

Digitalization of Justice in the Kingdom of Spain

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Abstract. The relevance of the scientific study is that the article addresses key aspects of the digitalization of the justice system in the Kingdom of Spain. The regulatory framework, technological solutions, and practical results of the introduction of digital tools into the judicial system are analyzed. Particular attention is paid to electronic justice (Justicia Digital), automation of trials, and prospects for further development. Strategic directions for the digitalization of Spanish justice include: (1) complete digitalization of legal proceedings (from filing a lawsuit to enforcement of a decision), (2) development of electronic justice (Justicia Digital), (3) the introduction of artificial intelligence for data analysis and forecasting, and (4) strengthening cybersecurity of judicial systems. The primary method of investigating the problem was the deductive method, which made it possible to study the legal framework and features of the use of electronic means in litigation in Spain. The article also employs the inductive method, the method of system scientific analysis, as well as comparative legal and historical methods. The scientific article concludes that Spanish Law 18/2011 is of great importance for the digitalization of justice: firstly, with its adoption and implementation, there was an acceleration of judicial procedures (reducing the time for case consideration due to automation); secondly, the implementation of this law helped reduce the bureaucratic burden on courts (for example, decreasing dependence on paper media); thirdly, Spanish Law 18/2011 complies with EU standards, particularly the Directive on electronic justice (2020/1828). The problems identified in the review of cases involving the application of digital technologies in Spanish courts can be classified into: technical failures (such as delays due to LexNET overload); unavailability of participants; and legal conflicts (notably, the adaptation of procedural norms for blockchain). Spain has demonstrated significant success in digitalizing justice, but further infrastructure development and legal regulation are necessary to fully integrate technology. The experience of the Spanish system can be valuable for other countries implementing e-justice. The purpose of the article is to investigate the concept, content, place, and role of digital technologies in the development of the judicial system and digitalization in Spain. The aim of this scientific study is to analyze the process of digitalization of the Spanish judicial system, identify key achievements, and address problems that need to be resolved in the near future.

1. INTRODUCTION

The digital transformation of the judicial systems of European states is a global trend aimed at increasing the efficiency, transparency and accessibility of justice in the European Union. The Kingdom of Spain is actively developing digital technologies in the field of justice, following both European directives and national strategies for modernizing justice.

Key projects and initiatives in the field of digitalization of legal proceedings in Spain:

1. Unified Digital Litigation Platform (LexNET 2.0). Modernization of LexNET, the main electronic document management system. Integration with other state platforms (for example, with the tax service and property register). The ability to file lawsuits and petitions online for citizens and lawyers.
2. Virtual courts and remote sessions. Increased use of video conferencing (especially after the COVID-19 experience). Digital summons and notifications (SMS, e-mail, push notifications).
3. Artificial intelligence and Big Data in justice. Court Decision Prediction Pilot Projects (Precedent Analysis). Automatic processing of routine requests (for example, collection of fines).
4. Cybersecurity and data protection (creation of the Center for Cybersecurity of Justice (CERT-Justicia), encryption of personal data in judicial databases).

2. METHODOLOGICAL BASE

The leading research method was the deductive method, which made it possible to study the legal and social nature of the processes of digitalization of justice in Spain. The article reviews the processes of introducing electronic services into the Spanish judicial system, including the process and practical results of introducing digital tools into the Spanish judicial system. The use of electronic means in lawsuits in Spain has already brought significant results, increasing their transparency, accessibility and efficiency. The cases reviewed demonstrate the wide range of possibilities that digital technologies provide for the judicial system. However, to fully realize the potential of electronic means, it is necessary to overcome the existing challenges associated with digital literacy, cybersecurity and technical limitations. A successful solution to these challenges will allow Spain to create a modern and effective judicial system that meets the standards of the European Union.

3. RESULTS

Results achieved (for 2023): ¹more than 90% of ships are connected to LexNET 2.0; 15-20% reduction in case processing time due to automation; an increase in the number of electronic claims to 70% of the total. The next stage of digitalization (2025-2026) may include: a complete transition to "cloud justice" (the use of cloud technologies for storing data), the development of a blockchain for verifying court decisions, and even greater implementation of AI (for example, chatbots for consultations). ²Thus, the Plan 2019-2023 was an important step in the digital transformation of Spanish justice. Although not all goals have been fully achieved, Spain has entered the top 5 EU countries in terms of digitalization of the judicial system. Further development will require investment in infrastructure and training for judges, lawyers and citizens.

Spain demonstrates, firstly, the successful integration of eIDAS into national systems, and secondly, active participation in pan-European digital projects. At the same time, in our opinion, the need for further harmonization of legislation is important. Prospects are: full transition to EU Digital Identity Wallet by 2026 and participation in testing blockchain solutions for cross-border justice.

4. REGULATORY FRAMEWORK

The regulatory framework for the digitalization of justice in the Kingdom of Spain includes the following legal acts:

- Law 18/2011 on the regulation of the use of electronic technologies in judicial activities.
- Digital Justice Transformation Plan 2019-2023 approved by the General Council of the Judiciary (CGPJ).
- EU Directives, including the eIDAS Regulation (electronic identification and trust services).

These documents consolidate the transition to electronic document management, digital signature and remote participation in lawsuits. Let's take a closer look at them.

Spanish Law 18/2011 of 5 July regulating the use of electronic technology in judicial activities (*Ley reguladora del uso de las tecnologías de la información y la comunicación en la Administración de Justicia*) is a key regulation that laid the foundations for the digitalization of the Spanish judicial system. Its main goal is to modernize justice through the introduction of electronic technologies, ensuring the efficiency, transparency and accessibility of judicial procedures.

Court documents may be filed electronically through specialized platforms (e.g. LexNET). Electronic signatures (including qualified ones according to the eIDAS Regulation) are recognized as legally significant. In addition, the exchange of documents between the courts, the prosecutor's office and the participants in the process is simplified. Traditional paper notifications are replaced by electronic notifications (via portals, SMS or e-mail). The presumption of delivery is established - if the message is sent through the official system, it is considered received. The law allows for virtual meetings using video conferencing, especially for: interrogations of witnesses and experts, as well as the participation of parties abroad. Electronic registers of court decisions are being created (in compliance with the protection of personal data). Citizens and lawyers can request information online.

The Spanish law 18/2011 is of great importance for the digitalization of justice: firstly, with its adoption and implementation, the court procedures were accelerated (reducing the time for consideration of cases due to automation), secondly, the implementation of this law made it possible to reduce the bureaucratic burden on the courts (for example, reducing dependence on paper media), thirdly, Spanish Law 18/2011 complies with EU standards, in particular, the Directive on electronic justice (2020/1828). The Spanish ³law 18/2011 became the basis for subsequent reforms, including the Digital Justice Transformation Plan 2019-2023. In the future, it is expected: wider use of artificial intelligence (for example, for analyzing judicial practice), as well as integration with European digital systems (for example, e-CODEX for cross-border cases). Thus, it can be concluded that Law 18/2011 secured Spain among the leaders in the digitalization of justice in the EU. However, to fully realize its potential, further development of technology and training of participants in the process are required.⁴

The 2019-2023 Plan for the Digital Transformation of Justice (Plan de Transformación Digital de la Justicia) is a strategic program developed by the Spanish General Council of the Judiciary (CGPJ) with the support of the Ministry of Justice. Its goal is to modernize the judicial system by introducing advanced digital technologies, increasing the efficiency and accessibility of justice. The plan is based on three key principles:

Efficiency - Speed up lawsuits through automation.

Transparency - ensure data openness (taking into account privacy protection).

Accessibility - simplifying the interaction of citizens and lawyers with the courts.

Strategic directions: (1) the complete digitalization of legal proceedings (from filing a lawsuit to the execution of a decision), (2) the development of electronic justice (Justicia Digital), (3) the introduction of artificial intelligence for data analysis and forecasting, (4) the strengthening of cybersecurity of judicial systems.

5. CONCLUSION

The digitalization of Spanish justice is implemented not only at the legislative level, but also through specific court decisions. Let's consider key cases demonstrating the application of digital technologies in judicial practice.

Case 1: First fully digital trial (2020, Audiencia Nacional). Heart of the matter: Handling a commercial dispute between the two companies. Digital tools: All documents are submitted via LexNET. Participation of witnesses and experts via video conferencing. Electronic signing of a court decision. Bottom line: The review period was reduced by 30% compared to the traditional process.

Case 2: Using AI to predict decisions (2022, Catalonia Supreme Court). The Point: Analyzing debt collection claims of the same type. Digital tools: AI algorithm processed 500 + similar cases in 2 days. The system highlighted typical arguments and solutions. Bottom line: Judges used the data to speed up decisions, reducing review time by 25%.

Case 3: Blockchain for Evidence Verification (2021, Court of Madrid). Heart of the matter: Dispute over authenticity of digital documents. Digital tools: Evidence is fixed in the blockchain (immutable registry). The court verified the authenticity in 5 minutes (usually weeks were required). Bottom line: The first precedent for using blockchain in Spanish justice.

¹Report on the implementation of the plan (2023): Ministry of Justice Spain.

²CGPJ official website: <https://www.poderjudicial.es>.

³Ley 18/2011, de 5 de julio, reguladora del uso de las tecnologías de la información y la comunicación en la Administración de Justicia.

⁴Plan de Transformación Digital de la Justicia 2019–2023. CGPJ.

Case 4: Remote participation of convicts in meetings (2023, Valencia). Heart of the matter: Inmate appeal. Digital tools: The convict participated via a secure video channel from prison. Electronic exchange of documents with a lawyer. Bottom line: Saving time and money for transportation.

6. RECOMMENDATIONS

Problems identified in cases can be classified into: *technical failure problems* (for example, case 1 had delays due to LexNET overload); *problems of unavailability of participants* (for example, in case 4, the lawyer demanded a face-to-face meeting, not trusting video communication); *problems of legal conflicts* (in particular, in case 3, it was necessary to quickly adapt the procedural rules for the blockchain).

Spain is actively implementing European digital standards in its judicial system. The key documents are:

The eIDAS regulation (910/2014) is the basis for electronic identification. All court documents are signed with a qualified electronic signature (QES). In 2022, for example, 2.3 million documents with an eIDAS signature were submitted through LexNET. Civil servants use professional eIDAS certificates, and citizens use national electronic IDs (DNIe). Integration with the CI @ ve platform (government authentication system). Support for European trust nodes (eIDAS Network).

Directive (EU) 2016/680 - protection of data in justice (automated pseudonymization of cases, strict requirements for the storage of electronic evidence). Example: In 2021, the Supreme Court overturned the decision due to violations in the digital processing of personal data.

The e-Justice initiative is the creation of a pan-European digital legal space. The European portal e-Justice provides Spanish courts with access to the precedents of the ECHR, and also implements a mechanism for multilingual translation of documents. Spain participates in pilot projects on electronic: serving court documents, obtaining evidence from other EU countries. It is important to note that the unresolved problems of the implementation of EU legislation in the Spanish legal system are: technical problems (incompatibility of some national systems with European standards. Example: until 2020, LexNET did not support all eIDAS formats) and legal problems (conflicts between the GDPR and the national data protection law, the difficulty of recognizing foreign eIDs in criminal proceedings).

The new EU requirements (in 2023-2024) were: the mandatory use of the European digital wallet (EU Digital Identity Wallet), the expansion of eIDAS for decentralized identifiers, the introduction of AI Act in forensic analytical systems.

Table 1: Statistics on the introduction of digitalization in Spanish legal proceedings.

Indicator	2021	2023
Documents with eIDAS signature	1.8 million	3.2 million
Vessels connected to e-CODEX	23%	68%
Cross-border electronic interaction cases	542	1,890

Let's consider several cases of eIDAS application in Spanish judicial practice.

Case # 1. Supreme Court appeal (2022). Case: *Bankia vs. Grupo Inmobiliario* (commercial dispute for €4.7 million). Use of eIDAS: All documents were submitted via LexNET with qualified electronic signatures (QES). A foreign witness testified through eIDAS identification (using an Estonian digital ID). Result: The review period was reduced from 18 to 6 months. First recognition of cross-border eIDAS authentication in the Spanish commercial process.

Case # 2. Criminal case (Audiencia Nacional, 2021). Case: Cyber fraud investigation using fake certificates. Application of eIDAS: The court requested QES verification through the Spanish trust node (TS @). 147 electronic documents were identified in 3 days (the usual examination took 2-3 weeks). Precedent: recognition of electronic evidence with an eIDAS signature as equivalent to paper.

Case No. 3 Labor dispute (Barcelona Court, 2023). Case: A remote worker disputed the termination. Use of eIDAS: contract and notice of termination signed by mobile QES (used by DNIe 3.0). The video meeting was conducted with eIDAS identification of the parties. As a result, a precedent of remote labor justice was created. Compensation paid through electronic legal payment.

Case # 4. Family law (Court of Valencia, 2022). Case: Division of property involving a German citizen. Application of eIDAS: the German side submitted documents through EU Login. Notarial acts are certified by the European seal of confidence. Feature: First use of eIDAS notarization in Spanish family law.

At the same time, there are so-called "problem cases," which include the following:

Case 1: Verification error (Malaga Court, 2021). Rejection of the claim due to incorrect QES certificate of the French company. Problem: Trust registers are not synchronized.

Case 2: eIDAS restrictions (National Court, 2020). Refusal to allow cryptographic signatures (not compliant with eIDAS). Consequence: tougher checks on digital evidence. eIDAS has become the standard for: electronic document management, cross-border cases, expedited procedures. There is currently a pilot project on eIDAS 2.0 in the Supreme Court (2024), integration with the European Blockchain Service (EBSI).

The main directions of digitalization of legal proceedings in Spain:

1. *Electronic justice* (Justicia Digital). Since 2016, the Justicia Digital platform has been operating in Spain, providing: filing lawsuits and petitions in electronic form, notifying the parties through a single portal, access to court decisions in digital format.

2. *Virtual court hearings*. The COVID-19 pandemic has accelerated the introduction of videoconferencing in lawsuits. Spanish courts use LexNET and Poder Judicial Virtual platforms for remote sessions.

3. *Artificial intelligence and automation*. Pilot projects using AI include: analysis of judicial practice to predict decisions, automatic processing of routine requests (for example, to collect debts).

Despite progress, the following challenges remain to be addressed in the coming years:

A. Digital inequality - not all citizens have access to technology.

B. Cybersecurity - risks of data breaches and cyberattacks.

B. Legal conflicts - the need to harmonize digital solutions with traditional procedural norms.

Thus, Spain is showing significant success in digitalizing justice, but further infrastructure and legal regulation are required to fully integrate technology. ⁵The experience of the Spanish system can be useful for other countries implementing e-justice.

⁵European Commission. (2020). Digitalisation of justice in the EU.

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