Göttingen/eResearch Alliance

The research data life cycle @ Georg-August-Universität Göttingen

Jens Dierkes

Göttingen State and University Library

Gesellschaft für wissenschaftliche Datenverarbeitung mbH Göttingen

U4 workshop: Research Data Life Cylce, 3.2.16, Göttingen

U4 Mission

- The ambition of the U4 network is to strengthen the international position and visibility of the individual partner institutions through intensive cooperation in Education, Research and University Management.
- The U4 aims at:
  - broadening the education offer by pooling resources and enhancing the students' international experience
  - strengthening the research output through cooperation and joint projects
  - sharing knowledge and pooling resources with regard to university management

Peer Review Session III
'Research Infrastructures'

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Coordinators

Contents

- Motivation
- The eResearch Alliance
- Services & examples
- Summary and outlook

Cooperation

Distributed resources

Digitization
&
Networked research

Research data management

Share and reuse

→ *e*Research = *enhanced*Research → infrastructure

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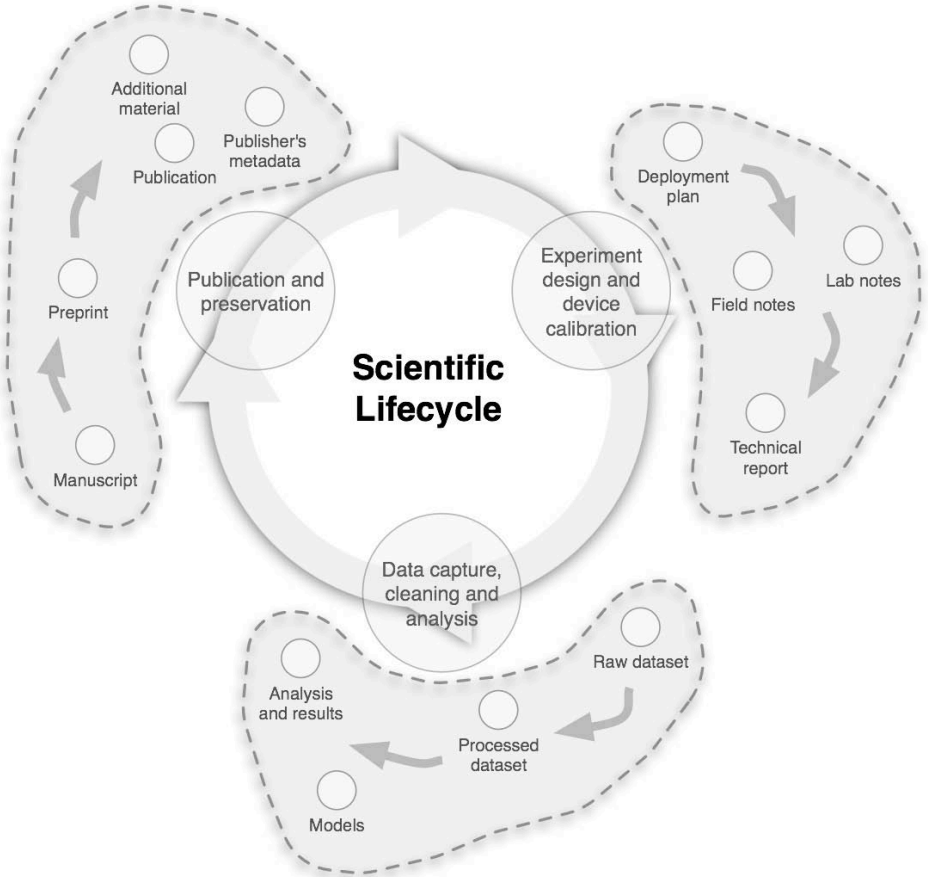
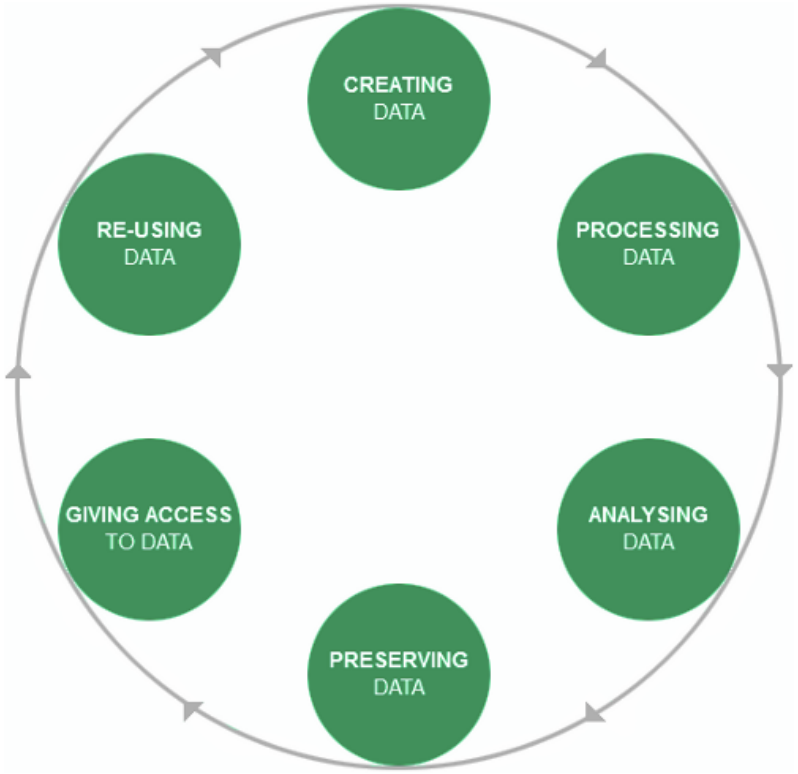


(Pepe et al. 2009)



UK data centre
https://www.ukdataservice.ac.uk/media/132177/data_lifecycle_recolour.png

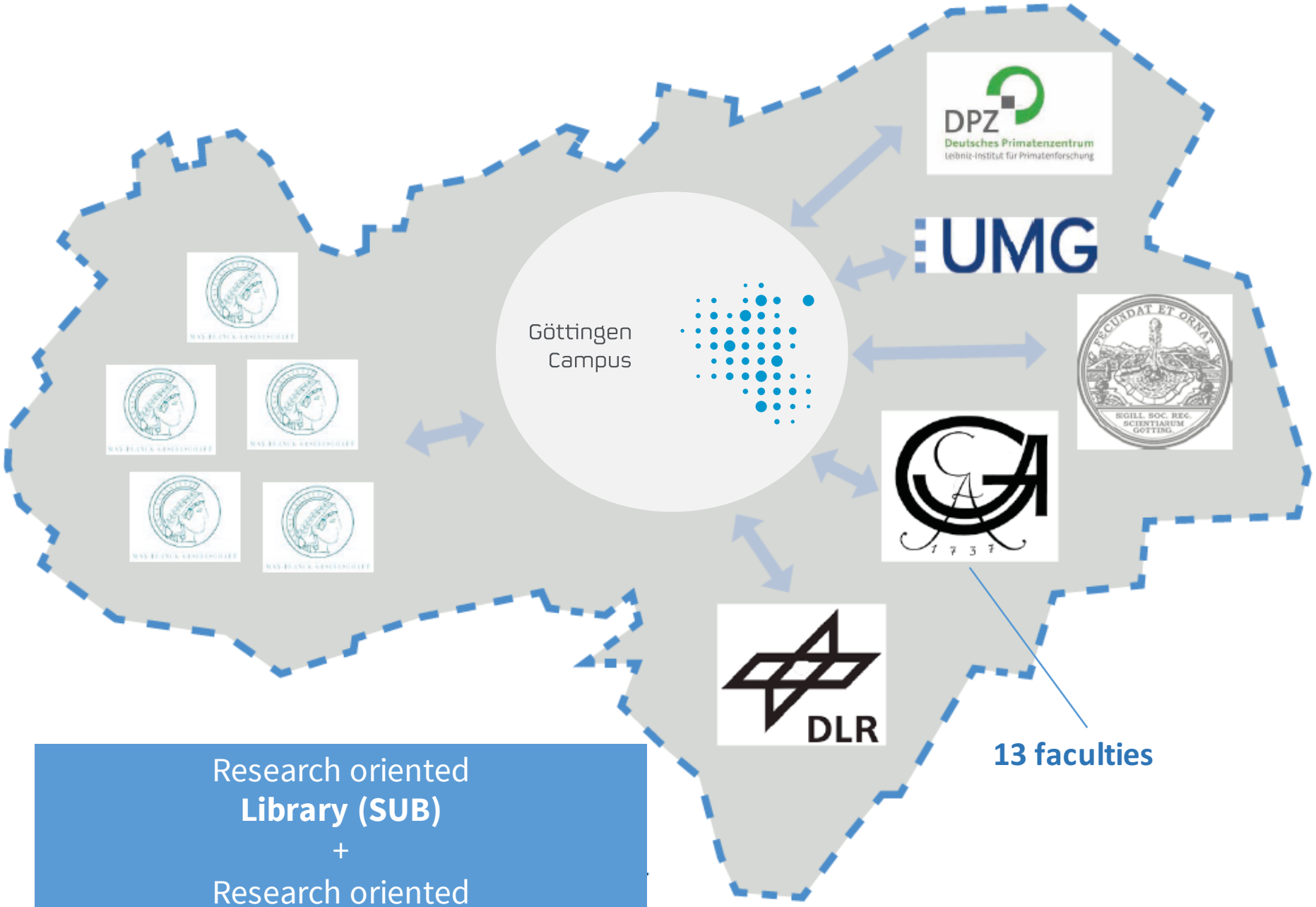
"eResearch refers to the development of, and the support for, advanced information and computational technologies to enhance all phases of research process."

Richard E. Luce (2008)

In book: No Brief Candle: Reconceiving Research Libraries for the 21st Century, Chapter: A New A New Value Equation Challenge: The Emergence of eResearch and Roles for Research Libraries, Publisher: CLIR

_e_Research = _enhanced_Research

→ Develop an optimal information/knowledge infrastructure for the Göttingen Campus



Research oriented
Library (SUB)
+
Research oriented
Computing Center (GWDG)

CORE INFORMATION SERVICES exemplary

- GWDG
  - Network, systems, peripherals
  - Support, purchasing, consultancy, virtualisation
  - ICT, storage, preservation, computing, training
- SUB
  - Information access, circulation, rooms, training
  - Digitization, electronic publishing, AV-production
  - Historic and special collections, subject services
- Admin-IT
  - Finances, student system, PC‘s

Challenges

- Lack of knowledge of existing solutions
- Digital transformation in various stages in individual disciplines
- (Digital) data as central part of research and scholarly communication

Research data policy of the Georg-August University Goettingen (incl. UMG)

Preamble

The Georg-August-University Goettingen is committed to diligently preserve results of scholarship, to produce novel results through research, and to make results accessible and reusable for academia and the wider society, now and for future generations. The management, protection, preservation and sustainable provision of research data must therefore be carried out in accordance with recognized standards, meet high expectations and fulfil legal and ethical obligations. The University acknowledges that the implementation of this guideline will depend on the settings and requirements of each subject area.

https://www.uni-goettingen.de/en/research-data-guideline-of-the-g%C3%B6ttingen-university-incl-umg/509047.html

eResearch Alliance: Basics

- All services for eResearch from one hand
- Co-chaired by Library and IT
  - GWDG: ~ 120 people, 30 in eResearch
  - SUB: ~ 450 people, 40 in eResearch
- Brokering-Office with c. 5 people
  - Team from different disciplines w/ eResearch expertise
  - Actual services and projects in individual organisations
- Participatory Desgin
  - e.g. Research Office in Steering Committee
  - eResearch Council with official Campus delegates

Konstituierende Sitzung: der eResearch-Rat des Göttingen Campus vor der Historischen Sternwarte der Universität.

Klicken Sie bitte hier, um das Bild in Druckqualität herunterzuladen.

Presseinformation: Rat für digitale Forschungsmethoden gegründet

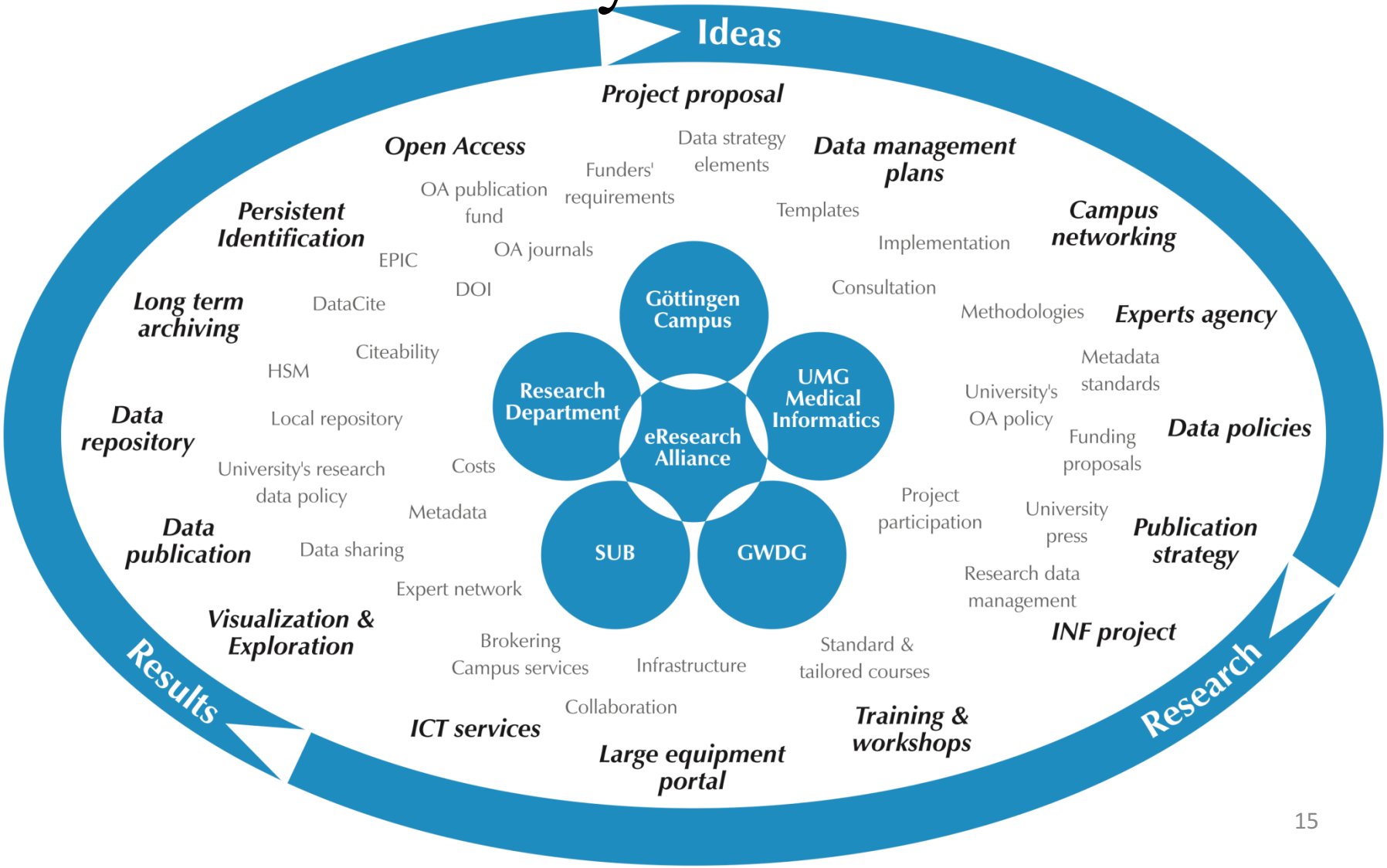
Nr. 134/2015 - 03.06.2015

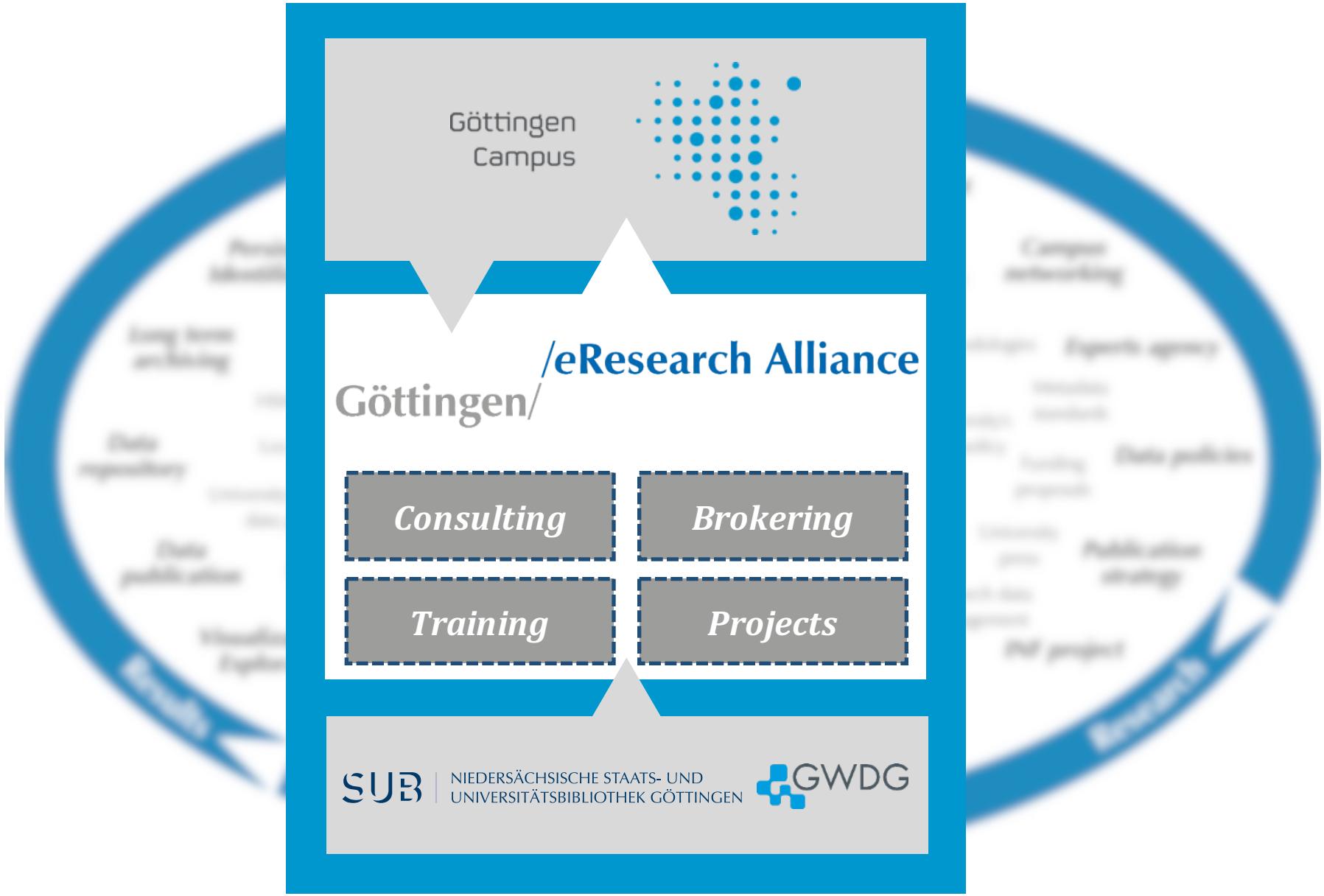
eResearch-Rat des Göttingen Campus nimmt Arbeit auf – Etablierung und Ausbau von Infrastrukturen

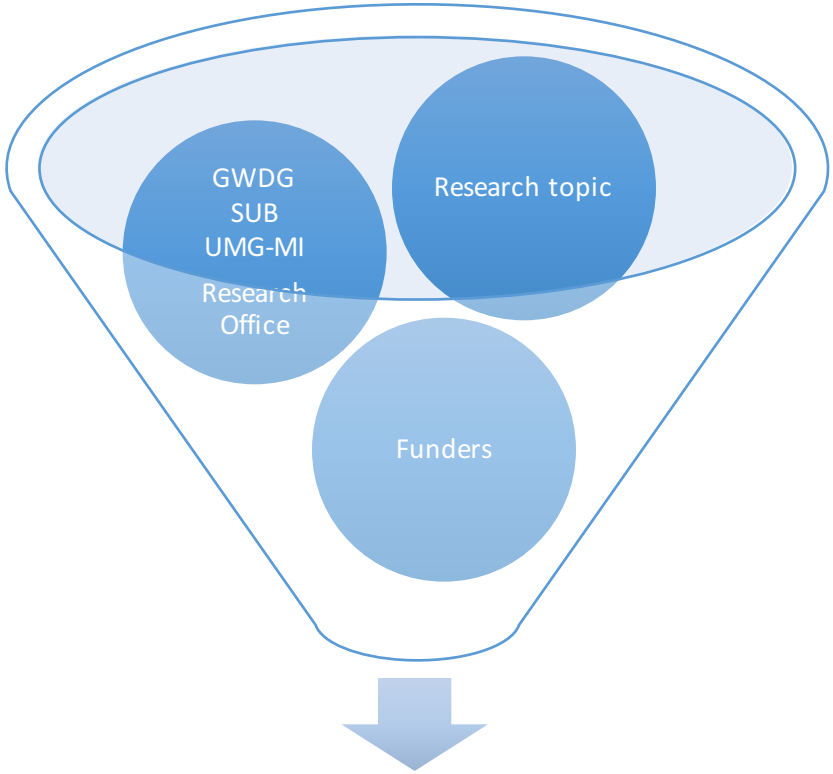
(pug) „eResearch" unterstützt innovative Forschung durch die optimale Verwendung neuer digitaler und technologischer Methoden. Am 2. Juni 2015 hat der eResearch-Rat des Göttingen Campus mit seiner konstituierenden Sitzung im Tagungszentrum an der Historischen Sternwarte der Universität Göttingen seine Arbeit aufgenommen. Als strategisches Beratungsorgan der Göttingen eResearch Alliance – einem Gremium für Fragen zur digitalen Forschung – wird der eResearch-Rat kontinuierlich disziplin- und institutionsübergreifende Aktivitäten für zukunftsorientierte „eResearch"-Themen und -Methoden für den Wissenschaftsstandort Göttingen begleiten, um sie nachhaltig in Forschung und Lehre zu etablieren. Dem ehrenamtlichen Gremium gehören rund dreißig Vertreterinnen und Vertreter aller Fakultäten der Universität Göttingen und der außeruniversitären Forschungseinrichtungen am Wissenschaftsstandort Göttingen an.

„eResearch ist für die Stärkung der Forschung am Göttingen Campus und die Rolle des Rates für die zukünftige strategische Ausrichtung von enormer Bedeutung", unterstrich Prof. Dr. Norbert Lossau, Vizepräsident für Infrastrukturen an der Universität Göttingen, auf der konstituierenden Sitzung. Der Göttinger

Support & services along the scienctific life cycle




Göttingen Campus
Göttingen/eResearch Alliance
Consulting
Brokering
Training
Projects
SUB
NIEDERSÄCHSISCHE STAATS- UND UNIVERSITÄTSBIBLIOTHEK GÖTTINGEN
GWDG



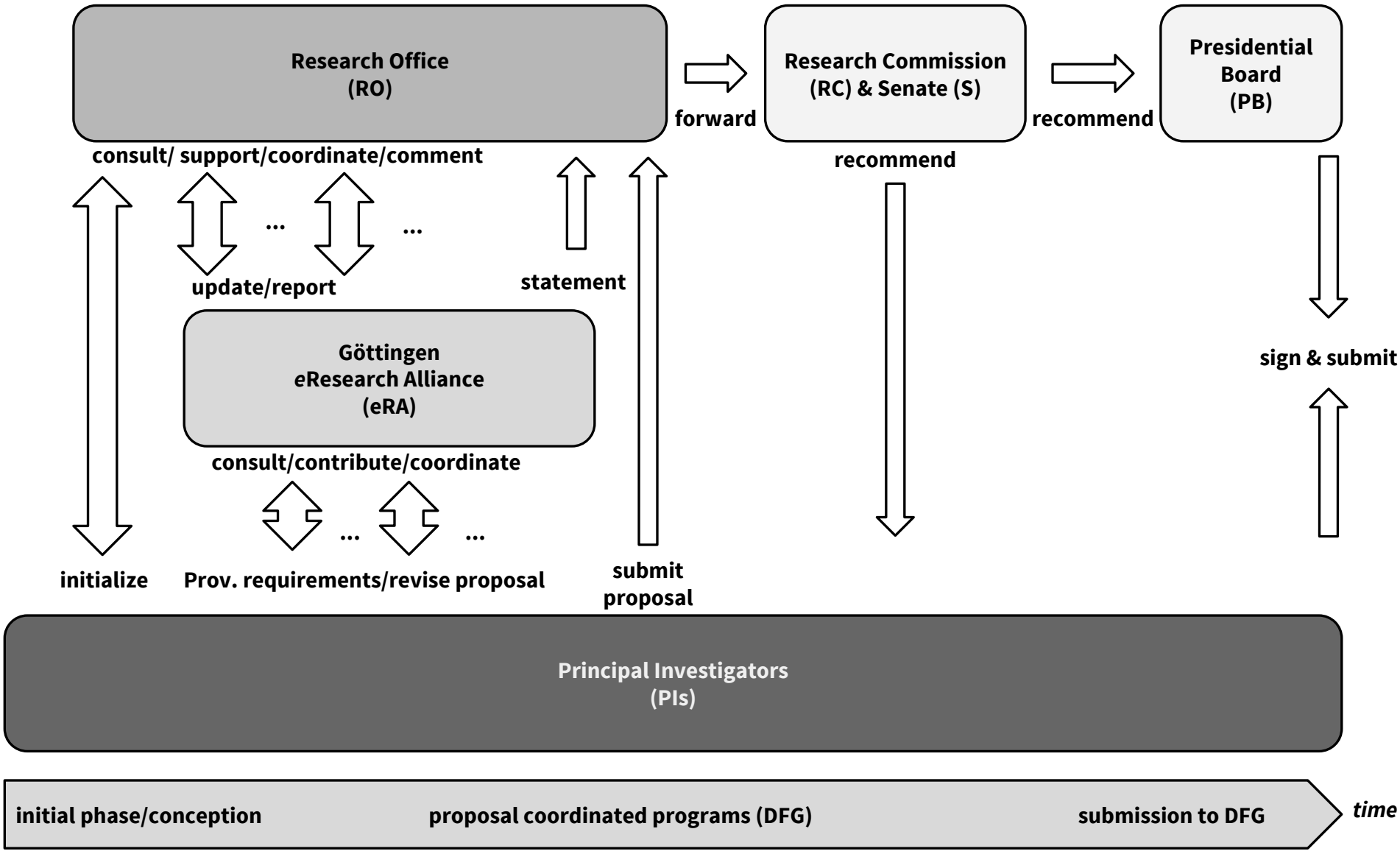
Data-/IT-concept for an application

Funder‘s requirements

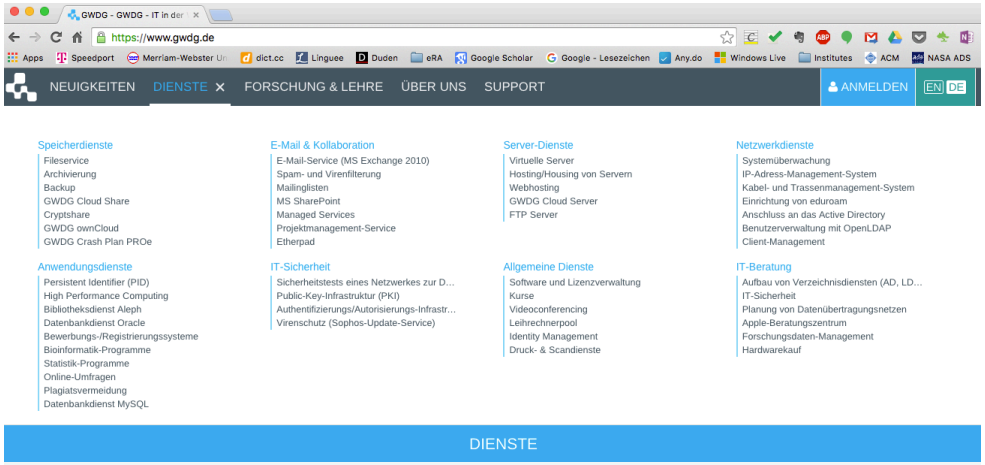
- Local (Uni Göttingen)
- National (DFG)
- International (EU)

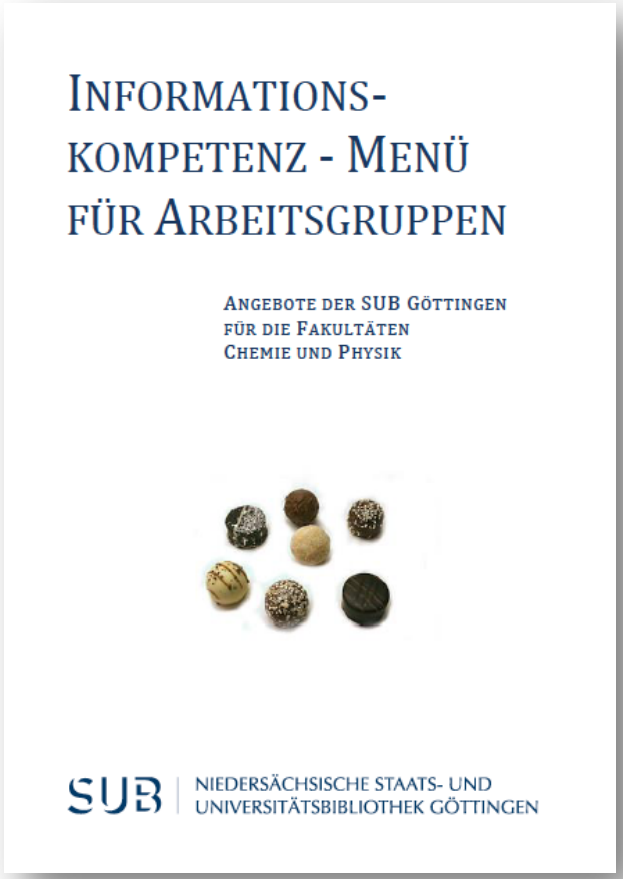
Funding programs (#cases)

- AdW (1)
- DFG
  - SFB+TRR (9, 3 w/ INF)
  - GRK (7)
  - FOR (4)
  - 4 newly funded projects


Research Office
(RO)
forward
Research Commission
(RC) & Senate (S)
recommend
Presidential
Board
(PB)
consult/ support/coordinate/comment
recommend
sign & submit
update/report
statement
Göttingen
eResearch Alliance
(eRA)
consult/contribute/coordinate
initialize
Prov. requirements/revise proposal
submit
proposal
Principal Investigators
(PIs)
initial phase/conception
proposal coordinated programs (DFG)
submission to DFG
time

- **Knowledge network:** Resources & experts
- Consulting and brokering
  - Repositories
  - Open Access
  - GWDG IT Services
  - TextGrid, DARIAH
  - PID-Service
  - Visualization
  - Metadata
- Inquiries by
  - Humanities and social sciences
  - DPZ
  - UMG

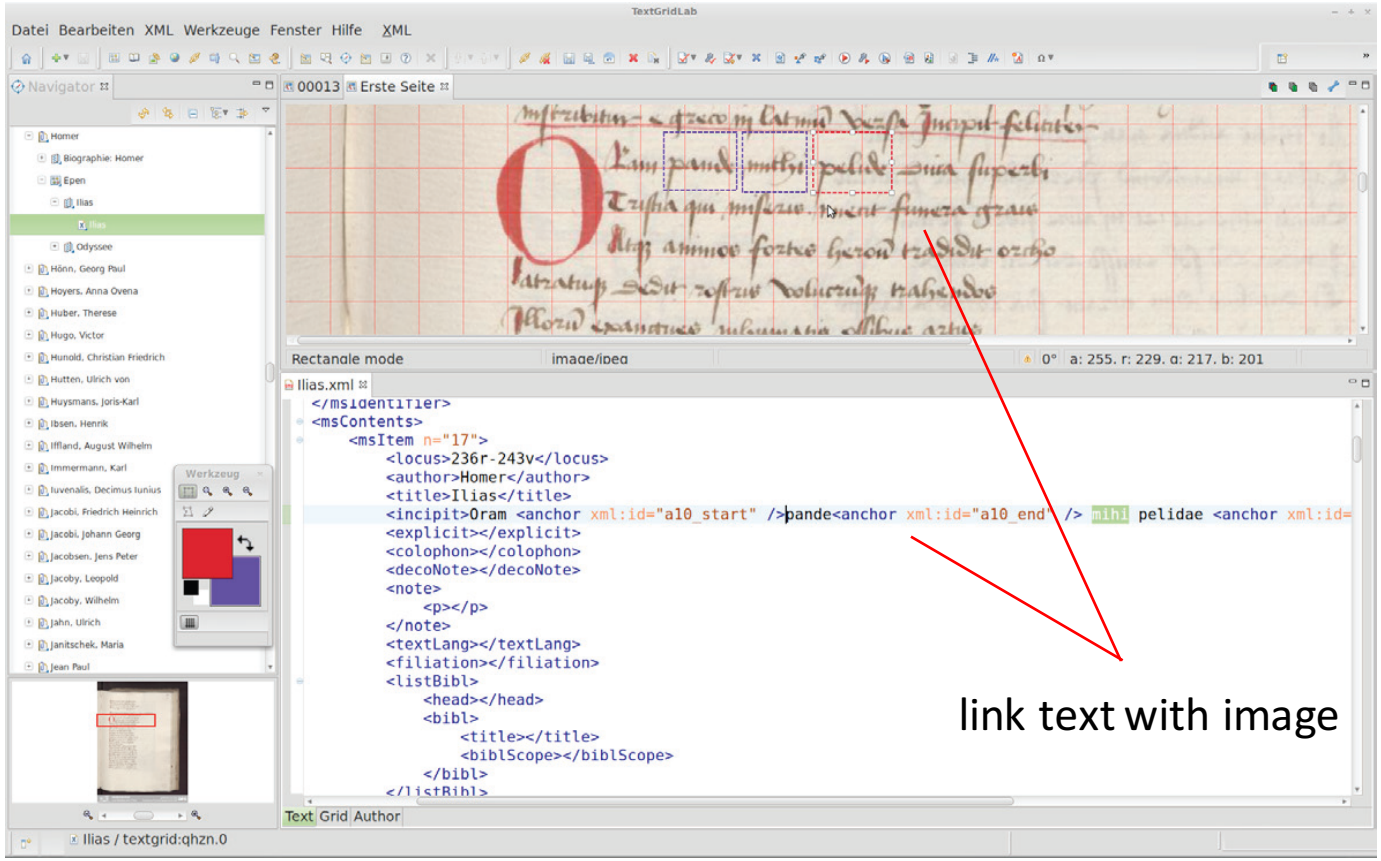




- Trainings for RDM
  - Tailored courses
  - Research training groups
  - Librarians, national
  - Individual institutions and central adminstration
- Cooperation w/ university didactics
- Together w/ subject librarians offerings on digital literacy and RDM
- Integration of „data science“ into the curriculum

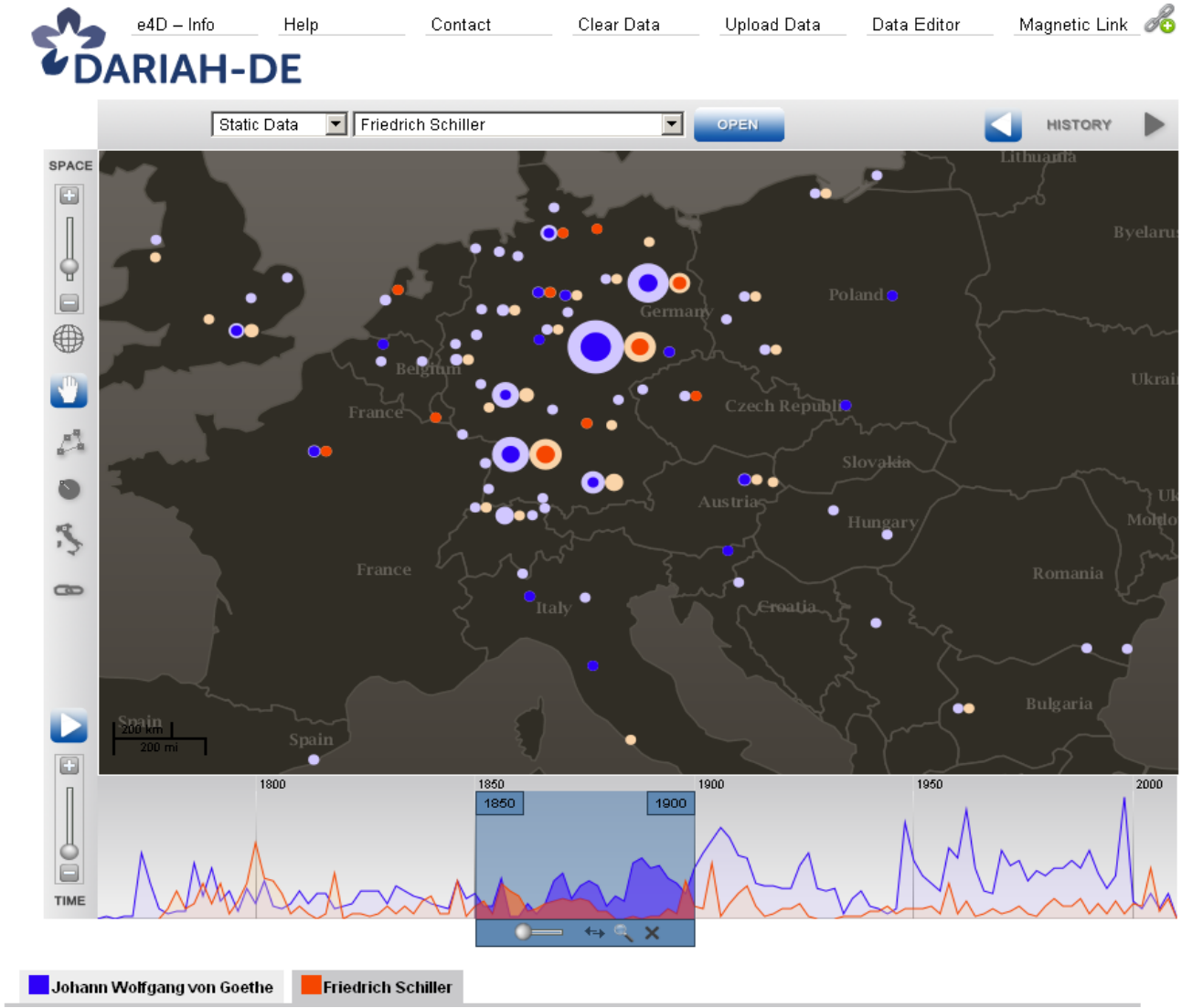
- Publication of research data
  - SUB member of DataCite
  - GWDG member of ePIC
  - Currently developing an institutional repository in Göttingen
- Large equipment portal
- Participating in third-party funded projects
  - Research projects
    - 3 CRCs w/ INF sub projects
  - Infrastructure projects
    - Research data management planning tool (running locally)

Text-image-link-editor



TextGrid
Virtuelle Forschungsumgebung
für die Geisteswissenschaften

Humanities: Geo-Browser – space-time-visualization



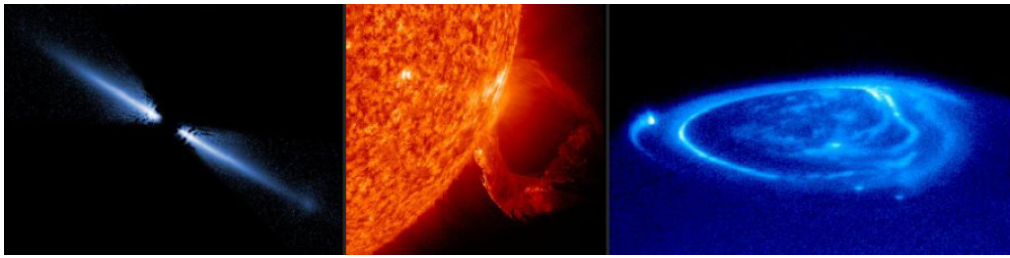
Publications of/about Goethe und Schiller between 1850-1900, based on catalog data at SUB Göttingen

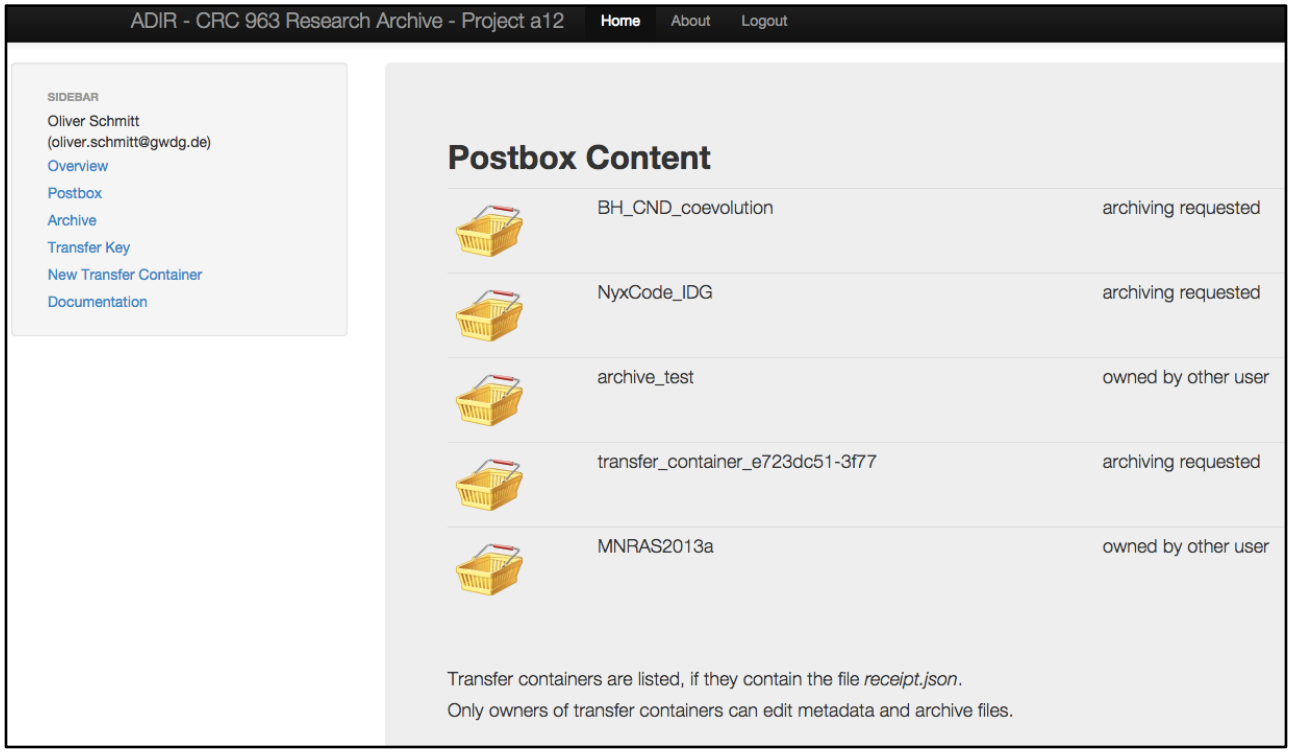
CRC 990 EFForTS: INF-Project

- Large **interdisciplinary** research project (CRC) with integrated service project for information & infrastructure (INF)
- **100+ researchers**, field work: Indonesian Rainforest
- Lots of different data require management
- Provide an information system for research data, write an Excel transformation script, moderate **sharing agreements**, …
- **Embedded Data Managers** know:
  IT Basics, data modelling, concepts of metadata, …
  and how to:
  analyse requirements, moderate discussions, search information, learn new things rapidly …

Datamanager Fabian Cremer in Indonesia, photo taken by Heike Neuroth

CRC963 Astrophysical flow instabilities and turbulence





- Archiving of simulation and experimental data of 16 sub-projets
- Direct data transfer from parallel or lab computers
- Allocation of Persistent Identifiers and annotation of metadata in web browser

The SFB 1002 lab notebook sticker

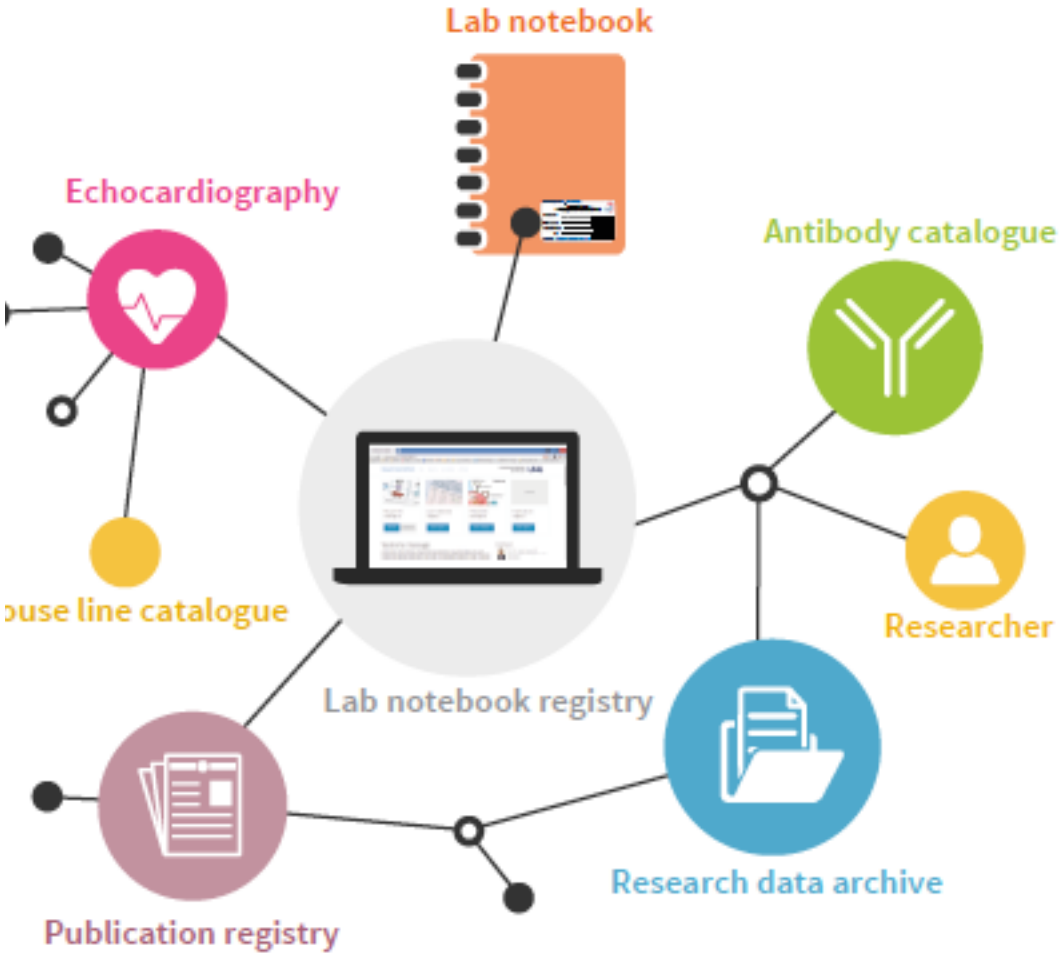
Unique name (EPIC PID)
The EPIC PID is a world wide unique identifying string in the WWW, that uniquely names the registered lab notebooks and makes them citable.
Further info: www.pidconsortium.eu

URL of lab notebook
The URL allows for an easy call of information about the lab notebook on the website of the research data platform.

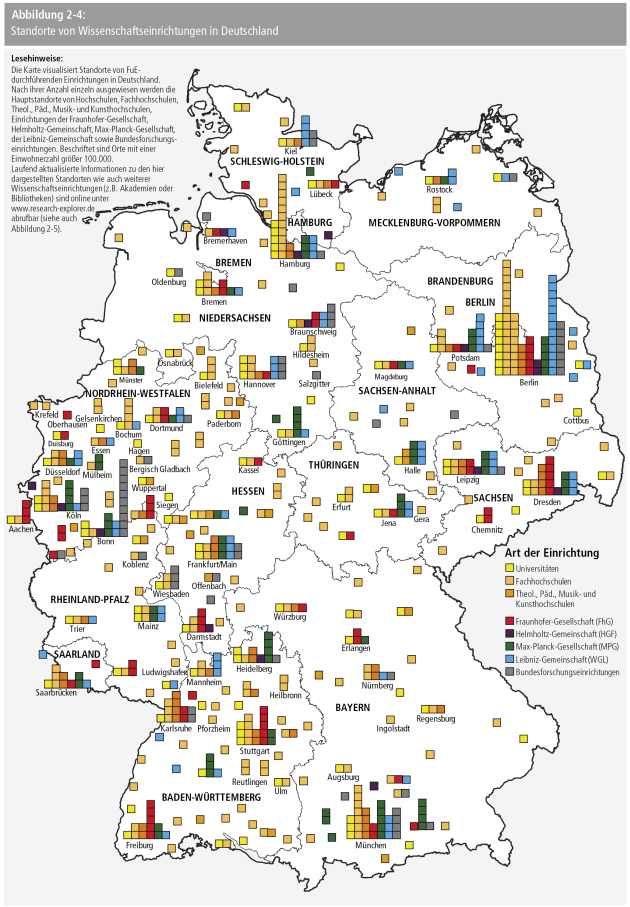
Identification of work group
Information about the working group affiliation of the lab notebook.

QR code for easy scanning
To speed up access, the lab notebook registry website can be called with an QR scanner (e.g. smartphone).

Data of lab notebook author
Surname, first name and the period of time of the lab notebook usage



Wider Dimension – Projects, Shared Services Committees



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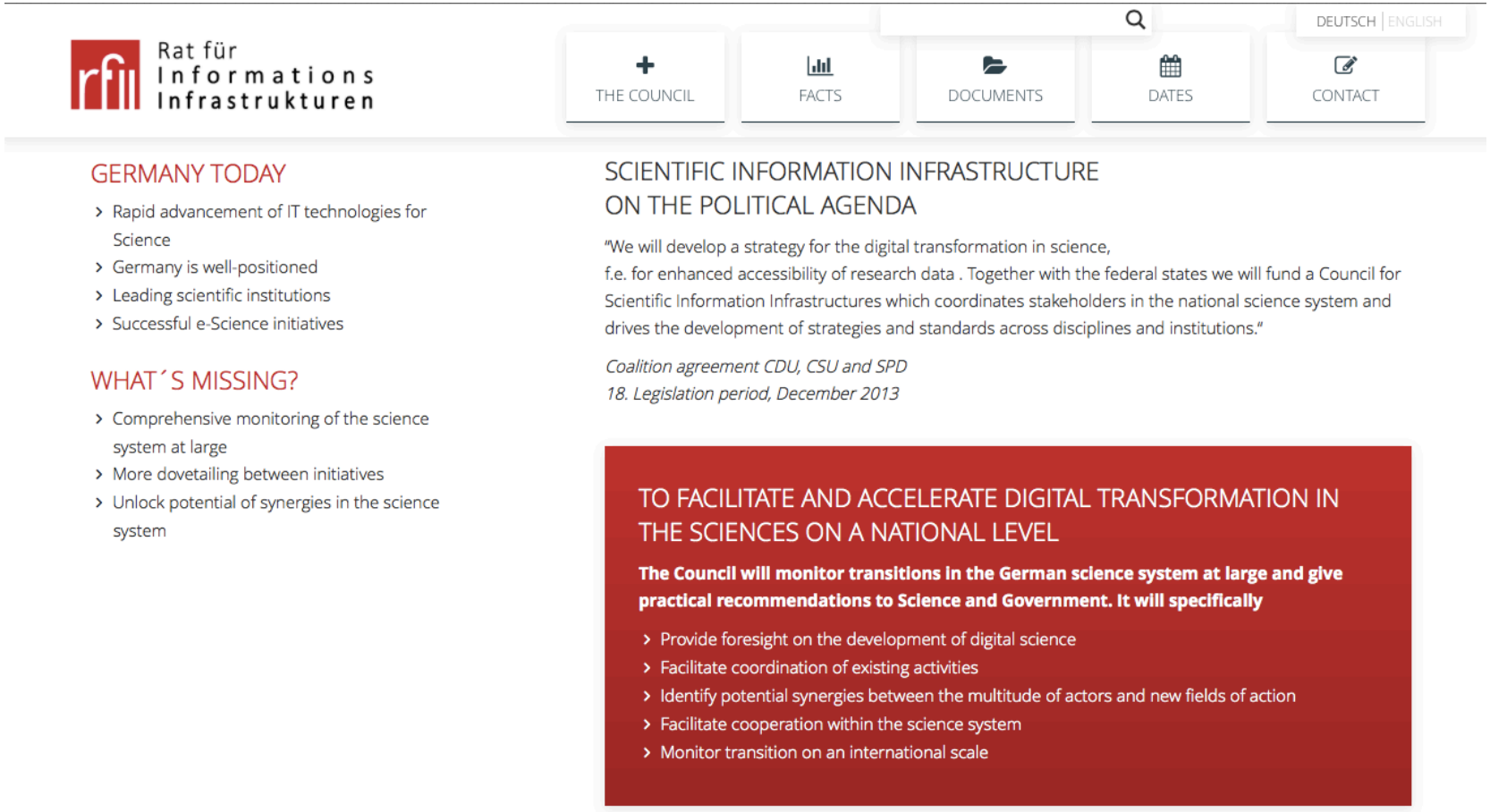
Selected activities in digital infrastructure

- Federation of Biological Data: GFBIO
- Ecosystem Research Platform: BEXIS
- Big Data: Mikelangelo
- High Performance Computing (internal)
- Digital Humanities Infrastructure: DARIAH
- Humanities Data Centre: HDC
- Digital Editions Tools: TextGrid
- Open Access Infrastructure: OpenAIRE
- Confederation of OA Repositories: COAR
- Publishing: Göttingen University Press

- Funding: through projects, c. 50 projects, 80 people > 5Mio p.A. or membership models

Example: German Council for Information Infrastructure



International Dimension – an example

- DARIAH as European ESFRI project
- ERIC as legal entity
- Member state committments
- Central offices in Göttingen

DARIAH-EU | Digital Research Infrastructure for the Arts and Humanities

Summary and prospects

- Research–oriented infrastructure providers team up
  - Central point of contact
  - Pooling of existing offerings, resources, and know how
  - Networking locally and on a (inter)national level
  - Collect eResearch requirements
  - *Balance between support for individual researcher and large research consortia*
- Einbindung aller Forschungseinrichtungen am Standort
  - *Governance*

Thank You!

Jens Dierkes

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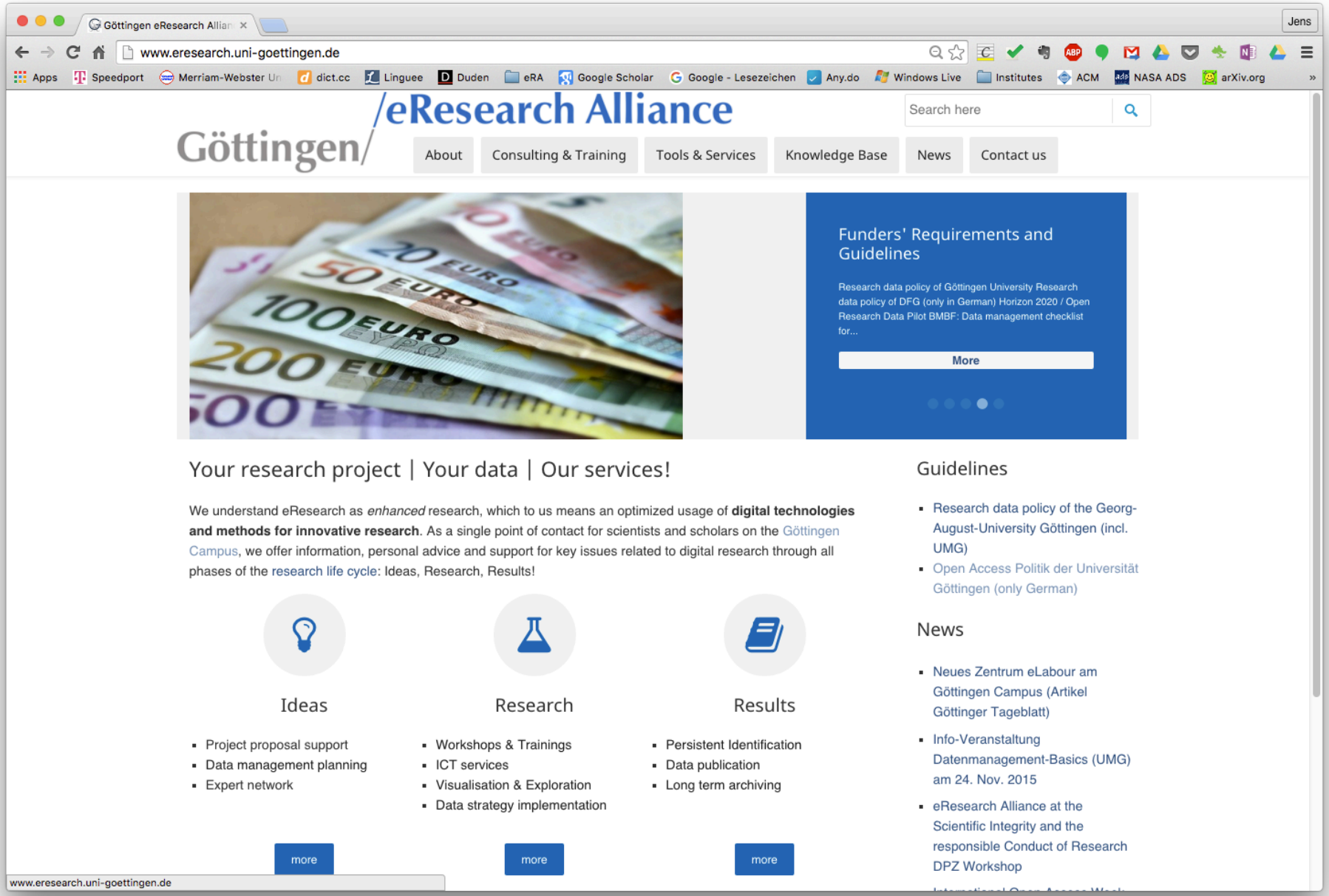
Eine wichtige Referenz hierfür ist unsere Webseite http://eresearch.uni-goettingen.de



External Board

Presidial Board

GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN

eResearch Council

Göttingen
Campus

Board of Directors

Steering Group

Project Manager

Team

Göttingen/eResearch Alliance

Summary

1. Key question: Is there an overarching concept or strategy for a digital research infrastructure or e-Research?

   - Embedding in overall Campus 2020 concept
   - eReseaach Alliance (eRA) as main activity for digital research infrastructure

2. Key question: What is the role of central units (like IT centers, libraries) and their link to research processes?

   - IT Services and Library as well as Research Office as ‚drivers‘
   - Links to research processes in individual projects and services (‚brokering‘)

3. Key question: How is the relation of local information infrastructure in a national and international context?

   - Many collaborative projects, (shared) services, organisations and committees