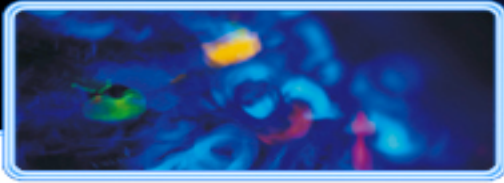




## **T2.4**

**Multilinguality and Linguistic/Terminological  
Information**

**USFD, CNR, UPM**

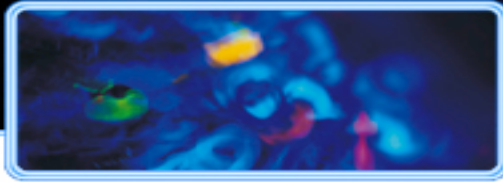


- D2.4.3 Multilingual and Localization Support for Ontologies V3 (M41)

## Networked Ontologies for Linguistic/Terminological Description

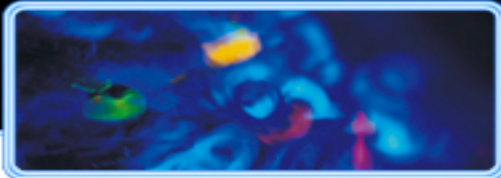
Main themes:

- LabelTranslator V3
- interoperability
- ontology network

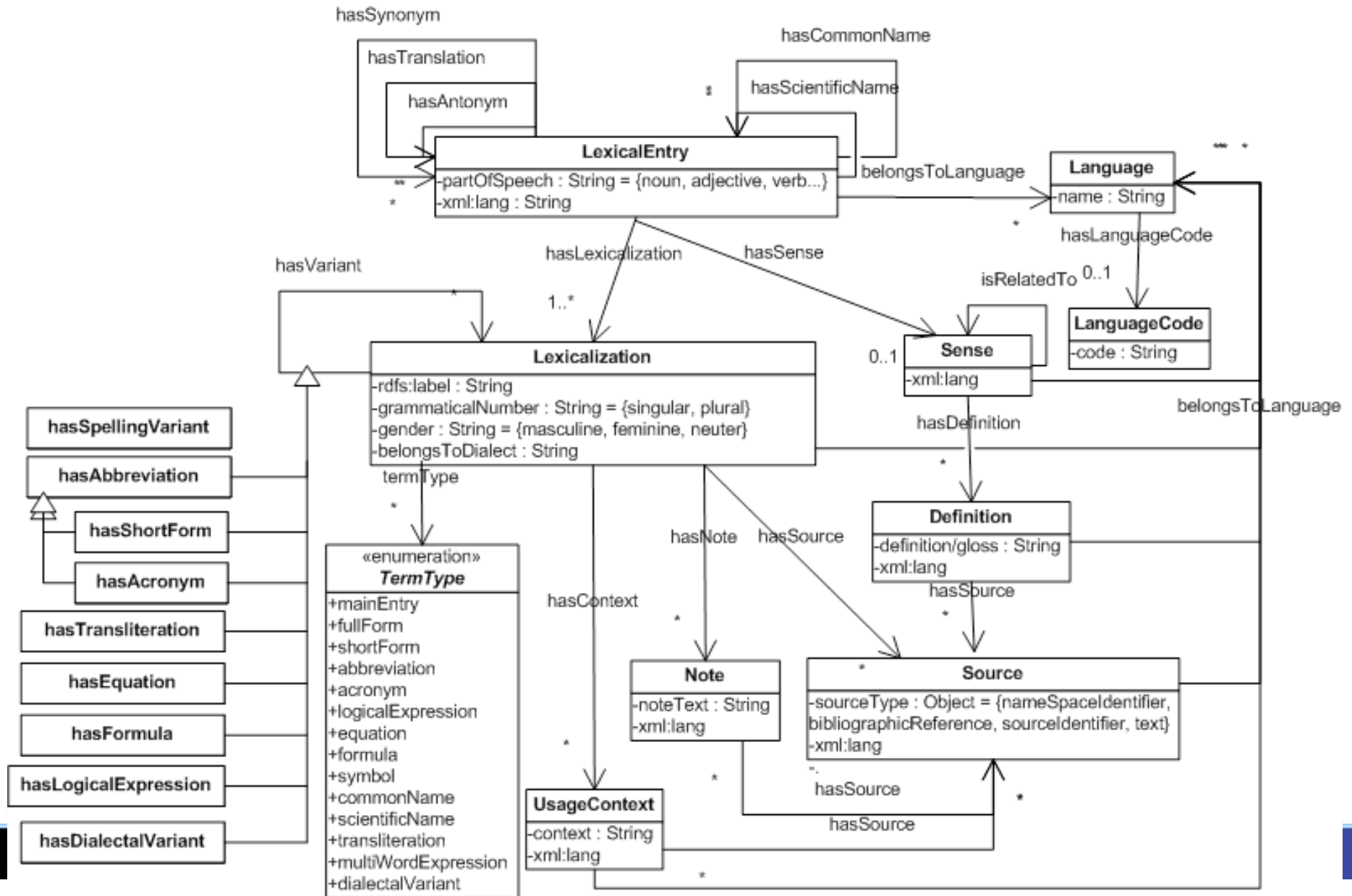


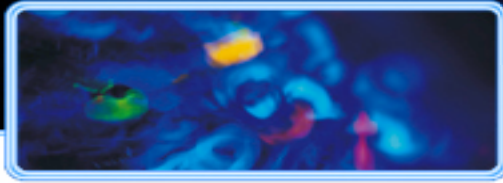
## Advantages

- LIR is positioned between different kinds of representation:
  - Terminology
  - Lexicon
  - Translation
  
- It needs to accommodate all three to ensure
  - interoperability between resources
  - Information interchange
  - uniform access to relevant linguistic/terminological material to be used as ontology labels



# LIR

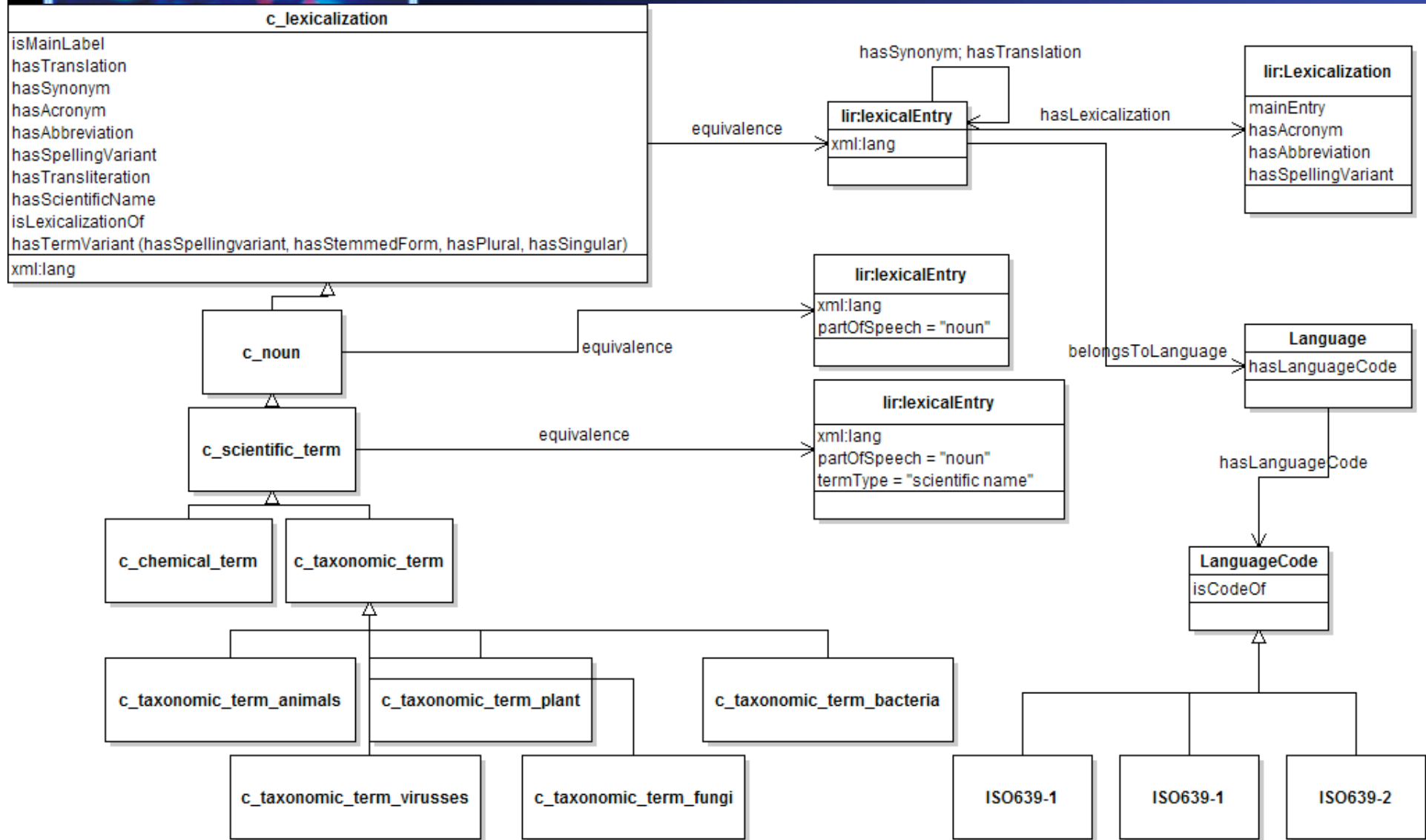


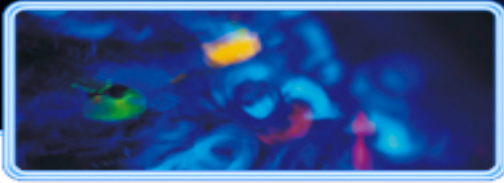


## Extension LIR I: compatibility with FAOs Agrovoc Concept Server

- Import languagecode.owl
- Addition of semantic relations:
  - hasSemanticType
    - Domain: [LexicalEntry](#)
  - hasStemmedForm
- Alignment LIR-ACS
- Automatic conversion

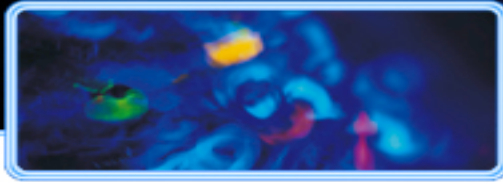
# Alignment with ACS





## Extension LIR II

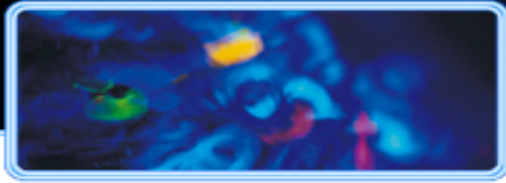
- Subtypology of hasTranslation
- has SemanticRelation
  - Equivalence
    - full
    - partial
  - hypernymy inverse hyponymy



## Interoperability I: Translation

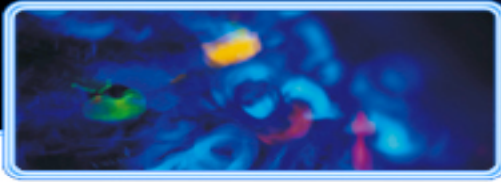
- Interoperability with standards for translation representation:
  - TMX (Translation Memory eXchange)
  - XLIFF (XML Localization Interchange File Format)
  - MLIF (MultiLingual Information Structure)
  - LMF (Lexical Markup Framework)
  
- Tasks: re-engineering and alignment
  
- This will increase translation potential for ontology labels



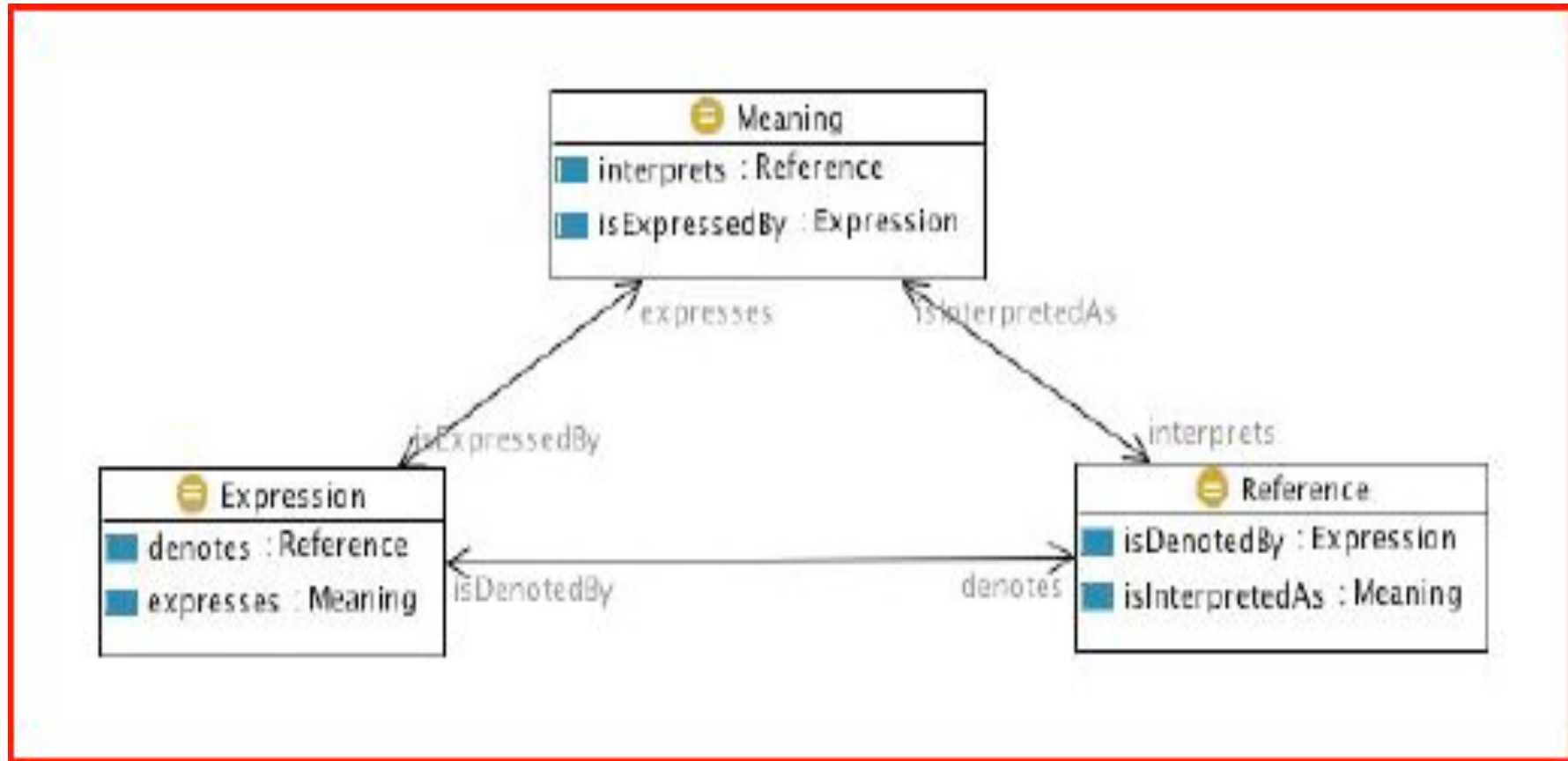


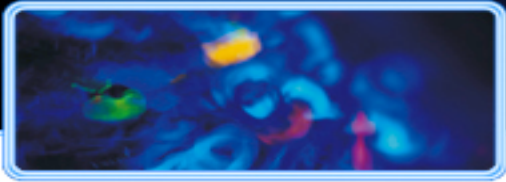
## Interoperability II: Linguistic-terminological description

- Connect LIR with
  - Standard metamodels:
    - LMF
    - ISO12620 data categories
  - LMM to link it in with the larger network captured by the semiotic triangle

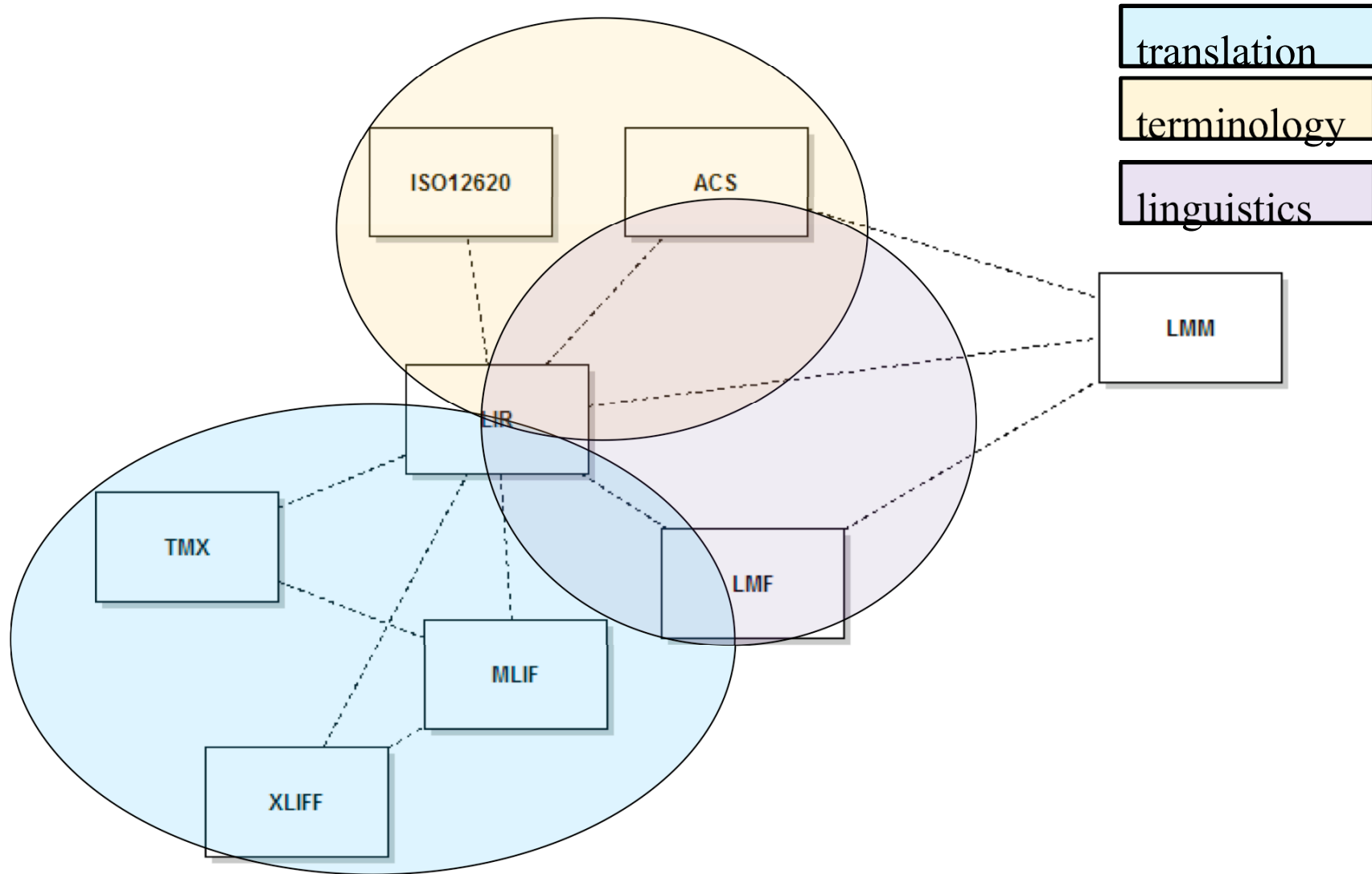


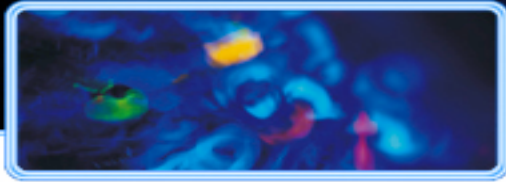
D. Picca, A. M. Gliozzo, A. Gangemi, LMM: an OWL-DL MetaModel to Represent Heterogeneous Lexical Knowledge, LREC 2008





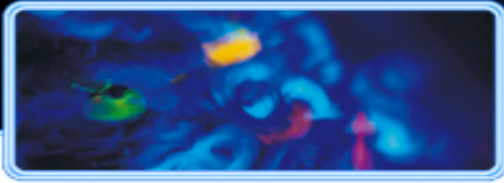
# Networked ontologies





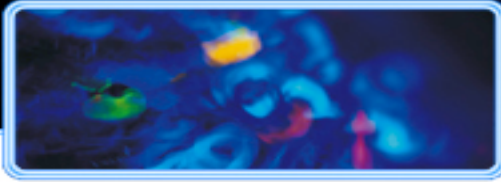
## Conceptual Alignment options

- Import
  - owl:equivalentClass
  - rdfs:subClassOf
- C-OWL
- Alignment format



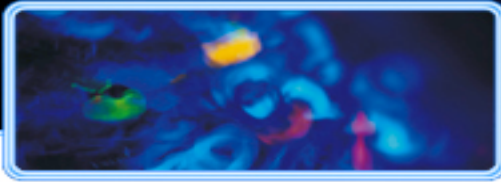
## Key idea (in two steps):

1. Share as much as possible (**OWL import construct**)
2. Keep it local whenever sharing does not work (**C-OWL context mappings**)



## Structural alignments/ Correspondence patterns

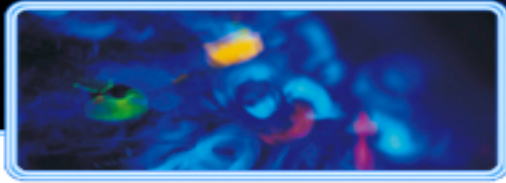
- Ontology Mapping language: <http://www.omwg.org/TR/d7/>
- Class/Attribute equivalence
- Attribute value transformation
  - Gender: Feminine Fem. F
- Source class – target class with attribute value/attribute type



## D2.4.3 Multilingual and Localization Support for Ontologies V3 (M40)

### Networked ontologies for linguistic/terminological description

1. Introduction
2. LabelTranslator V3
3. Scope of envisaged network
  - 3.1 standards for translation: TMX,XLIFF,MLIF,LMF,ISO12620
  - 3.2 standards for linguistic/terminological description: ACS, LMF
  - 3.3 interoperability between lexicon and ontology: LMM
4. Re-engineering: strategy and creation of ontologies
5. alignments between ontologies: network
  - 5.1 choice of link format (OWL import/C-OWL/E-Connections)
  - 5.2 LIR – LMM
  - 5.3 LIR - Agrovoc Concept Server; automatic conversion
  - 5.4 LIR - LMF
  - 5.5 LIR – translation standards
6. related and future work



## Planning

- Continuation of D2.4.3 until M48
- Further integration of LIR and LMF
- Alignment of LIR with SKOS
- re-engineering on the basis of T2.3 guidelines
- Extension of LMM umbrella network