

AI for Deliberative Democracy and the Legislative Process

Digital platforms have significantly expanded opportunities for citizens to participate in public consultations and deliberative processes. However, a fundamental gap remains between **deliberative democracy and the formal legislative process**. Contributions are generally expressed as comments, arguments or informal proposals, while legislative institutions operate through structured procedures, formal documents and precise legislative drafting rules. The project investigates how Artificial Intelligence, particularly **Generative AI combined with semantic and symbolic technologies**, can bridge this gap. The objective is not to automate political decision-making, but to develop a computational infrastructure capable of improving public debate and transforming deliberative outcomes into **structured, legally meaningful, traceable and institutionally usable inputs for the legislative process**.

Goal 1. Analyse and support the quality and plurality of democratic deliberation

The first goal is to develop AI methods for analysing and supporting the **quality and plurality of democratic deliberation**. Natural Language Processing, argument mining, semantic similarity, clustering and Large Language Models will identify claims, arguments, counterarguments, evidence, policy propositions and supporting and opposing positions. Particular attention will be devoted to **fallacy and bias detection**, identifying misleading argumentative patterns, unsupported claims and potential biases without automatically censoring contributions. AI will also perform **pros and cons analysis** and identify **agreement and disagreement**, distinguishing areas of convergence, controversial issues, alternative perspectives and minority positions. AI assistants can support participants by retrieving authoritative information, explaining legislative provisions and highlighting perspectives insufficiently represented in the debate. The objective is to improve informed deliberation without artificially producing consensus or manipulating participants.

Goal 2. Connect deliberative platforms with the legislative process

The second goal is to develop an **AI based interoperability layer between deliberative platforms and legislative information systems**. A **Deliberation Knowledge Graph** will represent participants, contributions, arguments, fallacies, areas of agreement and disagreement, policy propositions and their relationships with legislative documents. AI methods will identify which legislative provisions are potentially affected by proposals emerging from deliberation. Akoma Ntoso and semantic legal standards will support the connection of arguments and proposals with precise normative provisions. A fundamental requirement is **provenance and traceability**, allowing institutions to reconstruct how policy propositions originated from public debate and enabling citizens to understand whether and how their contributions were considered during the legislative process. It is required to use Akoma Ntoso and LegalRuleML standards.

Goal 3. Transform deliberative outcomes into legitimate legislative amendments

The third goal is to investigate **Generative AI for transforming deliberative outcomes into legally usable candidate amendments**. GenAI will identify policy propositions, aggregate semantically related contributions, preserve supporting and opposing arguments, identify relevant legislative provisions and formulate candidate amendments according to legislative drafting rules. The generated amendment must faithfully represent the original policy proposition and remain coherent with the surrounding normative framework. AI will also support the **detection of potentially discriminatory propositions** in citizen contributions and generated amendments, identifying possible unjustified distinctions, exclusions or disadvantages for subsequent human legal assessment.

Key Methodological Principles and Requirements

The project will adopt a **Hybrid AI methodology (HAIMLA (*Hybrid Artificial Intelligence Methodology for Legal Analysis*))**, combining Large Language Models with ontologies, knowledge graphs, LegalXML, symbolic rules and authoritative legal sources, and also legal qualitative analysis and evaluation.

Human oversight is a fundamental requirement. AI can analyse arguments and generate candidate amendments, but political choices and legislative decisions remain the responsibility of citizens, legal experts and competent institutions.

The architecture must ensure **pluralism and non manipulation**, preserving minority and dissenting positions and clearly distinguishing AI generated interventions from human contributions. **Legal reliability** will be supported through Retrieval Augmented Generation and validation mechanisms checking legislative drafting rules, definitions, normative references and consistency with existing legislation.

The system will also ensure **traceability, explainability, interoperability, modularity and technological independence**, avoiding dependence on a particular LLM or commercial provider.

Benchmarking and Evaluation

A central scientific contribution will be a **multidimensional benchmarking methodology** combining technical, legal and democratic evaluation. Technical benchmarking will evaluate argument mining, fallacy and bias detection, pros and cons classification, agreement and disagreement analysis, semantic clustering, legal information retrieval and amendment generation. Legal benchmarking will assess whether amendments faithfully represent the original propositions, comply with legislative drafting rules, preserve normative coherence and identify potentially discriminatory effects. Democratic benchmarking will evaluate pluralism, minority representation, transparency, fairness, non-manipulation, and institutional responsiveness.

Deliverables

The project will define **datasets, task taxonomies, ground truth annotations, quantitative metrics and qualitative expert evaluation protocols** to compare different LLMs and Hybrid AI approaches. 2 papers in Journals.