

TMF

Terminological Markup Framework

**Un standard informatique
pour la gestion multilinguale
de terminologies de référence
(par exemple ICPC) et
de leur publication dans Linked Open Data**

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Université de Gand, Belgique**

Page de conflit d' intérêt

Je suis médecin généraliste,
pratiquant dans la ville de Gand, Belgique

Je suis pharmacologue clinique,
professeur à l' Université de Gand

Je travaille sur des projets Européens (FP7 et H2020),
dans le cadre de :

- un service universitaire d' informatique médicale (RAMIT)
- une association Européenne
de marchands de logiciels médicales (EuroRec)

“Investigation starts with a problem”

Karl Popper

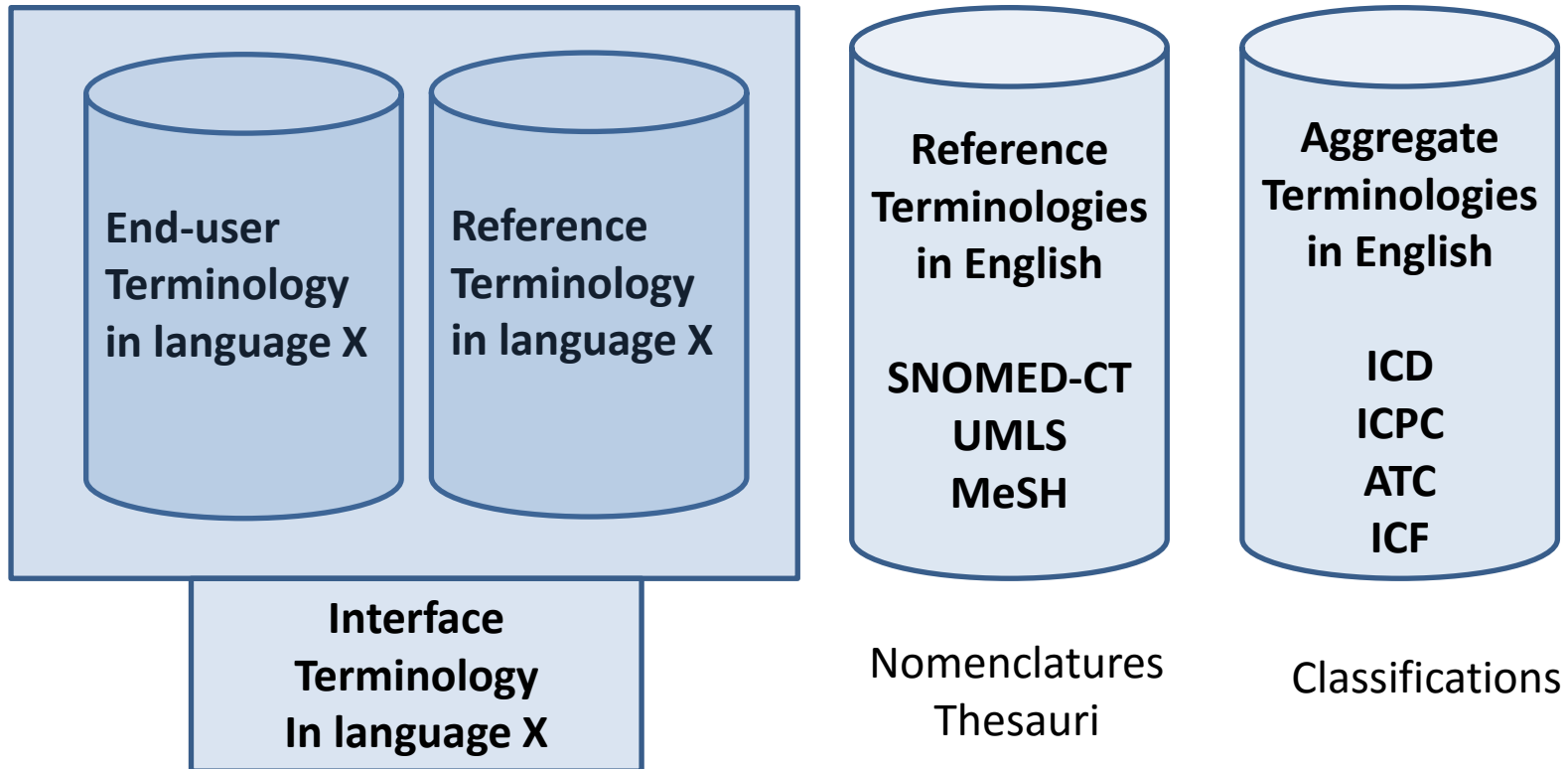
International reference terminologies are in English.

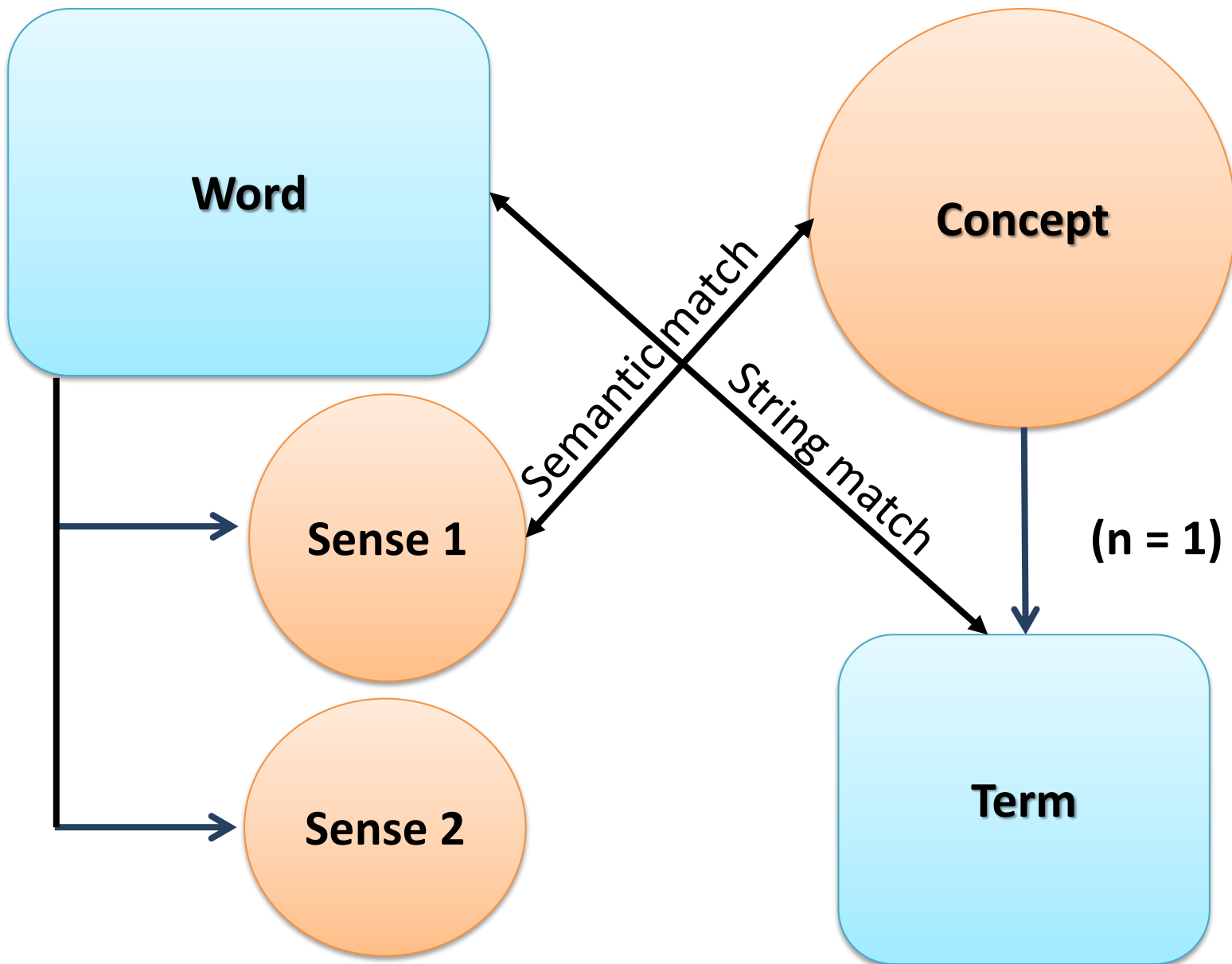
Health care worker have the fundamental right to work, document, practice continuing education, search for point of care EBM information IN THEIR MOTHER TONGUE LANGUAGE.

Evidence shows that it provides a more efficient information flow.

Many E-health engineers and medical informaticians speak of semantic interoperability, as if English is the only language in the world.

Terminology : What's in a name ?

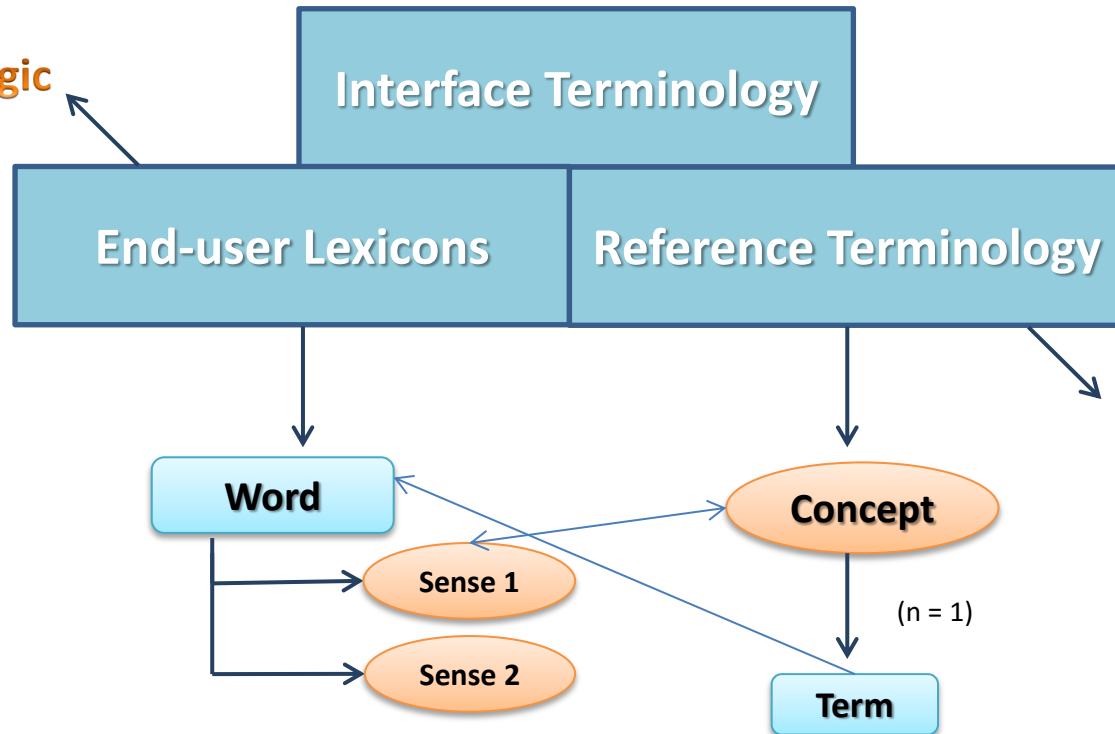




Approach



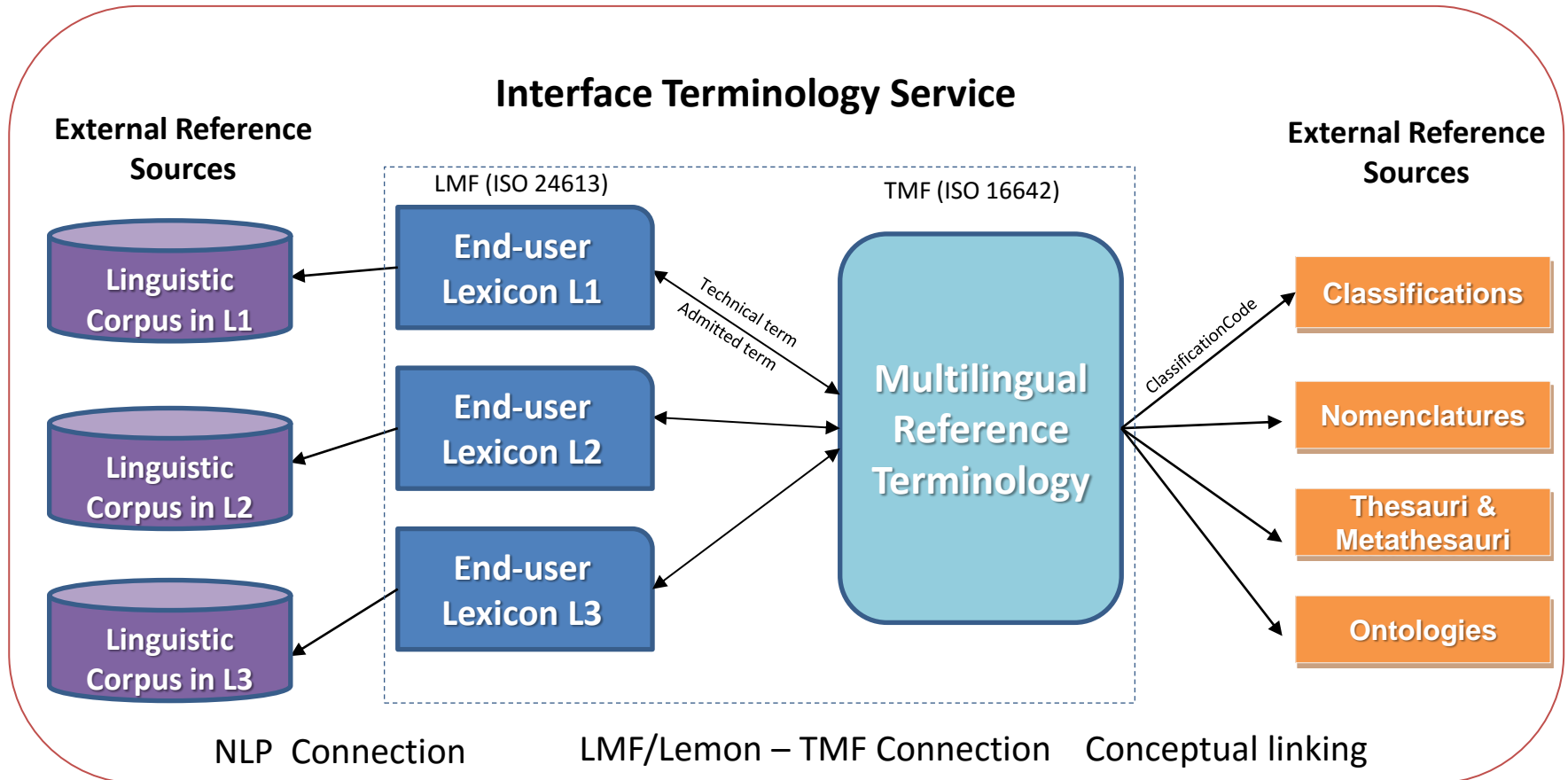
Semasiologic



Onomasiologic



Architecture



International standards for multilingual terminologies

Lexical terminologies

ISO – Standard LMF (ISO 24613)

Lexicons

Dictionaries, Glossaries, Vocabularies

Babelnet (www.babelnet.org)

Conceptual terminologies

ISO – Standard TMF (ISO 16642)

Controlled Vocabularies

Nomenclatures

Classifications

The case of the international aggregate terminology (ICPC)

International Classification of Primary Care

- **Designed for** use by primary care physicians during the consultation
- **Produced by:**
The World Organisation of Family Doctors
- **Developed by WICC--**
Wonca International Classification Committee
- **Size:** 1,325 codes
 - 320 symptoms/complaints rubrics/codes
 - 365 diagnosis/disease rubrics/codes
 - 640 management codes

The structure of the International Classification of Primary Care – Version 2 (ICPC-2) (1998)

Components	A	B	D	F	H	K	L	N	P	R	S	T	U	W	X	Y	Z
1. Symptoms, complaints																	
2. <i>Diagnostic, screening, prevention</i>																	
3. <i>Treatment, procedures, medication</i>																	
4. <i>Test results</i>																	
5. <i>Administrative</i>																	
6. <i>Other</i>																	
7. Diagnoses, disease																	

A	General and unspecified	L	Musculoskeletal	U	Urinary
B	Blood & blood-forming organs	N	Neurological	W	Pregnancy, family planning
D	Digestive	P	Psychological	X	Female genital
F	Eye	R	Respiratory	Y	Male genital
H	Ear	S	Skin	Z	Social
K	Circulatory	T	Endocrine, nutritional & metabolic		

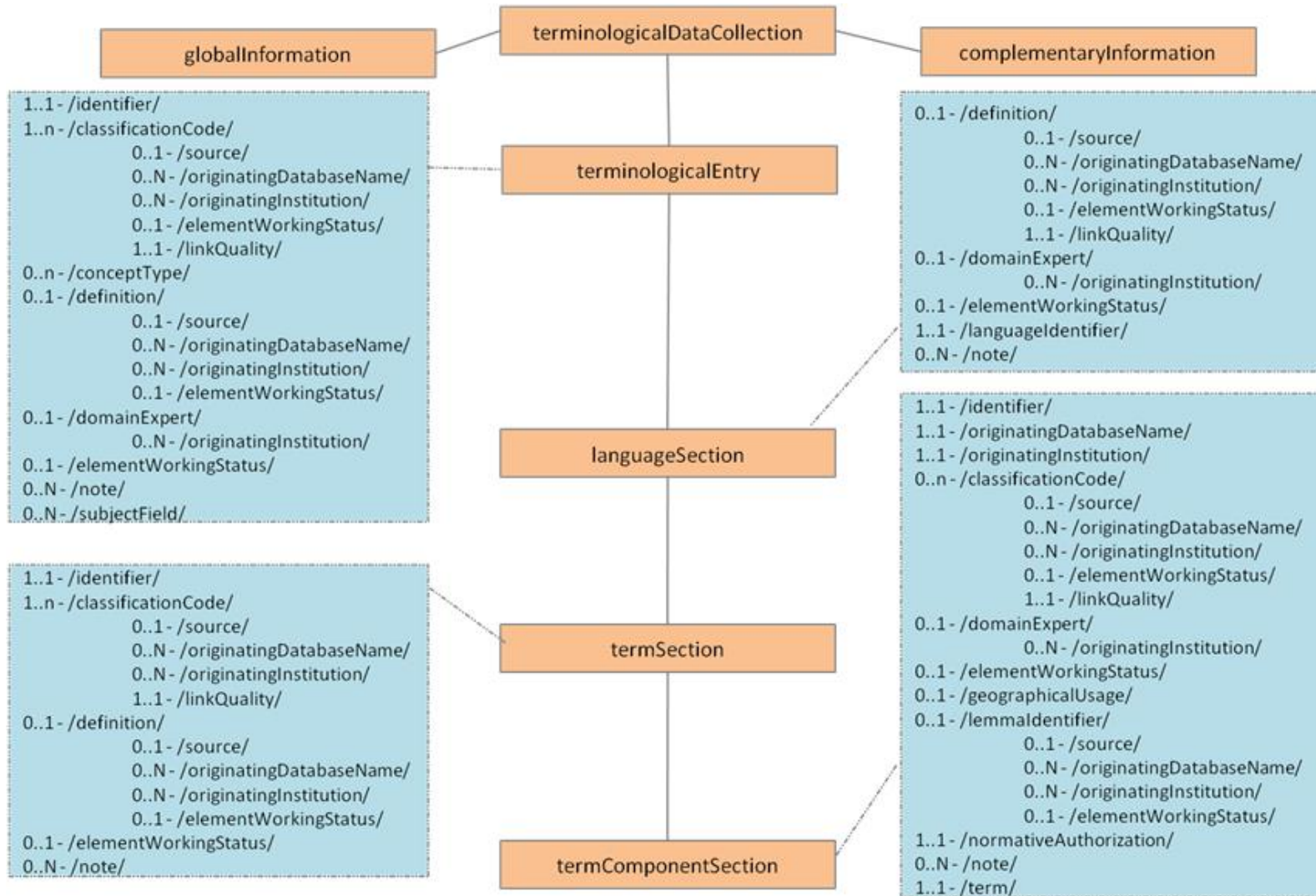
TMF-based Reference Terminology

- **ISO 16642: Terminological Markup Framework**



- **ISO 12620 and ISOcat Data categories registry**

TMF-based Reference Terminology



Special issues to consider with ICPC

- Biaxial nature (chapters / Components)
- Inclusion criteria / exclusion criteria
- Labeling of classes :
 - Original English label
 - Appropriate label in English for patients

 - Literal translation of the English label
 - Appropriate translations for health care workers
 - Appropriate translation for patients
- Mappings to other conceptual terminologies
- Links to lexical terminologies

**An Online Modeling Tool
for building
Crowd-sourced and Multilingual Terminological
Resources
in Semantic Health**

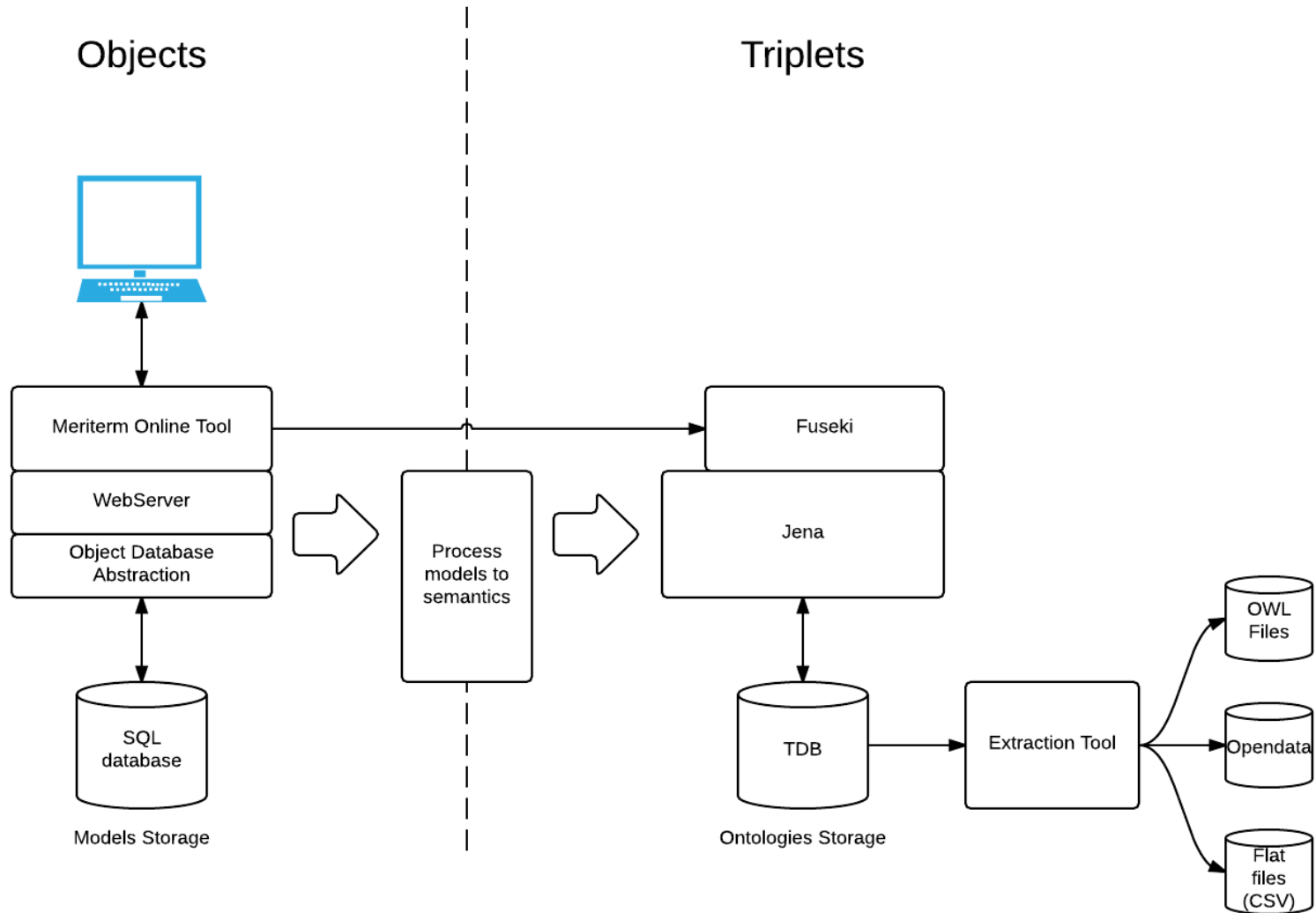
Olivier Latignies

Consultant R&D Management of web based
software solutions

**Annex 5
to SHN Work Package 3
Deliverable D3.3 of March 31, 2015 .**

Internal management of the terminological resource

Publication in Linked Open Data



ICPC Dissemination and Translation Website

End-user (Human consultation)
Web services (SQL, OWL)

Site manager

Concept manager

Concept committee

Translation manager

Language 1 team

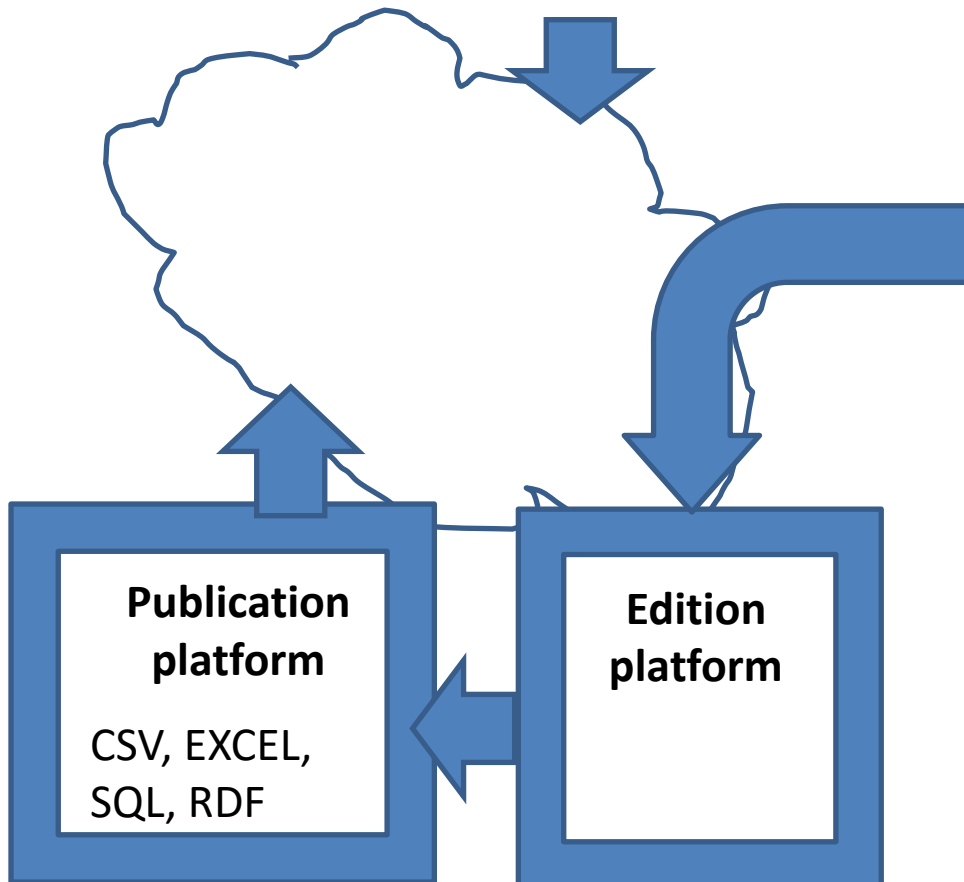
Language 2 team

Language 3 team

...

...

Language n team



CONCLUSIONS

We hope to convince

- the multilingual terminological centre of Rouen (HETOP Portal)
- WICC
- CISP Club

to embrace

- the collaborative, crowdsourced aspect of this project
- to respect the ISO-norm for multilingual terminologies
- to support the Linked Open Data and semantic web **applications**

and to collaborate in a European consortium