

Germany - Open science country note

Open science and the national context

The topic of open access has gained both attention and importance in Germany in recent years. Research players as well as the federal government and the *Bundesländer* have initiated different activities and initiatives to improve access to and the preservation of scientific knowledge.

The Priority Initiative “Digital Information”

In 2008 the Alliance of German Science Organisations launched the Priority Initiative “Digital Information”, in which the most important German research organisations participate. The Priority Initiative’s goals are to enable the broadest possible access to digital publication and research data, and to arrange the long-term availability of the digital media and the contents and support of IT-based research.

The major research organisations in Germany had already signed the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities in 2003. The signatories to the Berlin Declaration have committed themselves to supporting the transition to the open access paradigm through various activities.

National strategy

The Digital Agenda 2014-2017, which was published in August 2014, outlines a number of measures in response to digitalisation. Within this context the Federal Ministry of Education and Research (BMBF) will develop a comprehensive open access strategy to establish the preconditions for an effective and permanent access to publications derived from publicly funded research, and to improve the access to research data.

Funding

The German Research Foundation (DFG), as one of the main research funding bodies in Germany, has integrated open access into its funding policy, and has taken initiatives to support information infrastructures for and access to research data.

Open science research and innovation actors

The Federal Ministry of Education and Research, as well as the respective Ministries of the German *Länder*, supports open access. The ministry also provides information on open access on its website, www.bmbf.de/de/22905.php [1].

All major science organisations as well as many higher education institutions are actively contributing to strengthen open access in Germany:

The German Research Foundation (DFG), as one of the main research funding bodies in Germany, has integrated open access into its funding policy. Recipients of DFG funding are expected to publish their research results and make them available, where possible, digitally and on the internet via open access. An embargo period of six to twelve months (depending on the research discipline) may apply. DFG also funds different kinds of activities to improve open access (e.g. projects to promote awareness of open access, support of OA journals and repositories).

www.dfg.de/en/magazine/spotlight/open_access/funded_projects/index.html [2]

The Leibniz Association supports open online access to and exchange of research results; its collective research output is visible, searchable and permanently available via the portal LeibnizOpen. Many Leibniz institutions operate data or publication repositories; act as co-editors or service providers for open access journals in their fields; and offer associated support.

www.leibniz-gemeinschaft.de/en/infrastructures/open-access [3]

The Helmholtz Association also supports the formulation of OA policies at both the national and international levels, and has initiated numerous measures and activities related to open access.

The Association has established a dedicated office to co-ordinate its open science activities. Its centres operate repositories and make OA advisors available to their staff.

www.helmholtz.de/en/research/open_access/ [4]; <http://oa.helmholtz.de> [5]

The Max Planck Society has been active for many years now – through the decentralised efforts of its institutes and via the Max Planck Digital Library – in testing and supporting new forms of science communication.

www.mpg.de/en/home-en.html [6]; <http://openaccess.mpg.de/> [7]

The Fraunhofer-Society promotes open access to publications in line with the Berlin Declaration, via its own OA policy and a range of concrete implementation measures outlined by a central working group.

Many German universities are actively participating in the movement toward open access, with numerous related bottom-up commitments.

In 2014, Germany established a Council for Information Infrastructure (Rat für Informationsinfrastrukturen). Its task is to co-ordinate and foster co-operation among different organisations and initiatives in order to manage the different strategies and to support dynamic systems of information infrastructure.

Open science and business sector actors

There are no major PPPs related to open science initiatives led by private foundations in Germany. The Open Knowledge Foundation is a very active non-profit organisation in Germany (<http://okfn.de/> [8]) that also strongly advocates open science.

Policy design - Open data

Science Data

The Priority Initiative “Digital Information” of the Alliance of German Science Organisations has a dedicated working group focused on research data. In June 2010, the Alliance adopted Principles for the Handling of Research Data, which supports open access to publicly funded research data. The Alliance partners aim to establish structures to enable the collection, archiving and subsequent reuse of primary research data in all applicable disciplines.

The German Research Foundation (DFG) also participates actively in international exchanges in the area of open access/open data, at both the European level (Knowledge Exchange, Science Europe) and the global level (Global Research Council, Research Data Alliance, the G8 Summit of 2006). As good scientific practice, research data from DFG projects need to be accessible for at least ten years.

German representatives from all major research organisations are working actively in the Council, in

the Technical Advisory Board, or in working groups of the Research Data Alliance (RDA). In late 2014, a national RDA conference took place in Potsdam, Germany. <https://europe.rd-alliance.org> [9]
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A growing number of the many diverse research infrastructures that the Helmholtz Association maintains are now providing access to their data, e.g. the World Data Centre for Marine Environmental Sciences (WDC-MARE) a Publishing Network for Geo-scientific & Environmental Data (PANGEA), the World Stress Map (WSM), a freely available fundamental database for Earth System Management, and the World Data Centre for Remote Sensing of the Atmosphere (WDC-RSAT). In line with its key function as provider of large-scale research infrastructures, the Helmholtz Association is open science policies, i.e. through chairing the research data working group of Science Europe and broad engagement within RDA.

Since 2012 the DFG-funded re3data.org – the Registry of Research Data Repositories (<http://re3data.org> [10]) – offers researchers, funding organisations, libraries and publishes an overview the heterogeneous landscape of research data repositories. In doing so, re3data.org contributes to the path to Open Science.

Several Leibniz institutions dedicated to information infrastructures are founding members of DataCite. They act as national representatives for researchers and institutions that would like to assign permanent identifiers to their data (www.datacite.org/ [11]).

Open government

In 2013, the federal government launched the central Internet platform GOVDATA (www.govdata.de/ [12]) as a pilot, regular operation started in 2015. The aim of this platform is to create a central access point to all available administrative data from different administrative levels (federal, regional, local administration), and will begin regular operation in 2015. The German Action Plan to implement the G8 Open Data Charter is being developed.

Policy design - Open/increasing access to scientific publications

Federal Government

Strategic dialogue – In 2012 the Federal Ministry of Education and Research (BMBF) commissioned a strategic dialogue on the topic of copyright law in relation to science and innovation for the digital information society. Experts from scientific research, scientific organisations, libraries and museums, the education and innovation sectors, scientific publishers, management, and copyright lawyers were involved in the process. In 2013 a final report was issued (www.bmbf.de/de/22905.php [1]).

Open access in the German copyright act – In 2013 a secondary publication right was introduced into the German copyright act in order to strengthen open access. This regulation grants scientists and researchers the legal right to have their publications on the Internet, even if they have transferred all distribution rights to the publisher. This regulation applies to publications derived from publicly funded research after an embargo period of 12 months.

Open access strategy of the federal government – See Section 1.

Research organisations

Priority Initiative “Digital Information” – As mentioned above (see Section 1), the Alliance of German Science Organisations launched this initiative in 2008 (www.allianzinitiative.de [13]).

German Research Foundation, DFG – In addition to the above-mentioned OA funding policy, “the DFG funds projects to promote awareness of Open Access as well as to support OA journals (the “golden

road” with the Electronic Publications programme) and OA repositories (the “green road”). Since 2010, the golden road approach is being promoted via the Open Access Publishing programme, in which to date 32 universities have acquired DFG funding to establish open access publication funds. In 2012 the DFG issued a call for proposals for the development and testing of generally applicable business models for open access publication of monographs and monograph series, and in 2014 the DFG called for proposals to design the transition to open access. As from 2010, the DFG financially supports so-called “alliance licences”. The objective of the funding is to improve licensing standards in the interests of research; DFG-funded licences are prerequisites for deposit in open access repositories.

www.dfg.de/en/magazine/spotlight/open_access/funded_projects/index.html [2]

Helmholtz Association – The Helmholtz Association has initiated numerous measures and activities related to open access. In 2004 the Association adopted a resolution: “All publications originating in the Helmholtz Association are to be accessible free of charge, except where express agreements with publishing companies prohibit this.” This year Association added an open access obligation to the grant agreement of its Initiative and Networking Fund. For co-ordination of its open science activities, the Association has established a dedicated co-ordination office. The Helmholtz centres operate repositories and make open access advisors available to their staff. Scientists are supported and advised about open access terms for publications from EU-funded projects. Since 2012, the Helmholtz Association has been supporting the Compact for Open-Access Publishing Equity (COPE). (www.helmholtz.de/en/research/open_access/ [4]; <http://oa.helmholtz.de> [5]).

Leibniz Association – As mentioned previously, the Leibniz Association supports open, online, and barrier-free access to and exchange of research results. With LeibnizOpen, the central OA portal of all Leibniz institutions, the Association wants to maximise the number of publications that are freely available online, thus making its collective research output widely visible, searchable, and permanently available. Many Leibniz institutions provide open access infrastructures for their scientific communities worldwide: they act as co-editors or service providers for OA journals (golden road), operate specialist repositories (green road), and offer associated support and advice, e.g. for transforming journals from subscription-based to open access. A cross-institutional working group organises workshops and conferences in order to raise awareness and inform scientists about current developments in OA issues, such as copyright laws.

www.leibniz-gemeinschaft.de/en/infrastructures/open-access/leibniz-open [14]

Max Planck Society – The Max Planck Society for the Advancement of Science (MPG) supports open access implementation concepts that call for promoting both the golden and green roads, as equally valid concepts. In the case of green open access, it recommends that the applicable embargo periods be six months for the natural sciences and twelve months for the humanities. The Max Planck Digital Library views golden open access as a feasible way for financing scientific information, and organises the workflows and financing in the same way and with the same budget as any conventional subscription information. In addition to easing pressure on the budgets of individual scientists and research groups, this approach facilitates control of overall costs and helps to prevent double-dipping. To implement open access in practice, the Max Planck Society pursues a range of different approaches:

- Self-publishing of OA publications (such as Living Reviews journals, and the Max Planck Research Library’s Edition Open Access).
- Introducing new open access journals that meet the very highest scientific standards. Examples include the journal *eLife*, for which the MPG provides key funding in co-operation with the Howard Hughes Medical Institute and the Wellcome Trust.
- Establishing a centralised support scheme for open access publication payments. The rationale is to remove any administrative burden (getting invoices processed, etc.) from the authors.
- Implementing open access in the rules governing the Max Planck Society, e.g. the Rules of Good Scientific Practice and the Rules for Scientific Advisory Boards.

Fraunhofer Society – The Fraunhofer Society promotes open access to publications via its own open access policy and a range of concrete implementation measures, outlined by a central working group established in 2006 as follows:

- Administration and ongoing expansion of the "Fraunhofer ePrints" Institutional Repository.
- Targeted efforts to obtain full texts of “classical” publications for the Institutional Repository, through green open access.
- Ongoing proactive provision of information to scientists regarding the advantages of open access and the copyright frameworks applicable – through work-shops, lectures, regularly published newsletters, an information wiki and other, similar activities.
- Establishing a central contact point for all questions relative to scientific publications, open access and copyright laws.

An internal consulting team supports scientists in connection with open access publications. A project on managing open access to research data is to be launched in 2014; close consultations with partner organisations in the Alliance of German Science Organisations are currently taking place.

The open access information platform (<http://open-access.net/> [15]) – provides comprehensive information on open access and offers practical advice on implementation. It is supported by major research organisations and includes five university partners. The platform publishes a steady flow of new information and furnishes an overview of events and activities relating to open access. Furthermore, the network behind the platform organises Open Access Days as an annual conference for OA professionals from all stakeholder groups (mainly from Germany, Austria and Switzerland).

A Council for Information Infrastructure (Rat für Informationsinfrastrukturen) – was established in 2014. It has 24 members and be financed jointly by the federal government and the *Bundesländer*. The council operates in the interests of the science community as well as those of the federal government and the *Bundesländer*, via the Joint Science Conference (GWK). Its major tasks is to strengthen open science efforts within the science community; to identify new fields of action and potential synergies at an early stage; and to develop competitive procedures in order to advance the scientific information infrastructure. The Council gives advice regarding science policy and future issues, with the focus on long-term archiving of information and research data, open access, etc.

Skills for open science and open data

Major research organisations are actively helping to strengthen open access. This includes rising awareness and providing information to scientists, as well as offering support and advice. The Helmholtz Association, for example, has set up regular training courses in open science management of research data.

Open science and international co-operation

The Federal Ministry of Education and Research (BMBF) is active in different groups at the European and international level, including: the Network of National Points of Reference of the European Commission (Directorate-General for Communications Networks, Content & Technology, or DG Connect; and the Directorate-General for Research and Innovation), the e-Infrastructure Reflection Group, the [ERAC \(European Research Area and Innovation Committee\) Task Force on Open Access and Innovation](#) [16], and the Digital ERA (European Research Area) Forum (formerly the e-Infrastructures Policy Forum). The BMBF also supports different activities of the OECD, UNESCO, and

the G7 at an international network level.

German science organisations participate in different international working groups, such as the Global Research Council, Knowledge Exchange, Science Europe and Research Data Alliance.

The German Research Foundation (DFG) is a partner within the Knowledge Exchange expert network, which helps develop the digital infrastructure for information and communication technology as it relates to the research and university library sectors. Strategic themes for 2013-15 are “Sustainability of business models for open access services” and “Open data”.

The Helmholtz Association and the German National Library are currently participating in the EU project APARSEN (Alliance for Permanent Access to the Records of Science in Europe Network).

In addition to the various engagements of Helmholtz Centres within the Research Data Alliance, the Helmholtz Association places special emphasis on international co-ordination of the management of research data.

Germany has also participated in OpenAIRE (Open Access Infrastructure for Research in Europe), and is taking part in “OpenAIREplus”, which is extending the mission further to facilitate access to the entire open access scientific production of the European Research Area, providing cross-links from publications to data and funding schemes (www.openaire.eu/general-information/openairefactsheet-40 [17]).

Different national projects are linked to international activities through collaboration with COAR, the Confederation of Open Access Repositories.

Source URL: <https://www.innovationpolicyplatform.org/content/germany-open-science-country-note>

Links

- [1] <http://www.bmbf.de/de/22905.php>
- [2] http://www.dfg.de/en/magazine/spotlight/open_access/funded_projects/index.html
- [3] <http://www.leibniz-gemeinschaft.de/en/infrastructures/open-access>
- [4] http://www.helmholtz.de/en/research/open_access/
- [5] <http://oa.helmholtz.de>
- [6] <http://www.mpdl.mpg.de/en/home-en.html>
- [7] <http://openaccess.mpg.de/>
- [8] <http://okfn.de/>
- [9] <https://europe.rd-alliance.org/>
- [10] <http://re3data.org/>
- [11] <http://www.datacite.org/>
- [12] <https://www.govdata.de/>
- [13] <http://www.allianzinitiative.de>
- [14] [http://www.leibniz-gemeinschaft.de/en/infrastructures/open-access/leibniz-open\)%20](http://www.leibniz-gemeinschaft.de/en/infrastructures/open-access/leibniz-open)%20)
- [15] <http://open-access.net/>
- [16] <http://www.consilium.europa.eu/media/2729851/20140327-erac-task-force-openaccess-innovation.pdf>
- [17] <https://www.openaire.eu/general-information/openairefactsheet-40>