# A Vision of an Interoperable EU

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language technology software

"…a supportive environment for businesses – small and large – to fully exploit new technologies like Big Data or Cloud computing. Small online businesses can start operating in "**just a click across the EU**" grow fast, scale up and sell across borders;

Citizens and businesses enjoy the benefits of public and private services that are **interlinked across the EU** (health, justice, transport, e-signatures, procurement) and have the skills to operate and work in an e-society"

*A Digital Single Market Strategy for Europe*

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions
Leaked document undated

# I Dream of...



- an EU where top down directives give way to **collaborative agreement** with the understanding that we differ in legal systems and languages…

- where **citizen interaction** is the norm and every government, city council, and the European Commission mine that data in **multiple languages** to underpin their decisions.

# Interoperability makes €800.000.000.000

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## Cost of NON-EUROPE Map

TOTAL: ± € 800 bn

**Digital Single Market**
€ 260 billion

**Single Market for Consumers and Citizens**
€ 235 billion

Completing financial markets
€ 60 bn

Banking Union to avert a new financial crisis
€ 35 bn

Minimum Unemployment Insurance Scheme
€ 15 bn

Improved coordination of fiscal policies
€ 31 bn

Common Deposit Guarantee Scheme
€ 30 bn

Transatlantic Trade Agreement (TTIP)
€ 60 bn

Equal pay for equal work
€ 13 bn

Integrated Energy Markets
€ 50 bn

Common Security and Defence
€ 26 bn

Combatting Violence against Women
€ 7 bn

VAT and action against Tax Evasion
€ 7 bn

Information and consultation of workers
€ 3 bn

Single European Transport Area
€ 5 bn

OTHER AREAS:

European Research Area
€ 1 bn

Donor coordination in development policy
€ 0.8 bn

Cross-border transfer of company seats
€ 0.2 bn

Codification of Private International Law
€ 0.1 bn

European Mutual Society

EU Law of Administrative Procedure

Cross-border Voluntary Activity

Codification of Passenger Rights
... bn €

Wastewater legislation
... bn €

European Parliament Research Report 2014

# Semantic Interoperability Defined - ISA



- The precise **meaning** of exchanged information is understood by all stakeholders…

- …and preserved throughout exchanges.

- Semantic Interoperability Assets: **Sector-specific sets of data structures** and data elements.

- **Agreement** on the meaning of the information to be exchanged

- At back-office level, the underlying information architectures should be linguistically neutral so that multilingualism is not a blocking issue.

*Raul M. Abril @ eSENS Conference 2014:*
*"If one of the layers of the EIF is not properly addressed your interoperability project will fail!"*

# ISA CORE Vocabulary

- Very high level and limited potential

- Useful but solves only a part of the problem - like a travel plug functioning between 2 systems and with the same electricity levels

- Semantic Interoperability needs a more fine grained approach especially in Governments

# European Governments and the EU

- EU governments are all islands with internal operations and laws.

- Top-down directives and laws from Brussels are getting less and less popular.

- Interoperable EU must be achieved with the agreement to differ as long as it is possible to understand what the difference is…
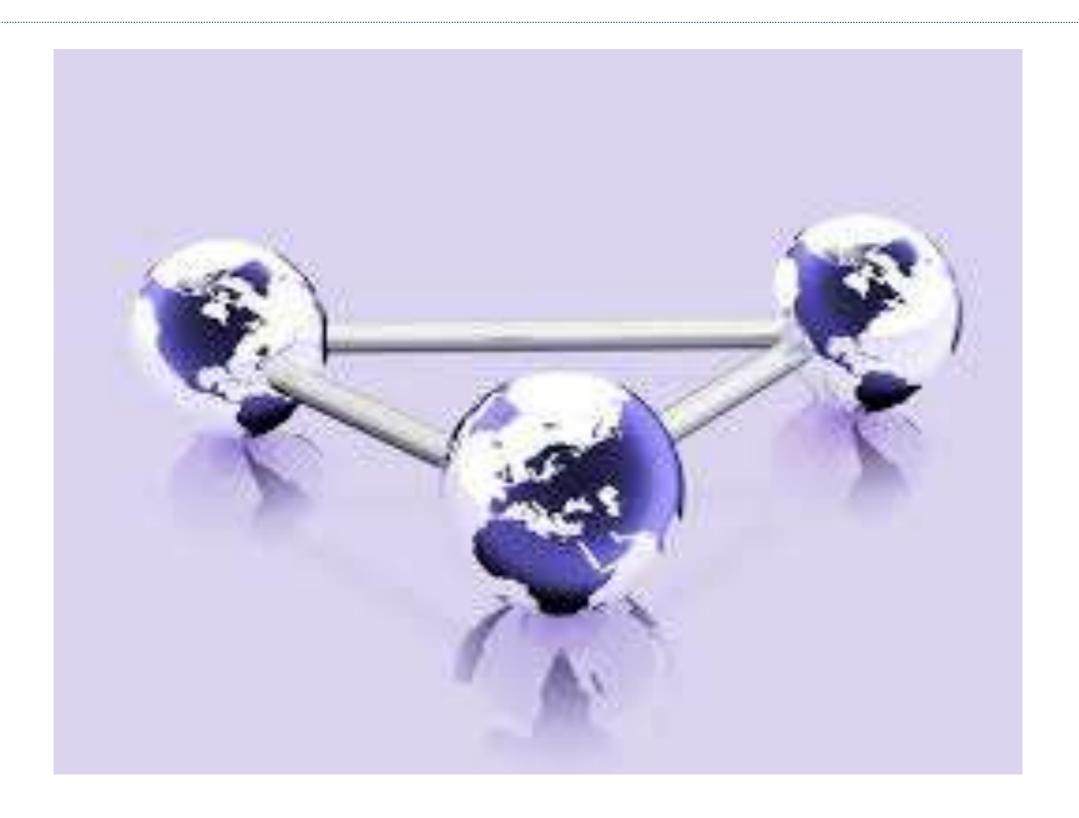
# Beyond ISA CORE

- To achieve interoperability it is necessary to create a **governmental knowledge structure** beginning with high priority domains.

- Governments share meaning and use even if it is expressed differently – therefor the task is **viable.**

- The knowledge structure must be **multilingual** to serve all member states

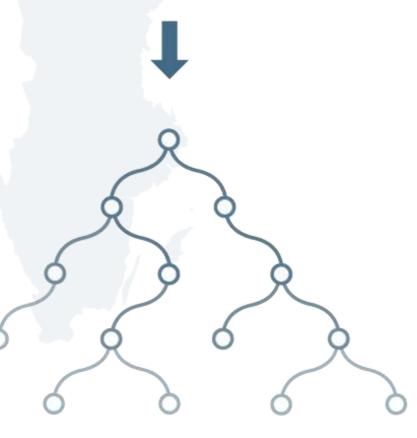# **M**ultilingual **K**nowledge **S**ystem (**MKS**)
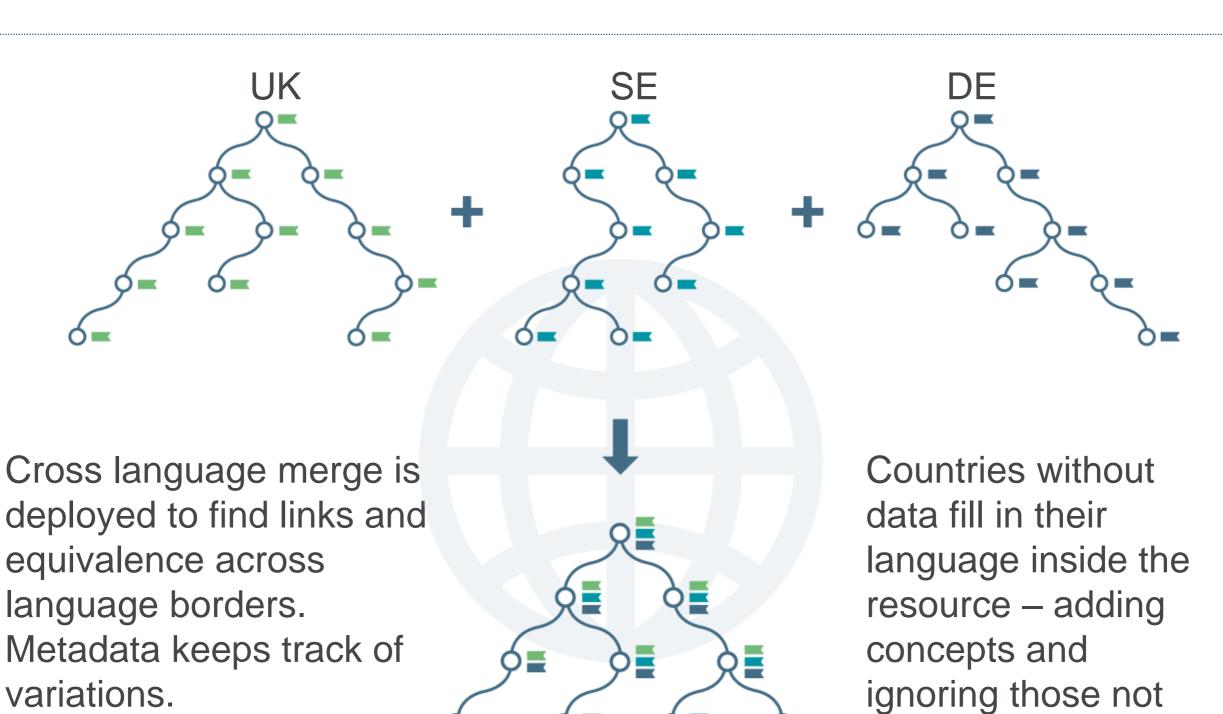
# Creating a Large Scale MKS

Multiple relevant terminologies in the same language are merged into a unified resource.

Linguistic similarity search maps units that share the same meaning.
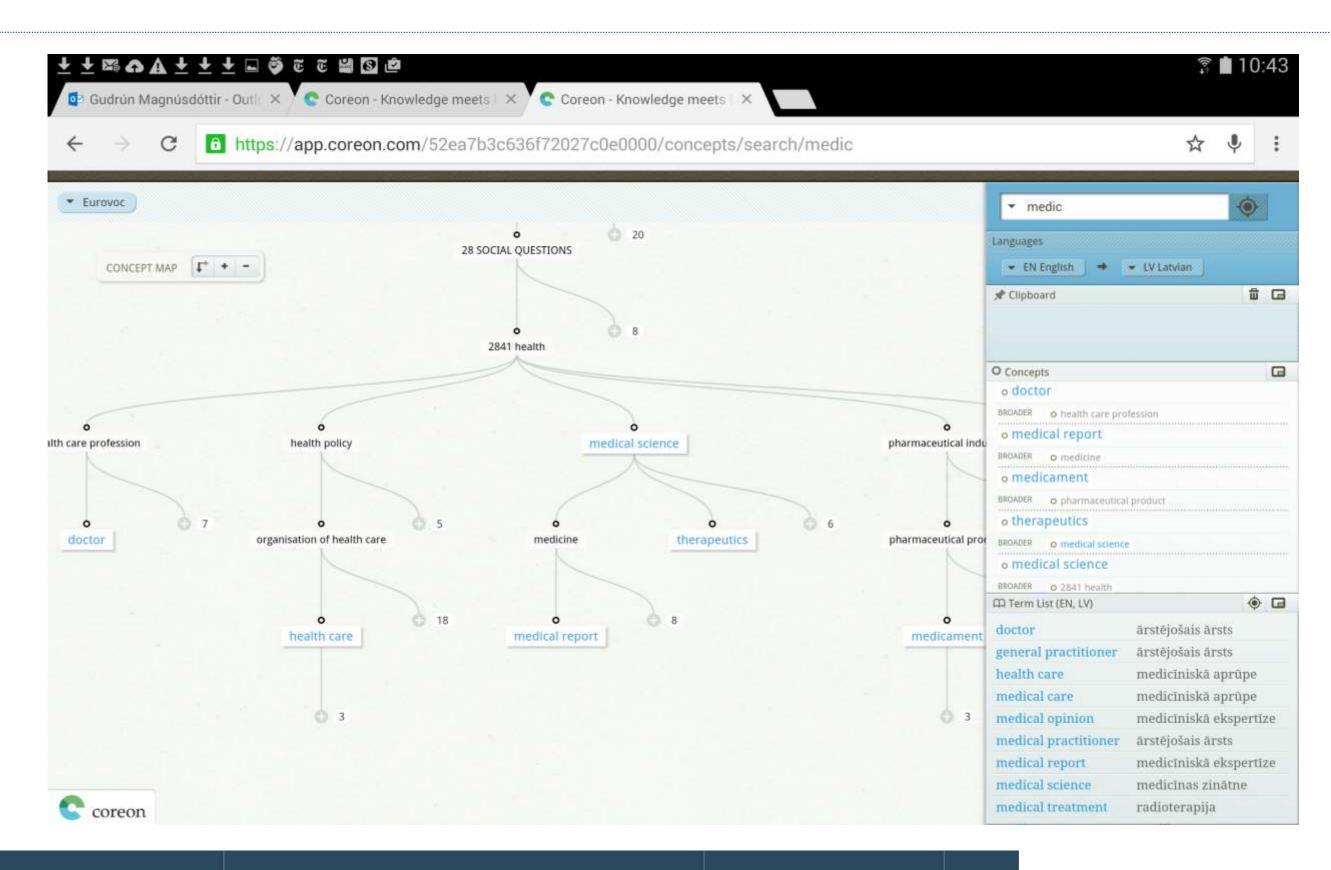
# …also Multilingually!

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UK     +     SE     +     DE

Cross language merge is deployed to find links and equivalence across language borders. Metadata keeps track of variations.

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Countries without data fill in their language inside the resource – adding concepts and ignoring those not relevant

# EUROVOC as a MKS
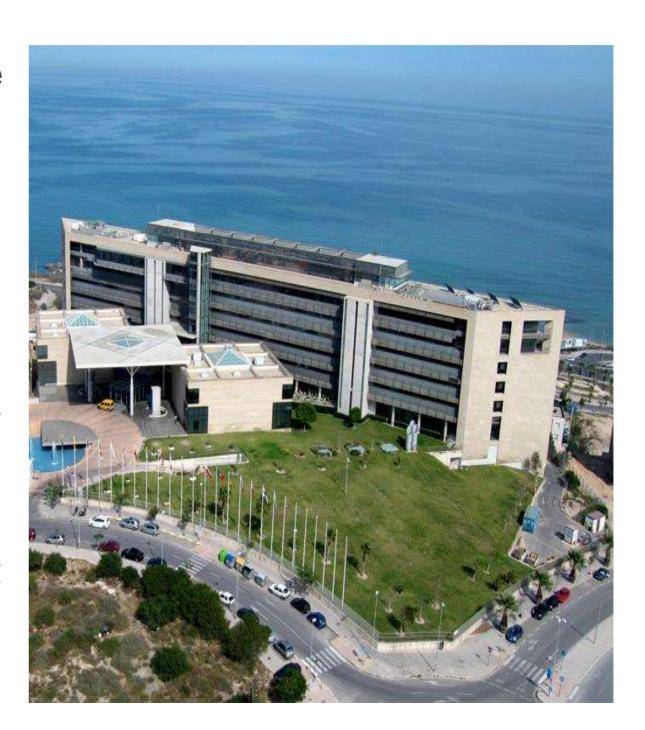
# What can MKS Achieve

- Citizen  - You put in your CV and MKS can process all job ads in any EU language and possibly find a job for you.

- Governance local –  Why are the citizens of Berlin so unhappy with the garbage services? What can I as a politician do to help improve this?

- Business global – you register your trademark in China the MKS helps you do it in Latvian and understand the difference in legal issues.

# Success Story OHIM

- 44 Participating Countries, all the EU and USA, China, Japan, Korea, and still expanding

- Economical savings in EU member states administration of IP – Millions annually

- Economical gains of industry having their IP rights much faster validated - Billions annually

- This is a win-win – the entire project including work carried out internally ca 30 Mil Euro

- http://tmclass.tmdn.org/ec2/

# The Key to Successful Interoperability



*"We have to share ideas and try to align,
map between concepts, rather than trying to harmonize different world perspectives."*

Tom van Engers,
Leibniz Center for Law, Amsterdam

# Contact

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**Thank you**

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