

Groundbreaking Smart Contracts in Land Registration: The NAPR Experience

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SUMMARY

The digital transformation of public administration has accelerated the modernization of land administration and property registration systems worldwide. Georgia represents a notable case in this transition through the introduction of the Smart Contract by NAPR platform. This paper examines the conceptual development, technological architecture, and practical application of Smart Contracts as an innovative mechanism enabling fully digital and remote real estate transactions.

The first successful property transaction through a Smart Contract by NAPR was conducted on November 6, 2024, in which a Georgian citizen residing in Sweden and a Georgian citizen located in Georgia concluded a fully remote sale and purchase agreement for real estate located in Tbilisi. The transaction, valued at 440,000 GEL, was completed through simultaneous digital contract execution, electronic property registration, and integrated financial settlement. The case demonstrates how artificial intelligence-based identity verification, and automated business process integration can eliminate the requirement for physical presence while maintaining legal validity, transactional security, and operational efficiency.

The paper further explores the institutional role of NAPR as a leading digital governance agency providing more than 300 public services through both physical and remote channels. Particular emphasis is placed on public-private cooperation, including the integration of AI-driven biometric identity verification and liveness detection technologies, which ensure trust, compliance, and fraud prevention within fully digital transactions. A case study is presented highlighting challenges related to biometric verification following significant physical changes in user appearance, illustrating the importance of balancing system tolerance with high-precision identity authentication standards.

The findings demonstrate that Smart Contracts address key inefficiencies in traditional real estate transactions by reducing administrative costs, increasing accessibility for citizens abroad, strengthening transaction security, and enhancing transparency. Additionally, the platform illustrates the potential for broader digital ecosystem development extending beyond property registration to financial and commercial transactions. The Georgian experience provides valuable insights into the implementation of AI-supported digital identity verification and fully remote legal transaction frameworks, offering a scalable model for digital land administration and e-governance.

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