

## THE USE OF BLOCKCHAIN FOR LEGISLATIVE SIMPLIFICATION AND TRACKING

*Ludovico Papalia - ludovico.papalia2@unibo.it*

*Chantal Bomprezzi - chantal.bomprezzi@unibo.it*

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### **ORAL COMMUNICATION ABSTRACT:**

#### **Introduction:**

In the context of Italian legislative processes, the exchange of documents (draft laws, accompanying documents, etc.) between institutions such as the Senate, the Chamber of Deputies, the Prime Minister's Office, and the Ministry of Justice, etc. does not use a unified database system. This disparate structure is necessitated in the first place by the imperative to maintain the separation of powers (See Constitutional Court ruling no. 235/2015), a foundational principle of democratic governance that precludes the consolidation of such information into a single database and secondly by the need for security and redundancy. For this reason, many inefficiencies arise during the exchange of information between institutions. This research aims to verify whether they can be at least partially filled through the use of blockchain technology.

#### **Blockchain Solutions for Legislative Efficiency, State of the art, research, and challenges:**

The state of the art for this study is represented by the xLeges project, an initiative under the Italian government's Normattiva program, which aimed to solve inefficiencies in the legislative process through the use of a peer-to-peer (P2P) architecture for the electronic transmission of legislative documents. Despite the absence of blockchain technology, the project was avant-garde and introduced (since 2014) principles of decentralization, security through Certified Electronic Mail (PEC), and traceability with the use of Uniform Resource Name (URN), foreshadowing some aspects that blockchain could further strengthen. According to the 2022 report from the Council of Ministers, Project XLeges has been tested and still exhibits substantial potential, despite not having received funding.

The current approach within our legislative framework introduces several inefficiencies and challenges that merit attention. Firstly, the lack of a unified document repository contributes to inefficient document exchange processes. This deficiency fosters redundant procedures and heightens the probability of experiencing delays in legislative workflows. Additionally, the necessity for manual reconciliation of documents scattered across various platforms further compounds this inefficiency, rendering the process both time-consuming and susceptible to errors. Secondly, the fragmented nature of our system severely impedes the ability to effectively trace the progression and historical trajectory of legislative measures. Such an obstacle not only undermines the transparency of the legislative process but also presents considerable challenges in the review and analytical examination of legislative evolution over time. Similarly, regulatory information is difficult to access both for institutional operators and for citizens. Lastly, the absence of system interoperability within our current infrastructure frequently results in the creation of isolated data "silos." These silos hinder effective communication between systems, leading to potential oversight of critical information or, in some cases, significant data loss. This interoperability issue poses a substantial risk to maintaining continuity and consistency in legislative activities and records.

The primary research question of this study examines whether blockchain can serve as a tool to facilitate this interoperability. The research assesses the necessity and scope of integrating blockchain for this purpose within the existing legislative framework. Further, the research explores whether blockchain's inherent properties such as immutability, transparency, and security can effectively resolve current inefficiencies in legislative processes. Additional questions consider the potential challenges and limitations, both from a legal and technical point of

view, of implementing such a technology in a highly regulated environment. Furthermore, the study will investigate how similar applications used by other jurisdictions can be adapted, providing a comparative insight that could guide implementation strategies. The project will also analyze how the solutions adopted by xLeges, such as the automation of document exchanges and the use of standards like URN and XML, can be integrated or enhanced through blockchain for a more efficient and transparent legislative system. The research will therefore evaluate if and how blockchain can not only meet the need for document interoperability among the Chambers but also improve aspects such as security, efficiency, and traceability of legislative processes. The overarching goal is to determine the feasibility, both technical and legal, of using blockchain to ensure a seamless, secure, and transparent document exchange system within the Italian legislative context.

The research focuses on the potential application of blockchain technology to enhance interoperability in the transmission of documents among institutional entities involved in the legislative process, such as the Chamber of Deputies, the Office of the Prime Minister, and the Ministry of Justice and the accessibility of the documents themselves by institutions and citizens. The study specifically analyzes the Italian context, subsequently extending the analysis to international cases. This study starts from the hypothesis that blockchain can offer innovative solutions for document interoperability, ensuring certainty, immutability, and traceability of legislative documents in digital format and legislative "versioning," thereby facilitating their retrieval through internal computer systems. The need for such innovation emerges from recognizing existing interoperability issues, which hinder efficient and secure communication among different legislative institutions.

Methodologically, the investigation aims to assess how and if blockchain, with its characteristics of decentralization, transparency, and security, can overcome the limitations of current systems, introducing a reliable mechanism for the exchange of documents in the legislative context that is both verifiable and immutable. This would represent a significant step forward both for the internal organizational use within institutions (facilitating access to and transmission of documentation) and from the public's perspective, who could more easily verify the legislative process. The research will delve into a technical analysis of blockchain technology, the state of the art of xLeges, and the possibility of implementation from a legal standpoint. It will adopt a comparative approach with other jurisdictions, examining the technologies implemented by other states and the methods utilized. Strengths and weaknesses will be explored, verifying if the use of blockchain can meet institutional needs and regulatory mandates, and ascertaining the technical and legal feasibility of its implementation. This comprehensive approach will ensure a thorough understanding of the potential blockchain holds for transforming legislative processes.

### **Conclusions:**

The adoption of blockchain technology within the legislative framework promises substantial improvements in both the efficiency and transparency of the processes. By enabling decentralized, secure, and traceable document exchanges, it could mitigate current inefficiencies and foster a more coherent and reliable legislative system. Such advancements are likely to enhance the integrity of legislative documentation and bolster public confidence in governmental proceedings. This technology, therefore, holds the potential to profoundly modernize the legislative landscape in Italy, aligning it with contemporary demands for accountability and accessibility in governance.

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