Building a bridge to the future of machine-actionable DMP tools with DAMAP

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This posters shows the evolution of Data Management Plan (DMP) tools from simple, static tools to the more complex, but limited software of today, and lastly, the fully interconnected, machine-actionable platforms of the future.

1 Past/History

Early DMP Tools

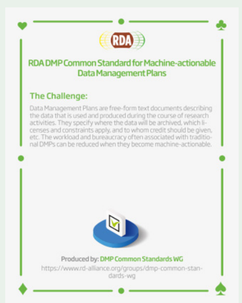
The first DMP tools often created DMPs that were not machine-actionable, meaning there was limited potential for other systems to access the data, unnecessarily restricting the sharing of data.

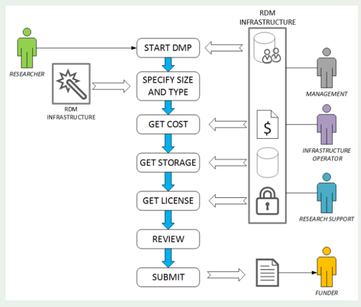
These early DMP tools often:

- were just interactive questionnaires for document generation
- did not reuse existing information from a CRIS (Current Research Information System)
- duplicated questions asked by other systems of the organization
- overwhelmed users with the number of questions

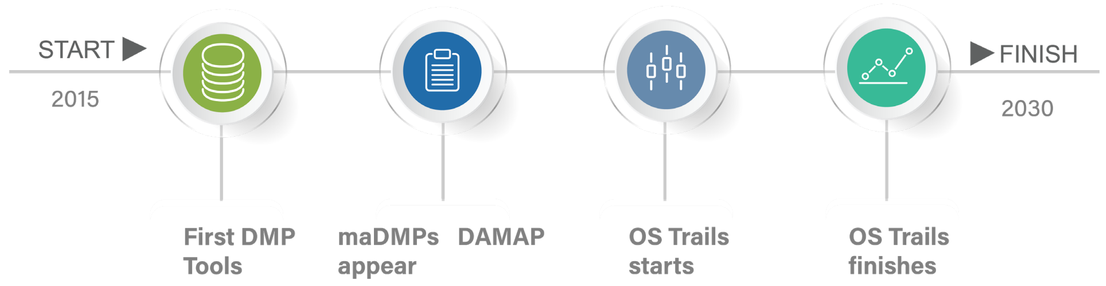
RDA Common Standard for maDMPs

When the Research Data Alliance (RDA) developed recommendations for machine-actionable DMPs, a new era began, ushering in a new wave of DMP tool enhancements.





DMP Tool Timeline



2 DAMAP

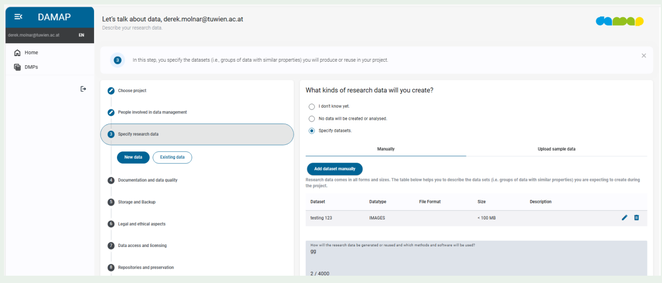
What is DAMAP?

DAMAP is a free, open source, machine-actionable DMP tool. It guides researchers through the creation of a DMP, incorporating relevant CRIS integrations to more quickly and accurately allow them to complete plans that align to FAIR data practices. Our work began in 2018 with the goal to address the deficiencies of the early DMP tools. Today, we have a comprehensive tool used by several Austrian institutions and invite you to join us to enhance and expand its capability.

How is DAMAP different?

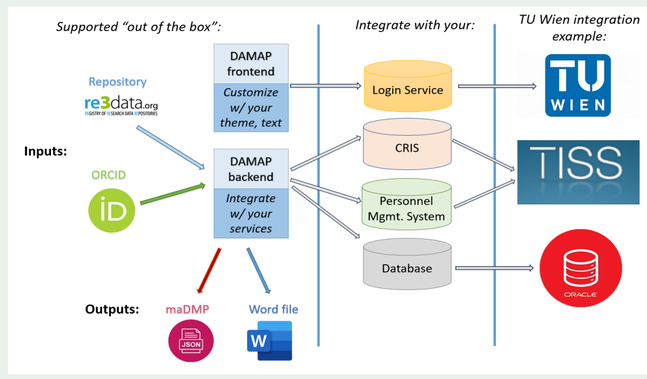
Modelling information

DAMAP was developed with the RDA recommendations for maDMPs in mind, i.e., we focus on modelling information, not questionnaires.



Integration with your systems

DAMAP saves researchers work by pre-filling content from your institution's CRIS. Connect your project and HR databases or your storage repositories with DAMAP to maximize efficiencies.



Machine actionabliity

DAMAP was built with machine-actionability in mind and is designed to share information seemlessly using PIDs and controlled vocabularies.

```
"contributor" : [ {
  "contributor_id" : {
    "identifier" : "0000-0002-5164-2690",
    "type" : "orcid"
  },
  "mbox" : "moritz.staudinger@tuwien.ac.at",
  "name" : "Moritz Staudinger",
  "role" : [ "Data Manager" ]
```

The example above shows that Moritz is the one responsible for data management.

3 The Future of DMP Tools

While many tools now produce machine-actionable DMPs (maDMPs), the challenge is moving them away from creating static products and instead to interconnected, machine-actionable resources.

How can we make the transition to living maDMPs with no more PDFs being exported?

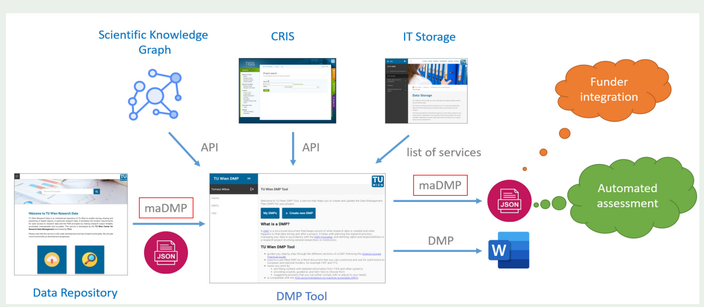
OSTrails

The OSTrails project, initiated in February 2024, is committed to this goal.

How will they make this happen?

Common API
Agree on a set of common APIs to establish the maDMP as the central framework for DMP information exchange and elevate it to the status of a FAIR (Findable, Accessible, Interoperable, and Reusable) output.

Common standard
Comprehensively formalize and extend the RDA Common maDMP Standard, ensuring coverage of essential horizontal elements like input and output data, publication links, reproducibility, legal and ethical considerations.

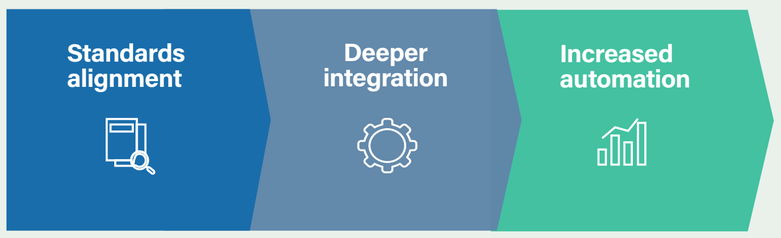


What else is in the future of DMP tools?

DMP FAIR assessment
OSTrails plans tools to assess DMPs, focusing on metrics related to the quality of DMP metadata, including completeness, adequacy, and correctness to improve overall reliability in the research data landscape.

4 The Future of DAMAP

As the DMP tool for the Austrian National Pilot within OSTrails, we are taking **3 steps** to normalize interconnected, machine-actionable DMPs within Research Data Management.



1. Standards alignment

We ruthlessly align to the RDA maDMP Common Standard to ensure all our work is "future proof". Customization is encouraged for an adopting institution's fonts, logos, and verbiage to present their DAMAP instance as an institution branded tool. However, adding additional questions is not permitted, unless these are added to the extended RDA Common Standard, and thus compatible with future developments.

2. Deeper integration

Deeper integration with your institution's databases will provide new insights into your research data. As a result of these expanded connections, DAMAP will also serve as a hub for research data beyond the DMP.

3. Increased automation

By strictly aligning to the RDA maDMP Common Standard, DAMAP is positioned to more easily increase its automation. Through deeper connections with relevant research databases DAMAP can then pair this integration with an expanded use of APIs to automatically pull in data, further strengthen DAMAP's ability to act as a hub for research data.

Furthermore, by focusing on these three steps, DAMAP is able to easily integrate a FAIR asessment DMP evaluation tool.

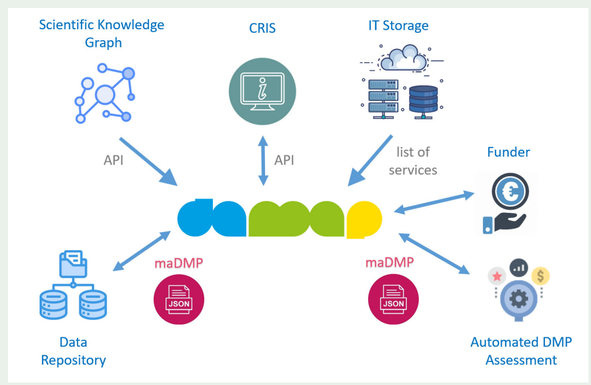
Summary

By prioritizing machine-actionability, expanding and automating the integration of research databases, DAMAP will strengthen its ability to adapt to future developments in the RDM community.

5 Next steps

Now that the majority of DMP tools have embraced machine-actionability, it is time to expand and refine both the standards and technology to take DMP tools to the next level.

By extending the RDA Common maDMP Standard and establishing the maDMP as the central framework for DMP information exchange, the RDM communitiy can be well-positioned for future advancements.



Your role

Help chart the future course of maDMP tools by joining our community. Give us your use cases and integration needs and let's work together to build a DMP tool that exceeds your expectations.

6 Contact us

We invite you to join us to enhance and expand DAMAP's capabilities. Visit our website to learn more and access our test instance.

www.DAMAP.org