# Example

- Currently available – not very useful

<administrative\_data>

<question>Who will be the Principle Investigator?</question>

<answer>The PI will be John Smith from our university.</answer>

</administrative\_data>

- Machine-actionable DMP

```
"dc:creator":[ {  
  "foaf:name":"John Smith",  
  "@id":"orcid.org/0000-0001-1111-2222-3333",  
  "foaf:mbox":"mailto:jsmith@tuwien.ac.at",  
  "madmp:institution":"AT-Vienna-University-of-Technology"  
}],
```

Develop own  
concepts and  
vocabularies only  
when needed

# Status update

## Part 2

# Summary of actions till now

- 1<sup>st</sup> consultation (user stories) went broad
  - to define scope of maDMPs
- 2<sup>nd</sup> consultation went deep
  - to identify models for specific requirements
- Proof of concept tools
  - to demonstrate how model can be used to automate tasks
- BPMN processes
  - to identify systems and stakeholders involved



# 1<sup>st</sup> consultation – user stories

## › Goals

- › identify stakeholders at each lifecycle stage
  - › define which information they **provide**
  - › define which information they **expect**

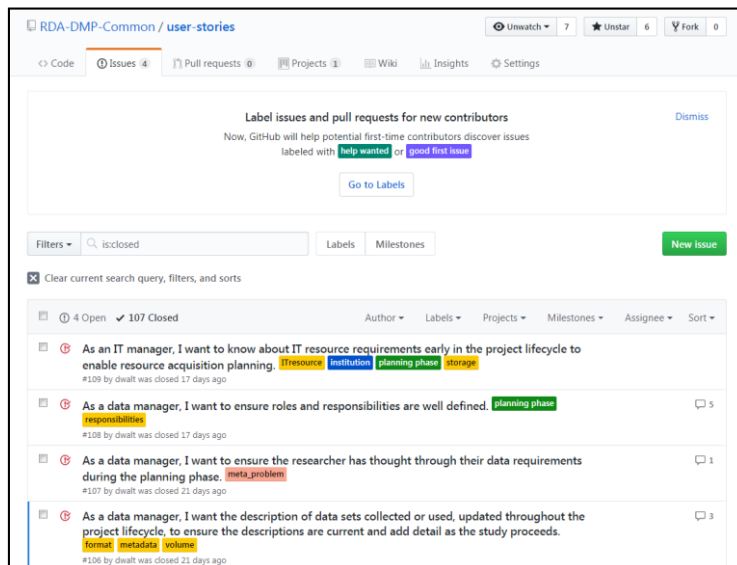
*As a <stakeholder>, I want <goal> so that <reason>.*

*As a **researcher**, I want to **inform repository operator** on the amount of data in the planning phase, so that they provide **information on costs**.*

<https://github.com/RDA-DMP-Common/user-stories/>

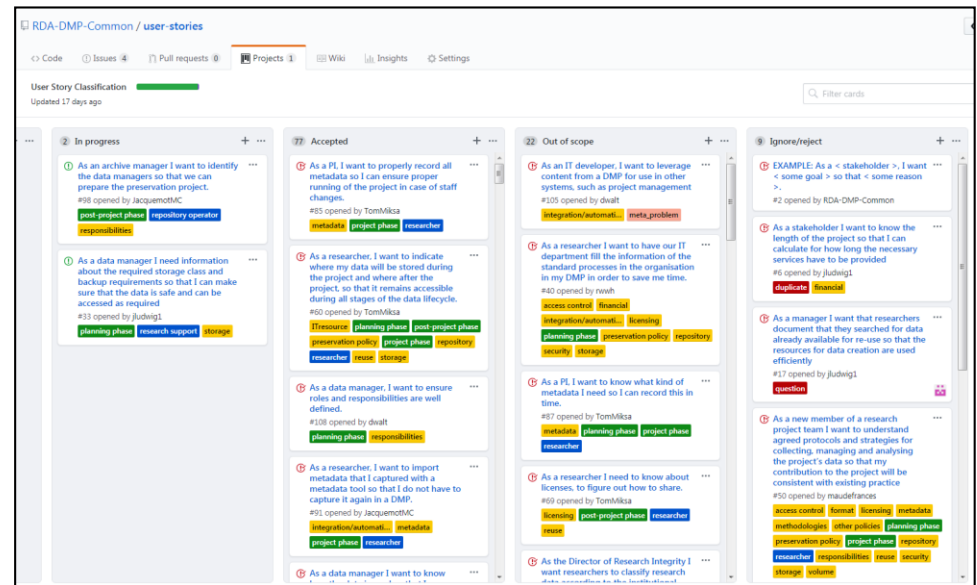
# User story consultation

- <https://github.com/RDA-DMP-Common/user-stories/>
- 100+ issues defined
- inputs from Europe and Australia
- inputs from individuals and [workshops](#)

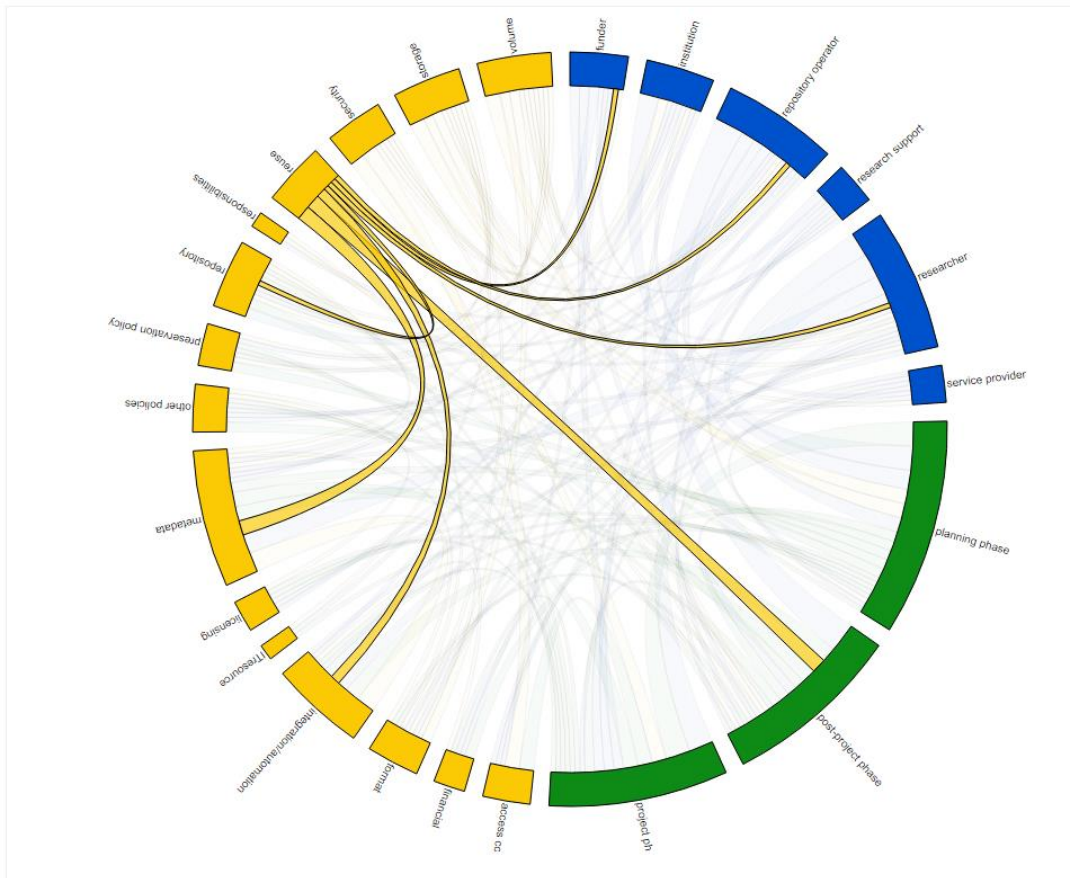


# User story labelling

- <https://github.com/RDA-DMP-Common/user-stories/projects/2>
- <https://github.com/RDA-DMP-Common/user-stories/wiki>
- 3 major categories (colours)
  - stakeholders involved
  - project phase
  - subject of information conveyed
    - access control
    - volume
    - financial
    - licensing
    - metadata
    - repository
    - security
    - storage
    - etc.



# User story visualisation



- <https://goo.gl/znBL3F>
- interactive visualisation - changes on GitHub are visible immediately
- shows relations between stakeholders, phases and information

# Defining requirements for machine-actionable Data Management Plans

- › Defines machine-actionability
- › Describes results of user story consultation
- › <http://ifs.tuwien.ac.at/~miksa/papers/2018-iPres-maDMPs.pdf>



# From user stories to requirements

- <https://docs.google.com/document/d/1sWVy0Rqj9fGsjs6GyFnBd3fH6XF2088zjK8U-1wLq4c/edit?usp=sharing>
- Refactoring of user stories
- Goal: finding overlaps, gaps, duplicates
- Example below
  
- Metadata
  - taxonomy/classification [14,11]
  - Links to metadata of the real data [89, 39]
  - Funder information [7]
  - Link publications to data [55]
  - Authorship [88]
  - Multilingual metadata [65]
  - Include raw metadata directly in the model [91, 85]

## 2<sup>nd</sup> consultation:

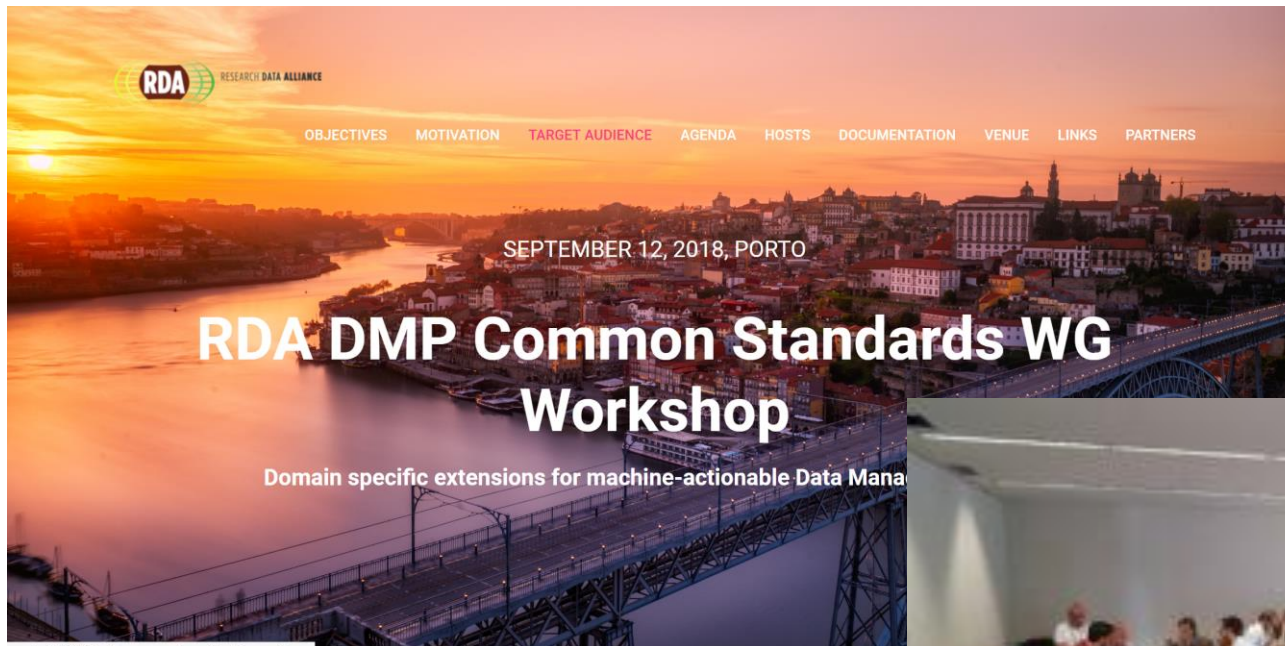
### From user stories to requirements

- [https://docs.google.com/document/d/1mMJqmvqEAkbEWbdV7rtFU9hiQMOuH0ESn4Up\\_TDn1Es/edit?usp=sharing](https://docs.google.com/document/d/1mMJqmvqEAkbEWbdV7rtFU9hiQMOuH0ESn4Up_TDn1Es/edit?usp=sharing)
- 5 documents to collect requirements, models, specific fields, etc.
  - [Administrative, Roles and Responsibilities](#)
  - [Data](#)
  - [Infrastructure](#)
  - [Security, Privacy and Access Control](#)
  - [Policies, legal and ethical aspects](#)



# RDA DMP Common Standards WG Workshop

➤ <http://rda-ws-tpdl2018.idsswh.sysresearch.org/#>





# Consultations summarised

- 1<sup>st</sup> consultation (user stories) went broad
  - helped us defined the scope of the maDMPs
    - what information should a maDMP contain?
    - who provides and uses this information?
- 2<sup>nd</sup> consultation goes deep (ongoing)
  - how do we model specific requirements
    - which specific fields are needed?
    - which models exist?

# Tools for maDMPs

## Part 3 - Examples of what we can automate with maDMPs

# Horizon 2020 DMP survey report



Figure 001 - Q11: priorities for a DMP template or tool

Marjan Grootveld, Ellen Leenarts, Sarah Jones, Emilie Hermans, & Eliane Fankhauser. (2018). OpenAIRE and FAIR Data Expert Group survey about Horizon 2020 template for Data Management Plans (Version 1.0.0) [Data set]. Zenodo.

<http://doi.org/10.5281/zenodo.1120245>

# Prototypes developed by TU Wien students

## › Requirements

- › Provide minimum input
- › Import as much as possible from existing systems to help in creating maDMPs

## › Tools available as Docker containers on GitHub

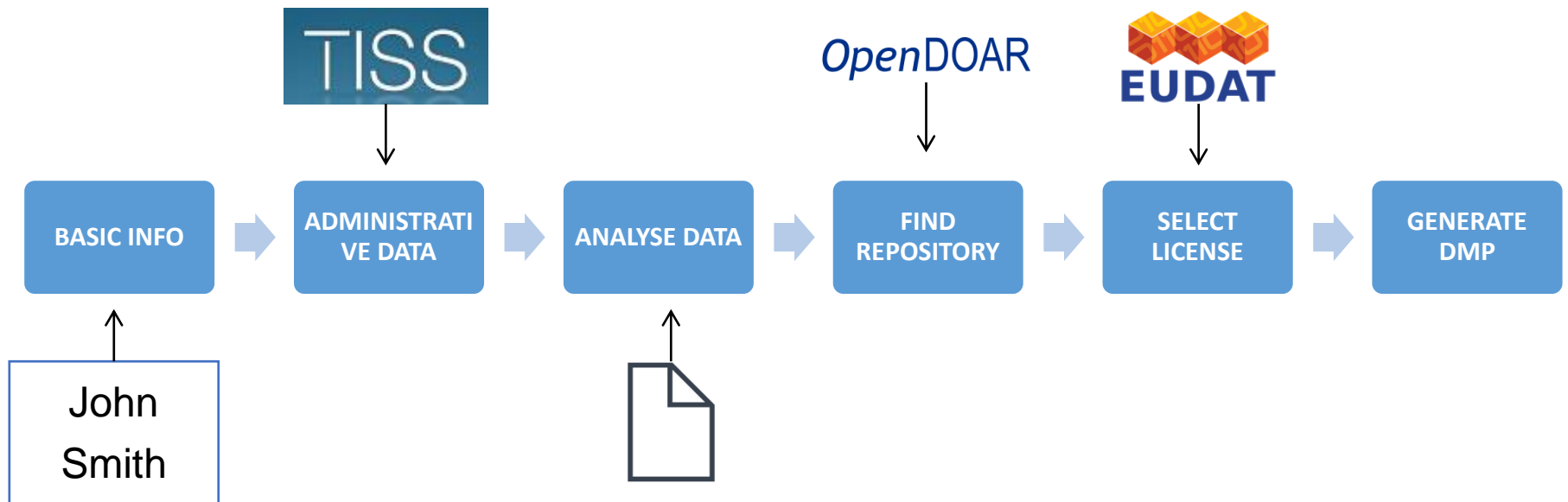
- › <https://github.com/TomMiksa/DMPGenerator>
- › [https://github.com/TomMiksa/digital\\_preservation\\_ex\\_1\\_2](https://github.com/TomMiksa/digital_preservation_ex_1_2)
- › <https://github.com/TomMiksa/tu-dpue-lab2-ss18>
- › [https://github.com/TomMiksa/DigitalPreservation\\_2](https://github.com/TomMiksa/DigitalPreservation_2)
- › <https://github.com/TomMiksa/digitalpreservation-dmp-generator>
- › <https://github.com/TomMiksa/DMPlanner>

## › Example of a landing page for maDMPs

- › <https://oblassadors.github.io/fair-data-science/>
- › <https://github.com/oblassadors/fair-data-science>

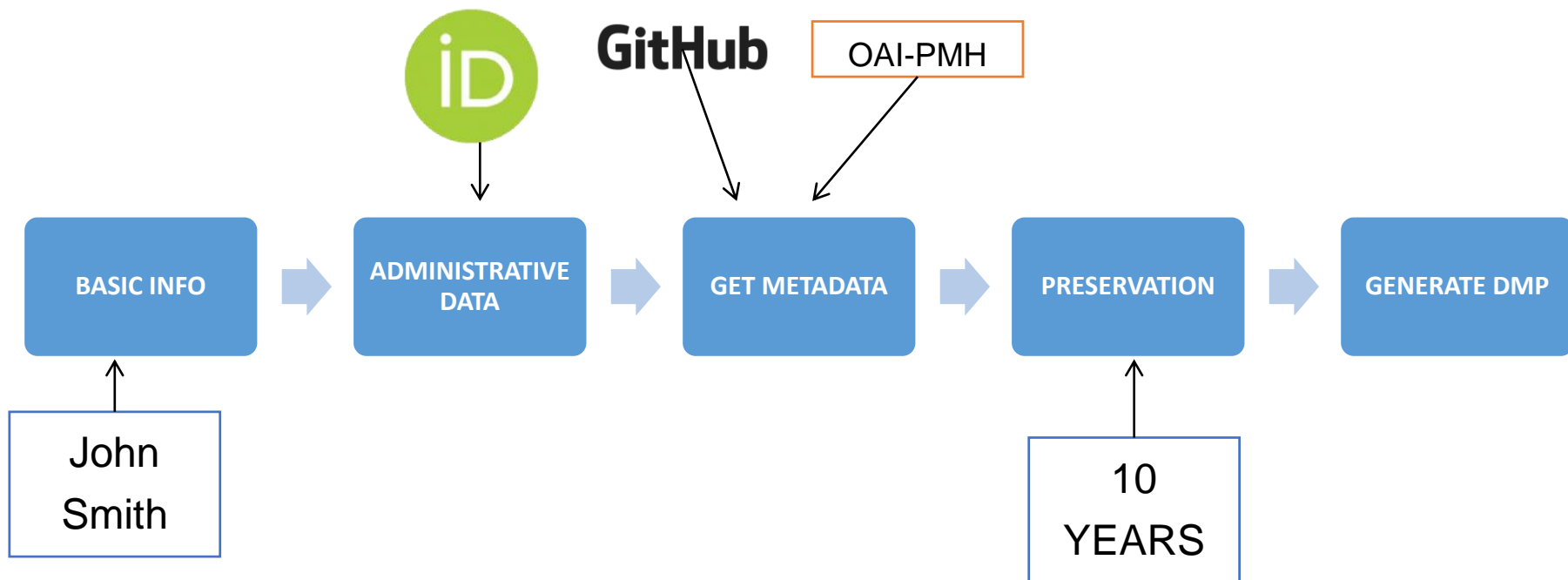
# Planning phase

- Goal: get **estimations** and **recommendations** (which are feasible to implement later)



# Project and Post-project phases

- Goal: **update** DMP with **real** information by **re-using** (linking) information provided elsewhere



# Planning phase - demo

<https://github.com/IrinaAvram/DMPGenerator>



## Basic Information

Project Name\*

TUW Report

Projektass.  
Dr.techn.  
Mag.

First Name

Tomasz

Last Name\*

Miksa

## Contact

Email: tomasz.miksa@tuwien.ac.at

## Position

Projektassistent at Forschungsbereich Information und Software Engineering

NEXT





1. BASIC INFORMATION





2. DATA ANALYSIS



3. REPOSITORY AND LICENSING

## Upload Sample files

Choose Files 2018-TenRulesMADMPS.pdf

Name	Mime Type	Size	Input/Output	Nr. of Files	
Fig1.tif	image/tiff	1009010 Bytes	input ▼	100	
2018-TenRulesMADMPS.pdf	application/pdf	178186 Bytes	output ▼	500	

## Required Storage space

**Input:** 100901000 Bytes

**Total:** 189994000 Bytes

**Output:** 89093000 Bytes

COMPUTE REQUIREMENTS

## Repositories

**Architektur-Informatik** <http://architektur-informatik.scix.net/cgi-bin/works/Home>



**CumInCAD Digital Archive** <http://cumincad.architecturez.net/>



**Digitale Landesbibliothek Oberösterreichische** <http://digi.landesbibliothek.at/>



# Project and post-project phase - demo 1

<https://github.com/mdietchstein/digitalpreservation-dmp>



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and Researchers

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HELP

5,529,789 ORCID iDs and counting. [See more...](#)

## Marc Dietrichstein

### ORCID ID

 <https://orcid.org/0000-0003-4890-3498>

 [Print view?](#)

### Country

Austria



### Email

e0327606@student.tuwien.ac.at



### Works (1 of 1)

Sort

### Correlating Alcohol Consumption and UFO Sightings in the USA



TU Wien

2018-03-29 | supervised-student-publication

DOI: [10.5281/zenodo.1209833](https://doi.org/10.5281/zenodo.1209833)

Source: Marc Dietrichstein

 Preferred source

 [Help](#)

DMPGen - Mozilla Firefox

workflows X DMPGen X +

DATA IMPORT PRESERVATION DMP

## Import Data

**Requirements:**

- Author has to be registered on orcid.org
- Profile information on orcid has to be **public**
- The respective project has to be listed first in the profile's *Works* section
- The project has to be hosted on zenodo.org
- The project must have a link to a Github repository

Search for an author and click on the corresponding orcid id to import data relevant to the DMP

0000-0003-4890-3498

0000-0001-8985-2979

0000-0002-0923-3084

Find valid Orcid Profile to continue

Search for an author and click on the corresponding orcid id to import data relevant to the DMP

#### ORCID Author Info

Orcid Id	0000-0003-4890-3498
Given Name	Marc
Family Name	Dietrichstein
E-mail	e0327606@student.tuwien.ac.at
Project Title	Correlating Alcohol Consumption and UFO Sightings in the USA
Project DOI	<a href="https://doi.org/10.5281/zenodo.1209833">https://doi.org/10.5281/zenodo.1209833</a>
Publication Date	2018/03/29

#### ORCID Author Info

Orcid Id	0000-0003-4890-3498
Given Name	Marc
Family Name	Dietrichstein
E-mail	e0327606@student.tuwien.ac.at
Project Title	Correlating Alcohol Consumption and UFO Sightings in the USA
Project DOI	<a href="https://doi.org/10.5281/zenodo.1209833">https://doi.org/10.5281/zenodo.1209833</a>
Publication Date	2018/03/29

#### Zenodo Project Info

Creators	Marc Dietrichstein, sorx
Rights	openAccess
Type	software
Github Url	<a href="https://github.com/mdietrichstein/digitalpreservation-dmp/tree/1.0.0">https://github.com/mdietrichstein/digitalpreservation-dmp/tree/1.0.0</a>

For each file below, select it's role in the context of preservation and the preservation duration if applicable

View DMP

Filename	Path	Tag	Preservation
.gitignore	.gitignore	Ignore ▾	Ignore ▾
Dockerfile	Dockerfile	Ignore ▾	Ignore ▾
LICENSE	LICENSE	Ignore ▾	Ignore ▾
README.md	README.md	Ignore ▾	Ignore ▾
README.pdf	README.pdf	Ignore ▾	Ignore ▾
ufo_alcohol.csv	data/processed/ufo_alcohol.csv	Ignore ▾	Ignore ▾
DP_LIVE_22032018202902423.csv	data/raw/DP_LIVE_22032018202902423.csv	Input Data ▾	20 Years ▾
ufo-scrubbed-geocoded-time-standardized.csv	data/raw/ufo-scrubbed-geocoded-time-standardized.csv	Input Data ▾	20 Years ▾
architecture.png	documentation/architecture.png	Documentation ▾	5 Years ▾
description.txt	documentation/description.txt	Documentation ▾	10 Years ▾
metadata.xml	documentation/metadata.xml	Documentation ▾	10 Years ▾
01_data-preprocessing.ipynb	notebooks/01_data-preprocessing.ipynb	Software ▾	5 Years ▾
02_visualization.ipynb	notebooks/02_visualization.ipynb	Software ▾	5 Years ▾
.keep	reports/.keep	Ignore ▾	Ignore ▾



DMPGen - Mozilla Firefox

rkflow x DMPGen x +

DATA IMPORT PRESERVATION DMP

## Correlating Alcohol Consumption and UFO Sightings in the USA

### Authors

Marc Dietrichstein

- Orcid Id 0000-0003-4890-3498
- e0327606@student.tuwien.ac.at

### Document Version and Date

29.03.2018

### Gathered Data

DP_LIVE_22032018202902423.csv	size: 114328 b	preserve: 20 years
checksum: b37dbbdf8927a3670a104d51e71bbdd67b7870c		
ufo-scrubbed-geocoded-time-standardized.csv	size: 13929415 b	preserve: 20 years
checksum: 5c6b7af9c458ffdb38301ad948a443cfa7a3719a		

### Software

01_data-preprocessing.ipynb	size: 25788 b	preserve: 5 years
checksum: 194bee784a56d6030f99705c873d29d4ddee0a42		
02_visualization.ipynb	size: 108779 b	preserve: 5 years
checksum: 0f0d585f887c7b24ffd079acac225064a0621cfd		

### Documentation

architecture.png	size: 87594 b	preserve: 5 years
checksum: ba6f8585ff107d55d42e00c127ffc41f448d5ef		
description.txt	size: 341 b	preserve: 10 years
checksum: 069b7f8024120952a09c6f482cebbdde9505719d		
metadata.xml	size: 997 b	preserve: 10 years
checksum: 934ae1c38d721790e353a9dfdc498d3c1d5283e3		

### Ethical Questions

DMPGen - Mozilla Firefox

kflow X DMPGen X +

---

## ***Ethical Questions***

<No information>

## ***Licenses and Redistribution***

Files are marked with their respective license. The license-information of input-files is not known.

## ***Code Preservation***

The created code will be stored on github. The repository can be found through the link given below under "Github Repository"

## ***Data Preservation***

The files that should be preserved are marked throughout the lists of files, which can be seen above. Each file states the duration that it should be preserved for. All github releases are stored on Zenodo as well.

The service provided by Zenodo is free and does not incur any costs - neither during the project nor afterwards.

Zenodo Infos:

CERN  
European Organization for Nuclear Research  
att: IT Department, Digital Repositories Section  
1211 Geneve 23  
Switzerland  
<http://zenodo.org/>

## ***Access and Security***

Code and data are hosted on the given git repository on github.

## ***Data Sharing***

All code, data and documentation is available on Github, which is licensed under the MIT license. Each Github release then is published to the Zenodo repository where it also gets assigned a DOI

## ***Github Repository***

<https://github.com/mdietrichstein/digitalpreservation-dmp/tree/1.0.0>

```
{
  "@context": {
    "dmp": "http://purl.org/madmps#",
    "foaf": "http://xmlns.com/foaf/0.1/",
    "dc": "http://purl.org/dc/elements/1.1/",
    "dcterms": "http://purl.org/dc/terms/",
    "premis": "http://www.loc.gov/premis/rdf/v1#"
  },
  "@id": "http://example.org/dmps/mydmp",
  "@type": "dmp:DataManagementPlan",
  "dcterms:title": "mdietrichstein/digitalpreservation-dmp: Submission Release",
  "dcterms:description": " 🐼 Exploring the connection between alcohol consumption and the number of ufo sightings in the USA 🐼 ",
  "dc:creator": [
    {
      "@id": "0000-0003-4890-3498",
      "foaf:name": "Marc Dietrichstein",
      "foaf:mbox": "e0327606@student.tuwien.ac.at"
    }
  ],
  "dc:date": "29.03.2018",
  "dmp:hasDataObject": [
    {
      "@id": "https://doi.org/10.5281/zenodo.1209833",
      "@type": "dmp:SourceCode",
      "dmp:hasIntellectualPropertyRights": {
        "dcterms:license": "https://opensource.org/licenses/MIT"
      },
      "dmp:hasDataRepository": "https://github.com/mdietrichstein/digitalpreservation-dmp/tree/1.0.0",
      "dmp:hasPreservation": "All files that need preservation, are marked with their respective preservation duration. The files the",
      "dmp:hasDataSharing": "All code, data and documentation is available on Github and is licensed under the MIT license. To make t",
      "dmp:hasEthicsAndPrivacy": " <No information> ",
      "dmp:hasDocumentation": "The documentation can be found in all files that are marked as type documentation. These files can be",
      "dmp:hasDataCollection": "All files that are collected from external sources are marked as input-files.",
      "dmp:hasDataObject": [
        {
          "@type": "dmp:input_data",
          "dc:title": "DP_LIVE_22032018202902423.csv",
          "dmp:hasIntellectualPropertyRights": {
            "dcterms:license": "https://opensource.org/licenses/MIT"
          },
          "dmp:hasMetadata": {
            "premis:hasObjectCharacteristics": {
              "premis:fixity": {
                "premis:hasMessageDigestAlgorithm": "premis:Fixity:SHA",

```

# Project and post-project phase - demo 2

<https://github.com/alexschwarzresearch/DMPlanner>



## Name

Please provide your full name.

**full\_name** Tomasz Miksa

**orcid** 0000-0002-4929-7875

**current\_employment\_name** SBA Research



## Resources

Add as many Github repositories or OAI-PMH compliant DOIs as you like.\*

**Zenodo** Ten Simple Rules For Machine-Actionable Data Management Plans (Preprint)

documentation ▼

Remove

**Github** TomMiksa/DMPPlanner

software ▼

Remove



## Preservation Time

Choose how many years the data for each group should be kept.

Software 10 years ▼

Documentation 20 years ▼

# TUW DMP

A Data Management Plan created using DMPlanner.

## Creator

Name: Tomasz Miksa

ORCID: [0000-0002-4929-7875](https://orcid.org/0000-0002-4929-7875)

Current Work: SBA Research

## How will you manage copyright and Intellectual Property Rights (IPR) issues?

The software which was created in the course of the project has the license restrictions "MIT License".

## Which data are of long-term value and should be retained, shared, and/or preserved?

In this project especially the documentation, as well as the software has a long-term value and should at least be as long preserved as the targeted preservation time specifies. The targeted preservation time for the documentation is 20 years. The targeted preservation time for the software is 10 years.

## What is the long-term preservation plan for the dataset?

One of the main strategies of the long-term preservation plan is the use of public accessible repositories to save the components of the project. The documentation resource "Ten Simple Rules For Machine-Actionable Data Management Plans (Preprint)" is hosted on Zenodo. The software resource "DMPlanner" is hosted on Github.

## How will you share the data?

The data will be primarily shared through the public repositories listed above. This way the data is openly accessible and findable, as well as searchable. The data is available at the repositories as of this moment.

## Are any restrictions on data sharing required?

The restrictions on data sharing are composed of the used licenses together with the long-term preservation plan. With this in mind the following restrictions for the resources of the project apply. The documentation resource "Ten Simple Rules For Machine-Actionable Data Management Plans (Preprint)" will be hosted on Zenodo for at least 20 years. The software resource "DMPlanner" will be hosted on Github for at least 10 years.

## Who will be responsible for data management?

The creator of this data management plan is Tomasz Miksa. Therefore Tomasz Miksa is also the reference person for possible reviews and revisions regarding this data management plan in the future. Unless amended Tomasz Miksa is additionally responsible for the adherence to the plan.

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Data management plans (DMPs) are documents accompanying research proposals and project outputs. They describe data



# Machine-actionable DMPs: What can we automate?

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Posted on August 20, 2018 by stephaniesimms

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## Machine-actionable DMPs: What can we automate?



— From Flickr by Alan Levine CCo <https://www.flickr.com/photos/cogdog/30766387175>

Following on some initial thoughts about [Scoping Machine-Actionable DMPs](#) (maDMPs), we're keen to dive into the substance. There are plenty of research questions we plan to explore here and over the course of our maDMP prototyping efforts. Let's begin with these:

**What can we automate?**  
**What needs to be entered manually?**

<https://blog.dmptool.org/2018/08/20/machine-actionable-dmps-what-can-we-automate/>

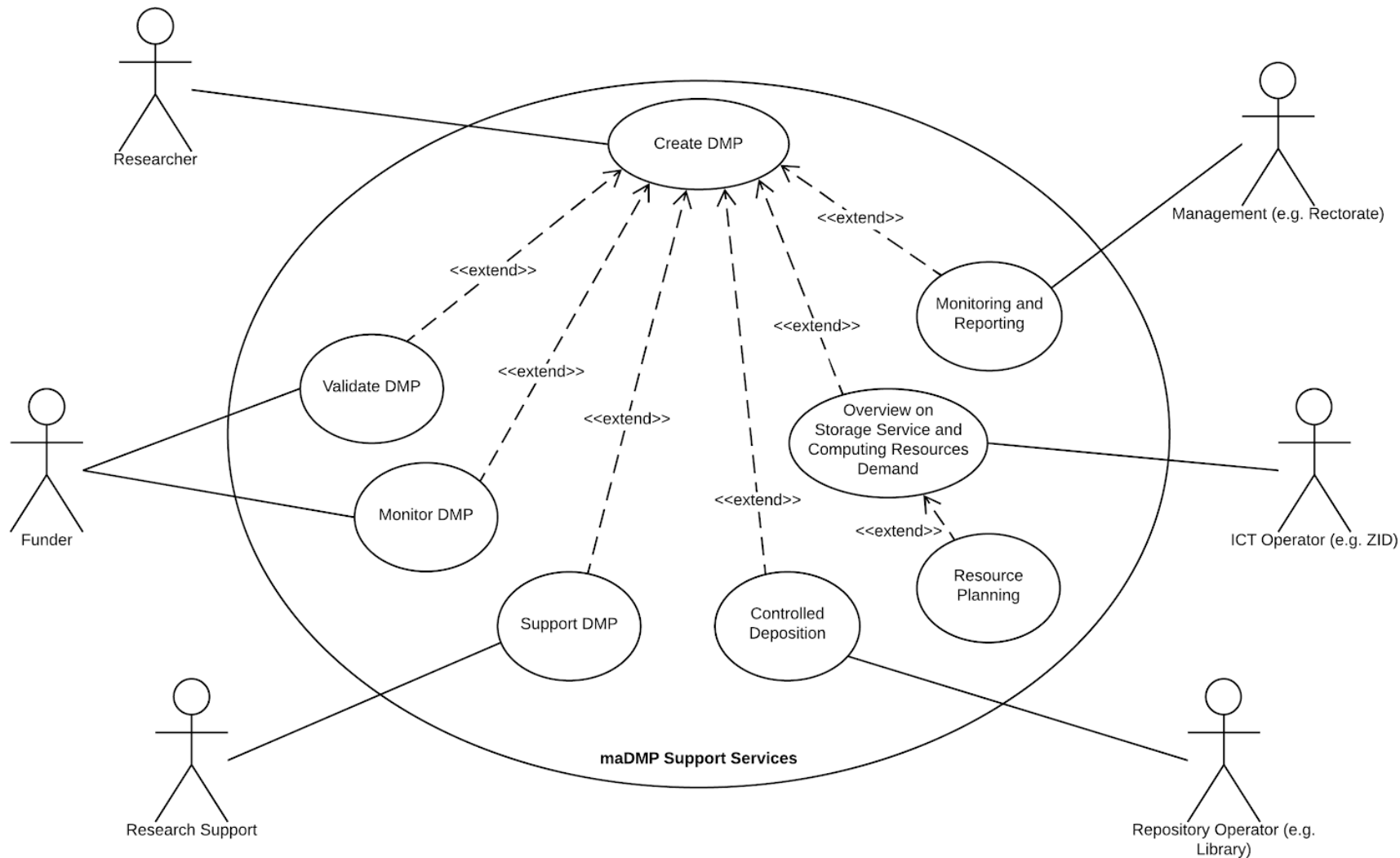


# Discussion

# Processes for maDMPs

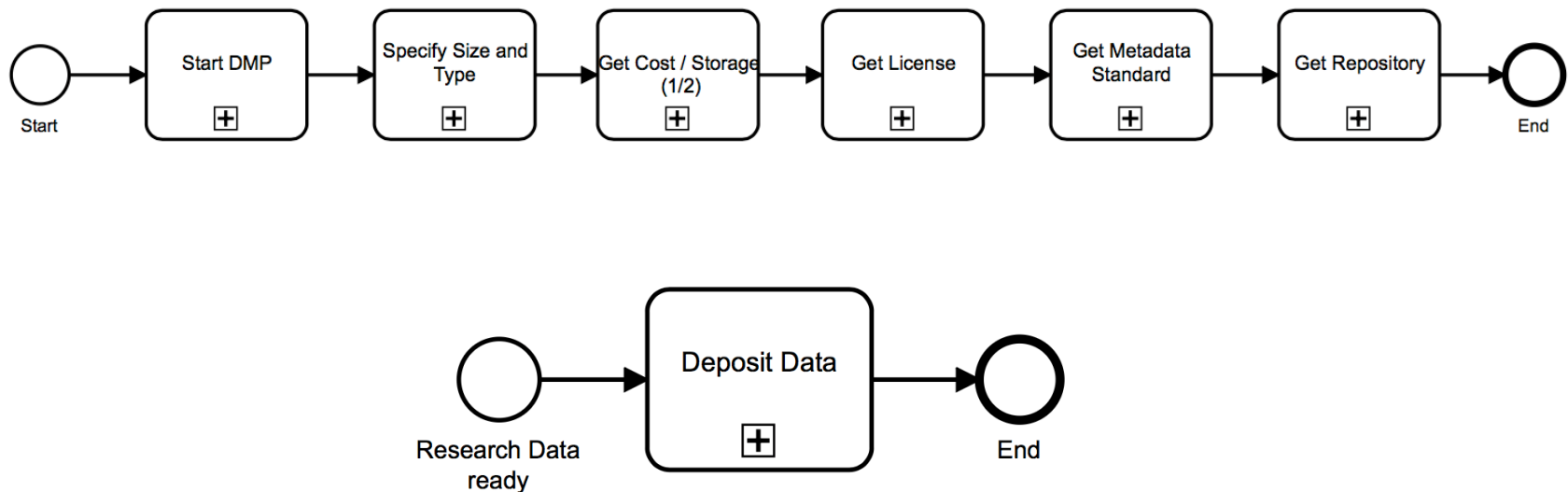
## Part 4 – Identifying stakeholder interactions and services

# maDMPs use cases

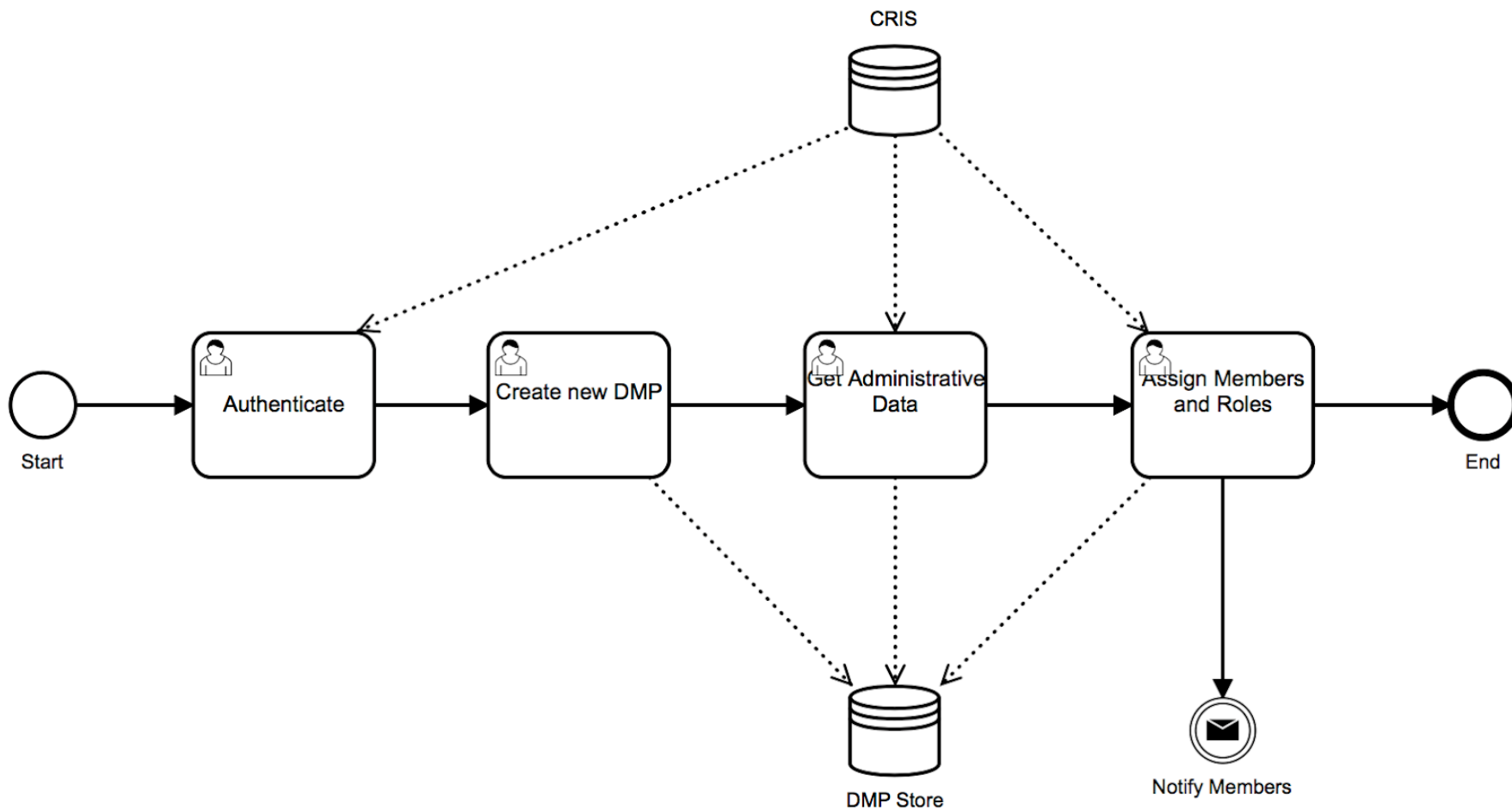


# BPMN process - overview

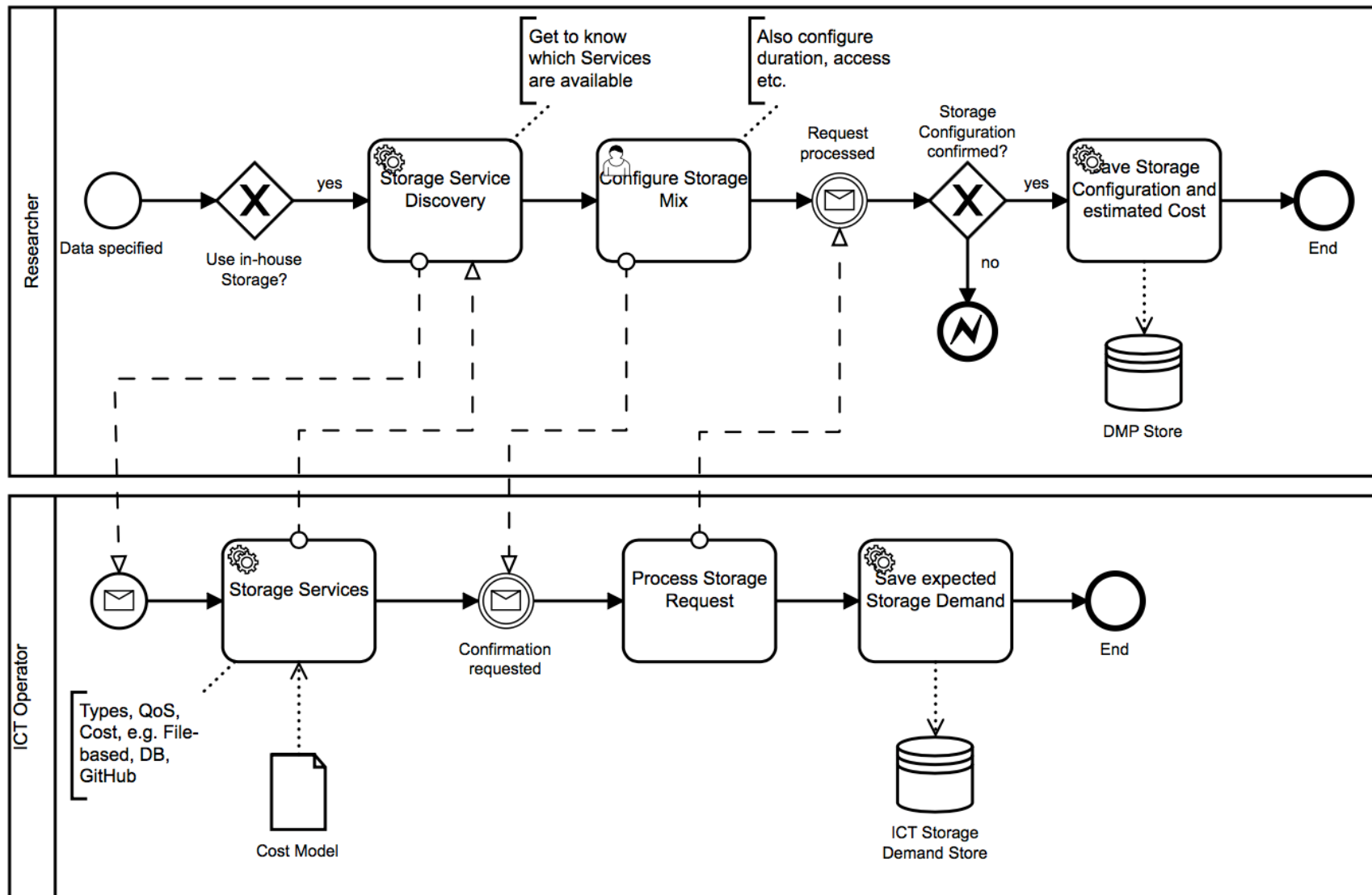
- Business Process Modelling Notation (BPMN)
- Defined 10 workflows



# Start DMP



# Get Cost / Storage



## BPMN Processes for machine-actionable DMPs

Simon Oblasser & Tomasz Miksa

### Contents

Start DMP .....	2
Specify Size and Type .....	3
Get Cost and Storage .....	4
Storage Configuration and Cost Estimation .....	4
Storage Provisioning .....	5
Get License .....	6
Get Metadata Standard .....	7
Get Repository .....	8
Deposit Data .....	9
Get Help .....	10

<http://rda-ws-tpdl2018.sysresearch.org/documents/2018-TPDL-Porto-Handout-BPMN.pdf>

# Processes - summary

- Processes help identify
  - **tasks** performed by stakeholders
    - e.g. ICT operator provide costs of storage
  - **systems** needed to be put in place
    - e.g. maDMP repository or costing service
  - **concepts** to be developed or agreed
    - e.g. cost model for storage
- Useful in deploying maDMPs
- Allow us to narrow down focus of this WG
  - common model does not contain business logic
    - e.g. cost estimation is done by a service that provides a value
  - common model is an information carrier
    - tools, services, processes make maDMPs *machine-actionable*



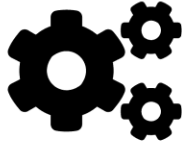
# Discussion

# 10 principles for maDMPs



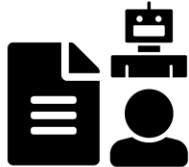
1 Integrate DMPs with the workflows of all stakeholders in the research data ecosystem

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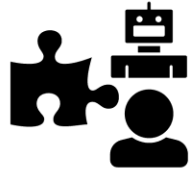
2 Allow automated systems to act on behalf of stakeholders

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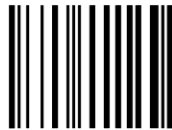
3 Make policies (also) for machines, not just for people

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4 Describe—for both machines and humans—the components of the data management ecosystem

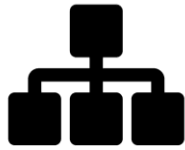
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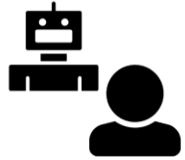
5 Use PIDs and controlled vocabularies

Miksa, Tomasz, Simms, Stephanie, Mietchen, Daniel, & Jones, Sarah. (2018). Ten simple rules for machine-actionable data management plans (preprint). <http://doi.org/10.5281/zenodo.1434938>

# 10 principles for maDMPs



6 Follow a common data model for maDMPs



7 Make DMPs available for human and machine consumption



8 Support data management evaluation and monitoring



9 Make DMPs updatable, living, versioned documents



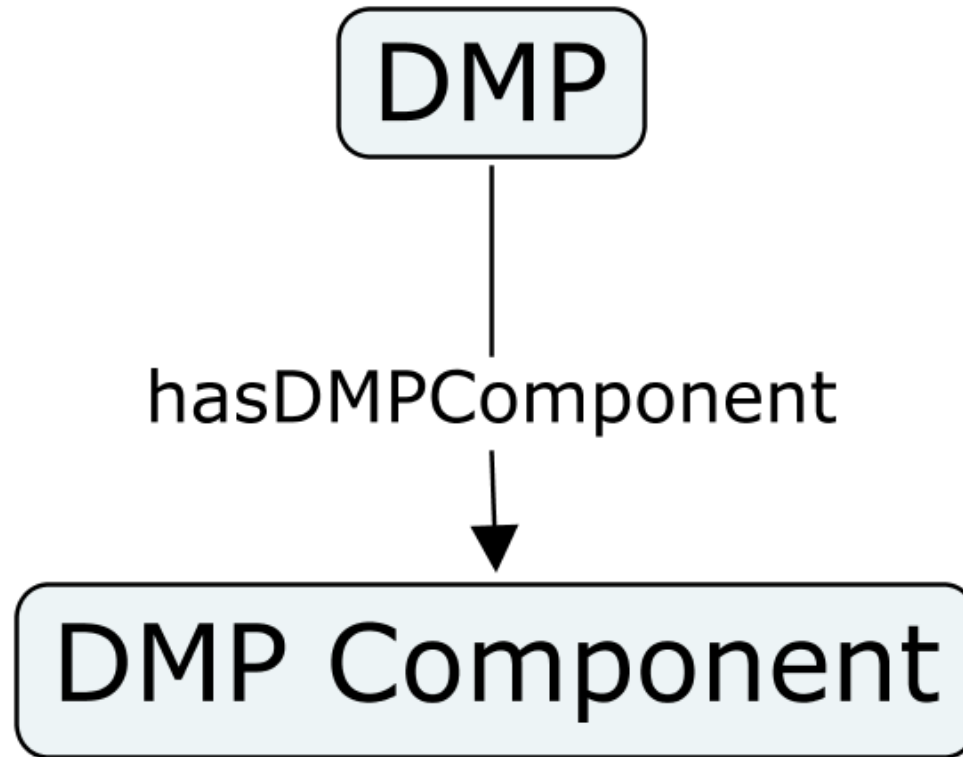
10 Make DMPs publicly available

Miksa, Tomasz, Simms, Stephanie, Mietchen, Daniel, & Jones, Sarah. (2018). Ten simple rules for machine-actionable data management plans (preprint). <http://doi.org/10.5281/zenodo.1434938>

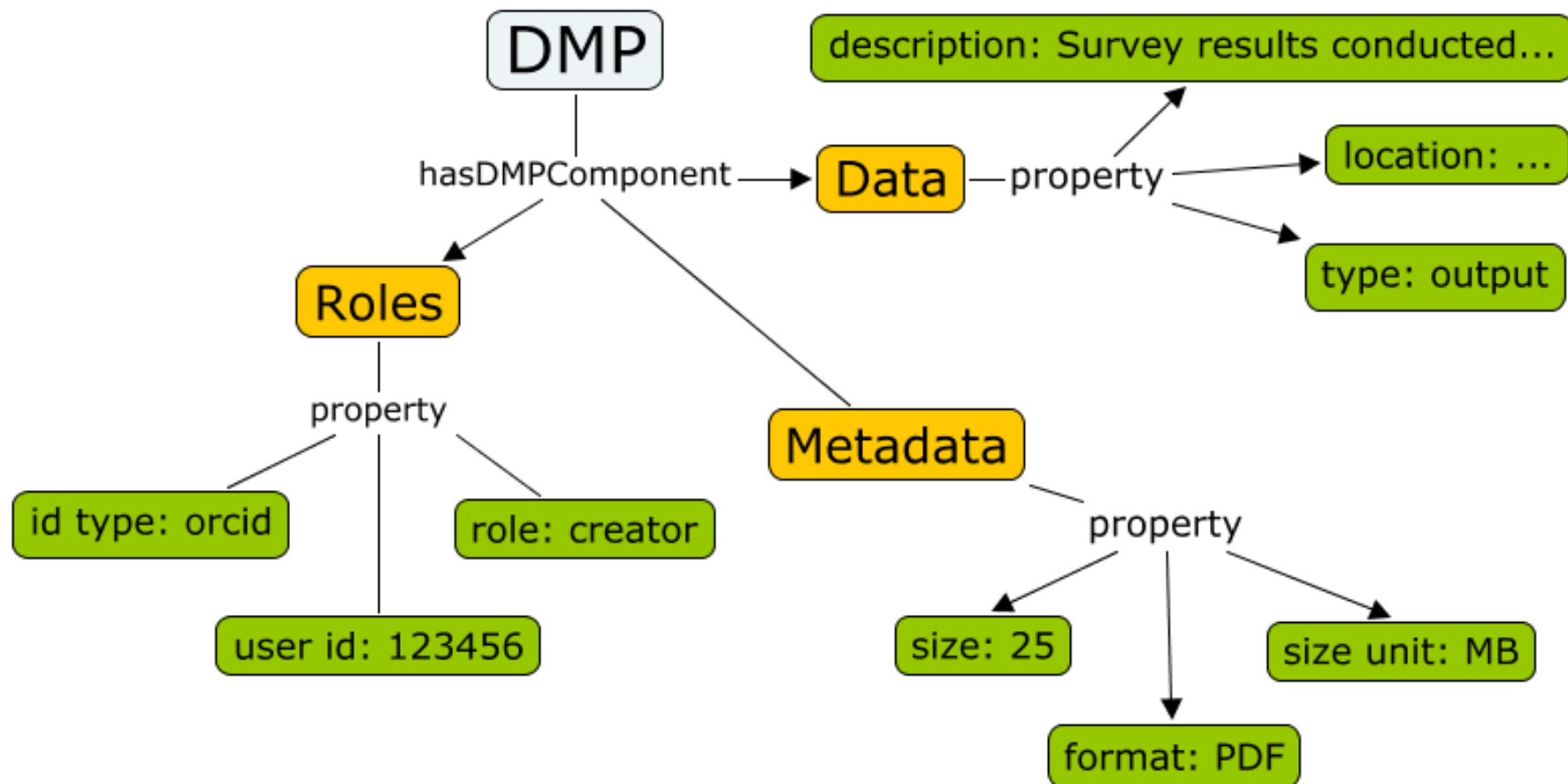
# Towards Common Data Model

Part 5 – work in progress!

# Core model



# Core model instance - example



# DMP Components

- Give flexibility to address various needs
  - currently there is no single DMP template that suits all...
  - A mix can be selected to suit institutions/funders needs
- Allow to decouple and encapsulate logical parts of the model
  - e.g. license, metadata, repository, cost, preservation, ...
  - can be similar to DMP themes, but do not have to
- Allow to avoid
  - Tree model that can be too complex and not flexible
  - Flat model that can be too generic

DMP Component

# DMP Component - example

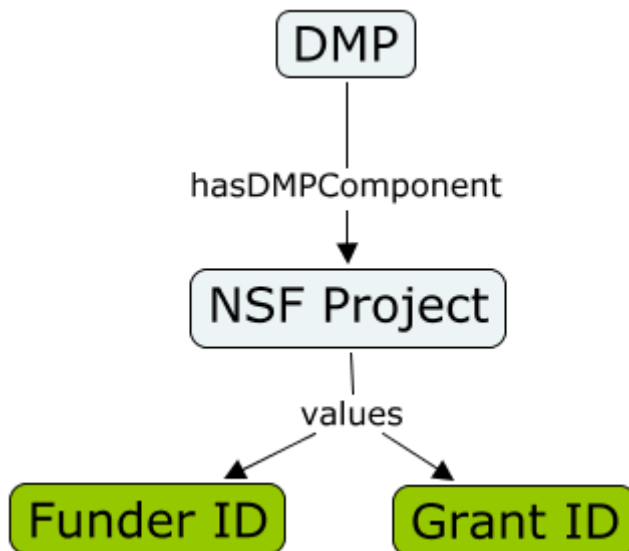
Help addressing contradictory requirements

## ➤ USA

- DMPs mandated by funders (NSF)
- DMPs include funder id, grant id, etc.

## ➤ Australia

- DMPs used as a management tool to support good practice
- Funder and grant id are optional





# Registry of DMP Components

## › DMP Components

### › Projects [0..n]

› NSF Project

› EC Project

› Wellcome Project

### › Data [1..n]

› ...

### › Costs

› ...

### › Security

› ...

› ...

# Registry of DMP Components

- Can RDA maintain the registry?
- Possible process to manage the registry
  - core model entities are governed by some fairly strict RDA process (this group initially)
    - e.g. Projects, Data, etc.
  - extensions can be submitted and must pass a quick review process
    - e.g. NSF Project, EC Project, ...

# Guidelines

- Provide guidance on how to
  - customise model
  - implement model
- Draft:
  1. **Create maDMPs for data, not for projects**
  2. **Create maDMP views to address stakeholder requirements**
  3. Version maDMPs and track source of information
  4. Follow core model for maDMPs
  5. Use extension mechanism to address specific requirements
  6. Requirements for extensions
  7. Include information that is subject to change in other systems

# G1: Create maDMPs for data, not for projects

- maDMPs will be living documents when they accompany data
- data has different lifecycles
  - different licenses
  - different storage
  - different repositories
  - different preservation actions
- data is not always a result of a project
  - permanent data collection of satellite images
- maDMPs NOT for each file, but for logical collection
  - e.g. input data, output data, software, documentation

# G2: Create maDMP views to address stakeholder requirements

## DMP 1

Type	Size	Cost	License	Repository
Software	300	500	CC-BY	a

## DMP 2

Type	Size	Cost	License	Repository
Output data	600	300	CC-BY	B

## DMP 3

Type	Size	Cost	License	Repository
Metadata	100	100	CC-BY	C

+

Total size	Total cost	Licenses	Repositories
1000	900	CC-BY	A, B, C

Funder's view

# Common model - summary

- Ongoing developments
  - Core Model
  - Registry of components
  - Guidelines
- To model DMP Components we will
  - use input from consultations (especially the 2<sup>nd</sup> one)
  - new inputs from you!
- Your contribution needed
  - Develop components that are relevant in your setting
  - For each field we still need to know who, when and why needs it!
    - e.g. NSF needs grant ID when DMP is submitted for a review
- We will provide soon
  - Wiki / google docs for collaborative work
  - Guidance for developing components

# Discussion

# Wrap-up and next steps

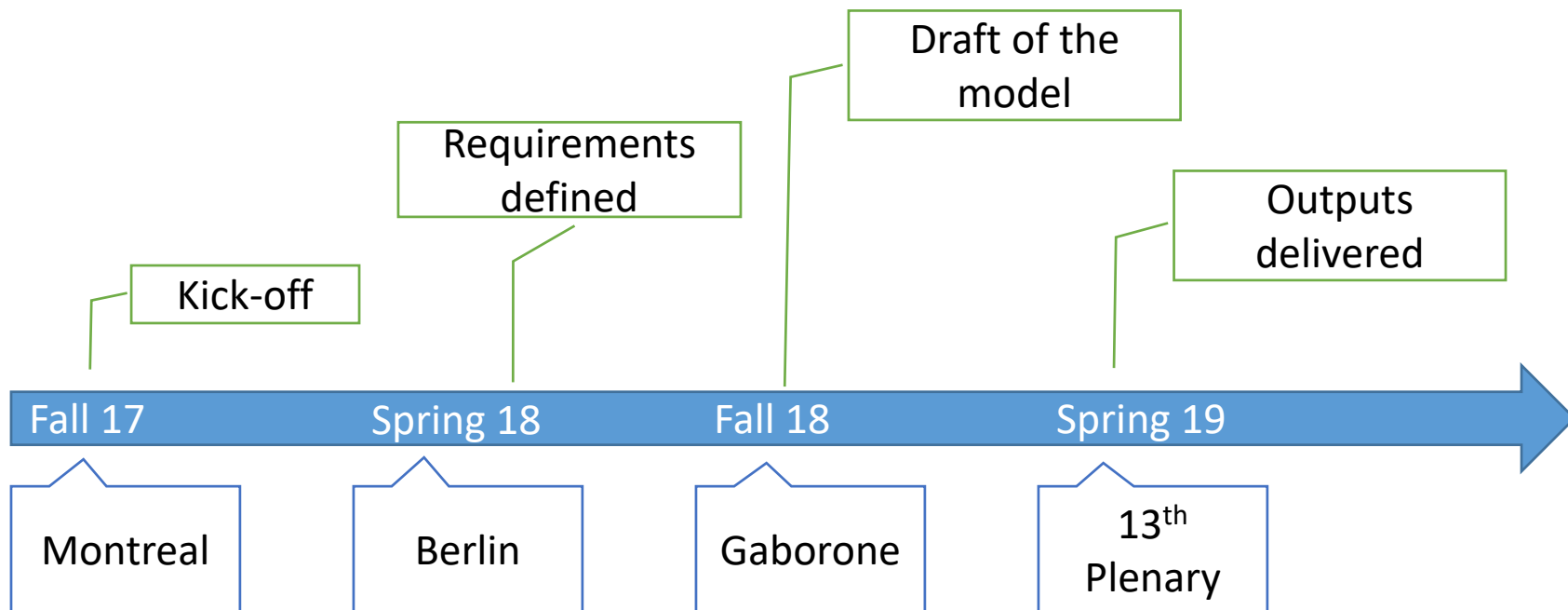
## Part 5



- 1<sup>st</sup> consultation (user stories) went broad
  - to define scope of maDMPs
- 2<sup>nd</sup> consultation went deep
  - to identify models for specific requirements
- Proof of concept tools
  - to demonstrate how model can be used to automate tasks
- Processes modelling
  - to identify systems and stakeholders involved
- Common data model
  - Core model
  - DMP Components
  - Guidelines

# Timeline

- Slide taken from the Berlin plenary presentation
- Seems we're on track



# Staying in touch!

- Sign up to the group

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

- Participate in model development

- Contact group chairs



Tomasz Miksa



Paul Walk




Peter Neish



# Exposing Data Management Plans WG Update



IDW 2018 RDA 12th Plenary  
November 6, 2018  
Gaborone, Botswana



# Who we are:

Chair (s): [Angus Whyte](#), [Fiona Murphy](#), [Natalie Meyers](#), [Kathryn Unsworth](#),  
[Marie-Christine Jacquemot-Perbal](#) Secretariat Liaison: Lynn Yarmey | TAB  
Liaison: Francoise Genova

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# Complementary Aims

Related groups with complementary aims:

- [DMP Common Standards WG](#) Chair (s): [Tomasz Miksa](#), [Paul Walk](#), [Peter Neish](#) | Secretariat Liaison: Lynn Yarmey | TAB Liaison: Wenbo Chu
- [Active Data Management Plans IG](#) Chair (s): [David Giaretta](#), [Helen Graves](#), [Kevin Ashley](#), [Stephanie Simms](#), [Sarah Jones](#) | TAB Liaison: Jane Wyngaard  
California Digital Library has received an [NSF EAGER AWARD #1745675](#) to support active, machine-actionable data management plans (DMPs).
- [Sharing Rewards and Credit \(SHARC\) IG](#) Chair(s) [Anne Cambon-Thomsen](#), [Laurence Mabile](#), [Laurent Dollé](#), [Anne-Marie Tassé](#), [Michele De Rosa](#) | Secretariat Liaison: Lynn Yarmey | TAB Liaison: Paul Uhler

# What we're up to:

A needs assessment/survey to query community on their attitudes toward exposing data management plans.

Please try the Exposing DMPs Survey Pilot (<https://bit.ly/2xxFZsc>)

## Anticipated Outputs:

Reference model including alternative strategies for exposing plans to best serve community interests in meeting FAIR principles, based on shared experience of 'early adopters' in test implementations.

Supported by the survey work aimed toward gauging user needs and motivations for exposing DMP, as well as perceived risks and disbenefits.



# Join Us

RDA Web Page:

<https://rd-alliance.org/groups/exposing-data-management-plans-wg>

Email Us: [exposing-plans@rda-groups.org](mailto:exposing-plans@rda-groups.org)

These Slides: