

# Presentation of the Helmholtz Open Science Office

Speaker

Helmholtz Association  
Helmholtz Open Science Office

Event, Date

# Content

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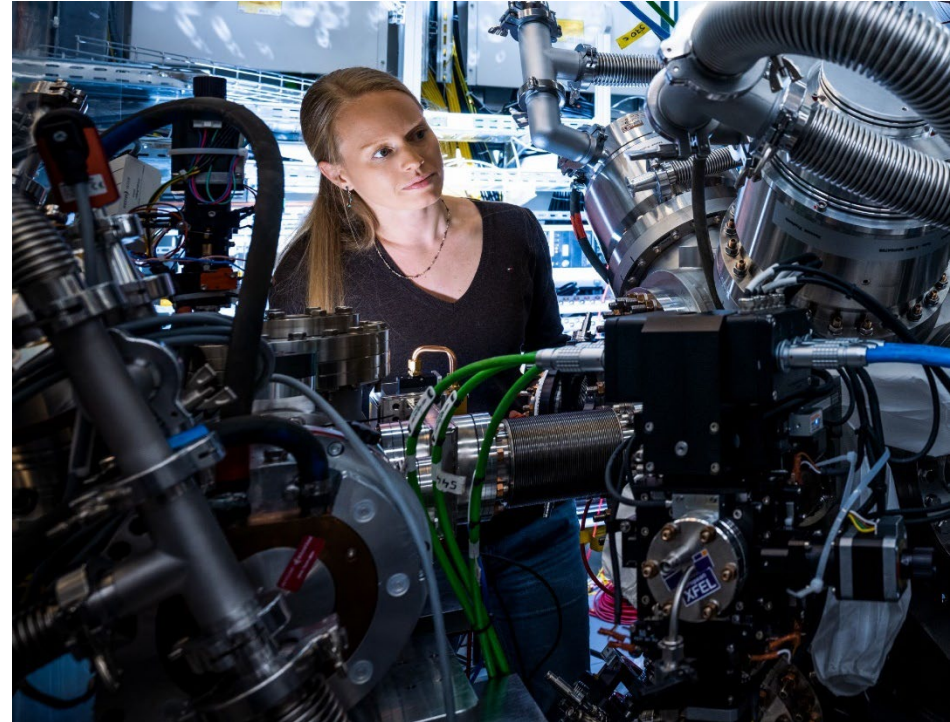
- Helmholtz Association
- Helmholtz Open Science Office
- Helmholtz Open Science Policy
- Open Access
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- Open Research Data
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- Dialogue

Helmholtz Association

# Helmholtz Research Mission and Strategy

## Research for Grand Challenges

- Systems solutions for grand challenges based on:
  - Scientific excellence
  - Interdisciplinarity and critical mass
  - long term research programs
- Helmholtz provides a highly attractive environment for talents and brilliant brains
- Profound expertise in large scale research infrastructure
- Helmholtz as a prime strategic partner at the local, national and international level
- Transfer of knowledge into economy and society



# The six research fields of the Helmholtz Association

Energy



Earth and  
Environment



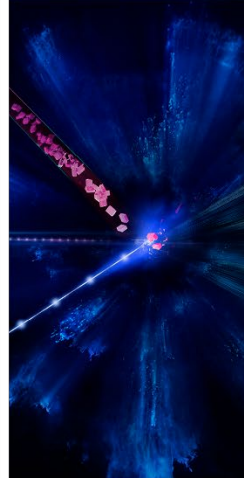
Health



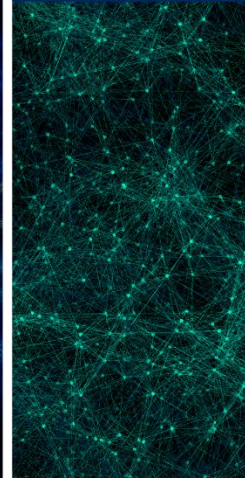
Aeronautics,  
Space  
and  
Transport



Matter



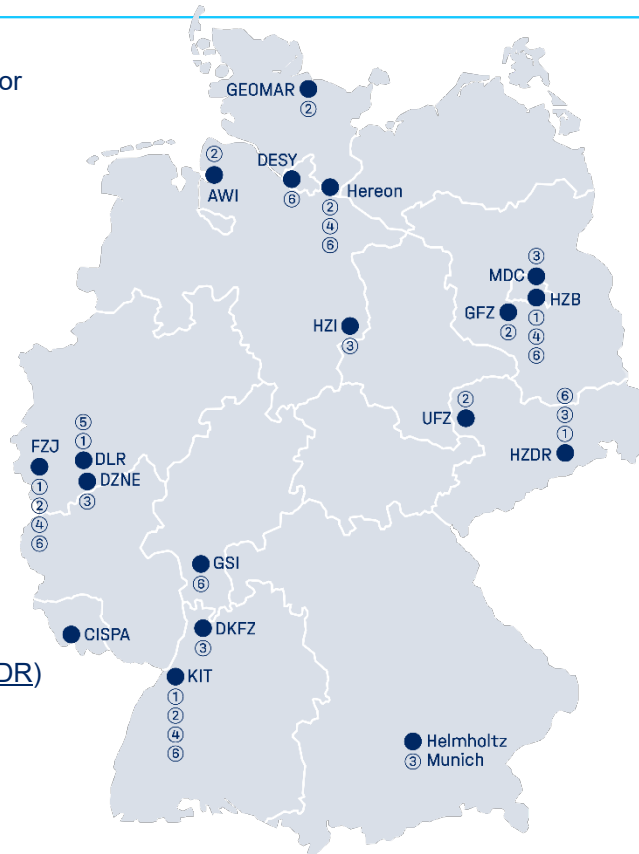
Information



# Helmholtz research centers

## 18 centers in 6 Research Fields

- Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research ([AWI](#))
- [CISPA](#) – Helmholtz Center for Information Security
- Deutsches Elektronen-Synchrotron [DESY](#)
- Forschungszentrum Jülich ([FZJ](#))
- [GEOMAR](#) Helmholtz Centre for Ocean Research Kiel
- German Aerospace Center ([DLR](#))
- German Cancer Research Center ([DKFZ](#))
- German Center für Neurodegenerative Diseases ([DZNE](#))
- [GSI](#) Helmholtz Center for Heavy Ion Research
- Helmholtz Center Dresden Rossendorf ([HZDR](#))
- Helmholtz Center for Environmental Research – [UFZ](#)



- Helmholtz Center for Infection Research ([HZI](#))
- [GFZ](#) Helmholtz Centre for Geosciences
- [Helmholtz Munich](#)
- Helmholtz-Zentrum Berlin für Materialien und Energie ([HZB](#))
- Helmholtz-Zentrum Hereon
- Karlsruhe Institute of Technology ([KIT](#))
- Max Delbrück Center ([MDC](#))

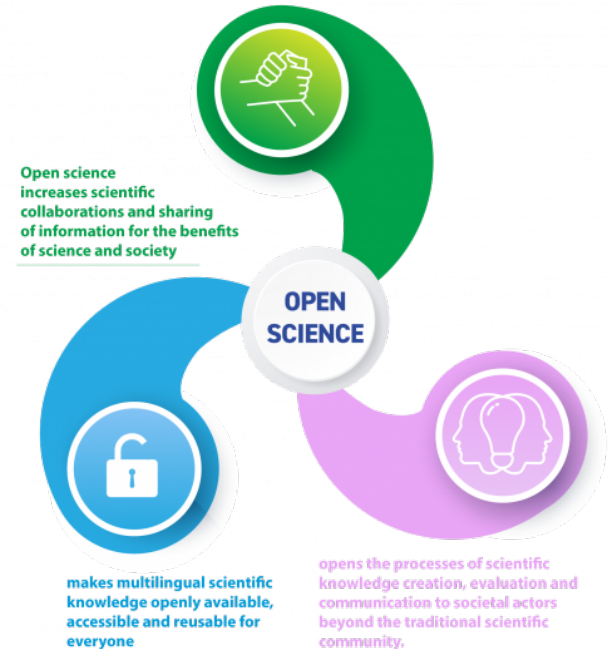
### Research Fields:

- (1) Energy, (2) Earth and Environment
- (3) Health, (4) Information
- (5) Aeronautics, Space and Transport, (6) Matter

Helmholtz Open Science Office

# Open Science

- Cultural change in scientific working methods, organization, and communication.
- Consistently employs digitization to make all components of the scientific process (publications, research data, research software, etc.) open, traceable, reusable, and accessible to everyone (in terms of reducing technical, legal, and financial hurdles).
- Promotes collaboration, expands transparency and the possibilities for quality assurance, increases the impact of science, and promotes innovations based on scientific findings.

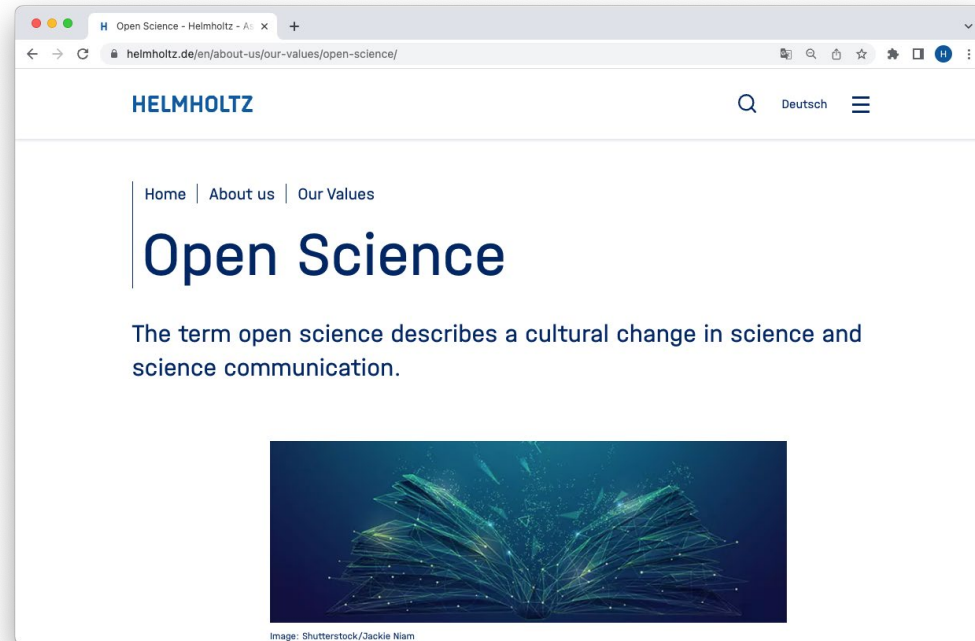


UNESCO Recommendation on Open Science

<https://doi.org/10.54677/MNMH8546>

# Open Science at Helmholtz

- The development of open science varies across Helmholtz research areas, depending on the discipline and research research culture.
- Open science is an important **cross-cutting topic** with numerous points of contact:
  - In the Centers: digitalisation, research infrastructures, libraries, data centers, transfer, etc.
  - In the Association: digitalisation, KPIs, Helmholtz Information & Data Science Framework, Initiative and Networking Fund, transfer, etc.



<https://www.helmholtz.de>

## Advancing Open Science at Helmholtz and beyond

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- The Helmholtz Open Science Office
  - supports the Helmholtz Association and its research Centers in shaping the cultural change towards open science.
  - promotes **dialogue** and provides impulses within the Association.
  - offers **information** and support concerning all aspects of open science.
  - cooperates with the centers in the **Working Group Open Science** and in joint task groups.
  - represents **Helmholtz positions** on open science on a national and international level.

**HELMHOLTZ**  
**Open Science**



### Open Science Publishing

- Open Access
- Open Research Data
- Open Research Software



### Open Science Infrastructures

- Repositories
- Metadata / PIDs
- Digital Sovereignty



### Research Assessment

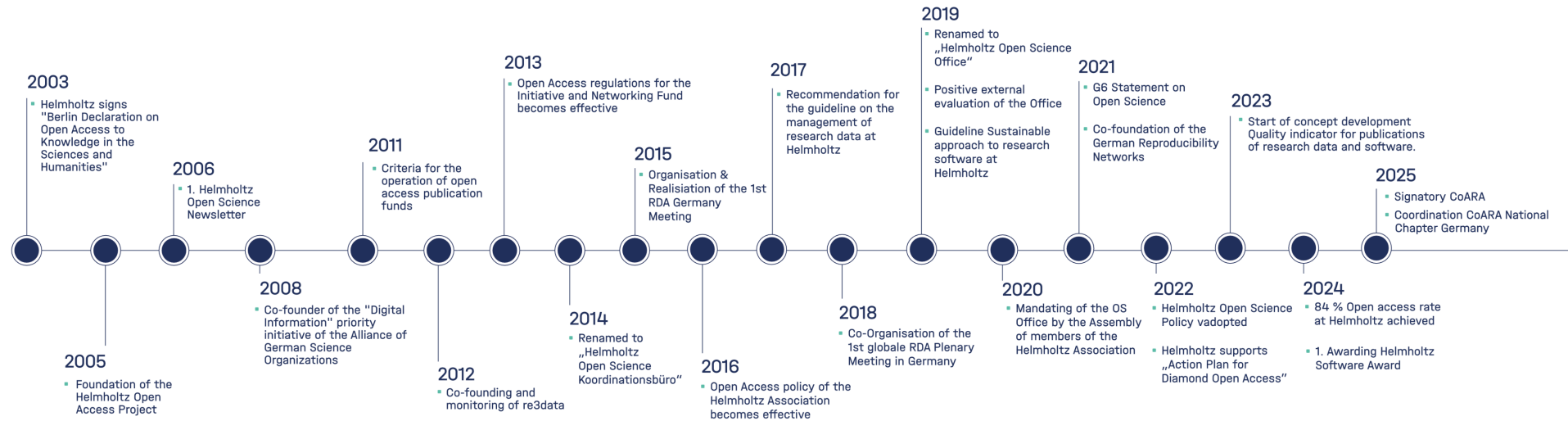
- Quality-based Indicators
- Assessment Criteria and Processes
- Open Research Information



### Responsible Research

- Research Integrity
- Impact and Transfer
- Research Security

# Milestones



# National and international networking

- Alliance of German Science Organisations: [Focus „Digitality in Science“](#)
- Barcelona Declaration of Open Research Information
- Confederation of Open Access Repositories ([COAR](#))
- Coalition for Advancing Research Assessment ([CoARA](#))
- [DEAL](#) Consortium
- Deutsche Initiative für Netzwerkinformation ([DINI](#))
- German Reproducibility Network ([GRN](#))
- National Research Data Infrastructure ([NFDI](#))
- Research Data Alliance ([RDA](#))
- Research Data Alliance Deutschland ([RDA DE](#))

The logo for COAR (Confederation of Open Access Repositories) features the letters 'COAR' in a bold, green, sans-serif font. The letter 'O' is replaced by a black circle containing a pattern of white stars, resembling a galaxy or a star field.The logo for CoARA (Coalition for Advancing Research Assessment) consists of a blue icon of a sun or a network node with four rays extending outwards, followed by the text 'CoARA' in a bold, dark blue, sans-serif font.The logo for RN DE (German Reproducibility Network) features the letters 'RN' in a large, bold, blue font, with 'DE' in a smaller, bold, blue font below it. To the right is a globe icon with a red crosshair. Below the globe, the text 'German Reproducibility Network' is written in a small, black font.The logo for nfdi (Nationale Forschungsdaten Infrastruktur) features the lowercase letters 'nfdi' in a blue, sans-serif font. Below it, the text 'Nationale Forschungsdaten Infrastruktur' is written in a smaller, black font.The logo for DINI (Deutsche Initiative für Netzwerkinformation) is a diamond-shaped icon with a colorful border (pink, orange, green, blue) and the lowercase letters 'dini' in a white, sans-serif font in the center.The logo for RDA (Research Data Alliance) features the letters 'RDA' in a bold, white, sans-serif font inside a brown, rounded rectangle. This rectangle is set against a background of a green globe with white latitude and longitude lines. Below the globe, the text 'RESEARCH DATA ALLIANCE' is written in a small, black, sans-serif font.The logo for the Barcelona Declaration on Open Research Information is a white rectangular box with a thin grey border. Inside the box, the text 'BARCELONA DECLARATION ON OPEN RESEARCH INFORMATION' is written in a small, black, sans-serif font, centered.

# Project participation of the Helmholtz Open Science Office

## Current third-party funded projects:

- Advancing Research Assessment through integrated Open practices and Narrative - ARION (Horizon-EU)
- [OA Datenpraxis](#) (DFG)
- [open-access.network](#) (BMFTR)
- Open Access Scenario Analysis - [OASA](#) (DFG)
- [PID Network Deutschland](#) (DFG)
- [PID4NFDI](#) (BASE4NFDI)
- [Transform2Open](#) (DFG)

## [Completed projects:](#)

Alliance Permanent Access to the Records of Science in Europe Network ([APARSEN](#)), [DeepGreen](#), Ecosystem Data Management ([EcoDM](#)), Opportunities for Data Exchange (ODE), Options4OA, [ORCID DE](#), [re3data](#)



Transform2Open

# Helmholtz Open Science Policy

# Helmholtz Open Science Policy

## Open Science Policy

Adopted by the Helmholtz Association's General Assembly in 09/2022



Strategic Positioning



Monitoring



Implementation

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Open Science

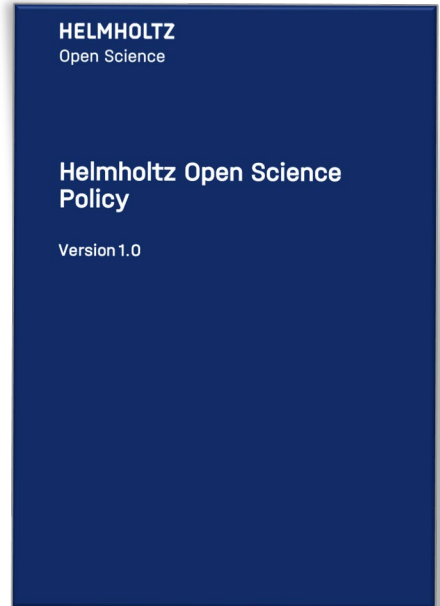
Helmholtz Open Science  
Policy

Version 1.0

<https://doi.org/10.48440/os.helmholtz.056>

# Helmholtz Open Science Policy

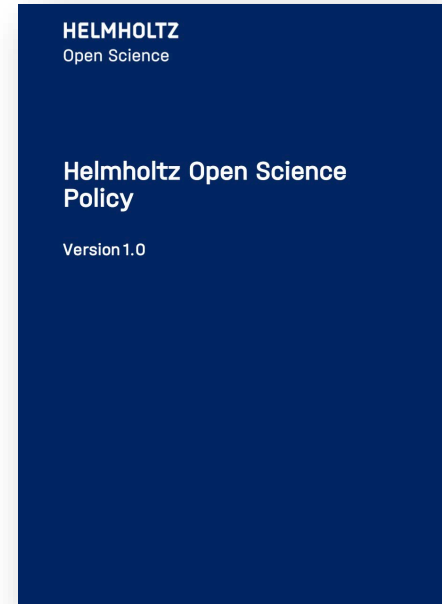
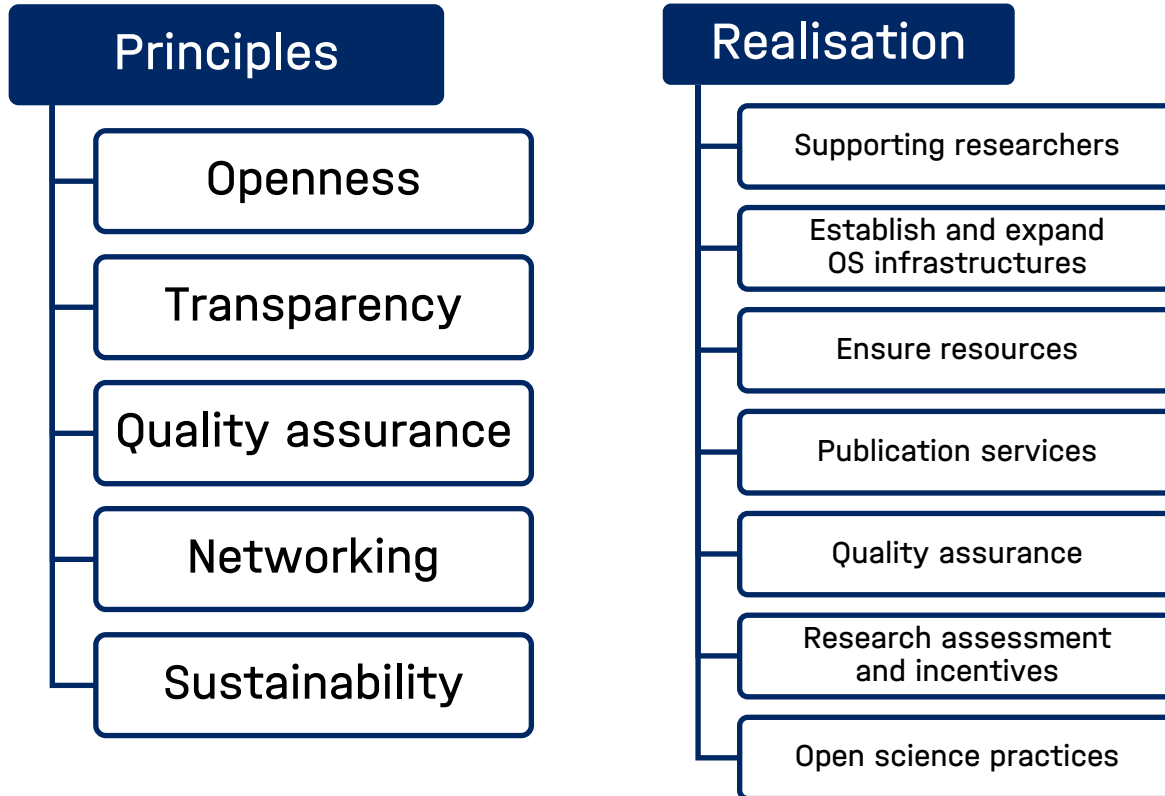
- The Helmholtz Association's General Assembly adopted an Open Science Policy in September 2022.
- The policy stipulates that scientific articles, research data and research software are to be published openly. Open Science thus becomes the standard of publication practice.
- The Helmholtz Open Science Policy is organized into three sections:
  - In the section "A. Strategic Positioning," the Helmholtz Association formulates a commitment to open science in accordance with the principle "as open as possible and as closed as necessary."
  - In the section "B. Monitoring," Helmholtz makes a commitment to open science on the basis of the three current focus areas through specific and verifiable objectives.
  - In the section "C. Implementation and Common Requirements," in line with the funding policy of the European Commission, open science practices are formulated for implementation purposes.



<https://doi.org/10.48440/os.helmholtz.056>

# Helmholtz Open Science Policy

## Strategic Positioning: Principles



<https://doi.org/10.48440/os.helmholtz.056>

# Helmholtz Open Science Policy

## Strategic Positioning: Principles

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**Openness:** The results are published openly. Open Access under the Creative Commons license CC BY is the standard publication practice for scientific results to ensure accessibility and reuse of the results.

**Transparency:** The results are communicated transparently. Research data and research software required to evaluate the results are published openly so that they can be classified by third parties (e.g. in the context of reproducibility) at any time.

**Quality assurance:** Digital research services and open knowledge infrastructures support quality assurance. The quality of the results is ensured at every stage of the research process in line with good scientific practice.

**Networking:** The FAIR principles guide the processing of knowledge objects and resources. For example, results are addressed with standards such as metadata and persistent identifiers so that findability, accessibility, interoperability and reuse are permanently guaranteed.

**Sustainability:** Results are published on long-term, secure and trustworthy knowledge infrastructures (including science-driven publication platforms, journals and repositories).

# Helmholtz Open Science Policy

## Strategic Positioning: Design Principles

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In order to shape Open Science on the basis of these principles, Helmholtz:

- Support researchers in implementing these principles by providing infrastructure, services, advice and training,
- Establish and expand central open science infrastructures such as publication platforms, self-publishers, repositories and advisory services and promote their networking at international level
- Ensure the financing of these digital information infrastructures for science
- taking over publication services from publishers and other service providers, subject to appropriate and transparent price and cost structures
- Promote innovative quality assurance procedures such as open peer review
- Embed open science practices in their funding and resource allocation procedures
- Recognize and value the use of open science practices in the assessment of research performance (research assessment) and create incentives for open science practices (open access, open research data, open research software, infrastructure and services)
- Promote networking with other stakeholders to support open science at national and international level.

# Helmholtz Open Science Policy

## On the Way to Openness by Design

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At Helmholtz, the realization of Open Science is supported and promoted with the help of concrete activities, services and offers. These infrastructures are to be understood as **dynamically developing socio-technical structures**.

Other fields of action that need to be considered in this context are open educational resources, open hardware and open services. With regard to digitalization in the sciences and humanities, the **individual components** come together to form a digital research ecosystem.

"Openness by design" should be a fundamental maxim that guides future developments.

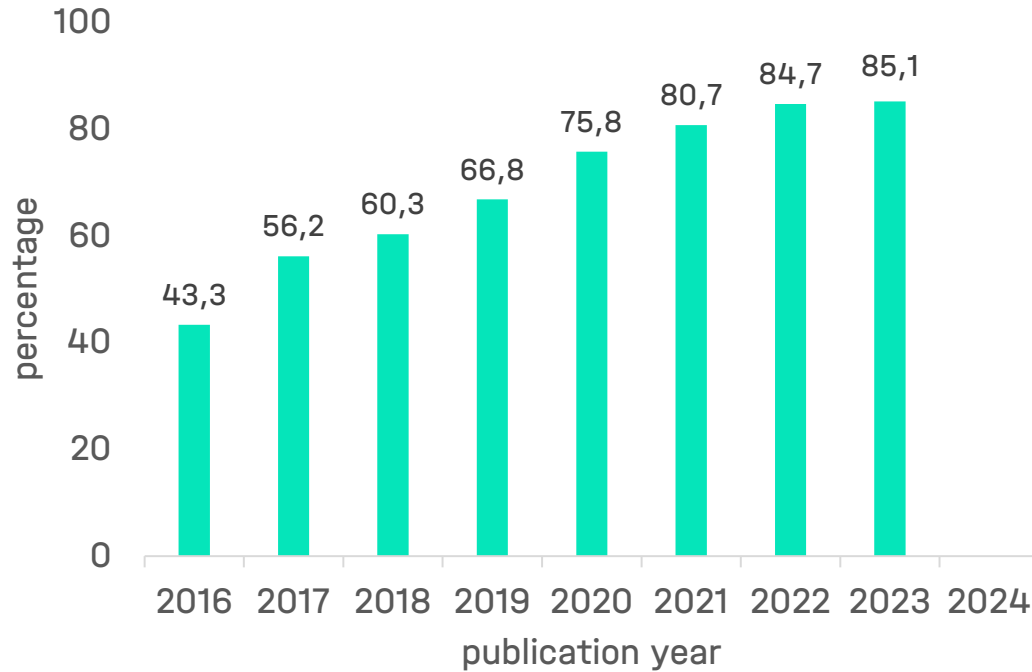
Open Access

# Open Access

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- The Helmholtz Association was one of the initial signatories of the [Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities](#) in 2003.
- In 2022, the Helmholtz Association's General Assembly adopted the [Helmholtz Open Science Policy](#).
- The Helmholtz Association achieved an open access share of [85%](#) (survey in 2025 for 2023).
- In 2024, the „Memorandum on the Open Access Transformation at the Helmholtz Association“ was published, serving as a guiding framework for future transformation agreements with its nine framework conditions.

# Open Access Percentage at Helmholtz



Open Access percentage of publications at the Helmholtz Association (green) for the publication years 2016 to 2023

## Helmholtz Open Science Policy

- „1.1 The employees shall ensure that
  - at the time of publication, at the latest, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication is deposited in the Helmholtz Center’s repository for scientific publications.
  - the deposited publication is preferably made freely accessible via the repository immediately, namely, under the latest available version of the Creative Commons Attribution International Public License (CC BY) (in the case of monographs and other long-text formats, an alternative license may be chosen),
  - but at the latest 12 months after publication, in accordance with the right of self-archiving (Section 38(4) of the German Act on Copyright and Related Rights [UrhG]).
  - they make available via the repository information on research results as well as tools and auxiliary resources that are necessary to validate the conclusions of the scientific publication.

For implementation purposes, employees are encouraged to reserve sufficient rights of reuse to fulfil the open access requirements.“

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Open Science

Helmholtz Open Science  
Policy

Version 1.0

# Open Access

## Helmholtz Open Science Policy

- „1.2 For implementation purposes, the Centers and their information infrastructure facilities shall ensure that
  - the metadata of the deposited publications are accessible under a Creative Commons Public Domain Dedication (CC0) license or another equivalent license; [...].
  - the information included in the metadata is identified by means of suitable persistent identifiers (e.g., DOI, ORCID iD, ROR ID, etc.).
  - the publication fees incurred for scientific publications that have undergone peer review and are genuinely open access are funded within the framework of in-house regulations. Further information on the payment of costs can be found in the “Criteria for the Operation of Open Access Publication Funds and the Payment of Open Access Publication Fees” and in the respective internal policies of the Helmholtz Centers.”

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# Open Access

- Promotion of the transformation from subscription to open access
- Promotion of scholar-led, [Diamond Open Access](#)
- Open Access Green and Open Access Gold are implemented as equal strategies

Open Access Green	Open Access Gold
<ul style="list-style-type: none"><li>• Diverse and distributed infrastructure of open access repositories</li><li>• Participation in disciplin-specific open access infrastructures (e.g., <a href="#">Inspire HEP</a>)</li><li>• Co-financing of central open access infrastructures (e.g., <a href="#">arXiv.org</a>)</li></ul>	<ul style="list-style-type: none"><li>• Framework agreements for the financing of Open Access internationally (e.g., <a href="#">SCOAP<sup>3</sup></a>)</li><li>• Framework agreements for the financing of Open Access nationally (e.g., <a href="#">DEAL consortia</a>)</li><li>• Framework agreements for the financing of Open Access in Helmholtz (opt-in contracts)</li><li>• Self-publishing activities at the Centers (e.g., <a href="#">KIT Scientific Publishing</a>)</li></ul>

- Monitoring:
  - National [Open Access Monitor](#) at Forschungszentrum Jülich
  - Monitoring at Helmholtz

# Open Access

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The Helmholtz Open Science Office accompanies the transformation process at Helmholtz towards open access with:

- Organization of the Task Group [Open Access Transformation](#)
- [Events](#) on the subject of open access publishing
  - e.g. Helmholtz Open Science [Forum Scholar-Led Publishing at Helmholtz](#)
- Resources on the topic of open access publishing
  - [FAQs on the topic of "predatory publishing"](#)
  - [Criteria for the Operation of Open Access Publication Funds and the Payment of Open Access Publication Fees](#)
  - [Preprints at Helmholtz](#)
  - [Recommendations for open science publications in the Helmholtz Association](#)
  - [Memorandum on the Open Access Transformation at the Helmholtz Association](#)

# Task Group

## Open Access Transformation

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- Joint Task Group of the Working Group Open Science and the Working Group Library and Information Management to promote the open access transformation at the Helmholtz Association, moderated by the Helmholtz Open Science Office
- The [Task Group](#), among other aspects, works on the following elements of the open access transformation:
  - Monitoring, incentives and metrics
  - Guidelines and policies
  - Cultural change towards open access
  - Sovereignty of scientific communication through Scholar-Led Publishing
- Task Group Output 2024: „[Memorandum on the Open Access Transformation at the Helmholtz Association](#)“
- Current focus (a.o.) is the development of a positive list for high-quality Diamond journals

# Open Access

## Project participations

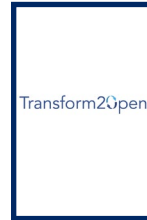


### [open-access.network](#)

Numerous measures relating to OA transformation

Inclusive information, training and networking opportunities

Open-Access-Helpdesk



### [Transform2Open](#)

Addresses the financial dimensions of the OA transition

Includes information budget, workflows and responsibilities



### [OA-Datenpraxis](#)

Supporting the development of structures for OA transformation at scientific institutions in Germany

Promotion and establishment of processes and procedures for sovereign data practice



### [Open Access Scenario Analysis](#)

Addressing current challenges of the open access transformation in the area of financial and organizational structure

Open Research Data

# Open Research Data

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- The Helmholtz Association is leading in generating, managing and providing access to [research data](#).
- In 2016, the Helmholtz Association adopted a [position paper](#) with the title [Making information resources more usable](#) on the handling of research data.
- In 2017, the Helmholtz Association adopted the [Recommendations for guidelines of the Helmholtz centers for handling research data](#) which guides the Centers in the formulation of their respective [Research Data Policies](#).
- The Helmholtz Open Science Office promotes the [coordination of the Centers](#) and supports them in [developing policies and related practices](#) in handling digital research data; esp. concerning the utilization of the [FAIR principles](#) at Helmholtz.
- In 2022, the Helmholtz Association's General Assembly adopted the [Helmholtz Open Science Policy](#).
- In July 2025, [17 out of 18 centers](#) have their own research data policy.
- The work of the Helmholtz Open Science Office thus complements the developments of platforms in the Helmholtz Information and Data Science ([HIDS](#)) Framework.

# Open Research Data

## Helmholtz Open Science Policy

- „2.1 In addition, the employees shall ensure that the following aspects are adhered to:
  - The digital research data that they generate shall be managed responsibly and in accordance with the FAIR Principles.
  - Especially in the case of EU-funded research projects, the employees shall use the data management plan (DMP) tool, and, in doing so, take into account [...]
    - the deposit of research data as early as possible and within the time limits specified in the DMP in a trustworthy repository that is indexed in re3data [...]
    - the principle “as open as possible, as closed as necessary,” unless the provision of open access would, in particular:
      - prejudice the legitimate interests of the funding recipients, also with regard to commercial exploitation, or
      - be contrary to other constraints. [...]”

HELMHOLTZ  
Open Science

Helmholtz Open Science  
Policy

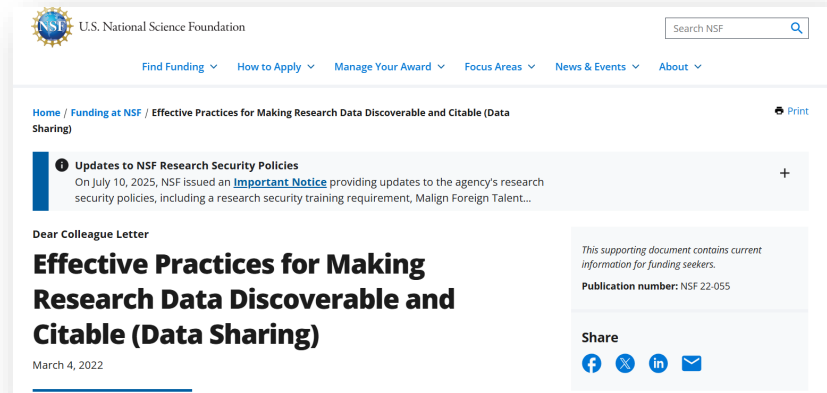
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# Open Research Data

## Research Data Repositories and Portals at Helmholtz

- [re3data](#) - Registry of Research Data Repositories is an internationally recognized verification tool for research data repositories
- Is mentioned in the policies of funding agencies, scientific institutions, and journals
- The Helmholtz Open Science Office is a **co-founder** of the service.
- In July 2025, re3data lists **over 3,400 research data repositories**.
- The Helmholtz Centers operate **138 data infrastructures** in the Association in which unique and valuable digital research data is curated (status 05/2025).

<https://os.helmholtz.de/en/open-research-data/research-data-repositories>



# Open Research Data

## Helmholtz Research Data Commons

- a recurring forum for the exchange and discussion of research data relevant topics at Helmholtz
- initiated in 2024 together with Helmholtz Metadata Collaboration (HMC)
- open to all employees from Helmholtz Centers and other institutions of the Helmholtz Association
- fora so far:
  1. Fostering FAIRness, Enhancing Visibility, and Ensuring Data Quality
  2. Enhancing Research Data Workflows for and with AI
  3. Sample Handling and Tracking - Good and FAIR Data Practices in Action

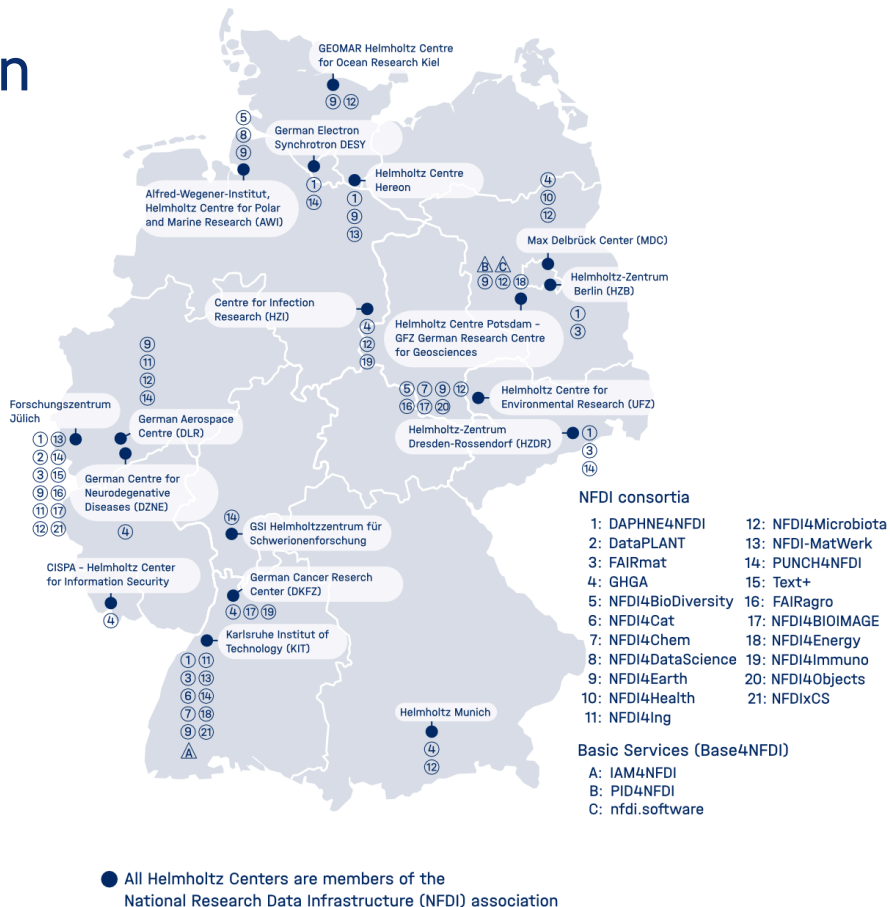


# Open Research Data

## Helmholtz NFDI Participation

- Helmholtz is a key driver of the National Research Data Infrastructure (NFDI):
  - Helmholtz Centers are part in 21 out of 26 consortia.
  - All Centers are members of the NFDI.
- The Helmholtz Open Science Office acts as:
  - Facilitator (e.g., via [Helmholtz Open Science Forums](#))
  - Advisor (e.g., [structural evaluation of the NFDI](#))
  - Contributor to the 2024 joint [statement](#) on the NFDI by the Alliance of Science Organizations in Germany

Participation of the Helmholtz Centers in the National Research Data Infrastructure (NFDI)



# Open Research Data

## Helmholtz NFDI Participation

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- [Base4NFDI](#) (GFZ, KIT, OS Office)
- [DAPHNE4NFDI](#) (DESY, FZJ, HZB, HZDR, HEREON, KIT)
- [DataPLANT](#) (FZJ)
- [FAIRagro](#) (FZJ, UFZ)
- [FAIRmat](#) (FZJ, HZB, HZDR, KIT)
- [GHGA](#) (CISPA, DKFZ, DZNE, HMGU, HZI, MDC)
- [NFDI4BioDiversity](#) (AWI, UFZ)
- [NFDI4BIOIMAGE](#) (DKFZ, FZJ, UFZ)
- [NFDI4Cat](#) (KIT)
- [NFDI4Chem](#) (KIT, UFZ)
- [NFDI4DataScience](#) (AWI)
- [NFDI4Earth](#) (AWI, DLR, FZJ, GEOMAR, GFZ, HEREON, KIT, UFZ)
- [NFDI4Energy](#) (GFZ/RIFS, KIT)
- [NFDI4Health](#) (MDC)
- [NFDI4Immuno](#) (DKFZ, HZI)
- [NFDI4Ing](#) (FZJ, DLR, KIT)
- [NFDI4Microbiota](#) (DLR, FZJ, GFZ, HMGU, HZI, MDC, UFZ)
- [NFDI-MatWerk](#) (FZJ, HEREON, KIT)
- [NFDI4Objects](#) (UFZ)
- [NFDIxCS](#) (KIT, FZJ)
- [PUNCH4NFDI](#) (DESY, DLR, FZJ, GSI, HZDR, KIT)
- [Text+](#) (FZJ)

# Open Research Data

## EOSC – European Open Science Cloud

- The European Open Science Cloud ([EOSC](#)) has been started in 2015 initiated by the European Commission.
- Goal:
  - Development of an inclusive and open space for the sharing and using of research data in Europe
  - Create a “Web of FAIR Data and Services” for European science
  - Build on existing infrastructures and services, and consolidating them into a federated “system of systems”
- National EOSC Nodes
  - The NFDI functions as the German EOSC Node.
  - The Node serves as a platform for research data. It integrates AAI connectivity, in order to lower the barriers for German organizations joining the EOSC Federation.

 EOSC Node | Germany

 Nationale  
Forschungsdaten  
Infrastruktur

# Open Research Data

## Helmholtz EOSC Participation

Since 2018, Helmholtz Centers have been involved in **23** of the **49** ongoing and closed [EOSC projects](#).

### Ongoing:

[AquaINFRA](#): Hereon, KIT

[Blue-Cloud 2026](#): AWI

[EOSC-Beyond](#): DESY, FZJ, KIT

[EOSC Data Commons](#): FZJ

[EOSC United](#): FZJ

[EVERSE](#): HZDR

[O.S.C.A.R.S](#): DESY

### Closed:

[AI4EOSC](#): KIT

[EOSC4Cancer](#): DKFZ

[FAIR-EASE](#): AWI

[FAIR-IMPACT](#): KIT

[Skills4EOSC](#): KIT

### Starting in 2026:

[EOSC4ALL](#): FZJ

[EOSC-ARENA](#): KIT

[EOSC Mesh](#): DESY, FZJ, KIT

[EOSC-Marine](#): AWI

[Fluid-AI](#): KIT, UFZ

[GenAI4Earth](#): GFZ, KIT, UFZ

[RenAi](#): KIT, UFZ

[STARDAST](#): UFZ



Open Research Software

# Open Research Software

The topic of Open Research Software continues to gain importance; while open science calls for **reuse** and **reproducibility** of scientific results, in many research areas, this can only be ensured if **source code** is made openly accessible in addition to the corresponding research data.

Diverse initiatives:

- 2017: position paper [Access to and re-use of research software](#)
- 2019: [Model Policy on Sustainable Software at the Helmholtz Centers](#)
- 2021: [Checklist for the Implementation of Software Policies at the Helmholtz Centers](#) (German only)
- 2022: [Helmholtz Open Science Policy](#) & Involvement in the [campusSOURCE Award 2022](#)
- Since 2023: [Helmholtz Research Software Directory](#) & [Helmholtz Software Award](#)



# Helmholtz Open Science Policy

## Open Research Software

- „3.1 The employees shall ensure that
  - wherever possible, the program code that is necessary for reusing and/or validating the published data is made openly accessible in a repository.
- 3.2 For implementation purposes, the Centers and their information infrastructure facilities shall ensure that
  - researchers are supported in publishing research software;
  - the metadata of the deposited software/the deposited code are published under a Creative Commons Public Domain Dedication License (CC0) or an equivalent license (insofar as legitimate interests or constraints are respected) and in accordance with the FAIR Principles (especially machine-readability), and that they include at least information about the following: program code (description, date of deposit, version, authors, repository); name, acronym, and number of the funding project; licensing conditions; persistent identifiers and, if possible, organizations and funding. If applicable, the metadata must also include persistent identifiers for related publications and other research results.“

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Version 1.0

# Task Group

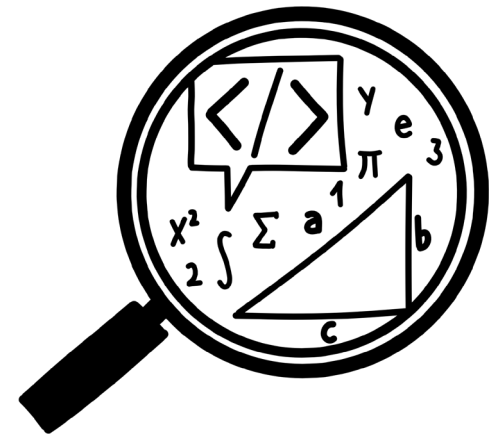
## Research Software

### Topics of the Task Group (among others):

- Incentives and metrics
- Software development and documentation practices
- Accessibility, publication and transfer strategies
- Infrastructures & Archiving
- Quality assurance
- Licensing and other legal issues
- Education and training
- Guidelines and directives

### Products of the Task Group:

- [Model Policy on Sustainable Software at the Helmholtz Centers](#)
- Recommendations for the Implementation of Guidelines and Policies on Research Software Management at the Helmholtz Centers
- [Dealing with research software: Recommendations for best practices](#)
- Position Paper: Access to and Reuse of Research Software



Source: Julian Kücklich,  
<https://doi.org/10.5281/zenodo.5608845>,  
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# Open Research Software

## Helmholtz Software Award

The Helmholtz Research Software Award aims to promote the development of professional, high-quality, and sustainable research software and to recognize commitment to software as the basis of modern data science.

The Helmholtz Software Award is presented by Helmholtz Federated IT Services (HIFIS), the Helmholtz Information & Data Science Academy (HIDA), and the Helmholtz Open Science Office.

- [Winners of the Helmholtz Software Award 2024](#)
- [Winners of the Helmholtz Software Award 2023](#)



<https://os.helmholtz.de/en/open-research-software/helmholtz-software-award/>

# Research Assessment

# Research Evaluation and Incentives at Helmholtz

## Program-Oriented Funding (PoF)

“The scientific evaluation is focused on scientific quality. The results serve to provide a review of the performance of both the Helmholtz Center and the individual, usually cross-center programs. Both aspects are equally important: The centers are the driving force behind the Association, since this is where research is carried out and where new insights are gained...”<sup>1</sup>

### OS Office strategic goals

Create awareness and recognition for the diversity of research outputs and activities

Align assessment of research to the conditions of digitalization and open science

Improve data and software publications related to specific quality criteria

# Research Assessment

- The San Francisco Declaration on Research Assessment (DORA) deals with the reform of research assessment and contains recommendations for funders, organizations and individuals.
  - Helmholtz signatories: DKFZ, FZJ, GFZ, KIT, MDC
- Reforming the practice of research assessment in the Coalition for Advancing Research Assessment (CoARA)
  - Recognizing diverse outcomes, practices, and activities in the assessment of research, researchers, and research institutions
  - Helmholtz signatories: MDC, Helmholtz OS Office
  - Since March 2025: OS Office coordinates the CoARA German National Chapter Germany



# Research Assessment

## Task Group Research Assessment

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The Working group is active since March 2025.

**Objective:** Examination of quality-oriented evaluation practices in research

### **Focus areas**

- Analysis of the evaluation procedures currently used in the centers
- Comparison with ideas and recommendations from scientific discussions
- Identification of development needs

### **Project**

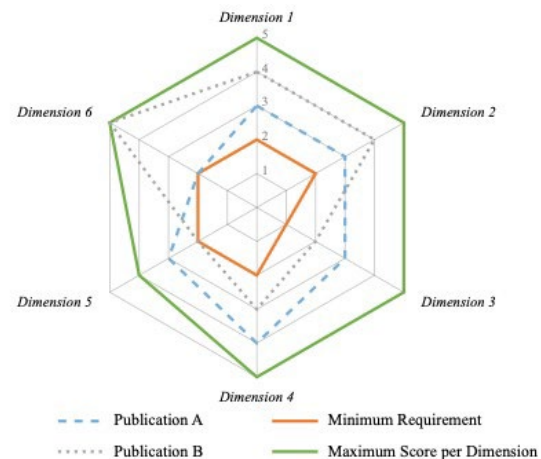
- Development of concrete proposals for the further development of research evaluation in the Helmholtz Association

Website: <https://os.helmholtz.de/en/open-science-in-helmholtz/working-group-open-science/task-group-research-assessment/>

## Task Group

# Helmholtz Quality Indicators for Data and Software Products

- Since March 2022: [Task Group Helmholtz Quality Indicators for Data and Software Products](#)
- **Objective:** Development of incentives and indicators to promote Open Science in the Helmholtz Association
- 2023: Establish a **basic indicator** within the framework of PoF as an incentive for the presentation of citable research data and software publications.
- Next step: **Quality indicators** for data and software publications will replace the basic indicator
  - Defined quality dimensions based on FAIR and FAIR4RS
  - Test introduction for the reporting years 2026-2027
  - Implementation from reporting year 2028 (PoF-V)



Status report: A Framework for Assessing Research Data and Software Publications The Helmholtz Quality Indicators: Status report of the Task Group Helmholtz Quality Indicators for Data and Software Products of the Working Group Open Science and the Helmholtz Open Science Office.

<https://doi.org/10.48440/OS.HELMHOLTZ.085>

# Research Assessment

## Open Research Information

- freely accessible reusable metadata on research activities and outputs
- objective: from (proprietary) research information to open research information

### BARCELONA DECLARATION ON OPEN RESEARCH INFORMATION

- research information is crucial for strategic decisions, allocation of resources, and fair and transparent research assessment
- openness is of decisive relevance
- important building block of open science and for the reform of research assessment and academic sovereignty



# Projects of the Helmholtz Open Science Office

# Project participation of the Helmholtz Open Science Office

The Helmholtz Open Science Office participates in relevant third-party funded projects.

These are currently:

- Advancing Research Assessment through integrated Open practices and Narrative - ARION (Horizon-EU)
- [OA Datenpraxis](#) (DFG)
- [open-access.network](#) (BMFTR)
- Open Access Scenario Analysis - [OASA](#) (DFG)
- [Transform2Open](#) (DFG)
- [PID4NFDI](#) (BASE4NFDI)
- [PID Network Deutschland](#) (DFG)

Completed projects:

Alliance Permanent Access to the Records of Science in Europe Network ([APARSEN](#)), [DeepGreen](#), Ecosystem Data Management ([EcoDM](#)), Opportunities for Data Exchange (ODE), Options4OA, [ORCID DE](#) und [re3data](#).



Transform2Open

# DFG Project

## OA Datenpraxis



- Title: OA Datenpraxis
- Project partners: Humboldt-University of Berlin  
Göttingen State and Regional Library of Lower Saxony
- Grant period: 02/2024 bis 12/2026
- Project website: <https://oa-datenpraxis.de/en>
- Contact persons: Heinz Pampel & Johannes Schneider
- Topics:
  - Supporting the formation of structures for the open access transformation at research institutions in Germany
  - Promotion and establishment of processes and procedures for sovereign data practice

# DFG Project

## OA Datenpraxis



With a view to the **Open Access transformation** at research institutions in Germany the project pursues the following goals:

- Improvement of data-based governance
- Strengthening of collaborations
- Development of standards for collaborative data practice
- Minimizing dependencies on commercial data sources
- Improvement of information provision

The focus is on **promoting and establishing** processes and procedures for **sovereign data practice** in shaping the open access transformation.

After a report about how data on publication costs is collected at over 250 research institutions and an overview of tools for OA data, the current focus is on bringing together the community via multiple workshops on the topic „Open Access reporting in practice“

# BMFTR Project

## open-access.network



- Title: open-access.network
- Projekt partners: Communication, Information and Media Center (KIM) of the University of Konstanz  
Göttingen State and University Library of Lower Saxony  
Open Research Office Berlin at Freie Universität Berlin  
Technical Information Library (TIB) Hannover
- Grant period: 12/2019 to 12/2028
- Project website: <https://open-access.network>
- Contact person: Paul Schultze-Motel

In its first two funding phases, open-access.network established a central information and networking service for open access - free access to scientific information. In the third funding period, which is now starting, the project is implementing numerous measures to promote the open access transformation.

Participation of the Helmholtz Open Science Office in six work packages:

- Editorial expansion and consolidation of content (web editorial team)
- Workshops and information events on current challenges of OA transformation (workshops on topics such as research evaluation and information budgets)
- Further development of the helpdesk (consulting services)
- Target group-specific awareness raising for rights retention strategies (workshops and handouts)
- Services for universities of applied sciences and small institutions (workshops and consulting)
- oa.atlas (data collection and hands-on labs)

- Title: Open Access Scenario Analysis
- Project partner: Forschungszentrum Jülich  
Humboldt-Universität zu Berlin  
RWTH Aachen University  
Leipzig University
- Grant period: 01/2026 to 12/2028
- Website: [oasa.info](https://oasa.info)
- Contact person: Marc Lange
- Topics:
  - Addressing current challenges of the open access transformation in the area of financial and organizational structure
  - Analysis and evaluation of the financial development prospects of open access
  - Recommendations for further addressing the open access transformation in Germany

- Title: Persistent Identifier Services for the German National Research Data Infrastructure – PID4NFDI
- Project partner: DataCite  
Gesellschaft für wissenschaftliche Datenverarbeitung Göttingen (GWDG)  
Technical Information Library (TIB) Hannover
- Grant period  
integration phase: 01/2025 to 12/2026
- Project website: <https://pid.services.base4nfdi.de>
- Contact persons: Antonia Schrader & Steffi Genderjahn

- PID4NFDI is currently funded in the **integration phase** as part of [Base4NFDI](#).
- Objective: Establishment of a basic service to support the NFDI consortia in the application, use and implementation of **persistent identifiers (PIDs)**
- Main areas of work in the current phase:
  - Development of a comprehensive **strategy** for the selection and integration of PIDs
  - Development of **use cases, guidelines and tools** to improve the metadata quality and interoperability of PID systems within the NFDI
  - Establishment of a **PID Coordination Hub** as an entry point for the NFDI on PID-related topics
  - Development of **training and support concepts** for the use and application of PIDs
  - Public relations and **networking** activities
- **Close cooperation** between PID4NFDI and the PID Network Germany

# DFG Project

## PID Network Deutschland



- Title: PID Network Deutschland -  
Netzwerk für die Förderung von persistenten Identifikatoren in Wissenschaft und Kultur
- Project partners: DataCite  
German National Library  
Technical Information Library (TIB) Hannover  
University Library Bielefeld
- Grant period: 03/2023 bis 08/2026
- Informations: <https://www.pid-network.de>  
<https://os.helmholtz.de/aktuelles/projekte/pid-network-deutschland>
- Contact persons: Steffi Genderjahn & Antonia Schrader

# DFG Project

## PID Network Deutschland

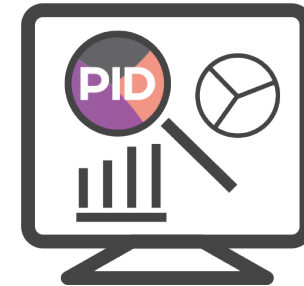


Objective: Establishment of a network of existing and new actors in science and culture to promote and consolidate the application, implementation, standardization and international networking of PID systems at local, national and international level and development of a national PID roadmap.

The 10 PID application areas on which the project will focus.



Icons for 10 PID Use Cases: <https://doi.org/10.5281/zenodo.15173234>



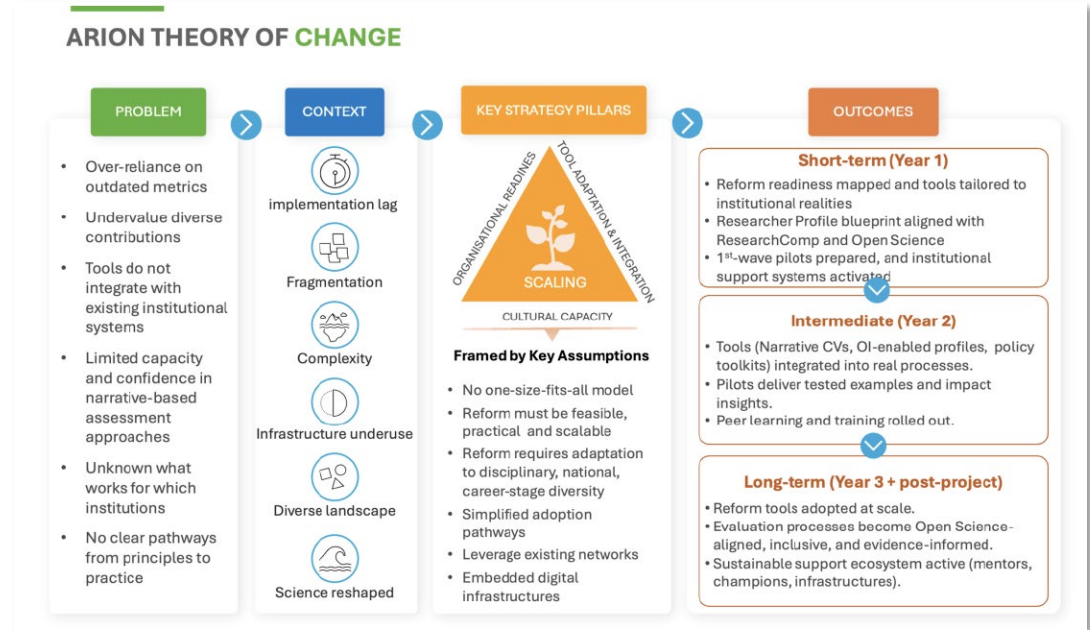
<https://pid-monitor.org/>

- Title: Transform2Open
- Project partners: Research Center Jülich, Central Library  
University of Potsdam, University Library
- Grant period: 01/2023 to 06/2026
- Project websites: <https://www.transform2open.de>  
<https://os.helmholtz.de/aktuelles/projekte/transform2open>
- Contact person: Lea Maria Ferguson

- The **aims** of Transform2Open are
  - Development of **strategies, concepts and measures** for shaping the **open access transformation**
  - Further development of budgets, criteria, competencies and associated processes with regard to the **financial aspects** of the open access transformation
- The **target group** for the results of Transform2Open are **universities and non-university research institutions**
- The project organizes **dialogue forums and workshops** with various target groups and ensures interaction with other projects and activities in the field of open access transformation (e.g. open-access.network, openCost, information budget focus group, open access data practice)
- Publications: <https://www.transform2open.de/en/publications>
- Social Media:
  - Bluesky: [@transform2open.bsky.social](https://bsky.app/profile/@transform2open.bsky.social)
  - Mastodon: [@Transform2Open.openbiblio.social](https://openbiblio.social/@Transform2Open)

# Advancing Research Assessment through integrated Open practices and Narrative (ARION)

- EU-project (from September 2026) with 14 international project partners
- ARION's focus areas:
  - Open Infrastructure-enabled Digital Researcher profiles
  - Narrative CVs
  - Enhanced HR (modular) toolkits
  - Strategic pilots
- Goal: Bridging principles with practice across Europe's research assessment landscape



Dialogue

# Team

- Mathijs Vleugel (Head)
- Lea Maria Ferguson
- Steffi Genderjahn
- Marc Lange
- Heinz Pampel
- Johannes Schneider
- Antonia C. Schrader
- Paul Schultze-Motel



# HELMHOLTZ

Open Science

## Keep in touch



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<https://os.helmholtz.de>



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Publications and recommended readings: [Zotero](#)

Mailing list for members at Helmholtz - [Helmholtz Open Science Professionals](#) and [Mattermost](#) 



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