



Research Article

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The Impact of Digitalized Property Records on Legal Certainty and the Protection of Ownership Rights

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Abstract

Property rights protection and legal certainty constitute fundamental elements of a democratic state governed by the rule of law. In Albania, the post-communist transition generated significant challenges related to property ownership, including overlapping titles, fragmented institutional responsibilities, incomplete archival records, and prolonged legal disputes. In response, legislative reforms have been introduced to modernize the property registration system, particularly through the digitalization of property records. The establishment of the State Cadastre Agency and the expansion of electronic public services have contributed to enhanced transparency, efficiency, and accessibility in the administration of property documentation. Digitalized records have reduced the risk of document loss, manipulation, and administrative inconsistencies, while also facilitating faster verification procedures and more secure real estate transactions. These legal and institutional developments have reinforced the principle of legal certainty by increasing predictability, accountability, and public trust in state institutions. Nevertheless, challenges persist, particularly with regard to data accuracy, technical infrastructure, and cybersecurity. Overall, the Albanian case demonstrates that digitalization functions not only as a technological reform but also as an effective legal mechanism for the protection of property rights.

Keywords: legal certainty; property rights; digitalization; cadastre; property rights.

1. Introduction

The digitalization of the Albanian cadastre constitutes a reform of particular strategic importance which, beyond the technical improvement of administrative services, is also closely connected with the modernization of public administration and the strengthening of the rule of law. This process pursues, among its principal objectives, the enhancement of transparency and reliability in property administration. In

this way, it contributes to the effective guarantee of the right to property, which represents one of the fundamental human rights protected by the Constitution and by international legal instruments. In property matters, legal certainty is especially relevant under Article 1 of Protocol No. 1 to the ECHR, which protects peaceful enjoyment of possessions and requires that any interference by the state be lawful, proportionate, and in the public interest. The Court emphasized that legitimate expectations regarding property rights must be supported by a clear legal and administrative framework to be protected under Article 1 of Protocol No. 1¹. Legal certainty ensures that individuals may rely on stable ownership rights, predictable administrative procedures, accurate property registers, and effective judicial remedies. The judgment in *Ramaj v. Albania* (2024) confirms that cadastral inefficiency may constitute a direct violation of property rights under Article 1 of Protocol No. 1 to the ECHR. The Court found that the twenty-year non-enforcement of a final domestic decision on property restoration resulted from structural deficiencies in the registration system. This case demonstrates that legal certainty in property relations requires not only judicial recognition of ownership, but also an effective cadastral system capable of implementing final decisions within a reasonable time. Accordingly, the digitalization of land administration should be viewed as an essential instrument for preventing future Convention violations. In *Ramaj v. Albania*, the European Court of Human Rights held that, although a portion of the applicant's land had been expropriated due to unlawful constructions, the remaining part of the property was not fully protected by the domestic legal system. The Court emphasized that such fragmented and ineffective protection of property rights reflects systemic deficiencies in land administration and enforcement mechanisms. In this context, the Court underlined the necessity for Albania to develop more transparent and efficient systems for property registration and for the effective execution of final domestic judicial decisions. The judgment reinforces the view that the mere existence of a court ruling is insufficient unless it is properly implemented through an operational and reliable cadastral framework.² Legal certainty requires respect for final judicial decisions and found that annulment or non-execution of final judgments constitutes a violation of property rights.³ The Court found a violation where conflicting property regimes and administrative failures prevented applicants from effectively enjoying their property rights, highlighting the importance of coherent registration systems.⁴

¹ Article 1 of Protocol 1 European Convention on Human Rights, Rome, dated 4 November 1950, available at: https://www.echr.coe.int/documents/d/echr/convention_ENG ; *Kopecký v. Slovakia* (Application No. 44912/98), Grand Chamber judgment. dated 28 September 2004, available at: <https://hudoc.echr.coe.int/eng?i=001-66758>

² *Ramaj v. Albania*, *Ramaj v. Albania*, (Application no. [17758/06](#)) European Court of Human Rights, 28 April.2025 judgment concerning non-enforcement of a final property restoration decision and systemic cadastral deficiencies, Article 1 of Protocol No. 1.

³ *Brumărescu v. Romania* (Application [No. 28342/95](#)), para. 61, European Court of Human Rights. 28 October 1999.

⁴ *Străin and Others v. Romania* (Application No. [57001/00](#)) European Court of Human Rights, 30 November 2005.

In transitional legal systems such as Albania, this principle is particularly important in resolving property disputes and strengthening confidence in cadastral and registration reforms. For instance, article 41 is directly linked to the principle of legal certainty because it creates predictability, stability, and enforceable safeguards in ownership relations. Citizens must know that their property cannot be interfered with unlawfully, and any state action must follow constitutional procedures.⁵ Furthermore, analyzed in from a broader perspective, this process is also linked to the achievement of national objectives for sustainable economic development and, above all, may serve the process of Albania's integration into the European Union. A reliable, accessible, and fully digital property register is a fundamental prerequisite for sound land governance, efficient spatial planning, and the promotion of a more attractive environment for both domestic and foreign investment. Therefore, improved land governance has great potential to directly and indirectly benefit the countries in development including Albania (Deininger, Selod and Burns, 2012). Moreover, it contributes significantly to the consolidation of the principle of legal certainty by ensuring greater predictability, stability, and public confidence in ownership relations. However, the significance of this reform extends beyond its stated objectives and requires a more comprehensive legal assessment. Such an analysis must consider the manner in which the reform is implemented, the practical difficulties encountered during its execution, and its actual effects on property administration and judicial practice (UN-Habitat, 2016). In this regard, the institutions entrusted with property governance, particularly the State Cadastre Agency, have undertaken strategic initiatives that include not only the technical digitalization of existing records, but also broader institutional and organizational measures concerning the collection, management, preservation, and distribution of property data.⁶ Within this framework, the present article examines the digitalization of property titles in Albania from both legal and administrative perspectives. It evaluates its function as a mechanism for enhancing administrative transparency and strengthening legal certainty in property relations, while also addressing the principal challenges and limitations that continue to arise in practice.

2. Institutional and legal Framework for Property Administration in Albania

The principle of legal certainty, which is implicitly embedded in the Albanian property registration system, requires that legal rules governing ownership be clear, stable, and predictable. In property law, this principle is achieved when ownership status is transparent, state records are accurate, and legal outcomes in disputes are foreseeable. Inconsistent or incomplete property documentation undermines this principle and generates legal uncertainty, often resulting in prolonged litigation and administrative inefficiency. The European Court of Human Rights reinforced that legal uncertainty in land regulation undermines the peaceful enjoyment of

⁵ Constitution of the Republic of Albania, Article 41, adopted by Law No. 8417, dated 21 October 1998, as amended. Official Journal.

⁶ Articles 3, 5 and 37, Law No. 111/2018 "On Cadastre", Republic of Albania, Official Journal no. 28 dated 05.03.2019 available at: <http://qbz.gov.al/eli/ligj/2019/02/07/111>

possessions and requires legislative and administrative clarity⁷. The modern system of immovable property registration in Albania began its structured development with the adoption of Law no.7843 date 13.07.1994 "On registration of immovable property" which established the first coherent legal framework for the registration of ownership rights in the post-socialist period.

This law marked a decisive transition from an informal and fragmented system of property recognition to a state-administered registration model based on legal documentation and publicity of rights. Its primary institutional outcome was the creation of Property Registration Offices which were tasked with maintaining official records of ownership, possession, and other real rights over immovable property.⁸ This represented a significant shift toward a title registration system strengthening legal certainty by ensuring that ownership could be verified through official records rather than informal or purely factual possession. However, the early implementation phase of the law revealed substantial structural weaknesses, including incomplete cadastral maps, inconsistent documentation, and overlapping property claims derived from restitution and privatization processes (World Bank, 2006). In response to these systemic deficiencies, Albania undertook further legislative reforms aimed at modernizing and harmonizing the property registration system.

A key milestone in this process was the adoption of Law No. 33/2012, "On the Registration of Immovable Property" which introduced a more comprehensive and integrated legal regime⁹. This law significantly strengthened the legal status of registered data by reinforcing the presumption of accuracy of cadastral records and enhancing procedural guarantees for correction and dispute resolution. It also aimed to unify fragmented institutional competencies and improve the efficiency of property registration services. The registration system operates on the principle that property rights are recognized and made opposable to third parties through registration, while the registry itself functions as an official public record with evidentiary value.

Articles 24, 28 and 29 of the previous law establish a coherent legal framework in which ownership rights are documented, publicly reviewed, technically identified, and legally protected. They reinforce the principle of legal certainty through four key elements such as transparency, reliability, predictability and dispute management. The law further establishes that registration is based on legally valid documents, including court decisions, administrative acts, inheritance certificates, contracts of sale, donation deeds, and restitution or compensation decisions issued by competent authorities. This structured hierarchy of documentation ensures that only lawful and verifiable titles are entered into the cadastral system, thereby reinforcing legal certainty and reducing the risk of fraudulent or overlapping claims. This safeguards elements are essential in transform action process of cadastre from a merely administrative

⁷ Zelenchuk and Tsytysyura v. Ukraine (Applications Nos. 846/16 and 1075/16), European Court of Human Rights, 22 August 2018.

⁸ Article 5, Law No. 7843 date 13.07.1994 "On the Registration of Immovable Property", Official Journal no. 10 dated 26.08.1994 available at: <http://qbz.gov.al/eli/ligj/1994/07/13/7843>

⁹ Law No. 33/2012, "On the Registration of Immovable Property" Official Journal no. 34 dated 13.04.2012 available at: <https://qbz.gov.al/eli/fz/2012/34/8f2a110d-f756-41b7-b513-ebc7c33219a1;q=ligji%2033%2F2012>

archive into a legal instrument that protects ownership rights, reduces litigation, and strengthens public confidence in the rule of law. This mechanism directly contributes to legal certainty by ensuring that third parties can rely on official records when engaging in property transactions (Articles 24-29). A particularly important development in the institutional framework was the creation of the State Cadastre Agency through Law No. 111/2018, "On Cadastre", which consolidated previously fragmented institutions responsible for property registration, legalization, and restitution. This reform aimed to centralize data management, improve interoperability between public databases, and support the transition toward a fully digital cadastre system.

The Cadastre Law also introduced provisions for electronic data processing, digital maps, and online services, reflecting the broader objective of administrative modernization and digital governance. From a legal perspective, property documentation plays a decisive role in ensuring the effectiveness of ownership rights. However, its legal force is significantly enhanced when integrated into the official cadastral registry. The transition from the 1994 framework to the 2012 and 2018 reforms reflects a shift toward a more integrated, transparent, and digitalized property administration system. Nevertheless, practical challenges remain, particularly regarding historical inaccuracies in cadastral data, institutional coordination, and full digital integration of legacy records. Albanian legal framework tried to establish a dual relationship between documentation and registration while ownership originates from valid legal acts, its full enforceability and public recognition depend on its registration in the cadastre system. This mechanism directly contributes to legal certainty by ensuring that third parties can rely on official records when engaging in property transactions. In conclusion, the development of the property registration system in Albania illustrates the critical role of legislation in consolidating legal certainty in property relations. By establishing clear rules for documentation, registration, and administrative control, Albanian law has progressively strengthened the protection of ownership rights and improved the reliability of the cadastral system. However, the full realization of legal certainty depends not only on legislative design but also on effective implementation, institutional capacity, and continuous modernization of the property administration framework.

3. Challenges in the Digitalization of the Albanian Cadastre in the Context of European Integration

As far as it concerns the process of digitalization European Union tried to establish an Infrastructure for Spatial Information in the European Community¹⁰. The digitalization of cadastral systems has become a central priority within the European Union's broader agenda for e-government, data interoperability, and legal modernization. Although land administration remains primarily within the competence of Member

¹⁰ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), Official Journal L 108, 25.4.2007, pp. 1–14. Available at: <http://data.europa.eu/eli/dir/2007/2/oj>

States, several EU legal and policy instruments strongly encourage the modernization of cadastral and land registration systems through digital transformation. These instruments are particularly relevant for candidate countries such as Albania, where alignment with European standards forms part of the accession process. The existence of digital legislation does not automatically create legal certainty. It arises only when digital norms are effectively implemented through reliable institutions and functioning technological systems.

Furthermore, it is worth mentioned that Directive 2007/2/EC does not regulate ownership titles directly, it has substantially influenced Albania's property registration reform by promoting interoperable cadastral databases, digital parcel mapping and electronic access to land information. The Directive promotes interoperable geographic and cadastral datasets, thereby facilitating public access to land information and improving cross-border administrative cooperation. In the field of property registration, the Regulation (EU) No. 910/2014 has also played an important role by creating a legal framework for electronic identification, digital signatures, and trusted online transactions (European Parliament & Council of the European Union, 2014). This instrument is particularly relevant for digital property transfers, online applications, and secure authentication in cadastral procedures. The European Interoperability Framework encourages public administrations to adopt compatible digital systems that can exchange data efficiently and securely (European Commission, 2017). For Albania, these European standards are directly connected to the modernization of the State Cadastre Agency and the broader transition toward digital governance. Considerable progress has already been achieved in normative terms, especially through increased transparency, online services, and the restructuring of administrative institutions.

However, despite this formal progress, significant practical and structural challenges remain. One of the most serious challenges concerns the legal certainty of ownership data, which may be weakened by the coexistence of analogue archives and digital registers. Where parallel systems operate simultaneously, inconsistencies may arise regarding the evidentiary value of cadastral information, the authenticity of titles, or the priority of conflicting records. This may lead citizens and businesses to doubt whether their ownership rights are fully protected by law. For this reason, the content of cadastral records and the methods of their administration must be fully harmonized with the applicable legal framework. Only in this way can uncertainty be reduced and trust in the property registration system be strengthened (European Commission, 2017).

Another challenge concerns institutional interoperability and data-sharing capacity. According to the World Bank project *Improving Equitable Access to High Standard Public Services through GovTech (PforR)*, Albania's public sector reform requires stronger institutional capacities and more effective data exchange among state institutions (World Bank, 2023). This is particularly relevant in the cadastral sector, where cooperation is needed between the cadastre, notaries, municipalities, courts, tax authorities, and planning institutions. Without integrated databases, digitalization

risks becoming fragmented and inefficient. A third challenge relates to financial sustainability. This reasoning is particularly relevant for Albania's cadastral reform, where the success of digitalization should be measured not merely by legislative adoption, but by the degree to which citizens can rely on digital records as accurate, enforceable, and legally secure evidence of ownership.

The digital transformation of cadastre systems requires substantial long-term investment in IT infrastructure, cybersecurity, software maintenance, digitization of archives, and staff training. While these investments may generate future savings through faster services and fewer administrative errors, long-term projects remain vulnerable to budget revisions, procurement delays, or interruptions in donor-based financing (OECD, 2019). Another structural difficulty arises from the poor quality of historical documentation. In Albania, many analogue records were created under fragmented institutional systems, often with incomplete maps, outdated technical standards, or contradictory ownership information. When such records are transferred into digital databases, technological modernization alone cannot automatically resolve substantive legal defects.

Instead, digitalization may expose legacy problems that require legal verification, correction procedures, and judicial clarification.¹¹ Finally, an often-overlooked challenge concerns institutional resistance and human capacity. Administrative personnel accustomed to traditional paper-based methods may show reluctance toward new digital procedures, particularly where technological changes are perceived as threatening established work practices or employment stability. Without sustained training and organizational adaptation, even technically advanced systems may fail to achieve their intended results. These difficulties directly affect citizens' experiences and may influence the level of trust placed in cadastral services and public administration more generally. Consequently, the digitalization of the cadastre cannot be reduced to a purely technological reform. It requires an integrated legal, institutional, and organizational approach.

From the perspective of the principle of legal certainty, digitalization becomes meaningful only when it guarantees accurate records, reliable procedures, secure access to data, and predictable legal outcomes. If properly implemented, a digital cadastre strengthens ownership protection, reduces disputes, increases transparency, and enhances confidence in the rule of law. If poorly implemented, however, it may simply transfer analogue uncertainty into digital form. Therefore, for Albania's European integration process, the success of cadastral digitalization should be measured not only by technological progress, but by its real contribution to legal certainty in property relations.

4. Discussions

The digitalization of the cadastral system in Albania should be understood not merely as a technical modernization process, but as a structural legal reform closely connected

¹¹ Law No. 111/2018, On Cadastre. Official Journal no. 28 dated 05.03.2019 available at: <https://qbz.gov.al/fz/2019/28/27ae63a5-d6f9-4705-9a05-6bcaaf271942;q=ligji%20111%2F2018>

to the consolidation of legal certainty and the effective protection of property rights. Within the Albanian legal order, this objective is directly linked to the constitutional guarantee of private property under Article 41 of the Constitution of the Republic of Albania, which protects ownership and requires that any limitation or expropriation be based on public interest and fair compensation. Consequently, the modernization of property administration is not simply an administrative policy choice, but a legal necessity for ensuring the effective enjoyment of constitutional rights. From a legislative perspective, Law No. 111/2018 “On Cadastre”, reduced administrative overlap and improved legal coherence. The law also provides the legal basis for digital processing of cadastral information, electronic services, and the modernization of land administration procedures. Further progress has been reinforced through Law No. 107/2015 “On Electronic Identification and Trusted Services”, which regulates electronic signatures, electronic seals, and trusted digital transactions in Albania.¹² In the cadastral field, this framework is particularly relevant because it strengthens the legal validity of online applications, digital certificates, and electronically issued ownership documentation. By recognizing secure digital authentication mechanisms, the law contributes directly to trust in electronic cadastral services. However, the existence of modern legislation does not automatically guarantee legal certainty. As legal scholarship has noted, certainty is achieved only where legal norms are effectively implemented through functioning institutions and reliable technological systems. In practical terms, citizens and businesses must be able to rely on cadastral databases as accurate, updated, and legally enforceable evidence of ownership. A central issue in the Albanian case remains the coexistence of historical analogue archives with newly digitized records. Many legacy documents were produced under fragmented administrative systems and may contain incomplete maps, contradictory ownership descriptions, or technical inaccuracies. If such defects are transferred into electronic systems without prior verification, digitalization risks reproducing traditional uncertainty in a new format.

For this reason, Law No. 111/2018 provides procedures for data correction, cadastral updating, and administrative review, which are essential safeguards for preserving legal certainty. Another important dimension concerns institutional coordination. Property administration is inherently linked to notaries, municipalities, courts, tax authorities, and planning institutions. Law No. 111/2018 seeks to improve cooperation and exchange of information among public bodies, but effective interoperability remains a practical challenge. Without compatible databases and regular data-sharing, the benefits of digitalization remain limited. Public confidence is equally decisive. If citizens perceive digital cadastral systems as inaccessible, inaccurate, or vulnerable to manipulation, trust in public institutions may weaken.

Conversely, where individuals can obtain reliable extracts, verify ownership status online, and complete procedures transparently, digitalization strengthens both state legitimacy and the rule of law. This objective is also reflected in Law No. 44/2015 “Code

¹² Law No. 107/2015 “On Electronic Identification and Trusted Services” Official Journal no. 182 dated 21.10.2015 f.12350, available at: <https://qbz.gov.al/eli/fz/2015/182/79e8ac4a-ccb5-4413-b57a9f7c8ef7e133;q=ligji%20107%2F2015>

of Administrative Procedures”, which requires legality, transparency, efficiency, and protection of legitimate expectations in administrative action.¹³ From this perspective, the success of cadastral digitalization should not be measured solely by the number of scanned documents or online services introduced. Its real significance lies in whether it reduces disputes, accelerates lawful transactions, improves access to ownership data, and ensures predictable legal outcomes. For Albania, the European integration process provides an important incentive to consolidate these reforms in line with EU standards of data governance, transparency, and trusted digital services. Nevertheless, long-term success depends on sustained institutional professionalism, adequate financing, staff training, and continuous legal oversight. Ultimately, digitalization becomes meaningful only when it transforms the cadastre into a reliable legal instrument capable of protecting ownership rights and reinforcing the principle of legal certainty in everyday practice.

5. Conclusions and recommendations

The digitalisation of cadastral administration in Albania should be understood as a fundamental legal and institutional reform rather than a purely technical development. Its importance lies in the fact that the cadastre is directly connected with the recognition, protection, and transfer of property rights. For that reason, any improvement in cadastral governance has immediate consequences for legal certainty, public trust, economic activity, and the effective functioning of the rule of law. This study demonstrates that Albania has taken meaningful steps toward the modernisation of its property registration system through the expansion of electronic services, the gradual replacement of fragmented paper-based procedures, and the introduction of more accessible administrative processes. These measures have contributed to greater transparency and have facilitated citizens' interaction with public institutions in matters concerning ownership and land registration. However, the value of digital reform cannot be measured only by administrative convenience or technological progress. Its real significance depends on whether the system can provide dependable and legally authoritative information regarding ownership, boundaries, encumbrances, and transfers of title. A digital platform that contains incomplete, inconsistent, or outdated records cannot fully guarantee the protection of property rights. Consequently, accuracy, authenticity, and continuity of data remain indispensable conditions for a credible cadastral framework.

A principal conclusion of this research is that legal certainty in the field of property requires a single, coherent, and trustworthy source of cadastral information. Where multiple archives, contradictory records, or unresolved discrepancies continue to exist, uncertainty may persist for owners, investors, financial institutions, and public authorities. The consolidation of cadastral data into an integrated and authoritative digital register is therefore essential to the creation of a stable property regime. The

¹³ Articles 3-18 of the Law No. 44/2015 “Code of Administrative Procedures, available at: <https://qbz.gov.al/preview/de7df9ce-7c2e-440a-9f46-1929531dc7d1>

research further indicates that interoperability among institutions is a decisive factor in safeguarding ownership rights. Property information is not confined to cadastral offices alone, but is linked to courts, notaries, municipal authorities, tax bodies, and planning institutions. If these entities operate through disconnected databases or inconsistent procedures, delays and legal confusion are likely to arise. Coordinated exchange of information, common standards, and reliable institutional cooperation are therefore necessary to ensure efficient and secure property governance.

An equally important conclusion concerns the relationship between digitalisation and judicial decision-making. In disputes concerning ownership, possession, boundaries, inheritance, or registration, courts depend heavily upon accurate documentary evidence. A modern digital cadastre enables judges to obtain official records, historical entries, maps, and registration data more rapidly and with greater precision. This may shorten proceedings, reduce evidentiary uncertainty, and promote more consistent judgments. In this respect, cadastral digitalisation supports not only administrative efficiency but also the quality and effectiveness of justice. At the same time, technology alone cannot secure lawful outcomes. The durability of reform depends upon competent personnel, clear institutional responsibility, ethical administration, and effective supervision. Without professional capacity and accountability, even advanced systems risk becoming inefficient or unreliable.

Human expertise therefore remains as important as digital infrastructure. From a broader perspective, Albania stands at a significant stage in the evolution of its property administration system. Considerable progress has been achieved, yet the full benefits of reform will arise only through the consistent alignment of legislation, institutional practice, and technological development. If this process is pursued with coherence and long-term commitment, digitalisation can become a powerful mechanism for strengthening ownership rights, reducing litigation, encouraging investment, and reinforcing confidence in public institutions. The case law of the European Court of Human Rights, particularly *Ramaj v. Albania*, *Brumărescu v. Romania*, and related judgments, confirms that effective protection of property rights under Article 1 of Protocol No. 1 requires not only legal recognition but also full and timely enforcement through reliable administrative systems. Persistent failures in cadastral management and non-execution of final court decisions have been identified by the Court as violations of legal certainty. In this context, digitalization of cadastral systems plays a key role in strengthening compliance with ECHR standards. For judges, digital property registers enhance evidentiary clarity, improve verification of ownership, and support the enforcement of judicial decisions. However, the Court's jurisprudence also shows that digitalization is effective only if it ensures accuracy, institutional coordination, and functional reliability. Therefore, ECHR case law indirectly reinforces the need for a well-functioning digital cadastre as an essential tool for consolidating legal certainty and ensuring the effective protection of property rights in practice. Ultimately, the success of cadastral reform should be judged by one central criterion whether every citizen, investor, and court can rely upon the system as an accurate, transparent, and legally secure guarantee of property rights. In that

sense, a modern digital cadastre is not merely an administrative tool, but a defining element of legal certainty in a democratic state.

In light of the conclusions arise in this paper, and with a view to further strengthening the protection of property rights, legal certainty, and institutional efficiency, the following recommendations are proposed for the continued development of Albania's digital cadastral system. In order to strengthen the digital transformation of cadastral administration in Albania and to enhance the protection of property rights in accordance with European standards, several strategic measures are recommended. *First*, Albania should continue the consolidation of cadastral information into a unified and authoritative national digital register. The existence of one reliable source of ownership data would reduce inconsistencies, improve transactional security, and minimise disputes arising from conflicting documentation. Legislative reforms should clearly define the legal value of electronic cadastral records, certified digital extracts, and electronically signed documentation.

A precise legal framework would increase trust in digital procedures and provide stronger protection in both administrative and judicial context. Institutional interoperability should be treated as a national priority. Effective technical and legal coordination between the cadastre, courts, notarial services, municipalities, tax authorities, and planning institutions would accelerate procedures, reduce duplication, and improve the consistency of official data. Specific mechanisms should be developed to support the judiciary in property-related litigation. Secure judicial access to cadastral databases, historical records, digital maps, and registration updates would enable judges to resolve disputes more efficiently and on the basis of more reliable evidence. Albania should invest continuously in professional training for public officials, cadastral staff, and judicial actors. Knowledge of digital procedures, cybersecurity, data governance, and European legal standards is essential for the sustainability of reform.

Legal certainty would be guaranteed when strong safeguards for data protection, system integrity, and cyber resilience should remain central to future development. Public confidence in digital property systems depends not only on accessibility, but also on the security and authenticity of the information they contain. Albania should continue to draw upon the experience of European states that have successfully modernised their cadastral systems. Comparative practice can assist in avoiding institutional inefficiencies and accelerating convergence with European governance standards. In conclusion, these measures would contribute not only to a more efficient administration of land and property, but also to a stronger system of legal certainty, better judicial protection, and a more trustworthy relationship between citizens and the state. A fully functioning digital cadastre should therefore be regarded as both an administrative achievement and a strategic pillar of Albania's European legal development.

Considering the jurisprudence of the European Court of Human Rights, it is recommended that the digitalization of property titles and cadastral systems in Albania be further strengthened as a strategic instrument for enhancing judicial

decision-making in property disputes. A fully accurate, updated, and interoperable digital cadastre should be developed as a primary reference point for courts, enabling judges to verify ownership status efficiently, reduce evidentiary uncertainty, and ensure consistent application of property law. Furthermore, the integration of cadastral databases with judicial systems should be prioritized in order to guarantee the timely enforcement of final court decisions and to prevent delays arising from administrative fragmentation. Digital records should be legally recognized as reliable and authoritative evidence in property litigation, while maintaining mechanisms for correction and judicial review where discrepancies arise.

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