20 YEARS ANNIVERSARY

Practical AI Use Cases and Applications



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Solution Architect AI Specialist

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In this session

Show the AI currently developed and in use at Be Informed.

Starting with applications that use a regulatory twin and working back to some of the foundations.

Standing on the shoulders of giants…

- Ronald Heller has introduced the digital regulatory twin in an earlier session… I will repeat some of it where AI is in play.
- Workbench and other Be Informed tools are used in the digital twin creation process, as well as legal modelling in domain specific languages. Interrupt me to ask for more info if needed.
- Sandip Pandey will present more in-depth on the way AI is applied in a next session, I will try to focus on the application side of things.

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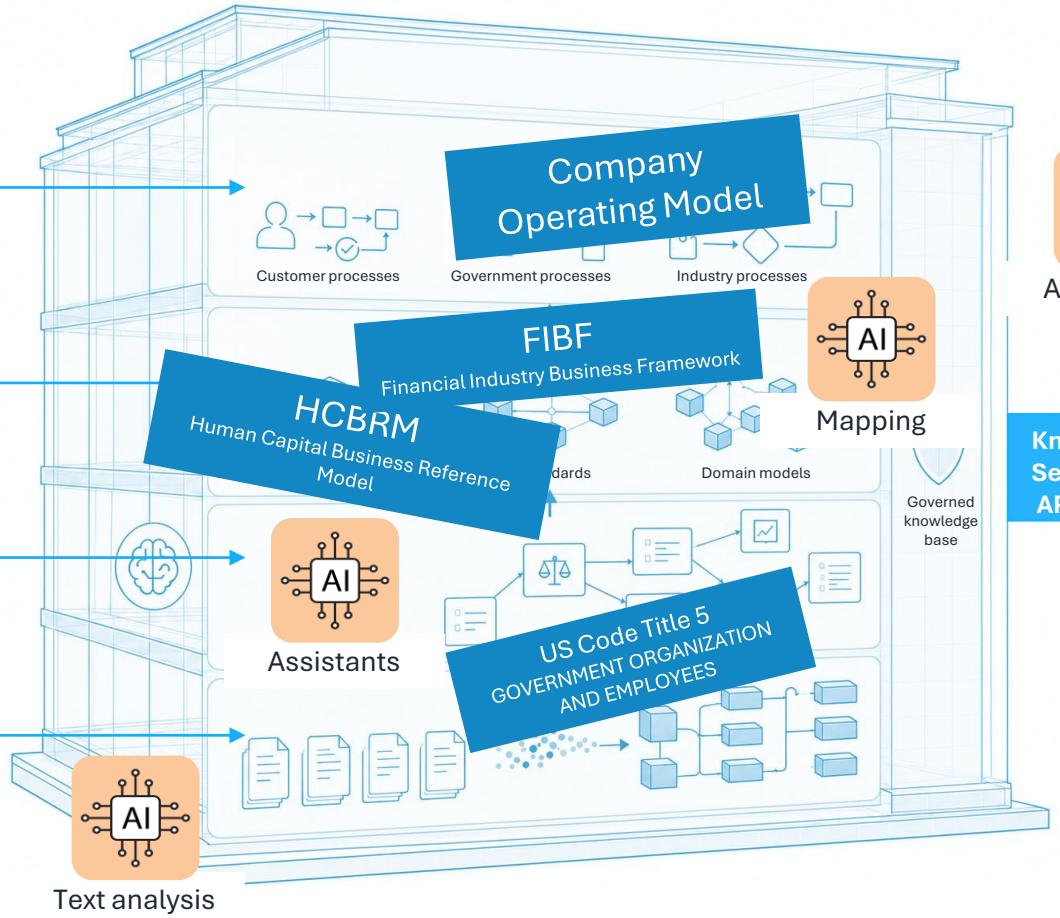
Human Capital Chatbot - DRT

4 **Execution Model**
Business operation & processes

3 **Operating Model**
Reference models

2 **Legal Model**
Legal interpretation
Governed expert knowledge

1 **Machine-readable regulations**
Structured legal content



AI
Agentic use

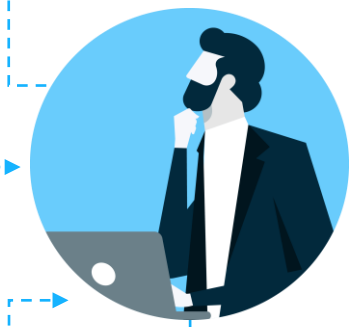
Knowledge Services / APIs

STANDARD APPLICATIONS
- Documentation Portal

CUSTOM APPLICATIONS
- Administrative Burdens
- Human Capital Chatbot
- ...

ENTERPRISE APPLICATIONS
- AMS
- Third- party systems

- What are my obligations?
- Which requirements apply?
- What changed?
- Why was this decision made?



Continuous improvement through expert knowledge and AI-assisted modeling

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Human Capital Chatbot

OpenAI: GPT-6 Luna

Explored neo4j-mcp_neo4j-read_neo4j_cypher

Yes. I checked the process structure and mapped the **FLINT duty frames** to its closest steps. One caveat: these are **functional mappings**, not direct graph edges between the legal frames and the example process.

In the example, **Evaluate** means approving the vacancy and adding the published vacancy. Applicant screening and assessment are under **Assess**. [1]

FLINT DUTY FRAME	CLOSEST STEP(S) IN THE HIRING PROCESS	HOW IT APPLIES
Establish an evaluation system with two or more quality categories (`DutyMustEstablishSystemForEvaluatingApplicants`)	Before Recruit/Assess — no dedicated setup step is modeled	Establish the category-rating system before evaluating applicants. This requirement applies when using category rating. [2]
Define quality categories through job analysis (`DutyMustDefineQualityCategoriesThroughJobAnalysisAndNav…`)	Register → Job profile — nearest modeled step	Use job analysis to define distinguishable, job-related categories. The example includes a Job profile, but does not explicitly model job analysis. [2]
Describe categories in the job announcement (`DutyMustDescribeQualityCategoriesInJobAnnouncementAndAp…`)	Evaluate → Published vacancy	Include the category descriptions in the announcement before or as the vacancy is published. [2]
Place applicants into categories based on job-related competencies, knowledge, skills, or abilities (`DutyMustPlaceApplicantsIntoCategoriesBasedOnCompetencie…`)	Assess → Screen candidates → classify/rank candidates	Screen for minimum qualifications, then place eligible applicants into the appropriate categories using job-related criteria. [2]
Establish documentation and recordkeeping procedures (`DutyMustEstablishDocumentationAndRecordKeepingProcedures`)	Assess → Assessment report — nearest modeled output	Document the assessment and categorization so the process can be reconstructed. The example creates an Assessment report but does not show a separate records-management step. [2]
List preference-eligible candidates ahead within each category (`DutyListPreferenceEligiblesAhead`)	Assess → classify/rank candidates, before selection and offer	Apply veterans' preference when ordering candidates within a category; do not treat it as part of vacancy approval. [3]
Place qualifying preference-eligible candidates with a compensable service-connected disability of 10% or more in the highest category (`DutyListQualifiedPreferenceEligiblesInHighestCategoryFo…`)	Assess → screen/classify candidates, before selection and offer	Apply this category-placement rule where it covers the position. The statute excludes scientific and professional positions at GS-9 or equivalent and above from this specific rule. [3]

Gaps in the example process: it does not explicitly show steps for establishing the category-rating system, conducting job analysis, or maintaining the supporting records. Also, it models ranking/classification but not a distinct candidate-selection step; preference rules should therefore be checked before moving from assessment to **Offer**.

Citations

1. FIBF-HC, *Example-HCM — Hiring process*: `concept:Evaluate` decides `concept:ApproveVacancy` and adds `concept:PublishedVacancy` ; `concept:Assess` performs screening/interviews, classifies candidates, and creates an Assessment report.

Agentic use

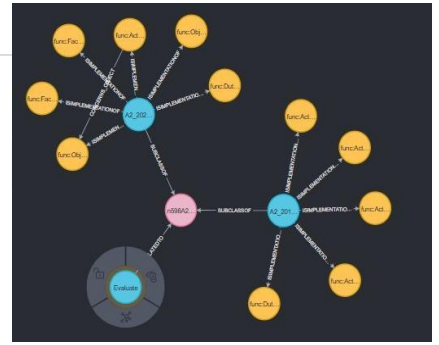
Digital Regulatory Twin as a source of truth for Large Language Models (LLM)

Tools for agents provided using Model Context Protocol

Input

get_graph_overview - Return high-level graph counts.
get_schema_summary - Return schema-like metadata.
search_nodes - Search display fields by text.
get_node_detail - Inspect one node by id.
get_node_neighborhood - Return bounded graph around one node.
get_source_overview - Summarize one source id.
✓ find_nodes_by_kind - List nodes by node_kind.
find_similar_graph_elements - Find semantic matches with Qdrant.

Arguments JSON



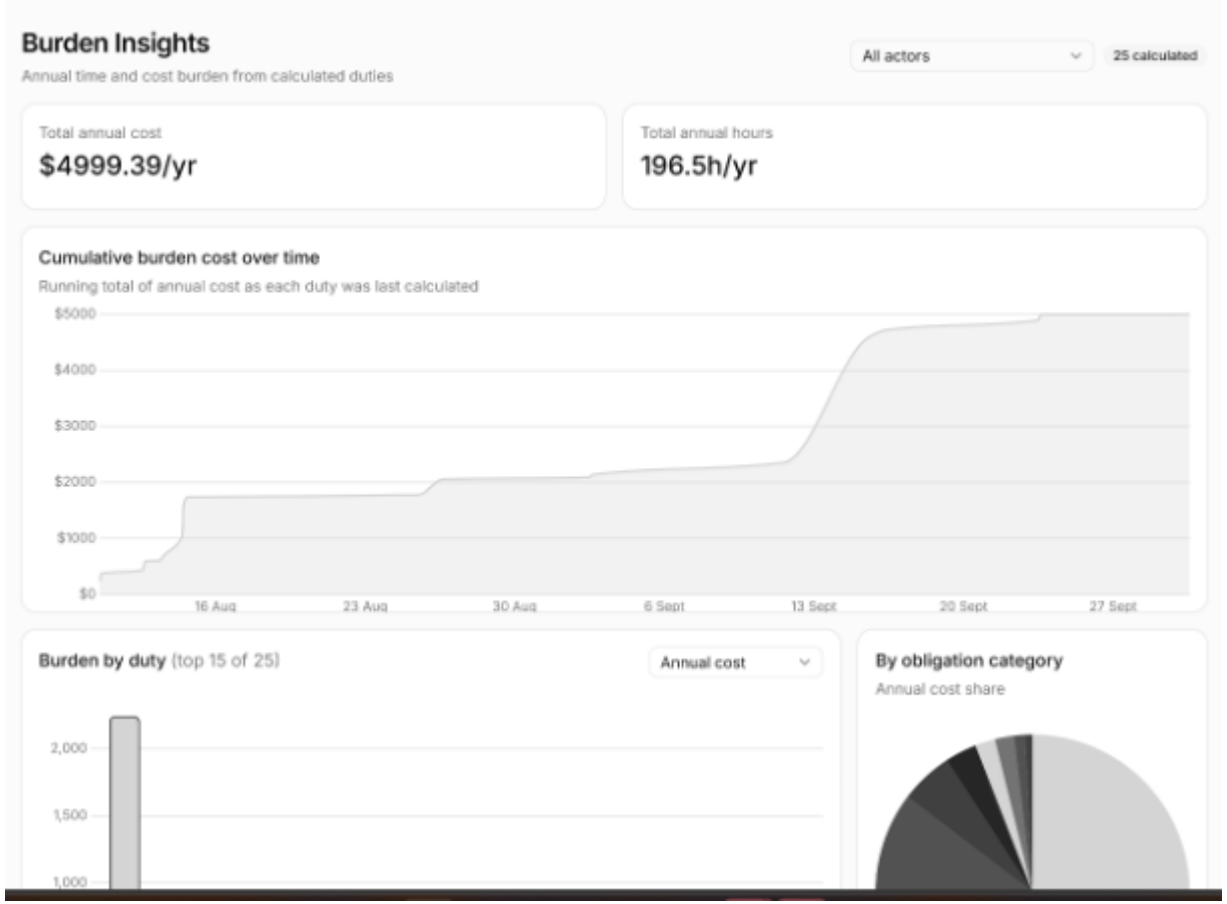
- Guardrails, stick to the subject
- Less hallucinations
- Build-in Transparency because of structured knowledge in regulatory twin

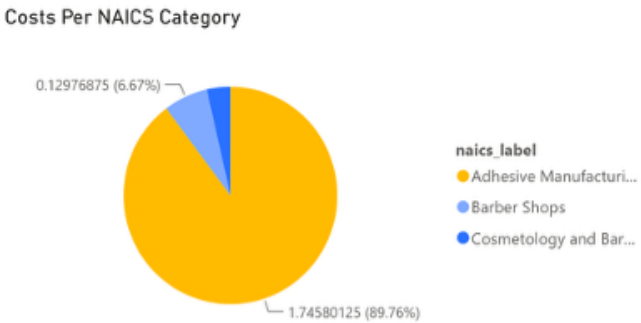
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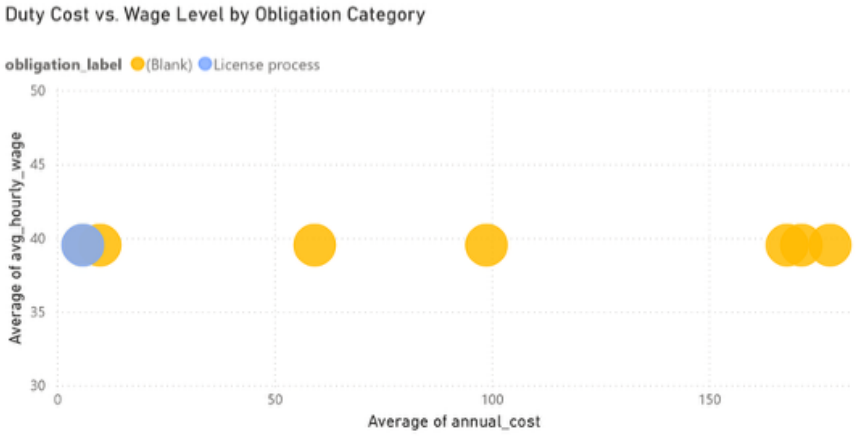
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Administrative Burdens - Proof of Concept

- Costs for a business to comply with the obligations created by regulations
- AI assisted coded application on top of DRT



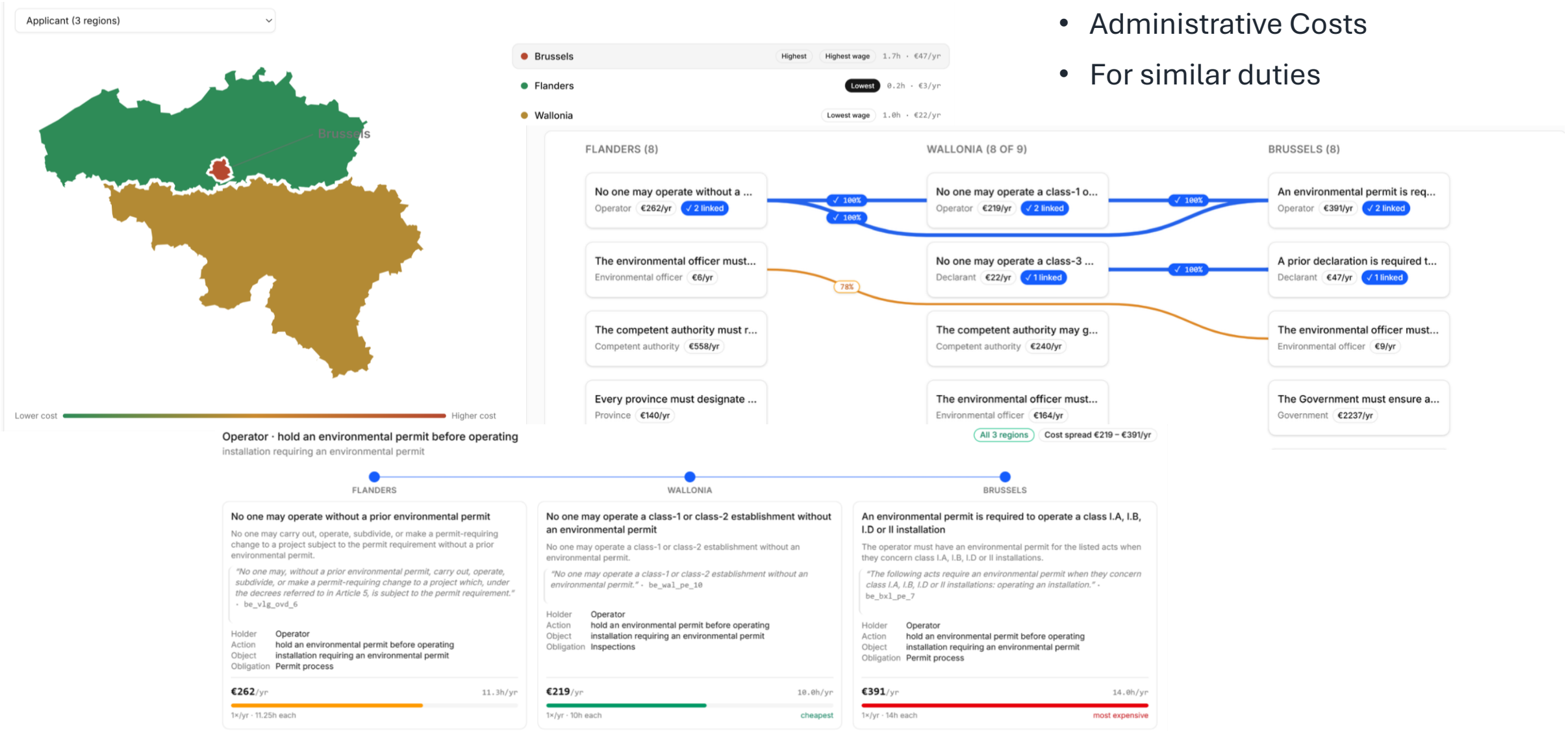




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Cross regional comparisons

- Administrative Costs
- For similar duties



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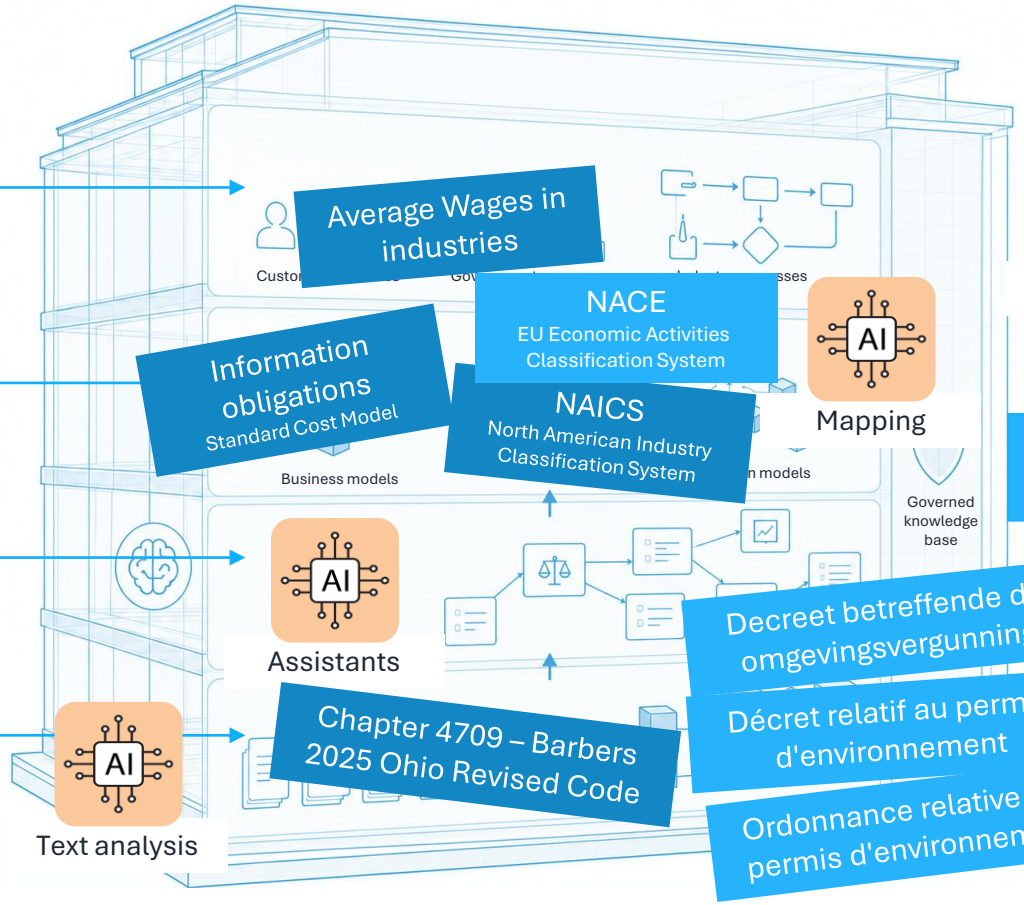
Administrative Burdens - DRT

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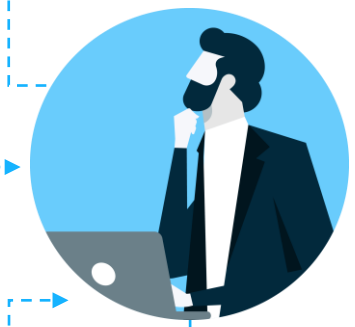
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Administrative Burdens – Relating DRT domains

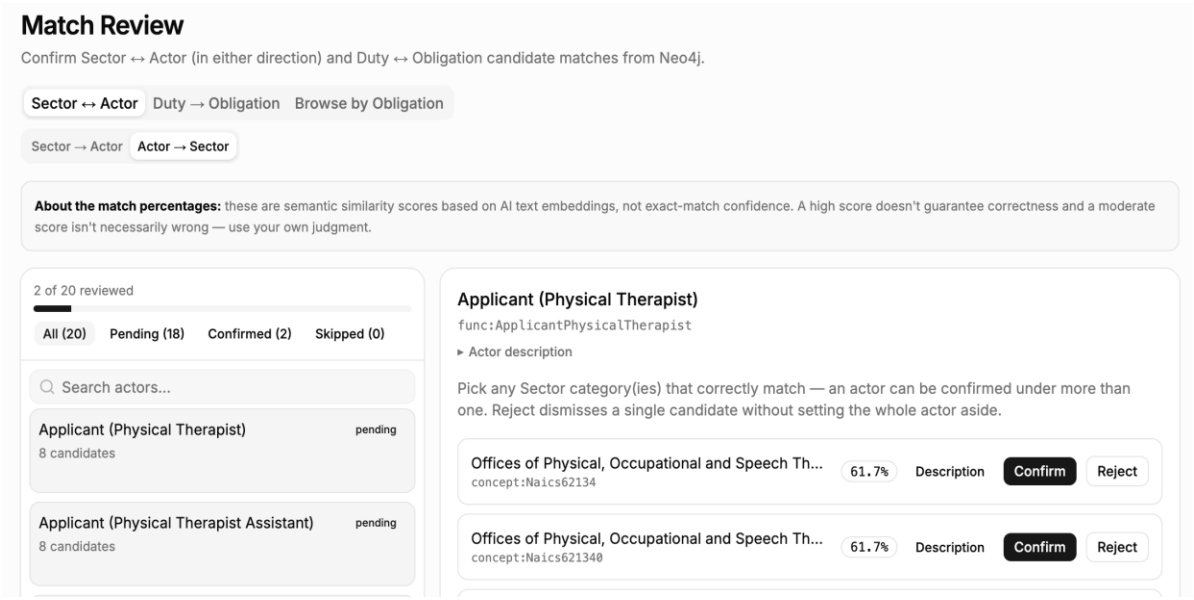
Mapping

Mapping - Relating elements from different knowledge domains

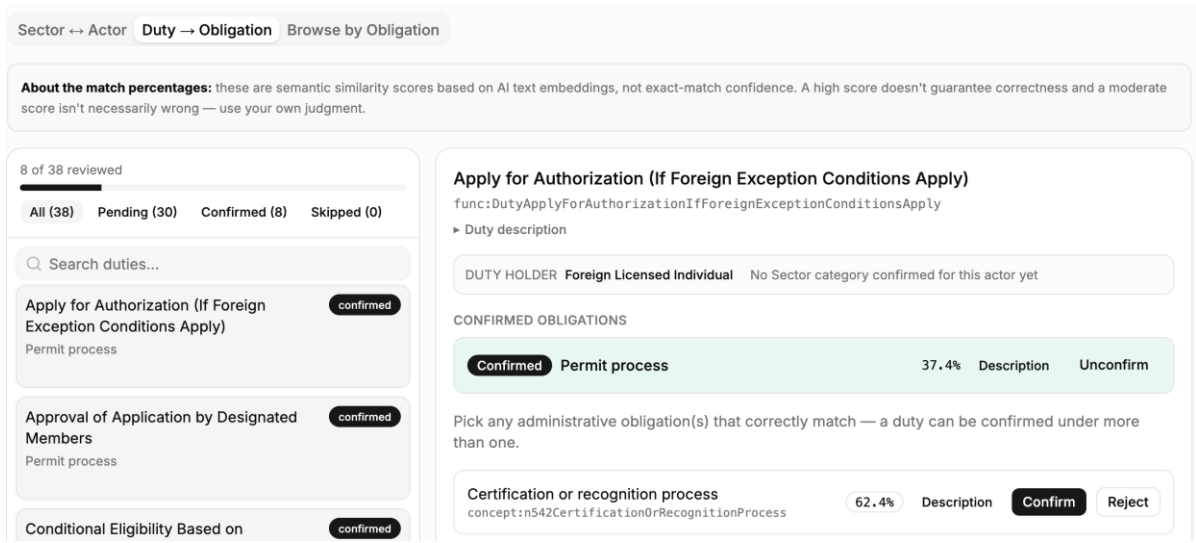
Services for computing similarity on DRT elements using embeddings.

Improve Administrative Burdens DRT by relating

Actors from regulation to business type



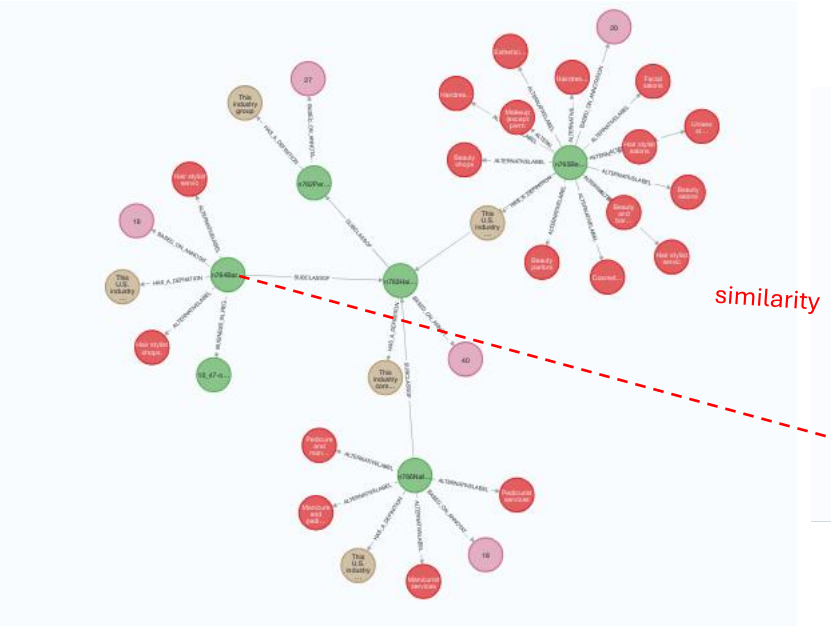
Duties from regulation to administrative obligation classes



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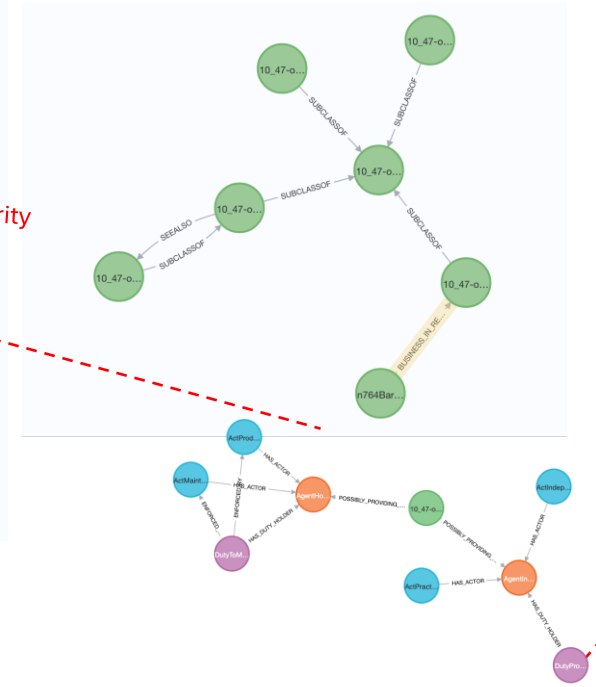
Relating business types to regulatory actors to obligations



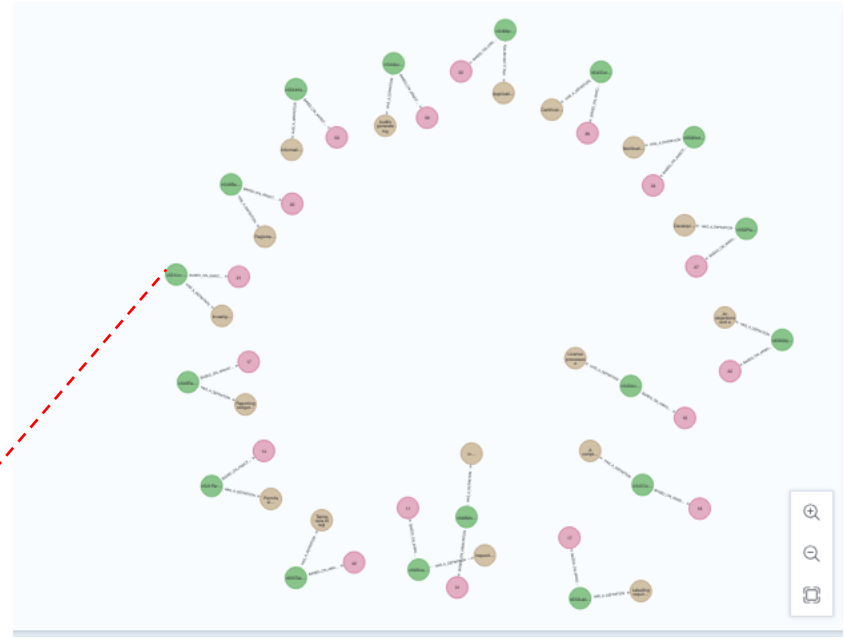
Business types NAICS

similarity

Terms in regulation



similarity



Administrative obligations



Acts, Duties from regulation

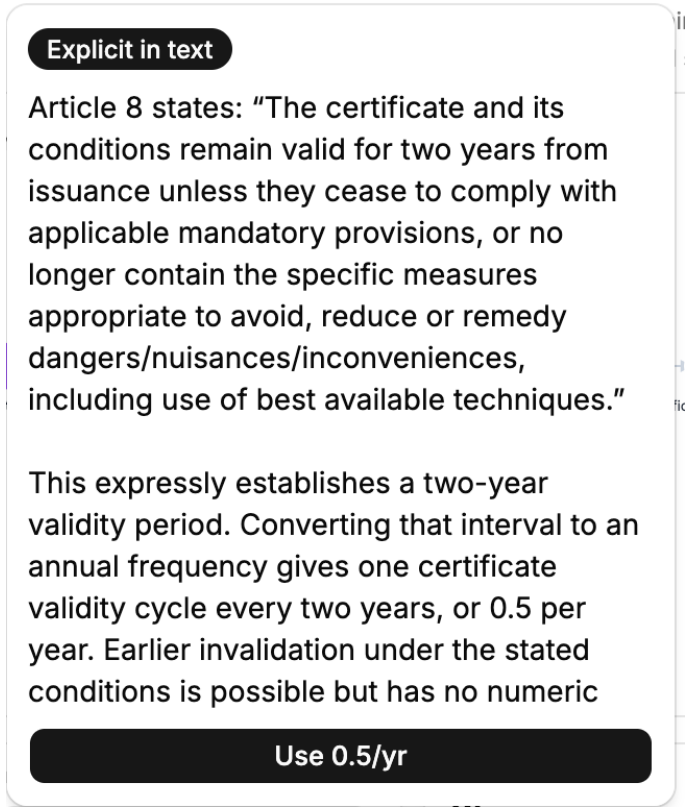
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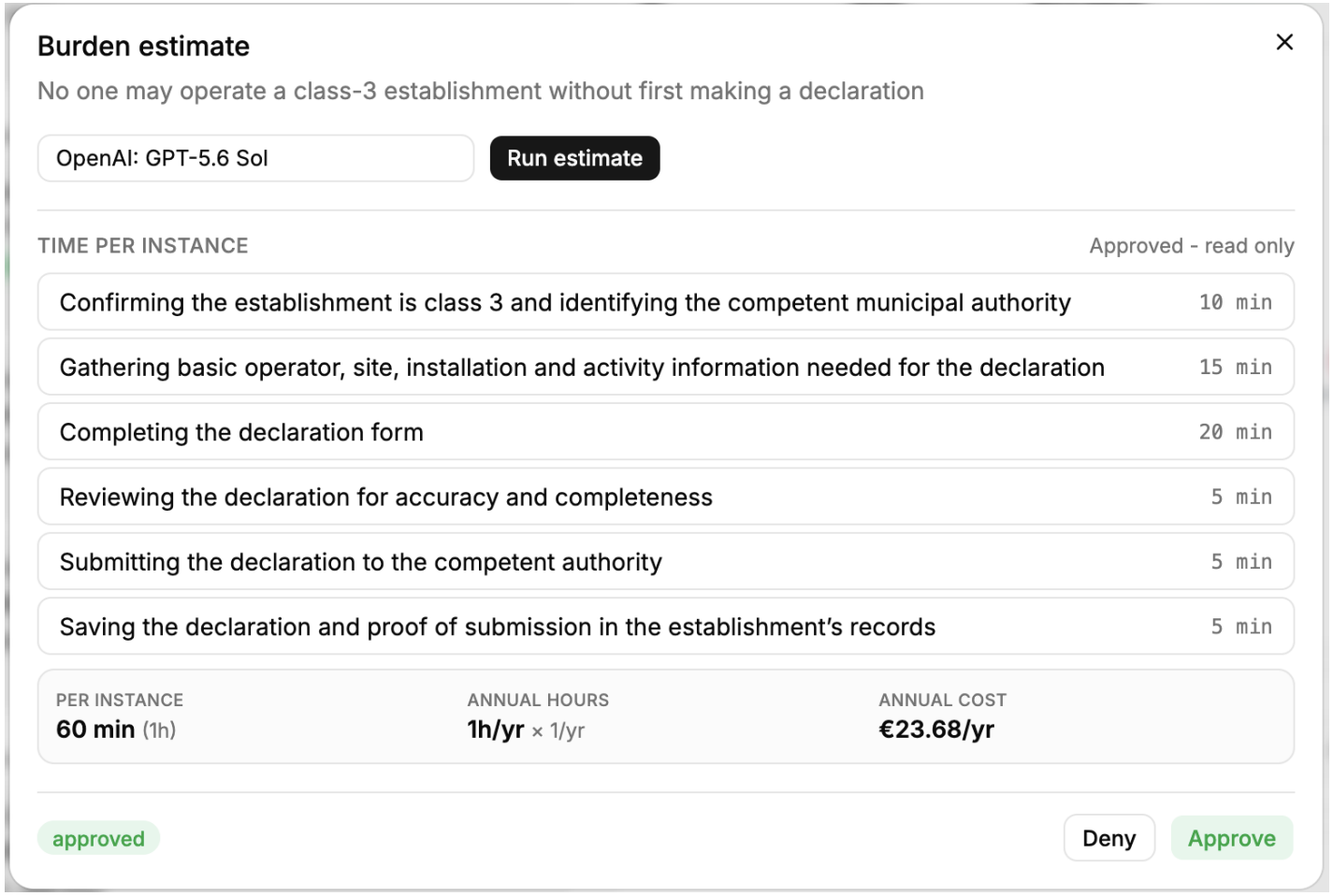
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Frequency and costs

Context from DRT to support AI in determining:

- Frequency from section of text
- Time spend on activity and cost





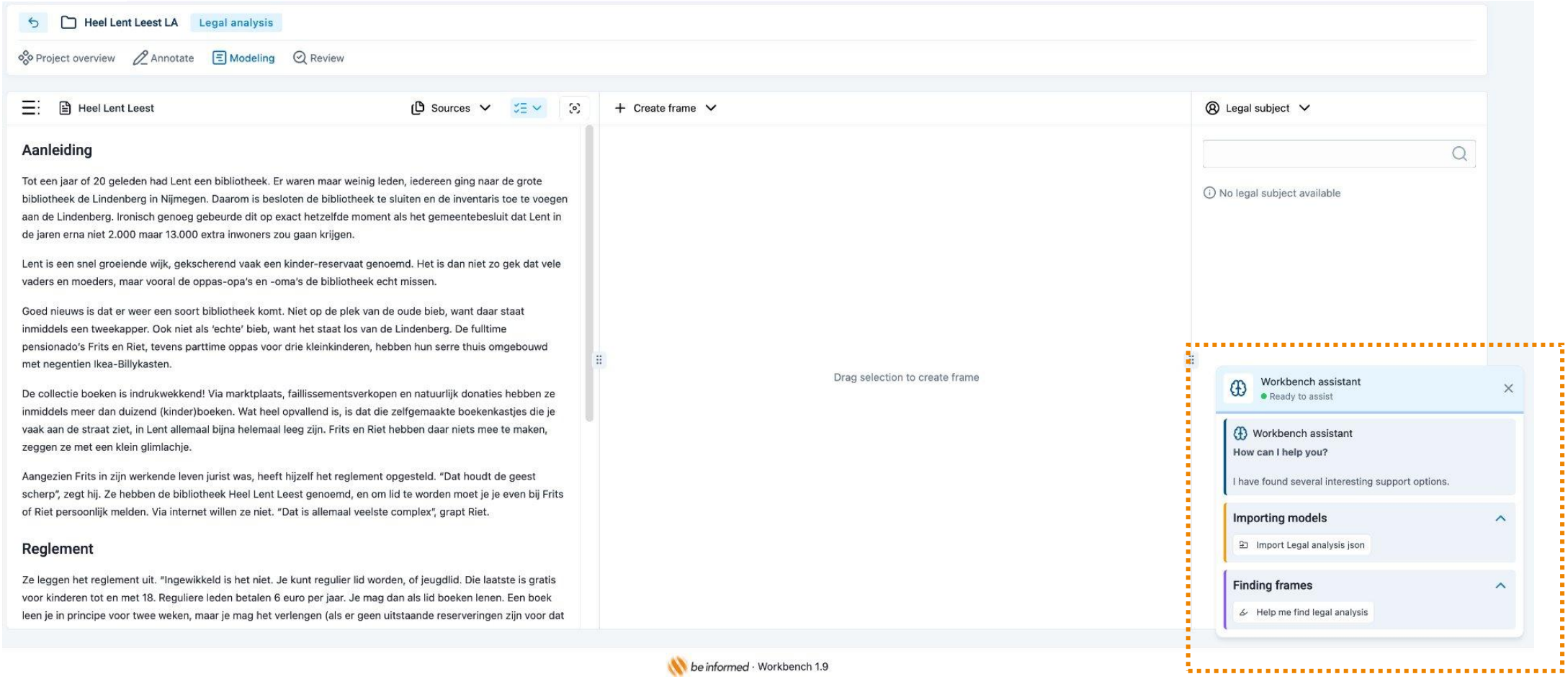
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DRT building – AI Assistants in Workbench

Assistants

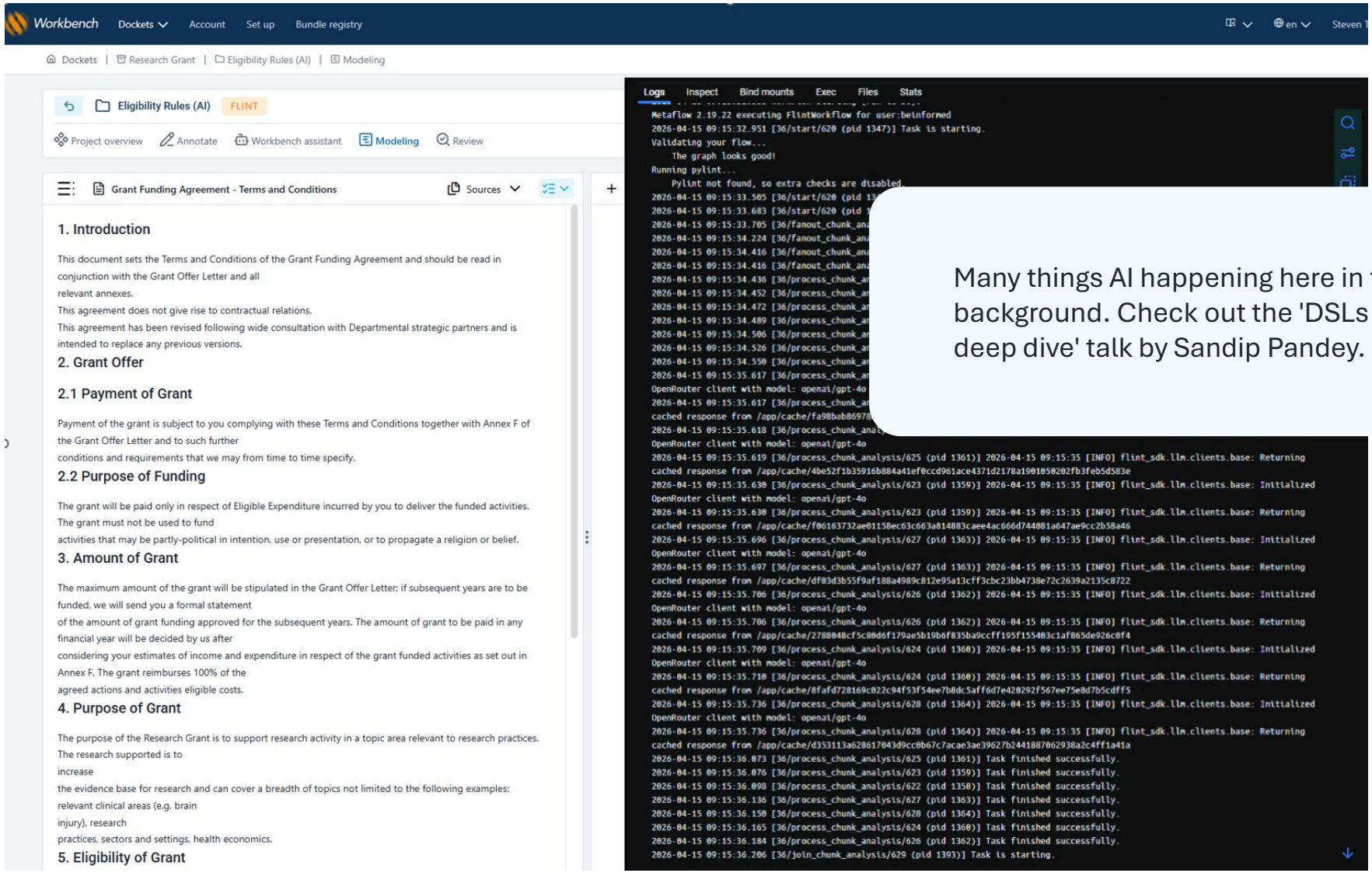
Ask an AI assistant to extract elements and create models of regulatory text in FLINT, Terms or Legal Analysis



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AI Assistants in Workbench - Working

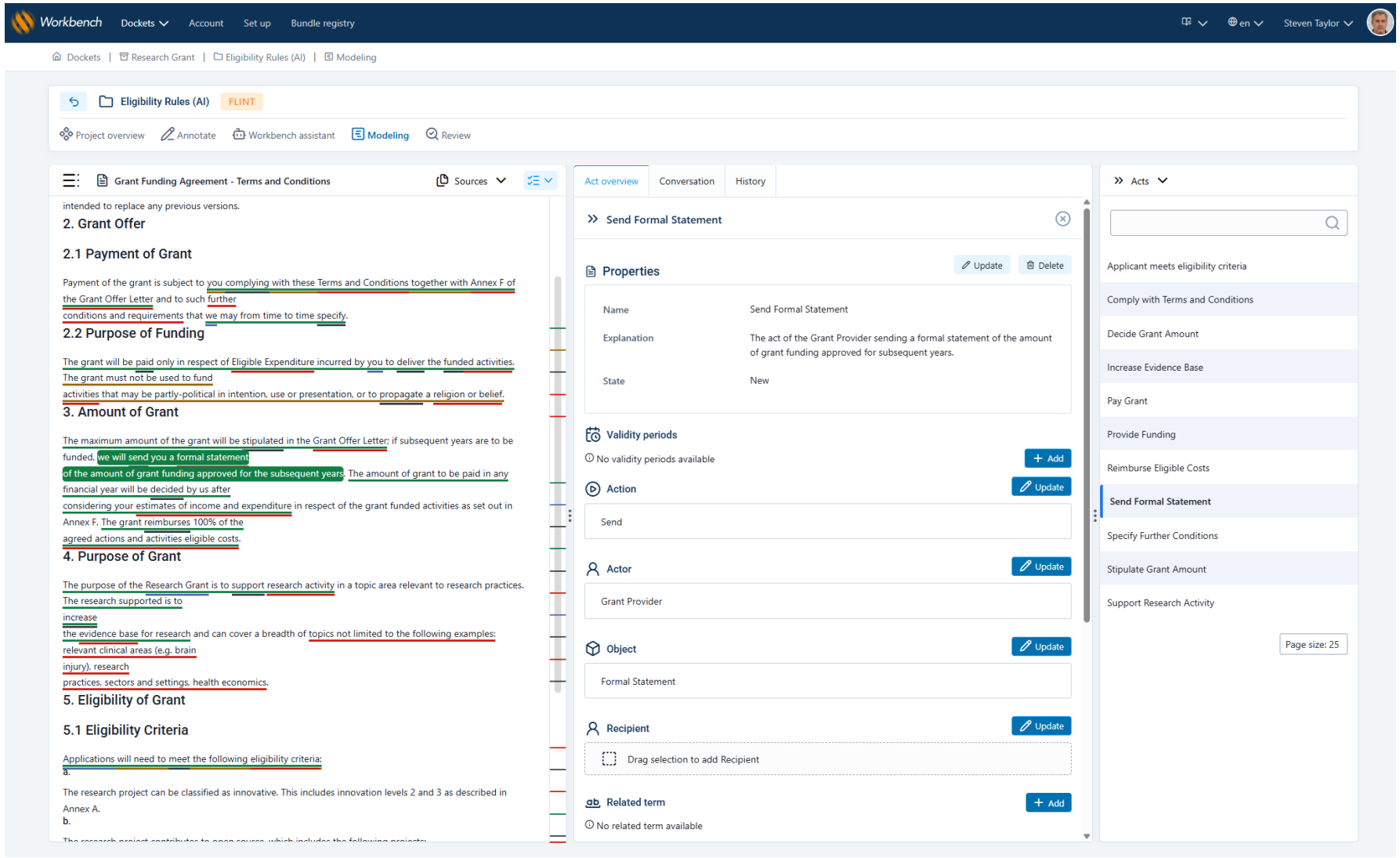


Many things AI happening here in the background. Check out the 'DSLs and AI deep dive' talk by Sandip Pandey.

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Workbench - Model in Domain Specific Language
Ready for human validation



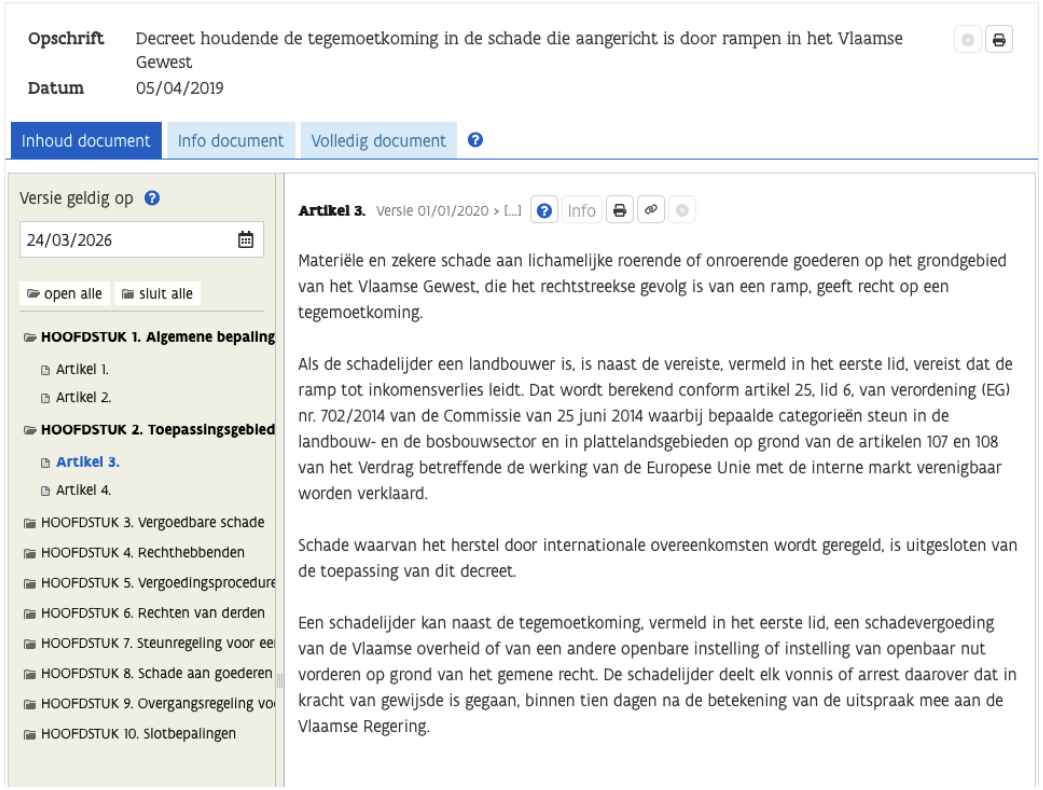
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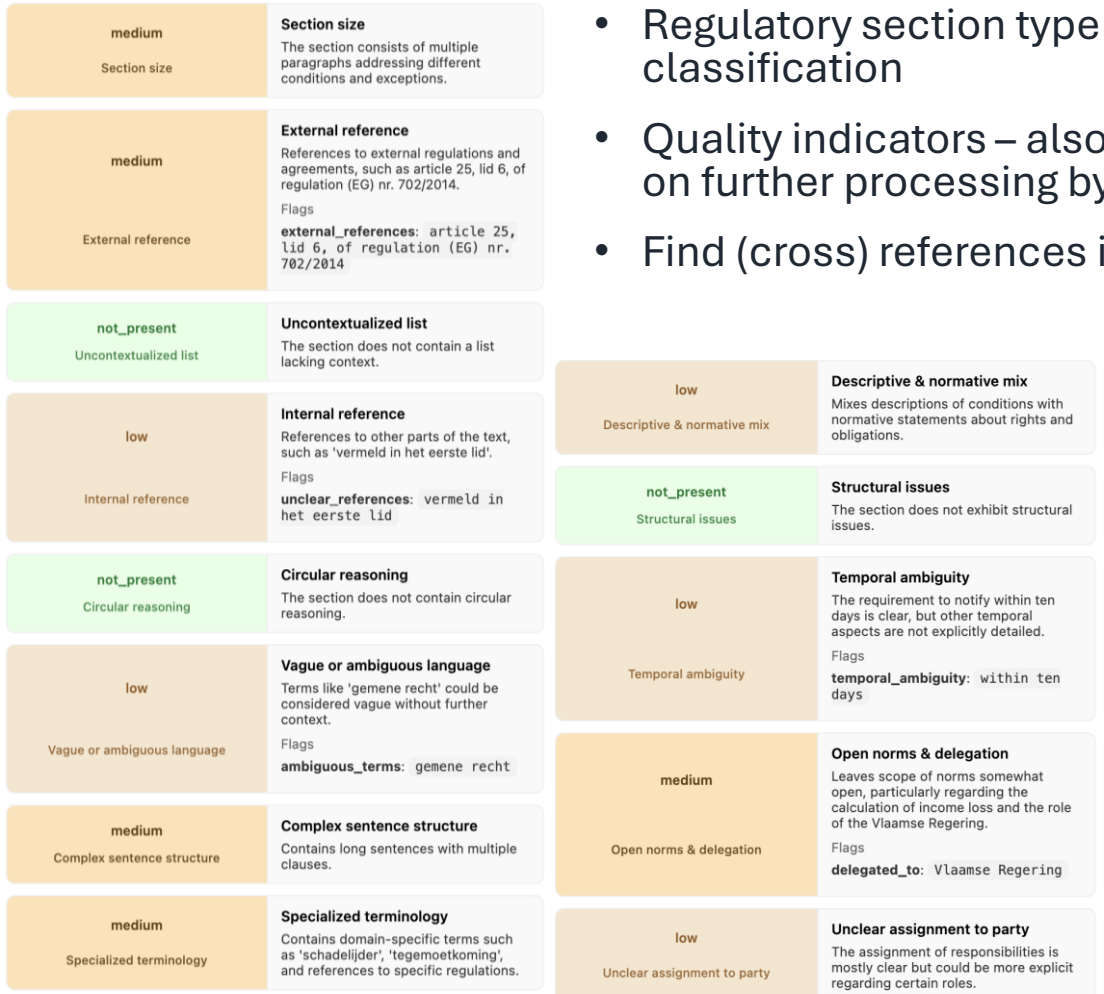
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Text analysis

Process incoming texts for further use and analysis in DRT

Text Analysis





- Regulatory section type classification
- Quality indicators – also focused on further processing by AI
- Find (cross) references in text

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New developments & Research



Agentic use

- More services for Hybrid AI / Neuro Symbolic AI
- Combinations of Retrieval-Augmented Generation (RAG) and GraphRAG



Mapping

- Mapping textually non similar elements – f.i. a reference business process to regulatory actor
- Using decider models like System One (Jev) to judge candidate relations in a second phase



Assistants

- Support more DSL's with AI extraction
- Continuous improvement of extractions using feedback
- Domain scoping assistance



Text Analysis

- (Cross) reference extraction from texts – build 'web of law' to support assistants and DRT
- Extended intelligent structuring, sectioning and chunking

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Any questions?

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