

TIB – Leibniz Information Centre for Science and Technology

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TIB Profile

- Founded in 1959 as German national library for science and technology (covering mathematics, physics, chemistry, engineering computer science, and architecture)
- Research infrastructure for the provision of scientific information
- Research and development for the further development



World's largest
information center
in science and technology

Member of



656 employees
from over
30 nations

Unique collection
(mostly exclusively owned):

**8 million media
units, +30,000
journals**

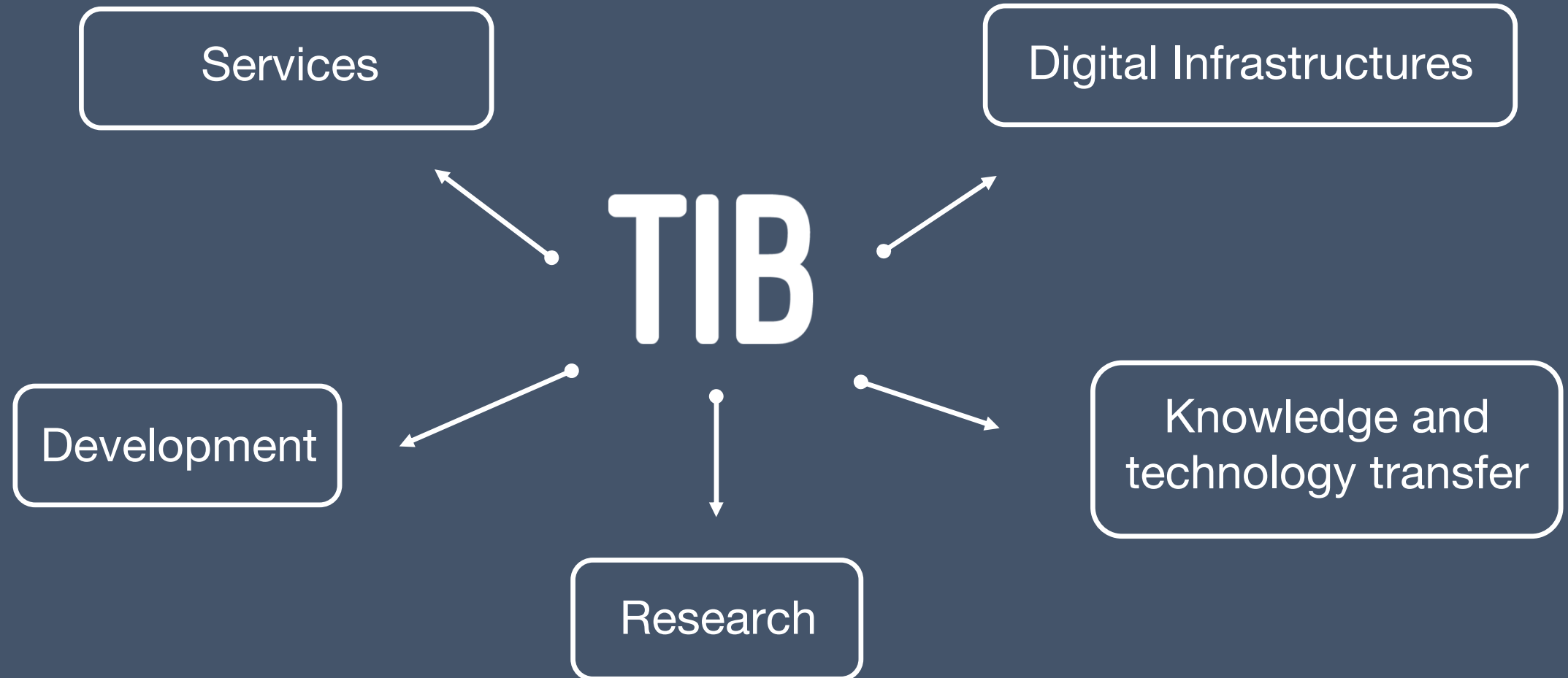
Grey literature: 53 %

Total annual budget:
43.2 million €

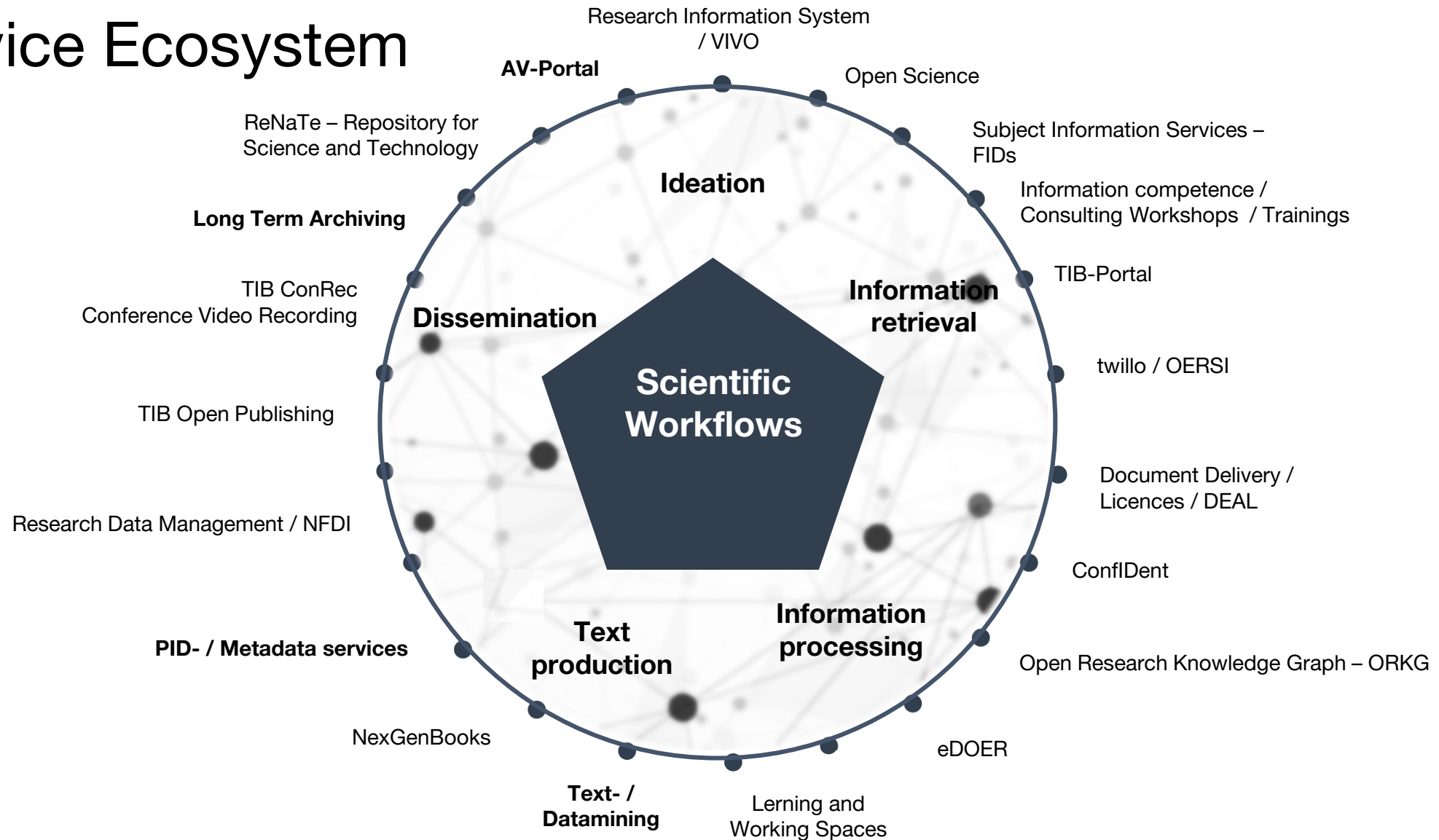
83 third-party funded
projects,
12 EU-funded

25 Services to
support scientific
work with hundred
thousands of monthly
users

Areas of activity



Service Ecosystem



Users & Stakeholders

Ecosystem of networked digital libraries

- TIB portal 1.5 million visits
- AV-Portal 0.7 million visits

Research data management

- 190 indexed ontologies
- 10 provided ontology collections

NFDI

- Participation in 10 specialised consortia + Base4NFDI

Literature and information supply

- 17.9 million accesses to alliance, national and consortium licences
- 155,000 orders for document delivery
- 43 national consortia for journals, databases and e-books

Knowledge transfer

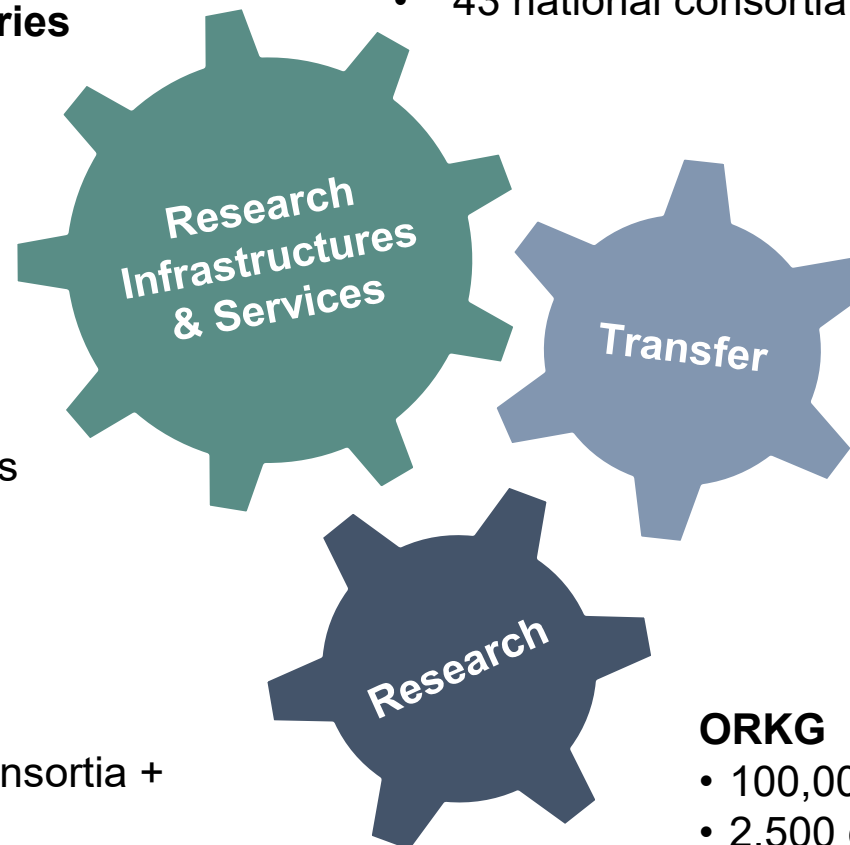
- 2.1 million registered DOIs via TIB consortium
- ORCID: 91 supervised institutions

Digital long-term archiving

- 25.5 million long-term archived files

ORKG

- 100,000 users annually
- 2,500 contributors, 70 organisations
- > 60,000 described research contributions



TIB's Grey Literature Collection

- Depot Library of German Research projects - National-funded
 - 430,000 – 294,000 Print and 136,000 electronic
 - Annual growth – round about 7,200
- Conference Proceedings and non-german reports
 - Not from publishers – like IEEE
 - Annual growth – round about 4,500
- ✓ Access via TIB-Portal
- ✓ DOI assignment and certified Long-term archiving
- (Financial) Contribution to preprint Servers



TIB's Grey Literature Collection → NTROs

- ✓ Enlargement: From literature to non-traditional research output (NTRO)

- ✓ Audiovisual Material
- ✓ Research Data
- ✓ Podcasts
- ✓ Etc.

- ✓ Definition of the policy

- ✓ Scientific Quality
- ✓ Connect instead of collect – Reliable partners
- ✓ Indexing – Automatic extraction of metadata?
- ✓ Etc

Wait! What? There's stuff missing
from the scholarly record?
Why more needs to be done to
include grey literature

Toby Green - 10.56012/ajel9043

Vast portfolio of research and innovation projects

- Annual funding volume > 10 M €
- Strategic Initiatives
 - European Open Science Cloud
 - International Data Spaces
 - National Research Data Infrastructure

→ <https://www.tib.eu/en/research-development/project-overview>

TIB LEIBNIZ INFORMATION CENTRE FOR SCIENCE AND TECHNOLOGY UNIVERSITY LIBRARY

ORDER SEARCH LEARNING PUBLISHING ABOUT US RESEARCH AT TIB

Current projects

Artificial Intelligence Digital preservation Knowledge graphs Knowledge transfer NFDI Ontologies Open Access Open Data

Open Educational Resources Open Research Information Persistent Identifier Research Data Retro Digitisation Scholarly Communication Scientific Videos

Specialized Information Services Training



AI4VET4AI - AI-powered Next Generation of VET



AV-EFI - Automated interlocking system for audiovisual holdings via uniform film identifiers



Base4NFDI - Basic Services for the National Research Data Infrastructure



BITS - BluePrints for the Integration of Terminology Services in Earth System Sciences



CRAFT-OA - Creating a Robust Accessible Federated Technology for Open Access



DALIA - Knowledge base for "FAIR data usage and supply"



DigiBound - DigiBound - Development, evaluation, and implementation of a modular training concept for the promotion of Boundary Management as a self-regulation competency in children and adolescents



DigiUni - Digital university - Open ukrainian initiative



DiNaMo - Digitalisation for Sustainable Mobility

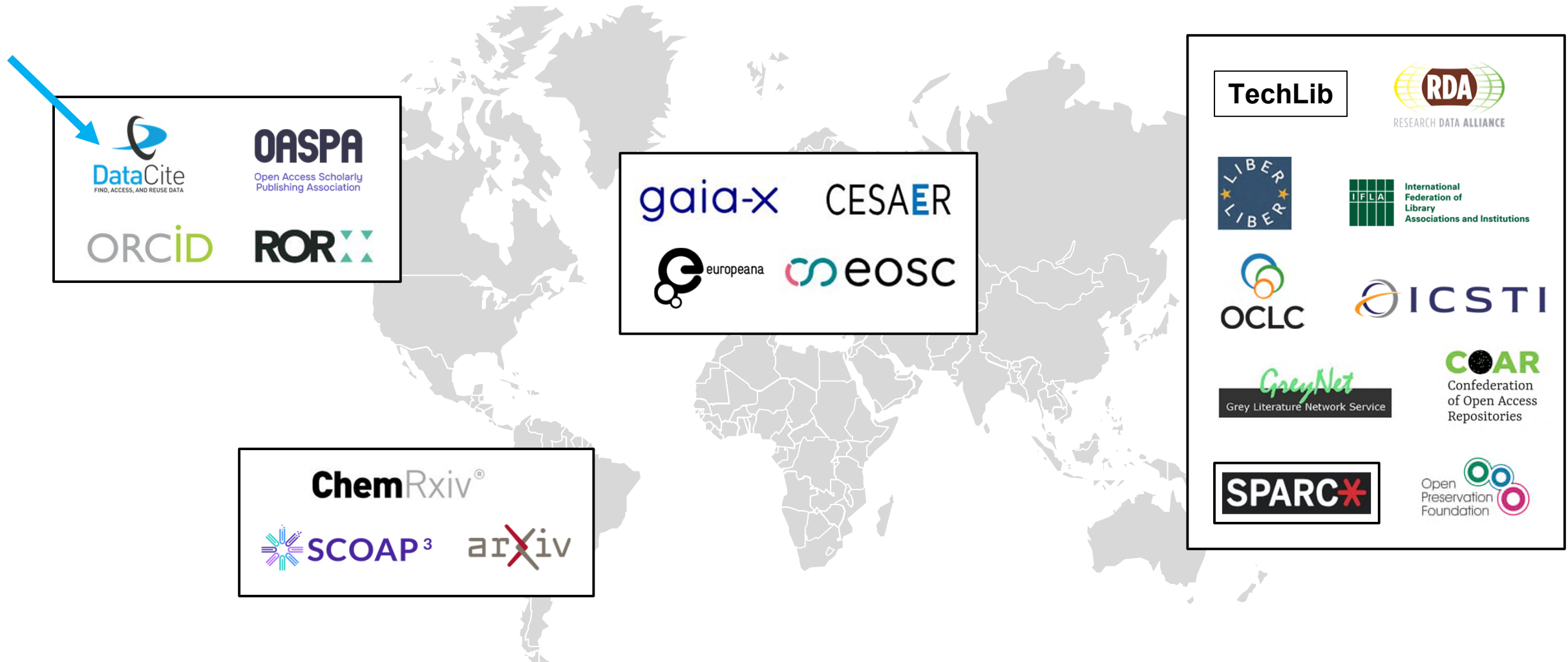


Enhancing Digital preservation strategies at European and National level



Enhancing Digital preservation strategies at European and National level

International Cooperation and Networking



DataCite – International Data Citation e.V.



Founded in 2009

DataCite was established by **TIB** — together with a founding consortium of leading research libraries and data centres across Europe and North America.

Today, TIB hosts the DataCite global secretariat and remains a core member and active driver of DataCite's strategic development.



1763

Organizations



70

Countries



125m+

DOIs



1B+

Resolutions in
2025

Mission

DataCite is a global **non-profit membership organisation** providing persistent identifiers (DOIs) for research outputs.

It enables researchers, institutions, and publishers to make their data, software, reports, and other scholarly outputs **findable, accessible, interoperable, and reusable** — in line with the FAIR Data Principles.

Open Infrastructure for Key Use Cases



Research data management

FAIR principles
DMP-IDs
Repository best practices

Tracking funding and projects

DOIs for awards and projects
ROR IDs for funder identification
Back-end for RAiD service

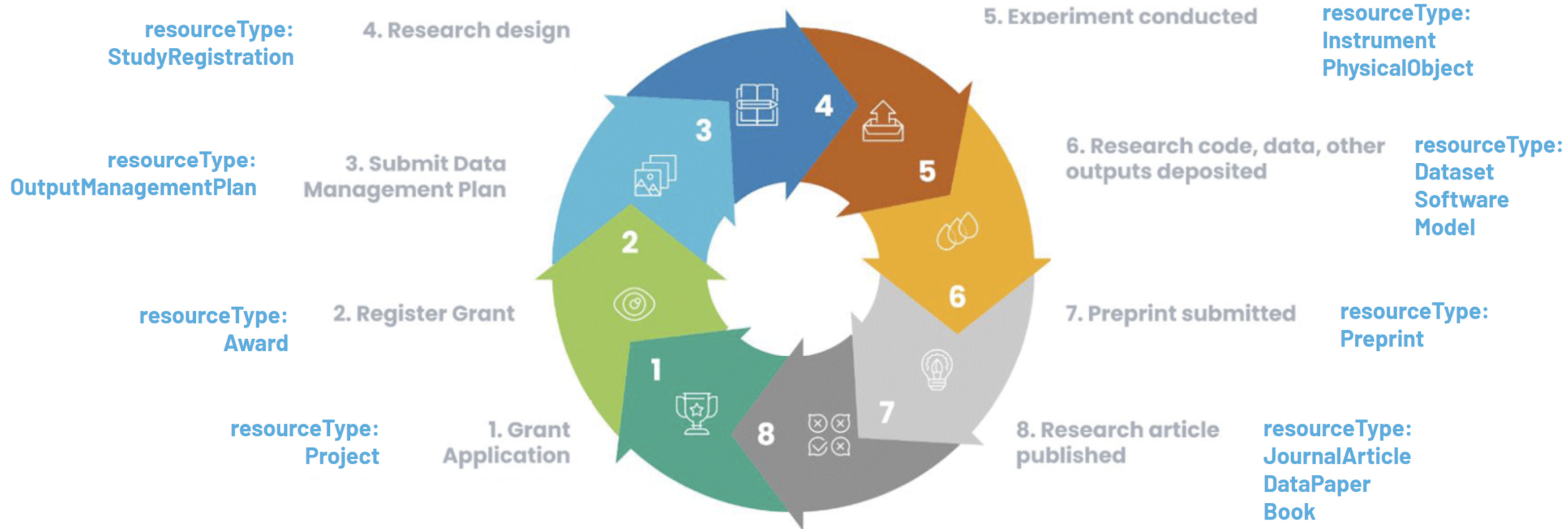
Data citation and data usage

Citation counts
Data Citation Corpus
Connections to other outputs

Identifying and connecting primary outputs and components

Software, instruments, samples and
specimens, ETDs, preprints, and
more

DataCite DOIs for the Research Lifecycle



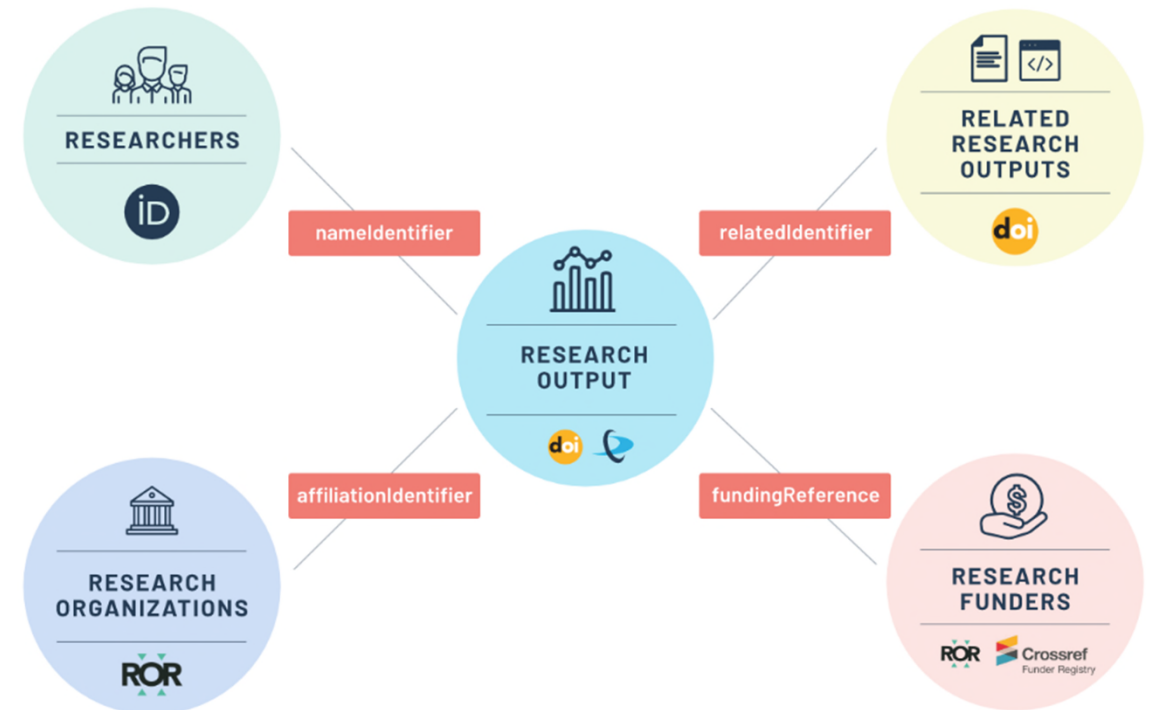
Adapted from Praetzelis, M., Buys, M., Chen, X., Chodacki, J., Davies, N., Garza, K., Nancarrow, C., Riley, B. and Robinson, E. (2023) 'A Programmatic and Scalable Approach to making Data Management Machine-Actionable', *Data Science Journal*, 22(1), p. 26. [DOI: 10.5334/dsj-2023-026](https://doi.org/10.5334/dsj-2023-026)

Creating Connections with Metadata

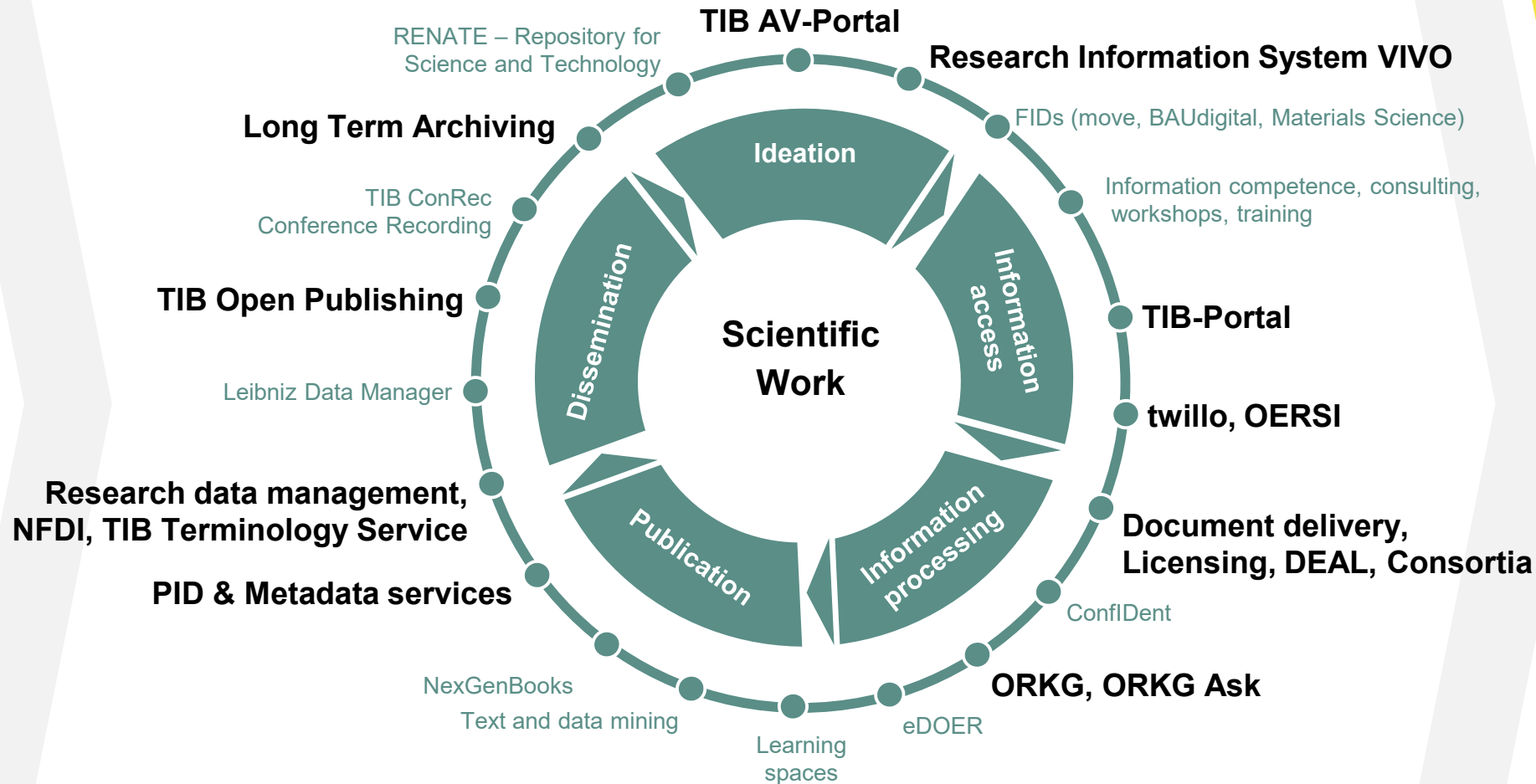


Examples:

- An article cites a dataset
- A dataset is created by software
- A person authors an article
- A person is affiliated with an institution
- An institution funds a research project



TIB – Strategy: Digital Services Ecosystem



Goal

Holistic access and networking of the digital services ecosystem with an **AI-supported research assistant**

Vision

Utilisation of the unique inventory and networking of digital services to create an open AI-based assistance system for researchers in technology and natural sciences.

TIB AISSISTANT



→ **Networked, digital services and systematic realisation of synergies between services**

Development of an intelligent,
AI-based research assistant

Focus on scientific excellence
and strategic user needs

Intensify
knowledge transfer

Expansion of
international visibility

Development of an AI-supported ecosystem of assistance services for science

- AI for knowledge processing
- Personalised assistance service
- In-depth research through access to data, simulation tools, laboratory instruments, programming environments, etc.
- Open science support
- Sustainability and ethical responsibility

The screenshot displays the TIB AISSISTANT web interface. At the top, a yellow banner contains a warning: "The TIB AIssistant is an early preview version. Explore, create and use, but always with caution. Certain features are unstable and are subject to change. Your data is stored locally in your browser and might be deleted at anytime. TIB AIssistant is provided 'as is' and comes with absolutely no warranty. Data is sent to OpenAI, see our privacy policy." Below this, a "Welcome to TIB AIssistant" section states: "The AI-supported TIB AIssistant platform helps researchers throughout the research life cycle. Get AI assistance during research, while you stay in the driver seat." The interface is divided into three main columns. The left column is a sidebar with a vertical list of research stages: Ideation, Research questions, Related literature, Method, Implementation, Results, Analysis, Paper writing, Review, Publication, and Post publication. A "Deactivated items coming soon" section is at the bottom of the sidebar. The middle column features three boxes: "Assistants" (13), "Tools" (6), and "Assets" (4). Below these are "Open source" links to Gitlab and Developer docs, a "Tech stack" section listing OpenAI, NEXT.js, and AI SDK, and a "Brought to you by" section with the TIB logo. The right column is titled "Research life cycle support" and features a circular diagram with icons representing various research activities. The TIB AISSISTANT logo is prominently displayed in the center of this diagram.

TIB AISSISTANT

The TIB AIssistant is an early preview version. Explore, create and use, but always with caution. Certain features are unstable and are subject to change. Your data is stored locally in your browser and might be deleted at anytime. TIB AIssistant is provided "as is" and comes with absolutely no warranty. Data is sent to OpenAI, see our privacy policy.

Welcome to TIB AIssistant

The AI-supported TIB AIssistant platform helps researchers throughout the research life cycle. Get AI assistance during research, while you stay in the driver seat.

Assistants

Assistants are designed to help you with tasks. You can use assistant sequentially, or you can use assistants individually, only using the support where you need it.

13 Assistants

Tools

Assistants use Tools to connect to external services. This makes TIB AIssistant unique, as it integrates various different scholarly services into a single AI platform.

6 Tools

Assets

Assistant outputs are stored in the Assets, which in turn can serve as input to other assistants. Assets are stored locally in your browser.

4 Assets

Open source

Developed by researchers, made for research.

[Gitlab](#) [Developer docs](#)

Tech stack

OpenAI NEXT.js AI SDK

Brought to you by

TIB

Research life cycle support

TIB AISSISTANT