

Problem & Motivation

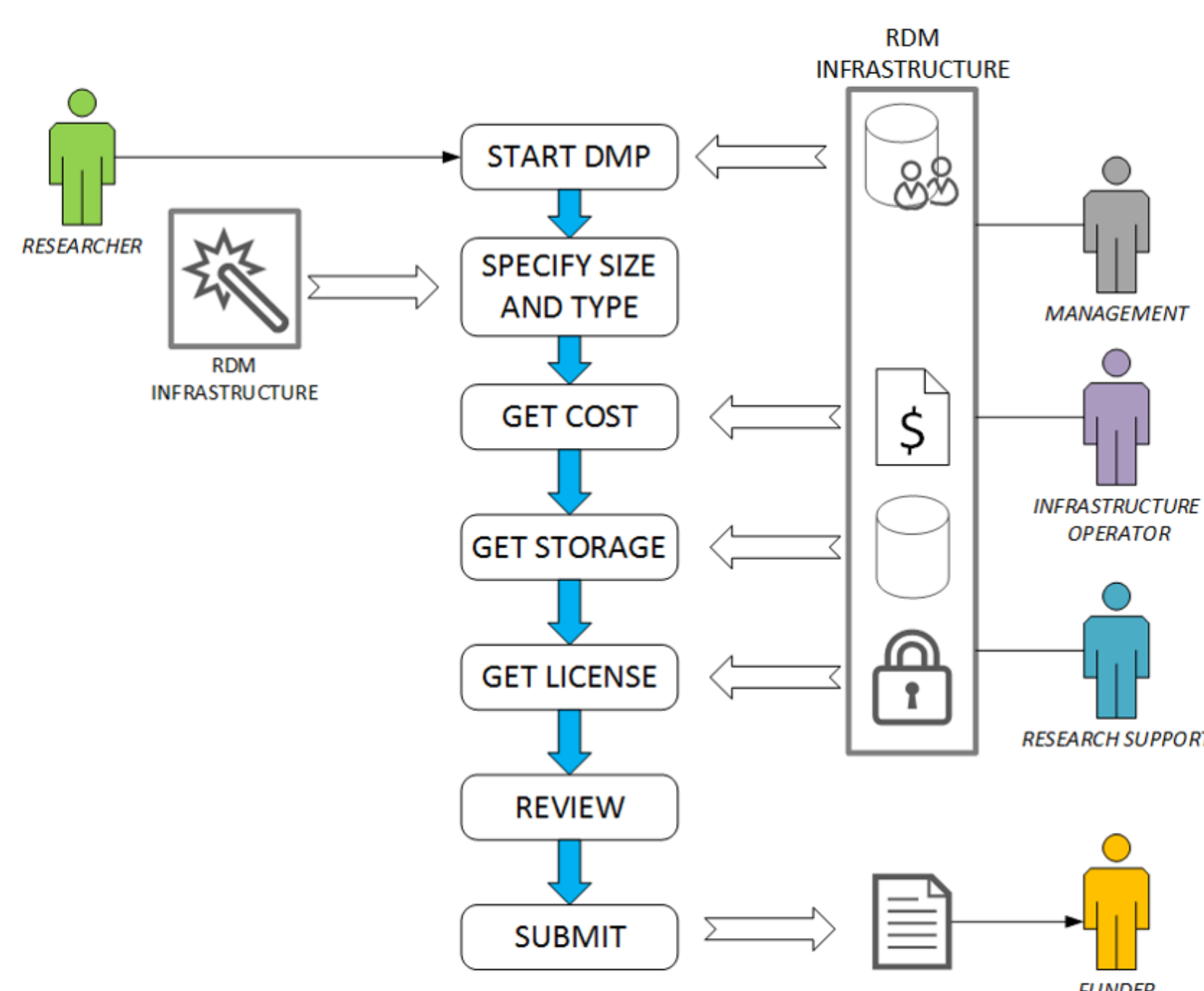
Data Management Plans (DMPs) are documents accompanying research proposals and project outputs. They describe the data that is used and produced during the course of research activities, where the data will be archived, which licenses and constraints apply, and to whom credit should be given. The existing practice of writing DMPs is primarily driven by research funders who consider DMPs to be an awareness tool. However, DMPs are often perceived by researchers as an annoying administrative exercise that does not support data management activities.

We continue to need a human-readable narrative, but there is now widespread recognition that the DMP could have more thematic, **machine-actionable** richness with added value for all stakeholders. This includes **researchers, funders, repository managers, administrators, data stewards**, and so on. In short, everyone who is part of the larger ecosystem in which data is produced, transformed, exchanged, reused, and preserved. This added value can be created when parts of DMPs are pre-filled by **systems acting on behalf of stakeholders**. Similarly, information from DMPs can be used to trigger actions, for example, license and embargo selected by a researcher can be used to automatically fill out information on data deposited into a repository. Machine-actionability is also one of the main principles of the **European Open Science Cloud (EOSC)**.

RDA DMP Common Standards working group

Research Data Alliance (RDA) recognized the importance of making DMPs machine-actionable and established the **DMP Common Standards working group to develop a standard** allowing for automatic exchange, integration, and validation of information provided in DMPs and facilitating the 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 working group is chaired by Tomasz Miksa from SBA Research and has almost 200 members from all around the world. Within 18 months the group developed an application profile that acts as a standard for machine-actionable DMPs.

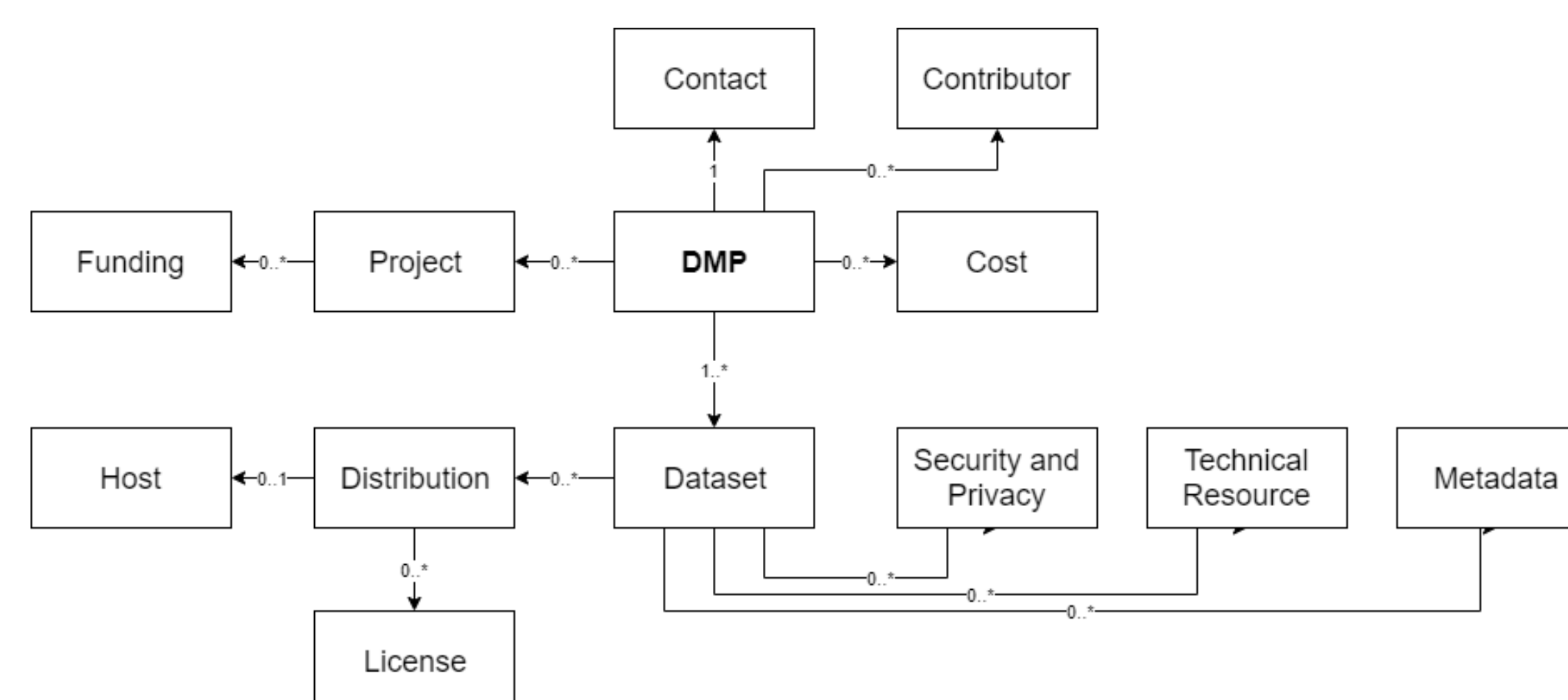


Common Standard for Machine-actionable DMPs

The **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.



Adoptions of the common standard for machine-actionable DMPs

The application profile is the official output endorsed by Research Data Alliance. There are many adoptions pending at institutions from around the world:

- ▶ 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



RESEARCH DATA ALLIANCE

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