



## Austrian Country Profile

Created within the framework of EOSC Support Office Austria



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*Please note: The WG does not claim that the projects, activities and infrastructures listed below are complete. It strives to continuously add new developments through monitoring activities. This report represents a status quo. It is intended that the Austrian Country Profile will be updated on a regular basis.*

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## Current policy on open and FAIR science

1. Is there a current policy on <b>open and FAIR science</b> in place?		
Yes	No	In planning
		X
<p><b>General remark</b></p> <p>There is no national policy in place yet. Both, the Austrian Science Fund (FWF) and the Austrian Conference of Universities (uniko, formerly the Austrian Rectors' Conference), signed the "Berlin Declaration" in 2003 and 2004 respectively, pledging to support free and sustainable access to scientific publications and research data. The Austrian Federal Ministry of Education, Science and Research (BMBWF) supports Plan S and Open Access in its government programme 2020-2024.</p> <p><b>Recommendations for a national open science strategy</b></p> <p>A working group of the Open Science Network Austria (OANA) developed recommendations for a national open science strategy which were published in October 2020:</p> <ul style="list-style-type: none"> <li>• Mayer, Katja, Rieck, Katharina, Reichmann, Stefan, Danowski, Patrick, Graschopf, Anton, König, Thomas, ... Schürz, Stefanie. (2020). Empfehlungen für eine nationale Open Science Strategie in Österreich / Recommendations for a National Open Science Strategy in Austria (Version Final version including comments and annotations of the public consultation). Zenodo. <a href="http://doi.org/10.5281/zenodo.4109242">http://doi.org/10.5281/zenodo.4109242</a></li> </ul> <p>On the basis of the Directive (EU) 2019/1024 of the European Parliament, and of the Council of 20<sup>th</sup> June 2019 on open data and the re-use of public sector information, as well as the OANA recommendations for a national open science strategy, an inter-ministerial group of different responsible Austrian ministries (representatives from the BMBWF, BMDW and BMK) was set up to formulate an Austrian Policy on Open Science to be published within a Ministerial lecture.</p> <p><b>Open access policy and research data management policy by funding organization</b></p> <p>The largest national funding agency for basic research, the Austrian Science Fund (FWF), is committed to support open and FAIR science through its open access policy to publications and to research data (<a href="https://www.fwf.ac.at/en/research-funding/open-access-policy/">https://www.fwf.ac.at/en/research-funding/open-access-policy/</a>). 89% of all publications resulting from FWF projects are openly accessible. See also: FWF <a href="#">Compliance Monitoring 2019</a> report.</p> <p>Since 2019, the FWF requires a <a href="#">data management plan (DMP)</a> supplemental to all approved grant proposals. The FWF has defined a minimum set of questions that comprise the DMP and that are to be addressed in the DMP template. The FWF DMP is in line with Science Europe's "<a href="#">Core Requirements for Data Management Plans</a>".</p> <p><b>Research data management policies in Austrian RPOs</b></p> <p>Eight RPOs in Austria have policies for research data management in place, encouraging in these policies open science practices and the adoption of the FAIR principles:</p> <ul style="list-style-type: none"> <li>• <a href="#">Medical University Graz</a></li> <li>• <a href="#">Medical University Vienna</a></li> <li>• <a href="#">Graz University of Technology</a></li> <li>• <a href="#">TU Wien</a></li> <li>• <a href="#">University of Graz</a></li> <li>• <a href="#">University of Music and Performing Arts Vienna</a></li> <li>• <a href="#">University of Vienna</a></li> <li>• <a href="#">WU (Vienna University of Economics and Business)</a></li> </ul>		

General status of Austrian digital infrastructures for data and publications:

- A great number of Austrian RPOs offers institutional publication servers for providing open access to research publications. See Annex C.
- In addition, there is an increasing number of RPOs that provide institutional data repositories. Generally speaking, these repositories follow the requirements foreseen by the PSI directive (i.e. datasets should be made available for free, in machine-readable formats, via APIs and where relevant as bulk downloads). See Annex B.
- Infrastructure providers and developers are committed to consider the FAIR principles.
- In Austria there is not a single point of entry for research output. The landscape is rather based on federated systems.
- Access to digital archives in academia is generally openly accessible and generally free of charge.

In 2019, a national call “Digital and social transformation” was launched by the BMBWF with selected digitization projects at public universities for the period 2020 to 2024, including activities connected to FAIR and EOSC.

**Active projects funded by the BMBWF** (NB: This is an excerpt out of 34 projects in total - selection according to open science reference):

- FAIR Data Austria: <https://forschungsdaten.at/en/fair-data-austria/>. The FAIR Data Austria project contributes to the strengthening of knowledge transfer between universities, industry and society and supports the sustainable implementation of the European Open Science Cloud (EOSC). In this context, the implementation of the FAIR principles ("Findable", "Accessible", "Interoperable" and "Reusable") plays a significant role. Their compliance is ensured through 1) integrated research data management (RDM) tailored to generic and discipline-specific needs of researchers, (2) development of Next Generation repositories for research data, code, and databases, and (3) development of training and support services for efficient RDM.
- Austrian Data Lab and Services (ADSL): <https://forschungsdaten.at/en/austrian-datalab-and-services/>. The ADLS project was set up to promote and facilitate collaborative work between universities, especially in the fields of data science and high performance computing (HPC). It aims to provide easy access to a nationwide network of applications in a federal opt-in model. In particular, the focus lies on increasing user-friendliness and saving time for researchers, teachers and students in the course of using computing resources.
- RIS Synergy: <https://forschungsdaten.at/en/ris/>. In order to digitise administrative processes, the IT systems of funding organisations and research institutions need to be connected, which would make it possible to improve data quality and conserve resources on all sides. New developments in the digital systems of the FWF (elane, PROF1, final project reports) offer an excellent opportunity.
- Open Education Austria Advanced: <https://www.openeducation.at/>. Open Education Austria Advanced is a project of Austrian universities for the joint development of a national infrastructure for Open Educational Resources (OER) (project duration 01.03.2020-28.02.2024). It is an attempt to link services of e-learning centers, central IT services and libraries of the partner universities in order to support teachers in the creation of OER materials for self-study and teaching. The project aims at a gradual increase in the quality of teaching and learning, as well as the visibility of good-practice materials within the respective discipline.
- Austrian Transition to Open Access II (AT2OA2): <https://at2oa.at/en/home.html>. The measures from AT2OA will be continued with the aim of concluding further Open Access agreements with publishers and setting up a data hub to process publication data from various sources. This can be used for Austria-wide OA monitoring and to support negotiations with scientific publishers and support the reporting system of the universities

by making the data reusable for statistical verification systems, annual reports and the like. The use of alternative metrics will help answer the question of whether OA increases the visibility of scientific publications.

- Digitize! Computational Social Sciences in the digital and social Transformation": <https://digitize-transformation.at/en/>. Digitize! is a cooperative digitalisation project in which various social sciences collaborate with data scientists, legal scholars and experts in research ethics.
- DiTAH - Digitale Transformation der Österreichischen Geisteswissenschaften: <https://www.ditah.at/>. The aim of this project is to establish and prepare the methods and approaches developed in the Digital Humanities in such a way that they can be transferred into the everyday use of research and education in the humanities.
- Image+: <https://www.angewandtekunstgeschichte.net/forschung/image-platform-for-open-art-education>. Image+ Platform for Open Art Education" is an Austrian image and image research platform to improve the quality of teaching
- LEFO - Lehr- und Forschungsinfrastruktur für Digitale Künste an Hochschulen (Infrastructures for Digital Arts Teaching and Research in Higher Education: [https://www.donau-uni.ac.at/de/forschung/projekt/U7\\_PROJEKT\\_4294970090](https://www.donau-uni.ac.at/de/forschung/projekt/U7_PROJEKT_4294970090). This project focuses on new interactive interfaces and displays, which enable multimodal access to databases and multisensory analysis of the archived works. Within the concept of a living archive, students, researchers and teaching staff will be able to actively work on the database.
- TransIT: <https://www.tunnellinghub.at/#project>. In the TransIT project (Platform for Digital Transformation in Civil Engineering and Tunneling), research groups are working in a multidisciplinary manner with complementary expertise on the implementation of digitization topics in civil engineering and tunneling. For this purpose, a virtual research platform, the Digital Tunneling Hub, is being created at the University of Leoben.
- Austrian Neuro Cloud: <https://uni-salzburg.elsevierpure.com/de/projects/austrian-neuro-cloud>. Austria has an internationally competitive large-scale equipment infrastructure in the field of cognitive neuroscience, the potential of which is to be fully exploited through Austria-wide networking. The Austrian NeuroCloud will create a cross-location, open environment for the storage, management and evaluation of neuro-cognitive data. The Austrian NeuroCloud thus creates a use case in the area of an extremely data-intensive research field that fulfils the vision of the European Open Science Cloud.
- Digitale Landwirtschaft - Interuniversitäres PhD-Kolleg und digitale Versuchsfarmen (more info to follow).
- codeAbility: <https://codeability.uibk.ac.at/index-en.html>. CodeAbility Austria creates teaching and learning environments in order to enable students of all subjects to receive high-quality and individual programming training.
- GEOCLIM: <https://wegcenter.uni-graz.at/en/research/arsclisys-research-group/projects/geoclim/>. Goal: Existing Earth Observation Data Centre ( www.eodc.eu) and Climate Change Centre Austria-Data Centre (CCCA-DZ at ZAMG Hohe Warte; www.ccca.at) will be furthered by federated integration of high-performance computers of the Vienna Scientific Cluster (VSC; www.vsc.ac.at and ZAMG CIRRUS). This creates internationally competitive computing and storage capacity for monitoring and modelling (e.g. of climate, atmosphere, land surface, water balance, ecosystems) and promotes the intensification of cooperation in scientific research and applications regarding FAIR and TRUST principles, as well as GEO (Group on Earth Observation) Data Sharing and Data Management Principles. Timeframe: 2017 - 2022+.

**Finished projects funded by the BMBWF (formerly HRSM projects):**

- e-Infrastructures Austria: <https://e-infrastructures.univie.ac.at/>. Initiated in 2014 in order to promote the coordinated development and further development of repository infrastructure throughout Austria. This was to ensure the secure archiving and provision of

electronic publications, multimedia objects and other digital data from research and teaching.

- e-Infrastructures Austria Plus: <https://www.e-infrastructures.at/en>. Goal: to promote the coordinated development of research data management in Austria. The ORCID Austria Consortium was established and the DOI-Service Austria was implemented. In addition to building competencies on data management plans, Open Science in Austria was linked to GO FAIR.
- Austrian Transition to Open Access: <https://at2oa.at/en/home.html>. Goal: to support the large-scale transformation of scientific publications from Closed to Open Access, and to implement measures supporting this initiative. The project aims to increase Austria's Open Access publication output by restructuring licence agreements with publishers and by providing targeted support for researchers' publication activities.
- Integriertes Datenmanagement: <https://biotechmedgraz.at/en/programs/shared-infrastructure/infrastructure-call-2016/>. Goal: Establishment of platform for collaboration between life science researchers in Graz as well as to ensure reproducibility of data analytics. A collaborative cyberinfrastructure for data management and data analytics in life sciences has been deployed - CyVerse Austria (CAT). CAT offers distributed data management across different institutions using Integrated Rule-oriented Data System (iRODS) and reproducible data analytics using Docker technology. Researchers are using the infrastructure for collaborative research projects between the universities and are sharing data and analytics tools.
- IDE@S: Innovative Data Environments @ Styria (IDE@S): Development of a Styrian reference model for the collaborative use of data. Goal: to improve the position of Styria among the data science and cloud computing landscape across the European Union. <https://www.tugraz.at/projekte/ideas/home/>
- CCCA Data Centre, CCCA: <https://data.ccca.ac.at>, <https://ccca.ac.at>. Goal: Establishing a scientific support network for Austrians climate research domain. The CCCA Data Server provides the central national archive for climate data and information. The data made accessible according FAIR, includes observation and measurement data, scenario data, quantitative and qualitative data, as well as findings of research projects. Implemented data citation services, especially for dynamic data and its Fragments, Subsets is one of the Austrians lighthouse implementation to gather Data Provenance technics.

#### **Active EU projects fostering Open Science, FAIR and the European Open Science Cloud (EOSC):**

- EOSC Pillar: <https://www.eosc-pillar.eu/>. EOSC-Pillar is a Horizon 2020 project coordinating national initiatives in Italy, France, Germany, Austria and Belgium to support the development of an Open Science and FAIR data-based European Open Science Cloud (EOSC). The project aims to help create new, sustainable business models for the corresponding services and infrastructures and to increase the FAIRness of data across national and disciplinary boundaries. To this end, information on existing national and thematic initiatives and research data infrastructures were collected and mapped. Communities and stakeholders such as implementers or end users are actively involved in the processes.
- EOSC Secretariat: <https://www.eoscsecretariat.eu/>. Delivers 360° support to the European Open Science Cloud (EOSC) Governance. Specifically, it addresses the need for the set-up of an operational framework supporting the overall Governance of the EOSC.
- DISSCo: <https://www.dissco.eu/>. A distributed system for natural science collections.
- SSHOC: <https://sshopencloud.eu/>. The aim of the EU project Social Sciences & Humanities Open Cloud (SSHOC) is to develop the social sciences and humanities area within the European Open Science Cloud (EOSC). To this end, existing and new infrastructures of the European research infrastructures in the social sciences and humanities will be used and interconnected. The SSH Open Marketplace will create a secure platform where high quality tools (services and software), datasets, training materials and activities (workflows



and scenarios) will be shared with the SSH community. The project aims to foster synergies and open science initiatives between disciplines, accelerate interdisciplinary research and collaboration, and maximize the reuse of services and data by applying open science principles. It also aims to increase the potential for societal impact.

- EuroCC: <https://www.eurocc-access.eu/>. Goal: to develop in European countries National Competence Centers (NCC) in High Performance Computing (HPC), Big Data and Artificial Intelligence. This NCC will be the contact point for academia, industry and public organisations for collaborations in HPC, Big Data and AI projects, and the NCC will document, map and coordinate activities in these areas. Within the project, the tasks are (i) training and skills development, (ii) technology transfer/business development, (iii) academia-industry collaborations, (iv) mapping of HPC/Big Data/AI competences and (v) facilitation of access to expertise and resources.

### **Networks fostering Open Science, Citizen Science, FAIR and public sector initiative (PSI) activities:**

- ABOL – Austrian Barcode of Life - ein Netzwerk für Biodiversität: <https://www.abol.ac.at/>
- FAIR Office Austria: <https://www.fair-office.at>
- GO FAIR Austria office - National Support and Coordination Office: <https://www.go-fair.org/go-fair-initiative/go-fair-offices/go-fair-austria-office/>
- OANA – Open Science Network Austria: <https://www.oana.at> (2012-2021; comment: currently in the process of restructuring under the umbrella of Uniko and under the title of “Open Science Austria”)
- dha – digital humanities Austria: <https://digital-humanities.at/de>
- Kulturpool: <http://www.kulturpool.at/display/kupo/Home>
- Plattform Registerforschung: <https://www.registerforschung.at/>
- RDA Austria: <https://www.rd-alliance.org/groups/rda-austria>
- The Carpentries Austria: <https://www.forschungsdaten.info/fdm-im-deutschsprachigen-raum/oesterreich/services/the-carpentries-austria/>
- Citizen Science Network Austria: <https://www.citizen-science.at/netzwerk> Österreich forscht: [Citizen Science Projekte - Österreich forscht \(citizen-science.at\)](https://www.citizen-science.at/)
- ESCA (European Citizen Science Association): [European Citizen Science Association \(ESCA\) – Engage with us \(citizen-science.net\)](https://www.citizen-science.net/)
- DOI-Service Austria: <https://www.tuwien.at/bibliothek/doi-service-austria-orcid-austria>
- ORCID Austria: <https://www.tuwien.at/kooperationen/orcid/en/home/>

### **Related publications**

Austrian decision-makers have a great amount of survey results and structured data concerning the status quo of Austrian research activities at their disposal. This structured information was initially provided through the project e-Infrastructures Austria. To mention is the “National survey of researchers and their data” for which 36.000 researchers were asked about their desiderata on several issues concerning life cycle management, life cycle of data, and all related questions:

- Researchers and Their Data. Results of an Austrian Survey (PDF Full Report/en): [https://phaidra.univie.ac.at/detail\\_object/o:409318](https://phaidra.univie.ac.at/detail_object/o:409318)
- Executive Summary: Researchers and Their Data. Results of an Austria-wide survey (en): [http://phaidra.univie.ac.at/detail\\_object/o:408001](http://phaidra.univie.ac.at/detail_object/o:408001)

The Project EOSC-Pillar conducted a survey, which has complementary characteristics. This survey addressed Austrian RI organisations, universities, and policy makers (2019/2020). The report was published and is available at: <https://zenodo.org/record/3937318>

- The data of the study is available at: <https://data.aussda.at/dataset.xhtml?persistentId=doi:10.11587/VOSVGK>



1.1. Is there a current policy regarding <b>publications</b> in place?		
Yes	No	In planning
		X
<p>A national open science strategy is being developed and Open Access to publications will be one aspect of it.</p> <p><b>Open access policies in Austrian RPOs:</b>  At this point, there are several institutional ones in place (see <a href="https://www.oana.at/ueber-open-science/open-access-ressourcen/#c236283">https://www.oana.at/ueber-open-science/open-access-ressourcen/#c236283</a>).</p> <p>The above mentioned OANA publication "Open Science Strategy" (<a href="http://doi.org/10.5281/zenodo.4109242">http://doi.org/10.5281/zenodo.4109242</a>) includes recommendations regarding Open Access, Open Research Data, Open Methods, Open Evaluation, Open Infrastructures, Open Education, and Citizen Science that are addressed to all relevant actors in the RTI system, in particular to Research Performing Organisations, Research Funding Organisations, Research Policy, heritage institutions (e.g. Libraries), and Researchers.</p> <p>Furthermore, a working group in the framework of the Forum of Austrian University Libraries (ubifo) is currently developing guidelines for an institutional implementation of Plan S at the Austrian universities.</p> <p>Several Austrian institutions support alternative publication formats and platforms such as Open library of humanities, SciPost, DOAJ, OAPEN, Open Knowledge Maps: <a href="https://oana.at/nationale-aktivitaeten/support-von-infrastrukturen/">https://oana.at/nationale-aktivitaeten/support-von-infrastrukturen/</a>  <a href="https://oapen.org/funders/7589935-fwf-austrian-science-fund">https://oapen.org/funders/7589935-fwf-austrian-science-fund</a></p> <p><b>Strategy towards Plan S:</b>  The FWF, which is a founding member of this initiative as well as the Federal Ministry for Education, Science and Research support Plan S (see e.g. Anfragebeantwortung durch den Bundesminister für Bildung, Wissenschaft und Forschung Dr. Heinz Faßmann zu der schriftlichen Anfrage (933/J) der Abgeordneten Dr. Helmut Brandstätter, Kolleginnen und Kollegen an den Bundesminister für Bildung, Wissenschaft und Forschung betreffend Plan S: <a href="https://www.parlament.gv.at/PAKT/VHG/XXVII/AB/AB_00935/imfname_791658.pdf">https://www.parlament.gv.at/PAKT/VHG/XXVII/AB/AB_00935/imfname_791658.pdf</a>).</p> <p>Furthermore, a working group in the framework of the Forum of Austrian University Libraries (ubifo) is currently developing guidelines for an institutional implementation of Plan S at the Austrian universities.</p> <p><b>Other successful initiatives and projects promote and support open access to publications in Austria:</b></p> <ul style="list-style-type: none"> <li>• The Austrian Science Fund (FWF) was one of the first funding organisations worldwide that established an open access policy to publications in 2004. Today, almost all publications resulting from FWF grants (89%, see <a href="#">Austrian Science Fund (FWF) Open Access Compliance Monitoring 2019</a>) are open access.</li> <li>• The Austrian Academic library consortium (KEMÖ) together with the FWF was the first consortium worldwide to negotiate a transformative open access agreement in 2014 and since then several open access agreements have been concluded so that Austrian researchers can publish their research results open access and free of costs. <a href="https://www.konsortien.at/">https://www.konsortien.at/</a></li> <li>• In 2012, the Open Science Network Austria (formerly Open Access Network Austria) was established as a think tank to support open access in Austria and to bring different stakeholders together to exchange ideas, coordinate and connect initiatives and develop recommendations. <a href="https://oana.at/">https://oana.at/</a></li> </ul>		

- In 2016, a working group of the Open Science Network Austria (OANA) published the “Recommendations for the Transition to Open Access in Austria” (<https://zenodo.org/record/34079>) which helped to further Open Access to publications in Austria.
- Ministry-funded project Austrian Transition to Open Access II (AT2OA2): The measures from AT2OA will be continued with the aim of concluding further Open Access agreements with publishers and setting up a data hub to process publication data from various sources. This can be used for Austria-wide OA monitoring and to support negotiations with scientific publishers and support the reporting system of the universities by making the data reusable for statistical verification systems, annual reports and the like.

1.1.1. If yes, does it include <b>open access to publications</b> ?		
Yes	No	In planning
		X
<p>Referring to <b>open access to publications</b>: Please see to 1.1., Is there a current policy regarding publications in place?</p> <p>Concerning the topic: “<b>Responsibility regarding policy making (strategic level)</b>”: Austrian funding agencies such as the Austrian Science Fund (FWF) and WWTF developed open access policy to publications.</p> <p>Concerning : <b>Responsibility regarding funding</b> The national funding agency FWF was one of the first funding agencies worldwide to establish an open access policy to publications in 2004. Today, almost all publications resulting from FWF grants are open access.</p> <p>To further the transition to open access in the scholarly publication system, the Austrian Science Fund (FWF) annually supports the following open access publication models and platforms  <b>Open Access Publication Models</b>: <a href="https://www.fwf.ac.at/en/research-funding/open-access-policy/open-access-to-peer-reviewed-publications/open-access-publication-models/">https://www.fwf.ac.at/en/research-funding/open-access-policy/open-access-to-peer-reviewed-publications/open-access-publication-models/</a></p>		

1.2. Is there a current policy regarding <b>data / services</b> in place?		
Yes	No	In planning
		X
1.2.1. If yes, does it include <b>open access to data</b> ?		
Yes	No	In planning
		X
<p>There is currently no national policy regarding open access to data in place.</p> <p>A national open science strategy is being developed and Open Access to research data will be one aspect of it.</p> <p>The Austrian Science Fund (FWF) expects open access to research data collected and/or analysed using FWF funds for projects approved from 1 January 2019 onward.  <a href="https://www.fwf.ac.at/en/research-funding/open-access-policy/open-access-to-research-data/">https://www.fwf.ac.at/en/research-funding/open-access-policy/open-access-to-research-data/</a>.  Open access is mandatory for research data on which the research publications of the project are based. Further, since 2019, the FWF has a mandatory policy on research data management in</p>		

place. <https://www.fwf.ac.at/en/research-funding/open-access-policy/research-data-management/>

1.3. Is there a current policy regarding **research evaluation** in place?

Yes	No	In planning
	<b>x</b>	

The Austrian Platform for Research and Technology Policy Evaluation ( FTVAL) is concerned with issues of research evaluation in Austria:

- <https://www.fteval.at/content/home/plattform/about/index.jsp?langId=2>
- <https://repository.fteval.at>

The Austrian Platform for Research and Technology Policy Evaluation (fteval) is an association whose members are institutions from the fields of research, technology and innovation (RTI). It includes government ministries, agencies, research funding organisations, research institutes and consulting firms. Membership is open to all those involved in commissioning or carrying out evaluations in the field of RTI. The aim of the association is to further develop the culture and practice of evaluation in Austria in the field of RTI. The fteval platform regards evaluation as central to ongoing improvement and strategic focus in RTI policy. A “good” culture of evaluation is both a prerequisite for and a result of “good” – i.e. efficient, transparent, and fair – policies. As declared in the mission statement: *“The mission of the Austrian Platform for Research and Technology Policy Evaluation is to promote the quality, transparency and adequate coverage of evaluations, to improve strategic planning of research, technology and innovation (RTI) policy in Austria. The existing evaluation culture is evolving continuously, in consultation with decision makers in Austrian RTI policy.”*

See also the code of conduct: <https://repository.fteval.at/387/> and principles: [https://www.fteval.at/content/home/standards/fteval\\_prinzipien/index.jsp?langId=2](https://www.fteval.at/content/home/standards/fteval_prinzipien/index.jsp?langId=2)

The Austrian Academy of Sciences and the Austrian Science Fund (FWF) have signed the San Francisco Declaration on Research Assessment (DORA).

Related Publication

- [available in German only] Janger, J. and T. König (2020). Forschungspolitik in Österreich. Zentrale Ansatzpunkte für eine Leistungssteigerung in der Grundlagenforschung

1.4. Is there a current policy regarding **open learning** in place?

Yes	No	In planning
	<b>x</b>	

In this regard Austrian Universities are partly served on a national basis by:

- Forum Neue Medien Austria <https://fnma.at/>

In 2019, a national call “Digital and social transformation” was launched by the BMBWF with selected digitization projects at public universities for the period 2020 to 2024, including activities connected to digitalization in teaching and learning.

**Active projects funded by the BMBWF** (NB: This is an excerpt - selection according to learning reference):

- iMooX: <https://imoox.at/mooc/?lang=en>. iMooX is currently operated by the TU Graz and is to be expanded both technically and organisationally. At present, cooperation is taking place by offering individual MOOCs. In the future, all participating universities are to offer any number of MOOCs to the Austrian educational landscape. Through a central Austria-

wide platform, all universities can participate equally and the costs for maintenance and operation can be minimised. "iMooX as a Service" is the declared goal.

- Open Education Austria Advanced: <https://www.openeducation.at/>. Goals: Solutions for Open Education Resources (OER) in the Austrian higher education sector: OERHub as a central meta-search engine for OER from the the higher education area; creation of local infrastructures at the partner universities; freely accessible qualification offers for OER certification for universities & teachers; knowledge transfer & dissemination between participating and interested universities.
- Learning Analytics: <https://learning-analytics.at/home/>. The project provides the first holistic and comprehensive view of the topic of Learning Analytics at Austrian universities and makes an important contribution to the development of functioning Learning Analytics methods in the university context. The development of appropriate tools in an interdisciplinary team ensures the innovation potential of the project results. The uniqueness of the project results primarily from the fact that the students themselves are at the center and benefit directly from the results.
- PASSt - Predictive Analytics Services für Studienerfolgsmanagement: The project aims to make academic success measurable and predictable. The modelling implemented by means of supervised machine learning procedures modelling allows the prediction of academic success on an individual and aggregated level. In a further step, an agent-based simulation system to experiment with measures in simulation scenarios. The results help universities to better understand the mechanisms of success in higher education and to predict success at a future point in time.

Responsibility regarding policy making (strategic level): at current state not identifiable

Responsibility regarding funding: at current state not available

2. Are there references to EOSC in the current policies?		
Yes	No	In planning
		X
2.1. Is funding or criteria for funding mentioned (with regards to EOSC)?		
Yes	No	In planning
		X
2.2. Is there a national contact point for open science?		
Yes	No	In planning
	There is no national contact point for Open Science. However, the Austrian Research Promotion Agency FFG acts as the National Contact Point (NCP) for the European research and innovation programmes. The key task is to support applicants from science and industry who wish to participate in these programmes. <a href="https://www.ffg.at/en/europe/ncp">https://www.ffg.at/en/europe/ncp</a>	X
2.3. Is there a national contact point for EOSC?		
Yes	No	In planning
		X

### 3. Current e-infrastructure that has the potential to be federated / accessible to the EOSC

Austria has several organisations that offer national generic and discipline-specific e-infrastructure services:

#### 3.1. Data and computing infrastructures

- **AUSSDA** (The Austrian Social Science Data Archive) is a data infrastructure for the social science community in Austria and offers a variety of research support services, primarily data archiving and help with data re-use. Ref.: <https://aussda.at/en/>. AUSSDA is participating in CESSDA ERIC.
- **BBMRI ERIC** - <https://www.bbmri-eric.eu/>. BBMRI-ERIC is a distributed research infrastructure of biobanks and biomolecular resources. For its Member States, it provides expertise and services on a non-economic basis and facilitates access to collections of partner biobanks and biomolecular resources. BBMRI-ERIC is established for an unlimited period of time. The Central Executive Management Office is located in Graz, Austria.
- **CCCA-DC**. A research data infrastructure, computing, archive, repository and service platform operated by the Climate Change Center Austria - coordinating body for the promotion of climate research in Austria (<https://data.ccca.ac.at/>).
- **CLARIN**. The Austrian Academy of Science is participating in CLARIN (ACDH-OEAW): Digital Humanities Austria (dha) is an open network of institutional partners in Austria joining efforts to realize a new understanding of humanities research in a digital environment. These efforts are an integral part of the Austrian commitment to the research infrastructure consortia CLARIN-ERIC and DARIAH-EU, pan-European communities of practice organized as networks of centres sharing resources, tools and knowledge. Ref. <http://digital-humanities.at/en>
- **CyVerse Austria**. Provides life scientists with powerful computational infrastructure to handle huge datasets and complex analyses, thus enabling data-driven discovery. The extensible platforms provide data storage, bioinformatics tools, image analyses, APIs, and more. CyVerse Austria uses open source code from CyVerse US (University of Arizona). <https://www.tugraz.at/sites/cat/home/>
- **EODC**. Operates a virtualised, distributed earth observation (EO) data centre, providing collaborative IT infrastructure for archiving, processing, and distributing EO data. Together with its multi-national partners from science, the public and private sectors EODC fosters the use of satellite-derived geoinformation. Its focus ranges from scientific research to operational services in the areas of water resources and land monitoring, agricultural applications, and humanitarian aid and civil security. Ref.: ([www.eodc.eu](http://www.eodc.eu)). Infrastructures characteristics: Multi-Petabyte-scale storage (discs and tape) connected to the EODC cloud and to EODC.

#### 3.2. HPC infrastructures

- **MACH-2** – The massively parallel shared memory supercomputer “MACH-2” is operated in the frame of a project by the Johannes Kepler University (JKU) Linz on behalf of a consortium of several Austrian universities and research institutions.

	<ul style="list-style-type: none"> <li>● <b>VSC</b> – The Vienna Scientific Cluster is a collaboration of several Austrian universities that provides supercomputer resources and corresponding services to their users, it is operated by TU Wien.</li> </ul>
<p><i>3.3. Repositories and main components of the e-Infrastructure in Austria</i></p>	<ul style="list-style-type: none"> <li>● Data and computing infrastructures, data repositories, and publication servers, please refer to Annexes A, B and C.</li> <li>● PID-Services <ul style="list-style-type: none"> <li>○ <b>DOI-Service Austria:</b> <a href="https://www.tuwien.at/bibliothek/doi-service-austria-orcid-austria">https://www.tuwien.at/bibliothek/doi-service-austria-orcid-austria</a></li> <li>○ <b>ORCID Austria:</b> <a href="https://www.tuwien.at/kooperationen/orcid/en/home/">https://www.tuwien.at/kooperationen/orcid/en/home/</a></li> </ul> </li> </ul>

## Annex A

Additional information concerning the current e-infrastructure landscape in Austria and the main components of the e-Infrastructure in Austria (networking, computing, data and other services/tools)

<p>Network infrastructure(s)</p>	<ul style="list-style-type: none"> <li>● ACONet – the Austrian NREN (<a href="http://www.ACO.net">www.ACO.net</a>) <ul style="list-style-type: none"> <li>○ high performance network infrastructure</li> <li>○ Identity Federation</li> </ul> </li> <li>● ACONet (NREN) currently tendering for a new fibre optic backbone contract (from mid 2022)</li> <li>● Austrian Quantum Fiber Network (AQUnet) <ul style="list-style-type: none"> <li>○ FFG R&amp;D infrastructure funding project coordinated by the ACONET Association</li> <li>○ intended to complement and enable the (new) ACONet backbone infrastructure for CLONETS and EuroQCI-related research</li> </ul> </li> <li>● The Austrian e-infrastructures became part of the EuroHPC JU via assembly of an AT HPC Competence Centre and membership to the CINECA Consortium implementing LEONARDO</li> </ul>
<p>Computing infrastructure(s)</p>	<ul style="list-style-type: none"> <li>● VSC – The Vienna Scientific Cluster (<a href="http://vsc.ac.at">vsc.ac.at</a>) <ul style="list-style-type: none"> <li>○ HPC Resources &amp; Services</li> </ul> </li> <li>● MACH-2 (<a href="https://www.risc.jku.at/projects/mach2/">https://www.risc.jku.at/projects/mach2/</a>) <ul style="list-style-type: none"> <li>○ HPC Resources &amp; Services</li> </ul> </li> <li>● EODC (<a href="http://www.eodc.eu">www.eodc.eu</a>) &amp; CCCA-DC (<a href="https://data.ccca.ac.at">https://data.ccca.ac.at</a>) <ul style="list-style-type: none"> <li>○ federated Cloud Computing, HPC Resources &amp; Services</li> </ul> </li> </ul>
<p>Data infrastructure(s)</p>	<ul style="list-style-type: none"> <li>● EODC (<a href="http://www.eodc.eu">www.eodc.eu</a>) <ul style="list-style-type: none"> <li>○ Multi-Petabyte-scale storage (discs and tape) connected to the EODC cloud and to EODC</li> </ul> </li> <li>● CCCA-DC (<a href="http://www.eodc.eu">www.eodc.eu</a>) <ul style="list-style-type: none"> <li>○ storage connected to the EODC cloud and VSC</li> </ul> </li> <li>● GEOCLIM Long Term Archive <ul style="list-style-type: none"> <li>○ EODC &amp; CCCA-DC implemented an tape based long term archive on two locations at TU Vienna and VSC</li> </ul> </li> <li>● National research infrastructure database (BMBWF) <ul style="list-style-type: none"> <li>○ The public research infrastructure database of the Federal Ministry of Education, Science and Research (BMBWF) provides an overview of national research infrastructures. The database serves as an information platform and may be used to find and offer research infrastructures for new cooperation projects. <a href="https://forschungsinfrastruktur.bmbwf.gv.at/en">https://forschungsinfrastruktur.bmbwf.gv.at/en</a></li> </ul> </li> </ul>



## Annex B

### Data repositories/data centers

At the moment, 46 "Austrian" repositories are registered by OpenDOAR ([https://v2.sherpa.ac.uk/view/repository\\_by\\_country/Austria.html](https://v2.sherpa.ac.uk/view/repository_by_country/Austria.html)) and 40 data repositories by re3data ([https://www.re3data.org/search?query=&countries\[\]=AUT](https://www.re3data.org/search?query=&countries[]=AUT)).

Below there is an excerpt of available data repositories and/or data centres in Austria (NB: not all listed on the re3data platform).

Name of repository	Type (repository/data centre)	Link	Comment
<b>Cross-disciplinary/Institutional</b>			
Data Repository of the International Institute of Applied Systems Analysis (IIASA-DARE)	Repository	<a href="http://dare.iiasa.ac.at/">http://dare.iiasa.ac.at/</a>	
Digital Repository KUG-PHAIDRA (University of Music and Performing Arts Graz – KUG)	Repository	<a href="https://phaidra.kug.ac.at/">https://phaidra.kug.ac.at/</a>	
Institutional Repository of the University of Art and Design Linz	Repository	<a href="https://phaidra.ufg.at/">https://phaidra.ufg.at/</a>	
Institutional Repository of the University of Applied Arts	Repository	<a href="https://phaidra.bibliothek.uni-ak.ac.at/">https://phaidra.bibliothek.uni-ak.ac.at/</a>	
IST Austria Research Explorer	Repository	<a href="https://research-explorer.app.ist.ac.at">https://research-explorer.app.ist.ac.at</a>	
PHAIDRA @ FH St Pölten	Repository	<a href="https://phaidra.fhstp.ac.at/">https://phaidra.fhstp.ac.at/</a>	
mdw Repository	Repository	<a href="https://repo.mdw.ac.at">https://repo.mdw.ac.at</a>	
Phaidra - Repository of the University of Veterinary Medicine, Vienna	Repository	<a href="https://phaidra.vetmeduni.ac.at">https://phaidra.vetmeduni.ac.at</a>	
TU Graz Repository	Repository	<a href="https://repository.tugraz.at/">https://repository.tugraz.at/</a>	
University of Vienna PHAIDRA	Repository	<a href="https://phaidra.univie.ac.at">https://phaidra.univie.ac.at</a>	
<b>Discipline specific</b>			
ARCHE - A Resource Centre for the HumanitiEs	Repository	<a href="https://arche.acdh.oeaw.ac.at">https://arche.acdh.oeaw.ac.at</a>	Core Trust Seal (CTS)
AUSSDA Dataverse	Repository	<a href="https://data.aussda.at/">https://data.aussda.at/</a>	Core Trust Seal (CTS)
CCCA - Climate Change Center Austria	Data centre	<a href="https://data.ccca.ac.at">https://data.ccca.ac.at</a>	
EODC - Earth Observation Data Centre	Data centre	<a href="https://www.eodc.eu/">https://www.eodc.eu/</a>	
Geisteswissenschaftliches Asset Management System (GAMS)	Repository	<a href="https://gams.uni-graz.at">https://gams.uni-graz.at</a>	Core Trust Seal (CTS)

Tethys - Geologische Bundesanstalt (GBA), Data Publisher for Geoscience Austria	Repository	<a href="https://www.tethys.at/">https://www.tethys.at/</a>	
<b>Topic specific</b>			
Thanados - The Anthropological and Archaeological Database of Sepultures	Repository	<a href="https://thanados.net/">https://thanados.net/</a>	
<b>Other</b>			
Austrian State Archives	Data centre	<a href="http://www.oesta.gv.at/">http://www.oesta.gv.at/</a>	
BRZ - Austrian Federal Computing Center	Data centre	<a href="https://en.brz.gv.at/">https://en.brz.gv.at/</a>	
Statistik Austria	Data centre	<a href="https://www.statistik.at/">https://www.statistik.at/</a>	
Vorarlberger Landesbibliothek - Volare	Repository	<a href="https://pid.volare.vorarlberg.at/">https://pid.volare.vorarlberg.at/</a>	

## Annex C

### Publication/document servers

At the moment, 45 "Austrian" repositories are registered by OpenDOAR ([https://v2.sherpa.ac.uk/view/repository\\_by\\_country/Austria.html](https://v2.sherpa.ac.uk/view/repository_by_country/Austria.html)) and 40 data repositories by re3data ([https://www.re3data.org/search?query=&countries\[\]=AUT](https://www.re3data.org/search?query=&countries[]=AUT)).

NB: Not all existing repositories are registered in a directory.

An overview (from 2018) is available in the following publication: Bauer, B., & Ferus, A. (2018). Österreichische Repositorien in OpenDOAR und re3data.org: Entwicklung und Status von Infrastrukturen für Green Open Access und Forschungsdaten. Mitteilungen der Vereinigung Österreichischer Bibliothekarinnen und Bibliothekare, 71(1), 70–86. <https://doi.org/10.31263/voebm.v71i1.2037>

Name of repository	Link	Comment
<b>Institutional publication/document servers</b>		
Ja[repository	<a href="https://repository.akbild.ac.at">https://repository.akbild.ac.at</a>	
BOKU:epub	<a href="http://epub.boku.ac.at/">http://epub.boku.ac.at/</a>	
DOOR	<a href="https://door.donau-uni.ac.at/">https://door.donau-uni.ac.at/</a>	
Austrian Institute for Health Technology Assessment Repository for Publications	<a href="https://eprints.aihta.at/">https://eprints.aihta.at/</a>	Former known as LBI HTA
Elektronisches Publikationsportal der Österreichischen Akademie der Wissenschaften	<a href="http://epub.oeaw.ac.at/">http://epub.oeaw.ac.at/</a>	
ePLUS (Open Access Publikationsserver der Universität Salzburg)	<a href="http://eplus.uni-salzburg.at">http://eplus.uni-salzburg.at</a>	
ePubWU Institutional Repository (ePubWU)	<a href="http://epub.wu.ac.at/">http://epub.wu.ac.at/</a>	
FHpub	<a href="https://fhpub.fh-vie.ac.at">https://fhpub.fh-vie.ac.at</a>	
FWF-E-Book-Library	<a href="https://e-book.fwf.ac.at/">https://e-book.fwf.ac.at/</a>	
IIASA PURE	<a href="http://pure.iiasa.ac.at/">http://pure.iiasa.ac.at/</a>	
INIS Repository	<a href="http://inis.iaea.org/search">http://inis.iaea.org/search</a>	
IRIHS - Institutional Repository at IHS	<a href="https://irihs.ihs.ac.at">https://irihs.ihs.ac.at</a>	
IST Austria Research Explorer	<a href="https://research-explorer.app.ist.ac.at">https://research-explorer.app.ist.ac.at</a>	
Institutional Repository of the Mozarteum University	<a href="http://repository.moz.ac.at">http://repository.moz.ac.at</a>	
JKU ePub	<a href="http://epub.jku.at/">http://epub.jku.at/</a>	
Kirchlicher DokumentenServer der AKThB und des VkwB (KiDoks)	<a href="https://kidoks.bsz-bw.de/home">https://kidoks.bsz-bw.de/home</a>	
MedUni Wien ePub	<a href="https://repositorium.meduniwien.ac.at/">https://repositorium.meduniwien.ac.at/</a>	
Online Publikationsserver der FH Vorarlberg	<a href="https://opus.fhv.at">https://opus.fhv.at</a>	

People @ FH Burgenland	<a href="https://people.fh-burgenland.at/">https://people.fh-burgenland.at/</a>	
Publication Database of the Vienna University of Technology	<a href="https://publik.tuwien.ac.at/start.php?lang=2">https://publik.tuwien.ac.at/start.php?lang=2</a>	
Publikationsserver der Universität Klagenfurt (netlibrary)	<a href="https://netlibrary.aau.at/">https://netlibrary.aau.at/</a>	
pub.mdw - Open Access Publication Server	<a href="https://pub.mdw.ac.at">https://pub.mdw.ac.at</a>	
repositUM (TU Wien Open Access Platform)	<a href="https://repositum.tuwien.at">https://repositum.tuwien.at</a>	
TUGraz OPEN Library	<a href="http://openlib.tugraz.at/">http://openlib.tugraz.at/</a>	
University of Innsbruck Digital Library	<a href="http://diglib.uibk.ac.at/">http://diglib.uibk.ac.at/</a>	
u:scholar	<a href="http://uscholar.univie.ac.at/">http://uscholar.univie.ac.at/</a>	
uni≡pub (unipub)	<a href="http://unipub.uni-graz.at/">http://unipub.uni-graz.at/</a>	
Phaidra (@University of Vienna)	<a href="https://phaidra.univie.ac.at/">https://phaidra.univie.ac.at/</a>	
<b>State and county library servers</b>		
Digitale Landesbibliothek Oberösterreich	<a href="http://digi.landesbibliothek.at/">http://digi.landesbibliothek.at/</a>	
<b>Discipline specific publication/document servers</b>		
Architektur-Informatik	<a href="http://architektur-informatik.scix.net/cgi-bin/works/Home">http://architektur-informatik.scix.net/cgi-bin/works/Home</a>	
CumInCAD Digital Archive	<a href="http://cumincad.architexturez.net/">http://cumincad.architexturez.net/</a>	
Elektronisch archivierte Theorie - Sammelpunkt	<a href="http://sammelpunkt.philo.at:8080/">http://sammelpunkt.philo.at:8080/</a>	
Fluorophores.org	<a href="http://www.fluorophores.tugraz.at/">http://www.fluorophores.tugraz.at/</a>	
PiezoMat.org	<a href="http://www.PiezoMat.org/">http://www.PiezoMat.org/</a>	
RISC Publications	<a href="https://risc.jku.at/publications/">https://risc.jku.at/publications/</a>	
<b>Other</b>		
Austrian Platform for Research and Technology Policy Evaluation (fteval)	<a href="https://repository.fteval.at">https://repository.fteval.at</a>	
European Research Papers Archive (ERPA)	<a href="http://eiop.or.at/erpa/">http://eiop.or.at/erpa/</a>	