



Exploring meaning in data: a hands-on course in semantics and analysis for FAIR Research

Module 2: Semantic artefacts lifecycle

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IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
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Mission 4 "Education and Research" - Component 2: "From research to business" - Investment
3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"



Data lifecycle

A data lifecycle refers to the stages that data goes through from its creation or acquisition, through its usage and maintenance, to its eventual disposal.



Which are the actors involved?



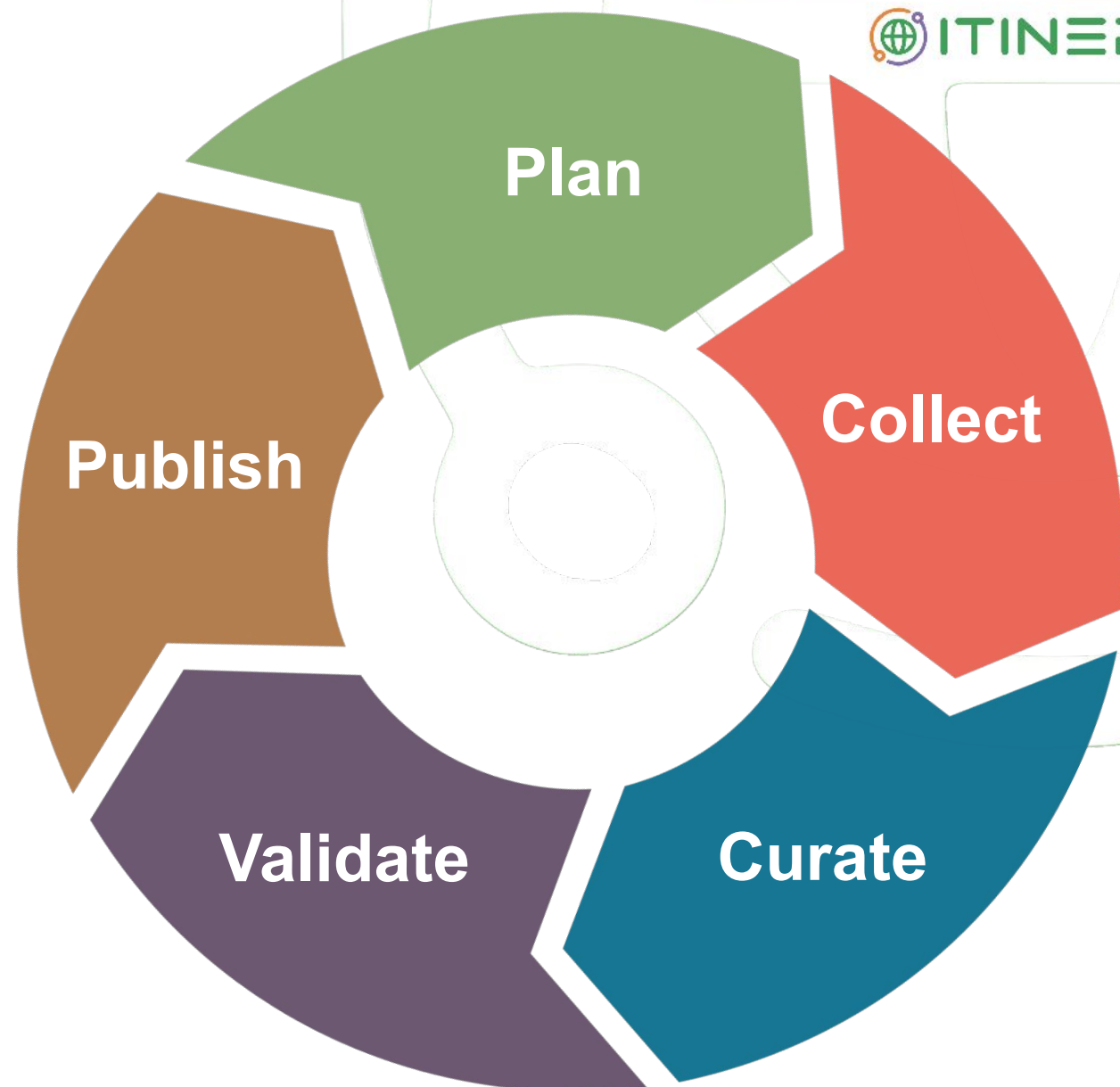
Editors



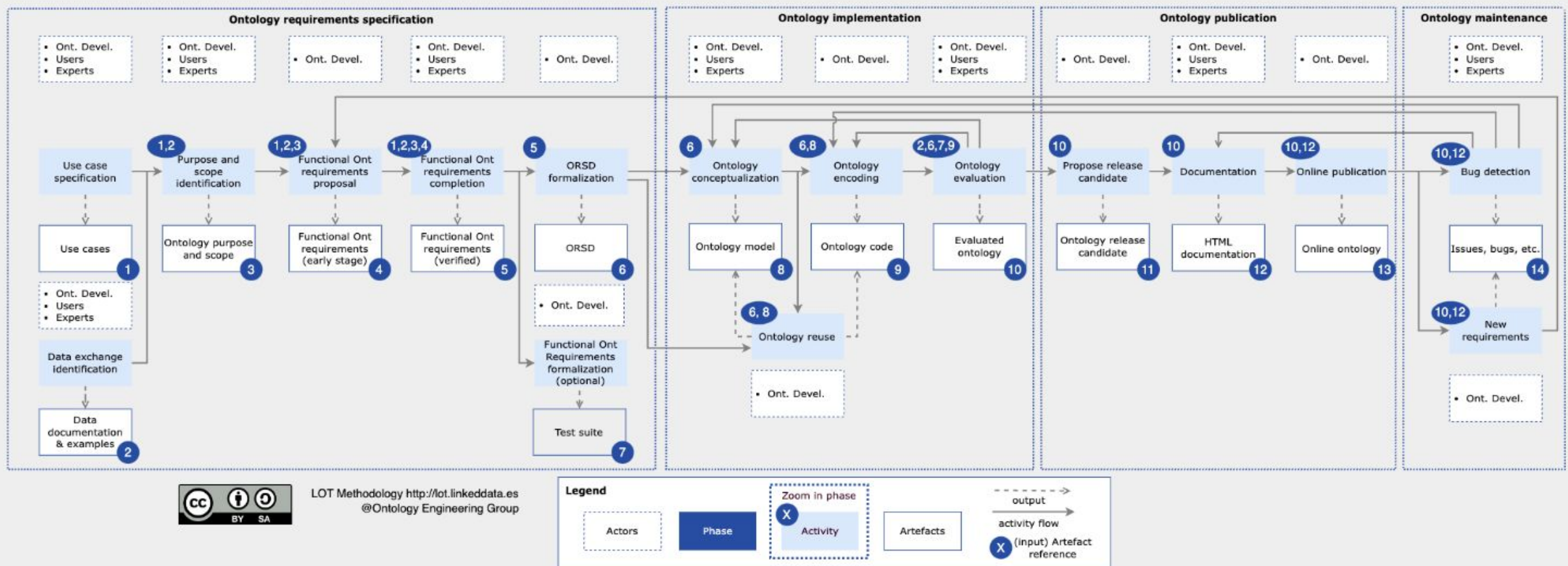
ICTs



Validators

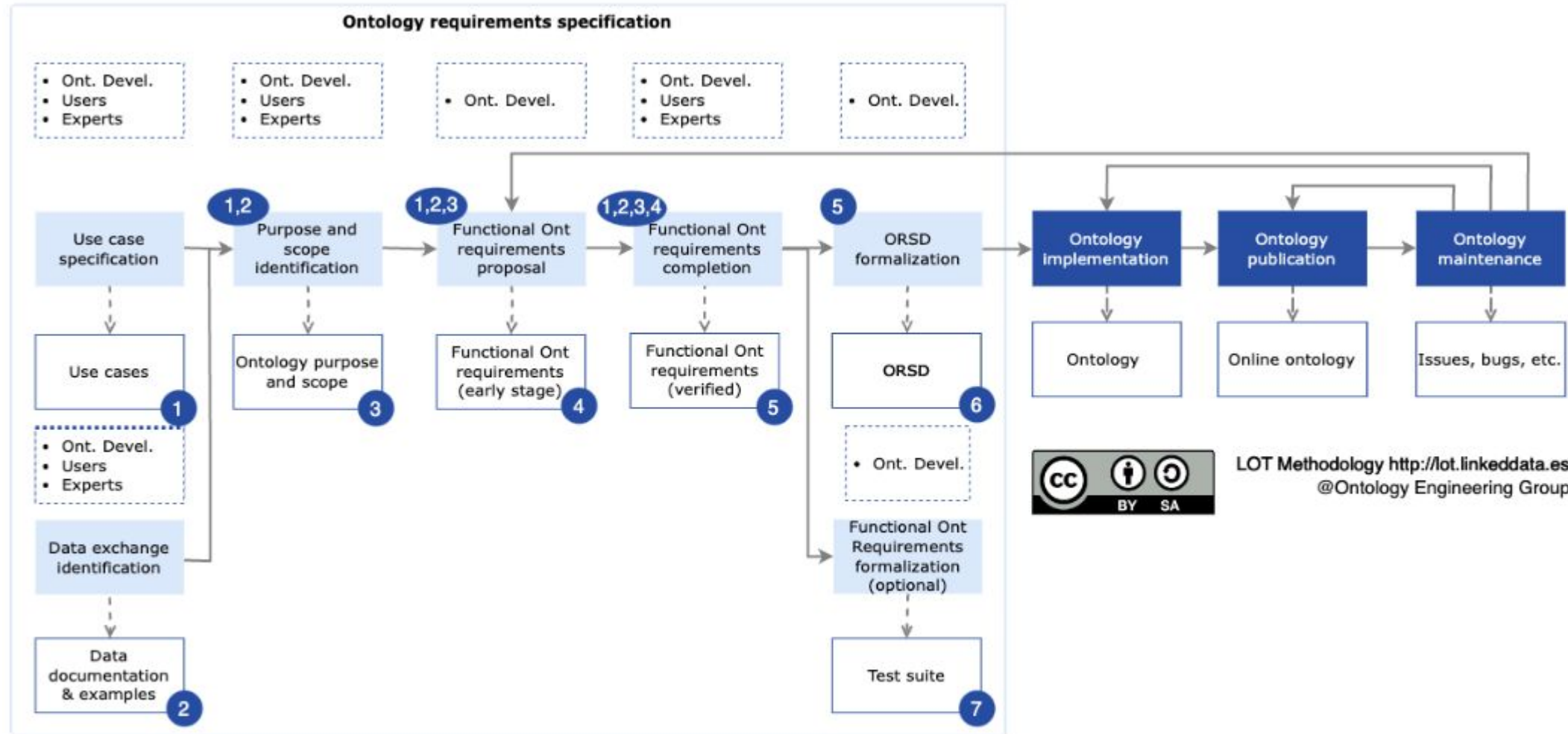


Linked Open Terms workflow



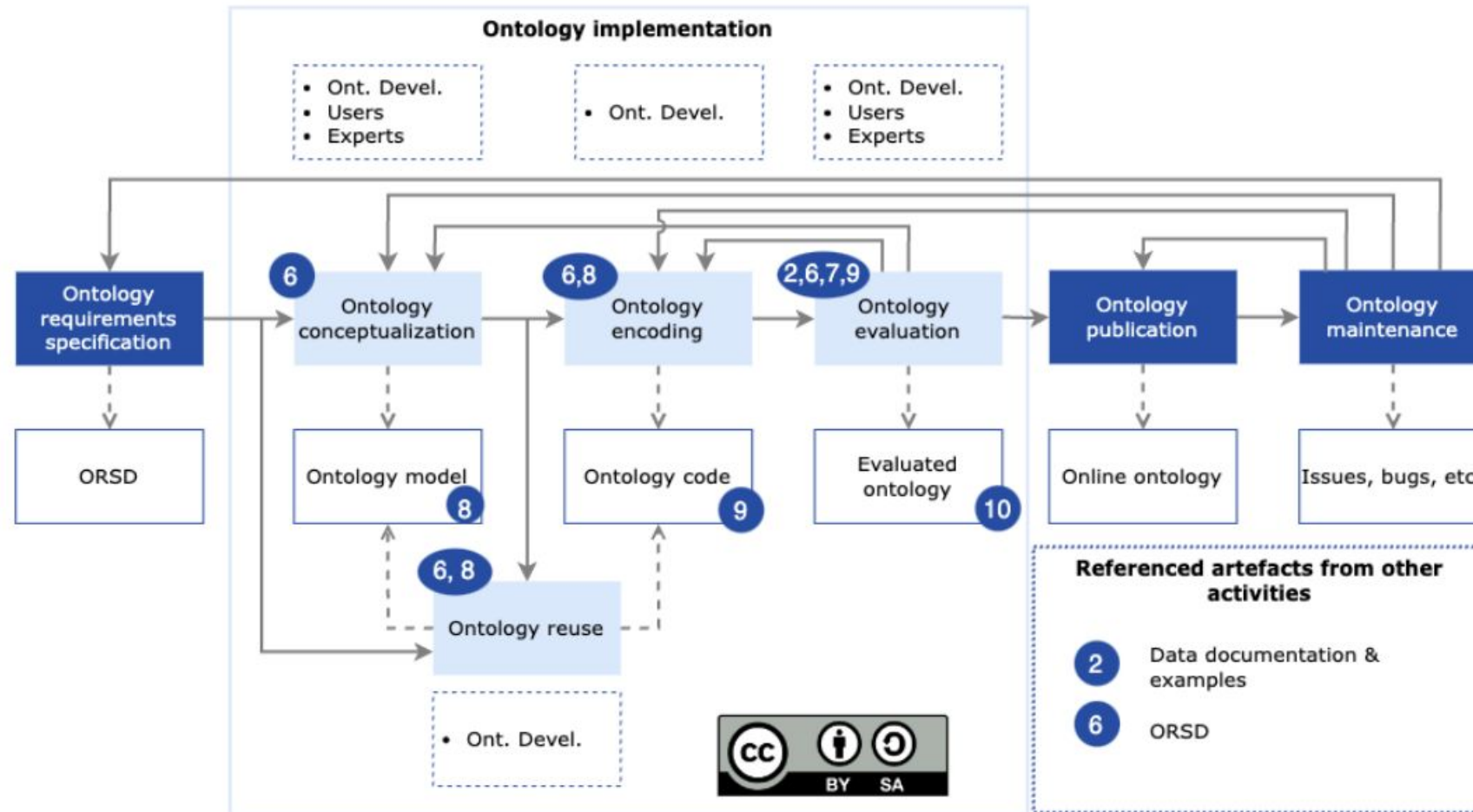
Methodology detailed workflow

Semantic artefact requirements specification



Requirements specification workflow

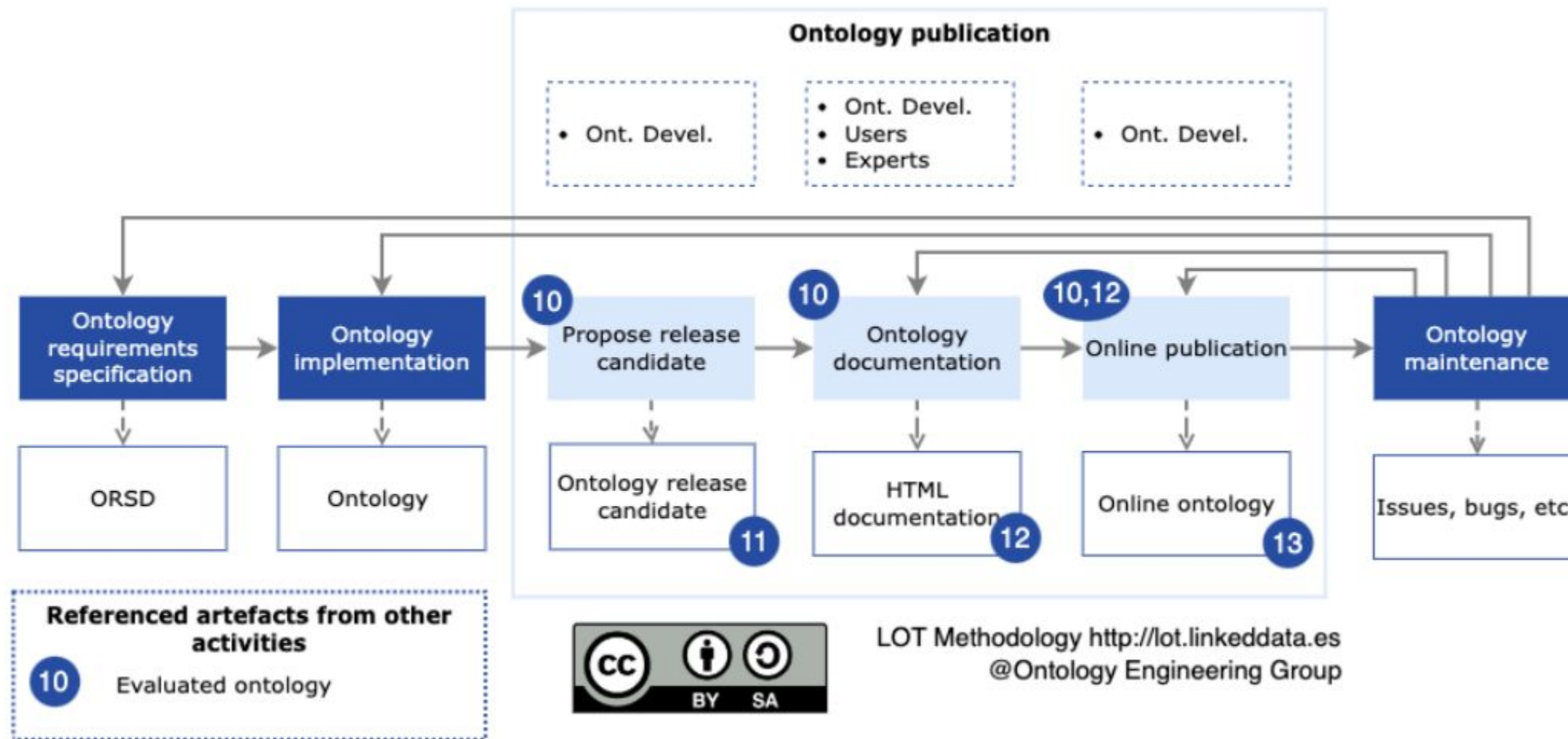
Semantic artefact implementation



LOT Methodology <http://lot.linkedata.es>
@Ontology Engineering Group

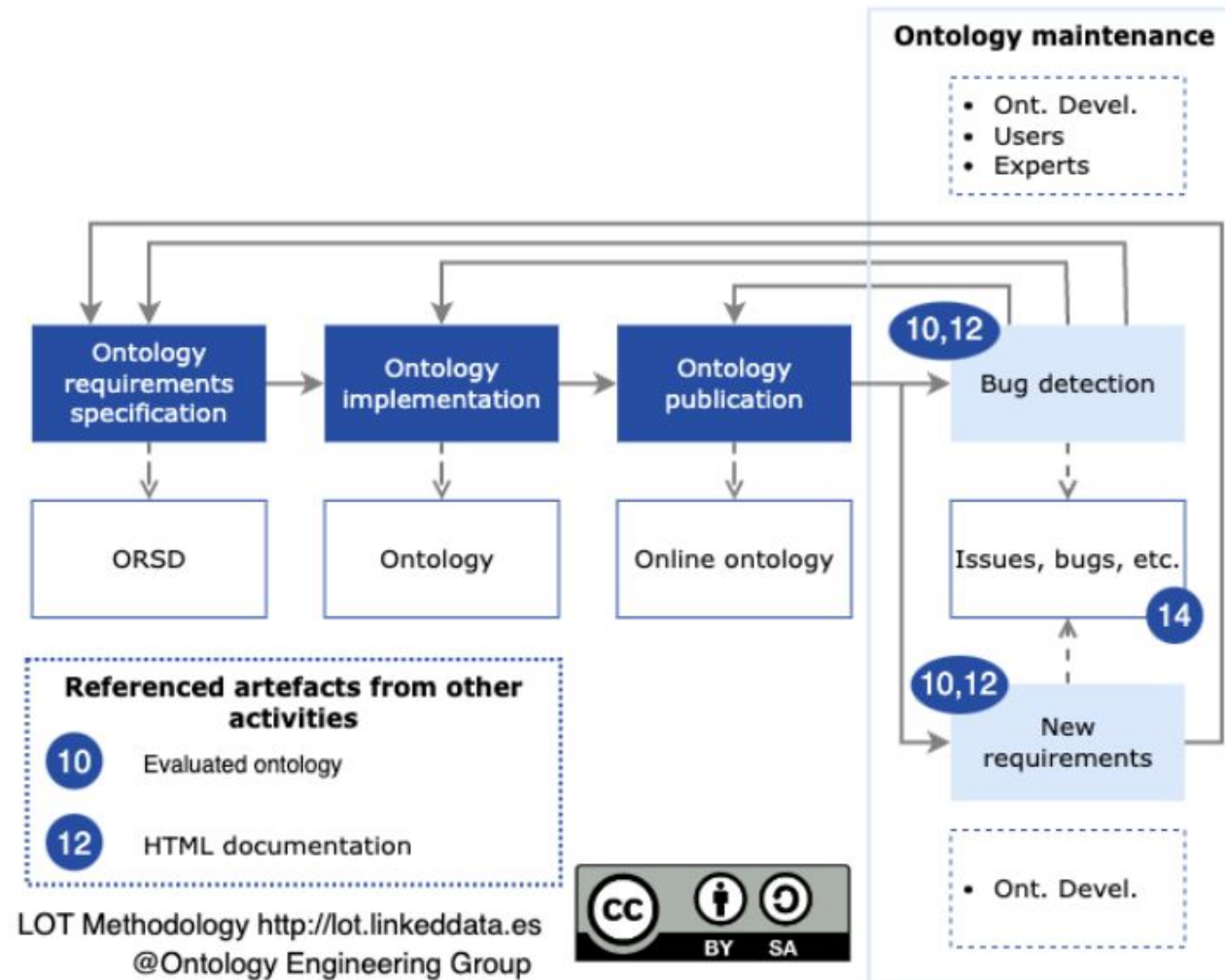
Ontology implementation workflow

Semantic artefact publication



Ontology publication workflow

Semantic artefact maintenance



Ontology maintenance workflow

Tools for semantic artefacts editing

Name	Type	Supported Standards	Key Features	License	Link
Protégé	Desktop/ Web	OWL, RDF, RDFS	Full-featured editor, plugins, reasoning support	Open Source	protege.stanford.edu
PoolParty	Web	SKOS, OWL, RDF	Semantic taxonomy, Linked Data, enterprise knowledge graphs	Commercial	poolparty.biz
VocBench	Web	SKOS, OWL, RDF	Collaborative, multilingual, open data-ready	Open Source	vocbench.uniroma2.it
TemaTres	Web	SKOS, ISO 25964	Multilingual thesaurus management, RDF export	Open Source	vocabularyserver.com
SKOS Play!	Web	SKOS	Visualization and validation of SKOS thesauri	Open Source	skos-play.sparna.fr

Semantic artefact catalogues

- Ding and Fensel, 2001. Ontology libraries: “A system that offers various functions for managing, adapting and standardising groups of ontologies. It should fulfil the needs for re-use of ontologies.”
- Hartman et al., 2009. Ontology repository: “A structured collection of ontologies (...) by using an Ontology Metadata Vocabulary. References and relations between ontologies and their modules build the semantic model of an ontology repository. Access to resources is realised through semantically-enabled interfaces applicable for humans and machines.”.

Semantic artefact catalogues

- BioPortal
- AgroPortal
- EcoPortal
- BiodivPortal
- EarthPortal
- OntoBee
- OBO Foundry
- EBI Ontology Lookup Service (OLS)
- AberOWL
- Linked Open Vocabularies
- OntoHub
- Marine Metadata Initiative's Ontology Registry and Repository
- ESIP Federation's Community Ontology Repository
- ARDC Research Vocabularies Australia
- NERC vocabulary server
- Loterre



Skosmos



Alphabet

- constra
- deprec
- entity
- method
- propert
- researc
- statistic
- variable

UNESCO Thesaur

Alphabetical Hierarchy

A Å B C D E F G
O P Q R S T U V

Abadi → Awadhi
Abandoned children
Abbreviations
Ability
Ability grouping
Abohi → Awadhi
Aboriginals → Indigenous pe
Abortion
Absenteeism → Leave
Abstract journals → Abstract
Abstract reasoning → Reaso
Abstracting
Abstracting and indexing se
services
Abstracts
Abuse of human rights → Hu
Abuse of power → Oppressio
Academic achievement
Academic admission → Adm
Academic buildings
Academic degrees → Degree
Academic equipment → Edu
Academic facilities → Educa
Academic failure
Academic fraud
Academic freedom
Academic grouping → Educa
Academic laboratories → Un
Academic libraries
Academic management → Ec
management
Academic misconduct → Aca
Academic performance → Ac
Academic qualifications → E

AGROVOC Multilingual Thesaurus

Alphabetical Hierarchy Groups

A Å B C Ç D E F G H I J K L M
N O P Q R S Ş T U V W X Y Z 0-9

A horizons
Aaptosyax grypus
Aaron's rod → Verbascum
ABA
abaca
abachi → Triplochiton scleroxylon
Abalistes stellaris
abalone culture
abalone fisheries → gastropod fisheries
abalone viral ganglioneuritis
abalones
abamectin
abandoned land
abandoned, lost or discarded fishing gear
abattoir by-products
abattoirs
Abbottina rivularis
abbreviations
abdomen
abdominal cavity
abdominal fat
abdominal pregnancy
Abelmoschus
Abelmoschus esculentus
Abelmoschus moschatus
Aber disease → infection with Marteilia refringens
Abergelle goat
Aberia → Dovyalis
Abies
Abies alba
Abies amabilis
Abies balsamea
Abies balsamea lasiocarpa → Abies lasiocarpa
Abies borisii regis
Abies cephalonica
Abies cilicica

Content language English Search

Vocabulary information


TITLE	AGROVOC Multilingual Thesaurus
LAST MODIFIED	Tuesday, May 6, 2025 08:24:42
TYPE	http://www.w3.org/2004/02/skos/core#ConceptScheme
SKOSXL:PREFLABEL	http://aims.fao.org/aos/agrovoc/xl_en_4237c5f5
VOID:INDATASET	http://aims.fao.org/aos/agrovoc/void.ttl#Agrovoc
URI	http://aims.fao.org/aos/agrovoc

Resource counts by type

Type	Count
Concept	41409
Collection	3

Term counts by language

Language	Preferred terms	Alternate terms	Hidden terms
Arabic	41408	1981	13
Belarusian	19487	3059	7
Catalan	568	8	5
Czech	38037	8810	0
Danish	23481	36	0
German	38893	7785	7
Greek	194	2	0
English	41409	12230	67
Spanish	41409	44753	5405




Welcome to Finto.fi!

Finto.fi is a centralized service for interoperable thesauri, ontologies and classification schemes for different subject areas. You can use Finto.fi to browse vocabularies or integrate the vocabularies into your own system using the [open APIs](#).

Finto AI provides a user interface and API for automated subject indexing.

You can find more information in the [Finto customer wiki](#).




Available vocabularies and ontologies

GENERAL

- Allärs - General
- FGF - Finnish g
- HCLCS - Helsin
- KANTO - Kans
- KOKO Ontology
- Metatietosana
- PLC - Finnish F
- Pondus categor
- Topics for Coll
- UCUM - The Ur
- UDC Summary
- YSA - General I
- YSO - General
- YSOn käsite-el
- YSO-time

SOCIETY

- IPTC NewsCode
- JUHO - Julkisha
- JUPO - Finnish
- Services



ISTEX Loterre

Terminological resources to be shared out

Enter search term

from all

English

×

Search

Help

Vocabulary list

HUMANITIES & SOCIAL SCIENCES

- Administrative Sciences
- Art and Archaeology
- Conference Exhibition (CX) Terminology Resource (Getty Research Institute)
- Corporate Bodies (CB) Terminology Resource (Getty Research Institute)
- Educational sciences
- Ethnology
- History and Sciences of Religions
- History of Science and Technology
- Linguistics
- Litterature

Loterre?

Loterre (Linked open terminology) is a platform for multidisciplinary scientific resources sharing, covering the linked open data standard principles.

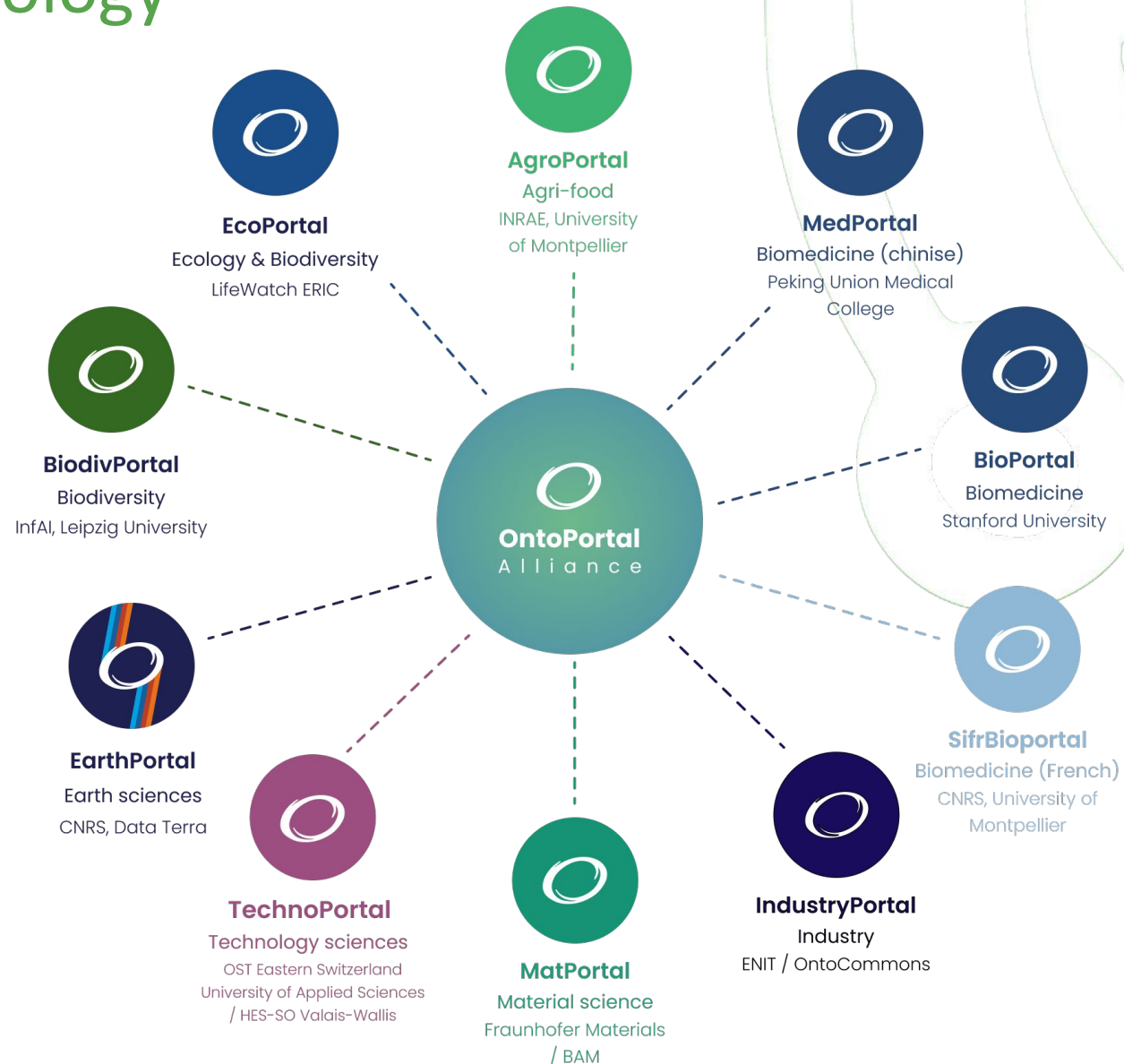
Currently **73** terminologies are available

DOCUMENTATION

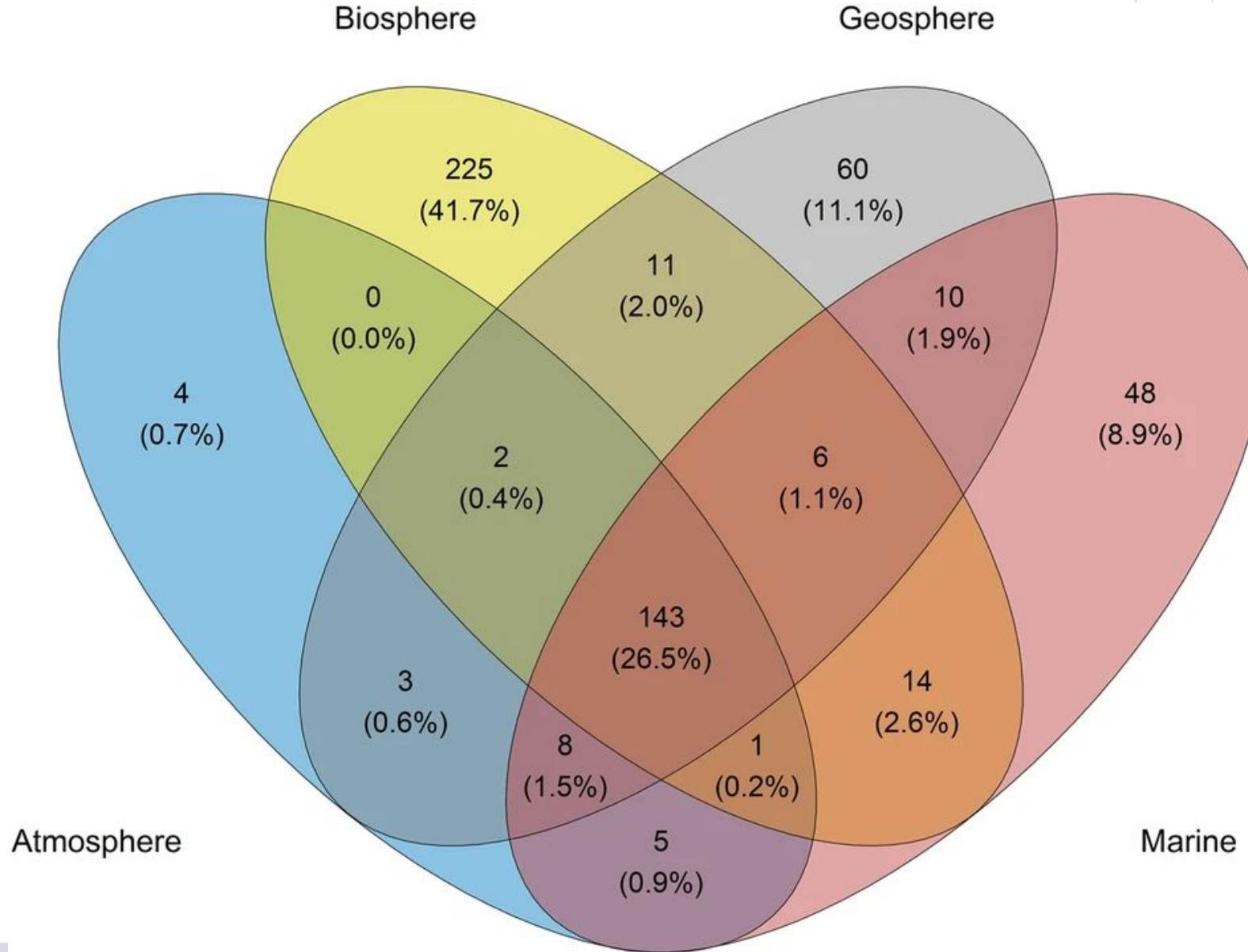
SERVICES

CONTACT

OntoPortal technology

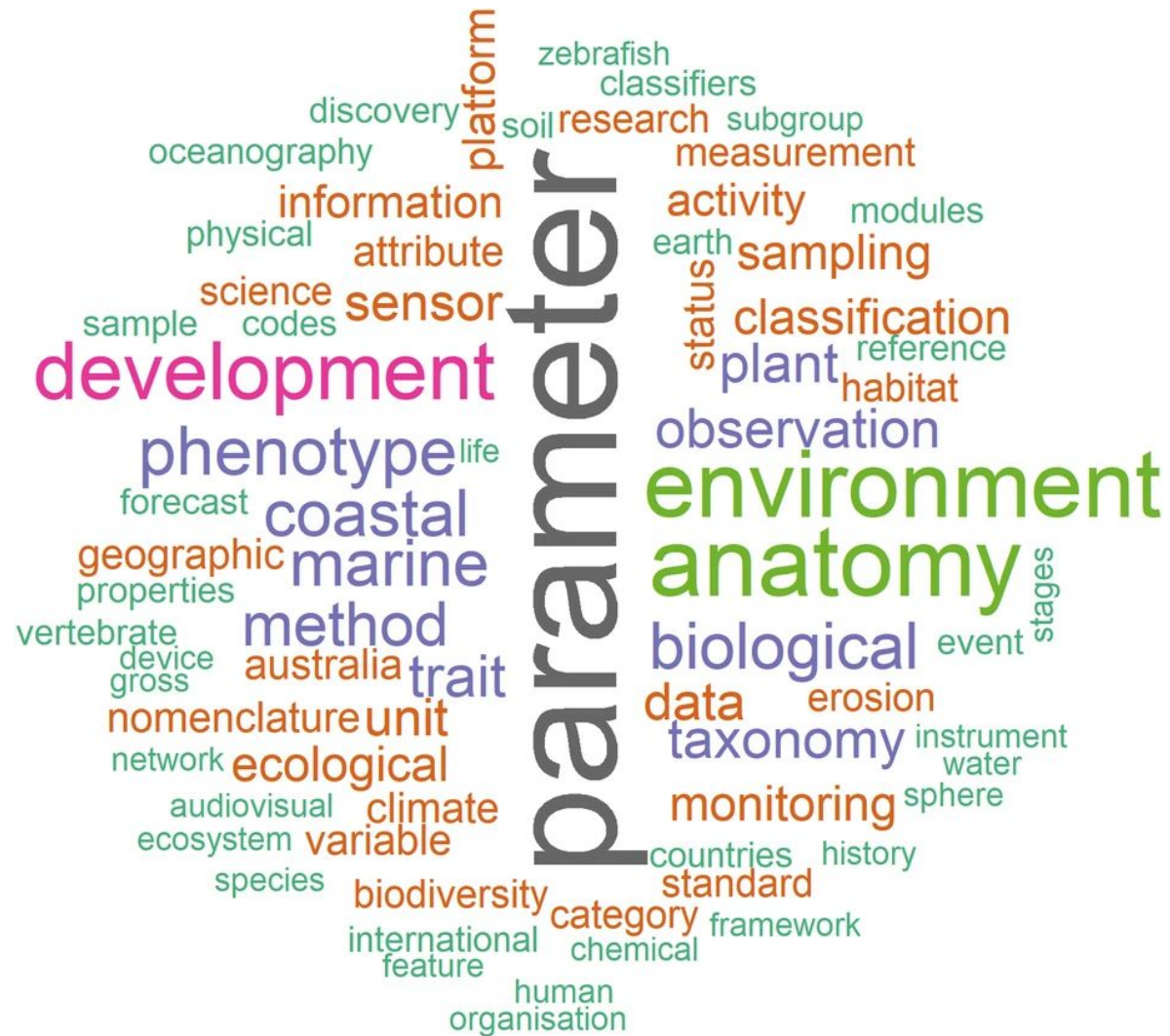


Multiple catalogues with similar thematic niche



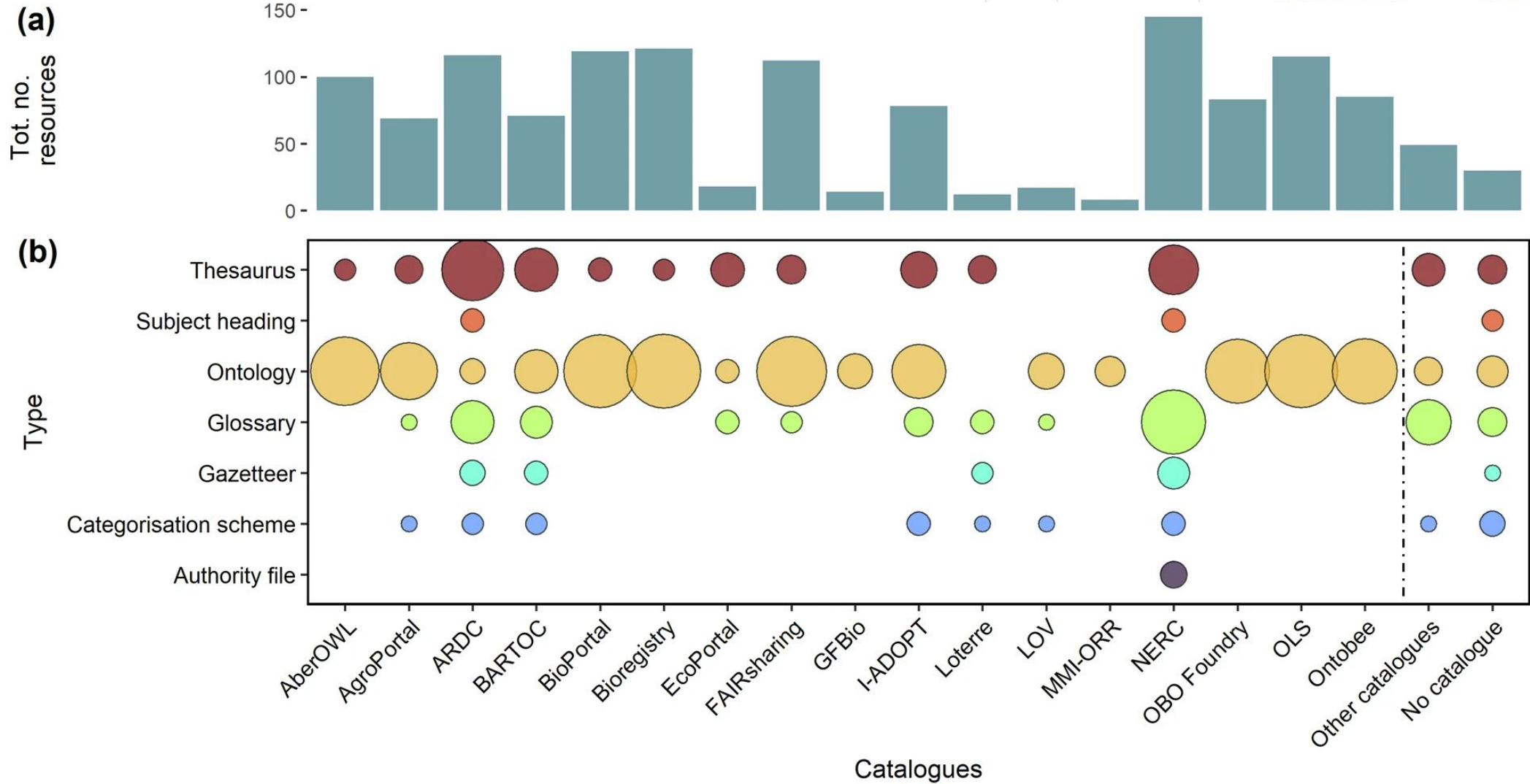
Venn diagram displaying the number and percentage (in bracket) of shared and unique semantic artefacts of the four environmental domains considered in this study according to the ITINERIS classification of environmental domains.

Multiple catalogues with similar thematic niche

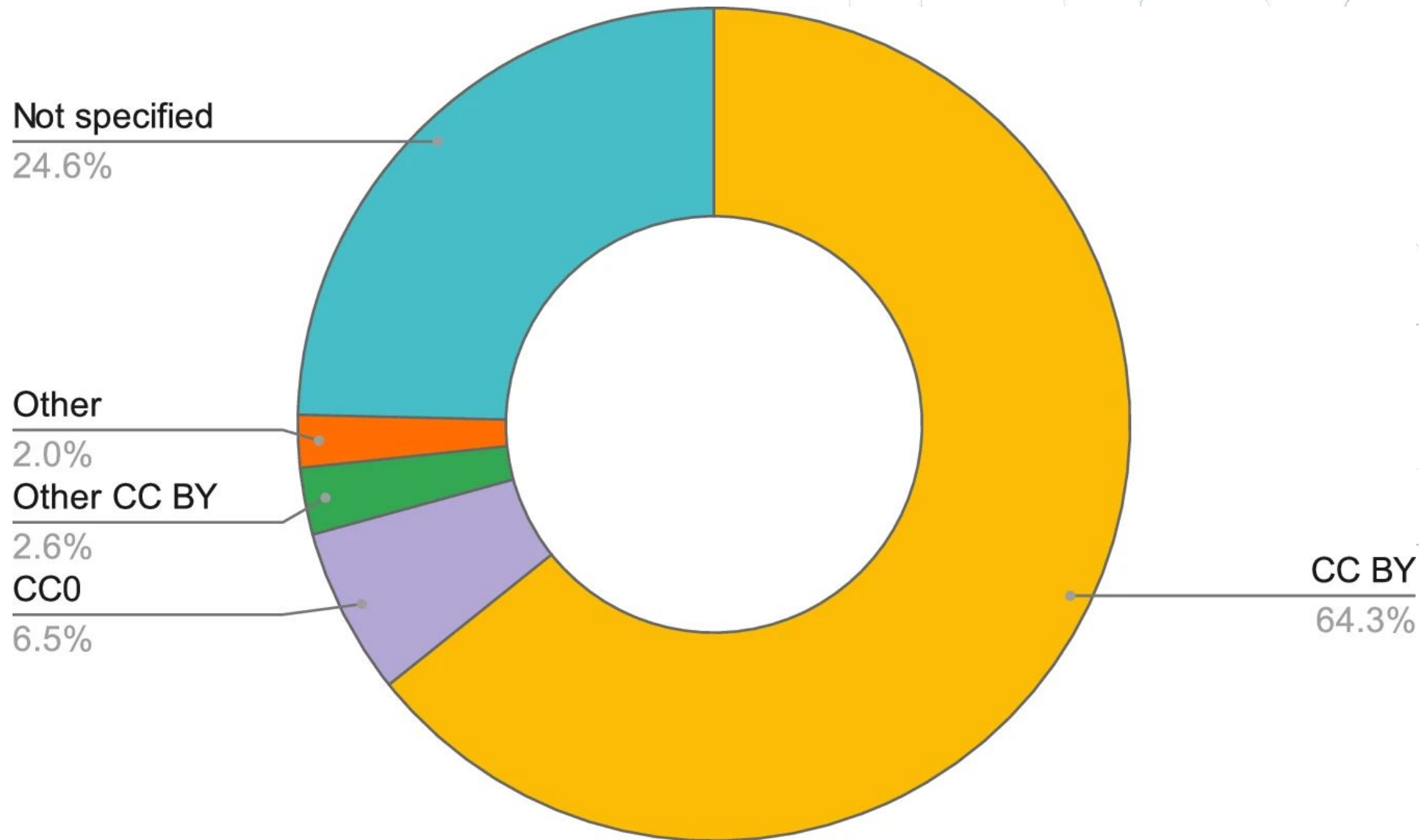


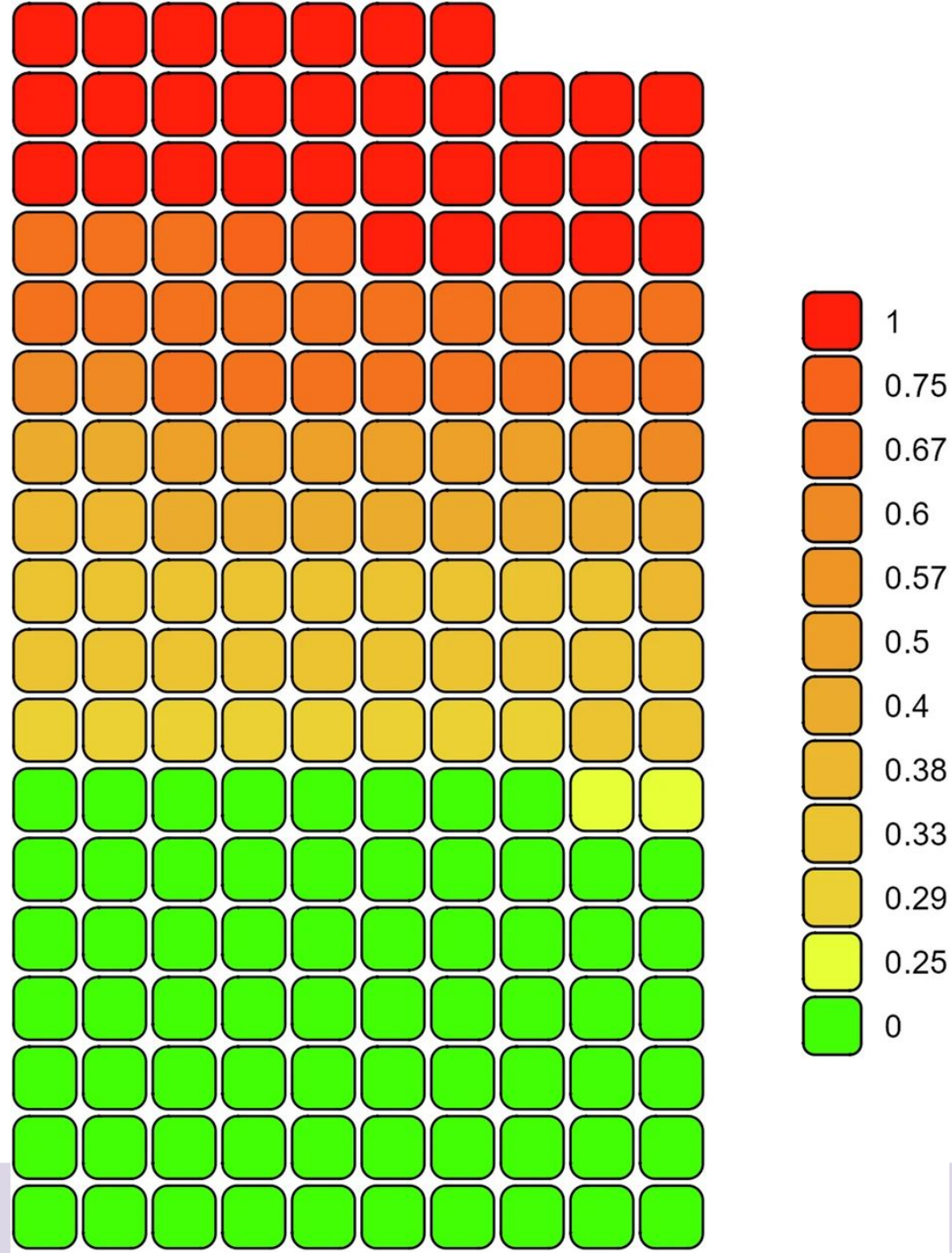
Word Cloud showing the most common terms used to describe the semantic artefacts included in this study. The image is the result of a text mining analysis performed on the titles of the compiled semantic artefacts.

Multiple catalogues with similar thematic niche



Multiple catalogues with similar thematic niche





Waffle chart showing the versions' misalignment of semantic artefacts available with version information on multiple (at least two) semantic catalogues. The misalignment is expressed as the proportion between the number of times in which each resource had a unique value and the number of catalogues in which the resource was available with a specified version. In the figure, each square represents a single semantic artefact (N = 177) and the proportion of misalignment varies from 0 (no existing misalignment among catalogues) to 1 (maximum misalignment among catalogues).

OntoPortal Federation



EcoPortal Browse Mappings Recommender Annotator Landscape VocBench Login

Welcome to EcoPortal,

The LifeWatch ERIC repository of semantic resources for ecology and related domains

Search a semantic resource or a term (e.g., Environmental impact) >

TRAITS_THES
484 visits

CMECS
268 visits

PHYTOTRAITS
106 visits

...

Do you want to share a semantic resource?

Uploading a semantic resource, ontology, vocabulary, terminology, thesaurus, ... is a way of sharing your knowledge with others.

EarthPortal Browse Mappings Recommender Annotator Landscape Projects Login EN

Welcome to EarthPortal,

The home of ontologies and semantic artefacts for Earth sciences.

Search an ontology or a term (e.g., oxygen) >

OSO
127 visits

SWEET
66 visits

ENVTHES
21 visits

...

Do you want to share an ontology?

Uploading an ontology or another type of semantic artefact (vocabulary, terminology, thesaurus, ...) is a way of sharing your knowledge with others.

By uploading and sharing your ontology to EarthPortal, you can:

AgroPortal Browse Mappings Recommender Annotator Landscape Login EN

Welcome to AgroPortal,

The home of ontologies and semantic artefacts in agri-food and related domains.

Search an ontology or a term (e.g., plant height) >

AGROVOC
200 visits

THESAGRO
88 visits

INRAETHES
71 visits

...

BiodivPortal Browse Mappings Recommender Annotator Landscape Login

Welcome to BiodivPortal,

The home of ontologies and semantic artefacts in biodiversity and related domains.

Search an ontology or a term (e.g., plant height) >

NCBITAXON
2M concepts

CHEBI
183K concepts

OBA
72K concepts

...

What are the benefits of using BiodivPortal?

Metadata for Ontology Description and Publication Ontology (MOD)

MOD: Metadata for Ontology Description and publication

Release December 6, 2021

This version:

<https://w3id.org/mod/2.0>

Latest version:

<https://w3id.org/mod/2.0>

Previous version:

<http://www.isibang.ac.in/ns/mod/1.4>

Revision:

2.0

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THANKS!

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