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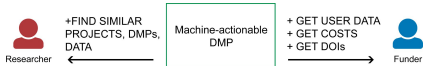
**Now that  
machine actionable DMPs  
are becoming available,  
what could we  
do with them?**

# Structure of the talk

What to do with machine actionable data management plans (maDMPs)?

- **Summary**, background & inspiration
- Treat them as FAIR digital objects
- Integrate them into automated workflows
- Roundtrip them
- Publish them
- Aggregate them
- Refine the specs
- Zoom in on ethics
- **Summary**

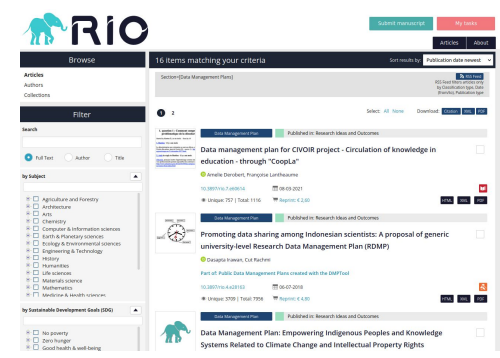
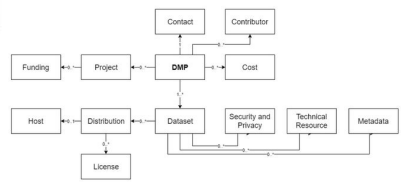
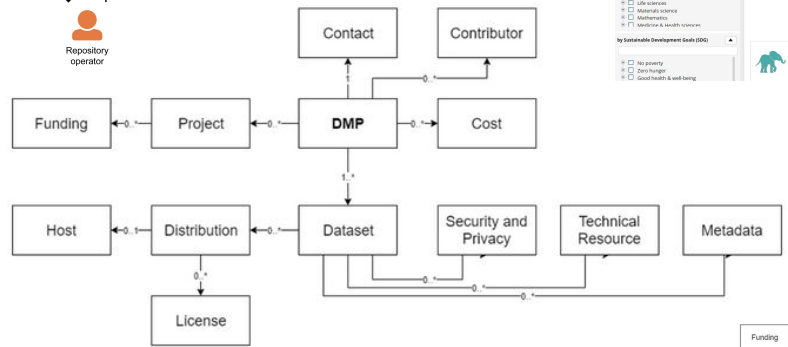
# Summary



- + FIND SIMILAR PROJECTS, DMPs, DATA
- + SELECT REPOSITORY
- + SET EMBARGO
- + SET LICENSE



- + ISSUE DOIs
- + PROVIDE COSTS



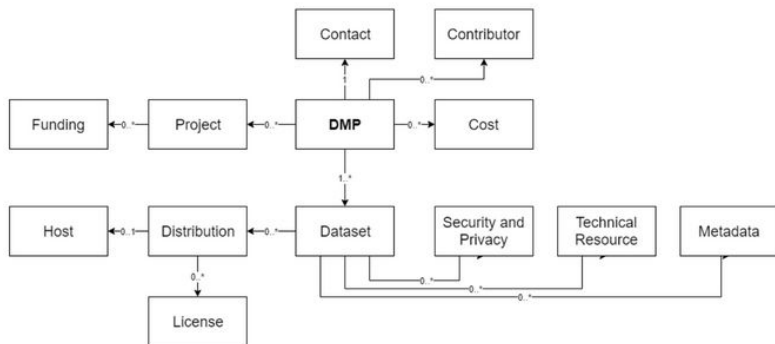
- 1 Integrate DMPs with the workflows of all stakeholders in the research data ecosystem
- 2 Allow automated systems to act on behalf of stakeholders
- 3 Make policies (also) for machines, not just for people
- 4 Describe—for both machines and humans—the components of the data management ecosystem
- 5 Use PIDs and controlled vocabularies
- 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

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# Inspiration

Publication of the application profile developed by the [DMP Common Standards WG](#)

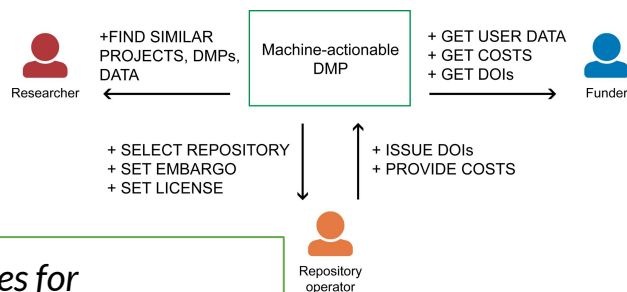
Miksa et al. (2021). *Application Profile for Machine-Actionable Data Management Plans*.  
<http://doi.org/10.5334/dsj-2021-032>



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What to do with maDMPs? - [Daniel Mietchen](#) - 9 November 2021 - DOI: [10.5281/zenodo.5654900](https://doi.org/10.5281/zenodo.5654900)

# Background



Miksa et al. (2019). *Ten principles for machine-actionable data management plans.*  
<https://doi.org/10.1371/journal.pcbi.1006750>



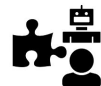
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2 Allow automated systems to act on behalf of stakeholders



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



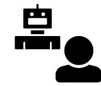
4 Describe—for both machines and humans—the components of the data management ecosystem



5 Use PIDs and controlled vocabularies



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

# Machine actionable Data Management Plans: Treat them as FAIR digital objects

- Give them persistifiable identifiers and proper metadata
- Facilitate import into and export from DMP tools
- Version control them (templates, plans, tools)
- Make the version histories public
- Persistently link them to and from outcomes of relevant lines of research

# Integrate maDMPs into automated workflows

- Let them notify those who want/ need updates
  - Within the project: Collaborators, institutions ...
  - Beyond: Collaborators, repositories, funders, reusers ...
- Let them be notified of relevant changes
  - Within the project: progress updates, milestones
  - Beyond: policy changes, data standards, pricing, reuse ...
- Use them
  - To pre-fill forms, to find related DMPs ...

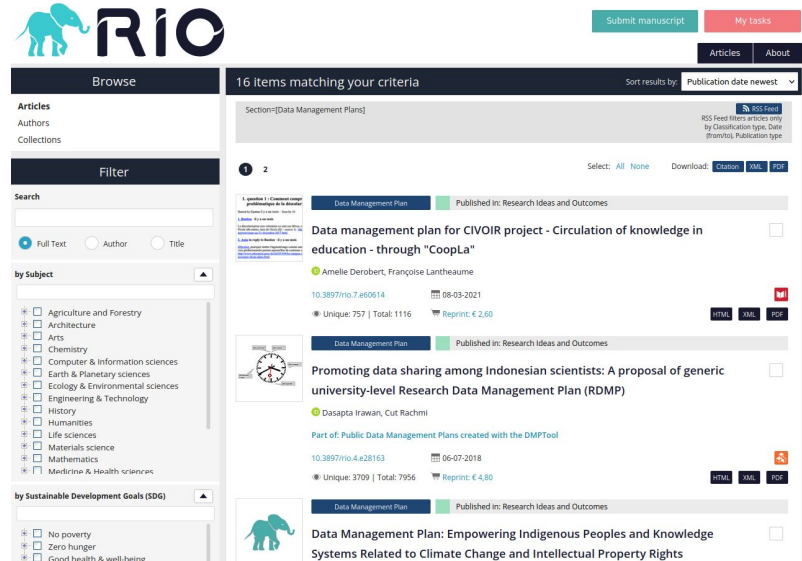
# Pilot project: Roundtrip some maDMPs

- Take several DMPs from various sources
- Consider usability
- Try to import them into various DMP tools
- Try to export the results in various formats
- File bug reports as necessary
  - To the tool providers
  - To RDA, e.g. the [DMP Common Standards WG](#)
- Rinse, repeat
- **Get in touch if you'd like to be involved**



# Publish maDMPs

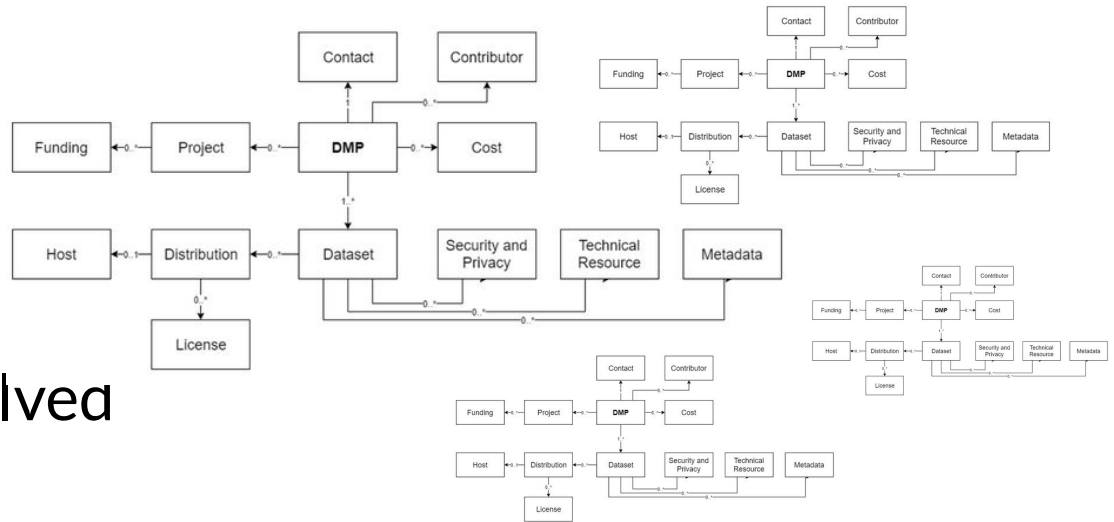
- Templates and actual plans
- In machine friendly formats
- Release early and often
- With public version history
- Link other research outcomes to and from them
- Invite reuse and experimentation
- Build converters to and from JATS, RDF ...
  - **Get in touch if you'd like to be involved**



The screenshot displays the RIO platform interface. At the top right, there are buttons for "Submit manuscript", "My tasks", "Articles", and "About". The main navigation bar includes "Browse" and "16 items matching your criteria". Below this, there are sections for "Articles", "Authors", and "Collections". A "Filter" section is visible, containing a search bar and options for "Full Text", "Author", and "Title". The "by Subject" section lists various disciplines such as Agriculture and Forestry, Architecture, Arts, Chemistry, Computer & Information sciences, Earth & Planetary sciences, Ecology & Environmental sciences, Engineering & Technology, History, Humanities, Life sciences, Materials science, Mathematics, and Medicine & Health sciences. The "by Sustainable Development Goals (SDG)" section lists "No poverty", "Zero hunger", and "Good health & well-being". The main content area shows a list of DMPs, including "Data management plan for CIVOIR project - Circulation of knowledge in education - through 'CoopLa'" and "Promoting data sharing among Indonesian scientists: A proposal of generic university-level Research Data Management Plan (RDMP)". Each entry includes a title, author information, a date, and a price (e.g., € 2,60, € 4,80, € 4,80). There are also buttons for "HTML", "XML", and "PDF" for each entry.

# Aggregate maDMPs

- Connect plans that overlap in terms of some or all of
  - Research subject
  - Methodology
  - Timeline
  - Granularity
  - Stakeholders involved
  - ...
- Build tooling to navigate and engage with these graphs



# Zoom in on ethics

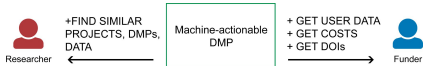
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- Consider what we have learned from maDMPs
- Apply these lessons to managing the ethics issues
  - FAIRify · Automate · Roundtrip · Publish · Aggregate · Use
  - Refine the specifications
- FAIR ethics: [2018](#) / [2021](#)

# Refine the specifications

- Use maDMPs to handle outputs of this RDA WorkGroup
- Establish mechanisms for DMP tools to “phone home”
- Expand the use cases
  - E.g. to government - cf. Claire’s talk
- Semantify content and workflows
  - Cf. talk by Lea and Raffael
- Assist communities in adapting/ adopting maDMPs
  - Cf. talk by Benjamin and Konogan

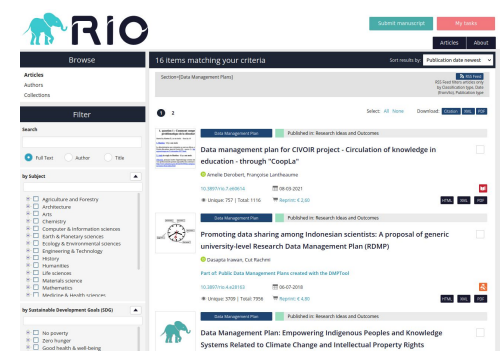
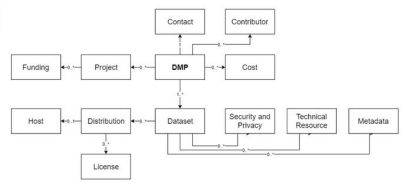
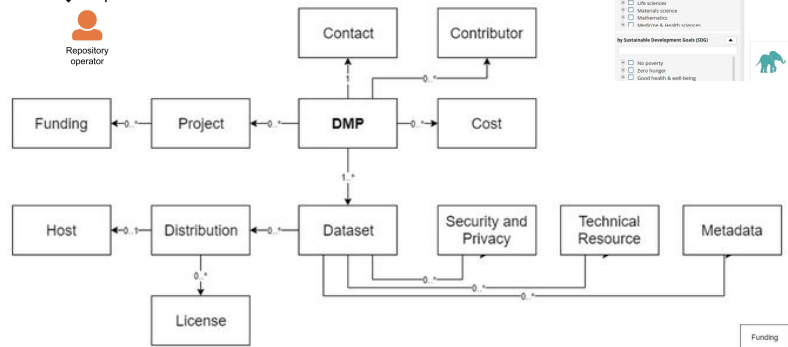
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# Thank you!

## Questions / comments?

[daniel.mietchen@ronininstitute.org](mailto:daniel.mietchen@ronininstitute.org) / [@EvoMRI](#)