

Who is using Knowledge Graphs in NFDI?

AN OVERVIEW BY THE WORKING GROUP "KNOWLEDGE GRAPHS"

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The NFDI Working Group "Knowledge Graphs" (WG KGs) promotes the use and creation of knowledge graphs in NFDI as a key technology for ensuring interoperability for both humans and machines. The members of the WG meet regularly to share knowledge about KG creation and use, as well as to develop KG-based basic service proposals for Base4NFDI. In this poster we describe the activities of this WG and share our ongoing overview of the KGs in NFDI.

PROFILE

- Aims:
 - Improve FAIRness of NFDI data
 - Improve the interoperability with national and international research data infrastructures
 - Contribute to the development of KG tools and services
- Members:
 - 56 members representing 22 NFDI consortia (and counting)
 - 94 subscribers to the WG's mailing list

ACTIVITIES

- Promote the use and creation of KGs to ensure interoperability
- Survey – collect, discuss, publish, and exchange practices concerning multiple aspects of KG adoption in the NFDI:
 - Technology and design considerations
 - Services support
 - Added value, risks, and lessons learned
 - Connection to external KG projects, etc.
- Work on proposals and recommendations for KG-based service in the NFDI context

OUTLOOK & FUTURE WORK

- **Success criteria:** act as a "one-stop-shop" catalog of previous KG implementations that NFDI members can consult before engaging in KG adoption tasks
- Continue to survey the KGs in NFDI, the software (stack) or technology used to implement them
- Identify synergies and potential collaborations across different NFDI consortia

Interested in participating? Join us!

Sign up to the mailing list to receive meeting details:
section-metadata-wg-kg@lists.nfdi.de

Access the WG Charter:



<https://doi.org/10.5281/zenodo.7802304>

Access full survey data:



<https://doi.org/10.5281/zenodo.8124286>

SURVEY RESULTS

NFDI consortium	Knowledge Graph	URL
BERD@NFDI	Aktienführer KG	https://akf.kgi.uni-mannheim.de
BERD@NFDI	MaschinenBauIndustrie KG	https://mbi.kgi.uni-mannheim.de
MaRDI	MaRDI portal	https://portal.mardi4nfdi.de
NFDI4Cat	4Cat Meta Portal	https://meta4cat.fokus.fraunhofer.de/(/sparql)
NFDI4Culture	Culture Knowledge Graph	https://nfdi4culture.de/resources/knowledge-graph
NFDI4Culture	Linked Stage Graph	https://slod.fiz-karlsruhe.de/about
NFDI4Culture	Semantic Kompakkt	https://wikibase.semantic-kompakkt.de
NFDI4DataScience	Open Research Knowledge Graph	https://orkg.org
NFDI4DataScience	TweetsKB	https://data.gesis.org/tweetskb
NFDI4DataScience	TweetsCov19	https://data.gesis.org/tweetscov19
NFDI4DataScience	ClaimsKG	https://data.gesis.org/claimskg
NFDI4DataScience	SoftwareKG	https://data.gesis.org/softwarekg
NFDI4DataScience	SoMeSci	https://data.gesis.org/somesci
NFDI4DataScience	Question Feature Sample	https://data.gesis.org/questionfeaturesample
NFDI4DataScience	4DS Meta Portal	https://meta4ds.fokus.fraunhofer.de/(/sparql)
NFDI4DataScience	dblp computer science bibliography	https://sparql.dblp.org/dblp
NFDI4Earth	NFDI4Earth KG	https://nfdi4earth-knowledgehub.geo.tu-dresden.de/fuseki/dataset.html
NFDI4Ing	SciMesh	https://scimesh.org/about
NFDI4Memory	FactGRID	https://database.factgrid.de
NFDI4Microbiota	InteractOA (using Wikidata)	https://interactoa.toolforge.org
Text+	Gemeinsame Normdatei (GND)	https://www.dnb.de/EN/Professionell/Metadaten/Datenbezug/LDS/lds_node

Table 1. KGs created and used by NFDI members. For detailed data on each KG see the published dataset on Zenodo (access via QR code to the left).

Knowledge Graph	URL	Domain
Wikidata	https://query.wikidata.org	General
The official portal for European data	https://data.europa.eu/sparql	Multiple domains
Das Datenportal für Deutschland	https://www.govdata.de/web/guest/sparql-assistent	Multiple domains
LinkedOpenData-Service des B3Kat	https://lod.b3kat.de/doc/sparql-endpoint	Multiple domains
OpenAIRE Research Graph	https://graph.openaire.eu	Multiple domains

Table 2. Other KGs used by and relevant to NFDI members.

¹ ZBW – Leibniz Information Centre for Economics, Germany ² Mannheim University Library, Germany ³ TU Dresden, Germany ⁴ Fraunhofer FOKUS, Germany ⁵ GESIS – Leibniz Institute for the Social Sciences, Germany ⁶ TIB – German National Library of Science and Technology, Germany ⁷ ZB MED – Information Centre for Life Science, Germany ⁸ Bielefeld University Library, Germany

