Funding, Policies, Community Building

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Data Sharing from a Funders Perspective
Who is the DFG?

DFG operates through the cooperation of scientific communities and DFG members.
Organisational chart of DFG
What are scientific library services and information systems?

What are information infrastructures?

A network of facilities, organisational structures, content and services

- Libraries, archives, museums, computational centres
- Scientific information: (primary) research data, publications (monographs and journals), databases
- Services in order to ensure a sustainable information supply for the scientific communities
Elements of the LIS funding scheme

- Dedicated funding opportunities for infrastructure facilities and researchers, focusing on new concepts and solutions beyond their basic tasks.
- Funding by DFG is on project basis only, infinite funding is not possible.
- Developed and implemented information services shall eventually be operating on a sustainable basis (institutionalization).

Source: DFG
What does „response mode“ mean for LIS-funding?

Funding always is a response on a requirement defined by a specific scientific community.

This is realized using two complementary formats:

1. The bottom-up-principle

Applications are being submitted to the head quarter in one of the open funding programs for evaluation

2. Following strategic-thematic objectives

In order to support specific types of infrastructures DFG open focussed CFP, which targets certain aspects. These are being defined by the scientific boards.
Main objectives are supply with content and development of infrastructures in order to improve access to scientific information.

- Indexing and digitization
- National supply of scientific literature
- Infrastructure for electronic publication and digital science communication
- Information management

**IMPORTANT**: information service has to be supra-regional, openly accessible and based on standards
Objective: Sustainable archiving of research data and access for later reuse

Stakeholder: researcher and information infrastructure

Support for development and definition of agreed standards and procedures

Funding of infrastructure for sustainable availability of research data

Community-building and policy development

e.g. „DFG Guidelines on the Handling of Research Data“

Source: DFG
An early attempt of a definition:

„... research data are digital and electronically recordable data, that result during the course of scientific research, experiments, measurements, surveys or polls... „

- „research results“?
- software?
- objects?
Research data ...

- ... Are the basis for scientific findings.
- ... Are still reused in an inadequate manner.
- ... Are accessible in a limited manner only.
- ... Are not available on a long term basis.
- ... Receive increasing importance for replication of results.

The vision of the scientific organisation:

- Research data should be as open as possible and supra-regional accessible and available on a long term basis.
Data handling in science

Data on Disks and in Drawers

- Top of the pyramid is stable but small
- Too many disciplines lack a community endorsed data archive
- Risk that supplements to articles turn into Data Dumping places
- Estimates are that at least 75% of research data is never made openly available


EDDI16 – 8th Annual European DDI User Conference
Stefan Winkler-Nees, Cologne, 7th December 2016
Differentiation between data "management" and scientific analysis of data.

Most disciplines have specific requirements on data management and reuse.

These requirements and expectations need to be known and respected (exchange between scientists and information experts).

Survey of existing infrastructures in the disciplines and beyond - also internationally.

Development of business models (long term perspective).

Objective is to improve access to scientific information!

However, an information system is to a large extent an IT project and not a research project (project governance).
Research and data management in scientific projects
(the scientists view)

- Data preparation and management are necessary in research projects; funding for related costs should be granted.
- Cooperation with and support by information experts is a must; ideally before proposal submission already.
- A data management plan has to be developed.
- Institutional responsibilities need to be defined and claimed.
- Scientists should contribute to defining requirements and policies for their specific disciplines.
- Work on the community awareness process (academic culture?).

Source: DFG
Shaping and moderation of an awareness building process aiming at using digital resources more efficiently, develop and implement appropriate infrastructures and tools and to finally make research data available (back up and archiving and re-use).

Close cooperation of scientists as data producers and providers to data repositories and also as users of repositories with experts of the information management jointly shaping the process.

Define discipline specific demands and specifications and include these into the process.

Development of means for publication of research data (incl. peer-review).

Identify best practice examples.

Initiate pilot and exploration projects.

DFG supports the systematic collaboration of scientists with information specialists.
Current funding activities for research data infrastructures

- **Call for proposals: Information Infrastructures for Research Data**  
  (call closed in April 2010)

- **Implementation of a continuous and open funding programme for “Information Infrastructures for Research Data” – responding to the scientific community needs**  
  (started in March 2013 and open until further notice)

- **Recent call for proposals on “Research data in practice”**  
  (call closed in November 2015)
To date 34 projects are being funded.

Total volume: 19 Mio. Euro
▲ Increased awareness for the responsible handling of research data in Collaborative Research Centres

▲ Research data include all sources and results of the research process
  ▪ All kind of data
  ▪ Bio materials
  ▪ Software codes
  ▪ Scientific objects (images, texts, A/V, samples etc.)

▲ Funding options
  ▪ Postdoc
  ▪ Hardware, software, storage, licences, external services, user fees for data infrastructures

(Brit Redöhl, Team III-SFE)
Recommendation Nr. 7:

**Safeguarding and Storing of Primary Data**

*Primary data as the basis for publications shall be securely stored for ten years in a durable form in the institution of their origin.*

Policies 2
Discipline specific policies, as of August 2016

- Guidelines for data management in biodiversity research (by members of the WG Data of the DFG Senate Commission on Biodiversity; [http://www.dfg.de](http://www.dfg.de)).


- Introduction to research data management in the geosciences, DFG project EWIG (DOI: 10.2312/lis.14.01).

- IT recommendations for the sustainable management of digital data in archeology ([http://www.ianus-fdz.de/it-empfehlungen/](http://www.ianus-fdz.de/it-empfehlungen/)).

- "Discover - Citation - Documentation": research data in social and economic sciences ([http://auffinden-zitieren-dokumentieren.de/](http://auffinden-zitieren-dokumentieren.de/)) and ([http://www.ratswd.de/dl/RatSWD_Output3_Forschungsdatenmanagement.pdf](http://www.ratswd.de/dl/RatSWD_Output3_Forschungsdatenmanagement.pdf)).
The "Alliance Principles"

Principles for the Handling of Research Data of the German Alliance of Science Organisations
2010

http://www.allianzinitiative.de/en/

Schwerpunktinitiative "Digitale Information" der Allianz der deutschen Wissenschaftsorganisationen

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“We will initiate a strategy for the digital transformation in the sciences, for example to improve the access to and usability of complex research data. Together with the German Länder, we will found a Council for Scientific Information Infrastructures in which the stakeholders in the scientific system can come to an agreement on how to compile cross-discipline and cross-institutional strategies and standards.”

Coalition agreement CDU, CSU and SPD
18th legislative period, December 2013

Recommendations from May 2016

http://www.rfii.de/en/home/
The Knowledge Exchange (KE) partners are five key national organisations within Europe tasked with developing infrastructure and services to enable the use of digital technologies to improve higher education and research: CSC in Finland, DEFF in Denmark, DFG in Germany, Jisc in the UK and SURF in the Netherlands. The five partners share a clear vision that scholarship should be open. Through Knowledge Exchange we are working together to support the development of digital infrastructure to enable open scholarship.

http://knowledge-exchange.info/

The Research Data Alliance (RDA) is an international organization focused on the development of infrastructure and community activities aimed to reduce barriers to data sharing and exchange, and promote the acceleration of data driven innovation worldwide.

https://rd-alliance.org/

Recently we had the third *RDA-Germany Meeting* 28. and 29.11.2016 at the GFZ, German Research Centre for Geosciences in Potsdam.

http://os.helmholtz.de/de/bewusstseinschaerfen/workshops/rda-de-16/
Some unsolved challenges

- **Incentives**
  
  Why should scientists share their data?

- **Sustainability**
  
  How can we ensure a long-term information service (as long as necessary)?

- **Development of Information Literacy**
  
  Activities of the HRK (German Rector’s Conference):

  Resolution of the 13th General Meeting of the HRK, 20. November 2012
  „Higher education institutions in a digital age: rethinking information competency – redirecting processes“; Implementation of a Working Group;

  Recommendation of the 16th General Meeting of the HRK, 13. May 2014
  „Management of research data – a key strategic challenge for university management“.
Thank you for your attention!

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