

NTK

50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology



**Czech Academic and Research
Discovery Services
CARDS**

National Catalogue of Repositories and Controlled Vocabularies

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EOSC Conference 2025, Ostrava

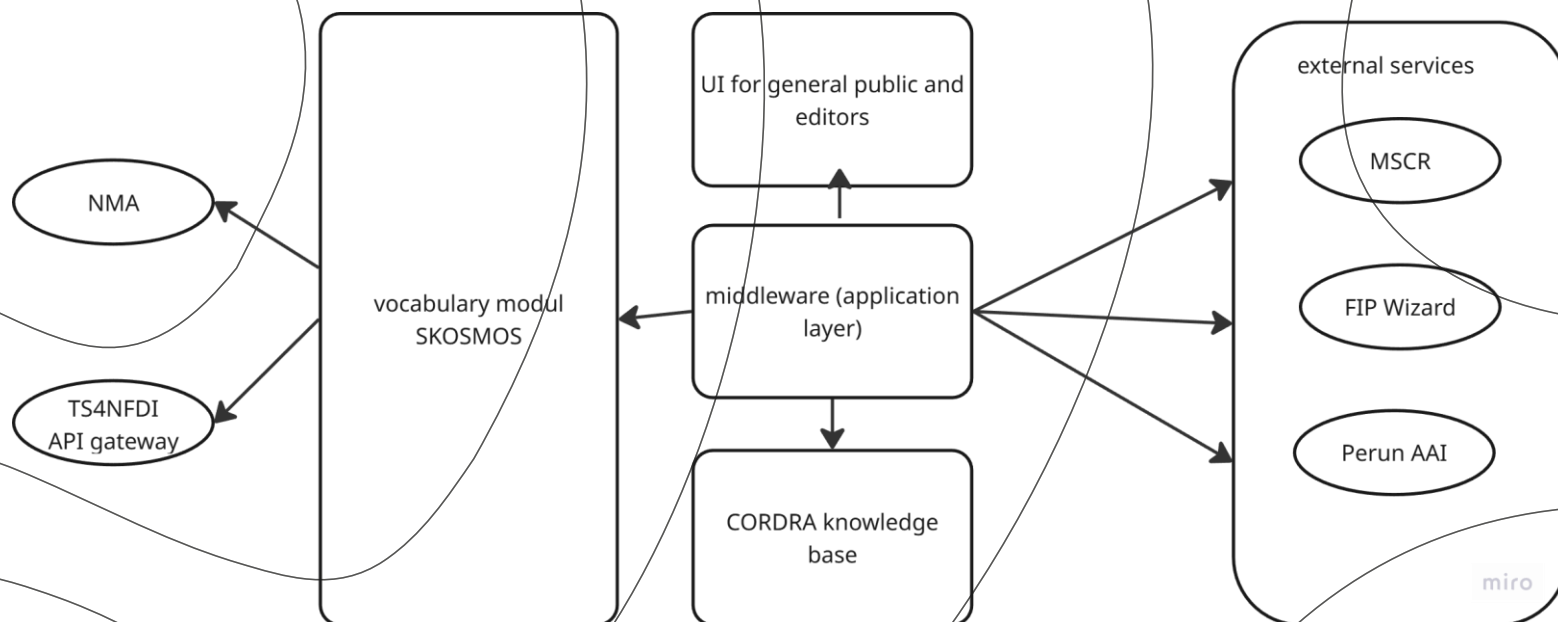


Spolufinancováno
Evropskou unií

**MS
MT**
MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY

- unified, structured place for information about research data repositories from NRP
- developed by the National Library of Technology, Prague as a part of the CARDS project
- modular architecture with open-source software serving as its backbone

NKR architecture



- repository module
 - Cordra (open-source): central datastore for digital objects
 - middleware: contains the application logic
 - UI for general public access and authorized editors ("let the button make it happen" in a context of complex workflow)
- controlled vocabularies browser: SKOSMOS (open-source)

NKR metadata model

- documentation at <https://github.com/techlib/NKR-schema/wiki>
- currently in version v0.2
- proposed changes should be submitted through the github issues page

NKR metadata model

→   github.com/techlib/NKR-schema/wiki/Repository-object

 techlib / NKR-schema

> Code  Issues 12  Pull requests  Discussions  Actions  Projects  Wiki  Security 

Repository object

akastoss edited this page yesterday · [6 revisions](#)

id	name	data type	cardinality	
id	Repository identifier	string	1..1	Handle identifier of th
repositoryName	Repository name	string	1..1	Official repository nar
additionalName	Alternative repository names	string	0..n	Alternative repository

- schemas for all digital objects can be viewed in the NK R demo environment:
<https://nkr.repo.cz/#schemas>
- users can visualize the schema as UI preview or JSON
- now we have schemas for the Repository object and three related objects (Organization, License, MetadataSchema)
- further object types will be added over time

NKR demo

Object Type: Repository

Type: Schema

 Preview UI

```
1 {  
2   "type": "object",  
3   "required": [  
4     "repositoryName"  
5   ],  
6   "properties": {  
7     "id": {  
8       "type": "string",  
9       "title": "Repository identifier",  
10      "description": "Handle identifier of the NKR record (autogenerated)",  
11    }
```

NKR demo

Object Type: Repository

Type: Schema

Object Id: example/id

Repository identifier

Auto generated field handle

Handle identifier of the NKR record (autogenerated)

Repository name *

Official repository name (usually in the original language).

Alternative repository names

Alternative repository name or acronym of the official repository name.

+ Name

National Catalogue of Repositories - Demo Version

Schemas

All Objects

Show Only ▾



.
.

«

1

2

3

4

5

6

7

8

»

Showing 1 to 10 of 80 results

CCMM v.1.0.1

Czech Core Metadata Model for Research Data

MetadataSchema

© [test/49330041ca5fddf9af92](#)

📄 Type: Schema

Charles University

© [test/1cdc43eae2c59e7a1b4c](#)

📄 Type: Organization

Beautiful repository

Id: test/aaf00de4000a524d0cb9

Type: Repository

[OBJECT](#)[ACL](#)[VERSIONS](#)[METHODS](#)[DO VIEW / DETAILS](#)[RELATIVES](#)

Repository identifier

test/aaf00de4000a524d0cb9

Handle identifier of the NKR record (autogenerated)

Repository name *

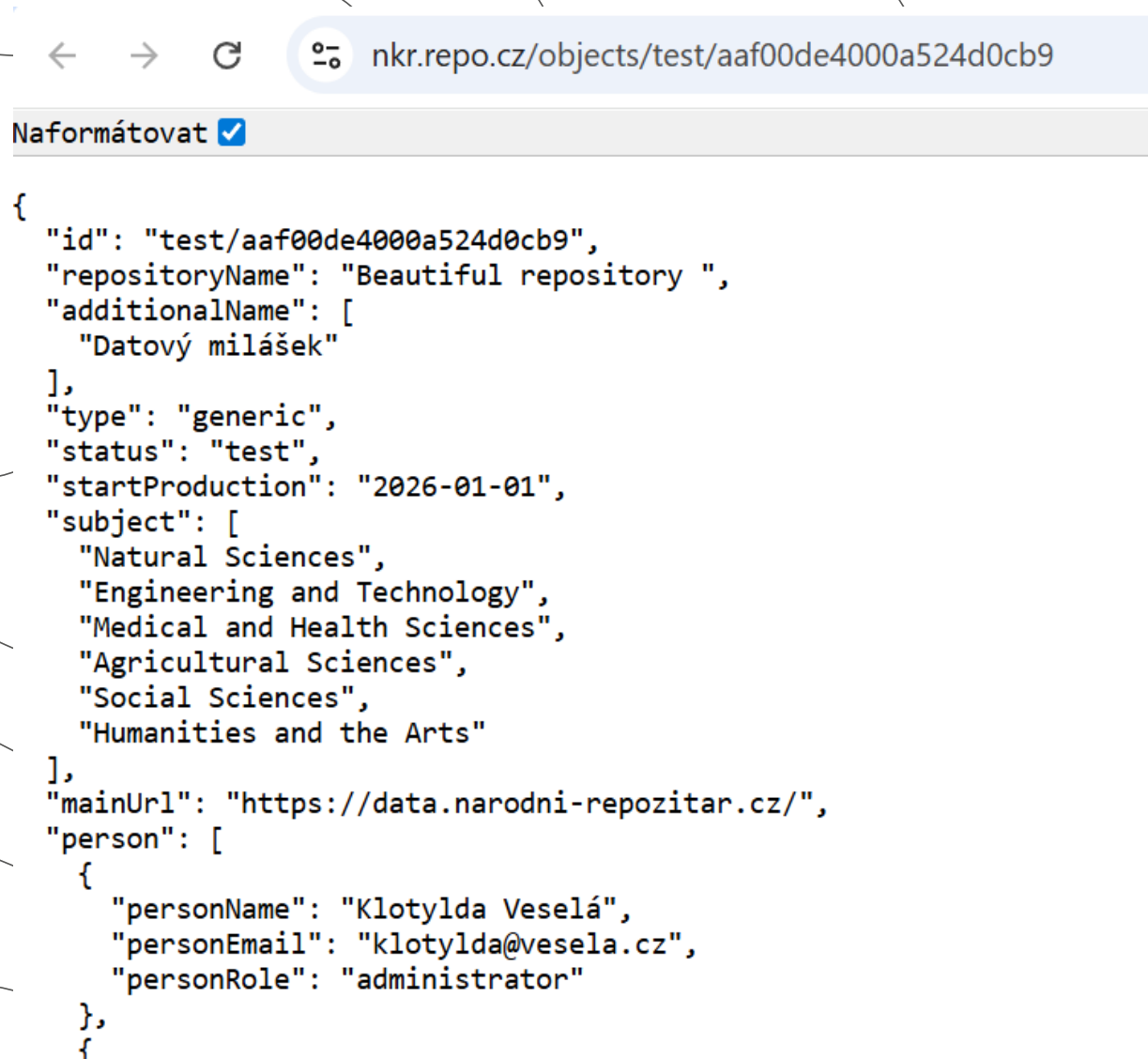
Beautiful repository

Official repository name (usually in the original language).

Alternative repository names

Alternative repository name or acronym of the official repository name.

NKR demo



The screenshot shows a web browser window with the address bar displaying `nkrr.repo.cz/objects/test/aaf00de4000a524d0cb9`. Below the address bar is a button labeled "Naformátovat" with a checkmark icon. The main content area displays a JSON object representing a repository entry.

```
{
  "id": "test/aaf00de4000a524d0cb9",
  "repositoryName": "Beautiful repository ",
  "additionalName": [
    "Datový miláček"
  ],
  "type": "generic",
  "status": "test",
  "startProduction": "2026-01-01",
  "subject": [
    "Natural Sciences",
    "Engineering and Technology",
    "Medical and Health Sciences",
    "Agricultural Sciences",
    "Social Sciences",
    "Humanities and the Arts"
  ],
  "mainUrl": "https://data.narodni-repozitar.cz/",
  "person": [
    {
      "personName": "Klotyllda Veselá",
      "personEmail": "klotyllda@vesela.cz",
      "personRole": "administrator"
    }
  ]
}
```

Next step: extended demo (Adam)

- some limitations of this demo version (users cannot save the record they have edited, etc)
- if needed, a registration page can be set up for interested users to request a test account
- the records will be purely fictitious with test handle prefix assigned; they will be deleted at the end of the testing period
- expected January 2026

Next step: real data for pilot repositories
(Boris)

- moving from test entries to production records for the pilot repositories
- identity and access management provided by the e-infra Perun service
- expected 1Q 2026

Vocabulary module: demo

- powered by Skosmos 2
- Skosmos instance for the NKR has not been deployed yet
- running instance at vocabs.ccmm.cz gives a good preview of the expected functionality

Vocabulary module: demo

Agent roleContent language English ▾

Alphabetical

Hierarchy

C

Contact Person
Contributor
Creator

D

Data Collector
Data Curator
Data Manager
Distributor

E

Editor

H

Hosting Institution

O

Contributor > Contact Person

PREFERRED TERM

CONTACT PERSON

DEFINITION

Person with knowledge of how to access, troubleshoot, or other related to the resource. May also be the "Point of Contact" in an organisation that controls access to the resource, if that organisation is different from the Publisher, Distributor, and Data Manager.

BROADER CONCEPT

CONTRIBUTOR

IN OTHER LANGUAGES

Kontaktní osoba

Czech

URI

<https://vocabs.cmm.cz/registry/codelist/AgentRole/Contributor>

DOWNLOAD THIS CONCEPT:

RDF/XML

TURTLE

JSON-LD

- SKOS is a W3C standard for representing controlled vocabularies/ontologies in a simple, machine-readable way
- RDF-based standard
- different serialization formats: turtle, rdf/xml, json-ld
- all vocabularies registered in the NKR (and visualized in Skosmos) have to follow this standard

Skosify a vocabulary

- assigning a URI to every concept
- representing each term as a `skos:Concept`
- adding labels such as `skos:prefLabel`, `skos:altLabel`, `skos:hiddenLabel`
- including definitions using `skos:definition`
- creating hierarchical relationships (`skos:broader`, `skos:narrower`)

Skosify a vocabulary

- if needed, aligning concepts across vocabularies (eg. `skos:exactMatch`)
- providing metadata for the vocabulary as a whole via `skos:ConceptScheme`
- storing it in a standard RDF serialization (Turtle, JSON-LD, RDF/XML)

Issues to be addressed

- identify a vocabulary
- skosify it
- a clear pipeline needs to be defined between where the vocabulary is hosted (GitHub, local storage, etc.), how it is ingested into the repository software, and how it is published via the NKR

Issues to be addressed

- we are inviting the repo builders who deal with vocabularies to share their use cases and experience with the NKR team at the NTK
- nkr@techlib.cz
- alexandr.kuchynka@techlib.cz

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**Czech Academic and Research
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Thank you for your attention.