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

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

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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

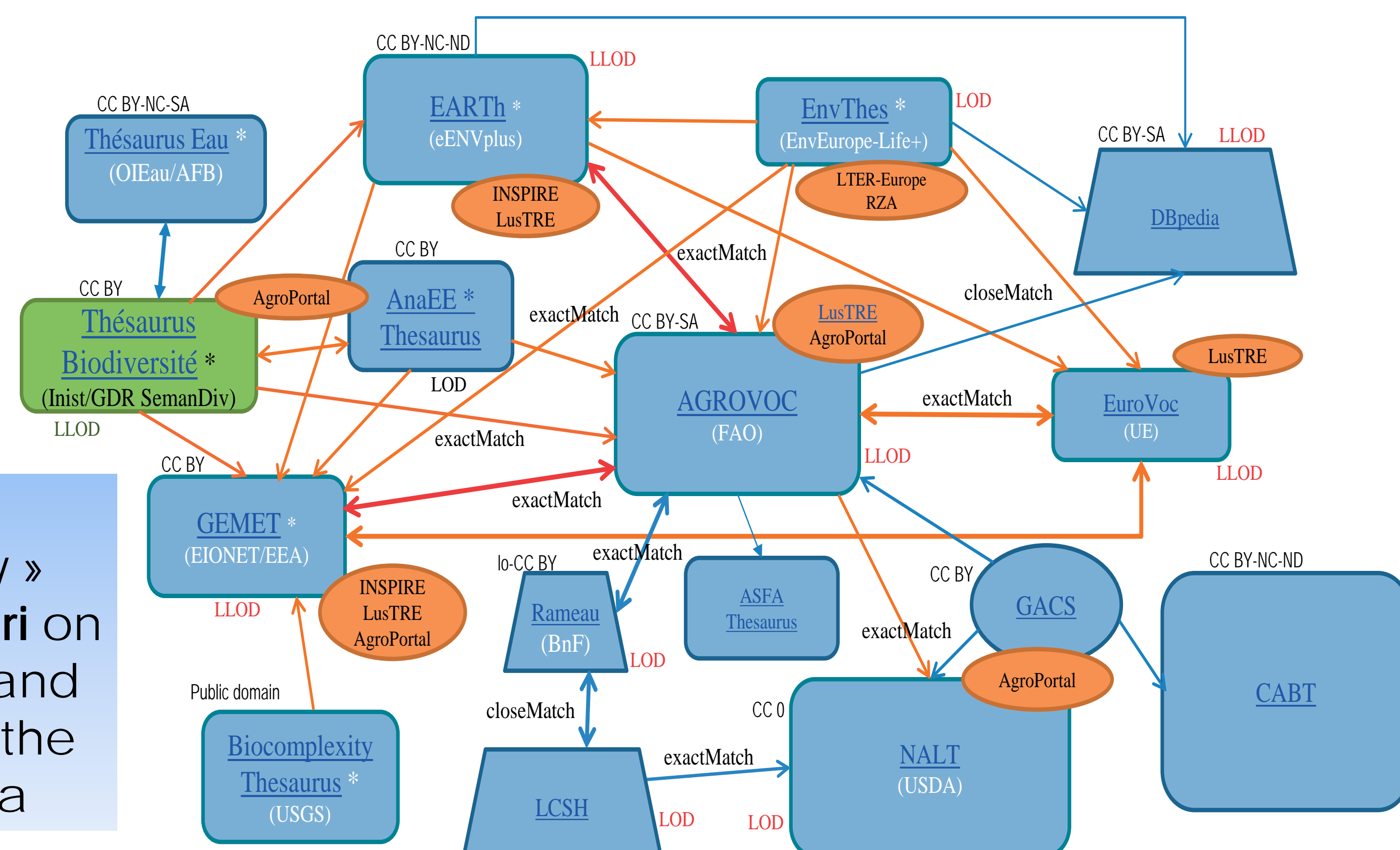
Interoperability of databases in ecology/biodiversity using :

- ▶ 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

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**

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)**

2014

2015 - 2016

2017 - 2020