



FAIR DATA  
AUSTRIA

# FAIR Data Austria Online-Projektmeeting

13. April 2021, 10:00 - 12:30



CLUSTER  
FORSCHUNGSDATEN



TECHISCHE  
UNIVERSITÄT  
WIEN



universität  
wien



universität  
innsbruck



# GOALS

- Present the current results - FAIR Data Austria
- Introduce - Cluster Research Data



# TECHNICALITIES

In order to avoid background noise, we ask all participants to switch to "mute"



Please post all questions in the chat, they will be answered after the presentation or as soon as appropriate



The presentations will be recorded

# AGENDA

10.00-10.10	Welcome, Opening, FAIR Data Austria	Ilire Hasani-Mavriqi
10.10-10.45	Cluster Forschungsdaten RIS Synergy Austrian DataLAB and Services	Sabine Neff  Constanze Rödig
10.45-11.00	Coffee break	
11.00-11.30	Machine-actionable Data Management Plans	Tomasz Miksa, Zeno Casellato, Ejmi Shkreli
11.30-12.00	Next Generation Repositories <i>Repositories for research data - InvenioRDM</i>	Mojib Wali Maximilian Moser
12.00-12.30	RDM Training and Support	Tereza Kalova, Eva-Maria Asamer, Ilire Hasani-Mavriqi

# FAIR DATA AUSTRIA INTRODUCTION

ILIRE HASANI-MAVRIQI (TU GRAZ)

# FAIR DATA AUSTRIA INTRODUCTION

Lead: **TU Graz**

Timeline: January 2020 – December 2022

Funding: Federal Ministry for Education, Science and Research (BMBWF)

Partners:  TECHNISCHE  
UNIVERSITÄT  
WIEN  universität  
wien  universität  
innsbruck  Medizinische  
Universität Graz  ]a[ akademie der bildenden künste wien 23 associated partners

*Promote collaboration between Austrian universities in developing coherent  
and solid RDM services*

***Working together to create the conditions for the future of data-driven  
science***



# FAIR DATA AUSTRIA – THE TEAM



- Develop **researcher-led** FAIR services
  - As general as possible, as discipline-specific as needed
- Develop **social** and **technical** solutions in parallel
- Bridging the gap between **researchers** and **support staff**

# ALIGNING RDM ACTIVITIES



**EOSC Support  
Office Austria**





# FAIR DATA AUSTRIA

In collaboration with project partners, we develop:

- 'Hard' infrastructure elements
  - Research data lifecycle management tools (maDMPs)
  - Repositories for long-term archiving of research results (research data, code and databases)
- 'Soft' infrastructure elements
  - RDM training and support services
  - A toolkit for models, profiles, training offers for data stewards
  - FAIR Office Austria and a network for FAIR reference points

# CHALLENGES

Support the entire life cycle of the research (data) project with specialist knowledge and the associated tools

- Information about funding programmes
- Data from e-call systems
- Accessible data-science tools and resources
- Access to High Performance Computing Clusters

# CLUSTER RESEARCH DATA


**CLUSTER  
FORSCHUNGSDATEN**

[NEWS](#)
[ÜBER DEN CLUSTER](#)
[PROJEKTE](#)
[PARTNER](#)
[KONTAKT](#)


**AUSTRIAN DATALAB  
AND SERVICES**


**FAIR DATA  
AUSTRIA**


**RIS  
SYNERGY**

**ÜBER DEN CLUSTER**
[🏠 > Über den Cluster](#)

[Eckdaten](#)


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[Überblick](#)


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[Entstehung](#)


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[Ziele](#)


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**ÜBERBLICK**

Forschung generiert Wissen, produziert und verarbeitet Daten. Für ein abgestimmtes Zusammenspiel zwischen Forschungsinformationssystemen und Forschungsdatenmanagement-Infrastrukturen mithilfe digitaler Technologien müssen Konzepte erarbeitet und umgesetzt werden.

Zur Bewältigung dieser Herausforderungen haben sich eine Reihe österreichischer Universitäten gemeinsam mit FWF, FFG und WWTF im Cluster „Forschungsdaten“ im Rahmen der 2019 veröffentlichten Ausschreibung „Digitale Transformation in der Hochschulbildung“ durch das Bundesministerium für Bildung, Wissenschaft und Forschung zusammengeschlossen und die drei geförderten Projekte „RIS Synergy“, „FAIR Data Austria“ und „Austrian DataLAB and Services“ konnten im Jahr 2020 gestartet werden.



# CLUSTER FORSCHUNGSDATEN

## FOCUS, MISSION & ORGANISATION

2. FAIR DATA AUSTRIA ONLINE PROJECT MEETING, 13.04.2021

SABINE NEFF



RIS  
SYNERGY



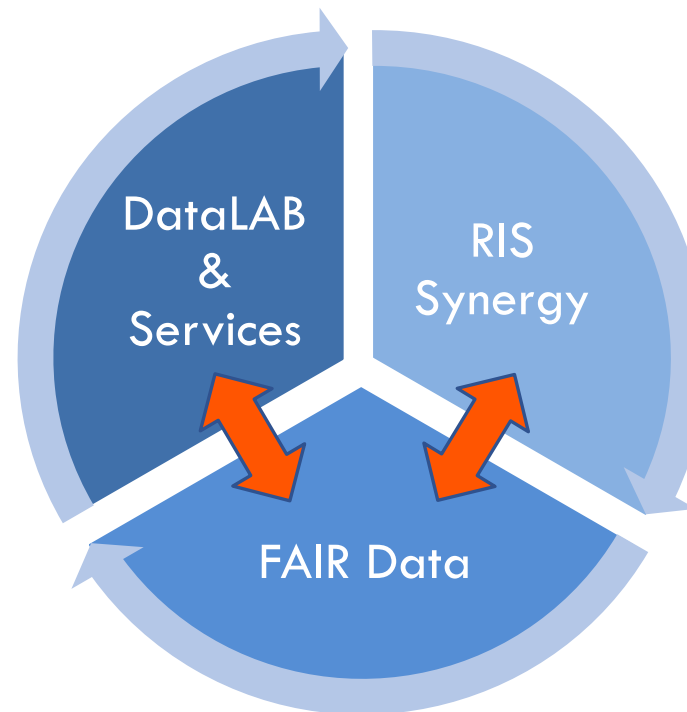
FAIR DATA  
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AUSTRIAN DATALAB  
AND SERVICES

# FOCUS: PROJECT LIFE CYCLE

Pre Project – Project – Post Project



Connecting **services** → **repositories**  
Ensure **FAIR principles**

**Comprehensible procedures**

**Transparent presentation of** project information, project output & research data.

**Multiple use** of information

**„Living DMPs“**

Common **data protection strategies**

# MISSION

**Initial task** → **Optimise interfaces between** RIS Synergy, FAIR Data Austria & Austrian DataLAB and Services

**Common strategy** → Ensure continuous **exchange and active collaboration**.

- Optimization of digital processes in the entire research (data) project life cycle
- Identification of **synergies and potentials** for resource-optimized cooperation between Austrian research institutions within national and European projects
- **Coordinated planning** of necessary activities
- **Common appearance** in all aspects of research data management and research information management



# ORGANISATION

**Coordination:** Johannes Fröhlich, TU Wien

Management: Sabine Neff, TU Wien

## **Steering committee:**

- 3-4 members of the three Cluster projects and the responsible members of the rectorates of TU Wien, TU Graz, Universität Innsbruck und Universität Wien.
- Meetings for presentation and discussion on project results, finances, time schedules and coordination of strategies & goals.

## **Working groups on various themes**



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## PROJECT INFORMATION

2. FAIR DATA AUSTRIA ONLINE PROJECT MEETING, 13.04.2021

SABINE NEFF



RIS  
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AND SERVICES

# ONE VISION - TWO SUBPROJECTS

User friendly **interaction of research information** throughout the project life cycle

... for ensuring qualitative research support

... and **visualization/presentation of research output** according to international standards.

## Subproject 1: **Interfaces and Standards**

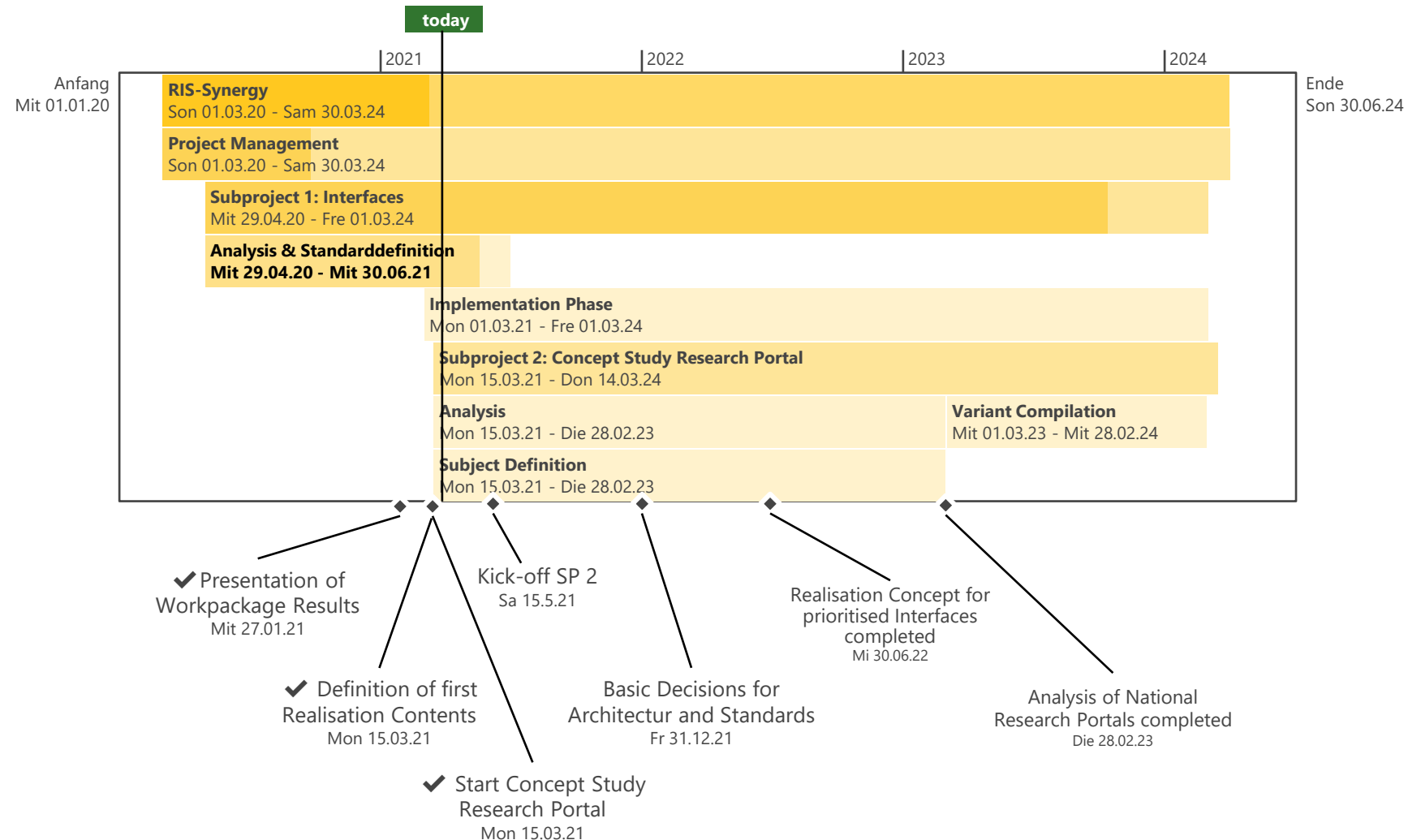
Creation of **openly available access and exchange opportunities** for the systems of funding organisations, research institutions and public administration.

The key focus is on enabling data acquisition per **once-only principle** alongside the exchange of information about funding programmes, organisational structures, data from e-call systems, data management plans, and metadata of research output.

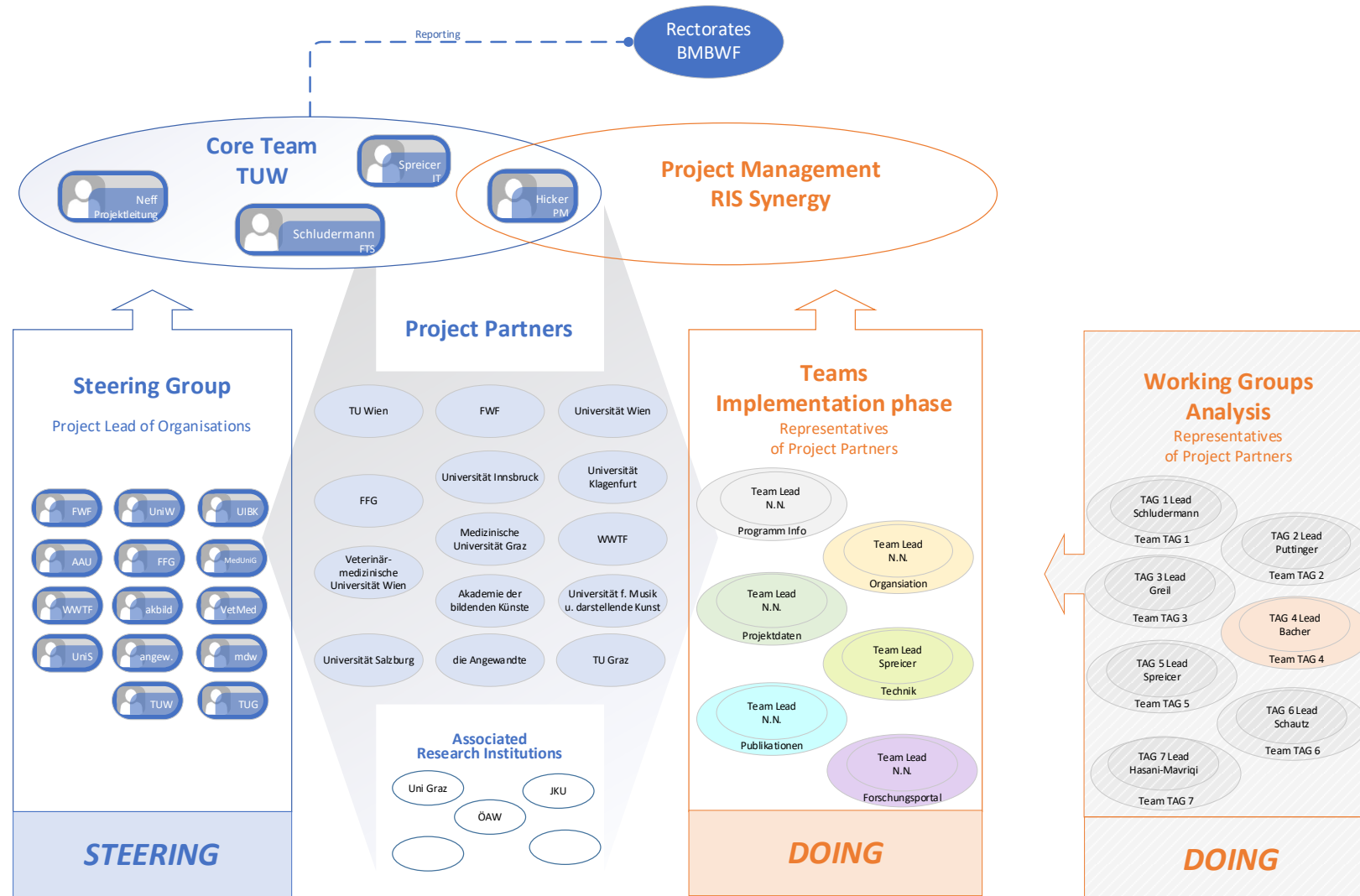
## Subproject 2: **Concept Study for a Research Portal**

Description of **framework and requirements** for an internationally compatible research portal that aims to depict the in- and outputs of the research landscape and create innovative networking opportunities for research, politics, industry, and the interested public.

# SCHEDULE



# PROJECT ORGANISATION



# FIRST OUTCOMES & ACHIEVEMENTS (1/3)

## Project management:

- Harmonization of a common **project scope**.
- Setup of a common **working environment**.
- Roll-out and implementation of successful **meeting series**.
- Identification and **assessment** of the data to be exchanged.
- **Analysis** of international data models (CERIF, openAIRE ...) and their applicability in the project and discussion of compliance issues
- Constant **contact and interaction** with mutually complementary projects & networks



## FIRST OUTCOMES & ACHIEVEMENTS (2/3)

Subproject **Interfaces and Standards**: finalization of the analysis phase.

- Elaboration of work packages focussing on **thematic interfaces** within working groups. All concepts describe user stories and use cases, illustrating the usability for all participating actors (funding organisations, research institutions, researchers).
- Pooling interdependent use cases into **use case groups** to highlight dependencies and cluster use cases for implementation.
- **Prioritization** for implementation sequence via online voting process.
- Start of the implementation phase: building of 5 **implementation teams**.
- **Focus** for the first implementation: exchange of research program information, exchange of project and application data, shared authentication and information on organisation structure as well as exchange of DOI publication information.

# FIRST OUTCOMES & ACHIEVEMENTS (3/3)

Subproject **Interfaces and Standards**:

- **FWF PROFI projects**: revision and detailing of the initial concept for an **interface for exchanging financial data** between FWF and research facilities → implementation monitoring and test coordination.
- Pilot universities: Uni Wien / TU Wien
- Next step: rollout for all universities.

Subproject **Concept Study for a Research Portal**: finalization of the analysis phase.

- Discussion of initial research results on national research portals.
- Formation of the team “research portal”.



# AUSTRIAN DATALAB AND SERVICES



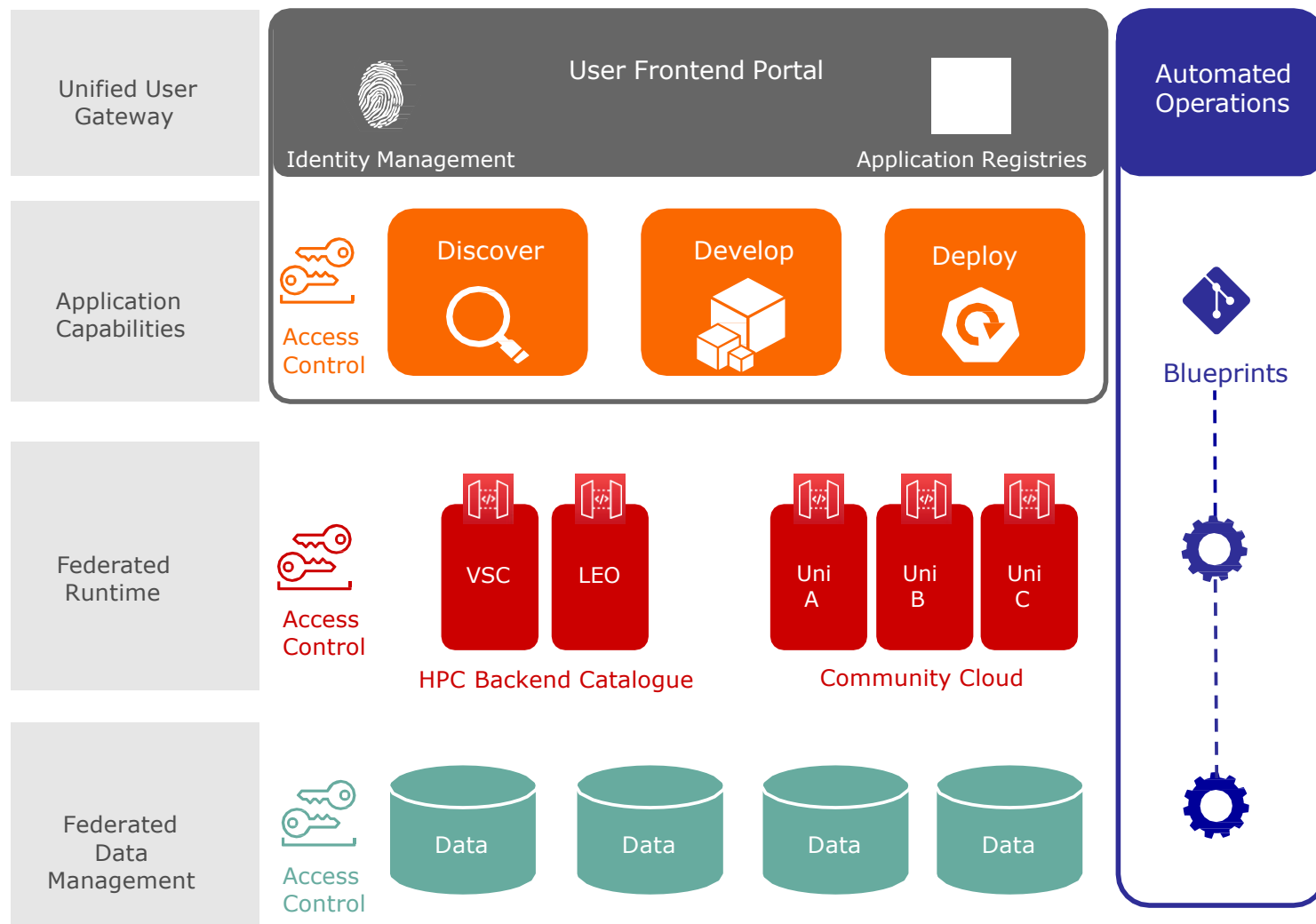
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## UNIFIED ACCESS TO SERVICES

DISCOVER · BUILD · SHARE · DEPLOY

↪ TOOLS · DATA · RESOURCES ↩

## FINE GRAINED ACCESS MANAGEMENT



# WHY ARE WE DOING THIS?

Researchers, Non-Technical-Users & Teaching Staff want:

- Accessible data-science tools and resources
- Facilitation of:
  - Data sharing
  - Collaborative development
- Make use of existing computational power
- Reproducibility of results
- More user-friendly access to HPC clusters
- Not worry about infrastructure layers
  - Independence from a few expert-users
  - Security
- Research-driven teaching

**Term:** July 2020 - June 2024

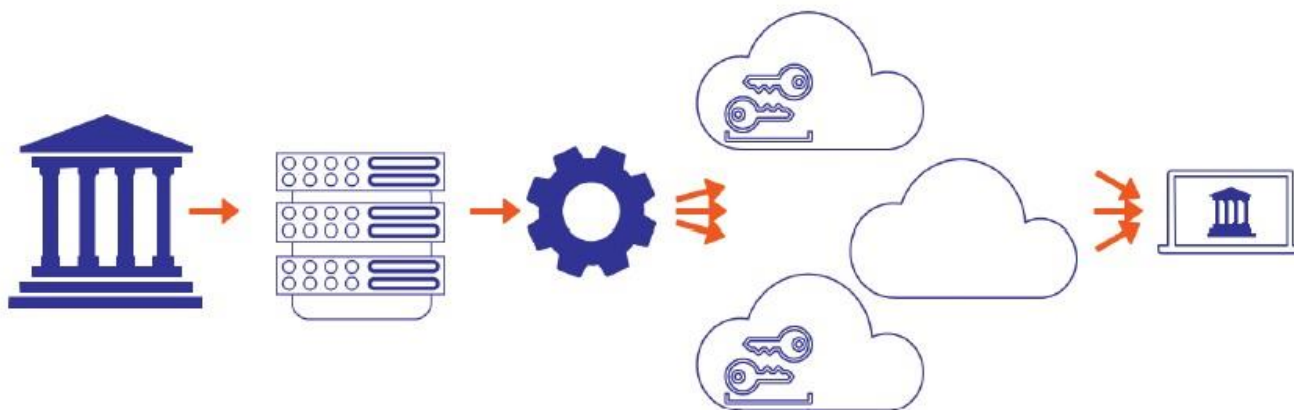
## **Goals:**

- ▷ Inter-university collaboration on cloud infrastructure
- ▷ Lowering the learning curve for compute tasks in research and teaching
- ▷ Secure exchange and collaboration on data, applications and results
- ▷ Interactive access to HPC clusters
- ▷ Collaborative application development and sharing across Austrian academic institutions
- ▷ Toolkit for building and hosting interactive teaching materials
- ▷ Establish an open community for users and maintainers to contribute and support each other

# Contribute & Consume: Federation at Scale

Our model is based on voluntary sharing:

- Institutions contribute hardware
- ADLS frameworks configure these hardware for sharing as a cloud-pool with most products & services readily available
- Institutions control the access to their pools
- Individuals consume services from these pools, depending on their access



Anyone from the community may contribute services, apps and data back to the ADLS platform and share them for others to consume.

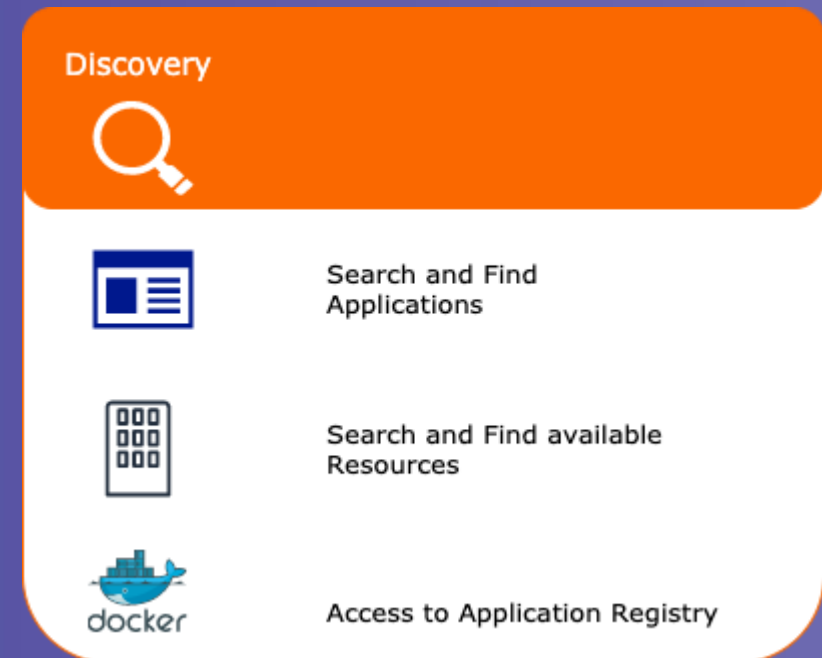
# DISCOVERY

## Product Vision

Explore existing applications and resources.

Key aspects and possible application scenarios are:

- Access to High Performance Computing Clusters - what is available and how could it be useful for the respective application scenario
- Access to Container Registry - search existing applications
- Access to data - search data catalogues
- Interactive and user-friendly UI





# DEVELOPMENT

## Product Vision

Run complex and compute intensive applications in a collaborative way.

Key aspects and possible application scenarios are:

- Access to HPC Clusters
- Access to online tooling around development, testing and governance
- Ease of data management (large volumes of data)
- Numerical modelling
- Image analysis
- Training neural networks
- Testing code and applications

### Development



Develop Applications



Use available Resources



Collaborate

# DEPLOYMENT

## Product Vision

Deploy different applications or create and submit jobs.

Key aspects and possible application scenarios are:

- Choose your desired runtime
- Easily deploy your applications
- Monitor running applications
- Create and submit scheduled jobs
- Ease of use
- Visualize outcomes



### Deployment



Deploy Applications



Run Jobs



Visualization



## Product Discovery via Mockup

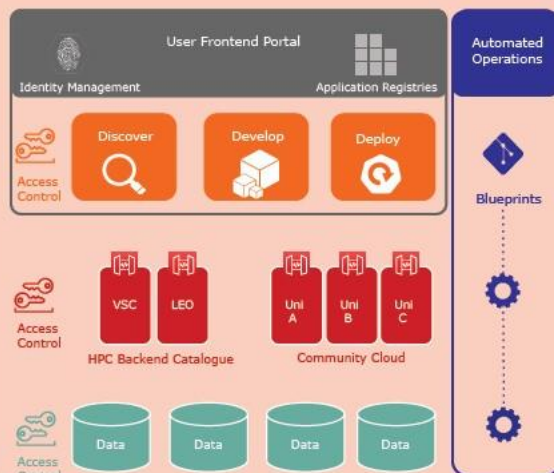
In order to understand and prioritize the various services and features, the ADLS team has composed a product mockup which enables the capture of comments and click statistics.

Want to see it? [mockup.adls-sbx.org](https://mockup.adls-sbx.org)

## Roadmap 2021

Q1/2022: Continuous feedback will drive the content, all core infrastructure components will exist in at least one shared cloud deployment. The first sample applications serve as test, documentation and showcases. Training “Hackathons” are planned to evaluate user acceptance.

Q3/2021: A shared inter-university cloud for engineers and users to experience the first prototypes



## Product Vision: An Austrian community cloud

Can we provide an Austrian wide platform to securely share data, applications and compute resources?

For efficiency and usability, we believe in establishing secure standard interfaces between the various individual universities. Our goal is to engineer a platform, where a user consumes services such as “running research applications” or “hosting a teaching service” without having to care about the underlying infrastructure.

## Welcome to the ADLS Questionnaire!

In order to access this site we would like to know some basic information about you.

What is your current academic position:

Student (MSc, BSc) 

Your field of research:

Anthropology 

Your age:

<20 

Self-assess your IT skills: (6 is best)

3 

What is your most used Operating System:

Windows 

Do you experience in operating a computer by using the terminal/console:

yes 

Do you experience in working with High Performance Computing environments:

yes 

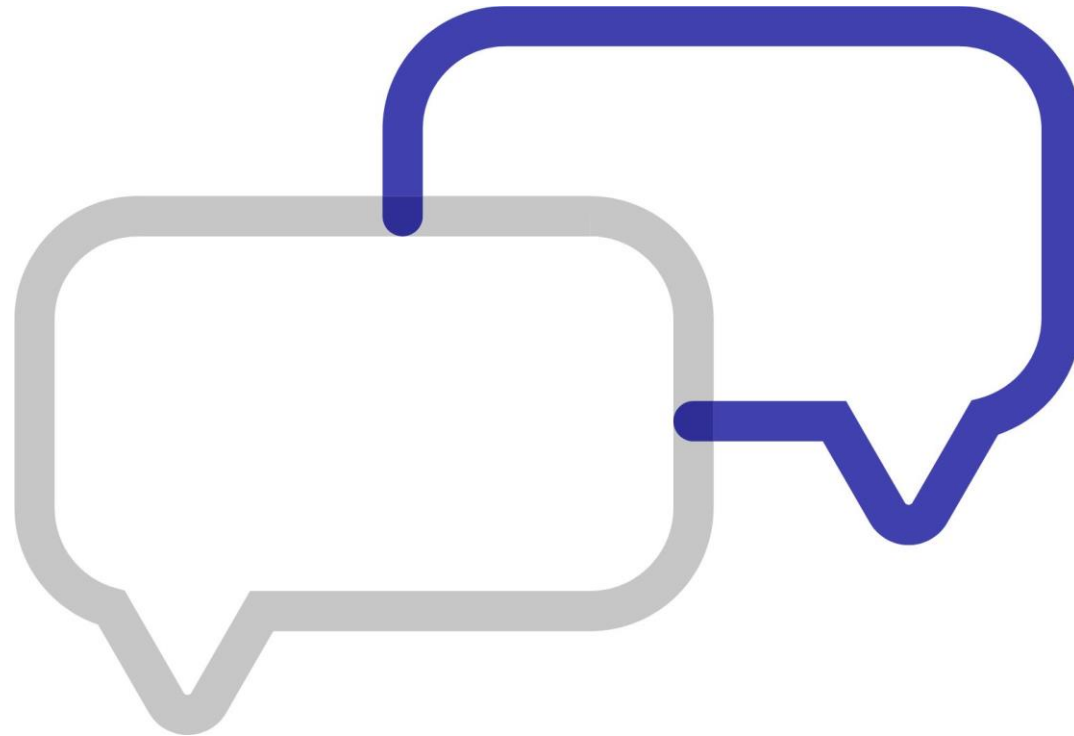
Do you have at least basic knowledge in any programming language:

yes 

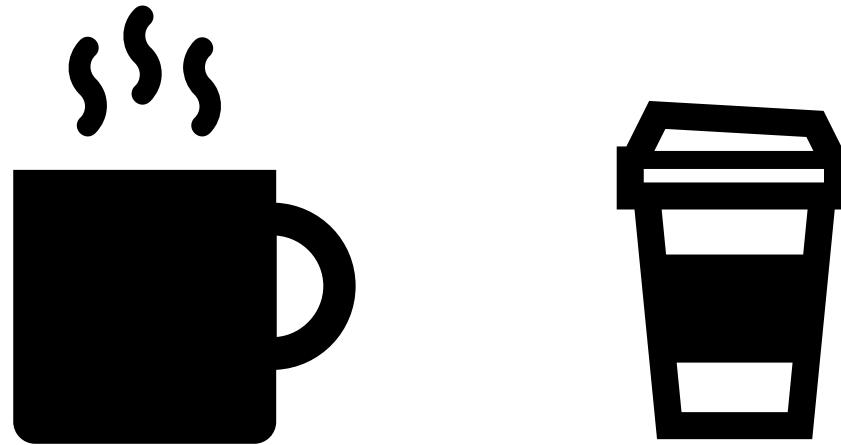


EINFACH - VERNETZT - RECHNEN

## Q&A







**COFFEE BREAK**

**UNTIL 11.00 UHR**

# **MACHINE-ACTIONABLE DATA MANAGEMENT PLANS (MADMPS)**

# TEAM



Petra Freygner

Clara Schuster

Zeno Casellato

Tomasz Miksa

Christiane Stork

Ejmi Shkreli

Hardani Maulana

**TU Wien**

Service Unit of Campus Software Development

**TU Wien**

Center for Research Data Management

**TU Graz**

Institute of Interactive Systems  
and Data Science

# OUTLINE

- Introduction
  - What are the maDMPs?
  - What are we trying to achieve in FDA?
- DAMAP tool
  - Live demo
- Deployment at TU Graz
  - Customization and integration
- Summary
  - Next steps
  - Getting on board

# DATA MANAGEMENT PLANS

	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 <a href="#">Digital Curation Centre</a> )
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?

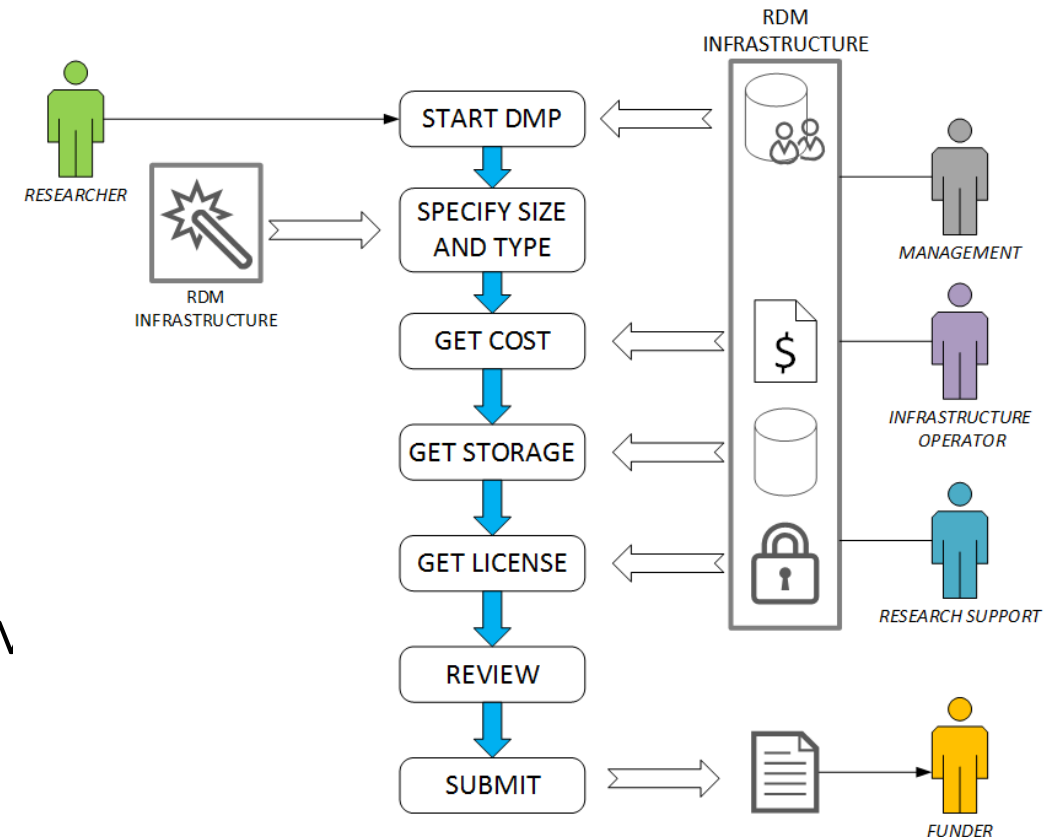


Table of Contents	
Foreword by Dr Thierry Damerval	2
Introduction	4
<b>GUIDANCE FOR ORGANISATIONS: CORE REQUIREMENTS FOR DATA MANAGEMENT PLANS</b>	<b>7</b>
<b>GUIDANCE FOR ORGANISATIONS: CRITERIA FOR THE SELECTION OF TRUSTWORTHY REPOSITORIES</b>	<b>11</b>
<b>GUIDANCE FOR RESEARCHERS: Translating the Core Requirements into a DMP template Guiding the Selection of Trustworthy Repositories</b>	<b>15</b>
<b>GUIDANCE FOR REVIEWERS: Evaluation Rubric for Data Management Plans</b>	<b>31</b>
Notes and References	51
Annex: Compatibility with the FAIR Data Principles	52


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 Research Data Management (RDM)
  - 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 DMPs.

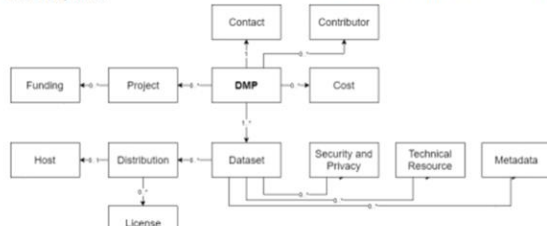


Figure 1: Overview of the application profile for the machine-actionable DMPs.

1

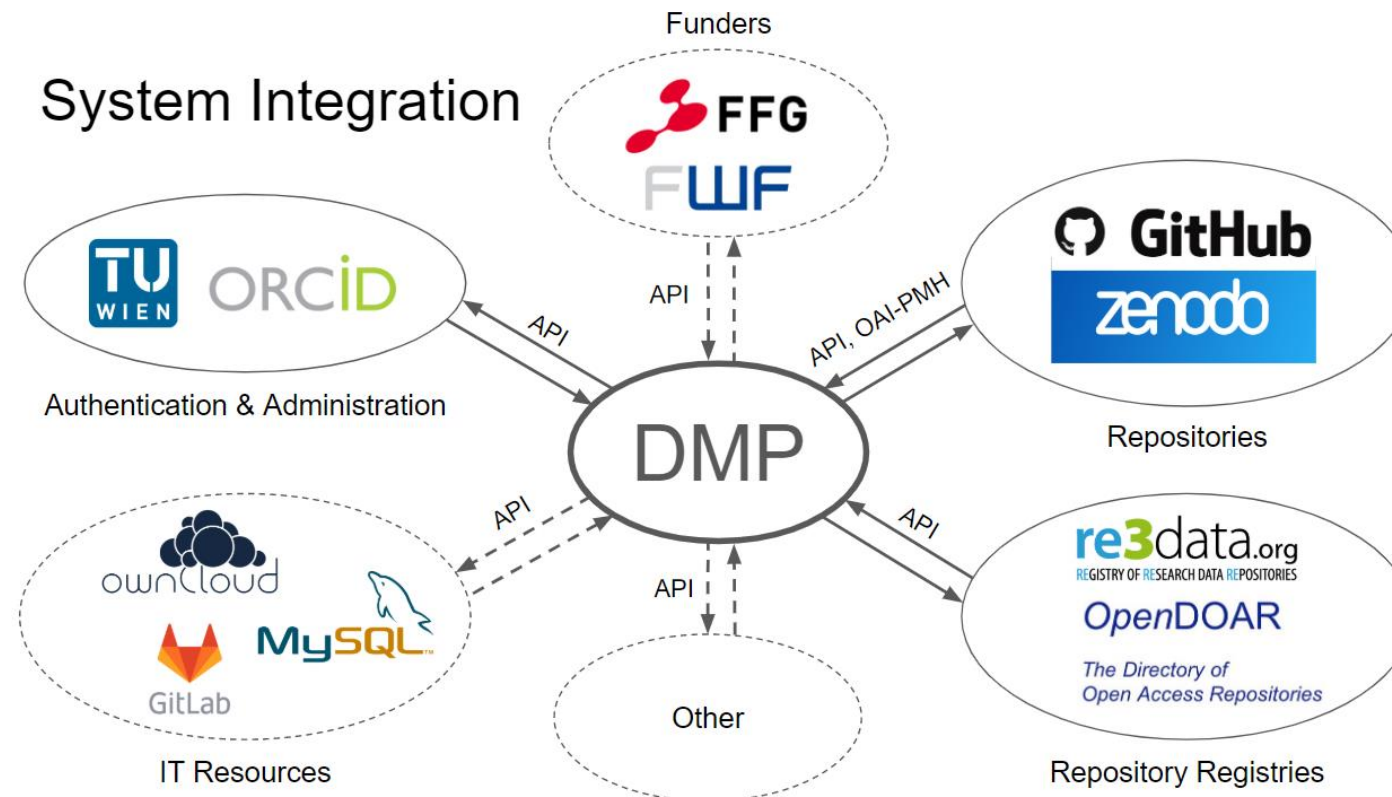
## PENDING ADOPTIONS (SELECTED)





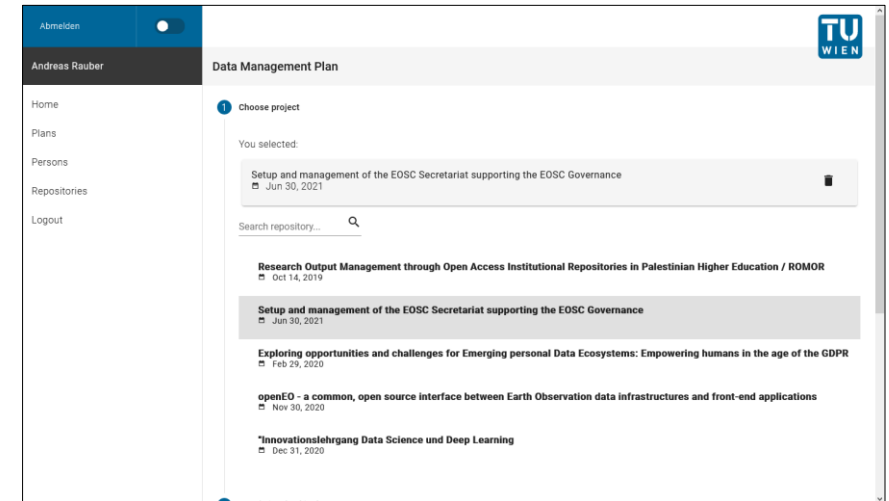
# RDM INFRASTRUCTURE

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



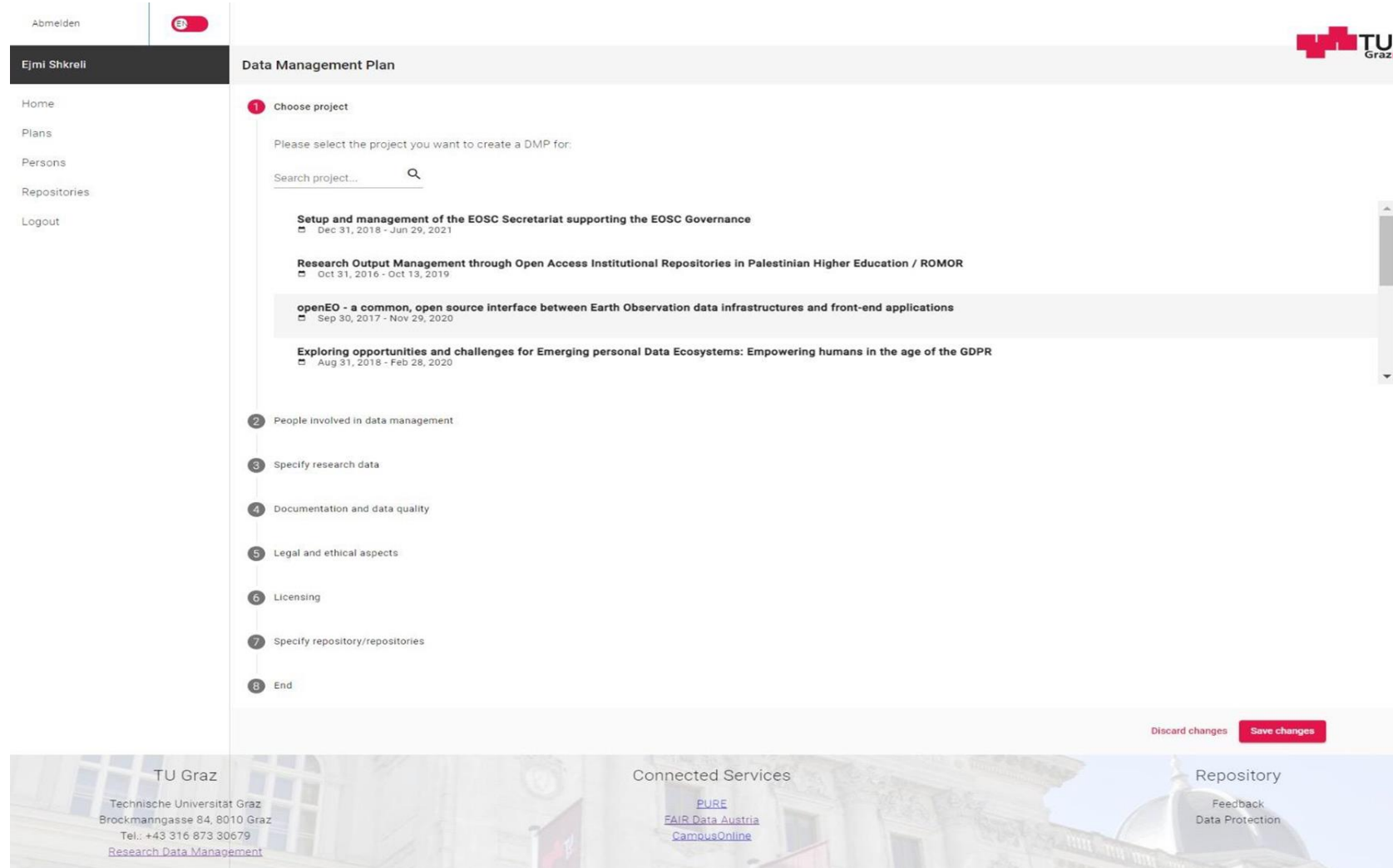
# DAMAP


- Work in progress
- Modular architecture
- Popular software stack
  - Java, Angular, SQL, Keycloak
- Driven by Science Europe requirements
- Demo
  - End to end process
  - Integration with other systems
    - Projects, People, Repositories, Storage locations, Licenses
  - ‘Comply or explain’



# DEMO

# DEPLOYMENT AT TU GRAZ



Abmelden 


**Ejmi Shkreli**

Home  
Plans  
Persons  
Repositories  
Logout

## Data Management Plan

**1 Choose project**

Please select the project you want to create a DMP for:

Search project... 

- Setup and management of the EOSC Secretariat supporting the EOSC Governance**  
Dec 31, 2018 - Jun 29, 2021
- Research Output Management through Open Access Institutional Repositories in Palestinian Higher Education / ROMOR**  
Oct 31, 2016 - Oct 13, 2019
- openEO - a common, open source interface between Earth Observation data infrastructures and front-end applications**  
Sep 30, 2017 - Nov 29, 2020
- Exploring opportunities and challenges for Emerging personal Data Ecosystems: Empowering humans in the age of the GDPR**  
Aug 31, 2018 - Feb 28, 2020

**2 People involved in data management**

**3 Specify research data**

**4 Documentation and data quality**

**5 Legal and ethical aspects**

**6 Licensing**

**7 Specify repository/repositories**

**8 End**

[Discard changes](#) [Save changes](#)

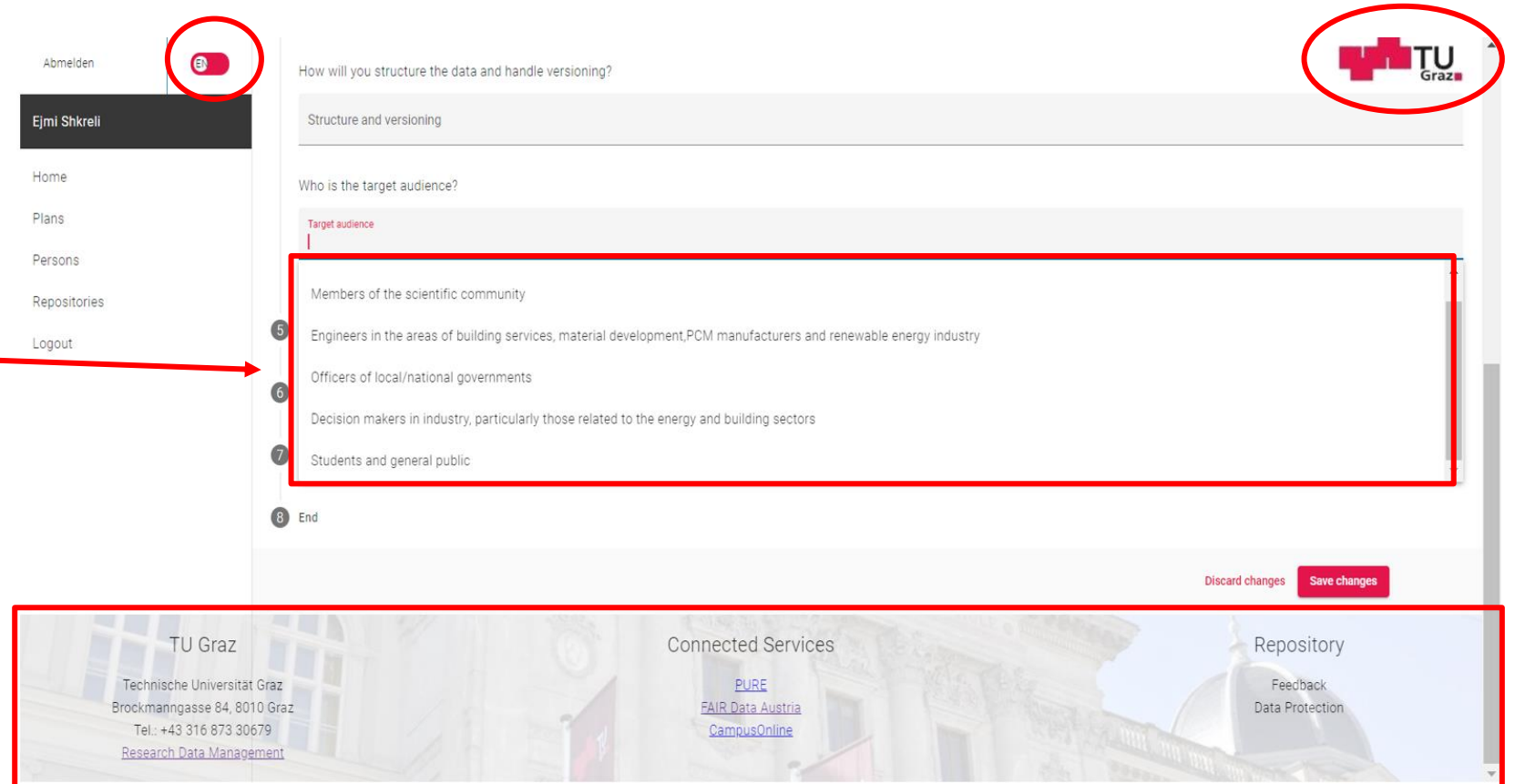
**TU Graz**  
Technische Universität Graz  
Brockmannsgasse 84, 8010 Graz  
Tel.: +43 316 873 30679  
[Research Data Management](#)

**Connected Services**  
[PURE](#)  
[FAIR Data Austria](#)  
[CamopusOnline](#)

**Repository**  
[Feedback](#)  
[Data Protection](#)

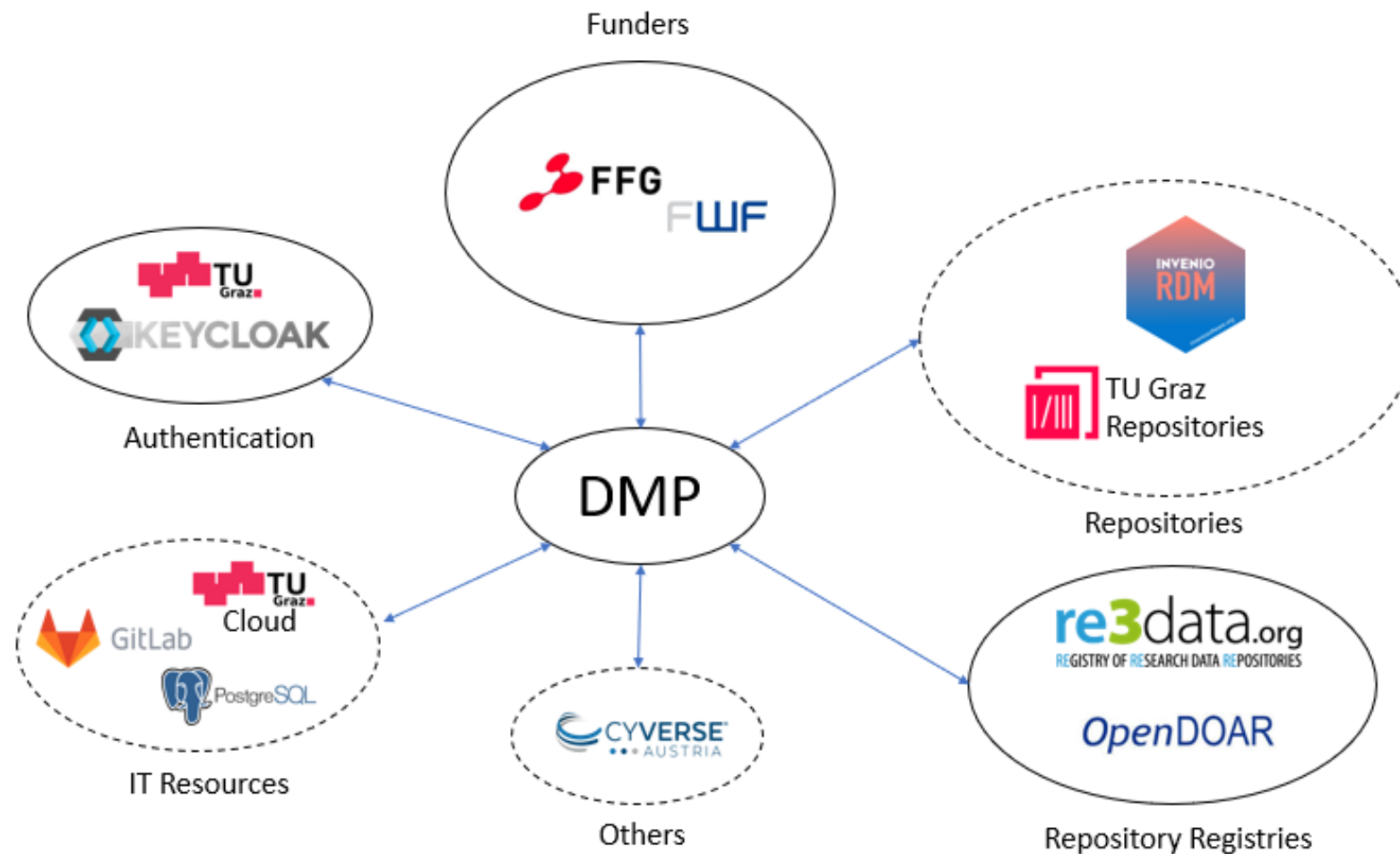
# CUSTOMIZATION OF THE GUI

- Style & Footer
- Autocomplete
- Package for overriding the theme



The screenshot shows the customization interface for FAIR Data Austria. A sidebar on the left contains navigation links: Abmelden, Ejmi Shkreli, Home, Plans, Persons, Repositories, and Logout. A red circle highlights a toggle switch next to 'Abmelden'. A red arrow points from the 'Autocomplete' bullet point to a list of target audience options. The main content area is titled 'How will you structure the data and handle versioning?' and includes a section for 'Who is the target audience?' with a list of options: Members of the scientific community, Engineers in the areas of building services, material development, PCM manufacturers and renewable energy industry, Officers of local/national governments, Decision makers in industry, particularly those related to the energy and building sectors, and Students and general public. A red box highlights this list. At the bottom, a red box highlights the footer area, which includes the TU Graz logo, contact information, and links to Connected Services (PURE, FAIR Data Austria, CampusOnline) and Repository (Feedback, Data Protection).

# INTEGRATIONS WITH TU GRAZ SERVICES



# RUNNING DAMAP

- Easy to run backend and frontend
  - Adapt the frontend to your CI
  - Adapt backend if required for connecting to other components
- Connect to your preferred relational database
- Authentication via Keycloak
- Connect to your project database via APIs
- Connect to your researcher database via APIs
- Add your Storage solutions

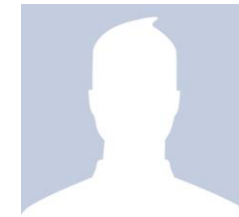
## NEXT STEPS

- Export
  - Human-readable DMP
    - compliant with Science Europe template and its evaluation rubric
  - maDMPs
    - full compliance with the RDA recommendation
- User interface optimized
  - Guidance added
  - Order of questions and logic of asking questions optimized
  - More automation



# GETTING ON BOARD

- Testing with a selected group of users
  - Researchers and funders
- Deployment at further institutions
  - Identify information and systems you already have
  - Develop custom integrations with DAMAP



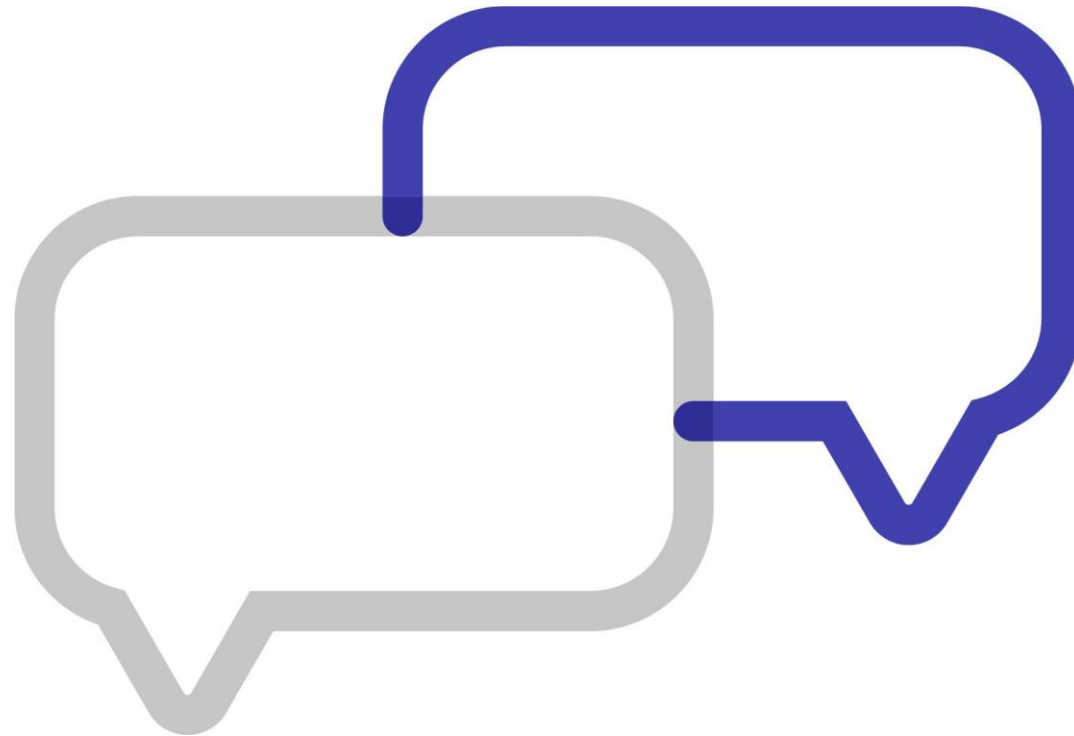
<your name>

<your institution>

## USEFUL LINKS

- RDA Recommendation
  - Miksa, T., Walk, P., & Neish, P. (2020). RDA DMP Common Standard for Machine-actionable Data Management Plans. <https://doi.org/10.15497/rda00039>
  - <https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard>
- Webinar explaining maDMPs
  - <https://www.rd-alliance.org/rda-working-groups-solutions-dmp-recording-and-slides-webinar-now-available-0>
- Publications on maDMPs
  - [Tomasz Miksa, Stephanie Simms, Daniel Mietchen, Sarah Jones \(2019\) \*\*Ten principles for machine-actionable data management plans\*\*. PLOS Computational Biology 15\(3\): e1006750.](#)
  - [Simon Oblasser, Tomasz Miksa, Asanobu Kitamoto: \*\*Finding a Repository with the Help of Machine-Actionable DMPs: Opportunities and Challenges\*\*. IDCC 2020](#)
  - [Tomasz Miksa, Peter Neish, Paul Walk, Andreas Rauber: \*\*Defining requirements for machine-actionable Data Management Plans\*\*. iPres 2018](#)

## Q&A



# **NEXT-GENERATION REPOSITORIES: REPOSITORIES FOR RESEARCH DATA - INVENIORDM**

**MOJIB WALI (TU GRAZ)**

**MAXIMILIAN MOSER (TU WIEN)**

# TEAM



Mojib Wali



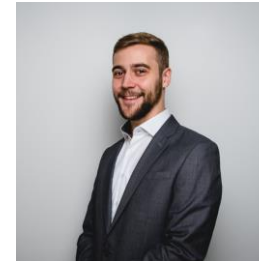
David  
Eckhard



Ilire Hasani-  
Mavriqi



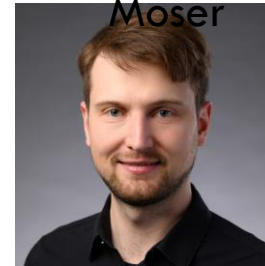
Christoph  
Ladurner



Maximilian  
Moser



Tomasz  
Milewski



Florian  
Wörister



Barbara  
Sanchez Solis



Elias  
Wimmer



**TU Wien**  
Center for Research Data  
Management



**TU Wien**  
TU.it



**TU Graz**  
Institute of Interactive Systems  
and Data Science



**TU Graz** Library

Handlungsfeld Forschung – Digitale TU Graz

# WHAT IS INVENIORDM?



InvenioRDM project is an open source collaboration with two main goals:

- Repository Platform
  - Build a turn-key research data management (RDM) repository platform based on Invenio Framework and Zenodo
- Community
  - Grow a community of research institutions, private companies and individuals to sustain the platform going forward

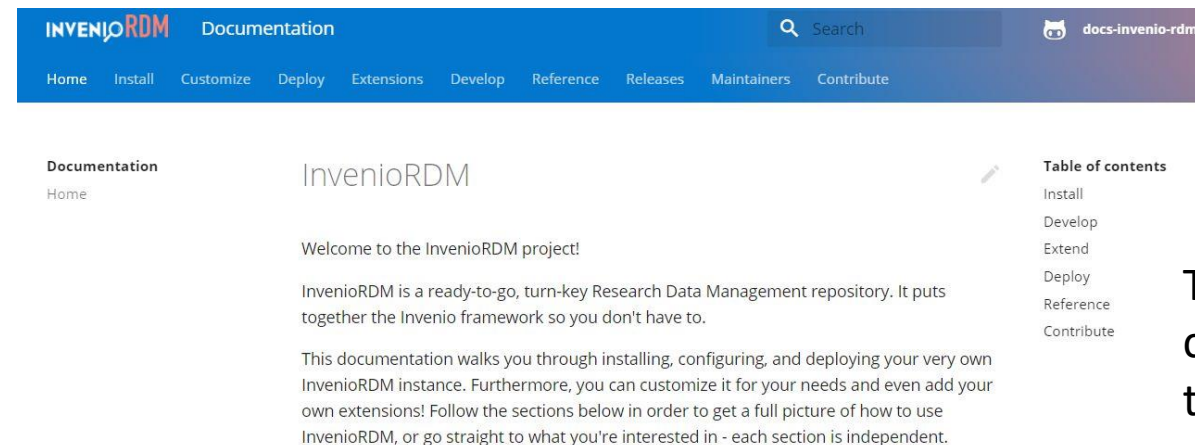
## Technologies

### Back end

- Flask (Python)
- Elasticsearch
- PostgreSQL
- Nginx
- Docker
- Redis
- Celery

### Front end

- React (Javascript)
- Semantic-UI
- Jinja



TU Graz and TU Wien contribute to the core team of CERN

# ROADMAP

April

## Persistent identifiers (v3.0)

- Support for persistent identifier minting such as DataCite DOIs.
- Support for custom fields.

May

## Communities, Authentication, Usage stats (v4.0)

- Custom fields.
- Previewers
- Integration of the community module.

June

## Preservation and export formats (v5.0)

- Sharing: access requests
- Preservation via OCFL support
- Export formats
- Citation generation
- Upgrade automation
- Authentication plugins: SAML, LDAP, OAuth/OpenID Connect
- COUNTER Usage statistics.

July

## Long-Term Support (LTS) Release (v6.0)

- Locking and translation of text strings.
- Finalise all remaining documentation.
- Final quality assurance and validation of the release.

# TU GRAZ DEVELOPMENT

Repository InvenioRDM with core functions is available to all TU Graz staff members:

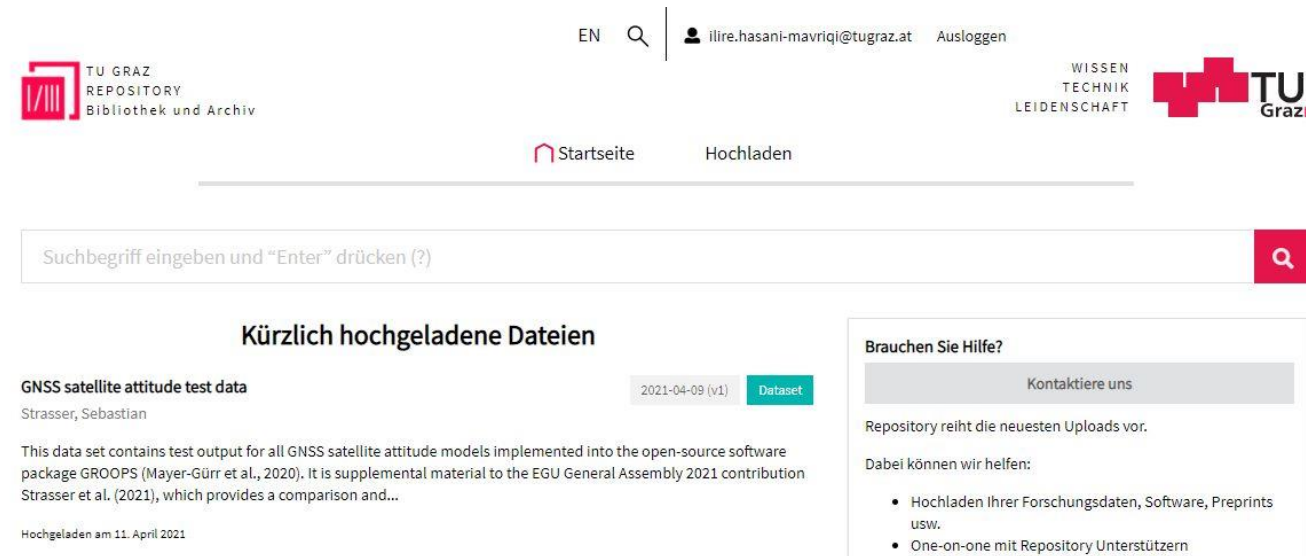
<https://repository.tugraz.at>

Running with InvenioRDM v2.0.0

## Additional Features:

- TU Graz theme
- SSO (Single sign-on)
- DOI minting for records and records
- Zammad Contact form (Ticketing)
- Recent uploads (Landing Page)
- German translation

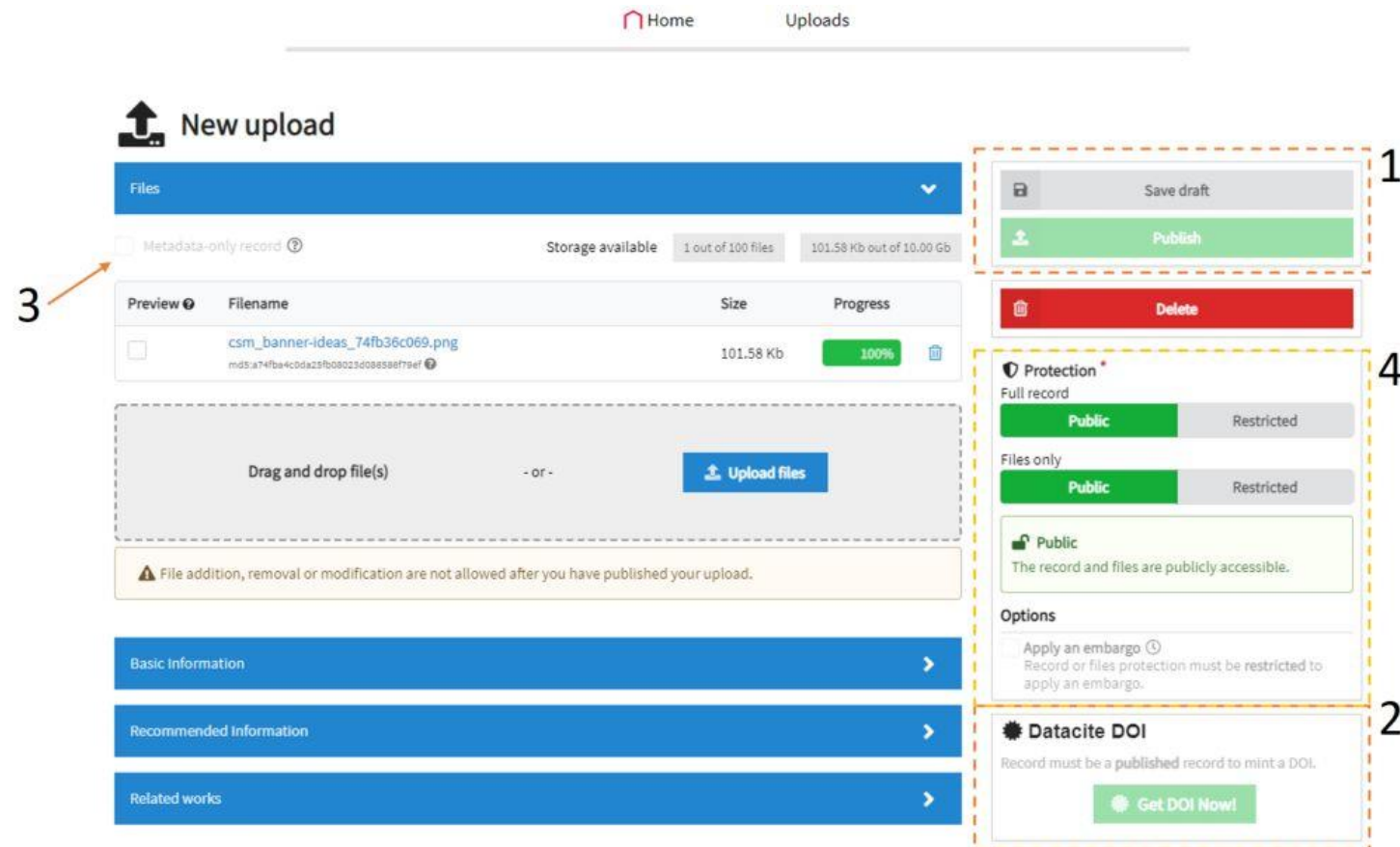
- New features are being added continuously





# TU GRAZ DEVELOPMENT

Users can upload data sets, define metadata, determine the access rights for their own data, search for data sets and generate DOIs



Home Uploads

## New upload

Files

☐ Metadata-only record ? Storage available 1 out of 100 files 101.58 Kb out of 10.00 Gb

Preview <small>?</small>	Filename	Size	Progress
<input type="checkbox"/>	csm_banner-ideas_74fb36c069.png md5:a74fba4c0da22fb08023d08598f79ef <small>?</small>	101.58 Kb	100%

Drag and drop file(s) - or - [Upload files](#)

⚠ File addition, removal or modification are not allowed after you have published your upload.

Basic Information >

Recommended Information >

Related works >

1 Save draft Publish

4 Delete

2 Protection \*

Full record

Public Restricted

Files only

Public Restricted

Public

The record and files are publicly accessible.

Options

Apply an embargo ?

Record or files protection must be restricted to apply an embargo.

2 Datacite DOI

Record must be a published record to mint a DOI.

Get DOI Now!

# TU GRAZ DEVELOPMENT

Completed documentation:

Detailed documentation on the deployment of the software solution

<https://tu-graz-library.github.io/docs-repository/>

Handbook

[https://repository.tugraz.at/static/documents/TUGraz\\_Repository\\_Guide\\_01\\_de.pdf](https://repository.tugraz.at/static/documents/TUGraz_Repository_Guide_01_de.pdf)


Terms of use

[https://repository.tugraz.at/static/documents/TUGraz\\_Repository\\_General\\_Data\\_Protection\\_Rights\\_de.pdf](https://repository.tugraz.at/static/documents/TUGraz_Repository_General_Data_Protection_Rights_de.pdf)

Data protection

[https://repository.tugraz.at/static/documents/TUGraz\\_Repository\\_Terms\\_And\\_Conditions\\_de.pdf](https://repository.tugraz.at/static/documents/TUGraz_Repository_Terms_And_Conditions_de.pdf)



Repository	Features	Verbundene Services	Barrierefreiheit
Dokumentation  Handbuch  Datenschutzerklärung  Nutzungsbedingungen 	Skalierbarkeit Institutionelle Einbindung Repositorium der nächsten Generation Repositorienprofile Resilient, widerstandsfähig	PURE  CampusOnline  Forschungsdatenmanagement 	Tipp Verwenden Sie Strg+ und Strg- Um die Schriftgröße zu ändern.



Digitale TU Graz  
 Handlungsfeld Forschung  
 RDM Team

## TU Graz Repository Guide (invenioRDM)

TU Graz Repository can be reached at the following address: [repository.tugraz.at](https://repository.tugraz.at)  
 You can search the repository for publicly available entries directly from the home page without having to log in. If you want to upload files, you have to log in with your TU GRAZ Online user data under "Log In". Then navigate to the "Upload" section and click on "New upload".  
**Let's check the important parts:**

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Nutzungsbedingungen TU Graz Repository

### Nutzungsbedingungen

Das TU Graz Repository unterliegt folgenden Nutzungsbedingungen, welchen Sie mit der Nutzung ausdrücklich zustimmen:

#### I. Allgemeines

Der/die Nutzer\*in ist ausschließlich für die Inhalte, die er/sie auf TU Graz Repository hochlädt, verantwortlich und hält die TU Graz im Zusammenhang mit der Nutzung des Dienstes schad- und klaglos.

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Datenschutzerklärung TU Graz Repository

### Datenschutzerklärung

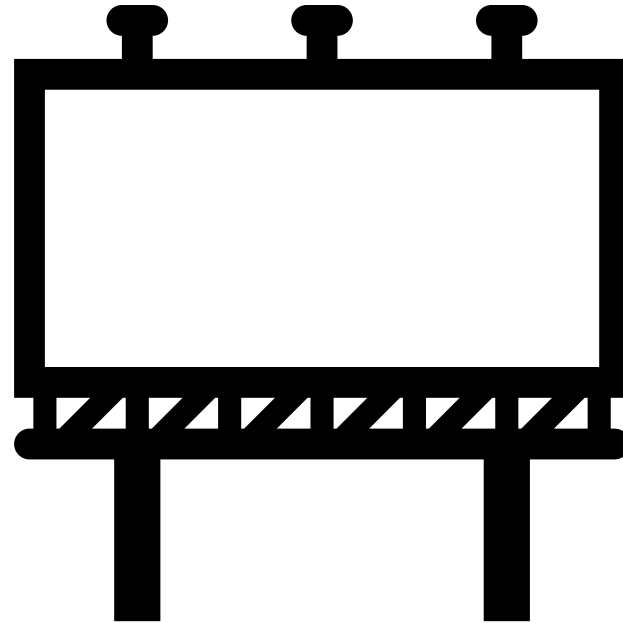
#### 1. Allgemeines

Für die Technische Universität Graz (nachfolgend „TU Graz“) hat der Schutz Ihrer Daten oberste Priorität. Alle unsere Verfahren und Prozesse gehen mit den geltenden datenschutzrechtlichen Bestimmungen konform. Im Rahmen der Anmeldung und der weiteren Benutzerverwaltung im Rahmen des TU Graz Repository ist es notwendig, personenbezogene Daten von Ihnen zu verarbeiten. Gemäß unserer gesetzlichen Verpflichtung informieren wir Sie daher in dieser Erklärung unter anderem über Art, Zweck und Rechtsgrundlagen unserer Datenverarbeitungen.

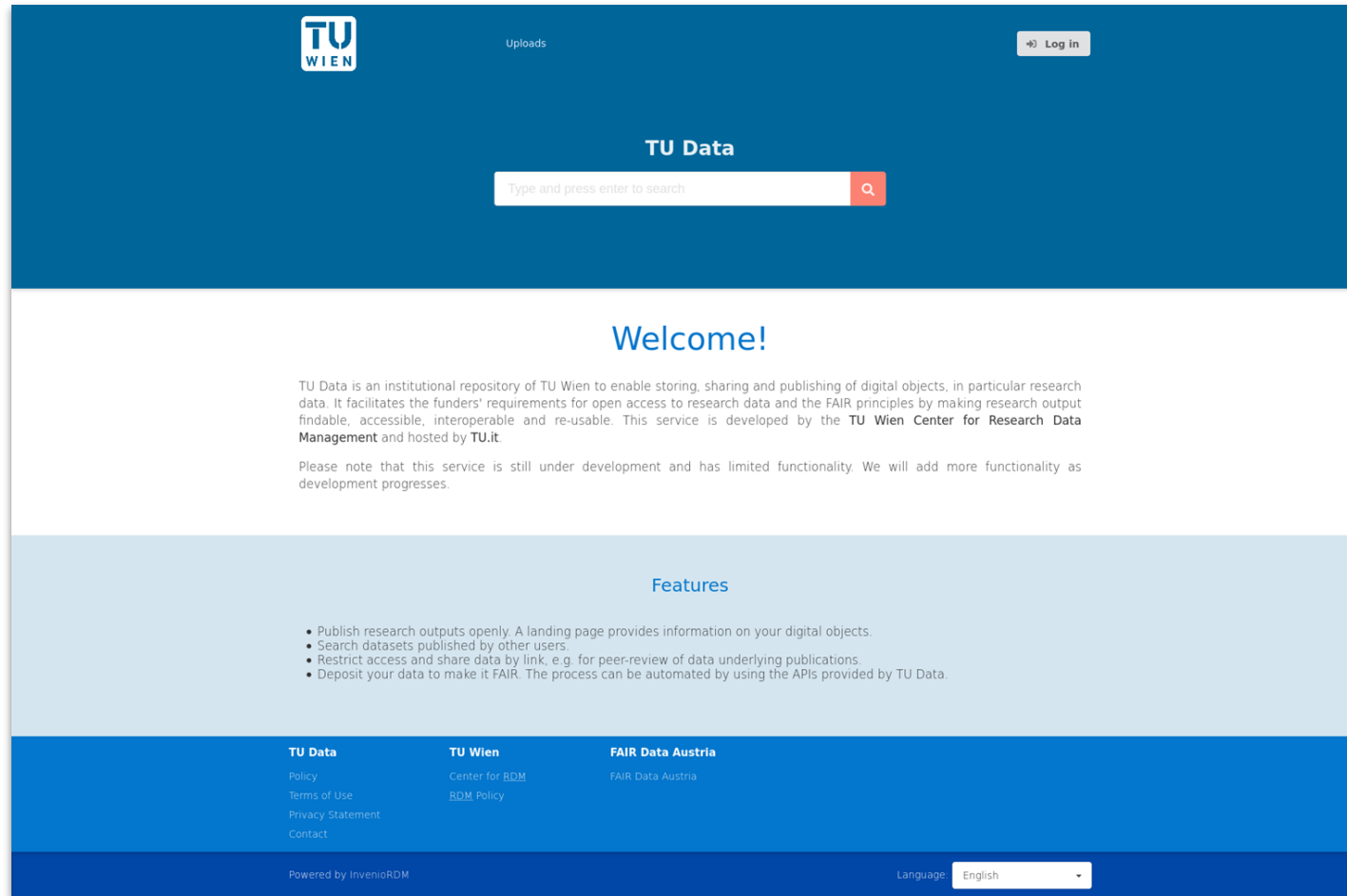
#### 2. Verantwortlicher

Verantwortliche der Datenverarbeitung ist die TU Graz, Rechbauerstraße 12, 8010 Graz.

# DEMO



# TU DATA



The screenshot shows the TU Data website interface. At the top, there is a dark blue header with the TU WIEN logo on the left, the word "Uploads" in the center, and a "Log in" button on the right. Below the header is a white search bar with the placeholder text "Type and press enter to search" and a red search icon. The main content area has a white background with a "Welcome!" heading. Below this, there is a paragraph explaining that TU Data is an institutional repository of TU Wien for storing, sharing, and publishing digital objects, particularly research data. It mentions that the service is developed by the TU Wien Center for Research Data Management and hosted by TU.it. A note follows, stating that the service is still under development and has limited functionality. Below the text is a "Features" section with a list of four bullet points: publishing research outputs openly, searching datasets, restricting access and sharing data by link, and depositing data to make it FAIR. The footer is a dark blue bar with three columns of links: TU Data (Policy, Terms of Use, Privacy Statement, Contact), TU Wien (Center for BDM, BDM Policy), and FAIR Data Austria (FAIR Data Austria). At the bottom, there is a "Powered by InvenioRDM" link and a language dropdown menu set to "English".

**TU WIEN** Uploads Log in

**TU Data**

Type and press enter to search

## Welcome!

TU Data is an institutional repository of TU Wien to enable storing, sharing and publishing of digital objects, in particular research data. It facilitates the funders' requirements for open access to research data and the FAIR principles by making research output findable, accessible, interoperable and re-usable. This service is developed by the **TU Wien Center for Research Data Management** and hosted by **TU.it**.

Please note that this service is still under development and has limited functionality. We will add more functionality as development progresses.

## Features

- Publish research outputs openly. A landing page provides information on your digital objects.
- Search datasets published by other users.
- Restrict access and share data by link, e.g. for peer-review of data underlying publications.
- Deposit your data to make it FAIR. The process can be automated by using the APIs provided by TU Data.

<b>TU Data</b> <a href="#">Policy</a> <a href="#">Terms of Use</a> <a href="#">Privacy Statement</a> <a href="#">Contact</a>	<b>TU Wien</b> <a href="#">Center for BDM</a> <a href="#">BDM Policy</a>	<b>FAIR Data Austria</b> <a href="#">FAIR Data Austria</a>
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Powered by [InvenioRDM](#) Language: [English](#)

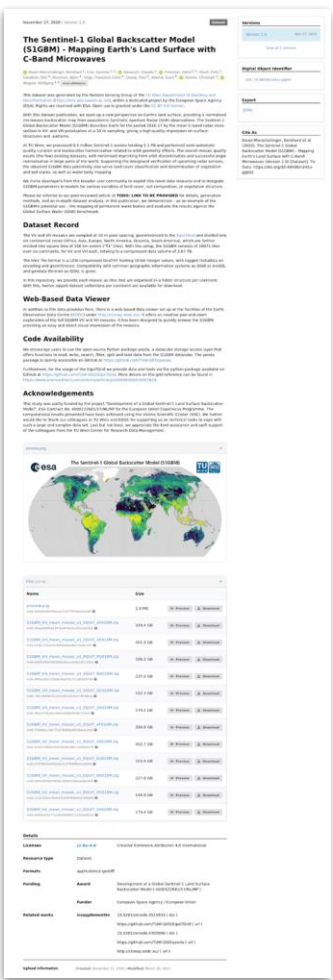
# HOSTING RESEARCH DATA



We are already hosting a dataset productively: “S1GBM”  
 3 TB of GeoTIFF images from the [European Space Agency](#)  
 Dataset for a journal paper from our [Department of Geodesy](#)  
 Access to the files is restricted until the paper is published

Still largely a manual process (e.g. minting DOIs)  
 But we have scripts to help with that, using APIs!

Upload permissions currently only on per-invite basis

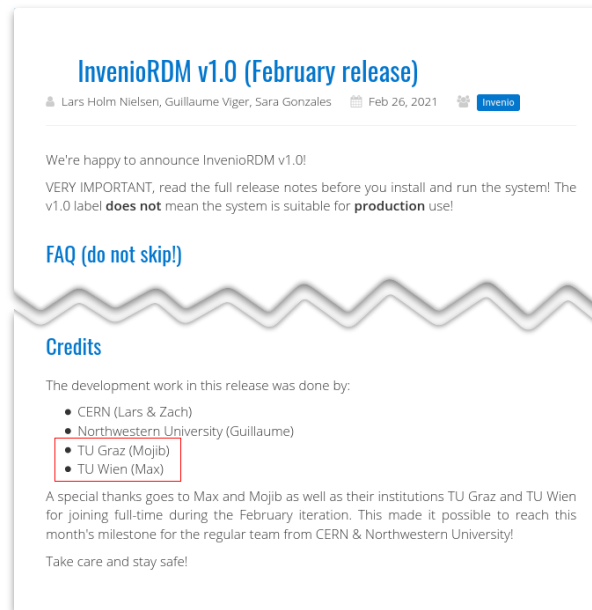


Bernhard Bauer-Marschallinger et al.  
<https://doi.org/10.48436/n2d1v-gqb91>

# PRIORITIZE FEATURES REQUESTED BY OUR RESEARCHERS

We helped out with development of InvenioRDM

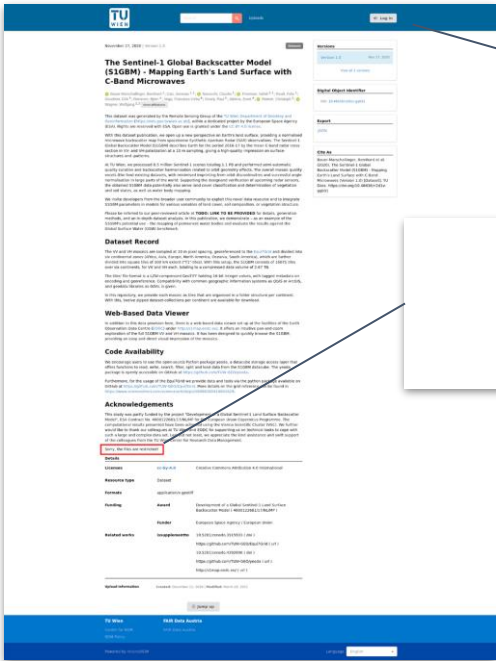
Among other features, contributed Share-by-Link (like Google Docs)



<https://inveniosoftware.org/blog/2021-02-26-february-release/>

# SHARE BY LINK

Can be used to share access to restricted datasets:



Log in

such a large and complex data set. Last but not of the colleagues from the TU Wien Center for Remote Sensing

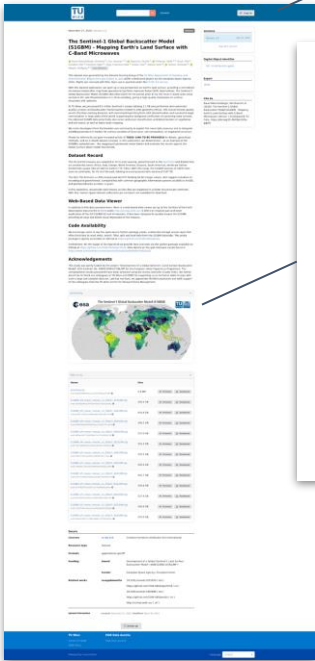
Sorry, the files are restricted!

Details

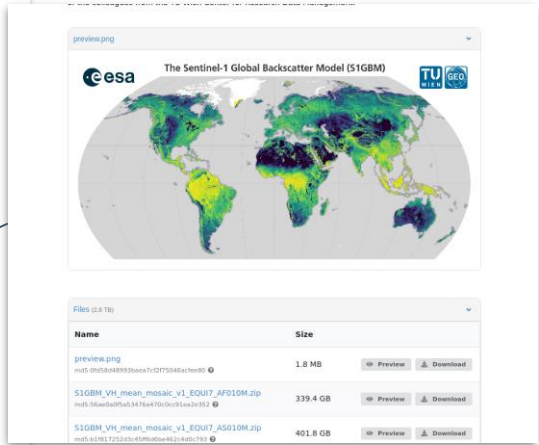
Licenses

cc-by-4.0

Normal  
Access



Log in

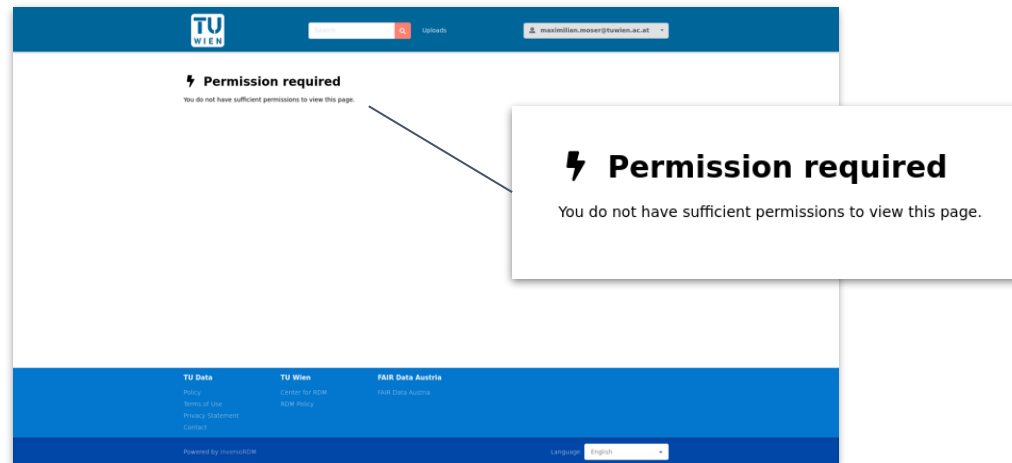


Access via Secret  
Link

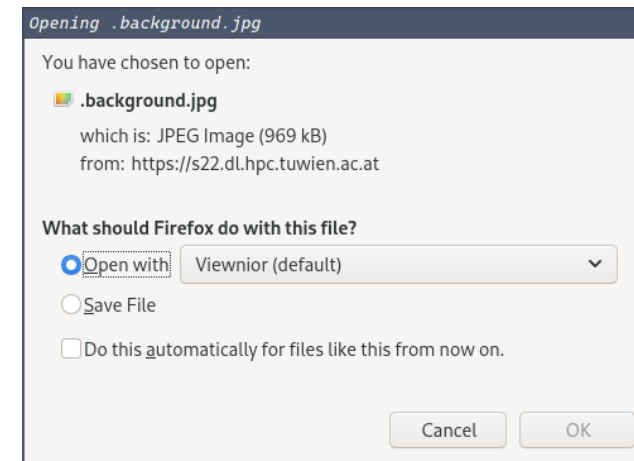
63

# SHARE BY LINK

Can also be used to enable double-blind peer reviews:



Metadata cannot be  
accessed...

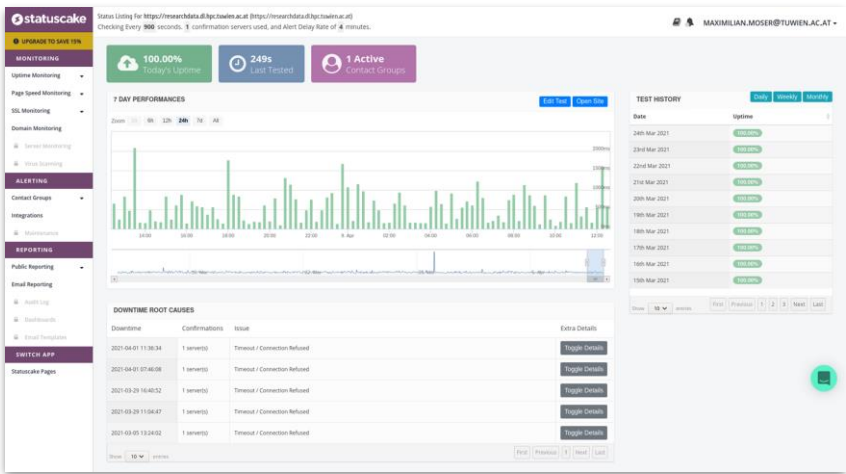


... but files can be  
downloaded



# MONITORING OUR SYSTEM

We keep track of our availability via [StatusCake](#)



We are also finalizing our setup of [Matomo](#)

Open-Source solution for tracking site accesses

Allows us to see how much (and which parts of) TU Data is used

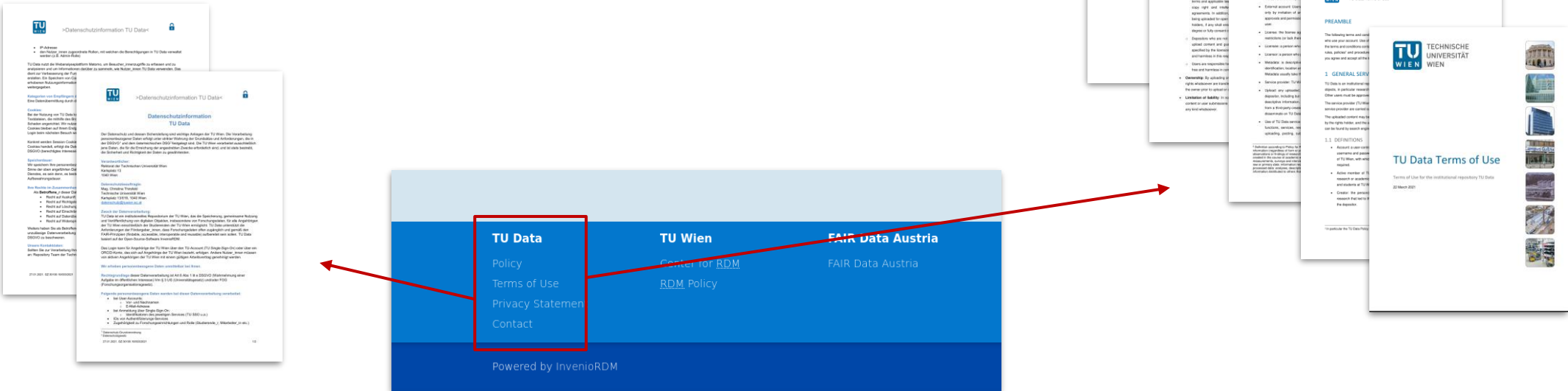
Does not collect any user data → no need for a cookie banner!



# POLICIES AND TERMS OF USE

We have consulted our documents with the legal department at TU Wien:

- Policy
- Terms of Use
- Privacy Statement



# POLICIES AND TERMS OF USE

Our policy is based on the requirements for the Core Trust Seal  
→ It is proof for our commitment to acquiring the CTS!

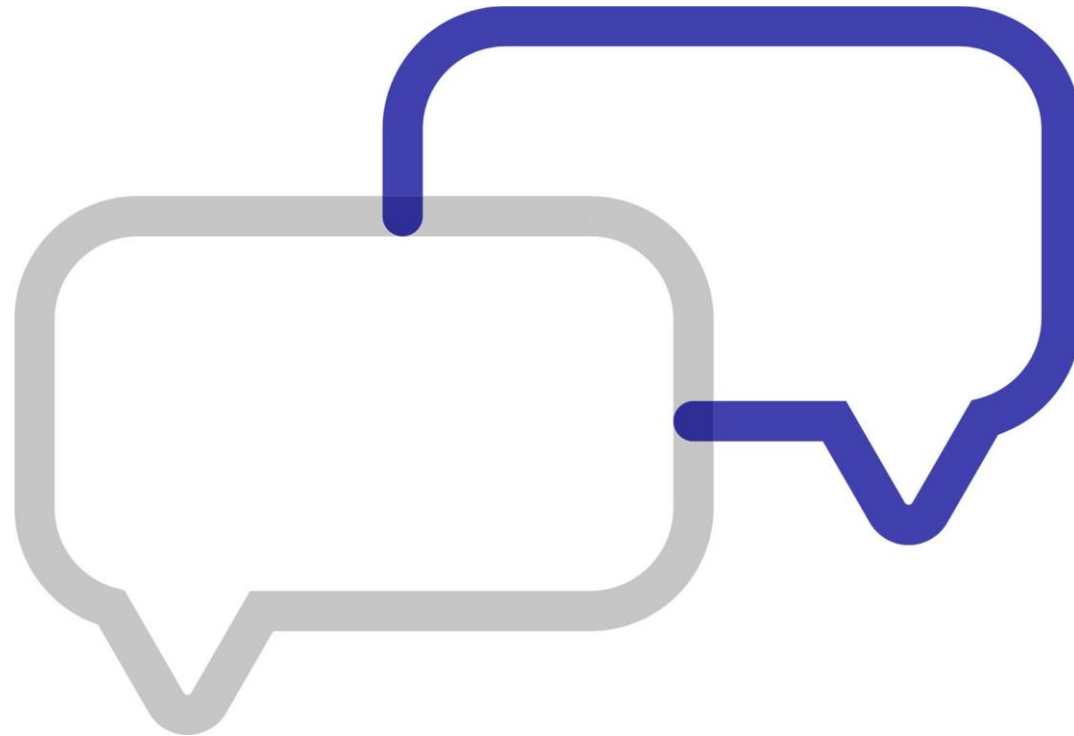


# THANKS!

If you want to get in touch, please send us an email:

[research.data@tuwien.ac.at](mailto:research.data@tuwien.ac.at) (Center for Research Data Management)

## Q&A



# RDM-TRAINING AND SUPPORT

TEREZA KALOVÁ (UNIVERSITY OF VIENNA)

ILIRE HASANI-MAVRIQI (TU GRAZ)

EVA-MARIA ASAMER (TU WIEN)

# AGENDA

- Team
- Goals
- Timeline
- Training
- Data Stewardship
- FAIR Office Austria
- Q & A





**“RDM-TRAINING AND  
SUPPORT” TEAM**

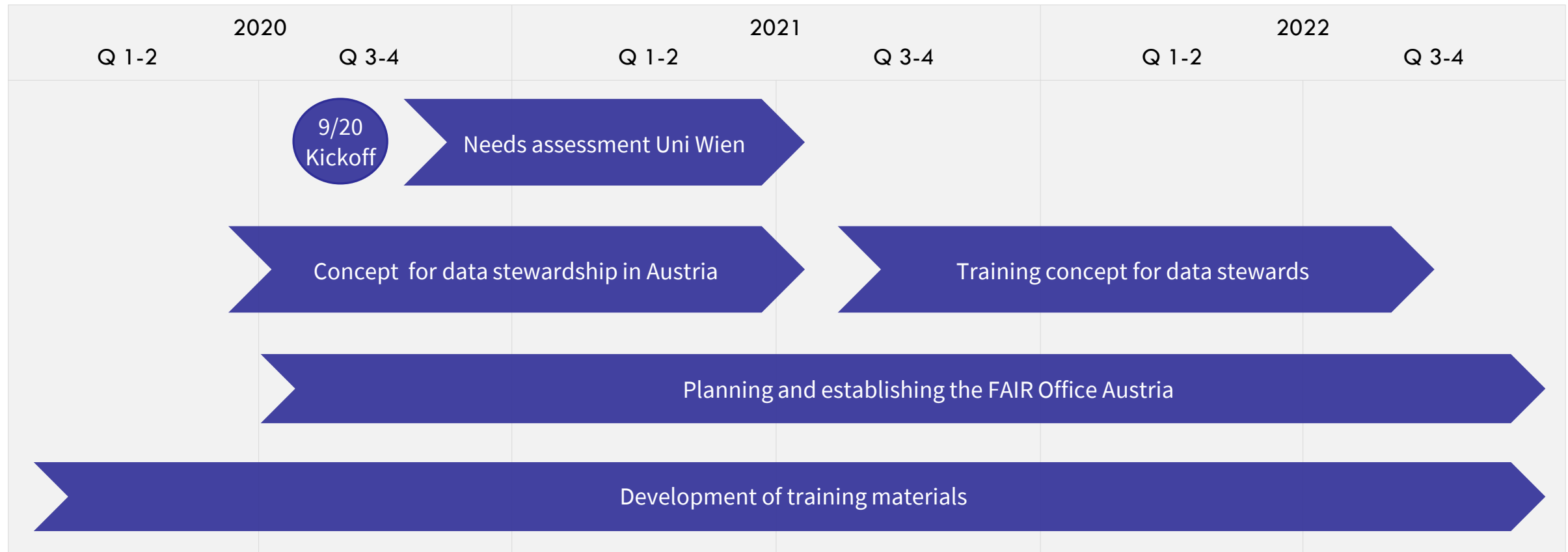




# GOALS OF THE WORK PACKAGE "TRAINING AND SUPPORT"

- Development of processes, sustainable and barrier-free models and training for the entire research data life cycle (UW)
  - Needs assessment
  - Training
- Development of a training concept for data stewards (UW)
- Establishment of data stewards to support FAIR data practices (TUG)
- Establishment of FAIR Office Austria and local FAIR Reference Points (TUW)

# TIMELINE

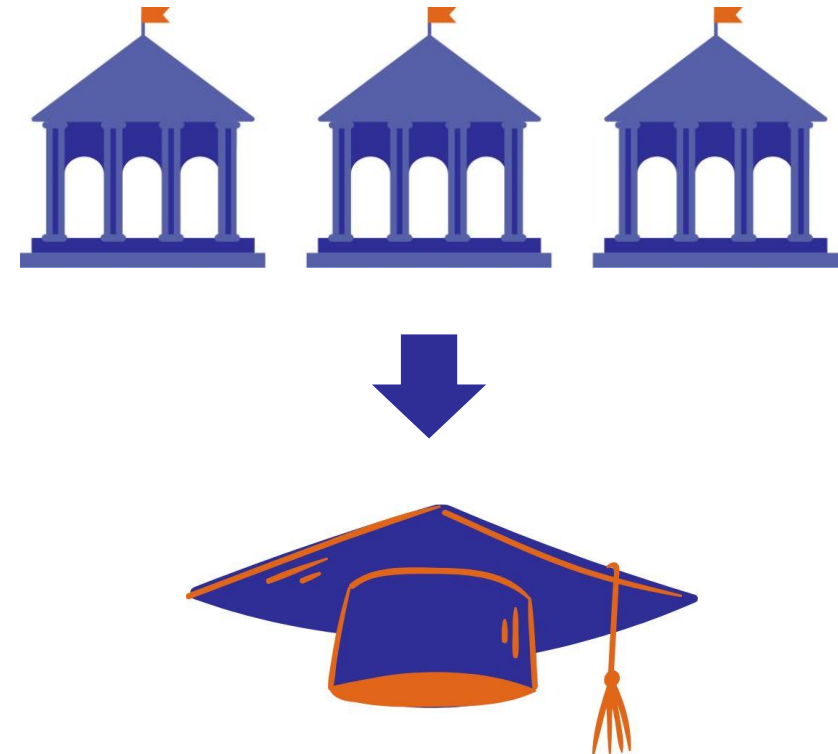


## TRAINING: CURRENT STATUS

- October-November 2020: Survey among project partners (6)
- Goal: Current status and requirements for a joint training concept
- Results:
  - Various levels of implementation: from the planning stage to a wide range of courses
  - Experience with various formats (e.g. webinars, workshops) and RDM topics
  - Target groups: Researchers and employees from research support services

## TRAINING: PROJECT GOALS

- Development of a cross-institutional training concept - general topics, e-learning
- Development and expansion of institutional offers - concrete, practical
- **December 2020** - Training Task Force
- **February 2021** - Training concept



# TRAINING CONCEPT



## Curated Training Collection

- Location and time-independent
- Suitable for self-study



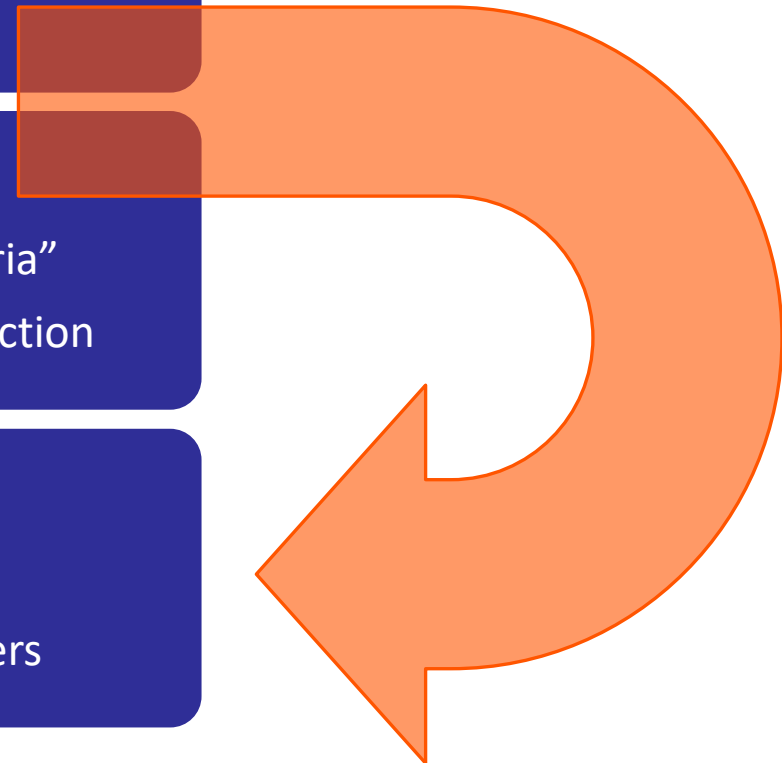
## Webinar Series

- “Research Data Management in Austria”
- Recorded talks and lectures in the collection



## Institutional Training

- (Further) development of virtual and face-to-face courses for researchers



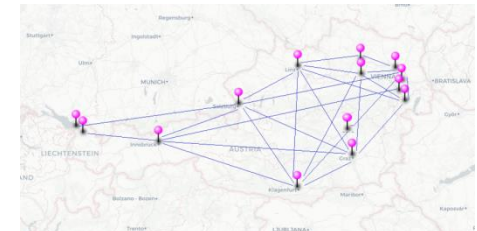
# WEBINAR SERIES "RESEARCH DATA MANAGEMENT IN AUSTRIA"

The series of events "Research Data Management in Austria" is aimed at researchers and/or individuals involved in research support and serves to promote networking and exchange on the topic of research data management, such as writing a data management plan, next-generation repositories or workflow models.

- Slides and recordings of the webinars on the project homepage : [forschungsdaten.at/fda/materialien/](https://forschungsdaten.at/fda/materialien/)



RepManNet



Der Wissenschaftsfonds.

# WEBINAR SERIES „RDM IN AUSTRIA“ 2021

- **24.3. 11-11.30 AM** – Workflow Model for RDM (Uni Wien)
- **28.4. 11-11.45 AM** – Data Formats for Data Management (Uni Wien)
- **20.5. 10-12 AM** – What Does a Data Steward Do? (TU Graz)
- **8.6. 10-12 AM** – DMP for Life Sciences (MedUni Graz + FWF)
- **7.9. 2-3 PM** – GitLab/GitHub (TU Wien + Uni Innsbruck)
- **5.10. 10-11.30 AM** – FAIR (TU Wien)
- **18.11. 10-12 AM** – Next-generation Repositories: InvenioRDM (TU Graz)
- **Autumn** – FAIR-Principles und Infrastructure (Uni Innsbruck)



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# THE CARPENTRIES

- Consortium „The Carpentries Austria“ – TU Graz, TU Wien, Uni Vienna
- Membership - 01.04.2021
- Software, data and library carpentry training
- The Carpentries provides researchers around the world with basic programming and data science skills
- It builds global capacities in these areas to enable efficient, open and reproducible research



# TRAINING: NEXT STEPS

## Project

- Creation of the curated training collection
- Conducting webinars
  - SAVE THE DATE: **28.4. 11-11.45 AM** Data Formats for Data Management
- Identification of market gaps as basis for concept after 2021

## Partner Universities

- Development and expansion of local training offers

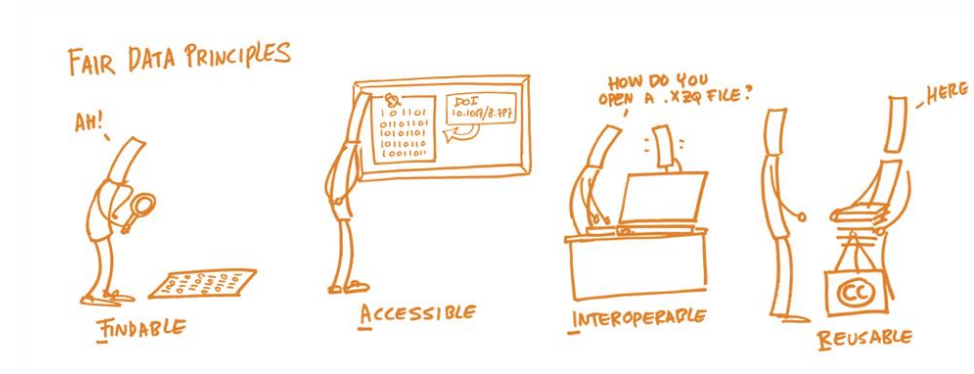
# DATA STEWARDSHIP

Data stewards - a new professional role in the field of RDM

**What:** self assessment toolkit

**Why:** identify and implement the data stewardship model that suits you

**How:** matchmaking between requirements (e.g. university size, available resources, sensitive research data, number of data management plans / year) and **existing solutions** (number of data stewards, centralized / decentralized models, profiles, training)



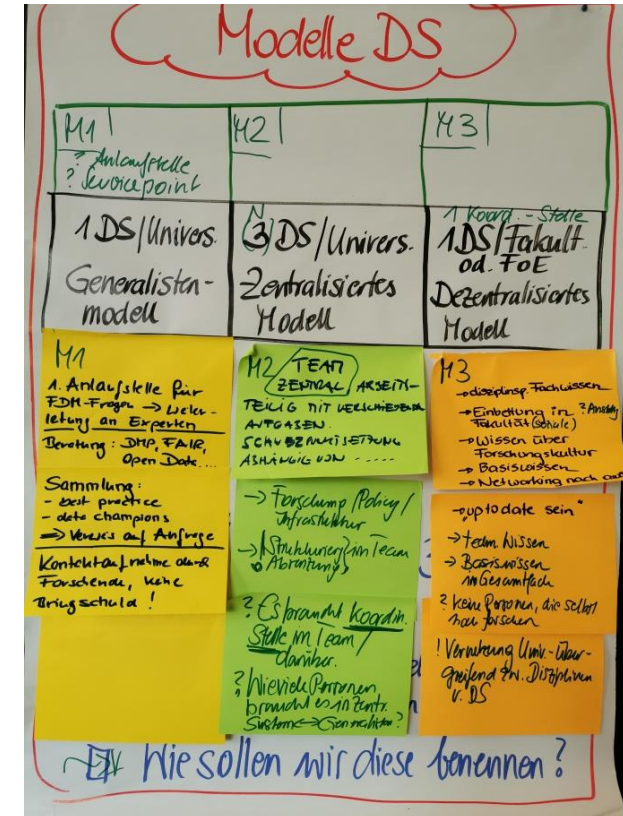
# DATA STEWARDSHIP

## Current status

- Define the **models** and develop a common understanding of the **role and tasks** of a data steward across varying institutional contexts
  - Service point – 1 DS
  - Center/Office – 1 DS
  - Network- 1 DS/ faculty of field of expertise + coordinator
- Published reports
  - [Current status – partner universities](#)
  - [Interviews with data stewards: requirements, competencies, tasks](#)
  - [Development of a concept for Data Stewards in Austrian Universities and Research Institutions](#)

## Next steps

- 29.4.** Workshop on the **skills, competencies and training** of data stewards
- 20.5.** What Does a Data Steward Do?



<https://forschungsdaten.at/en/workshop-tasks-and-profile-of-a-data-steward/>

# DATA STEWARDSHIP



## Data Stewardship at TU Graz

- Life Sciences
- Mechanical Engineering
- Mathematics, Physics and Geodesy
- Advice and training at over 30 institutes
- 13 Data Champions
- 7 pilot projects in RDM
- Active exchange with scientific community



FAIR Office Austria: Information hub for FAIR data and services

- Information about FAIR to a national network of FAIR reference points
- Reporting on local FAIR activities to international organizations

Current status

- Mission Statement: „We connect stakeholders from research communities and service providers. Together we implement the FAIR principles.“
- Core team at implementation phase: TU Graz, University of Vienna, TU Wien
- Email adress: [contact@fair-office.at](mailto:contact@fair-office.at)
- Exchange with GoFAIR Foundation



Next Steps

- Website [www.fair-office.at](http://www.fair-office.at) - coming soon
- step-by-step establishment of the FOA network



## CONTACT

[fairdata\\_wp5@mlist.tugraz.at](mailto:fairdata_wp5@mlist.tugraz.at)

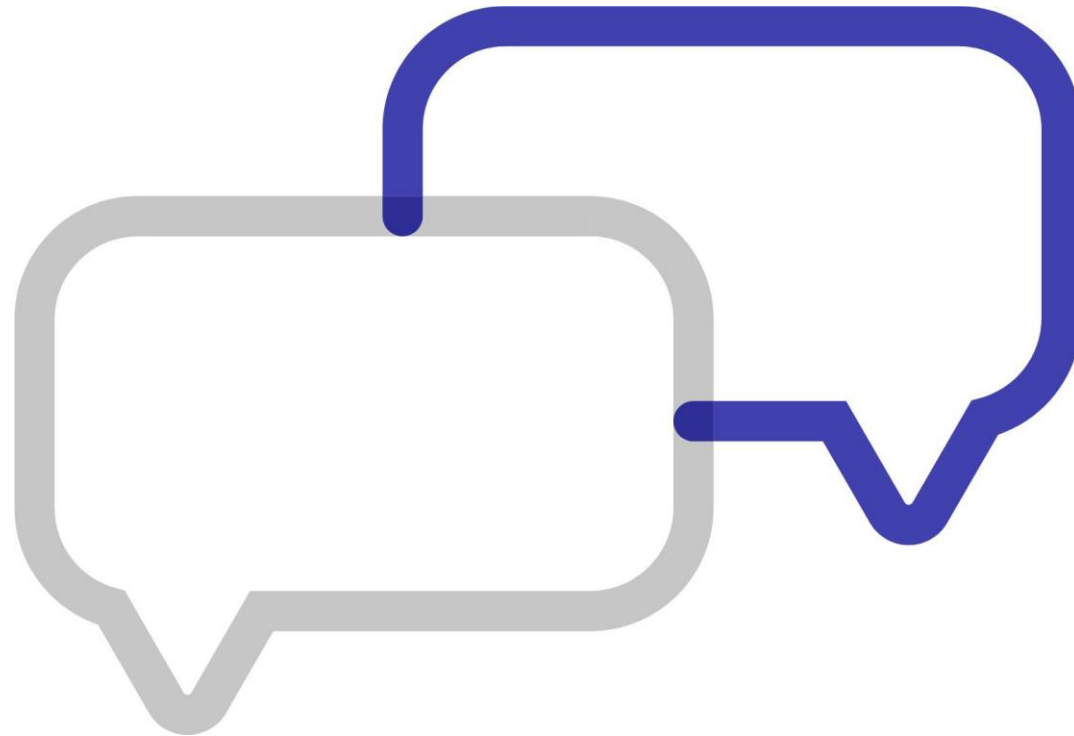
[forschungsdaten.at/projekte/fda/](https://forschungsdaten.at/projekte/fda/)

**Tereza Kalová, MA (Res), M.A.LIS**  
[tereza.kalova@univie.ac.at](mailto:tereza.kalova@univie.ac.at)

**Dipl.-Ing. Dr.techn. Bakk.techn.  
Ilire Hasani-Mavriqi**  
[ilire.hasani-mavriqi@tugraz.at](mailto:ilire.hasani-mavriqi@tugraz.at)

**Dipl.-Ing. Eva-Maria Asamer**  
[eva-maria.asamer@tuwien.ac.at](mailto:eva-maria.asamer@tuwien.ac.at)

## Q&A





# CONTACT

<https://forschungsdaten.at/fda/kontakt/>

[fairdata\\_wp1@mlist.tugraz.at](mailto:fairdata_wp1@mlist.tugraz.at)

[fairdata\\_wp2@mlist.tugraz.at](mailto:fairdata_wp2@mlist.tugraz.at)

[fairdata\\_wp3@mlist.tugraz.at](mailto:fairdata_wp3@mlist.tugraz.at)

[fairdata\\_wp5@mlist.tugraz.at](mailto:fairdata_wp5@mlist.tugraz.at)