UKRAINIAN TRANSLATION INDUSTRY CONFERENCE

UTIC

Webinars-2015

Translation and multilingualism in the era of Big Data and Open Data

Kimmo Rossi

December 10, 2015

Host

Valentyna Kozlova
CMO of the UTIC

Speaker

Kimmo Rossi
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and Innovation sector
DG CONNECT
European Commission

- Kimmo Rossi graduated in 1989 from Helsinki University of Technology (physics, IT, economics).
- Until 1994 he was co-owner and board member responsible for technology, quality and contractual issues for a Finnish translation and localization company Trantex.
- In 1994 he joined the European Commission where he worked 5 years in the translation tools and terminology department.
- Since 2000 he has been managing science, technology and innovation programs in the fields of statistics, data & content management and language technologies.
- Currently, he leads the Research & Innovation sector of Data Value Chain Unit (CNECT.G.3) managing a portfolio of 150 technology projects.

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Outline

- definitions of some key concepts
- how Big Data – Open Data – Linked data affects translation/localization
- value creation by rich translation data
- some relevant EU projects
- conclusions

What is Big Data (BD)?

Data is "big" if it defies traditional processing & storage paradigms – "bigness" becomes the main problem

The "3Vs":

- Volume (size),
- Velocity (bits/s),
- Variety (db, jpeg, video, numbers, text in language X...)

...more V's can be added:

- Veracity (provenance, quality, reliability...)
- Value (what BD can bring after "refining")

Linguistic Big Data

Most of the data on the web is human language – and many different languages

- Volume (size) – the Web as a corpus
- Velocity (bits/s) – e.g. 6000 tweets per second (≈ one book); over 30 million books a year (≈ Library of Congress)
- Variety (well, Twitter again: jargon, cryptic abbreviations, different languages)

...more V's can be added:

- Veracity – e.g. human (quality) translations vs (raw) machine translations
- Value – the topic of this presentation!

What is Open Data (OD)?

A useful definition: http://opendefinition.org/

- free of charge (or almost)
- free to use, re-use, distribute
- ...for any purpose (also commercially, also derivatives)
- can be government OD or private OD (user-generated, corporate)
- *must not violate privacy*

- www.open-data.europa.eu (EU Institution Data)
- http://www.europeandataportal.eu/ (EU Member State Data)
- **Public Data ≠ Free Public Data ≠ Open Data**

European Union Open Data Portal

Find datasets...

Show results with: ◉ all of these words | ○ any of these words | ○ the exact phrase ?

Total datasets available: 7851

Suggest a dataset

Is there a dataset from the EU that you could not find in this portal?

Please request the dataset>>

Most viewed datasets

view all »

- **DGT–Translation Memory**
  (13064 views)
- **Elevation map of Europe**
  (9895 views)
- **CORDIS – EU research projects under Horizon 2020 (2014–2020)**
  (9247 views)

Browse datasets by subject

- Employment and working conditions
- Social questions
- Economics
- Finance

What is Linked Data (LD/LOD)?

Allows access to Web content as a database – very useful!

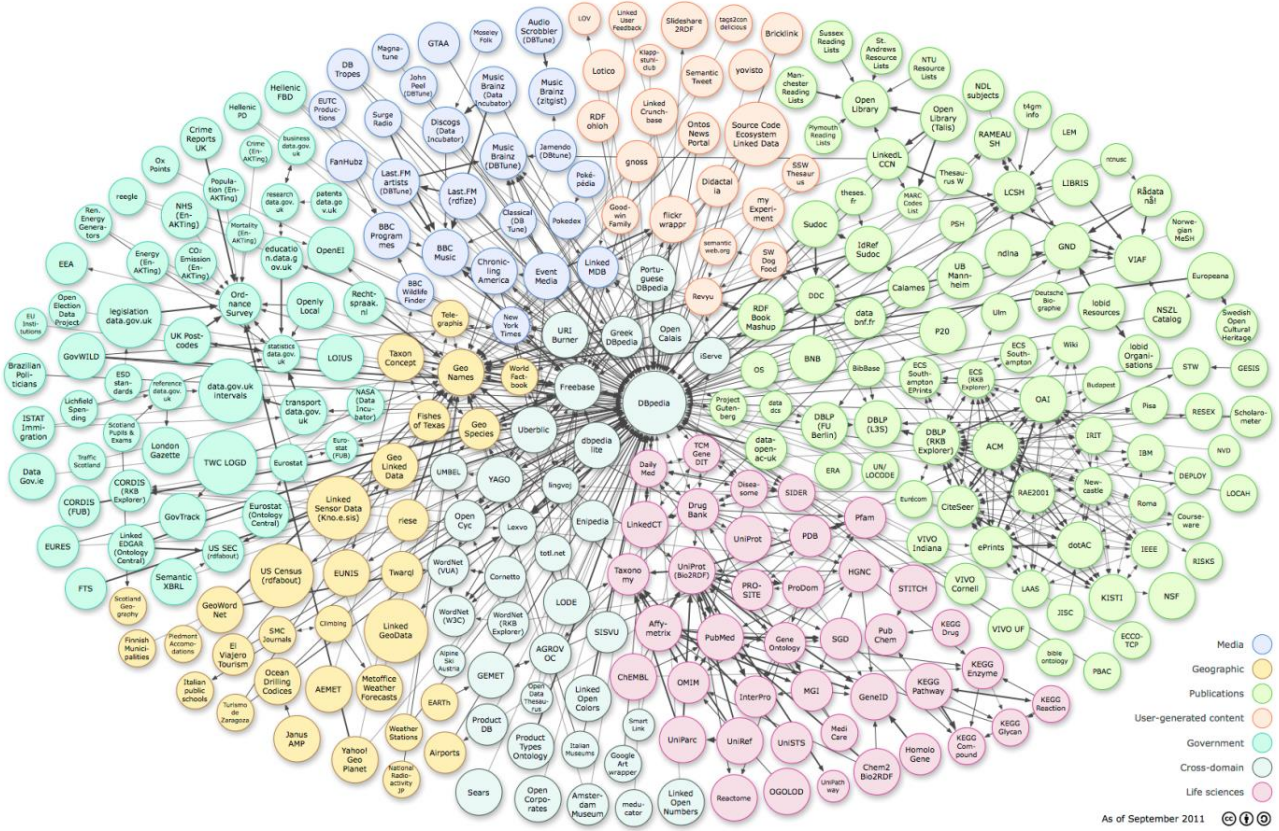
Semantic relations (meanings) in machine-readable form

But there are problems:

- What merits to be linked?
- How to establish links?
- How to ensure quality of (automatically established) links?
- Currently very scarce and English-dominated
- Example: statistics of EUROSTAT http://eurostat.linked-statistics.org/

More info: see LOD2 project: http://lod2.eu

Linked Open Data Cloud



Linking Open Data cloud diagram, by Richard Cyganiak and Anja Jentzsch. http://lod-cloud.net/

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Linguistic Linked Data (LLD/LLOD)

WikiPedia is a "human-readable" equivalent of (linguistic) linked data

DBPedia is the machine-readable rendering of WikiPedia (but only a fraction of WikiPedia knowledge)

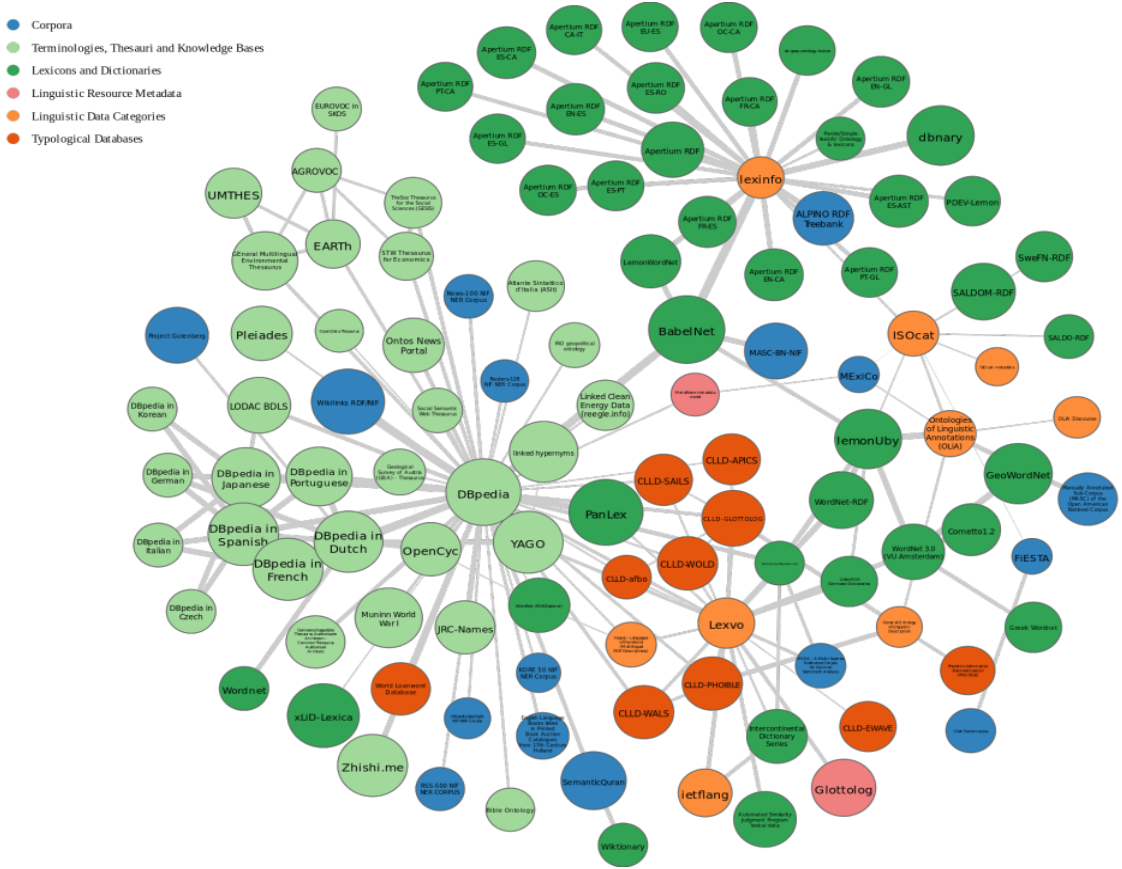
Raw linguistic data (e.g. documents, translations) is mostly unlinked

Linking adds value (e.g. from document pairs to sentence-aligned TBX file)

http://www.lider-project.eu/

http://www.linguistic-lod.org/

Linguistic Linked Data Cloud



Linking Open Data cloud diagram, by Richard Cyganiak and Anja Jentzsch. http://lod-cloud.net/

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Challenges in translation business

Technology becomes more important

- integration of tools/platforms

Data becomes more important

- availability – accessibility - sharing

Processes & workflows are difficult & distributed

- MT, TM, SaaS, freelance networks, crowdsourcing

Prices/revenue go down – dumping of word prices

- selling just "words" (once) becomes less profitable
- better: sell services – processes – (quality) data, for re-use

Translation data

Legal issues

- who owns translation/TM/MT engine?
- contract becomes crucial – determines price
- micro-contracts, click transactions
- am I allowed to share data / harvest somebody else's data?
- confidential/personal data

High-quality data is valuable asset

- human translations – valuable raw material for re-use (MT/TM)
- add value by linking/annotating
- metadata adds value

Adding value with metadata and annotations

Source

Under **regional policy**, for example, the EU supports music schools, concert halls and recording studios and funds the restoration of historic theatres (e.g. the *Teatro del Liceu*, Barcelona, and the *Fenice*, Venice).

Translation

W ramach działań realizowanych w obszarze **polityki regionalnej** UE przyznaje środki szkołom muzycznym, filharmoniom i studiom nagraniowym, finansuje też renowację zabytkowych teatrów (np. barcelońskiego *Teatro del Liceu* czy weneckiej *La Fenice*).

Segment metadata:

Segment: Europa.eu-41595	Date: 03/01/2014	Link_f
Author: EAC.C.5_3303	Language: EN (UK)	Link_b

Translator:	AW-1222	Date: 15/05/2014	Link f
Language: PL		Revision status: 5A	Link b

File/document metadata:

Project: EW12555 TM file: EAC_36N6609 format: TBX_20 size: 2.304 languages: EN, DE, FR, PL, ES, IT

Licensing metadata (ODRL):

Assigners:	Offer:	Derive: ...	Agreement:	Privacy policy: ...
Permissions: ...	Prohibitions:....		Delivery_channel:....	Media:....

Projects: FALCON

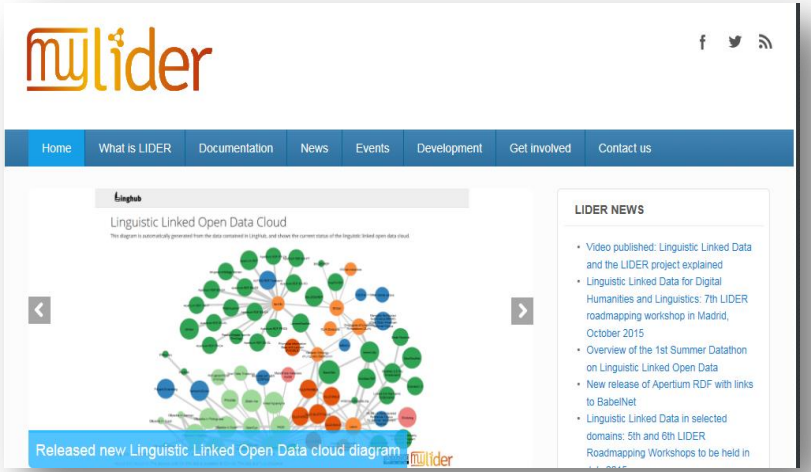
Tools for the Localization Web

- The Web as a database of language resources: web as corpus/TM/term database
- Tools for metadata creation and curation, using existing standards
- Demonstration of next-generation localization workflows
- http://falcon-project.eu/

Projects: LIDER

Works on *Linguistic Linked Data*

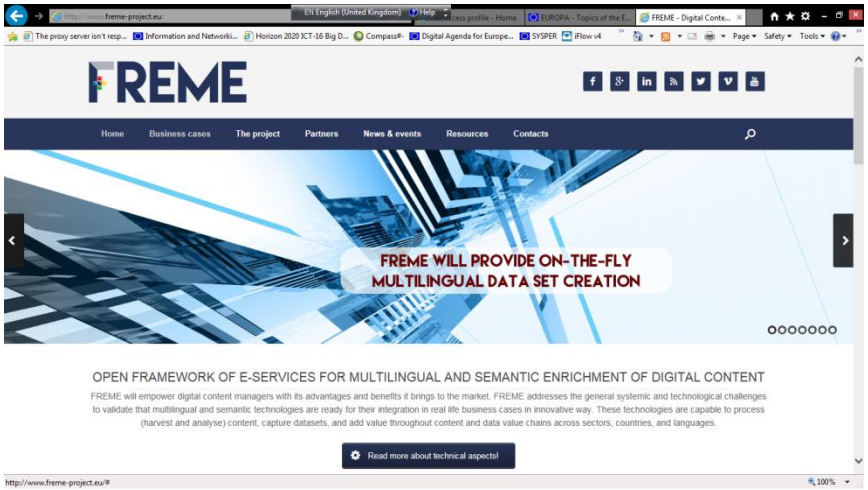
- Guidelines and best practices
- Community-building (W3C)
- Reference architecture for LLD
- http://www.lider-project.eu/



Projects: FREME

Semantic enrichment of multilingual content

- Automatic recognition of places, persons, events
- Retrieving additional information about them
- Converting human-readable (unstructured) into machine-readable (structured) representation
- 4 business cases (e-books, localization, food data, web recommendations)
- http://www.freme-project.eu/



Conclusions

Open translation data becomes "public good" – but not all translation data will ever become "Open"

Can a market emerge for translation data which is not Open?

- you can "sell" your translation 100 – 1000 – or million times!
- per-word price of translations go close to zero (or: to zero)
- tools for metadata generation, curation and using are necessary

- contracting/licensing needs to become "automatic"
- machine-readable metadata allows automatic re-use/trading
- metadata defines quality (=fitness for purpose)
- trading/re-use of confidential/personal data is difficult (but not impossible) – privacy-preserving technologies supported under Horizon 2020

Thank you!

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Our guest for the next webinar

Tetyana Struk

CEO at the Linguistic Centre®

Translation and Localization company

December 24, 2015

UKRAINIAN TRANSLATION INDUSTRY CONFERENCE UTIC

UTIC-2016

Dnipropetrovsk, Ukraine

We thank UTIC-2015 partner