Policy Based Research

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MIT 27th September 2018

Access Control for Linked Data

Privacy & Sustainable Computing
A multidisciplinary perspective…
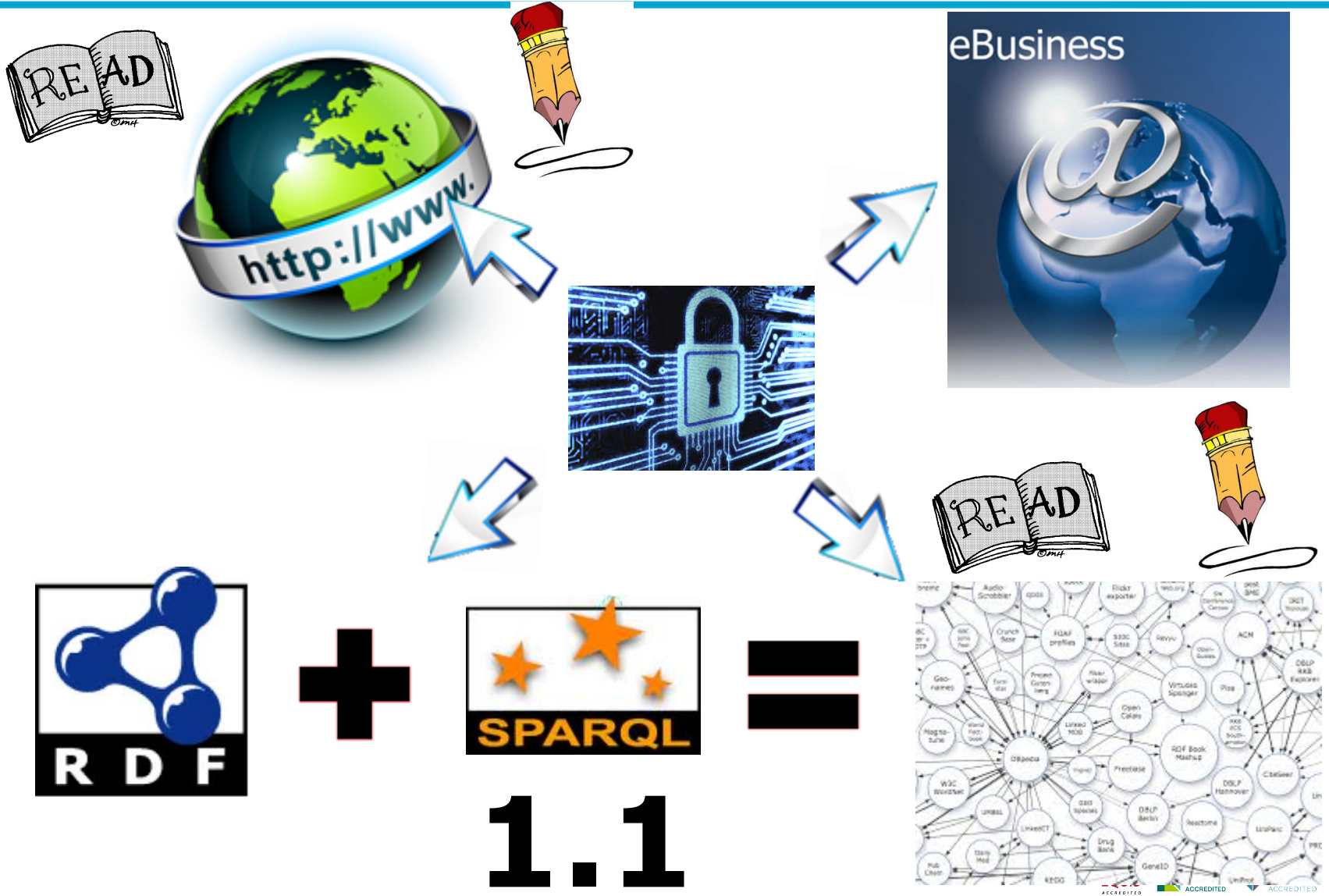
- **Privacy & Sustainable Computing Lab**
- Launched September 2016: launch event with various important stakeholders: technologists, standardization, activists…
- Mission: Developing sustainable and privacy-preserving computer systems by bringing together computer science & human-centric behavioral science

http://www.privacylab.at/
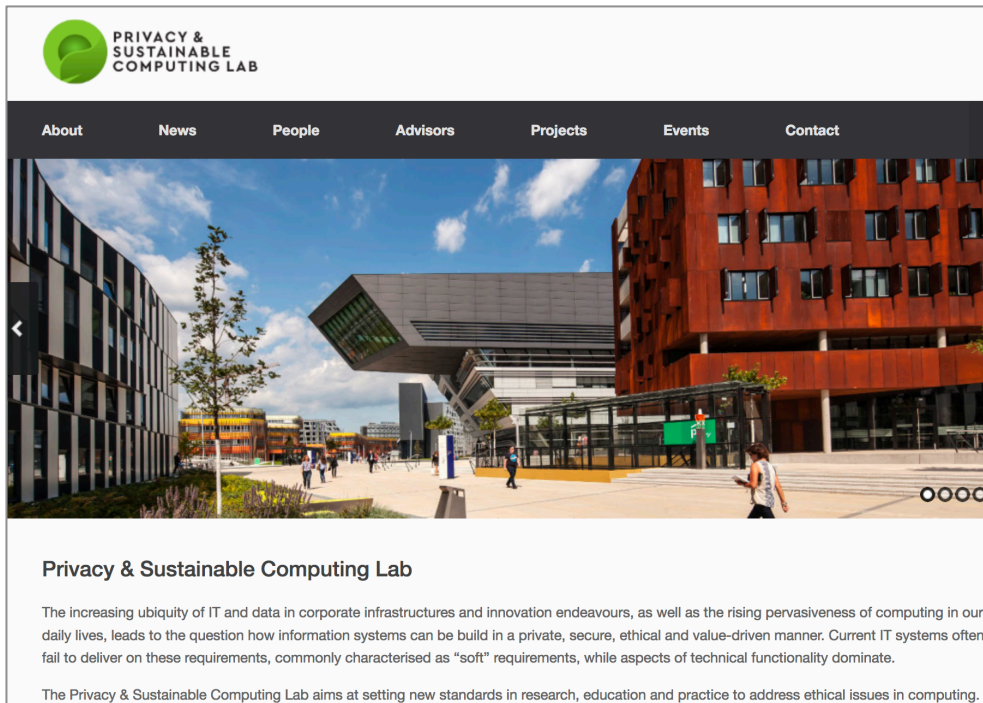
Dr. Ben Wagner (Director)

Dr. Sabrina Kirrane (Mgt Board)

Prof. Sarah Spiekermann (Mgt Board)

Prof. Axel Polleres (Mgt Board)

Privacy & Sustainable Computing
A multidisciplinary perspective…

Online Privacy

Public Policy and Legislation

Ethical Design
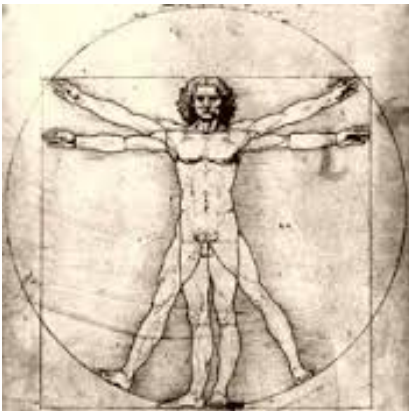
MISSION

Developing sustainable and privacy-preserving computer systems by bringing together computer science & human-centric behavioral science.

Humanities

Computer Science

Net Neutrality

Big Data Analytics

Fragmentation

Artificial Intelligence
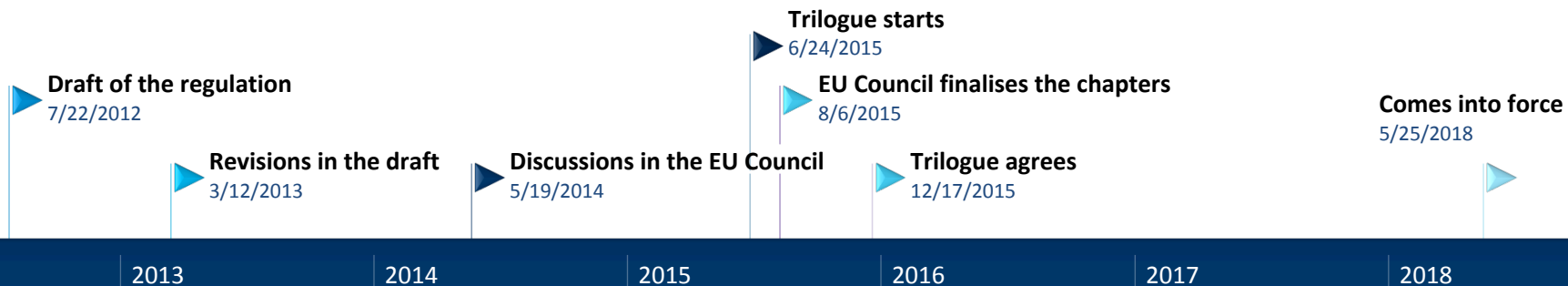
Open Data

Open Standards

Data Science
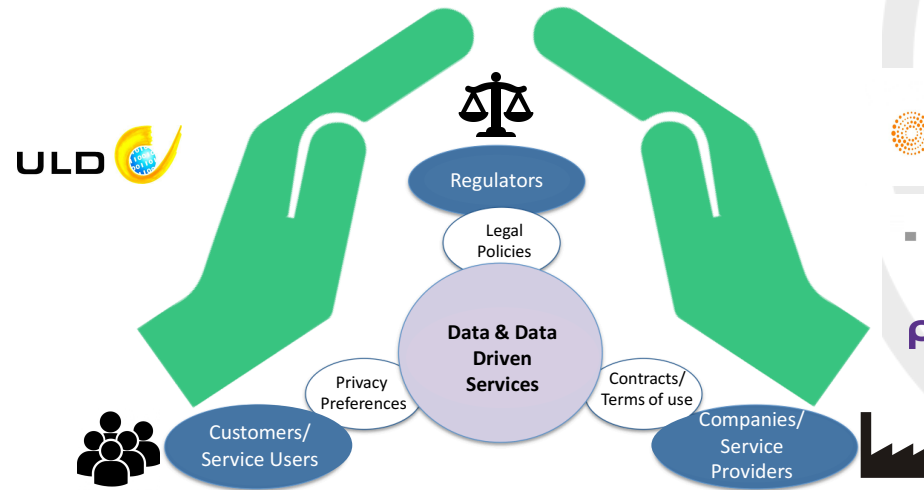
Legal

What does GDPR mean for your business?

The General Data Protection Regulation (GDPR) is a new EU data protection regulation that will come into force on 25 May 2018.

"The GDPR emphasises transparency, security and accountability by data controllers and processors, while at the same time standardising and strengthening the right of European citizens to data privacy."

[Source: Dataprotection.ie]

Trilogue starts
6/24/2015

Draft of the regulation
7/22/2012

EU Council finalises the chapters
8/6/2015

Comes into force
5/25/2018

Revisions in the draft
3/12/2013

Discussions in the EU Council
5/19/2014

Trilogue agrees
12/17/2015

| 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |

Scalable Policy-awarE Linked Data arChitecture for prIvacy, trAnsparency and compLiance

SPECIAL Country Coverage

**Research and innovation Action
9 partners from 6 countries
January 2017 to December 2019
3,991,389 €**

https://www.specialprivacy.eu/

Scalable Policy-awarE Linked Data arChitecture for prIvacy, trAnsparency and compLiance
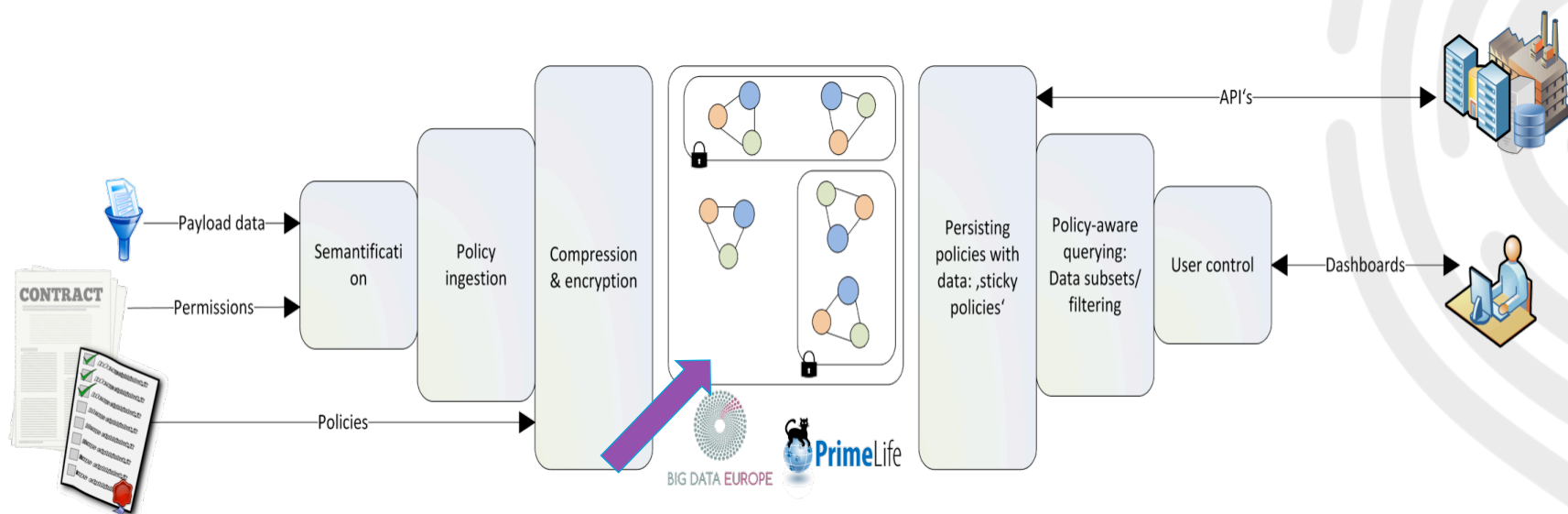
SPECIAL uses the **Linked Data paradigm**

- ❖ All data items are identified by **Internationalised Resource Identifiers** (IRI's)
- ❖ By using HyperText Transfer Protocol (HTTP) IRI's **everything is potentially linkable**
- ❖ IRI's allow SPECIAL to associate **usage constraints** with personal data at different levels of granularity

Data Licensing Clearance Center

dali DATA LICENSES CLEARANCE CENTER

WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

THE SUN

PIRATES HOOKED Bought a Kodi box? You're probably under investigation, UK's official copyright protectors warn

As UK officials try to tackle copyright infringement, people who buy illegal IPTV boxes 'may be investigated'

EXCLUSIVE By Margi Murphy
4th May 2017, 11:05 am | Updated: 4th May 2017, 11:06 am

COMMENT NOW

KODI box owners "may be investigated" as part of a crackdown on copyright material across the UK.

That's according to the chief executive of FACT, the federation against copyright theft, who warned that soon "some poor, unfortunate person may be the first that is made an example of".

INDEPENDENT

Recent European Court of Justice ruling means:

Anyone caught streaming TV shows, films and sports events illegally using websites, torrents and Kodi add-ons could technically face a decade behind bars.

INDY/TECH

DIGITAL ECONOMY ACT: ILLEGAL KODI STREAMS COULD NOW LAND USERS IN PRISON FOR 10 YEARS

Amazon and the Premier League are also cracking down on illegal streams fed to media players running Kodi / REUTERS/Tobias Schwarz

Authorities are becoming increasingly concerned about media players loaded with the open-source software and a variety of third-party add-ons

http://www.independent.co.uk/life-style/gadgets-and-tech/news/digital-economy-act-kodi-stream-illegal-users-prison-10-years-sentence-copyright-data-sharing-a7716131.html

https://www.thesun.co.uk/tech/3478956/bought-a-kodi-box-youre-probably-under-investigation-uks-official-copyright-protectors-warn/

EFMD EQUIS ACCREDITED   AACSB ACCREDITED   AMBA ACCREDITED

Data Licensing Clearance Center

https://www.dalicc.net/

DALICC is funded by the Austrian Federal Ministry of Transport, Innovation and Technology (BMVIT) under the program "ICT of the Future" between November 2016 - October 2018. More information https://iktderzukunft.at/en/
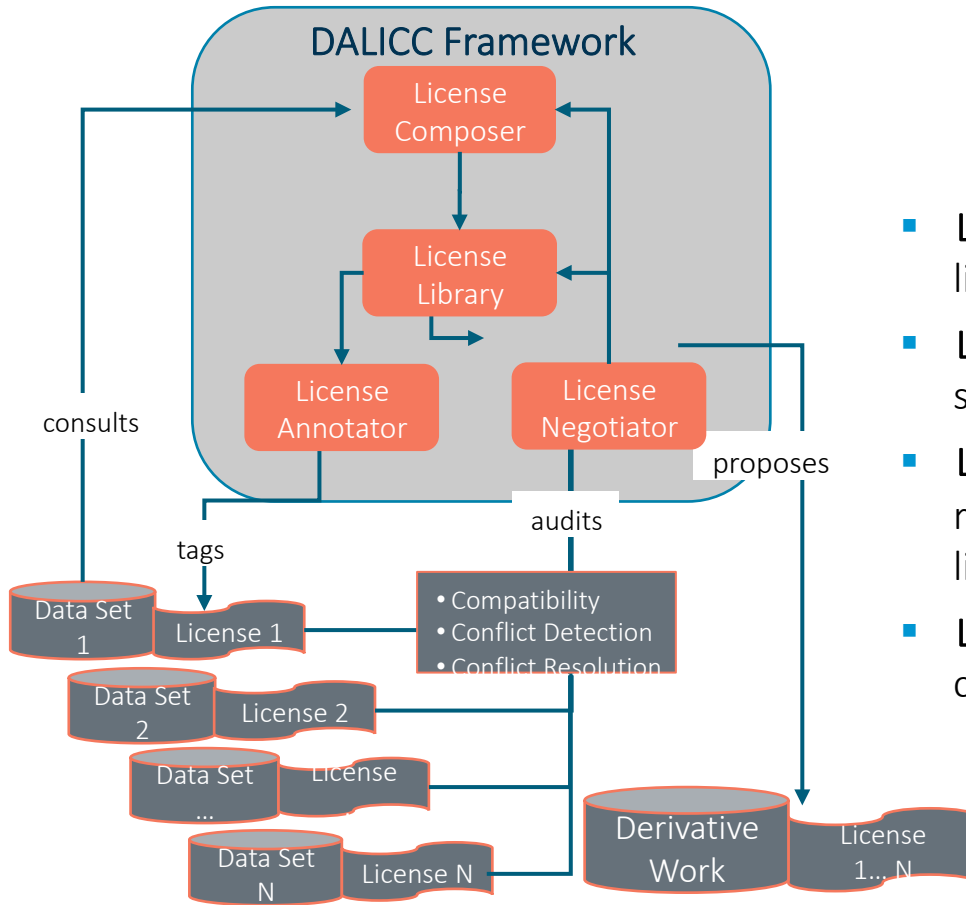
ODbL
CC-BY
CC-BY-SA
IMDB License
TomTom License

License Spectrum

Public Domain	Permissive	Weakly Protective	Strongly Protective	Proprietary

No rights reserved ----------------------- Some rights reserved ------------------ All rights reserved

Data Licensing Clearance Center

- **License Composer:** Lets you create customised licenses

- **License Library:** Lets you choose from a set of standard licenses

- **License Annotator:** Provides you with a machine-readable and human-readable version of your license

- **License Negotiator:** Checks compatibility, detects conflicts and supports conflict resolution

Consent and Control Interfaces

Consent and Control Interfaces

Olha Drozd and Sabrina Kirrane
Conference paper currently under review

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Regulatory Compliance Assessment

Article 83
General conditions for imposing administrative fines

99 articles have
~350 relations defined

Data

Compliance system
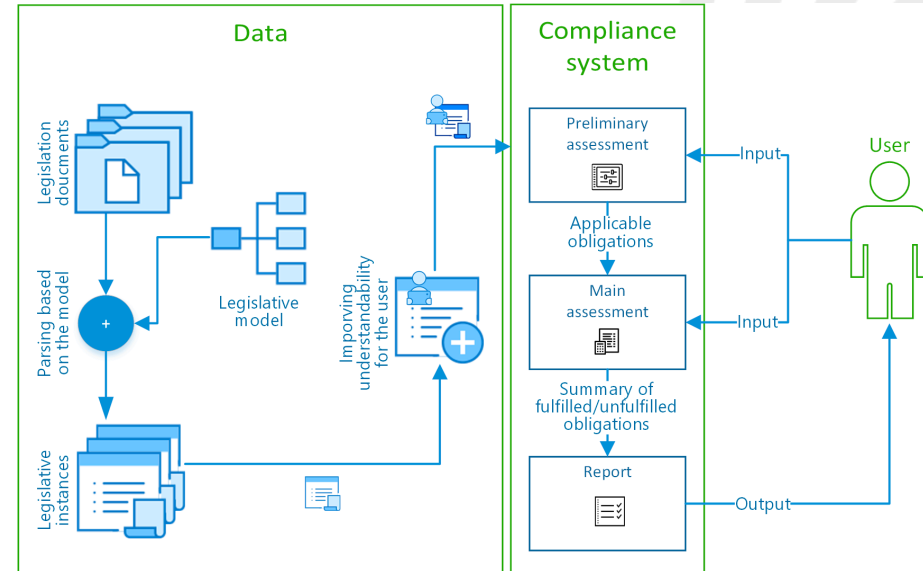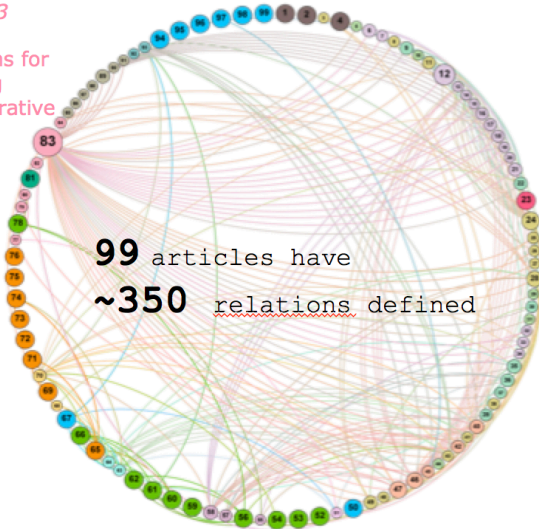
Article 13

Information to be provided where personal data are collected from the data subject

Legislative Compliance Assessment: Framework, Model and GDPR Instantiation
Sushant Agarwal, Simon Steyskal, Franjo Antunovic and Sabrina Kirrane
Proceedings of the Annual Privacy Forum (APF 2018)

Regulatory Compliance Assessment

Legislative Compliance Assessment: Framework, Model and GDPR Instantiation
Sushant Agarwal, Simon Steyskal, Franjo Antunovic and Sabrina Kirrane
Proceedings of the Annual Privacy Forum (APF 2018)

Towards a Legal Knowledge Graph

Temporal Tagger	Identification	Normalization	Events	Relations
HeidelTime	✓	✓	-	-
SUTime	✓	✓	-	-
GUTime	✓	✓	✓	✓
CAEVO	✓	✓	✓	✓
ClearTK-TimeML	✓	-	✓	✓
SynTime	✓	-	-	-
TERNIP	✓	✓	-	-
TIPSem	✓	✓	✓	✓
USFD2	*	*	-	*
UWTime	✓	✓	-	-

Corpus	# Doc.	Doc. Size (Avg. KB)	Doc. Size (Avg. Tokens)	Sentence length (Avg. Tokens)
ECHR	10	4	725	13
ECJ	10	32	5304	32
USC	10	25	5072	37

TempCourt: Temporal Gold Standard and Benchmark for the Legal Domain
María Navas-Loro, Erwin Filtz, Víctor Rodríguez-Doncel, Axel Polleres, and Sabrina Kirrane
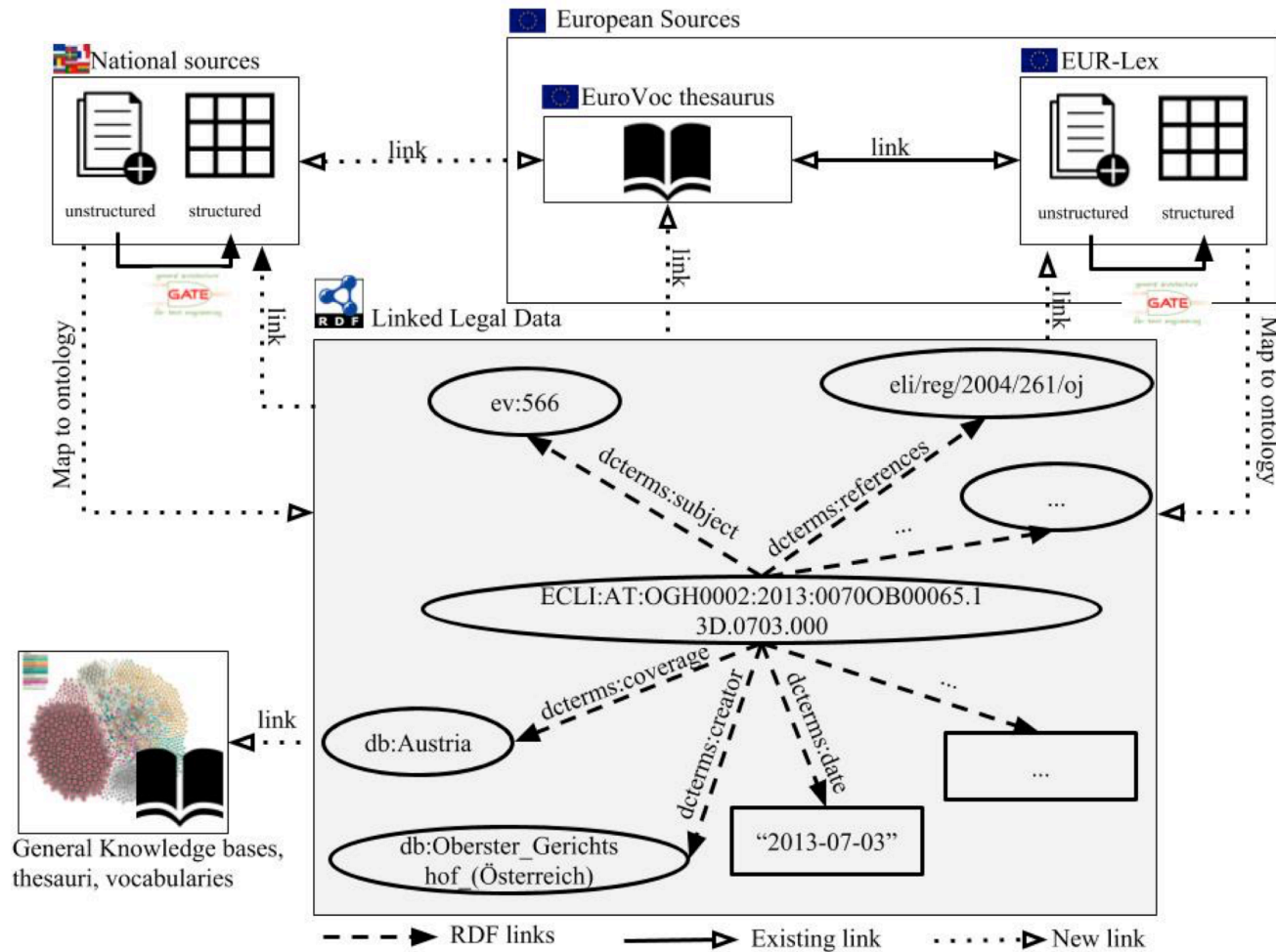Journal Paper Under review
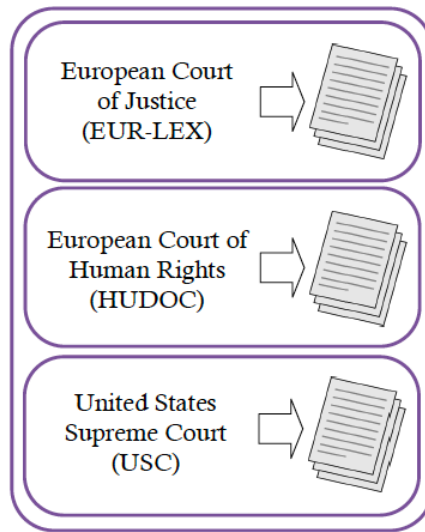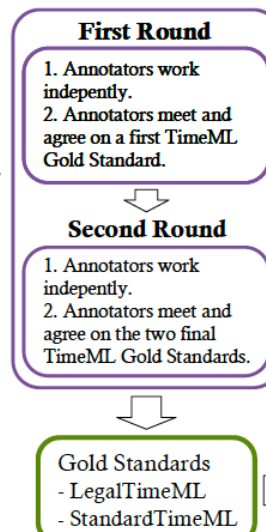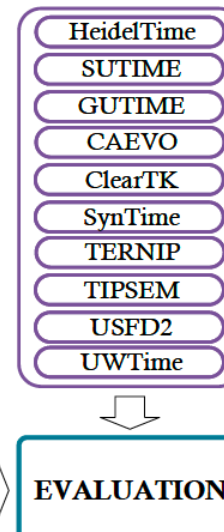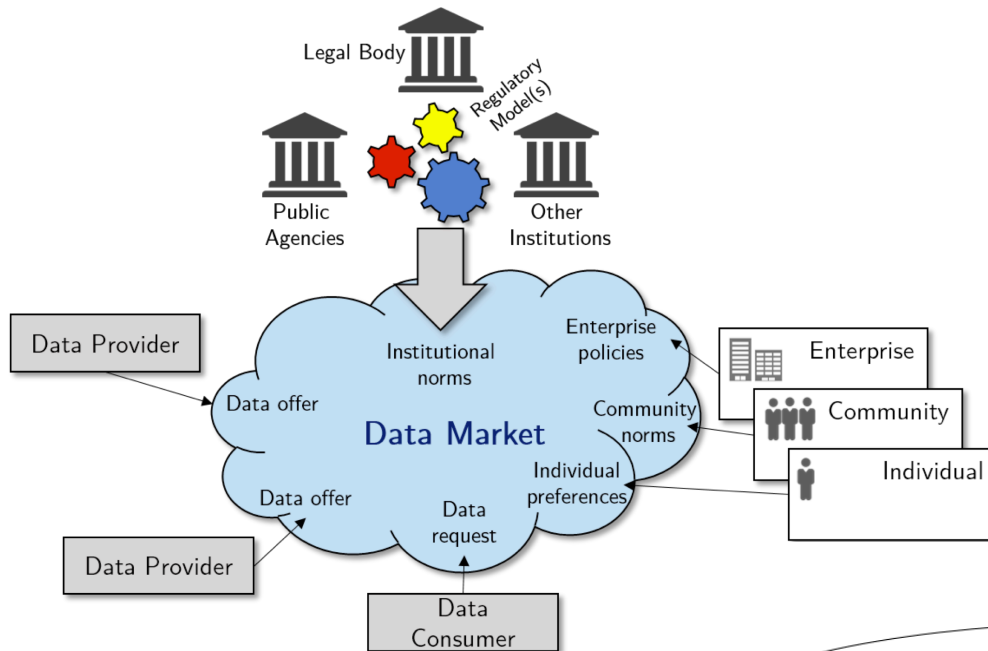
Towards a Legal Knowledge Graph

Interlinking Legal Data
Erwin Filtz, Sabrina Kirrane and Axel Polleres
Proceedings of the Posters and Demos Track of the 14th International Conference on Semantic Systems (SEMANTiCS 2018)

Policy Driven Data Markets

ODRL Information Model 2.2

W3C Recommendation 15 February 2018

This version:
https://www.w3.org/TR/2018/REC-odrl-model-20180215/

Latest published version:
https://www.w3.org/TR/odrl-model/

Latest editor's draft:
https://w3c.github.io/poe/model/

Implementation report:
https://w3c.github.io/poe/test/implementors

Previous version:
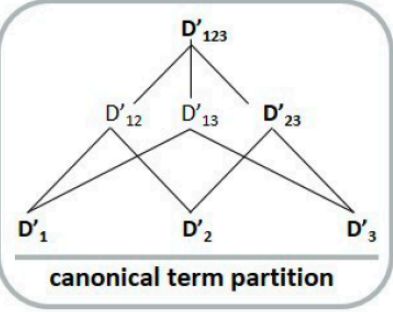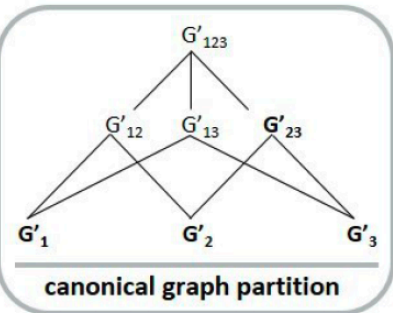https://www.w3.org/TR/2018/PR-odrl-model-20180104/

Editors:
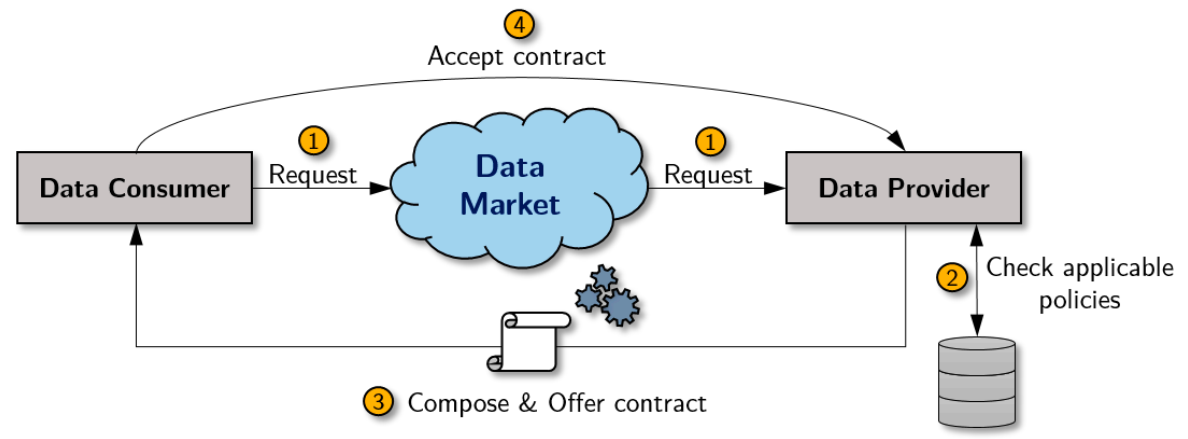
If you can't enforce it, contract it: Enforceability in Policy-Driven (Linked) Data Markets
Simon Steyskal and Sabrina Kirrane
Proceedings of the Posters and Demos Track of the 11th International Conference on Semantic Systems (SEMANTiCS 2015)

RDF Encryption based on Patterns
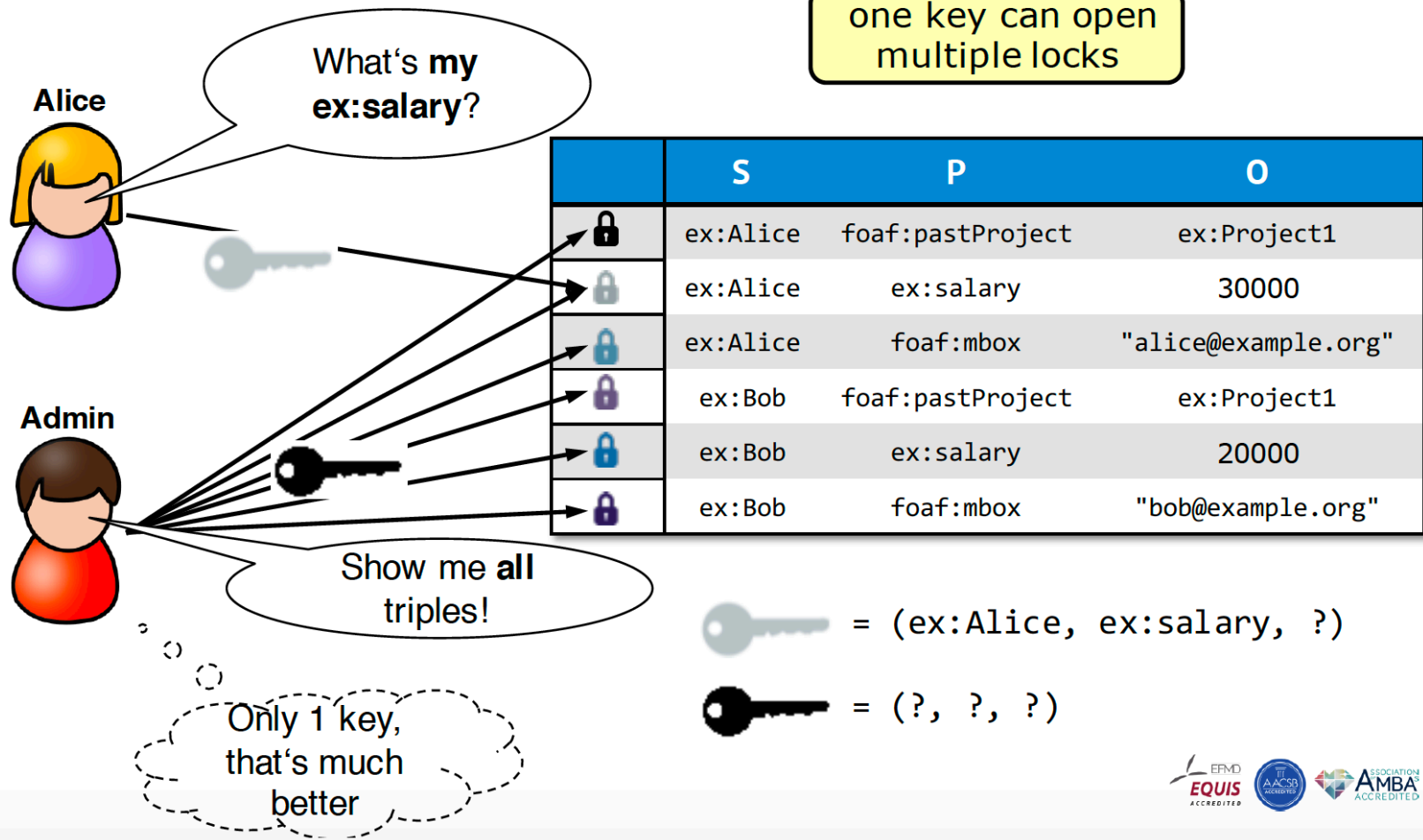
Combining RDF Compression and Encryption

Going Forward....

- Combine policies and legal knowledge graphs
- Federated Semantic Data Management with policies
- An algebra for combining Description Logic policies
- A reference architecture for enhancing the Linked Data platform with policies and transparency
- A unified framework for representing and reasoning over policies (Privacy policies, regulatory constraints, business rules, social norms)

Thank you / contact details

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