# Linked Data I

##### Session 1.1 (SEMANTiCS)

#### Time: Wednesday, September 18, 2024 - 10:40 to 12:00

#### Chair: Ioanna Lytra

## **Talks**

### A model and case study for searching and reading cross-border multilingual legislation on the Semantic Web

This paper concerns the problem of searching legislative documents in an international cross-broader multilingual setting. Here, legal documents are originally published in different countries using different local languages, and the end-users search for the documents using their own languages. Furthermore, different country-specific semantic keyword and classification systems for indexing the contents may have been used. Cross-border services are needed, e.g., when moving from one country to another and looking for regulations for immigration, heath care, education, etc. To address the challenge, a cross-border solution based on Linked Open Data and Semantic Web technologies is presented, and a proof-of-concept system was designed and implemented, using consolidated laws of Finland and Estonia and EU directives as a case study. The demonstrator includes a semantic portal and a LOD service. Based on the so-called Sampo Model, the main novelty of the FINESTLAWSAMPO demonstrator presented is the provision of heterogeneous cross-country, multilingual, distributed legal data through multiple application perspectives for faceted searching and exploring the data as well as for data analysis in legal informatics.

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| Eero Hyvönen | Hien Cao | Rafael Leal |
| Heikki Rantala | Aki Hietanen |  |

### Bringing distributed knowledge to humans [SP]

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| Aad Verstedenredpencil.io |

### A linked data ecosystem for generating information products

Our current ecosystem for creating information products with linked data includes vocabularies for HTML, DOM, XML, XPath, SVG, Mermaid, Manchester Syntax, and ReSpec. Our current applications are in generating budget tables, documentation, and formal reports in government administration services. We believe that this ecosystem will grow over time, and that an increasing number of information products will be created with this approach in the future.

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| Wouter BeekTriply | Flores Bakker |

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### Securing Linked Data: Authorisation Ontology and Enforcement Mechanisms in the Dutch Federated Data System Context

To advance the adoption of linked data in the context of the Dutch Federated Data System (Dutch synonym: FDS), it is necessary to have robust access control for native linked data sources. For this purpose, research was initiated to assess whether it is feasible to implement access controls on linked data sources in this context. A four-phase design science research methodology is applied. The first phase defines both the question guiding this research and the context in which the research was conducted. The second phase includes a review of the state-of-the-art and an evaluation of the existing approaches to access control could support the FDS use case. This research contributes to the existing literature on approaches taken to such access controls and highlights the increasing need for, and the feasibility of implementing, these controls in governmental contexts. Bringing such a solution to maturity would support wider adoption of linked data technologies in this context.

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| Alexandra Rowland | Hans Schevers | Erwin Folmer |
| Sven Mol | Janneke Michielsen | Marc van Andel |

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