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Voting and being elected are fundamental rights in any representative democracy. States have felt the need to develop more modern electoral processes, utilizing modern technologies to expedite voting and vote counting while ensuring the security and credibility of the entire process. Electronic voting is one of the mechanisms used for this purpose. It has been widely used throughout the world in its various forms, both in person and remotely. Although Portuguese electoral law does not permit ele...

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E-voting and Abstention: the Portuguese Experience

Voto Electrónico e Abstenção: uma Experiência Portuguesa

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Summary

1. Introduction; 2. Advantages and challenges of e-voting; 3. The Portuguese experience; 3.1. Constitutional and Legal Framework; 3.2. The Portuguese e-voting experiments; 4. Comparative Context; 5. E-voting and abstention; 5.1. E-voting as a potential instrument against abstention; 5.2 E-voting and abstention in Portugal; 6. Final remarks; 7. Bibliography

Abstract: Voting and being elected are fundamental rights in any representative democracy. States have felt the need to develop more modern electoral processes, utilizing modern technologies to expedite voting and vote counting while ensuring the security and credibility of the entire process. Electronic voting is one of the mechanisms used for this purpose. It has been widely used throughout the world in its various forms, both in person and remotely. Although Portuguese electoral law does not permit electronic voting, some experiments have been carried out, notably in 1997, 2001, 2004, and 2005, in certain parishes in the south of the country, for local, legislative, and European elections. The aim of this work is, using a qualitative methodology and in general terms, to survey the challenges and advantages of electronic voting and, in the specific case of Portugal, based on the data available from the National Electoral Commis-

sion and other, what the degree of electronic voting is, in person in the case of voters resident in Portugal and remote in the case of voters resident abroad, and whether this is contributing in any way to reducing abstention, which remains a problem in Portugal, especially among younger voters.

Keywords: Elections, E-voting, Abstention.

Resumo: Votar e ser eleito são direitos fundamentais em qualquer democracia representativa. Os Estados sentiram a necessidade de desenvolver processos eleitorais mais modernos, utilizando tecnologias modernas para agilizar a votação e a contagem dos votos, garantindo ao mesmo tempo a segurança e a credibilidade de todo o processo. A votação electrónica é um dos mecanismos utilizados para esse fim. Tem sido amplamente utilizada em todo o mundo nas suas várias formas, tanto presencial como à distância. Embora a lei eleitoral portuguesa não permita a votação electrónica, já foram realizadas algumas experiências, nomeadamente em 1997, 2001, 2004 e 2005, em algumas freguesias do sul do país, em eleições locais, legislativas e europeias. O objectivo deste trabalho é, utilizando uma metodologia qualitativa e em termos gerais, analisar os desafios e as vantagens do voto eletrónico e, no caso específico de Portugal, com base nos dados disponíveis da Comissão Nacional Eleitoral e outros,

qual é o grau de participação no voto electrónico, presencial no caso dos eleitores residentes em Portugal e remoto no caso dos eleitores residentes no estrangeiro, e se isso está a contribuir de alguma forma para reduzir a abstenção, que continua a ser um problema em Portugal, especialmente entre os eleitores mais jovens.

Palavras-chave: Eleições; Voto electrónico; Abstenção.

1. Introduction

The act of voting¹ and the right to be elected are foundational pillars of any representative democracy, reflecting the fundamental principles of popular sovereignty and political participation. In an era of rapid technological innovation, states are increasingly exploring advanced methods to modernise their electoral systems. The objectives, among others, are to improve the speed and efficiency of voting and vote counting while safeguarding the security, transparency, and overall credibility of the electoral process.²

Electronic voting is defined by the Council of Europe as “(...) the most critical part of

¹ Voting is understood as a method of decision-making that allows a choice to be made between different options. GUTIÉRREZ, J. L., *El voto: Herramienta de Vida Democrática*, México: INE, 2016, p. 6.

² Cf. LÓPEZ CRUZ, I. R. *et al.*, «El voto electrónico. Una perspectiva sobre su utilización en el mundo», *Encrucijada Revista Electrónica del Centro de Estudios en Administración Pública*, No. 47, 2024, pp. 24.

election technology, namely e-voting, which means the use of electronic means to cast and count the vote. This category includes systems such as Direct Recording Electronic (DRE) voting machines, ballot scanners, digital pens, and internet voting systems.”³ It has emerged as a technological solution implemented in various forms worldwide, including supervised electronic voting at polling stations and remote, internet-based voting. It is a tool that facilitates the expression of the will of the people through suffrage.⁴ It must also be acknowledged that the deployment of electronic voting mechanisms has the potential to facilitate the exercise of suffrage by making it more accessible and convenient for the electorate. In doing so, it may contribute to the mitigation of the problem of electoral abstention. Abstention has been particularly pronounced in certain electoral cycles within the Portuguese context. Since the advent of democracy in Portugal, voter turnout has been on a steady decline: from 80-90% in the 1970s to around 50% in recent legislative elections.

As a response, the potential of e-voting as a remedy to voter abstention has gained attention. Between 1997 and 2005, Portugal conducted a series of e-voting pilot programs - both in-person and remote - making it one of the first European democracies to seriously assess digital ballots. Despite high user satisfaction and technical feasibility, permanent implementation was suspended due to legal and constitutional constraints, public trust concerns, and unresolved cybersecurity vulnerabilities. This paper aims to undertake a qualitative analysis of electronic voting. Firstly, it will provide a general survey of the cited advantages and inherent challenges associated with e-voting systems, considering aspects such as electoral integrity, accessibility, and public trust. Secondly, and more specifically, it will delve into the Portuguese experience. Drawing

upon available data from the National Electoral Commission (CNE)⁵ and other relevant sources, this research will assess the nature and extent of these past e-voting trials. A key focus will be to examine whether these experiments, or the broader potential of e-voting (both in-person for resident voters and remote options for citizens residing abroad), could offer a viable means to address the persistent issue of voter abstention in Portugal. This problem is particularly acute amongst younger cohorts of the electorate and expatriate voters, posing a significant challenge to the vibrancy and representativeness of Portuguese democracy. This research employs a mixed-methods approach combining constitutional analysis, comparative case studies, and quantitative assessment of demographic participation patterns. The methodology integrates multiple analytical frameworks to address the complex intersection of law, technology, and democratic participation.

2. Advantages and challenges of e-voting

Technology is considered a way to modernise a process, facilitate its implementation, reduce its cost, and make it more efficient, thereby benefiting more people.⁶

The potential advantages of e-voting present a compelling case for its integration into electoral systems, offering numerous benefits in terms of efficiency, accessibility, and modernisation.⁷ One of the most immediate advantages is the speed and efficiency it brings to the electoral process. Electronic voting allows for quicker casting and tabulation of votes, which could lead to faster results dissemination and a reduction in the prolonged periods of uncertainty that can accompany traditional voting methods.

Moreover, e-voting could vastly improve accessibility, particularly for voters with disabilities or those located in remote areas, including expatriates who might otherwise struggle to participate due to geographical constraints. This level of inclusivity is one of the main arguments for digitising elections, making the voting process far more equitable.

Additionally, e-voting promotes political participation among citizens and has the potential to attract younger, digitally savvy demographics, a group that may feel alienated by paper-based systems that they view as outdated. As the younger generation increasingly conducts daily affairs through digital means, their engagement with e-voting could enhance overall voter turnout and democratic participation.

Furthermore, while the initial costs of implementing e-voting systems are substantial, there is the long-term prospect of significant cost reductions. With the elimination of paper ballots, printing, logistics, and manual counting, elections could be streamlined, saving taxpayer money and reducing environmental impact, and simplifying the task of officials responsible for the electoral process.⁸ BUSANICHE and HEINZ introduce a political dimension to this, highlighting the potential to curb practices of patronage or vote co-optation and to enhance the transparency of electoral processes.⁹

However, despite these advantages, several challenges and risks must be carefully considered.

A primary concern is the security and integrity of e-voting systems. Cyber-attacks, such as malware, hacking, and denial-of-service (DoS) attacks, pose a significant threat to the reliability of the voting process, especially when considering the possibility of large-scale undetectable fraud. Ensuring end-to-end verifiability is essential to guarantee that every vote is cast and counted correctly and that the election results are beyond dispute.

Moreover, the issue of privacy and anonymity must be protected at all costs. Voter coercion or sophisticated technological threats could compromise the confidentiality of votes, undermining the legitimacy of the entire electoral system. The digital divide also presents a challenge, as e-voting could potentially exacerbate inequalities, particularly among those without access to the necessary technology or the digital literacy required to use such systems effectively. This raises concerns about disenfranchising vulnerable populations, including

3 Cf. <https://www.coe.int/en/web/electoral-assistance/e-voting>. Council of Europe, CM/Rec(2017)5 - Recommendation of the Committee of Ministers to member States on standards for e-voting (Adopted by the Committee of Ministers on 14 June 2017 at the 1289th meeting of the Ministers' Deputies). See also TÉLLEZ, J., *El voto Electrónico*, México: Tribunal Electoral del Poder Judicial de la Federación, 2010. See also IDEIA, *Una Introducción Al Voto Electrónico: Consideraciones Esenciales*, Estocolmo, 2011.

4 LÓPEZ CRUZ, I. R. *et al.*, op. cit., p. 21.

5 Comissão Nacional de Eleições (<https://www.cne.pt/>).

6 LÓPEZ CRUZ, I. R. *et al.*, op. cit., p. 25.

7 ALVAREZ, R. M., and HALL, T. E., *Electronic Elections: The Perils and Promises of Digital Democracy*, Princeton, NJ: Princeton University Press, 2008.

8 TÉLLEZ, J., op. cit.

9 BUSANICHE, B. and HEINZ, F. 2008, «Principales Problemas Detectados» In BUSANICHE, B. *et al.* (Eds.), *Voto Electrónico: Los Riesgos de Una Ilusión*, Fundación Vía Libre, 2008. Available at <http://www.lanacion.com.ar/1392827-voto-electronico-los-riesgos-de-una-ilusion>

the elderly, those from lower socio-economic backgrounds, and those in rural areas.

Transparency and auditability are further key issues. For the system to maintain public trust, it must be both open to scrutiny and capable of being independently audited by non-experts and observers, particularly those from political parties. Without this transparency, the legitimacy of e-voting could be called into question. Public trust and acceptance are perhaps the most significant hurdles to overcome, as the public must feel confident that the technology is secure and reliable. Any failure, whether due to technical glitches or system vulnerabilities, could severely damage voter confidence, potentially leading to significant political consequences.

Additionally, e-voting systems are often reliant on specific vendors or technological infrastructures, creating a form of vendor lock-in and dependence on proprietary systems, which could lead to difficulties in system updates or integration with future technologies. In conclusion, while the promise of e-voting is substantial, particularly in terms of enhancing efficiency, accessibility, and cost-effectiveness, these benefits must be weighed carefully against the inherent risks. Addressing the challenges of security, privacy, digital inclusiveness, and transparency is crucial if e-voting is to be implemented successfully on a wide scale, with both the technological and public trust barriers needing to be overcome to ensure its acceptance and longevity.

3. The Portuguese experience

Electronic voting has emerged as a contested terrain in contemporary democratic practice, with Portugal's cautious approach reflecting broader tensions between technological innovation and constitutional safeguards.

3.1. Constitutional and Legal Framework

Portugal's legal framework presents fundamental obstacles to e-voting implementation that extend beyond technical or security concerns.

The Portuguese constitutional architecture enshrines several core electoral principles: universal suffrage, direct and personal voting, secrecy, and equality. Article 121(3) of the

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Portuguese Republic Constitution¹⁰ explicitly mandates that voting for presidential elections shall be exercised in person, effectively excluding remote modalities within national territory. This provision, which reflects historical concerns with vote-buying, coercion, and fraud, particularly salient during the transition from authoritarian rule, creates an immediate legal barrier.

Although in-person e-voting at polling stations might be reconciled with this requirement, remote internet voting - especially for domestic voters - would require a constitutional revision, which requires a two-thirds Assembly majority. This has been recognised by both the National Electoral Commission and the Constitutional Court in advisory capacity. Notably, the conservative interpretation of “personal presence” excludes digital authentication via biometric ID, even when supplemented with end-to-end encryption and auditability.

10 Article 121 (Election): «3. The right to vote in Portuguese territory shall be exercised in person». Available at <https://www.parlamento.pt/sites/EN/Parliament/Documents/Constitution7th.pdf>

The statutory framework reinforces these constraints. The electoral legislative framework echoes this rigidity, with no provision for online or internet-based methods. The Electoral Law for the Assembly of the Republic (Law No. 14/79¹¹) and the Electoral Law for the President (Decree Law No. 319-A/76)¹² do not envisage digital voting mechanisms. Despite reforms such as Law No. 47/2018 (Automatic Registration of Portuguese Citizens Abroad)¹³, which simplified overseas registration and expanded postal voting, there is no provision for online or any kind of digital voting. However, this same law creates potential legal precedents for e-voting development. The legislation establishes remote voting as constitutionally acceptable for Assembly elections through postal voting (Article 79(3), and following, creates digital identity verification frameworks, and demonstrates legislative acceptance of non-traditional voting methods. These provisions suggest that constitutional barriers may be more specific than absolute. Attempts to legislate in this direction have encountered resistance, primarily on constitutional grounds but also due to concerns about digital inequality.

Moreover, data protection laws (e.g., General Data Protection Regulation – GDPR -, and Law No. 58/2019) impose stringent requirements that complicate implementation, including consent, data minimisation, and auditability. The GDPR¹⁴, applicable across EU member states, imposes strict standards on the processing of sensitive personal data, including biometric and voting data. Portuguese law (Law No. 58/2019¹⁵) transposes the GDPR with additional safeguards. These include requirements for explicit consent, data minimisation, purpose limitation, and

11 Available at https://www.cne.pt/sites/default/files/dl/legis_lear_consolidada_2020-11.pdf

12 Available at https://www.cne.pt/sites/default/files/dl/legis_lepr_2021_06_04.pdf

13 Available at <https://diariodarepublica.pt/dr/en/detail/act/47-2018-116029385>

14 REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation). Available at <https://eur-lex.europa.eu/legal-content/EN/TEXT/PDF/?uri=CELEX:32016R0679>

15 Available at <https://diariodarepublica.pt/dr/en/detail/act/58-2019-123815982>

accountability—all of which complicate the design of remote e-voting systems. Moreover, the National Commission for Data Protection (CNPd) has issued critical reports on prior pilots, citing deficiencies in anonymisation protocols and audit trails.

That said, we must conclude that the constitutional emphasis on direct, secret, and personal voting rights creates a paradox: whilst Portugal has developed sophisticated digital infrastructure and maintains high public trust in electoral processes, rigid legal requirements have prevented exploration of technologies that successfully increase participation in comparable democracies. This tension between constitutional fidelity and democratic innovation provides the analytical framework for examining whether Portugal's approach represents principled restraint or a missed opportunity for electoral modernization.

Furthermore, LISI and LUÍS explain that the Portuguese case reveals an interesting paradox, as the use of electronic voting was never on the agenda of the main political parties, except for out-of-country voting, where it seems to be quite consensual.¹⁶

2.2. The Portuguese e-voting experiments

Electronic voting, in its various modalities, in person or remotely, has been the object of trials and pilot projects across numerous jurisdictions worldwide. This widespread interest reflects a broader commitment by states to modernise electoral procedures.

The principal objective underpinning the adoption of electronic voting systems is to streamline electoral operations, thereby enhancing the efficiency of the voting process. Such implementation seeks not only to expedite vote casting and counting but also to improve the overall management of elections, aiming for gains in operational efficiency while simultaneously preserving, or indeed reinforcing, the security and integrity of the entire process.

To this end, four pilot projects, of a non-binding nature, and a trial involving electronic voting were conducted in Portugal in the years 1997, 2001, 2004, 2005, and 2019, which provide an informative empirical base.

The initial two experiments were organised by the Technical Secretariat for Electoral Process Affairs (STAPE) during local elections held in 1997 and 2001, and tested kiosk-style voting machines in parishes with different demographic profiles, aiming to evaluate usability and integration with traditional voting procedures. The first pilot was undertaken in the parish of São Sebastião da Pedreira (Lisbon) in 1997. Subsequently, the second was carried out in parishes selected for their distinct sociological and geographical characteristics: Campelo (in the municipality of Baião) and Sobral de Monte Agraço (Sobral de Monte Agraço). Those projects confirmed voters' ability to adapt quickly to new interfaces and recorded high satisfaction rates: over 95% of participants expressed confidence in the system.¹⁷ The experiments conducted in 2004 and 2005 were implemented jointly by the Innovation and Knowledge Mission Unit (now designated UMIC – Knowledge Society Agency, IP)¹⁸ and STAPE, under the oversight of both the National Electoral Commission¹⁹ and the National Data Protection Commission (CNPd)²⁰.

In the 2004 trial, conducted in nine parishes from north to south during the European Parliament elections, around 130,000 voters were invited to vote twice, first in the traditional way and then using an electronic system, which, although not legally valid, allowed the electronic ballot box system to be tested. The aim was to assess not only technology but also, and more importantly, voter motivation. The 2004 pilot project expanded geographically and demographically. It was limited in-person electronic voting and was implemented for the European Parliament elections in the parishes of Mirandela (Mirandela), Paranhos (Porto), Mangualde (Viseu), São Bernardo (Aveiro), Sé (Portalegre), Belém (Lisbon), São Sebastião (Setúbal), Salvador (Beja), and Salir (Loulé).

In 2005, during the legislative elections, further pilot initiatives were undertaken to assess both in-person and remote electronic voting mo-

dalities. The 2005 project represented a major innovation, as it allowed Portuguese residing abroad to vote online via a secure online voting platform. The in-person electronic voting was trialled in the parishes of Conceição (Covilhã), Santa Iria da Azoia (Loures), São Sebastião da Pedreira, Santos-o-Velho, and Coração de Jesus (Lisbon). The in-person electronic voting showed incredibly significant levels of participation, particularly from blind voters who could vote on their own and not, as they currently do, assisted by a third person. Despite technical limitations, such as poor internet access in consular areas and minimal outreach, the trial indicated a willingness among diaspora voters to engage with digital platforms.²¹ The aim of the online e-voting test was not only to simplify and encourage participation in elections by Portuguese citizens registered abroad, but also to strengthen and encourage their participation in national political life.²² These pilot projects were developed in collaboration with Portuguese academic institutions, which not only took part in developing the technological side of the projects but also conducted audits to assess their integrity and reliability.

The 2019 binding e-voting trial in Évora, in the European elections, marked a turning point. It included several enhancements: real-time synchronisation with voter rolls, multi-device authentication, and accessibility features for voters with disabilities. Electronic ballot boxes were made available, allowing voters the option to cast their vote either using digital technology or through traditional paper-based methods. Although participation did not increase significantly in absolute terms, surveys conducted post-election revealed a near-universal willingness to vote electronically again. Importantly, disabled voters reported unprecedented autonomy. CNPD and FEUP²³ audits confirmed functional success but flagged persistent security risks, including the absence of full encryption and vulnerabilities in transmission protocols. These empirical trials show that Portugal possesses the technological and administrative capacity to conduct e-elections. However, without constitutional adjustments and long-term pol-

16 LISI, M., and LUÍS, C., «(Un)ready for change? The debate about electronic voting in Portugal and its implementation before and after the pandemic era», *Front. Polit. Sci.*, 24 November 2022, Sec. Elections and Representation, Volume 4 – 2022, <https://doi.org/10.3389/fpos.2022.876866>, p. 2.

17 CNE, Voto Eletrónico, Comissão Nacional de Eleições, 2022. Available at <https://www.cne.pt/content/voto-electronico>

18 Unidade de Missão Inovação e Conhecimento, atualmente designada por UMIC – Agência para a Sociedade do Conhecimento, IP.

19 Comissão Nacional de Eleições – CNE.

20 Comissão Nacional de Protecção de Dados – CNPD.

21 This resonates with broader EU trends: Estonia, for instance, recorded significantly higher expatriate participation after the introduction of remote e-voting.

22 LISI, M., and LUÍS, C., *op. cit.*, p. 6.

23 Faculdade de Engenharia da Universidade do Porto - Faculty of Engineering, University of Porto.

icy investment, the insights remain unscaled. Furthermore, the data suggests that e-voting's greatest impact lies not in boosting overall turnout, but in removing barriers for engaged but logistically disadvantaged citizens, such as those with disabilities, the elderly, or overseas electors.

4. Comparative Context

«E-voting is being used, or at least considered, almost worldwide. And right now, there are good and bad experiences».²⁴ Globally, the adoption of e-voting has been varied, with some countries embracing it widely (United States, Russia, or Estonia), others conducting limited trials, and many remaining cautious²⁵, due to concerns regarding safety and the possibility of informatic attacks²⁶.

In several European countries, experience with electronic voting has highlighted significant constitutional, technical, and operational challenges that continue to inform scepticism and restraint in its adoption. In France, for instance, cyberattacks during the 2022 presidential campaign raised serious concerns about digital vulnerabilities and the resilience of electoral infrastructure.²⁷ Norway, which implemented electronic voting during the 2011 and 2013 elections, subsequently suspended the programme due to limited positive impact and persistent doubts regarding the secrecy of the vote.²⁸

Elsewhere, electronic voting remains prohibited. In Germany, Finland, the Netherlands, Ireland, and the United Kingdom, the introduction of such systems has been precluded on a range of grounds. These include technological limitations, concerns over equal access

“Although Portugal has not yet subjected its electronic voting framework to constitutional review, the potential risks of unconstitutionality, particularly concerning remote voting, remain a pressing concern.”

and participation, inadequate user training, and persistent difficulties in ensuring the secrecy and integrity of the vote. Furthermore, high implementation costs and the absence of harmonised electoral legislation capable of safeguarding equal opportunities for all voters have been cited as significant obstacles.²⁹

A particularly influential development occurred in Germany, where the Constitutional Court ruled in 2009 that the use of electronic voting machines in federal elections contravened the constitutional principle of transparency. The Court held that voters must be able to verify the essential steps of the electoral process without requiring specialised technical knowledge.³⁰ This decision underscored the primacy of constitutional safeguards over technological expediency and established a precedent for the invalidation of electronic voting systems that fail to uphold core democratic principles.³¹

Similarly, the Netherlands, once a pioneer in electronic voting, discontinued its programme in the early 2000s following public demonstrations of security vulnerabilities in voting terminals by civil society organisations.³²

These examples collectively illustrate the complex interplay between constitutional norms and technological innovation. They underscore the need for rigorous scrutiny and institutional caution, a position that Portuguese authorities have thus far adopted. Although Portugal has not yet subjected its electronic voting framework to constitutional review, the potential risks of unconstitutionality, particularly concerning remote voting, remain a pressing concern. Any future adoption must be guided by a careful balancing of the constitutional principles of personal suffrage, secrecy, equality, and accessibility, on the one hand, and the imperatives of democratic innovation on the other.

5. E-voting and abstention

5.1. E-voting as a potential instrument against abstention

Initial optimism regarding e-voting was grounded in rational choice theory, suggesting that technological convenience would lower participation costs and attract especially younger, tech-savvy voters. Digital divide theory later nuanced this assumption, emphasizing that access, skills, and digital usage vary significantly across age, education, income, and geography. International experiences - from Estonia's widespread adoption to Switzerland's suspension - demonstrate that e-voting often enhances convenience rather than substantially increasing turnout.³³ Canadian municipal trials further reveal that while novelty effects may temporarily boost participation, long-term engagement gains are modest and not youth-specific. Goodman's research provides the most robust evidence for e-voting's impact on voter turnout, documenting 3.5 percentage point increases in municipal elections, representing an 8% improvement given baseline participation rates.³⁴ However, this effect diminished after initial implementation, suggesting novelty

24 VEGAS, C., and BARRAT, J., «Overview of current state of e-voting worldwide», in Fao, F., and Ryan, P. Y. A. (Eds), *Real-World Electronic Voting. Design, Analysis and Deployment*, Boca Raton, FL: CRC Press, 2017, pp. 51-57.

25 DARMAWAN, I., «E-voting Adoption in Many Countries: A Literature Review», *Asian J. Comp. Polit.*, 6, 2021, pp. 482-504.

26 LISI, M., and LUÍS, C., *op. cit.*, p. 4.

27 See CASTRO, R. B. de (Ed.), *Europe in the world in 2022: The transatlantic comeback?*, European Policy Center, 2022. Available at https://epc-web-s3.s3.amazonaws.com/content/PDF/2021/2022_Outlook_Paper.pdf

28 IDEA, *Introducing Electronic Voting: Essential Considerations*, Policy Paper, Stockholm: IDEA, 2011; GJOSTEEN, K., «E-voting in Norway», in Fao, F., and Ryan, P. Y. A. (Eds), *Real-World Electronic Voting. Design, Analysis and Deployment*, Boca Raton, FL: CRC Press, 2017, pp. 103-127.

29 AYALA, A., «El Voto Electrónico en el Mundo», *En Democracia en la Era Digital*, México: UNAM, 2012.

30 Cf. https://www.bundesverfassungsgericht.de/SharedDocs/Entscheidungen/EN/2009/03/cs20090303_2bvc000307en.html

31 IDEA, *El Estado de La Democracia En El Mundo*, 2022.

32 GOLDSMITH, B., RUTHRAUFF, H., *Implement-*

ing and Overseeing Electronic Voting and Counting Technologies, National Democratic Institute, 2013, available at https://www.eods.eu/library/IFES.NDI.Implementing_and_Overseeing_Electronic_Voting_and_Counting_Technologies.pdf; VEGAS, C., and BARRAT, J., *op. cit.*

33 TRECHSEL, T., *Potential and Challenges of E-voting in the European Union*, European Parliament, 2016.

34 GOODMAN, Nicole, «Internet Voting in a Local Election in Canada», 31 *Electoral Studies*, 2012, p. 514

rather than sustained engagement benefits. Empirical evidence from Goodman and Stokes (Canada)³⁵, Vassil and Solvak (Estonia)³⁶, and Petitpas et al. (Switzerland)³⁷ consistently highlights the tendency for middle-aged and older voters to become the primary users of e-voting platforms over time. This empirical consistency underscores the need to reassess simplistic assumptions about digital natives and participation. Instead, the evidence suggests that the convenience and accessibility of electronic voting resonate more profoundly with those who face practical barriers to physical voting, such as reduced mobility, geographic isolation, or time constraints.

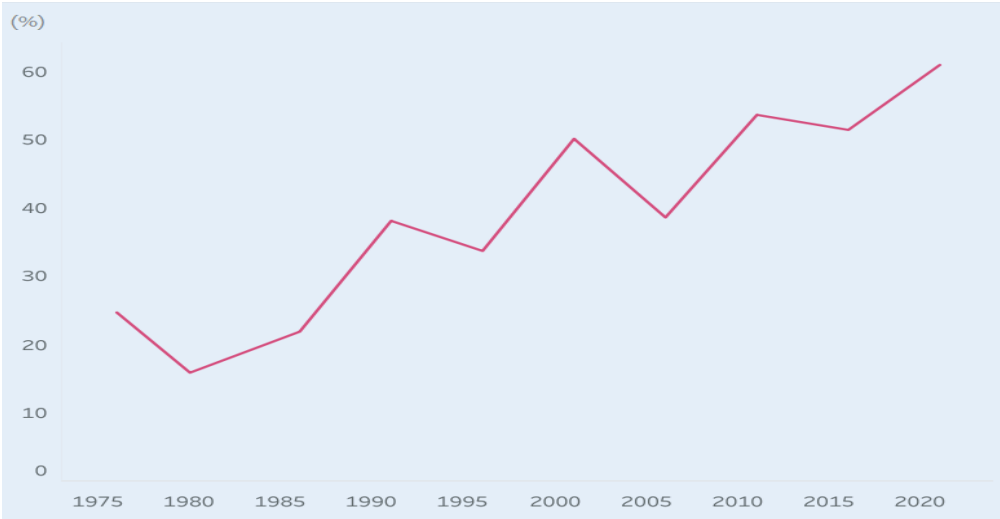
5.2. E-voting and abstention in Portugal

Portugal’s declining voter turnout, which has fallen from approximately 80% in the 1970s to around 50% in recent elections, represents a significant challenge to democratic legitimacy that prompted the exploration of electronic voting as a potential solution. In the presidential elections, the upward trend shown in the graph is indeed worrying, reflecting a general lack of interest on the part of voters, not only in the participation on political life of the country, but also in the office and personality of the President of the Republic, who is the Head of the Portuguese Armed Forces and, ultimately, responsible for supervising the actions of Parliament and the Government through his prerogative to exercise the presidential veto.

35 GOODMAN, Nicole and STOKES, Leah, *Reducing the Cost of Voting: An Evaluation of Internet Voting’s Effect on Turnout* (August 24, 2017). Available at SSRN: <https://ssrn.com/abstract=2849167> or <http://dx.doi.org/10.2139/ssrn.2849167> or https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2849167

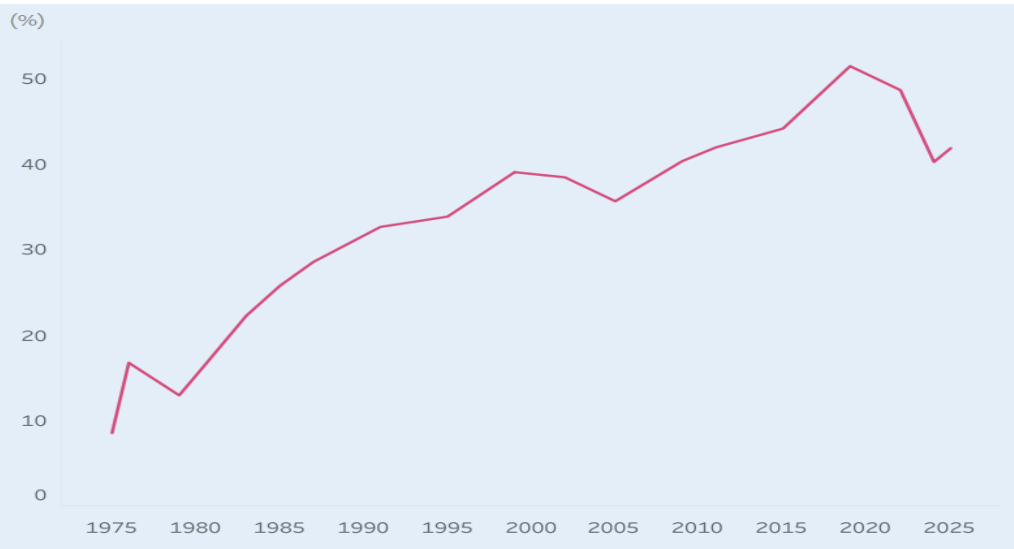
36 VASSIL, Kristjan and SOLVAK, Mihkel, *E-voting in Estonia: Technological Diffusion and Other Developments Over Ten Years (2005 - 2015)*, University of Tartu, Johan Skitte Institute of Political Studies, 2016. Available at <https://skytte.ut.ee/en/content/book-about-e-voting-estonia>. See also VASSIL, K., et al., «The diffusion of internet voting. Usage patterns of internet voting in Estonia between 2005 and 2015», *Government Information Quarterly* (2016), <http://dx.doi.org/10.1016/j.giq.2016.06.007>

37 PETITPAS, Adrien et al., «Does E-Voting matter for turnout, and to whom?», *Electoral Studies*, <https://doi.org/10.1016/j.electstud.2020.102245>.



Source: General Secretariat of the Ministry of Internal Administration (Secretaria-Geral do Ministério da Administração Interna)

As seen above, between 1997 and 2005, Portugal conducted four systematic electronic voting experiments across diverse geographic and demographic contexts, representing one of Europe’s most comprehensive early evaluations of digital voting technology. Portuguese pilot projects on e-voting were conducted in local, legislative, and European elections. The experience of the Legislative Assembly elections was implemented in 2005 and contributed significantly to the participation of people with disabilities, in particular blind people, who were able to vote independently without having to resort to the assistance of third parties. Considering the evolution of abstention rates, no correlation was found with the use of electronic voting methods. The National Electoral Commission acknowledged that the experience was well received by voters, who demonstrated confidence in the system.

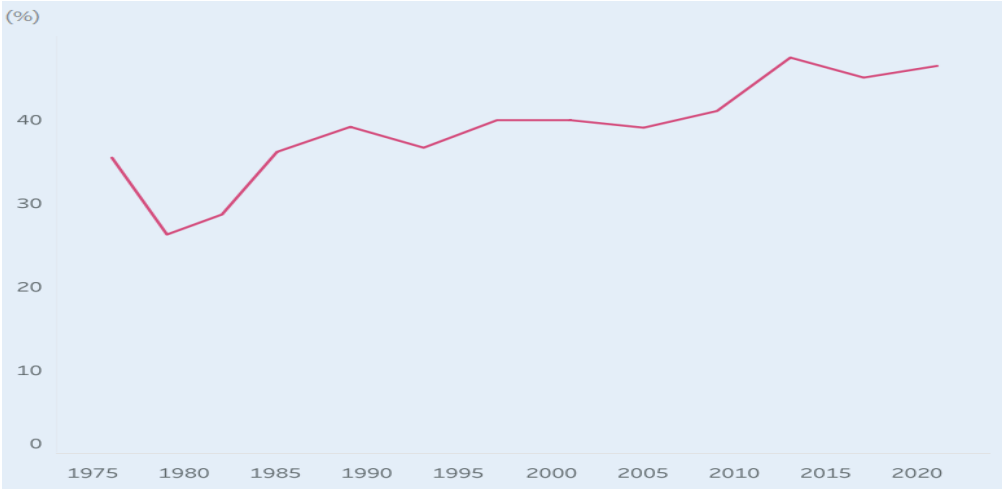


Source: General Secretariat of the Ministry of Internal Administration (Secretaria-Geral do Ministério da Administração Interna)

Ano	Região	Variável 1	Variável 2	Variável 3	Valor / Símbolo
2025	Covilhã	Total			35,5
2025	Loures	Total			33,2
2024	Covilhã	Total			33,1
2024	Loures	Total			30,8
2005	Covilhã	Total			32,7
2005	Loures	Total			31
1991	Covilhã	Total			32,8
1991	Loures	Total			28,9
1975	Covilhã	Total			7,4
1975	Loures	Total			6,8

Source: General Secretariat of the Ministry of Internal Administration
(Secretaria-Geral do Ministério da Administração Interna)

Analysing the available data on abstention in local elections, it cannot be said that in 1997 and 2001, when electronic voting was tested, namely using kiosk-type voting machines, abstention in one of the reference parishes, Sobral de Monte Agraço, near the country’s capital, decreased compared to the results of previous or subsequent years. As can be seen in the graph and table below, the variation in the percentage of abstention is residual.

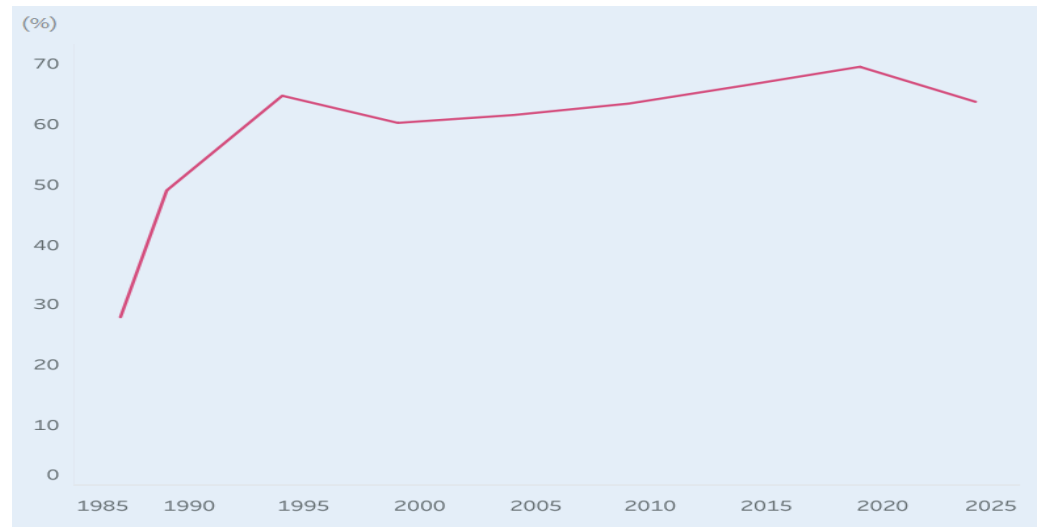


Source: General Secretariat of the Ministry of Internal Administration
(Secretaria-Geral do Ministério da Administração Interna)

Ano	Região	Variável 1	Variável 2	Variável 3	Valor / Símbolo
2021	Sobral de Monte Agraço				42,2
2017	Sobral de Monte Agraço				41,3
2013	Sobral de Monte Agraço				42,5
2009	Sobral de Monte Agraço				41,3
2005	Sobral de Monte Agraço				40
2001	Sobral de Monte Agraço				42,1
1997	Sobral de Monte Agraço				39,6
1993	Sobral de Monte Agraço				33,9
1989	Sobral de Monte Agraço				35
1985	Sobral de Monte Agraço				35,1
1982	Sobral de Monte Agraço				29,5
1979	Sobral de Monte Agraço				28,2
1976	Sobral de Monte Agraço				44,8

Source: General Secretariat of the Ministry of Internal Administration
(Secretaria-Geral do Ministério da Administração Interna)

As for the European Parliament elections, the results are even more discouraging, reflecting Portuguese voters’ lack of interest in European issues. In 2004, the year of the electronic voting project, abstention rates were higher than in previous years in the two locations chosen as examples - Mirandela, in the north of the country, and Mangualde, in the centre. The figures, which had always been above 60% since 1994, continued to rise, only falling below 65% in the last elections, in 2024. In the words of LISI and LUÍS, “Portugal presents one of the lowest turnout rates of the Western Europe, with a steady decline since the 1990s”.³⁸ Any variation in the percentage in 2004 cannot certainly be attributed to the use of electronic voting.



Source: General Secretariat of the Ministry of Internal Administration
(Secretaria-Geral do Ministério da Administração Interna)

38 LISI, M., and LUÍS, C., *op. cit.*, p. 3

Ano	Região	Variável 1	Variável 2	Variável 3	Valor / Símbolo
2024	Mangualde	Total			64,9
2024	Mirandela	Total			62,5
2019	Mangualde	Total			69,3
2019	Mirandela	Total			71,3
2014	Mangualde	Total			71,8
2014	Mirandela	Total			69,3
2009	Mangualde	Total			68,1
2009	Mirandela	Total			66,4
2004	Mangualde	Total			69,4
2004	Mirandela	Total			67,8
1994	Mangualde	Total			71,6
1994	Mirandela	Total			60,8
1987	Mangualde	Total			34,6
1987	Mirandela	Total			34,3

Source: General Secretariat of the Ministry of Internal Administration
(Secretaria-Geral do Ministério da Administração Interna)

The Portuguese experiments, conducted under the supervision of the National Electoral Commission (CNE), offer valuable empirical evidence for assessing electronic voting’s demographic impacts, which is far from positive. However, the discontinuation of these experiments by 2005 and Portugal’s current explicit prohibition of electronic voting necessitate examination of why digital voting failed to achieve sustained implementation despite initial user satisfaction and technical feasibility.

Though early pilot programs targeted broad demographics and included remote voting for expatriates, they did not yield conclusive evidence of significant turnout increases. According to CNE Report³⁹, they showed that middle-aged and older voters, including those with disabilities, readily adapted to the systems when motivated by accessibility benefits.

The central research question examines whether electronic voting effectively reduces voter abstention across different age groups in Portugal, with particular attention to whether younger voters, theoretically more comfortable with digital technology, demonstrate increased participation through electronic voting mechanisms. That said, in Portugal, as abroad, there is no clear evidence that e-voting encourages higher participation, especially among youngsters.⁴⁰ We can conclude that e-voting does not necessarily mean an improvement in the results obtained with traditional alternatives.

This inquiry assumes critical importance given Portugal’s constitutional requirement for pre-sential voting and the broader European context where electronic voting implementations have produced mixed results on turnout enhancement.

6. Final remarks

Despite the prevalence of digital technologies in contemporary society, the adoption of electronic voting has faced considerable resistance. Portugal is among the countries that, for a range of legal, political, and cultural reasons, have refrained from implementing it. E-voting in Portugal remains suspended in a liminal space between aspiration and caution. While user satisfaction with pilot projects has been high, and robust technical trials as well as international precedents suggest that gradual implementation is viable, progress has been hindered. Constitutional formalism, legitimate concerns regarding electoral security, and a cultural preference for traditional voting procedures continue to function as significant impediments. The Portuguese experience with e-voting must therefore be understood through the lens of institutional conservatism and democratic culture.

Historically, the Portuguese electorate has demonstrated a high degree of confidence in paper-based voting. Factors such as the transparency of the process, the perceived impartiality of the National Electoral Commission, and the symbolic, ritualistic value of voting in person reinforce resistance to digitisation.

Nevertheless, Portugal has made notable advances in the digitalisation of public services, particularly through initiatives such as the Citizen Portal⁴¹ and the tax authority’s online platform⁴², which have reshaped public expectations. Portuguese citizens routinely engage with the state through digital platforms for healthcare, education, fiscal reporting, and legal affairs. In this context, the continued requirement for physical presence at the ballot box appears increasingly incongruous. This disjunction between electoral practice and digital governance risks undermining the perceived efficiency and responsiveness of the state, particularly among younger generations accustomed to seamless digital interactions.

Thus, the issue is not solely legal but fundamentally conceptual: democratic participation must be reimagined for the digital age. The constitutional requirement for in-person voting could be reinterpreted considering contemporary understandings of digital presence and verifiability,

39 CNE, *Relatório sobre os Projectos-Piloto de Voto Electrónico*, 2005.

40 LISI, M., and LUÍS, C., *op. cit.*, p. 1

41 Portal do Cidadão. Available at <https://www.gov.pt/>

42 Portal das finanças. Available at <https://www.portal-dasfinancas.gov.pt/at/html/index.html>

provided that the principles of electoral secrecy and integrity are preserved.

An analysis of Portugal's e-voting initiatives, though largely historical, offers valuable insight into the cautious evolution of its electoral system. Incremental reforms, such as early voting, have been introduced to address specific procedural challenges, but these have not constituted systemic change.⁴³ This selective reformism reflects the broader public confidence in the integrity of existing electoral mechanisms.

A study conducted by LISI and LUÍS⁴⁴ on the political party discourse surrounding electronic voting revealed that the issue has remained peripheral in parliamentary debates and electoral campaigns. Until recently, Portugal's two main political parties held divergent positions, with the Socialist Party opposing e-voting. However, the political landscape has since shifted, with increased polarisation and the emergence of a radical-right party as the second-largest force in Parliament. This development may prompt the political right, both moderate and extreme, to consider aligning around the modernisation of the electoral process through digital means.

Portugal thus stands at a crossroads. With appropriate legal reform, civic engagement, and investment in secure technologies, e-voting could enhance accessibility and participation without compromising core democratic values. Doing so would underscore the state's responsiveness to evolving societal expectations, both domestically and within its diaspora.

A prudent reform strategy would involve a phased approach.⁴⁵ The first stage could focus on non-resident citizens, building on the experiences of 2005 and 2019. Given Portugal's high emigration rate and the fact that expatriates are entitled to vote in most elections, remote e-voting could facilitate greater political participation from abroad. A subsequent phase could introduce in-person e-voting in domestic polling stations, leveraging existing infrastructure and supervisory frameworks.

Legal scholars have a key role to play in exploring whether digital identity verification and biometric authentication could satisfy the constitutional requirement for personal voting. Moreover, wider public deliberation is essential. Citizens should not merely be consulted but actively involved in building institutional trust in digital electoral systems. The success of e-voting will depend less on technical innovation and more on institutional foresight, democratic legitimacy, and sustained public confidence.

Concerning the persistent challenge of voter abstention, this paper argues that e-voting, particularly for expatriates, may yield marginal improvements in convenience and accessibility, but it is unlikely to resolve Portugal's more entrenched problems of political disengagement. A nuanced understanding of the structural causes behind voter apathy must temper the appeal of a technological solution. Any future consideration of e-voting in Portugal must therefore prioritise security, transparency, verifiability, and public trust, rather than efficiency or innovation for its own sake. Further research is needed, including updated studies on public attitudes toward digital governance in Portugal and comparative assessments of other jurisdictions that have either successfully or unsuccessfully integrated e-voting into their electoral systems while upholding democratic principles.

Ultimately, the integrity of the democratic process must remain paramount. Rather than embracing technology as an end, Portugal should view digital tools as instruments for democratic renewal, capable of widening participation, promoting equity, and reaffirming its constitutional commitment to a democratic state governed by the rule of law.

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⁴³ LISI, M., and LUÍS, C., *op. cit.*, p. 5

⁴⁴ *Ibidem*.

⁴⁵ LUÍS, C., "Presidential elections in Portugal: from "restrictions as usual" to unexpected lockdown," in *Electoral Integrity Project*, eds (International IDEA, and Electoral Management Network. (Permanent Missions to the United Nations)), p. 3, doi: 10.18356/9789210056755c210.

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