







Easy Creation of Controlled Vocabularies Using EVOKS

<u>Gulzaure Abdildina¹, Rossella Aversa, Felix Kraus, Philipp Ost, Sabrine Chelbi, Thomas Jejkal, Rainer Stotzka, Nicolas Blumenröhr, Laura Frank,</u> Germaine Götzelmann, Volker Hartmann, Vandana Jha, Andreas Pfeil, Yusra Shakeel, Philipp Tögel, Danah Tonne, Elias Giulio Georg Vitali ¹ Karlsruhe Institute of Technology – Scientific Computing Center gulzaure.abdildina@kit.edu

EVOKS Vocabulary Service Controlled vocabularies play a vital role in describing knowledge within a specific domain. They not only eliminate data ambiguity, but also serve as a reference for term definitions and foster semantic interoperability.

0	Search in this vocabulary	

The Editor for Vocabularies to Know Semantics (EVOKS) is a general-purpose vocabulary service that allows for easy creation, import, editing, curation, and publishing of vocabularies. Publishing the vocabulary using SKOSMOS requires just a single click.

EVOKS allows users to work collaboratively and to iterate on the vocabulary creation process. This includes editing and publishing of revised versions.

evoks	Q Search in this vocabulary
Vocabulary Dashboard	sampleDescription
Teams	Overview Terms Members Prefixes Settings
Help	Create Term
! Terms of Service	Initial Letter
Create Vocabulary	A ~
	TERM
Create Team	Addition polymerization
	Additional features

https://github.com/kit-data-manager/EVOKS/tree/development

Use Case 1: Creation of the Sample Description Vocabulary and Conversion to OWL

The Sample Description Vocabulary (SDV, https://purls.helmholtz-metadaten.de/evoks/sdv/) was created in collaboration by the NFFA-Europe Pilot (NEP) and the Helmholtz Joint Lab MDMC. An ontology is currently being developed from the SDV in NFDI-MatWerk. Starting the ontology creation process from EVOKS gives the following advantages:

Efficient Ontology Creation: The most time-consuming process during ontology creation is defining terms, including their descriptions, properties and relations. You can easily create a vocabulary using the user-friendly and intuitive EVOKS interface and convert it to the W3C Web Ontology

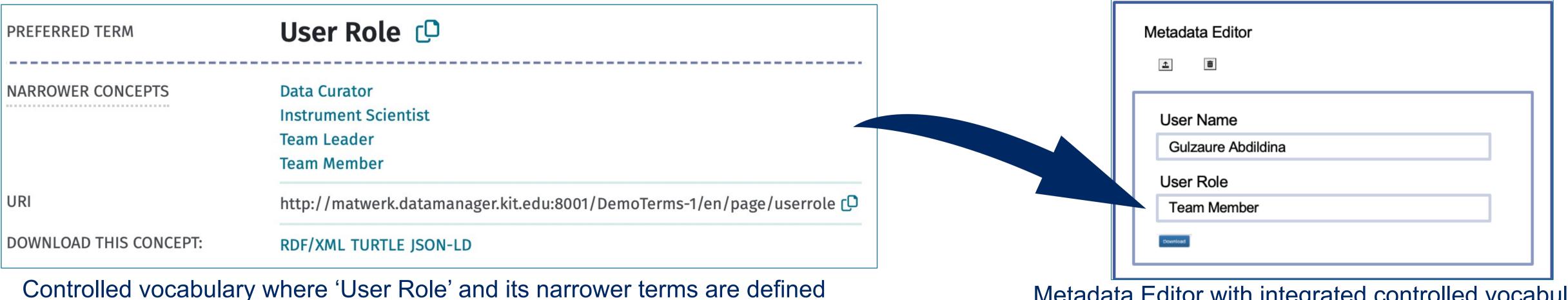
Language (OWL).

- Collaborative Approach: EVOKS allows users to collaborate easily, making it possible to define, edit, and comment terms collaboratively.
- Seamless Conversion: The created vocabulary in SKOS can be converted to an ontology in the OWL format using our SKOS to OWL Converter. A persistent URI was assigned to the SDV using the PIDA-Service (https://purls.helmholtz-metadaten.de/) and published in SKOSMOS.

MatWerk	Vocabularies About Feedback Help Interface la	Classes Object properties Data properties Annotations Usage
		Class hierarchy: additionPolymeri: 20 - 10 Annotations: additionPolymerizatation
sampleDescription	Content language 🖌	Lagence Asserted Annotations
Alphabetical Hierarchy A Addition polymerization Additional features Adhesive bonding Administrative Aging Air Aligned elements Aligned structures Alloy Aluminium tape Amplitude parameter Annealing homogenization	Vocabulary information TYPE http://www.w3.org/2004/02/skos/core#ConceptScheme URI https://purls.helmholtz-metadaten.de/evoks/sdv/ Resource counts by type Nut Type Count Concept 391 Deprecated concept 0	 owl:Thing annealingHomogenization annealingHomogenizationMethod carrierReferencing featuresOfInterest holderReferencing materialProcessing additionPolymerizatation condensatPolymerizat curing dissolvingEtching drying inSituPolymerization gostPolymerizatModificat
Antiferromagnetic Antiphase boundaries Antisite defects Ar Aspect ratio Assessment Atomic layer deposition Atomic/molecular Axis orientation	Term counts by language Language Preferred terms Alternate terms Hidden terms	 solutionProces unspecifReactive materialProperties materialTreatment parentReference SubClass Of (Anonymous Ancestor)
Sam	ple Description Vocabulary published in SKOSMOS	Sample Description Ontology in OWL in Protégé

Use Case 2: Terms in a Metadata Schema using Metadata Editor

Controlled vocabularies that adhere to the FAIR principles can be adopted in metadata schemas, by referring terms through their URIs. This promotes interoperability and eases maintenance by enabling the automatic propagation of any changes made within the vocabulary.



Metadata Editor with integrated controlled vocabulary

