Policy Brief 2023/1

Internet voting for open government: what, why, and how to introduce it in the European Union[1]

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1. Introduction

In recent decades, the European Union (EU) has introduced multiple elements of transparency, participation, and accountability in its decision-making processes. Yet, these can always be enhanced by applying the open government approach that puts a special emphasis on innovative and digital technologies. One of such technologies is *internet voting* (i-voting), which can empower people with more direct participation in policy making. This paper refers to the concepts and models of open government and i-voting, provides examples, outlines preconditions, discusses risks, and offers recommendations for introducing i-voting. It is intended as an inspirational paper for advancing open government and i-voting at the EU level.

2. Why open government and i-voting?

Open government is both a governance framework and an international initiative. According to the OECD, open government is "a culture of governance based on innovative and sustainable public policies and practices inspired by the principles of transparency, accountability, and participation that fosters democracy and inclusive growth."[2] Such an approach is embodied by the Open Government Partnership (OGP) — the organisation of reformers inside and outside of government working to transform how government serves its citizens, consisting of 76 countries and 106 local governments, and thousands of civil society organisations.[3] The value of open government is that it has shaped policy making and implementation as more collaborative, innovative, and effective.

The very development and delivery of open government policies can be further strengthened by digital democracy tools such as 'internet voting'. Internet voting (i-voting) is defined by e-Estonia as a system that "allows voters to cast their ballots from any internet-connected computer anywhere in the world."[4] In such wording, i-voting is equivalent to online voting and includes mobile voting. This differs from such variety of a more overarching term of electronic voting as e-voting via an electronic voting machine inside a polling station.

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[1] This is the 'EU scale' version of the open government and internet voting policy brief series. For the versions focused on local and national scales please see https://www.europeandigital.org/ and https://ecas.org/.

[2] OECD. (2016). Open Government: The Global Context and the Way Forward. https://doi.org/10.1787/9789264268104-en.

[3] OGP. (2023). About Open Government Partnership. https://www.opengovpartnership.org/about/.

[4] e-Estonia. (2023). e-Democracy & open data. https://e-estonia.com/solutions/e-governance/e-democracy/.

April 2023

The key advantage and challenge of i-voting is the possibility to cast vote outside a polling station thereby saving time, resources, and enfranchising voters in remote locations. Being a universal tool, i-voting can be utilised not only for elections but also for advisory and binding policy making.

3. Open government model

The core components of open government are transparency, participation, and accountability. They are described in the OGP National Handbook as follows:[5]

- Transparency is the "publication of all government-held information (as opposed to only information on government activities); proactive or reactive releases of information; mechanisms to strengthen the right to information; and open access to government information."

- Participation requires that "governments should seek to mobilize citizens to engage in a dialogue on government policies or programs; provide input or feedback; and make contributions that lead to more responsive, innovative, and effective governance."

- Accountability is comprised of "rules, regulations, and mechanisms in place that call upon government actors to justify their actions, act upon criticisms or requirements made of them, and accept responsibility for failure to perform with respect to laws or commitments."

Whereas transparency is a government responsibility, participation is the institutionalised possibility for the active public to influence public policy; accountability can be viewed as a two-way feedback loop between the public and the government.

These cornerstone aspects can be weaved into any thematic policy area, including but not limited to inclusion, civil society, public integrity, public service, digital governance, and green transition.

Within the OGP framework, open government policies are ideally co-created, co-decided, co-implemented, co-monitored, and co-evaluated by authorities, active civil society, and citizens. This is supposed to increase consensus and trust among stakeholders, establish a joint mandate and responsibility for reform delivery, institutionalise the dialogue between the government, the civil society, and the public, supplement government capacity with expert contribution and wide popular input, as well as enhance the quality and legitimacy of programmes and their delivery.

4. I-voting varieties

I-voting is a technical and administrative procedure that can be applied to multiple democratic formats. Of the myriad of varieties of online participation forms that can be strengthened with i-voting, in this section we will focus on only few typical ones. Our approach to digital democracy instruments is based on our own re-interpretation of the encompassing yet requiring a revision Council of Europe's Indicative Guide on Generic tools and policies for an electronic democracy.[6]

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[5] Open Government Partnership. (2022). OGP National Handbook: Rules and Guidance for Participants. https://www.opengovpartnership.org/wp-content/uploads/2022/03/OGP-National-Handbook-2022.pdf.

[6] Krimmer, R. and M. Kripp. (2009). Indicative Guide No.1 to Recommendation Rec(2009) 1 of the Committee of Ministers to member states on e-democracy. Generic tools and policies for an electronic democracy. Council of Europe. https://www.researchgate.net/publication/275098217_Indicitative_Guide_1_Electronic_Democracy_e-democracy_Recommendation_CMRec_2009_1_Adopted_by_the_Committee_of_Ministers_of_the_Council_of_Europe_on_18_February_2009_and_Explanatory_Memorandum.

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Of all democracy forms, probably, the most widespread are elections. It is reasonable to distinguish between elections to public offices (e.g., parliament, presidency vested with formal decision-making authority) and elections to civic posts (e.g., members of civic councils at ministries and government agencies with only advisory voice).

People can vote not only to elect persons, but also to voice their policy preferences. Such voting can take the form of a referendum for approving or disapproving policies or laws (often requiring a certain voter turnout threshold and with binding results), for participatory budgeting projects (allocating funds for development projects, mandatory for implementation), or for clarifying public opinion (for example, via non-binding polls) or expert views (for example, via non-binding surveys).

All these civic participation varieties were originally in-person or paper-based. But due to utilising digital technologies and a real-time internet connection, i-voting is able to amplify them by increasing civic participation rates.[7] To classify the viewed i-voting types, we propose two core dimensions of differentiation: voting for persons versus policies and binding versus advisory voting (see Table 1 below) .

In relation to open government, the most relevant option is i-voting for choosing policies. Advisory varieties of i-voting, such as i-expert surveys and i-public opinion polls can evolve into binding i-voting such as i-voting for participatory budgeting projects and referenda. Similarly, experimentation with i-elections to civic posts like members of civic councils at government agencies or managerial positions in political parties can lay the foundation for prospective i-elections to the public offices of presidents and the members of parliament.

5. Open government and i-voting: stats and cases

The EU demonstrates profound patterns of open government. In the transparency aspect, it has the official portal for European data hosting over 1 600 000 European public sector datasets of 36 countries.[8] A notable contribution to EU transparency is the publication of legislation.[9] In the civic participation domain, the EU has held a comprehensive Conference on the Future of Europe comprised of the collection of citizens' EU policy ideas through European Citizens' Panels, an online multilingual platform, National Panels and Plenary sessions, with the final report on the Conference, including 49 proposals, presented to the Presidents of the three institutions on 9 May 2022.[10]

Table 1 Selected i-voting varieties

I-voting types	Binding	Advisory
Electing persons	I-elections to public offices	N/A
	I-elections to civic posts	
Choosing policies	I-referenda	I-public opinion polls
	I-participatory budgeting	I-expert surveys

[7] Goodman, N. and L.C. Stokes. (2020). Reducing the Cost of Voting: An Evaluation of Internet Voting's Effect on Turnout. *British Journal of Political Science,* 50(3), 1155–1167. https://doi.org/10.1017/S0007123417000849;

Germann, M. (2021). Internet voting increases expatriate voter turnout. *Government Information Quarterly,* 38(2), 101560. https://doi.org/10.1016/j.giq.2020.101560.

[8] European Commission. (2023). data.europa.eu - The official portal for European data. https://data.europa.eu/en.

[9] European Union. (2023). Find legislation. https://european-union.europa.eu/institutions-law-budget/law/find-legislation_en.

[10] European Union. (2023). Conference on the Future of Europe. https://futureu.europa.eu/en/.

Figure 1 Conference on the Future of Europe participation statistics (source: https://futureu.europa.eu/en/)

What is happening at the Conference on the Future of Europe?

53,617
Platform participants *

721,487
Event participants

18,843
Ideas

22,242
Comments

6,661
Events

72,853
Endorsements

(*) Number of registered participants on the Platform.

Other e-participation formats include the *Have your say* portal (e-consultations by the European Commission on planned activities), the *Fit for Future* platform (e-consultations on EU laws), Citizens' dialogues (debating with the EU representatives on EU issues), E-communities service (expert e-discussions on policymaking), petitions to the European Parliament (e-petitions), and the European Citizens' Initiative (legislation e-initiative).[11]

Yet, at the EU level popular voting is confined to elections only, specifically European Parliament elections. Moreover, digital public accountability in the form of e-tracking services, performance dashboards, e-audits, and e-oversight by the public is lacking in the EU. Thereby, it is reasonable to improve the open government of the EU by introducing more democratic formats, particularly, i-voting, as e-participation methods have been shown to bring multiple benefits to both citizens and policy-makers – to improve civic education, engage specific target groups such as young people, enhance trust and legitimacy in institutions.[12]

[11] European Union. (2023). Participate, interact and vote in the European Union. https://european-union.europa.eu/live-work-study/participate-interact-vote_en.

[12] Lironi, E. (2016). European Parliament Policy Department for Citizens' Rights and Constitutional Affairs. Potential and Challenges of E-Participation at the EU Level. https://www.europarl.europa.eu/RegData/etudes/STUD/2016/556949/IPOL_STU (2016)556949_EN.pdf.

6. Prerequisites for introducing i-voting

For a proper and secure introduction of i-voting, a number of conditions should be met.

Institutionally, the very political system should meet solid rule of law and democracy standards – i-voting in an autocracy or a captured state would most probably lead to rigged elections and cement the existing regime by effectively hiding power abuse. In contrast, a system of checks and balances in a democracy would ensure a secure, trustworthy, and competitive i-voting.

Technologically, there should be efficient, trustworthy, and widespread technical readiness, resilience, and connectivity. This includes high degrees of computerization, internet coverage, and cybersecurity on the sides of both voting administrators and voters. In other words, the voting administration should be able to conduct i-voting, while the voters should have the technical possibility to vote. Otherwise, i-voting would be either technically vulnerable or confined to a narrow group of digitally privileged public.

In the *human capital* aspect, the digital skills of both voting administrators and voters should be well-developed. This is necessary for them to be able to make use of this e-participation opportunity. Conversely, i-voting may be underused, misused, or increase the digital divide meaning the gap between digitally privileged citizens and digitally vulnerable groups.

Moreover, there should be a *consensus* among the majority of the political elite, experts in the field, and the public about the introduction of i-voting. Political leadership in establishing one more democratic format is necessary for making it happen, civil society expertise is important for ensuring checks and balances as well as civic monitoring, while wider popular support is essential for the acceptance, take-off, and legitimation of i-voting procedures and outcomes.

EU-level data on digital technology progress and usage can be obtained from the DESI Index.[13]

7. I-voting-related risks[14]

Due to its digital nature, i-voting is potentially susceptible to multiple *technical risks* related to hardware, software, human error, and misuse. These include technical system malfunctioning, malicious hacking by in-country or out-country state or non-state agents, inaccurate or corrupt voter registers with missing or fake records, misidentification of eligible voters and fake voters, corrupt vote recording, storage, and counting.

Also, there are *political perils* of influencing voting design and development, voting administrators, and voters themselves. These include issue framing of a voting subject in media discourse or a voting ballot text, public opinion manipulation using bots, cyborgs, and trolls for opaque micro-targeting individual voters with personalised messages, legally excluding certain groups, such as digitally vulnerable ones, vote disclosure, group pressure, vote coercion, and vote buying.

Finally, there are *social challenges* of introducing i-voting. These embrace the preselection effect and confirmation bias that lead to group polarisation and create filter bubbles and distorted social reality, low trust towards democratic institutions that harms the legitimacy of voting results, routine voting and voter absenteeism due to the decreased symbolic value of the vote casting act.

[13] European Commission. (2023). The Digital Economy and Society Index (DESI). https://digital-strategy.ec.europa.eu/en/policies/desi.

[14] Khutkyy, D. 2020. Internet Voting: Challenges and Solutions. Policy Paper. https://europeandigital.org/files/19/Internet_Voting_Challenges_and_Solutions_ENG.pdf.

8. Recommendations for secure and trustworthy i-voting for better open government

To mitigate the aforesaid risks and ensure a secure i-voting at the EU level, it is recommended to:

• *Identify clear objectives* for introducing i-voting (such as enfranchising deprivileged voter groups, making voting easier for the voters, especially abroad, saving public costs in the long term, etc.).

• *Perform a rigorous feasibility study* (of technical readiness, institutional capacity, legislation, political setting, expert consultations, and public opinion) and only after weighing advantages versus disadvantages decide whether to introduce i-voting or not and if yes – how.

• *Add i-voting as complementary to traditional offline voting* without replacing it, thus observing the rights of both pro-paper and pro-digital voters.

• *Build on already existing, proven to be secure, and trusted technologies* (e.g., Bank ID, national digital ID) and apply them to i-voting.

• *Experiment with i-voting pilots* of low-stake (e.g., i-public opinion polls and i-expert surveys) forms of i-voting and gradually transition through more medium stake (e.g., i-participatory budgeting) to more high-stake (e.g., i-referenda or i-elections).

• *Start with small-scale* (e.g., for a policy, a community, or an agency) and evolve through medium-scale (a constituency, a voter group) to large-scale (nationwide, encompassing all voters) i-voting.

• *Ensure reliable i-voting system functioning* (system tests and contingency measures), cyber security (system evaluation and certification, bug contests), and human capacity (staff training).

• *Warrant accurate voter registers* (e.g., empowered by distributed ledger technologies), identification reliability (e.g., using multi-factor identification), verifiability (e.g., by end-to-end verifiability), and accountability (e.g., via audits).

• *Safeguard voting secrecy, freedom, and integrity* by introducing technical solutions, allowing multiple vote changes online, raising awareness, reporting, and enforcement.

• *Adjust online media regulation* via legislative, enforcement, and civic action to impose limits, ensure disclosure, and implementation for accountable online campaigning.

• *Launch civic education and strong awareness-raising communication campaigns* to raise conversance, digital skills, and motivation for tolerant online deliberation and subsequent i-voting.

• *Ensure a good feedback loop and real impact* that guarantee citizens will clearly know the outcomes of i-voting processes and also about the impact of their contributions on decision-making.

• *Provide human and financial resources for strong communication to citizens* on the functioning of EU processes and on how and why to participate in policy making at the EU level. It is advised to establish collaborations and incentives at national and local levels to support the EU communication.

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European Digital Development Alliance (EDDA) is a European association which represents think-tanks, civil society organisations and experts focusing on digital policies and digital transformation.

We are working with European Development and International Cooperation policies to share European experience of digital transformation around the globe. Besides, EDDA seeks to influence other non-development EU policies related to digital and tech innovations in order to tackle digital divide within the EU. EDDA unites 50+ members from different sectors including non-governmental experts, organisations, think-tanks and businesses from diverse fields.

Our vision is a Europe that promotes and nurtures digital development at home and further abroad to alleviate inequalities and bring prosperity and justice to the world.

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Our mission is to empower citizens in order to create a more inclusive and stronger European Union by:
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- Developing and supporting mechanisms to increase citizens and citizen organisations' democratic participation in, and engagement with, the EU.

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