

National Catalogue of Repositories: Current Challenges and Next Steps

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What is NKR

- NKR - Národní katalog repozitářů (National Catalogue of Repositories)
- an important part of the National Data Infrastructure
- funded by the CARDS project (KA 3)
- complementary to EOSC-CZ and NRP projects
- mandatory registration for all the repositories in the EOSC CZ initiative
- in the future, its scope could be expanded to include other types of repositories

What is NKR

- general info: <https://github.com/techlib/NKR-schema/wiki>
- NKR will be available at nkr.repo.cz
- NKR pilot run for insiders (methodologists, repo admins and curators):
2nd half of Oct, 2025
- full version for public access (all NKR modules within an integrated UX):
3Q 2026

Overview

- NKR uses Cordra for its knowledge base
- Cordra is an open-source software for managing digital objects
- turnkey registry system
- <https://www.cordra.org/>
- assigns persistent identifier (handle) to every object
- used in several EU projects: E-RIHS, EOSC Data Type Registry,...

Overview

National Catalogue of Repositories - Pilot Version

Get StartedAll ObjectsShow Only ▾Types ▾Admin ▾

admin[Sign Out]

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✖

SearchCreate ▾

«12»

JSON

Showing 1 to 10 of 15 results

Datový catch-all repozitář © test/49778e81b95f8c81b58d 📄 Type: RepoRecord Institution name: e-infra.cz	Modified: 2025-09-16T10:02:24.377Z Created: 2025-09-02T09:57:11.074Z
RepoRecord © test/1fffc5a2d0cd2d6ad495 📄 Type: Schema	Modified: 2025-09-16T09:45:31.041Z Created: 2025-08-28T17:57:30.953Z
CCMM v.1.0.1 Czech Core Metadata Model for Research Data - XML serialization	Modified: 2025-09-16T09:39:05.418Z Created: 2025-09-16T09:39:05.418Z
MetadataSchema © test/49330041ca5fddf9af92 📄 Type: Schema	Modified: 2025-09-16T09:35:20.062Z Created: 2025-09-16T09:34:47.564Z
datarepo Group for data catch-all repo	Modified: 2025-09-02T09:52:41.062Z Created: 2025-09-02T09:52:41.062Z

NKR Metadata schema for a repository

- documentation at <https://github.com/techlib/NKR-schema>
- currently in version v0.1, v0.2 being prepared
- based on re3data model
- comments from the questionnaire survey have been addressed
- requests or suggestions should be submitted on the github issues page

NKR Metadata schema for a repository

- consists of several schemas in JSON:
 - User, Group : for handling access rights
 - RepoRecord: main object, represents a repository
 - related objects: MetadataSchema, ControlledVocab,....
 - auxiliary objects: Person, Organization,...
- every schema is assigned an acl (access control list)
- all records available via API (for creating, reading and writing - depending on assigned access rights)

Repository record: example

National Catalogue of Repositories - Pilot Version

[Get Started](#)[All Objects](#)[Show Only ▾](#)[Types ▾](#)

Datový catch-all repozitář

Id: test/49778e81b95f8c81b58d

Type: RepoRecord

OBJECT

ACL

VERSIONS

METHODS

DO VIEW / DETAILS

RELATIVES

id

test/49778e81b95f8c81b58d

Repository name *

Datový catch-all repozitář

Official repository name (usually in the original language).

Repository type

generic

Repository type according to its content and purpose.

Repository status

test

Actual repository development or production status.

Main repository URL

<https://github.com/NRP-CZ/datarepo>

URL of the repository home page.

Datový catch-all repozitář

Id: test/49778e81b95f8c81b58d

Type: RepoRecord

OBJECT

ACL

VERSIONS

METHODS

DO VIEW / DETAILS

RELATIVES

```
1 {
2   "id": "test/49778e81b95f8c81b58d",
3   "repositoryName": "Datový catch-all repozitář",
4   "type": "generic",
5   "status": "test",
6   "mainUrl": "https://github.com/NRP-CZ/datarepo",
7   "institution": [
8     {
9       "name": "e-infra.cz",
10      "rorUrl": "https://ror.org/02h8zn861",
11      "country": "CZE",
12      "url": [
13        "https://www.e-infra.cz/"
14      ]
15    }
16  ],
17  "software": [
18    "Invenio"
19  ],
20  "repoGit": [
21    "https://github.com/NRP-CZ/datarepo"
```

Repository record: example

Datový catch-all repozitář

Id: test/49778e81b95f8c81b58d

Type: RepoRecord

OBJECT	ACL	VERSIONS	METHODS	DO VIEW / DETAILS	RELATIVES
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Access Control List ✎ Properties

Readers

+ Reader

Writers

Writer *

test/c5a187f8fb0e4a456ed8

Group Name: datarepo

+ Writer ✕ Last Writer

Payload Readers

+ Payload Reader

Methods ✎ Properties

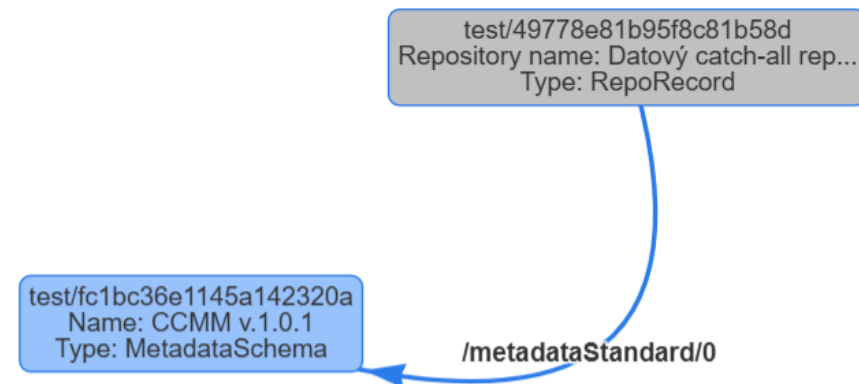
Datový catch-all repozitář

Id: test/49778e81b95f8c81b58d

Type: RepoRecord

OBJECT	ACL	VERSIONS	METHODS	DO VIEW / DETAILS	RELATIVES
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Click and drag to manipulate graph. Double click to load object.



Metadata schemas for datasets registered in NKR

- MetadataSchema object allows to register metadata models and schemas used in repositories, in various formats (ttl, xsd, json)
- programmatic registration of the schemas at <https://mscr-release.2.rahtiapp.fi/> is under development

CCMM v.1.0.1
Id: test/fc1bc36e1145a142320a
Type: MetadataSchema

OBJECT ACL VERSIONS METHODS DO VIEW / DETAILS RELATIVES

id
test/fc1bc36e1145a142320a

Name *
CCMM v.1.0.1

Description *
Czech Core Metadata Model for Research Data - XML serialization

Version
1.0.1

format
XSD

state
draft

mscr
<https://mscr-release.2.rahtiapp.fi/schema/mscr.schema.e7bc2bb7-1b74-47b6-9dc2-0e60ea3ecf89>

Payloads

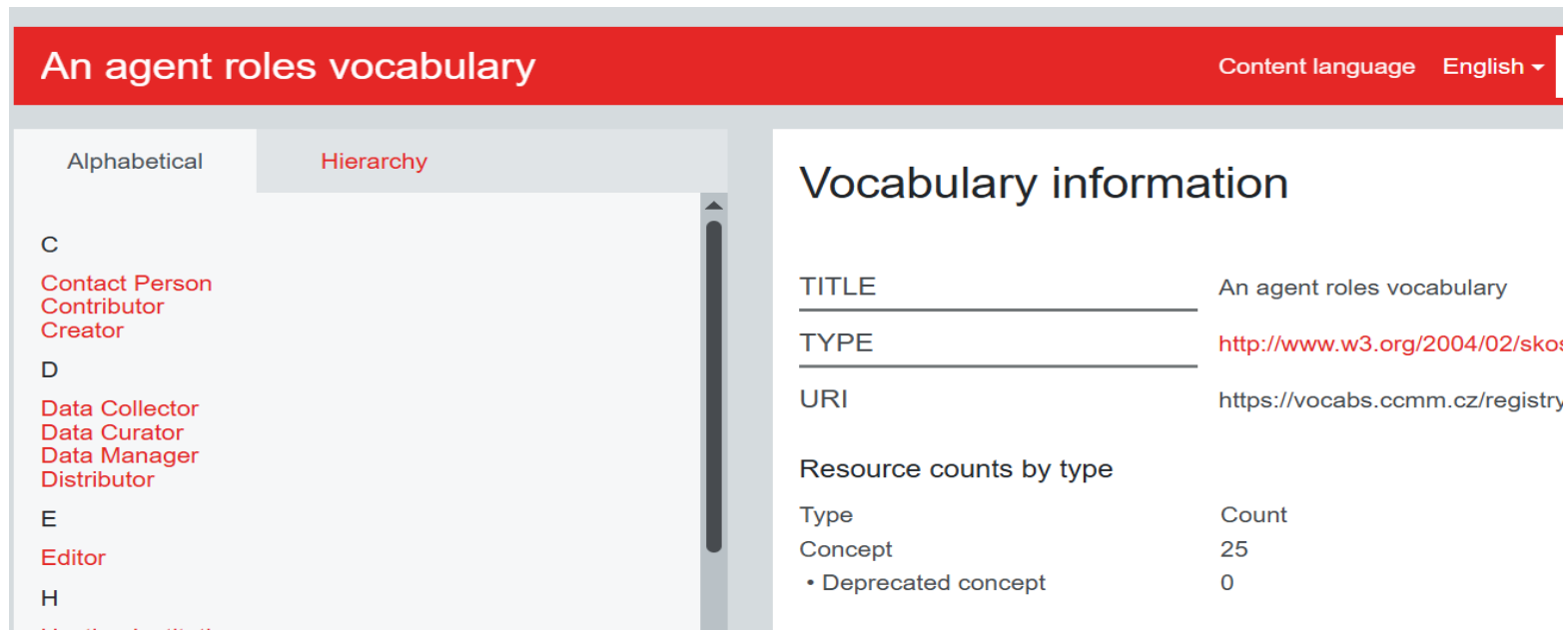
merged_ccmm	merged_ccmm_schema.xsd [81247 bytes]
-------------	---

Metadata Schema and Crosswalk Registry

The screenshot shows the EOSC FAIRCORE4EOSC web application. The top header includes the EOSC logo and the text 'FAIRCORE4EOSC Core Components Supporting a FAIR EOSC'. A search bar with the placeholder 'Search for...' and a magnifying glass icon is on the right, next to the user name 'Alexandr Kuchynka' and a 'LOG OUT' link. The left sidebar contains navigation links: 'PERSONAL WORKSPACE' (with 'Crosswalks' and 'Schemas' sub-links) and 'GROUP WORKSPACES'. The main content area has tabs for 'Metadata & files', 'Schema' (which is selected), and 'Version history'. Below the tabs, the 'CCMM' section is visible. It features a 'Search from schema' box with the placeholder 'Find an attribute...' and a magnifying glass icon. A dropdown menu is open, showing a list of attributes: 'dataset', 'description', 'description_type', 'alternate_title', 'alternate_title_type', and 'metadata_record'. To the right of the dropdown, a 'Selected node info' panel displays the following details: 'type: object', 'title: repository', 'qname: mscr:schema:8755396c-59b0-4160-83ba-76ab83503034#root-Root-repository', and 'maxCount:'. A 'Schema actions' button with a three-dot menu icon is located in the top right of the main content area. The background of the slide features faint, colorful, swirling lines on the right side.

Controlled vocabularies module

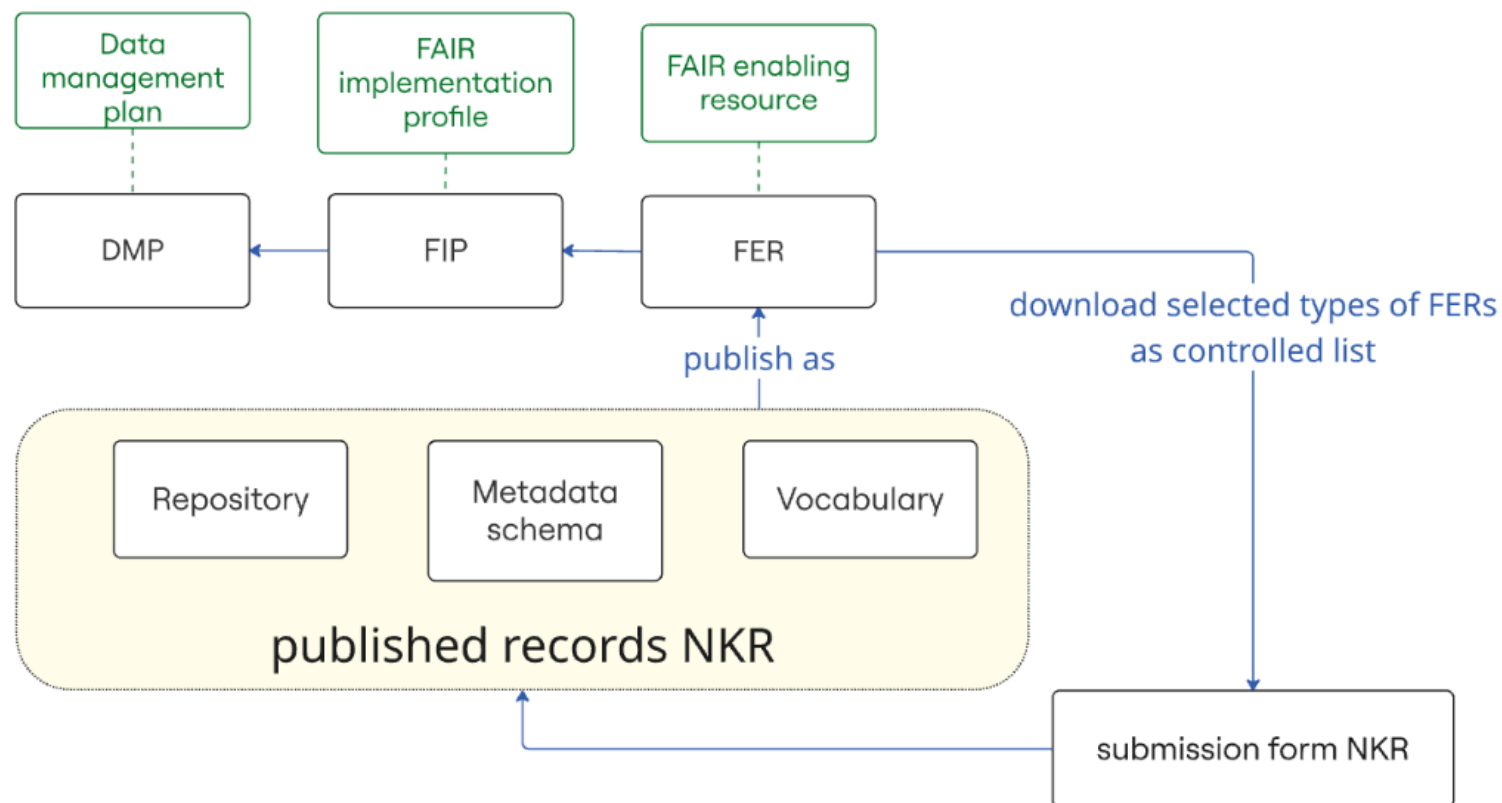
- Controlled vocabularies used by repositories will be registered in the ControlledVocab object and displayed in the SKOSMOS software



The screenshot shows the SKOSMOS interface for a vocabulary titled 'An agent roles vocabulary'. The interface has a red header bar with the title and a 'Content language' dropdown set to 'English'. Below the header, there are two tabs: 'Alphabetical' and 'Hierarchy', with 'Hierarchy' currently selected. The left pane displays a hierarchical list of roles under the letter 'C', including 'Contact Person', 'Contributor', and 'Creator'. The right pane, titled 'Vocabulary information', displays metadata for the vocabulary, including its title, type (SKOS), and URI. Below this, a table shows resource counts by type, indicating 25 concepts and 0 deprecated concepts.

Vocabulary information	
TITLE	An agent roles vocabulary
TYPE	http://www.w3.org/2004/02/skos
URI	https://vocabs.cmm.cz/registry
Resource counts by type	
Type	Count
Concept	25
• Deprecated concept	0

NKR - FIP - DMP pipeline: draft



NKR - FIP - DMP pipeline: draft

- objects registered in NKR will be reused as FAIR enabling resources (Metadata schema, Structured vocabulary, Data usage license, FAIR Implementation Profile,...)
- on the other hand, FERs as nanopublications will be reused as controlled vocabularies for NKR

Next steps

- open the pilot version for Invenio/DSpace/ASEP-ARL methodologists, repo administrators/curators - Oct 2025
- refine the metadata schema based on the needs of the community
- deploy the vocabs module (SKOSMOS)
- implement a single sign-on AAI
- develop a library for interacting with external services (MSCR, FIPs, nanopublications,...)
- deploy front-end UI for general public - 3Q 2026



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