



**HAL**  
open science

## Semantics of Biodiversity: from Thesaurus to Linked Open Data (LOD)

Dominique Vachez, Isabelle Gomez, Eric Garnier

► **To cite this version:**

Dominique Vachez, Isabelle Gomez, Eric Garnier. Semantics of Biodiversity: from Thesaurus to Linked Open Data (LOD). 47th LIBER Annual Conference: Research Libraries as an Open Science Hub, Jul 2018, Lille, France. 2020. hal-02907484v2

**HAL Id: hal-02907484**

**<https://hal.science/hal-02907484v2>**

Submitted on 28 Jul 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

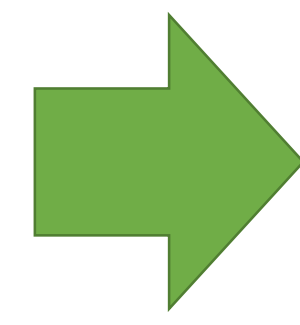
# Semantics of Biodiversity from Thesaurus to Linked Open Data (LOD)

<https://www.inist.fr> - <https://www.semandiv.cnrs.fr>

Contacts: [dominique.vachez@inist.fr](mailto:dominique.vachez@inist.fr) ; [isabelle.gomez@inist.fr](mailto:isabelle.gomez@inist.fr) ; [eric.garnier@cefe.cnrs.fr](mailto:eric.garnier@cefe.cnrs.fr)

## Observations

Interdisciplinarity and semantic heterogeneity of Biodiversity data disseminated among many databases



## Research requirements

Harmonized and structured terminological resources to retrieve and share data  
Controlled vocabulary & semantic standards

## Objectives

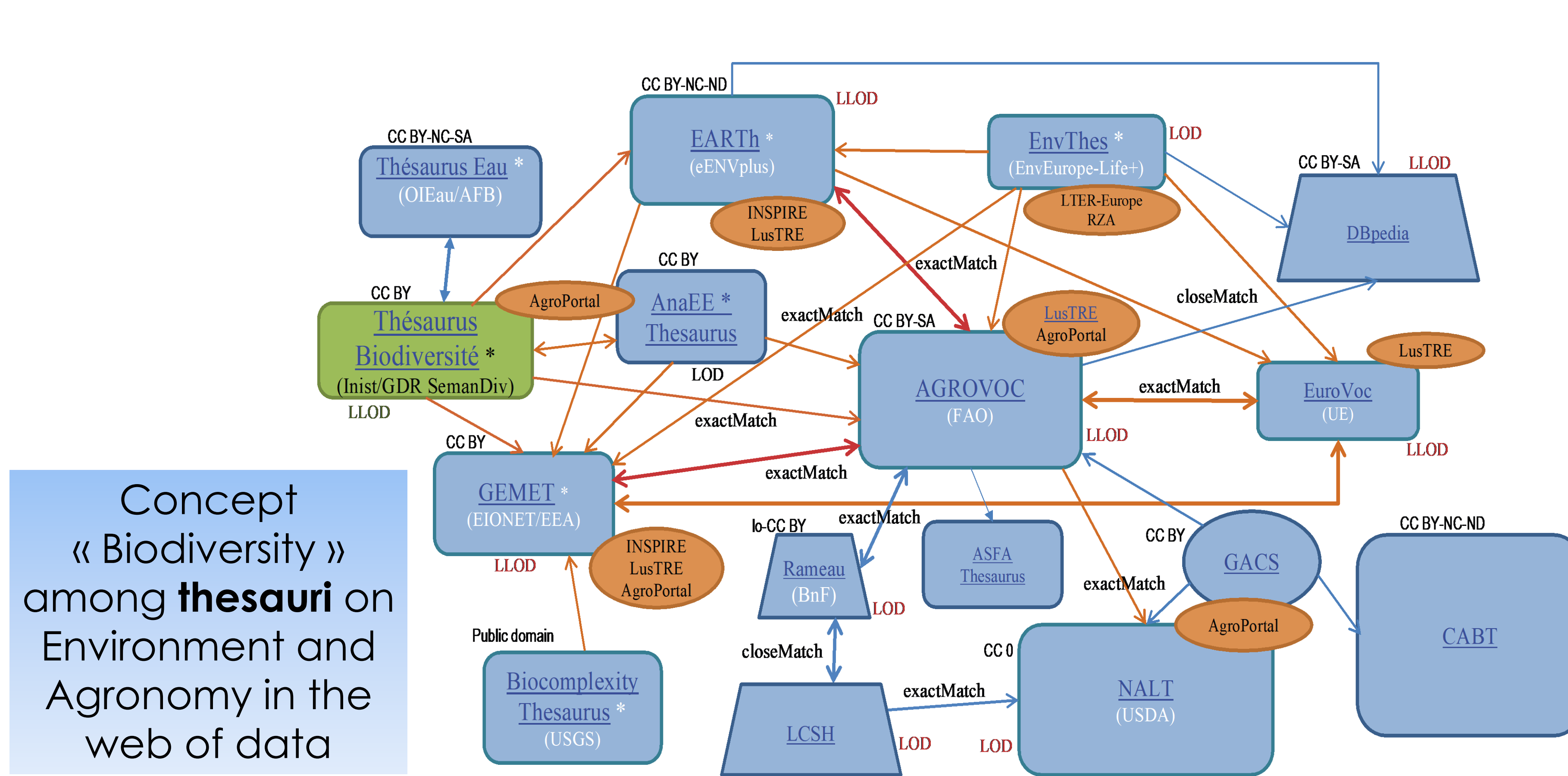
Interoperability of databases in ecology/biodiversity using :

- thesauri & domain ontologies
- metadata enriched with semantic relationships to describe and connect concepts and perform reasoning on data



## The steps of the project

Partnership initiated in 2014 between INIST-CNRS and various research organizations on the interoperability of data in ecology (CNRS/CEFE, INRA/AnaEE, FRB/CESAB)



Concept « Biodiversity » among thesauri on Environment and Agronomy in the web of data

### 1st STEP

Comprehensive survey of thesauri in Environmental Sciences including European infrastructures  
Complementarity and alignments in the LOD cloud  
→ lack of thesaurus dedicated to Biodiversity

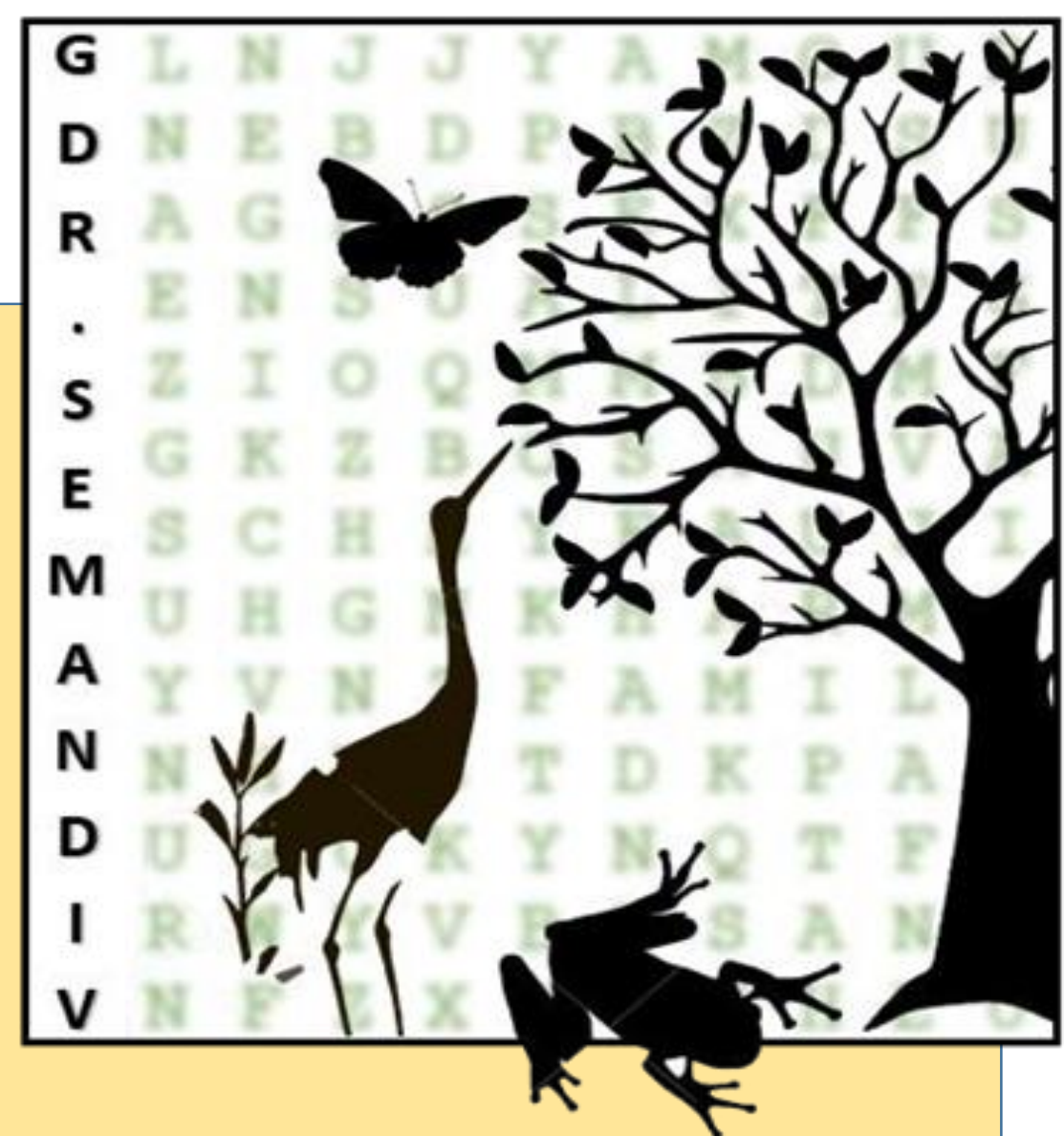
### 2nd STEP

Development of the Biodiversity Thesaurus  
- bilingual and polyhierarchical  
615 concepts  
- compliant with semantic web (SKOS/RDF) and ISO standards  
- aligned & open-access (Loterre, AgroPortal)

### 3rd STEP

Creation of a research group on biodiversity semantics – GDR SemanDiv –

38 participants from 17 French and international research structures (CNRS, INRA, IRD, IRSTEA, MNHN, GBIF)  
conceptual basis to stimulate research in ecoinformatics  
↓  
reviewing of definitions; ontologization of thesaurus; mappings  
to achieve data integration & reusability



2014

2015-2016

2017-2020

