



A Collaborative Framework for Managing and Publishing KOS

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FAO of the United Nations
University of Rome (Tor Vergata)



AIMS



We will promote research for food and agriculture, including research to adapt to, and mitigate climate change and access to research results and technologies at national, regional and international levels.

We will reinvigorate national research systems and will share information and best practices.

We will improve access to knowledge.

World Food Summit 2009



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The AIMS Team

- Team of 18 information management specialists distributed over the world
- Objective → dissemination of standards, tools, services and good practices in information management for the support of the right to food, sustainable agriculture and rural development, some examples.....
 - **AGROVOC**, AgVocabularies, LODE-BD, AgMES
 - AgriDrupal, AgriOcean Dspace, **VocBench**
 - AgiFeeds, AGRIS, CIARD Ring, VEST Registry and AIMS



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AGROVOC & VocBench



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First...what is AGROVOC?

- Multilingual structured thesaurus for agriculture
- Owned and maintained by an international community of agricultural research information institutions and managed by FAO
- Used world-wide by researchers, librarians, information managers and others, for indexing, retrieving, and organizing data in agricultural information systems
- Maintained since the 1970's, it currently includes 579,523 terms in 19 different languages.





Evolution

- Semantic refinement to shape it into a reusable RDF vocabulary
- Objective
 - Fulfill its traditional functions of document indexing while....
 - ...meeting the needs of a new generation of semantically-enabled applications
- How
 - Using a customized model based on OWL





CS Workbench

- Model was tailored to represent concept schemes, difficult to manage using traditional ontology editing tools
- Web application specifically tailored to the AGROVOC Vocabulary
- Objective
 - Collaborative environment that supported roles-based authentication, editorial workflow, multilingual search and high installability





From CS Workbench to VocBench

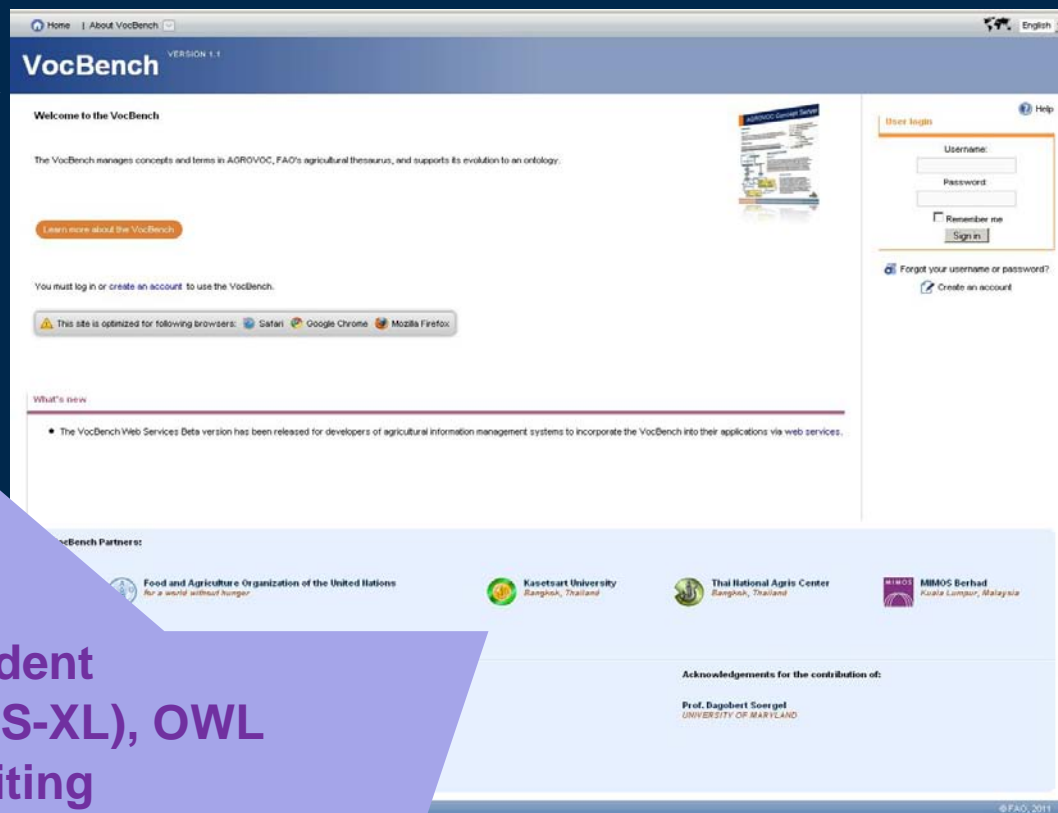
- But new knowledge representation languages to represent thesauri and concept schemes: SKOS , SKOS-XL
- And inclusion of additional vocabularies in CS Workbench highlighted the need to use a standard model such as SKOS
- So in 2010, decision to transform CS Workbench into a general-purpose, SKOS-compliant platform for collaborative knowledge management



About VocBench



**A biotechnologist
from Sweden**

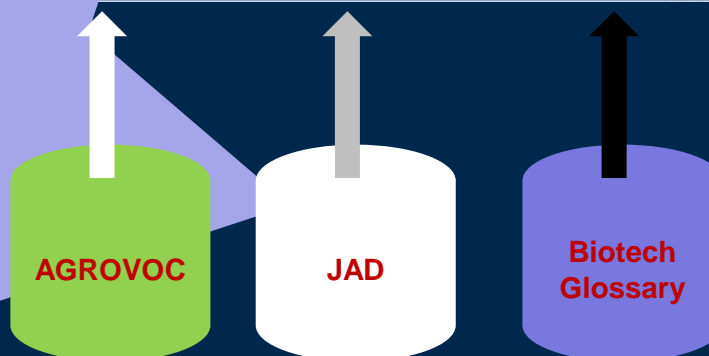


**An Agriculturist
from South Africa**



A Librarian from India

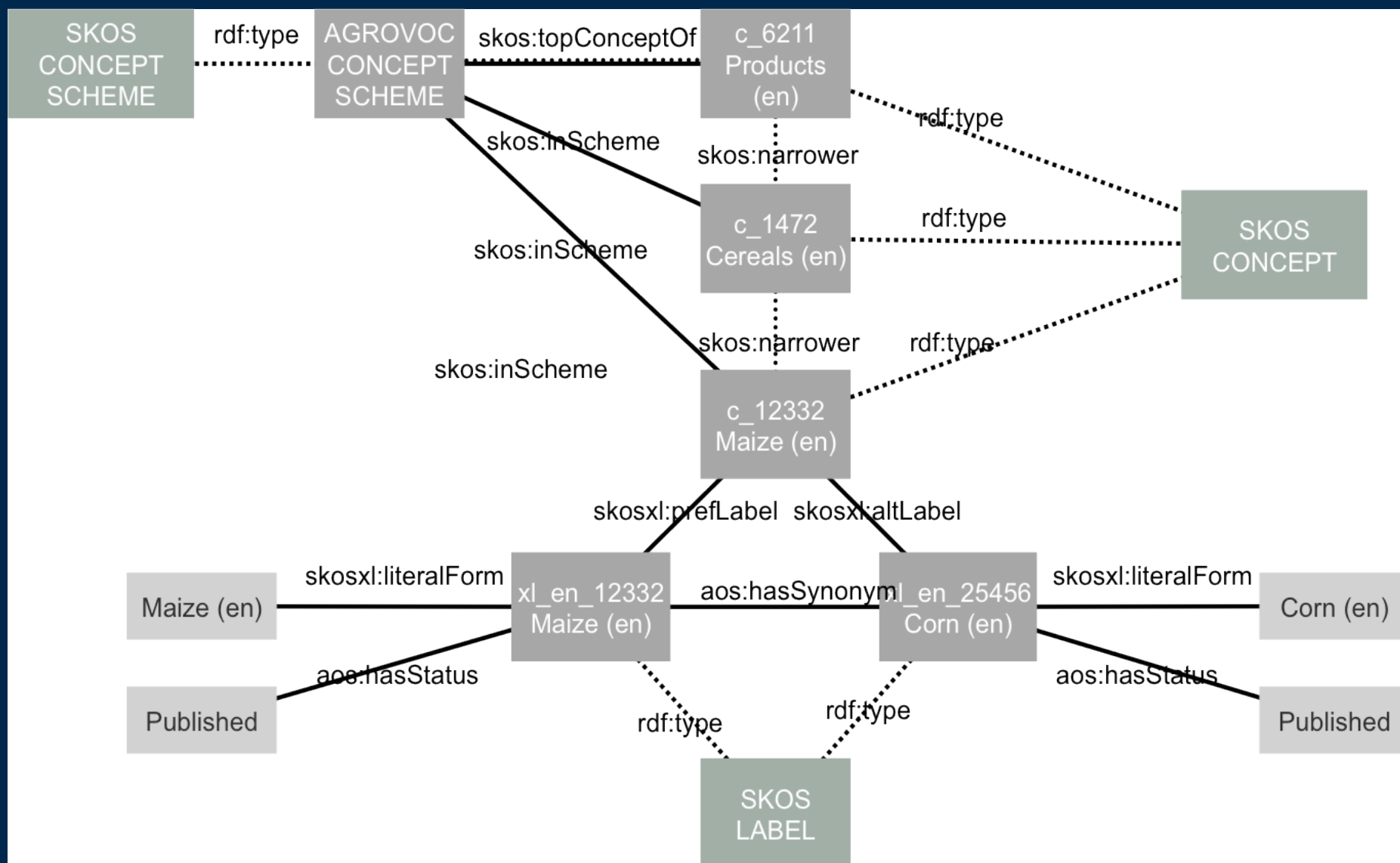
**Domain independent
RDF (SKOS,SKOS-XL), OWL
Collaborative editing
Editorial workflow, with user
roles
Simple and advanced search
Data export: SKOS, Relational
format (MySQL)**



Next steps

- Current version VocBench 1.3 - still relies internally to some extent on the customized OWL knowledge model
- VocBench 2.0 very soon
 - Native interface for SKOS and SKOSXL
 - Support for a host of different triple store technologies
- Support for generic OWL
 - To model and export as LOD other FAO repositories such as the FAO Journal Data records (JAD)

AGROVOC SKOS Model



VocBench

Firefox

VocBench :: Version 1.1

http://agrovoc.mimos.my/vocbenchv1.1/

Home | About VocBench

English

VocBench

VERSION 1.1

Welcome to the VocBench

The VocBench manages concepts and terms in AGROVOC, FAO's agricultural thesaurus, and supports its evolution to an ontology.

[Learn more about the VocBench](#)

You must log in or [create an account](#) to use the VocBench.

This is the **production version** of VocBench used by AGROVOC terminologists. If you would like to test VocBench please visit our **sandbox version**.

[Click here for Sandbox](#)

User login

Username:

Password:

☐ Remember me

[Sign in](#)


[Forgot your username or password?](#)


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What's new


- The VocBench Web Services Beta version has been released for developers of agricultural information management systems to incorporate the VocBench into their applications via web services.

VocBench Partners:


**Food and Agriculture Organization of the United Nations**
for a world without hunger

**Kasetsart University**
Bangkok, Thailand

**Thai National Agris Center**
Bangkok, Thailand




**MIMOS Berhad**
Kuala Lumpur, Malaysia

Acknowledgements for the revision of AGROVOC content to:

**ICRISAT**
International Crops Research Institute for the Semi-Arid Tropics

Acknowledgements for the contribution of:

Prof. Dagobert Soergel
UNIVERSITY OF MARYLAND

This site is optimized for following browsers:  Safari  Google Chrome  Mozilla Firefox

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Top Concepts

Signed in as Administrator (Administrator) to: Agrovoc Administration | About VocBench | RSS feed | Preferences | Help | Sign out

VocBench VERSION 1.1 Exact word Go Advanced search

Recent changes Concepts Relationships Validation Export Statistics Concept navigation history Content language

Concepts ☐ ☒ Show also non-preferred terms

- ☐ activities (en)
- ☐ entities (en)
- ☐ events (en)
- ☐ factors (en)
- ☐ features (en)
- ☐ groups (en)
- ☐ location (en)
- ☐ measure (en)
- ☐ methods (en); Ways of doing (en)
- ☐ objects (en)
- ☐ phenomena (en)
- ☐ processes (en)
- ☐ properties (en)
- ☐ resources (en)
- ☐ site (en)
- ☐ stages (en)
- ☐ state (en)
- ☐ strategies (en)
- ☐ subjects (en)
- ☐ substances (en)
- ☐ systems (en)
- ☐ time (en)
- ☐ Gaeabionta (en); life on earth (en); organisms (en)
- ☐ produce (en); products (en)
- ☐ Technics (en); technology (en)

Legend Proposed by guest Proposed Validated Published Revised by guest Revised Proposed deprecated Deprecated Show more

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Multilinguality

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VocBench VERSION 1.1

Exact word Go Advanced search

Recent changes Concepts Relationships Validation Export Statistics Concept navigation history Content language

Concepts Show also non-preferred terms

- activities (en)
- entities (en)
- events (en)
- factors (en)
- features (en)
- groups (en)
- location (en)
- measure (en)
- methods (en); Ways of doing (en)
- objects (en)
- phenomena (en)
- processes (en)
- properties (en)
- resources (en)
- site (en)
- stages (en)
- state (en)
- strategies (en)
- subjects (en)
- substances (en)
- systems (en)
- time (en)
- Gaeabionta (en); life on earth (en); organisms (en)
- produce (en); products (en)
- Technics (en); technology (en)

Select languages to display

Use this area to select languages you wish to see when viewing **concepts**, **categories** and **relationships** and to **use in searching** in your **current session**.

To change your language settings for both current and future visits, use the preferences area under "Administration" at top of the page.

You will **always see all languages** available when viewing **terms** associated with concepts and categories.

Add new language

Order	Language	Note	Code	
1	<input checked="" type="checkbox"/> english	english	en	
4	<input type="checkbox"/> español	spanish	es	
6	<input type="checkbox"/> français	french	fr	
7	<input type="checkbox"/> arabic	arabic	ar	
8	<input type="checkbox"/> 中文	chinese	zh	
9	<input type="checkbox"/> русский	russian	ru	
10	<input type="checkbox"/> português	portuguese	pt	
12	<input type="checkbox"/> latin	latin	la	
13	<input type="checkbox"/> cesky	czech	cs	
14	<input type="checkbox"/> lao	lao	lo	
15	<input type="checkbox"/> persian	also known as farsi.	fa	
16	<input type="checkbox"/> 日本語	japanese	ja	
17	<input type="checkbox"/> ไทย	thai	th	

Select all Clear all

Save Cancel

Edit language

Legend Proposed by guest Proposed Validated Published Revised by guest Revised Proposed deprecated Deprecated

Show more

Concepts

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VocBench VERSION 1.1

Exact word Go [Advanced search](#)

Recent changes | **Concepts** | Relationships | Validation | Export | Statistics | [Concept navigation history](#) | [Content language](#)

Concepts ☒ Show URI ☒ Show also non-preferred terms

URI: http://aims.fao.org/aos/agrovoc/c_423

- activities (en)
 - accident prevention (en)
 - accident reporting (en)
 - Accounting (en); Bookkeeping (en)
 - administration (en)
 - analysis (en)
 - application (en)
 - assessment (en)
 - breeding (en)
 - Animal breeding (en)**
 - animal domestication (en)
 - Domestication (en)
 - Plant breeding (en)
 - calculation (en)
 - capture of animals (en)
 - cartography (en); Map making (en); Mapping (en)
 - Certification (en)
 - classification (en); Systematization (en)
 - Cleaning (en)
 - collection (en); gathering (en)
 - Communication (en)
 - Computer programming (en)
 - cooperative activities (en)
 - Cruelty prevention (en)
 - design (en)
 - Destruction of animals (en)
 - diagnosis (en)
 - Disaster prevention (en)
 - economic activities (en)

Legend Proposed by guest Proposed Validated Published Revised by guest Revised Proposed deprecated Deprecated [Show more](#)

Animal breeding (en)

Term (1) | Definition (0) | Notes (11) | Attribute (0) | Relationships (10) | History (0) | Image (0) | Hierarchy

[Add new term](#)

Language	Term
English (en)	Animal breeding (Preferred)
Español (es)	Mejoramiento animal (Preferred) Mejoramiento genético del ganado
Français (fr)	Amélioration des animaux (Preferred)
Arabic (ar)	تربية الحيوان (Preferred)
中文 (zh)	动物育种 (Preferred)
Русский (ru)	селекция и разведение животных (Preferred) генетическое улучшение животных
Português (pt)	Melhoramento animal (Preferred)
Cesky (cs)	šlechtění zvířat (Preferred)
Lao (lo)	ບຸກຄົນສັດ, ກຸ່ມສັດ (Preferred)
Persian (fa)	اصلاح نژاد جانوری (Preferred) بهسازی جانوری
日本語 (ja)	家畜育種 (Preferred)
ไทย (th)	การปรับปรุงพันธุ์สัตว์ (Preferred)
हिन्दी (hi)	पशु प्रजनन (Preferred)
Deutsch (de)	TIERZUECHTUNG (Preferred)
Hungarian (hu)	állattenyésztés (Preferred)

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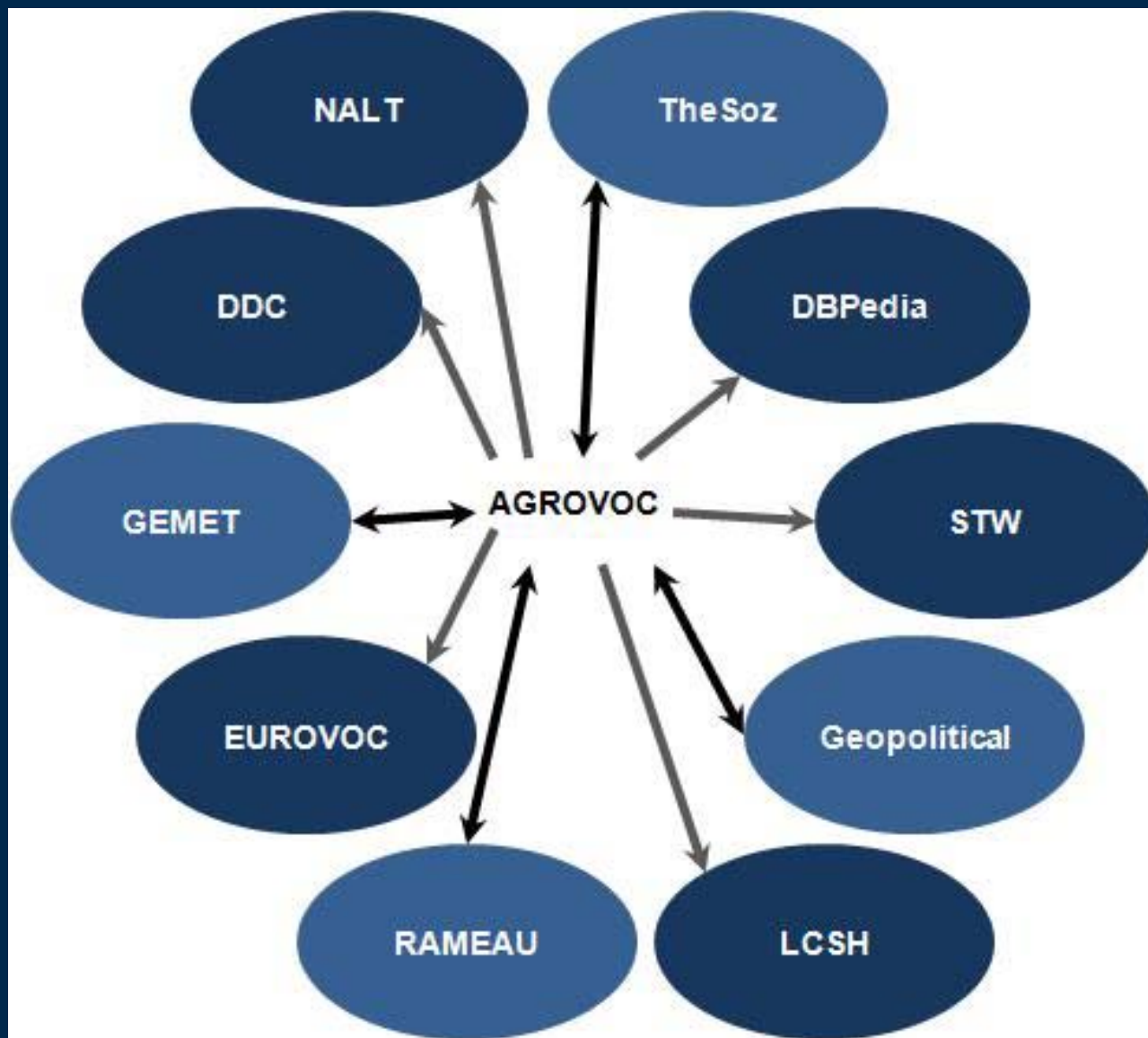
AGROVOC

Linked Open Data



AIMS

Thesauri into the AGROVOC LOD Cloud



21,000 outlinks

3,000 inlinks

AGROVOC LOD-outlinks



Europe

at AGROVOC Thesaurus

http://aims.fao.org/aos/agrovoc/c_2724



Property	Value
broader	<ul style="list-style-type: none">▪ <http://aims.fao.org/aos/agrovoc/c_2723>
exactMatch	<ul style="list-style-type: none">▪ <http://agclass.nal.usda.gov/nalt/2011.xml#5987>▪ <http://eurovoc.europa.eu/909>▪ <http://id.loc.gov/authorities/sh85045631#concept>▪ <http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb11931301w>▪ <http://www.eionet.europa.eu/gemet/concept/2992>▪ <http://zbw.eu/stw/descriptor/16815-3>
date of creation	<ul style="list-style-type: none">▪ 1981-01-09
date of last update	<ul style="list-style-type: none">▪ 2010-05-12
isPartOfSubvocabulary	<ul style="list-style-type: none">▪ Geographical above country level (string)
isSpatiallyIncludedIn	<ul style="list-style-type: none">▪ <http://aims.fao.org/aos/agrovoc/c_24920>
prefLabel	<ul style="list-style-type: none">▪ EUROPA (de)▪ Europa (it)▪ Europa (es)▪ Europa (pl)▪ Europa (pt)▪ Europe (fr)▪ Europe (en)▪ Európa (hu)▪ Európa (sk)▪ Evropa (cs)▪ evpona (ru)▪ أوروبا (ar)▪ اروپا (fa)▪ यूरोप (hi)▪ ยุโรป (th)▪ ཇུ་ཤུ (lo)▪ ユーロパ (ja)▪ 欧洲 (zh)▪ 유럽 (ko)
spatiallyIncludes	<ul style="list-style-type: none">▪ <http://aims.fao.org/aos/agrovoc/c_2726>

The international agricultural thesaurus AGROVOC is maintained by FAO and part of AIMS. The AGROVOC LOD services are a collaboration project with the MIMOS Bhd.

[As Turtle](#) | [As RDF/XML](#)



AIMS





AGROVOC LOD-inlinks

GEMET Thesaurus

Vocabulary and Alignment Repository

supported by



SERVICES | REPORTNET | TOOLS | TOPICS (ETCS)

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Repository homepage | STITCH
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- » Mails to NFPs
- » SERIS
- » Eionet Wiki
- » Workplan/planner
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Europe

Definition:
The second smallest continent, forming the W extension of Eurasia: the coastline is generally extremely indented and there are several peninsulas (including the British Isles and Iceland). It contains a series of great mountains (the Alps, the Pyrenees, the Caucasus), a large central plain, and a N region of lakes and mountains.

broader terms
world

narrower terms
Eastern Europe
Western Europe

Scope note:
scope note is not available

Groups:
LAND (landscape, geography)

Themes:
geography

Other relations:
Has exact match
[AGROVOC: Europe](#)
<http://eurovoc.europa.eu/909>
Wikipedia article
[Europe](#)

Concept information


URI	http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb11931301w
prefLabel	x-notation FRBNF119313017
	fr Europe
altLabel	fr Conseil de l'Europe, Pays du
	fr Pays du Conseil de l'Europe
scopeNote	fr Voir aussi aux différentes parties de l'Europe, par ex. Europe de l'Ouest
editorialNote	fr Source : GLU
inScheme	Rameau
	Rameau - Noms Géographiques
broader	Eurasie
narrower	Pays de l'Union européenne
related	Et l'Europe


Mappings (simple SKOS statements)

Mapping Relation	Concept
exactMatch	http://aims.fao.org/aos/agrovoc/c_2724
Russian:	Европа
Slovak:	Európa
Slovenian:	Evropa
Spanish:	Europa
Swedish:	Europa
Turkish:	Avrupa

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GEMET - Concepts, version 2.4, 2010-01-13





Thank You!

AIMS Team

<http://aims.fao.org>



<http://aims.fao.org>



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<http://www.w3.org/TR/skos-reference/>

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