



Law as code webinar series | Part 1



May 2023



AGENDA

1. Welcome & Introduction-10'

Cécile Guasch, DIGIT B2

2. Why is Law as Code important for BLSI/Digital Ready Policymaking and what it is? - 10'

Cécile Guasch, Alessio Nardin, DIGIT B2

3. The future of the Legislation Editing Open Software (LEOS) tool – 10'

Willy Van Puymbroeck, LEOS team

4. Which kind of legislative resources can be transformed into law as code? Some LaC implementations, pilots and in production – 40'

- Introduction: Law as code at different levels of government, DIGIT B2 5'
- **EU Case:** EU Rail Ontology as building block of the EU mobility data space for rail, Yann Seimandi, DG MOVE & Marina Aguado ERA, Infrabel 20'
- **Regional Case:** Local Decisions as Linked Open Data in Flanders project, Veronique Volders & Raf Buyle 15'

6. Panel Discussion – 15'

7. Conclusions and Next steps – 5'

Cécile Guasch, Alessio Nardin, DIGIT B2



Who are we?

Better Legislation for Smoother Implementation (BLSI) community

- A living and continuously growing multi-disciplinary
- community on better legislation to share good practices
- and co-create tools with interoperability in mind around:
 - Digital-ready policies
 - Legislation and technology
 - Streamlined regulatory reporting process in the EU

Digital-ready policymaking

The Legal Interoperability Team



Visit our community on JoinUp!



Where are you from?

The law as code concept gathers interest from inside EU and beyond



What is your professional background?



What is your experience with law as code?

Most of the participants had limited knowledge around the topic



What are your expectations for the webinar?

Understand basic principles and components of Law as Code and its connection to Digital ready Policymaking

Getting an update to the matter

Building networks





sli.do



Why is Law as Code important for BLSI/Digital Ready Policymaking and what it is?

Cécile Guasch, Alessio Nardin, DIGIT B2



What is digital-ready policymaking?

GG

Digital-ready policymaking is the **process** of **formulating digital-ready policies** and **legislation** by considering **digital** aspects from the **start** of the **policy cycle** to ensure that they are ready for the digital age, future-proof and **interoperable**. It also encompasses the use of **innovative methodologies** and **tools** (e.g., AI powered) in the policy design, analysis and implementation process.

Source: Better Regulation Tool #28





Digital-ready policymaking components



How would you position Law as Code?





How would you position Law as a Code?

Law as Code was positioned as the future of law, as part of the legal drafting and in need of semantics

THE FUTURE OF LAW

SEMANTICS

💬 Active poll

Commission



Law as code: Our interpretation

Law as code is the machine-readable representation of legal texts, which can be obtained through different techniques in a manual, semiautomatic and automatic manner.

By leveraging the digital representation of legal resources, multidisciplinary teams can develop digital systems able to interpret legal texts and apply them Do you agree with this definition?



European Commission

Do you agree with this definition?

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Chat discussion about the Law as Code definition

Ideas from the audience:

- A1: Law as code is a starting point for the development of praxis and interpretation.
- **A2:** We may need to discuss difference between machine-readable versus machine-executable. Where does Law as Code falls?
- A3: There is more than text in the legislation, for example a need for data that shows where the law applies.
- A4: Machine readable is an essential prerequisite for machine-execution.

Veronique Volders:

- We are starting a project in implementing the description of the process in the regulation in such a way that case management systems can use this info to 'generate' a case flow and a form. (automation; only once)
- For us it is important that the machine-readable representation is as close as possible to the human readable version. It helps to make sure that everyone understands the same (humans and machines).



How do Digital-ready policymaking and Law as Code interact with each other?



Digital-ready drafting for Law as code

In BR Tool #28:

- set out clear rules in the legislative act while keeping those rules futureproof to technical development
- use simple, precise, and concise wording especially for the parts the implementation of which is likely to be automated
- reuse existing concepts from the policy domain and ensure alignment with those in related policy sectors thus ensuring interoperability .

This is enabled and supported by semantics

Questions from the chat on LIOP team's presentation



Q1: What does "representation of legal texts" mean? Is there a difference between the structure of a law and the meaning of the words that are used in a law? Structure (chapters, paragraphs, etc.) are rather easier to code. Semantics is a more difficult task. LIOP team: In our interpretation - it is connected to the semantic, not the structure. It is what we are going to explore in the next presentations.



Q2: If structure and meaning of sections are defined, wouldn't AI derive the meaning automatically?A1: Yes and no, it is a bit limited.



Q3: Can you explain semantics in this context? The word semantics is used frequently but means different things to different people. LIOP team: We mean by semantics a formalised representation of concepts, their definitions and their relations. We consider linked open data as instances of semantically defined concepts.



Q4: Can it help translation activities? How? What are the dangers?

A4: Translation is a nice use case that is worth exploring. To avoid danger of full automation, human validation should be still required.



The future of the Legislation Editing Open Software (LEOS) tool

Willy Van Puymbroeck, LEOS team

Europea



Legislation Editing Open Software

BLSI Virtual breakfast: What is Law as a Code and why it is relevant for digital-ready policymaking?

inter europe

MAY

2023

24

Context

1

Drafting of legislation, opportunities and LEOS







3

Drafting Legislation in the era of AI and Digitisation

Drafting Legislation in the era of Al and Digitisation – Relevance to digital transformation of law-making





Smart Functionalities

4

Smart Functionalities - Relevance to 'Law as Code', digital readiness et al.





Context

Drafting of legislation, opportunities and LEOS



Context

Drafting of legislation is at the origin of (almost) everything Law is unique, drafting legislation is a special profession

Opportunities centre around

- Machine-readable law
- AI et al. 'coming of age'

The use of IT in drafting legislation is 'just' in its infancy



LEOS is an excellent point of departure

• And point of convergence



Short introduction to LEOS (Legislation Editing Open Software). LEOS

LEOS offers



Manage the complexity of drafting legislation and developing policies.

Teamwork through efficient online collaboration. 03

A solution to allow a drafter to concentrate on substance.



A single data space that contains all information on a given act. 05

02

Provide a seamless interaction between drafting of legislation and decision-making workflows, to reduce inter alia manual interventions in the process.



Aims to cover the full lifecycle, initially the focus is on translation (multilingualism) and publication (accessibility to stakeholders).



LEOS – Ongoing work

Drafting Legislation in the Era of AI and Digitisation

LEOS 2.0 Minimum Viable Product & Member State Requirements LEOS on <u>code.europa.eu/leos</u>



Piloting in the Commission and in Council

Study on implementing promising Smart Functionalities





Drafting Legislation in the era of AI and Digitisation

Drafting Legislation in the era of AI and Digitisation – Relevance to digital transformation of lawmaking





Drafting legislation in the era of AI and Digitisation –

Augmented/Smart LEOS



Drafting Legislation in the era of AI and Digitisation – Hybrid AI







Drafting Legislation in the era of AI and Digitisation

Digital Transformation of Law-Making



Smart Functionalities

Smart Functionalities -Relevance to 'Law as Code', digital readiness et al.





A starting point for Law as Code

- Context-aware legal verification
- Fine granular change tracking
- Linguistics support
- 'Automatic' legal drafting
 - Include e.g., use of standard phraseology,
 e.g. on reporting requirements

- Legal assistance
 - Including e.g., detect and avoid structures that could create issues in legal interpretation, identify incompatibilities in temporal parameters, detect explicit or implied obligations, ...
- Input on policy dimensions
 - Including e.g., digital readiness
- Advanced visualization
- Discovery of legal drafting practices



Smart functionalities

Studies

Categories of smart functionalities

- Which categories?
- Business value, prioritisation
- Techno-business-data feasibility



Proof of Concept – context aware legal verification

- What is possible
- What it takes
- How to scale
- How to deploy



Input welcome, any interest in joining 'a reflection group'?



Conclusions





Additional slides...




LEOS 2.0 Minimum Viable Product







Use cases

Drafting Legislation in the era of Al and Digitisation – Use Cases

Data mining corrigenda

Automatically 'understand' the legal impact of the modification (e.g., temporal modification or other) and to evaluate 'why which type of corrigenda' are frequent

Transposing EU law in Member States

Compare the transposition of some directives into Italian domestic legislation with the original directive to measure the relationships between the different articles and so identify where the two document diverge

Detecting derogations and transitory measures

Explore how AI classification can detect derogations and to

connect derogations with the initial obligations.

Assessing digital readiness

Define and calculate an indicator to measure the digital readiness of an act

Calculate the propagation of digital readiness through

normative citations and definition



Learnings



User at the centre

Put the user at the centre and in control Creating synergies between IT and users to augment



Brings value in law making/developing policy process



Digital transformation requires

- Cultural change
- Trust building
- Extensive testing



'Law as Code'

'Law as Code' starts with Smart Drafting







LEOS powered by intercerable europe

innovation 👓 govtech 👓 community

Stay in touch



(@InteroperableEU) / Twitter

- Interoperable Europe YouTube
- Interoperable Europe | LinkedIn
- DIGIT-LEOS-FEEDBACK@ec.europa.eu



https://joinup.ec.europa.eu/collection/justice-law-and-

security/solution/leos-open-source-software-editing-legislation/





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Questions from the chat for LEOS team's presentation 1/3



Q5: Are there plans for releasing an on-line version for LEOS which doesn't require installing the software on the local computer? It would be very helpful as setting up the LEOS on a local machine may be at times troublesome. LEOS team: It is an online tool. No need to install it in your local computer, but it is possible. The LEOS page is available here.

Q6: I wonder if it's possible for users to collaborate together at the same time on a text (like in word online).

LEOS team: Yes, a group of people can work in the same document at the same time. However, we block the edition of the same element (e.g., recital, article) at the same time to avoid conflicts in the changes introduced in the text.





Questions from the chat for LEOS team's presentation 2/3



Q7: How is LEOS different or innovative compared with existing legislative drafting software? What makes it unique? LIOP team: It is using the AKN standard and it is open source.

Q8: The newest version of ChatGPT can read legal texts and generate documents, with a reasonable quality. Implementing "law as code" can increase this phenomenon?

A8: Generative AI will indeed change some tasks of lawyers and many other professions, but thorough verification and the high-level vision will (hopefully) come from humans.

LIOP team: In a human-centric world, you should consider that the machine can help humans but not replace them. We have produced a video delineating some possible use-cases some time ago (before ChatGPT becoming

public): https://www.youtube.com/watch?v=dk3TbuYd9gU&t=2s

These tools can read and write but they do not understand, it is still required to have a human in the loop

Mathias Vanden Auweele - Infrabel: There can be some interesting use-cases of this tools. I will present a demo of a chatbot

that leverages OpenAI API to answer question using ERA's "law as code" ontology.



Questions from the chat for LEOS team's presentation 3/3

Q9: Is LEOS being developed interinstitutionally? It would be useful to have full agreement between institutions on a range of standard clauses to avoid having to change or discuss those in the legislative negotiations, simply because of "diverging preferences" in legal drafting and wording as it happens today.

LIOP team: The internal version of LEOS, EdIT is based on AKN4EU that is the EU profile of AKN and based on interinstitutional agreements. There are ongoing projects to streamline the collaboration between institutions.

Q10: How is AKN4EU related to ELI?

LIOP team: AKN4EU is the standard markup-language that can be applied to any legislative text while ELI (European Legal Identifier) is the specific identifier used to make legislation available online in a standardised format, so that it can be accessed, exchanged and reused across borders. **LEOS team:** I'd complement saying that AKN4EU is the perfect match for ELI, as ELI will benefit from having legislation in a structure format since the inception of

the legislation.

A10.1: At the Publications Office we use the European Legislation Identifier (ELI) in order to identify the legal acts and their lower subdivisions after their publication in the Official Journal, but also to identify consolidated texts. In the AKN4EU-CONSLEG specs (AKN4EU refined specs for consolidation) we use ELI for identifying the document itself and its subdivisions. The AKN4EU specs are available at https://op.europa.eu/en/web/eu-vocabularies/akn4eu and provide some additional information on AKN4EU and ELI.

Q11: The presentation on LEOS ended with an invitation to participate. Could you repeat the way how we could express our interest? LIOS Team: Once we have launched the two studies I was referring to I will contact you to become a participant of the 'reflection group' that we will set up. We

did not yet decide whether to have 1 or 2 reflection groups. The email address to get in touch with us DIGIT-LEOS-FEEDBACK@ec.europa.eu



Which kind of legislative resources can be transformed into law as code? Some LaC implementations, pilots and in production





EUROPEAN UNION AGENCY FOR RAILWAYS

Towards *digital-ready* rail policymaking: the EU Rail Ontology

Yann Seimandi – DG MOVE Marina Aguado – ERA Mathias Vanden Auweele - Infrabel 24/05/2023

alahahahahahahahahahahahahahaha



European Data Context

Feb 2022, EC announces the establishment of Common European interconnected Data Spaces



The <u>common European mobility data space</u> will build upon existing EU and Member States' legislation and infrastructures related to transport data



The railway challenging "data " ecosystem





The railway challenging "data " ecosystem



←→ Interfaces



Towards SERA : Single European Railway Area



51



EU Legal railway ecosystem generating data stores, data elements, data flows and interfaces



52



- Interoperability of the rail system Directive (EU) 2016/797
 - Technical Specifications for interoperability (TSIs)
 - Functional and technical specifications for Agency registers (RINF, ERATV, ERADIS ...)
- Safety Directive (EU) 2016/798
 - Information Sharing System (ISS)
- Single European Railway Area (SERA): Directive (EU) 2012/34/EU
 - Network statements and capacity path allocations
- Rail Freight Corridors (RFCs)
 - Regulation (EU) No 913/2010
 - <u>Rail Facilities Portal</u>



- Trans European Network Transport (TEN-T)
 - Regulation (EU) No 1315/2013 Link

B2G data exchange



53

Similar Problem in B2B data exchange in the railway sector

An amalgamation of <u>overlapping unlinked</u> <u>data models</u> with different levels of granularity, specific for each use case





The Agency Data Landscape



The Agency acts as **a neutral agent to enhance data interoperability** between the different players.



Digitalization and Data Centricity





The Route Compatibility Use Case



Register of Infrastructure (RINF)

Register of infrastructure, stating the values of the network parameters of each subsystemor part subsystem concerned



57

Lessons Learnt

Machines struggle to interpret equivalent data from heterogeneous sources

	track_id	name	country	CTD_DetectionSystem
	1	Track 32	France	track circuit
Deiluur	2	Track 56	Spain	axle counters
Railway	3	Track 98	Belgium	track circuit
Innastructure	4	Track 93	UK	track circuit
	5	Track 12	Greece	loops
	6	Track 37	Sweden	axle counters

	vehicle_id	name	train_detection_system
	1	Train x	axle counters
Railway	2	Train y	track circuit
Vehicle	3	Train k	Іоор
	4	Train i	track circuit
	5	Train i	axle counters
	6	Train m	Іоор

Not only need to share a common vocabulary/ontology, Need to share common identifiers, reference data





Browsable elements







59

Agency's journey towards data centricity

2019



Siloed data

<u>Management Board</u> <u>Linked Data</u> <u>Mainstream Decision</u>



2022

ERA registers

Connected



@EU Data Platform



Agency's Six Pillar approach towards Data Centricity







Sectorial Legal Basis

61



Harmonization of :

- Terms vocabulary ontology governance
- Reference data taxonomies controlled vocabulary
- Management of Code Lists Master data EVN, locations





Article 7a

ERA vocabulary

"ERA Vocabulary" means a Technical Document issued by the Agency pursuant to Article 4(8) of Directive (EU) 2016/797, establishing human and machine readable data definitions and presentations and linked quality and accuracy requirements for each data element (ontology) of the rail system.

The Agency shall ensure the ERA vocabulary is maintained to reflect regulatory and technical developments affecting the rail system. The first update shall be made available by [PO please enter 6 months after enter into force of this regulation]";

(6) the Annex is amended in accordance with Annex VII to this Regulation.

 Article 7 enacts semantic approach via ERA vocabulary/ontology
 1st EU legal text enacting an ontology in the railway sector



ERA voca	bula	ry (euro	pa.eu)

SKOS Concept Scheme	Source (in RDF Turtle)	RINF vocabulary property and RINF index	ERA vocabulary property and ERATV index	RINF-related	ERATV-relat
AvieBeeringMonitoring	era-skos-AvleBearingMonitoring TI		era arleBearingConditionMonitoring (4.9.2)	values	link
BrakeParkingType	era-skos-BrakeParkingType.tl		era parkingBrakeType (4.7.3.2)		link.
Categories (vehicle categories)	era-skos-Calegories (vehicle calegories).III		era category (1.4)		link
CompliantPantoprachHeads	era-skos-CorrollantPantoorachHeads tt	era to Participrachiliead (1.1.1.2.3.1)		122	
ContactLineSystems	era-skos-ContactLineSystems #	era contactLineSystemType (1.1.1.2.2.1.1)		103	
ContactStripMaterials	era-skos-ContactStripMaterials TI	era contactStripMaterial (1.1.1.2.3.4)	era contactStripMaterial (4.10.10)	<u>kek</u>	Enk
EddyCurrentBraking	era-skos-Eddy CurrentBraking (t)	era edd/CurrentBraking (1.1.1.1.6.2)		<u>Ink</u>	
EndCousingType	era-skos-EndCouplingType.tt		era endCouplingType (4.9.1)		Enk:
Energy Supply Systems	era-skos-Energy Supply Systems III	era ererpi@upply@istem (1.1.1.2.2.1.2)	era energ/SupplySystem (4.10.1)	<u>link</u>	link
ETCSEaselnes	era-skos-ETCSBaselines.tt	ara.etcsBaseling (1.1.1.3.2.2)	era etcsBaseline (4.13.1.2)	Ink	link
ETCSEquipmentLevels	era-skos-ETCSEpujomentLevels til		era elcsEquipmentOnEcardLevel (4.13.1.1)		link
ETCSIMIS	era-skos-ETCSInfils.tl	era:etcsinfii (1.1.1.3.2.4)	era.etcs(rfil (4.13.1.3)	<u>Ink</u>	link
ETCSLevels	era-skos-ETCSLevels.tt	era etcsLeve(Type (1.1.1.3.2.1)		<u>lesk</u>	
ETCSMVersions	era-skos-ETCSMVersions.8	era.elcsMilersion (1.1.1.3.2.10)		<u>Enk</u>	
ETCSSItuations	era-skos-ETCSSituations III	erarelcsDepradedSituation (1.1.1.3.10.1)		<u>link</u>	
ETCSS(stemCompatibilities	era-skos-ETCSS) stemCompatibilities.ttl	era.elcsSistemCorrectbility (1.1.1.3.2.9)	era.etcsSystemCorrectbility (4.13.1.8)	Ink	link
FreightCorridors	era-skos-FreichtCorridors.ttl	era heightCorridor (1.1.1.1.2.3		ink.	

SKOS Concept Schemes used in the ERA vocabulary (europa.eu)



Validation/Link to ERA Eng. rules



Revamping the Railway Register Regulation

BEFORE	AFTER
Legal Document with: Table of parameters + data presentation	Legal Document with: Table of parameters + Vocabulary/ontology (precise human and machine description)
 Application Guide Validation SW for data provision	 Application Guide To be deprecated SHACL validation for data provision
 XSD file LookUpTable	 SKOS machine readable LookUpTable XSD backwards compatibility via mapping to RDF



Metrics, Change Request & Publication

ology metrics:	2018
etrics	
Axiom	6.094
Logical axiom count	1.205
Declaration axioms count	626
Class count	113
Object property count	185
Data property count	288
Individual count	2
Annotation Property count	48



Published in EU Vocabularies



Publications Office of the European Union









Accessing Agency's KG Today



Connected data

Federated queries Automatic data quality control



ERA Knowledge Graph + SPARQL endpoint o ~30 millions triples



Wien Hauptbanhof: <u>https://www.wikidata.org/wiki/Q697300</u> (look in references in station code Wbf)

Amsterdam Muiderpoort: <u>https://www.wikidata.org/wiki/Q50724</u> (same there)

Data Stories Queries ready TENtec, DG REGIO, DTLF...

List of queries related to the TEN-T data space

Most of these queries are restricted to the section of line (and its related tracks) that starts in an operational point named Dendermonde and finishes in an operational point named Baasrode-Zuid. Changing the names of the operational points or knowing their URIs or those of the section of line to be requested would allow evaluating these queries in other parts of the knowledge graph.

Query TEN-T 1 - Determine the compliance of tracks with the High Speed Load Model (HSLM) - era:highSpeedLoadModelCompliance, RINF index 1.1.1.1.2.4.2. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 2 - Classification of a line according to the INF TSI - era:lineCategory, RINF index 1.2.1.0.2.2. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 3 - Number of tracks for a sectin of line. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 4 - Type of contact line systems of the tracks in a section of line. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 5 - Wheel set gauge of the tracks of a section of line. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 6 - Energy supply system associated to the tracks of a section of line. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 7 - ERTMS / ETCS application level of a track, which expresses the possible operating relationships between track and train. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 8 - ETCS baseline installed in the track. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 9 - Location of particular points requiring specific checks due to deviations from gauging. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 10 - Combined transport profile for semi-trailers. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 11 - If ETCS in operation, fill in parameters ETCS Baseline and ETCS Level for tracks. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 12 - GSM-R version installed in the tracks of a section of line. Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 13 - Maximum Axle Load (note that this parameter does not exist and we use minAxleLoad instead, which returns currently no values). Query. Execute it (HTML). Execute it (CSV)

Query TEN-T 14 - Nominal maximum operational speed on the line as a result of INF, ENE and CCS subsystem characteristics expressed in kilometres/hour. Query. Execute it (HTML). Execute it (CSV)



OntoRail Aggregated Ontology

Next steps : Rail Sector Ontology Alignment

RAIL Contologies Contasets		User's manual Download Upload SPARQL Login
 » Source Ontologies: Global Search [ERA] v3.0.0 Vacuational development of the European Union Agency for Railways describe the concepts and relationships related to the European railways infrastructure and the vehicles authorized to operate over it. 31 Classes 33 Object Properties 269 Data Properties 6 Annotation Properties 0 DataTypes 	[EULYNX] 09-Mar-2023 EULYNX standardises the interfaces between the interlocking at the core of the signalling system and all peripheral subsystems, ranging from light signal to traffic control system. 113 Packages 882 Classes 2110 Properties incl. 953 ObjectProperties incl. 1157 DatatypeProperties incl. 854 uml:Aggregations incl. 702 uml:Association 193 Enumerations 8 DataTypes 	 [IFC Rail] v2021-02-01 IFC Rail aims at delivering open standards and extending the current buildingSMART shema to fit the needs of the Rail industry. 145 Packages 742 Classes 982 Properties incl. 220 uml:Aggregations incl. 120 uml:Association 121 Enumerations 143 DataTypes
[Transmodel] v6.56 CEN European Reference Data Model for Public Transport Information Transmodel provides an abstract model of common public transport concepts and data structures that can be used for timetabling, fares, operational management, real time data, journey planning etc. • 316 Packages • 1093 Classes • incl. 464 uml:Aggregations • incl. 1505 uml:Association • 3 Enumerations • 1045 DataTypes	[X2Rail-4] v2022-01-13 Image: Completion of activities for enhanced automation system - Completion of activities for enhanced automation systems, train integrity, traffic management evolution and smart object controllers. This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 881806. • 23 Packages • 347 Classes • 1801 Properties • 173 Enumerations • 15 DataTypes • 915 uml:Literal	









71

ERA RINF chatbot

This simple chatbot answers natural languages data questions about the <u>ERA RINF</u> public data. It uses the <u>OpenAI</u> GPT-3 davinci model together with the <u>ERA vocabulary</u> to generate a <u>SPARQL</u>. Then the bot launches the query on the <u>EU open SPARQL endpoint</u> and returns the results.

Because the complete ontology is too big to send as prompt to GPT, the ontology is first reduced to the classes and properties that are actually in use by the public data.

 \sim

This application is <u>opensource</u>.

Click here for some inspiration!

Here are some prompt examples:

- Please give me a list of all operational points
- Please give me a list of distinct manufacturers
- Please give me a list of distinct train detection systems
- Please give me a list of national railway lines. Return a table with uri, label and inCountry properties. Limit to 100 results

please give me a list of all operational points

Click to get your data answer

SPARQL query generated by GPT:

SELECT ?operationalPoint
WHERE {
 ?operationalPoint a <http://data.europa.eu/949/OperationalPoint> .
}

Data result:

	operationalPoint
5	http://data.europa.eu/949/functionalInfrastructure/operationalPoints/EELIIVA
6	http://data.europa.eu/949/functionalInfrastructure/operationalPoints/EEPALDI
7	http://data.europa.eu/949/functionalInfrastructure/operationalPoints/EEPAPINIIDU
8	http://data.europa.eu/949/functionalInfrastructure/operationalPoints/EEPARNU

THANK YOU

Moving Europe towards a sustainable and safe railway system without frontiers.

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Discussions from the chat for EU Rail ontology presentation



Q12: Are validation rules that enable data quality a key ingredient to produce law as code? **Mathias Vanden Auweele:** Yes, additionally SHACL is also an ontology that treats your rules as data. Everything is RDF.

Q13: Marina Aguado, could you share some benefits of your work? e.g., are now certain rules executable by machines? Marina Aguado: Thanks to the adoption of the ontology in the legal basis, now it is possible to launch natural language queries to a chatbot: <u>streamlit_app · Streamlit (era-chatbot.azurewebsites.net)</u>



Q14: As to the impressive effort of MOVE/ERA. Who did you involve in the standardisation process and how do you promote the take up these standards?

Yann Seimandi: We based our action on existing specifications for interoperability. We proceed step by step following the natural revision of the respective acts, replacing these reference by a direct reference to the rail ontology modeling.



#LBLOD

Semantics at your fingertips

Unleashing the Power of Local Council Decisions

Accelerating and Affordable Services for Citizens' Everyday Lives

Digital Breakfast – May, 24th

Veronique Volders Digital Solution Manager

Raf Buyle Information Architect

Star Star

Flanders State of the Art



Selling Your House Tomorrow Amidst Administrative Obstacles

Assess and decide on the most suitable location for establishing a business, taking into consideration various factors such as market demand, accessibility, local rules and taxes.





When selling or buying a house, a lot of different stakeholders are involved.

Authentic information is crucial in the selling process

The rules governing the sale of real estate and the authentic data have their origin in local council decisions.



300 Local Authorities — A Wealth of Information in Decision Making



Relevant to Governments, Civilians & Companies





The Goal of our Ecosystem: Accessible and Reusable Information



The Goal of our Ecosystem: Accessible and Reusable \sim Information GELINKT Gemeente Berlare NOTHEREN TG Vlaanderen INTERBESTUURLIJKE PRODUCTEN- EN DIENSTENCATALOGUS AANMELDEN HULP NODIG ? Overzicht Voor overheid en dienstenleveranciers Voor burgers, ondernemingen en verenigingen Ondertekenen en publiceren Verwijder concept Bewaar concept Producten en diensten An official website of the European Union How do you kn Ü Your English EN Europe Zoek producten en diensten die door de verschillende o producten en diensten is dit overzicht nog volop in opl Your Europe > Search results 0 Vlaanderen INTERBESTUURLIJKE PRODUCTEN- EN DIENSTENCATALOGUS HULP NODIG (?) Overview For government and service providers For citizens, companies and associations 10.91 e elements or vegetation e, changes to vegetation or small landscape Integrated environment permit either an integrated environment permit for rmit for changes to vegetation. Integrated environment permit Ð Applicable in Aalter blishments or activities 10.91 an integrated environment permit to operate Topic(s) Economy and Work, Building and Living, Environment and Energy in requirement applies. It depends on whether on on Environmental Permits (VLAREM).What A Target audience Other organisation, Company, Citizen n planning permit, and the subdivision permit Grote M inning'). The environmental permit was of definite 🗋 Туре Admission is allows the permit holder to make business A Product number 19383 ermit. Public participation and the protection of of amending the application during the procedure Ψ1 problem arises. For complex projects, the or's request. The digital working method makes Restauran The integrated environment permit ('omgevingsvergunning') replaces and combines several ON THIS PAGE permits: Requirements - **6 9**1 Procedure • integrated environment permit for town planning activities (former town planning permit) Exceptions • integrated environment permit for land subdivision (former subdivision permit) open a hospitality business or to take over an Contact dures that apply to the operation of a hospitality integrated environment permit to operate classified establishments or activities (former More info enivronmental permit) integrated environment permit for retail activities (former socio-economic authorisation) ··• 伊 • integrated environment permit to change small landscape elements or vegetation (former

The Goal of our Ecosystem: Accessible and Reusable \sim Information PREDICTIVE ROUTE PLANNING <u>Å</u> 36 ROUTE 局 O Woonzorgcentrum 1 Hof Van Egmont, Hendrik Speecqvest 5,2800 Mechelen 9 minuten ANAVERSSTRAAT-Parking Grote Markt Meest optimale route Tr. 0 Grote Markt 39, 2800 Mechelen Bekijkroute DAG AKENN 25.05.2019 Ê 157 MECHELEN **9 MINUTEN** Via Zandpoortvest Snelste route ondanks verkeersdrukte. N15 Bekijkroute Omlegging wegens Vergunning omlegging evenement "Mechelen NIET TOEGANKELIJK Omlegging Culinair" Via Bruul Be ki jk besluit Gewoonlijke route niet toegankelijk. Bekiik besluit Overige mobiliteit en verkeer: Inname openbaar domein COLLEGE VAN BURGEMEESTER EN 0 SCHEPENEN ZITTING 13.05.2019



Procedure

 Apply for the integrated environment permit via the online Environment and Spatial Planning Desk ('Omgevingsloket') (unless submission on paper is permitted).





Linked Templates

Create meeting minutes by using smart templates. These templates make sure your minutes contain all the information needed for transparent decision making.

Once you publish the meeting minutes, this information automatically becomes available for reuse in other applications and websites.



Reuse of information

Using open standards in your meeting minutes makes sharing data a piece of cake.

Information from meeting minutes like agenda's, decisions and mandates will automatically become available to citizens, supervising governments and third parties.





We make it possible to integrate this information in other applications to get closer to the citizens of our world.



Gemeenteraad

woensdag, 25 januari 2023

Besluit

Met eenparigheid van stemmen

Artikel I

Er wordt een retributie geheven van 110,00 EUR op de aanvragen naar vastgoed of milieu-informatie per perceel.

Een aanvrager dient slechts éénmaal de retributieprijs voor een aanvraag te betalen per groep van 5 kadastrale percelen op voorwaarde dat:

- (i) De percelen aangrenzend zijn
- (ii) De percelen binnen éénzelfde gemeentelijke grens liggen
- (iii) Er maximaal op één perceel (een) gebouweenhe(i)d(en) geregistreerd is (zijn)

De retributie is verschuldigd door de aanvrager van de vastgoed of milieu-informatie.

Artikel 2

Er wordt een retributie geheven op de aanvragen van omgevingsvergunningen voor of de meldingen van stedenbouwkundige handelingen en het exploiteren van ingedeelde inrichtingen of activiteiten (IIOA) in toepassing van het Omgevingsvergunningsdecreet.

De retributie wordt als volgt vastgesteld:

- 1) dossiers waarvoor de gemeente vergunningverlenende overheid is:
 - a. aanvraag eenvoudige procedure voor
 - I° stedenbouwkundige handelingen of vegetatiewijzigingen of kleinhandelsactiviteiten: 90,00 EUR
 - 2° verkavelen van gronden of bijstelling van verkaveling: 90,00 EUR
 - 3° IIOA of gemengd project: 230,00 EUR
- b. aanvraag gewone procedure voor
 - 1° stedenbouwkundige handelingen of vegetatiewijzigingen of kleinhandelsactiviteiten: 110,00 EUR
 - 2° verkavelen van gronden of bijstelling van verkaveling: 110,00 EUR
 - 3° IIOA of gemengd project: 340,00 EUR
- c. melding van:
 - 1° stedenbouwkundige handelingen of vegetatiewijzigingen of kleinhandelsactiviteiten: 50,00 EUR
 2° IIOA of gemengd project: 60,00 EUR
- mededeling met vraag tot omzetting van milieuvergunning naar permanente omgevingsvergunning: 290,00 EUR
- e. de melding van de overdracht van een vergunning voor een IIOA: 60,00 EUR
- f. de omzetting van een omgevingsvergunning na klasseverhoging door wijziging van de indelingslijst: 180,00 EUR
- g. het aanvragen van een percelensplitsing: 35,00 EUR per aanvraag
- h. voor een verzoek tot bijstelling van de milieuvoorwaarden: 60,00 EUR
- i. aanvraag van een planologisch attest: 110,00 EUR
- i appyrage yap oon stadenhouwkundig attact: 60 00 ELIP

Calculating Office Tax



AGENTSCHAP BINNENLANDS BESTUUR







What other applications can you think of for the re-use of linked open decisions?

> Your ideas have the power to shape our collective future. Don't hesitate, unleash your creativity and share your thoughts in the chat!

Get in touch!

The team:

digitaalABB@vlaanderen.be

Our community

https://say-editor.com



Veronique Volders

Digital Solution Manager veronique.volders@vlaanderen.be



Raf Buyle

Information Architect raf.buyle@vlaanderen.be



Discussions from the chat for Flanders project's presentation 1/2



Q16: Veronique Volders, do you have a legislation that gives the frame for data to be used directly in law ? Did you have a chance to measure benefits of your new approach? A16:



Q17: What other applications can you think of for the re-use of linked open decisions?

- Being able to subscribe on a topic for my local government and be informed when new decisions are made on this, such as <u>https://lokaalbeslist.be/zoek</u>
- I have just moved to a new city and would like to find out my rights and obligations there
- I am opening a businesses and I would like to be guided in the steps I have to take
- Proactive delivery of public services



Discussions from the chat for Flanders project's presentation 2/2

ADDITIONAL INPUT FROM THE AUDIENCE:

There is a template to achieve data sovereignty during procurement for software to third parties to ensure open data. they should make it machine-readable <u>https://open.nrw/datensouveraenitaet-praxisleitfaden</u>

Law as a code could have a clear benefit at EU level in cases where auditing and/or technical validation is mandatory. Such as in the railway cases, it could make route compatibility, vehicle authorization and safety reporting much easier.



Panel Discussion

All





Panel discussion



Which are the necessary ingredients to develop LaC?



Is the EU-level a specific case?



What role could be played at EU level to make sure that Law as Code could be developed smoothly at the EU, MS, Regional and Local level?



Panel Discussion



Q18: Which are the necessary ingredients to develop LaC?

A18.1 Close involvement of legal experts in "Law as Code" development is crucial. Many of them have a low data literacy, so closing the gap between the communities is crucial.



Q19: Is the EU-level a specific case?

Yann Seimandi: The EU-level is not a specific case. Similar issues are encountered at EU, national, regional and local level such as the legal basis for the development of Law as Code applications

A19.1 In my experience as a former customs expert, I can share the good example of EU Customs Data Model (EUCDM) and the respective legal texts which serve as the basis for building EU-wide as well as national customs systems. EUCDM 6.2 (softdev.eu.com)



Q20: What role could be played at EU level to make sure that Law as Code could be developed smoothly at the EU, MS, Regional and Local level?

Yann Seimandi: Our role as Commission in to give incentives for local, and regional level to act on digitalisation efforts. The ontology emerged as a building block necessary for these efforts. The EU can play a role in facilitating agreements and interoperability on all ontology development levels and this is what droves us to build the Rail Ontology



Share your questions!

Take your phone and go to

https://www.sli.do/

Use the code **#2448745**

sli.do





Conclusions and Next steps

Cécile Guasch, Alessio Nardin DIGIT B2

> European Commission





Stay tuned for the upcoming:

- Virtual breakfast webinars
- Publication of case studies, issue papers, solutions and tools
- Legal Interoperability trainings



Join our ongoing discussions on:

- <u>Share your needs or ideas with the BLSI</u> <u>Community!</u>
- What are your learning needs?





Stay informed:

<u>Subscribe to our newsletter</u> to stay tuned on what is coming and <u>become a member</u> of our community!

#BLSI = Better legislation *for* smoother implementation

Join us on JoinUp!



Thank you



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