

# Elections during Pandemics. Is I-voting a Viable Solution?

Vlad Cosmin ADAMESCU

King's College London, United Kingdom

vlad.adamescu@kcl.ac.uk

**Abstract:** The Covid-19 pandemic has renewed interest in alternative voting systems, including remote electronic voting, as governments all over the world were forced both to postpone elections and/or to implement new ways of allowing citizens to cast their ballots in a safe environment. Online voting can increase turnout and make it easier for disadvantaged categories of voters (older, out-of-country, disabled) to express their political preferences. This article examines how countries have adapted their voting arrangements to ensure social distancing and special sanitary conditions. It then provides an overview of i-voting, before going more in depth about the constitutional and legal requirements that must be fulfilled before an online voting system can be implemented. The Council of Europe's guidelines on the subject provide meaningful assistance in drafting the legislation necessary to implement i-voting. Finally, the question of turnout is considered, by focusing on the Baltic states, of which only Estonia uses i-voting and has had consistently higher turnout rates in legislative elections since the introduction of online voting, when compared to its neighbours.

**Keywords:** I-voting, REV, Elections, Estonia, Turnout, Pandemics.

## INTRODUCTION

The Covid-19 pandemic has presented governments all over the world with unprecedented challenges, ranging from extreme pressure on health systems, to the economic impact of extended lockdown periods, as well as constitutional, legal, and human rights issues related to the imposition of sanitary measures aimed at preventing the spread of the virus. For democratic governments in particular, the challenge has been even more severe: democratic polities have been faced with difficult decisions, such as postponing planned elections and/or holding them under pandemic-mandated physical distancing rules. The simple act of going to a poll station now posed high risks to voters as well as election staff, not to mention the risks to democracy itself, as political actors variously sought to use the scheduling of elections for political gain.

In this context, the debate and interest in alternative voting arrangements has seen an increase in relevance (see Romanov and Kabanov 2020; Jayasinghe and Samarajiva 2020). Governments have generally opted towards a mix of expanding postal and early-voting options and physically holding elections under the new sanitary restrictions. All these approaches have been criticized for various reasons, with several governments re-examining the possibility of introducing online voting as a way of countering the negative effects of the pandemic on turnout and public health. The term 'electronic' or 'e-voting' is used to refer to any voting system that does not use a paper ballot: from the now infamous Dominion electronic voting machines, which still require the voter to physically go to the polling station; to online voting, the focus of the current article. I will use the terms internet or i-voting, online voting and remote electronic voting (REV) interchangeably, to refer to the possibility of casting votes via the internet for legally binding elections and referenda at the local, regional/state or national (or, in the case of the European Union, elections for the European Parliament) level.

In the following section, the current status of i-voting around the world is examined, as well as the challenges governments have faced when having to alter their voting systems so that they comply with health regulations in a very limited timespan. In the third section, I consider the international guidelines for online voting designed by the Council of Europe, as well as other constitutional and legal requirements needed for the introduction of a well-functioning i-voting system. Finally, the last section is dedicated to the effect of i-voting on turnout in Estonia when compared to the rest of the Baltic states.

## VOTING IN PANDEMICS

The late 1990s and 2000s saw a sense of euphoria among experts and governments alike about the imminent introduction of remote electronic voting technologies in many advanced liberal democracies, for every type of election/referenda available. Internet-voting was going to change politics and bring people closer to direct democracy (Wolf 2020). However, beyond purchasing electronic voting machines to be used at polling stations in order to speed up the voting and counting process (multiple states in the US, Brazil, India), governments have since generally shied away from implementing online voting on a large scale, with the notable exception of Estonia, the only country in the world that allows for universal online voting to its entire population, and several Swiss cantons. Instead, there have been numerous small and large-scale trials where only certain categories of voters could cast their ballot online. As Gibson et al (2016) show, France and Spain experimented with i-voting for expatriates, while the 2015 New South Wales state elections saw around 280,000 online voters among those who met the eligibility criteria (the disabled or those who lived more than 20 kilometres away from the nearest polling station). After trials, multiple countries (like the Netherlands, Germany, Austria, Norway) have decided against implementing i-voting, due to security concerns about the integrity of the ballot (Gibson et al 2016).

And yet, robust emergency regulations detailing the implementation of i-voting would have been useful as the Covid-19 pandemic forced governments that had scheduled elections in 2020-21 to seek out new arrangements to ensure voter safety. In the absence of such arrangements, elections had to be postponed all around the world, on an unprecedented scale. According to the IDEA database, from February 2020 to March 2021, 76 elections (40 at the national level and 36 at the subnational level) have been postponed throughout the world. Usually, elections that were scheduled for March, April and May 2020, during the first wave of the pandemic and the first lockdowns, were postponed for the summer or fall (IDEA 2021).

Krimmer et al (2021) have identified three main scenarios available to countries when deciding to hold elections during a pandemic: 'the good' solution involves organizing elections as normally as possible, but with added health protections; 'the bad' means expanding/introducing postal voting to reduce the pressure on traditional polling stations; while 'the ugly' refers to the introduction of i-voting (2021, 9). The normative qualifications of these categories refer to their lack of short-term feasibility: holding elections as close to normal as possible is the cheapest and least demanding option available, whereas expanding/implementing postal voting on a large, meaningful scale is more expensive and requires changing legislation, but could prove a reliable option in the medium-term. Finally, holding elections over the internet

is the ugly solution because it is the most difficult to implement, requiring both changes in electoral legislation and secure software.

According to the International Institute for Democracy and Electoral Assistance (IDEA) database, most of the 51 countries that held elections and referenda from February 2020 to December 2021 opted for ‘the good’ solution. Thus, in countries like South Korea, Jordan or Jamaica, voters infected with Covid-19 were able to cast their ballots at ‘specially designated times on election day’ (Asplund et al, 2021). Other arrangements included drive-thru or roadside voting in Lithuania and the Czech Republic, or reserved voting booths for those presenting symptoms of the virus (Romania). Additionally, early voting was used to either reduce crowding on election day (as in South Korea) or to allow infected people to cast their ballots (as in North Macedonia or Lithuania). In other countries, mobile ballot boxes were made available to those in self-isolation or government-mandated quarantine, besides the categories that normally benefited from this voting arrangement.

The ‘bad’ option, namely postal voting, was also widespread: the Bavarian state election was conducted exclusively via mail-in-ballots. More well-known and controversial was the massive expansion of postal voting in the United States, which saw an increase of ballots cast by mail from 17.4% of the total in 2016, to 41.2% in 2020, or an increase of roughly 41 million votes (Sullivan, 2021, pp. 12-13).

Finally, ‘the ugly’ option, remote electronic voting, was partially taken up by only one country during the pandemic. In June 2020, at the behest of the Social Democratic Labour Party, the Lithuanian parliament passed legislation providing for the implementation of an online voting system for citizens living abroad and for those in self-isolation due to Covid-19 (see Law no. I – 2721 Providing for Online Voting in a Single-Member Lithuanian Constituency of the World). Subsequently, parliament adopted a resolution in which it recognized the current epidemiological situation and proposed to ‘form a working group to prepare an action plan for the introduction of online voting in all types of elections’ (e-seimas.lrs.lt), noting the possibility of introducing ‘fully-fledged online voting’ for the 2024 parliamentary elections. The law allowing out-of-country voters to cast their ballots online was passed too late for the system to be implemented in time for the October 2020 parliamentary elections, just one day before the dissolution of parliament and without public consultation (ODIHR Election Expert Team Report). However, Justice Minister Jankevicius stated that i-voting will be available within 18-24 months for local, national and European elections (LRT 2020).

Krimmer et al’s (2021) expectations have proven largely correct, with countries preferring to organize elections as they usually did, following the social distancing measures that were already in effect; or by expanding postal voting. Even so, these solutions have been, of course, imperfect, in some cases being characterized either by reduced turnout or by distrust in the security or fairness of the alternative voting method. Lithuania’s trajectory towards online voting gives an inkling of the logistical difficulty of establishing a secure REV system in a short timeframe, yet also shows both the general attractiveness of REV in normal times, as well as its necessity during times of emergency. It remains to be seen if the new government and parliament will fulfil their promise of establishing i-voting for the 2024 European and presidential elections. If they do decide to proceed, there are specific international guidelines to follow, as well as the 16-year experience with i-voting of their Baltic neighbour, Estonia.

## INTERNATIONAL AND LEGAL REQUIREMENTS

Any guidelines seeking to regulate i-voting should acknowledge that using new technologies in the electoral process should not be an end in itself, but rather a means through which ‘the quality of elections, including their integrity, accessibility, and levels of participation’ (Teague in Gibson et al., 2016) can be improved. In addition to this, Gritzalis (2002) argues that any voting system, be it electronic or paper-based, must respect several ‘constitutional requirements’ (2002, p. 541). It must be general, in that it should allow any eligible voter to participate in elections, without discrimination or illegal exclusion. Any election must also be characterized by freedom: voters must not be in any way coerced, and they must be allowed to cast invalid votes if they so desire (2002, p. 542). The Estonian model provides a good rule of thumb: voters are allowed to cast their ballots how many times they wish from the tenth to the fourth day before election day (the period reserved for i-voting, see article 38 of the Riigikogu Election Act), with only the last vote being taken into consideration and counted. Those unhappy with the way they voted still have the option of physically going to the polling station and casting a new vote. This ‘multiple voting’ system has several advantages to postal voting when it comes to freedom from coercion: if there are multiple generations living at home, or parents still exercise influence over adult children still living at home and might transform voting into a family event, voters can still escape this by voting on their own later and thus changing their vote. This would be more difficult to accomplish with postal voting, as one would have to take extra bureaucratic steps to receive a new ballot.

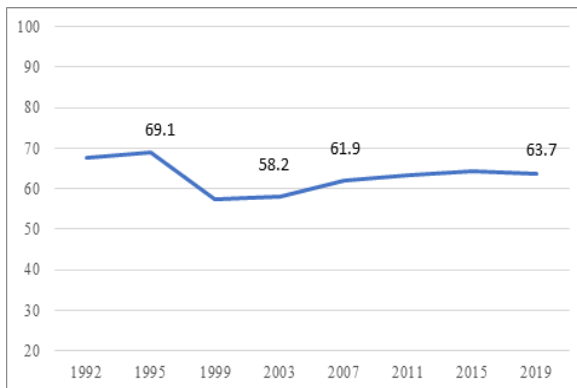
The third requirement is equality: all votes must carry equal weight, and all voters must receive an equal number of votes. Candidates must also be treated equally, and the i-voting interface must be as similar as possible with a traditional paper ballot, with only neutral, technical-support information on display (2002, 543). A possible detriment to the principle of equality, specific to Estonia, is the fact that i-voters, beyond having a computer with internet access, must confirm their identity by using a card reader to scan their national ID card. The card reader is bought separately by the voter (one costs around \$15 – O’Brien, 2020), and may prove to be a slight obstacle to some lower-income voters. Other requirements REV must fulfil are secrecy and security. With a normal paper ballot, individual votes cannot be traced back to voters, because they are mixed in the ballot box, unless they themselves mark their ballots. In Estonia, for i-votes, secrecy is achieved by detaching voters’ personal data (the digital signature found on the national ID card) from their virtual ballot, and then mixing them, to make it impossible to match the ballots to the voters (Valimised, 2021). I-votes are encrypted as soon as the voters choose to confirm their preferred options. In order to decrypt them, an access key is divided between 9 people, the 7 members of the National Electoral Committee (made up of judges and prosecutors), and 2 from the State Electoral Office, which offers technical support to polling stations and manages the i-voting system. At least 5 of the 9 officials must be present in order to open the votes and start counting (Valimised, 2021).

Similar guidelines were passed by the Council of Europe in 2004 and again in 2017, through Recommendation CM/Rec(2017)5. The 47-member Council is the only international organization that has adopted comprehensive standards regarding electronic voting (including internet voting – Council of Europe, 2017). The Recommendation takes up many of the legal standards described above: i-voting should only be an optional method of voting, unless ‘channels of remote e-voting are universally accessible’, people should have an equal amount of votes and security check must be completed before being allowed to vote; and they must free from undue influence when casting

their virtual ballot. The guidelines also set out familiar standards regarding transparency, needed in any democratic election: independent observers must be allowed to observe all the stages of the voting process, including the tallying of results; and Member States that introduce the system must include in their legislation clear procedures that the electoral management bodies must follow. Additionally, only those persons officially mandated by the electoral management body should be allowed access to the central i-voting infrastructure, servers and election data.

## TURNOUT

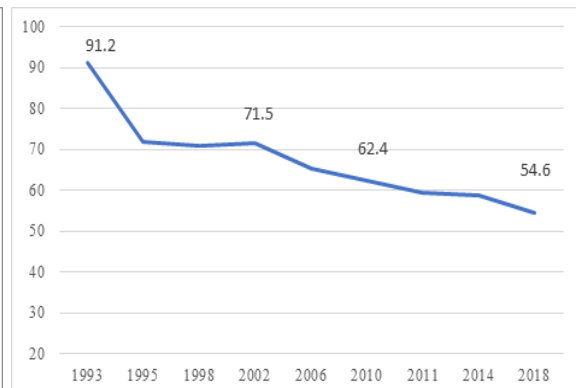
The main argument in favour of introducing i-voting has been the increase in turnout the move would bring, and this claim has become much more relevant during the Covid-19 pandemic, when deciding to hold elections became a question of public health. Figures 1-3 below show the turnout to parliamentary elections in the three Baltic republics since gaining independence from the Soviet Union. Estonia, Latvia, and Lithuania share many characteristics and are thus ideal candidates for a most similar systems designs comparative analysis.



**Figure 1.** Estonia. Turnout in parliamentary elections\* (%)

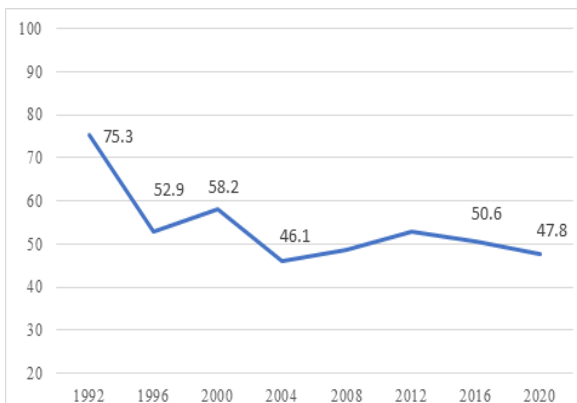
Source: National Electoral Committee of the Republic of Estonia (Valimised), 2021

\*The 2007 elections were the first legislative elections to use online voting.



**Figure 2.** Latvia. Turnout in parliamentary elections (%)

Source: Central Election Commission of the Republic of Latvia, 2021



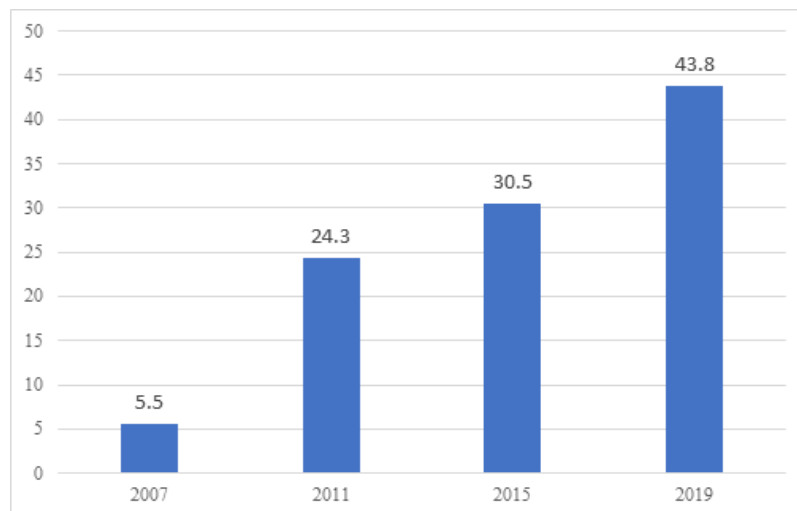
**Figure 3.** Lithuania. Turnout in parliamentary elections\* (%)

Source: Central Electoral Commission of the Republic of Lithuania, 2021

\*Lithuania used a two-round system until 2000. Since then, it has been using a mixed member proportional system, with 70 MPs elected by proportional representation (PR), and the other 71 elected by first-past the post voting in single member constituencies. Data for the first round and for the MPs elected by PR were used.



Several observations can be made: the average participation rate in legislative elections is 63.2% for Estonia, 67.3% in the case of Latvia and 54.1% for Lithuania. However, it is worth mentioning that Estonia started with much lower turnout rates in the 1990s, with only 67.8% of the population participating in the first parliamentary elections, compared to 91.2% for Latvia and 75.3% in Lithuania. Then followed a drop in turnout typical to most post-communist countries (Pacek et al, 2009). In 2005, Estonia introduced universal i-voting, which was first used for parliamentary elections in 2007. When compared to the 2003 elections, Estonia saw an increase in participation of 3.7 percentage points. Of course, the increase cannot all be on account of the introduction of i-voting, but it is worth noting that the downward trend in registered turnout that is noticeable in Lithuania and Latvia has not occurred in Estonia. At the last parliamentary elections, 63.7% of all eligible Estonians cast a ballot, 9.1% more than in Latvia and a whopping 15.9% more when compared to Lithuania. At the same time, there has been a constant rise in the proportion of i-voters in Estonia since it was first used, as Figure 4 shows.



**Figure 4.** *I-voters among participating voters, legislative elections, Estonia (%)*  
Source: National Electoral Committee of the Republic of Estonia (Valimised), 2021

The If the trend continues, more than half of all ballots will have been cast online in the 2023 parliamentary elections.

Of course, no conclusion can be drawn from examining only one case. More countries need to adopt online voting before researchers are able to exclude other factors that impact turnout and that might be specific only to Estonia. Although the available data might indicate that i-voting increases participation, online voting technologies should not be thought of as a way of solving turnout issues in any country. Turnout may be low if voters continuously feel unrepresented by existing political parties, or if parties have organized themselves in the form of a cartel, with little difference between the policies they offer and high entry costs for newer parties (see Katz and Mair, 2009 for the cartel party hypothesis). In other words, when voters see little point in voting, when they believe their vote will not change much or anything at all, no amount of easy-access i-voting will convince them to cast their ballots. For these reasons, i-voting systems should be considered foremost as an effective strategy of bringing to the virtual polls the people who already want to vote but have difficulty doing so: the elderly, the disabled, out-of-country voters.

## CONCLUSIONS

The Covid-19 pandemic has changed the way we vote and with it, it has affected the very heart of liberal democracies: free and fair elections. Governments all around the world have adapted to the new conditions in whatever way they could. Adapting legislation and building the infrastructure needed for online voting takes time, but the Estonian case provides valuable expertise and the Council of Europe, insightful standards and guidelines. It remains to be seen if the temporary restrictions imposed by the pandemic will lead to a wider implementation of online voting technologies throughout the world, but one thing is certain: the debate regarding remote electronic voting, with all its positive and negative aspects, has been injected with revived interest.

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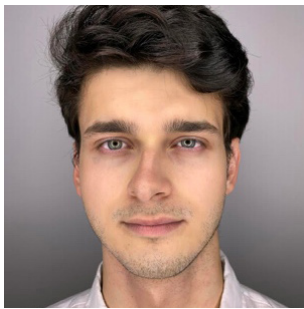
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### **Vlad Cosmin ADAMESCU**

Is a second-year Politics BA student at King's College London, Faculty of Social Science and Public Policy, Department of Political Economy. His fields of interest include Comparative Constitutional Law, International Relations, History and Political Philosophy.

His fields of interest include Comparative Constitutional Law, International Relations as well as History and Political Philosophy. He has worked for the Middle East Political and Economic Institute based in Bucharest and is currently employed at Factual, a political fact-checking website in Romania. In 2020, he co-founded @politicalaminut, an IG page delivering quick explanations of political events at the European and Romanian level. He is planning on doing a Master's degree in European public policy.