

Study on the benefits and drawbacks of remote voting solutions to support the preparation of a best practice guide for the use of digital tools to facilitate the exercise of EU citizens' political rights

Main findings

Lead contractor



in consortium





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Project overview and methodology



Objectives

To assess **how the EU can best support remote voting** solutions where they are provided for in the Member States.

The study* did this by:

- Collecting data on the **legal provisions and administrative practices** in the Member States concerning remote voting solutions
- Collecting data on **the technical solutions** actually trialled and/or implemented
- **Surveying Member State policies, experience and attitudes** to such solutions

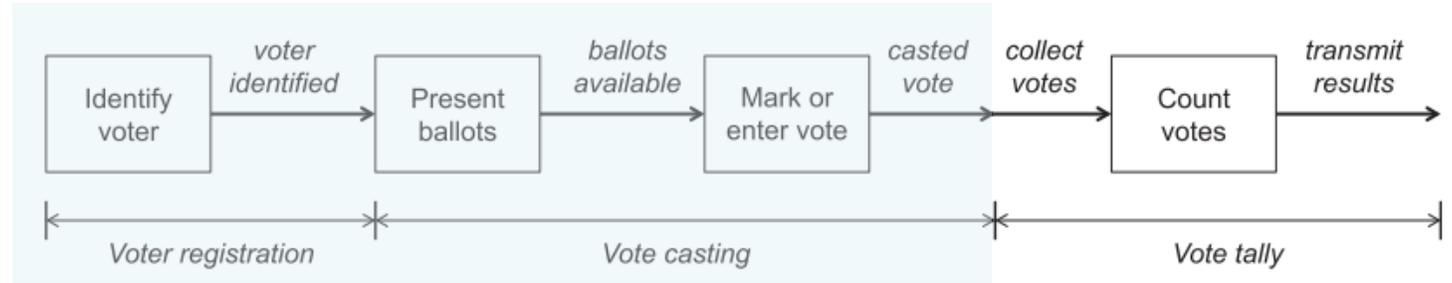
*This study was prepared as part of a European Parliament pilot project to “look into the potential benefits of alternative arrangements with a view to tele-voting, focusing on the advantages of an e-voting system, and produce a tele-voting good practice guide on the basis of a detailed study.”



Scope

Remote voting refers to all those means which allow electors to vote from locations **other than the polling station assigned to their district of residence**, either from abroad or from within the country.

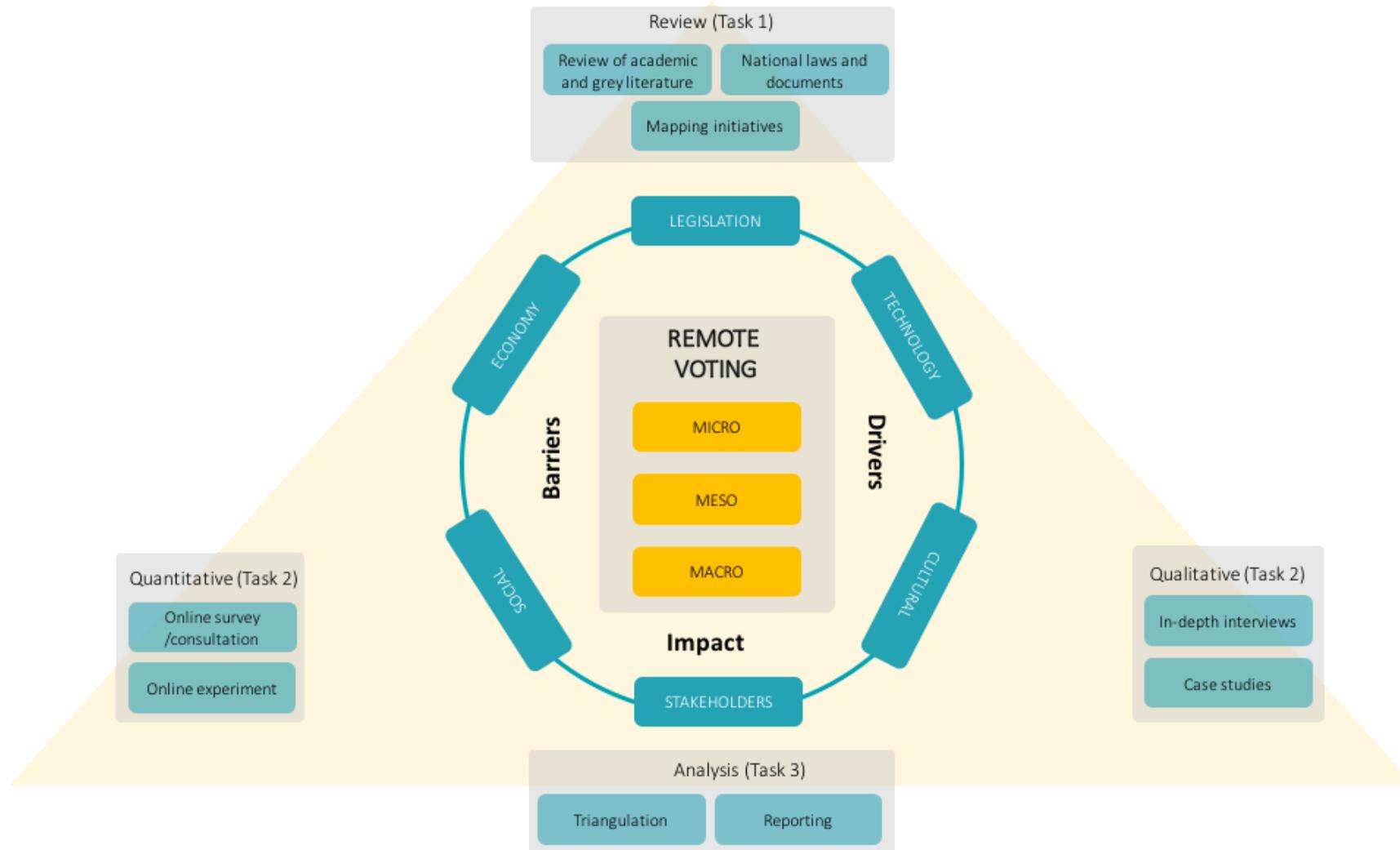
It comprises both **electronic voting** and **non-electronic** voting mechanisms



	Non-electronic	Electronic
Poll-site-based	<ul style="list-style-type: none"> Paper ballots in specified polling station 	<ul style="list-style-type: none"> Electronic voting machines in specified polling station
Remote	<ul style="list-style-type: none"> Mail voting Proxy voting Paper ballots in distance polling station (e.g. consulate, military base) Mobile ballot box Paper ballots in special polling stations (e.g. in hospital or prison) Paper ballots in a polling station outside the voter's district 	<ul style="list-style-type: none"> Internet voting E-mail voting SMS voting Electronic voting machines in distance polling stations (e.g. consulate, military base)



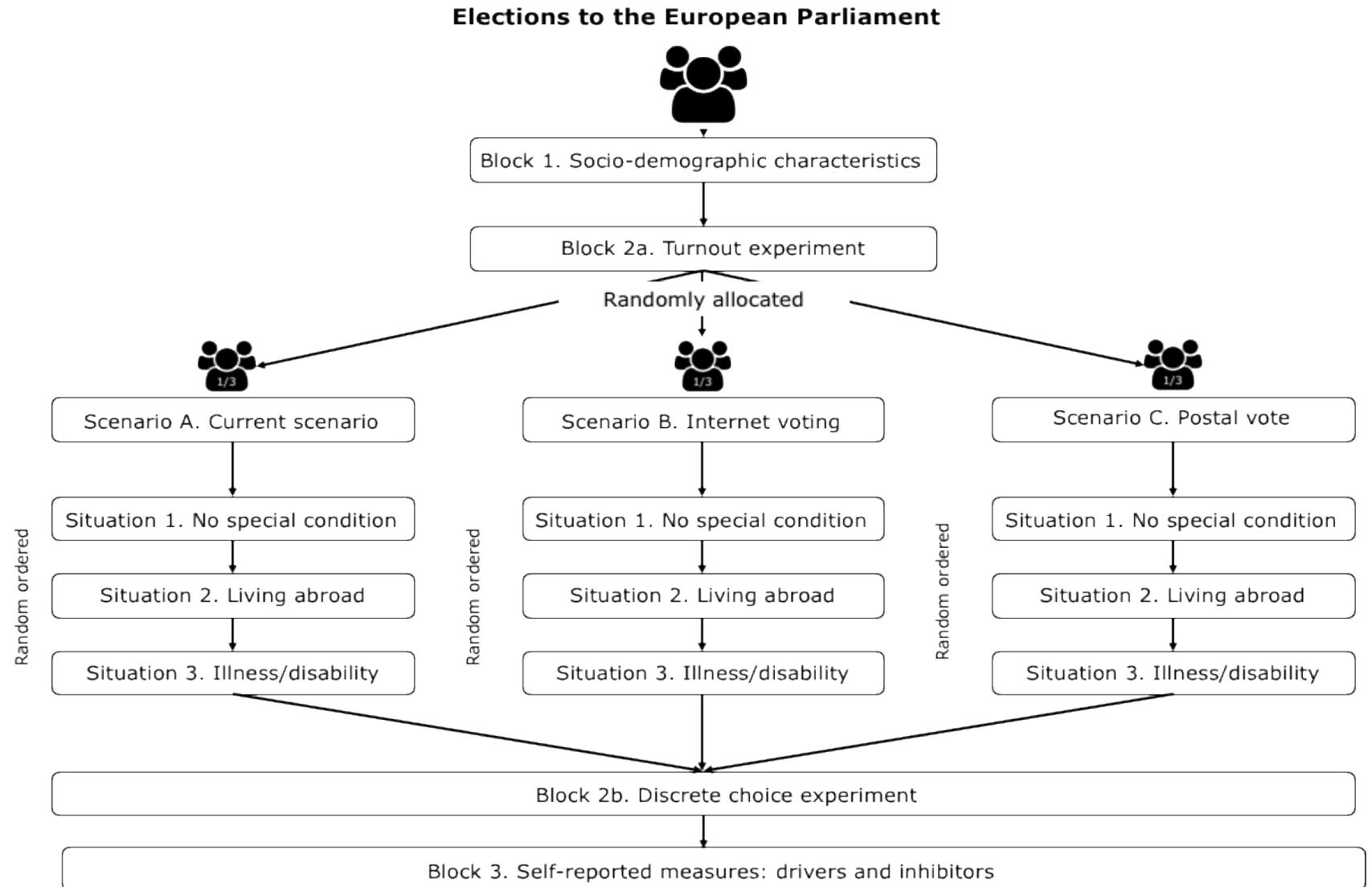
Sketch of the study





Online experiment

- Online panel
- Representative sample of Internet users
- 700 individuals in each country
- Three countries (DE, IT, PL): each with a different voting system





Main findings

Remote voting options in EU countries (1)

We reviewed and mapped **seven types of remote voting options**:

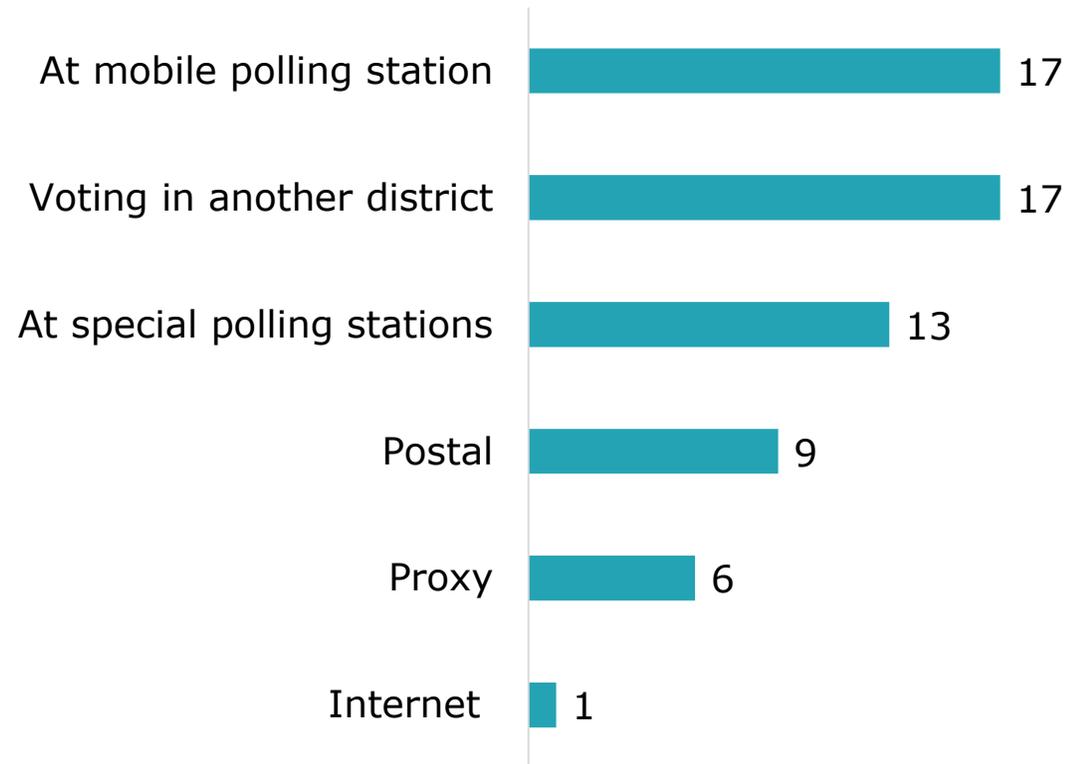
- Voting by post
- Voting by proxy
- Voting in person from abroad (e.g. in a consulate)
- Voting at special polling station inside the country (e.g. in a hospital or prison)
- Voting through a mobile polling station
- Voting at any polling station in the country (implying that people can vote outside their district of residence)
- Internet voting

When **voting from abroad** the most common voting options are voting in person and voting by post (both are available in 19 Member States and 11 have the two options).

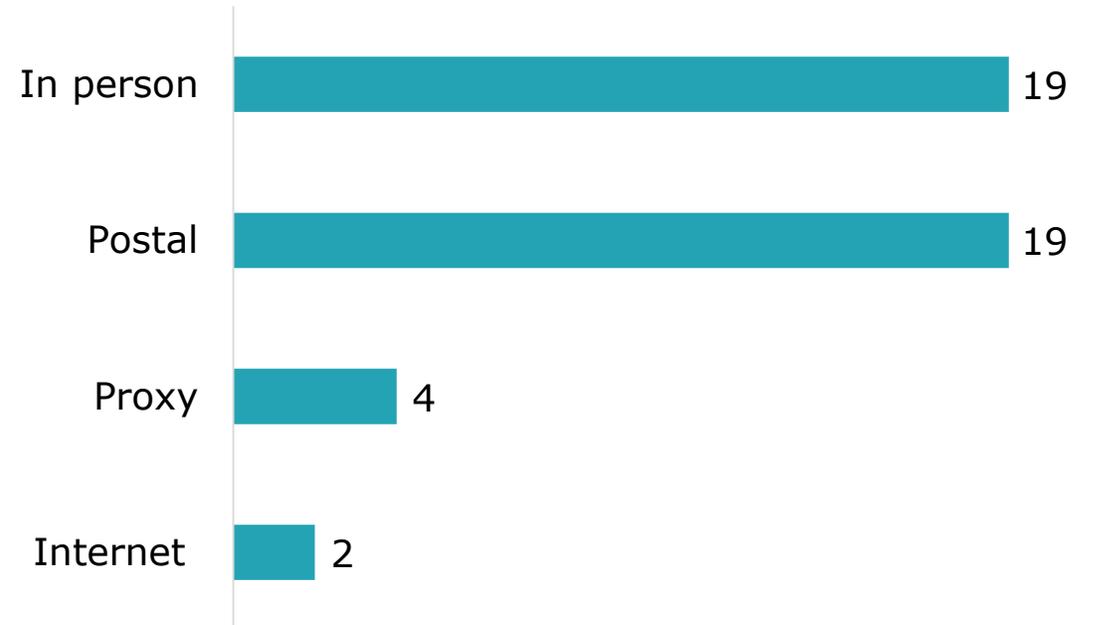
When voting from **within the country of residence**, the most common ways that citizens can vote remotely in EU countries are by voting in a mobile polling station and voting in another district (both available in 17 Member States).

Remote voting options in EU countries (2)

Within the country



From abroad



Remote voting options in EU countries (3)

The extent to which these options are available varies greatly from one country to another. This may be linked to (among others):

- **The electoral system:** for example whether ballots are constituency-specific or universal.
- **Factors relating to electoral administration:** for example the time period between the confirmation of candidates on the ballot and the election.
- **Demographic factors:** for example, countries with a widespread diaspora may face difficulty in providing sufficient overseas in-person polling stations.
- **Values:** for example, some countries may put the emphasis on prizing secrecy and integrity of the ballot and others on accessibility for overseas voters.

Moreover, the way **these options operate in practice differs across countries**, in some cases markedly.

Remote voting options in EU countries (4)

These differences imply that in the European Parliament elections: **citizens vote for the same election under different systems**. This means that citizens of different countries can have different opportunities to cast their ballot in the election.

While proposing a **common approach to the availability of remote voting** for European Parliament elections would reduce the complexity of the current status quo, it would affect the prerogatives of the Member States. Neither could it guarantee that any such approach would facilitate participation in voting. It should also be stressed if such an approach implied a *reduction* of the remote voting options in any particular country, this might not facilitate participation and might be undesirable.

The following slides display the voting options available in each Member State.

Remote voting options within the country

Only by post	 LU  ES
By post + special and/or mobile	 DE  IE
By post + another district + special and/or mobile	 AT  HU  SI
By post + proxy	 UK
By post + proxy + another district + special and/or mobile	 PL
Only by proxy	 BE  FR
By proxy + another district + special and/or mobile	 NL  SE
Special and/or mobile	 CY  IT  MT  PT
Special and/or mobile + another district	 BG  HR  CZ  DK  FI  EL  LV  LT  RO  SK
Special and/or mobile + another district + Internet	 EE

Remote voting options from abroad

Only by post	 AT  DE  IE  IT  LU  SK
By post + proxy	 NL  UK
By post + proxy + in person	 BE
By post+ proxy + in person + Internet	 FR
By post + in person + Internet	 EE
By post + in person	 HU  LV  LT  PT  RO  SI  ES  SE
Only in person	 BG  HR  CY  CZ  DK  FI  PL  EL (EP elections)
No external voting	 MT

Benefits of the use of remote voting solutions

Remote voting solutions can help **facilitate the act of voting** for:

- Those voters who **live in remote areas**
- Those who **live abroad**
- Those for whom voting can be difficult given their **health condition** (e.g. elderly or voters with disabilities)
- Those who **cannot leave the place in which they are residing** at the time of the election (e.g. residents of a hospital, prison, or retirement home)
- Those who **have to/want to travel the day of the elections** (e.g. due to professional duties or leisure activities)
- Those who **cannot/do not want to leave their house the day of the election** (e.g. due to family duties or plans on the day of the elections)

We found that there is a particularly wide research gap around the situation of **voters with no fixed abode**. The extent to which remote voting solutions can help these citizens is less clear, since the issue linked to their participation is more linked to whether and how they can register and receive the voting material, rather than how they can cast their vote.

Drawbacks of the use of remote voting solutions

There are also several drawbacks relating to each remote voting option. This shows that there is no 'golden solution' to facilitating access to the ballot and that each option has its own advantages and shortcomings.

The main risks related to all remote voting solutions include:

- They may require an **additional application or registration**.
- **Observing remote voting solutions** may be more complex/difficult to organise than i-person voting.
- There may be **information asymmetry** between voters who vote in advance and those who vote on Election Day.
- Remote voting solutions which take place in an uncontrolled environment may present a higher risk of fraud, coercion, family voting, impersonation, violation of ballot secrecy or other compromises to the integrity of the vote.
- They may have **financial and administrative consequences** for Member States or for particular hosting institutions (such as hospitals or prisons), depending on whether they are introduced in addition to - or instead of - existing methods.
- There may be **political disagreement** over the method and extent of voting by a diaspora, particularly if this is seen to be politically advantageous to a particular party.

(the following slides include risks related to each specific option)

Benefits and drawbacks of the use of remote voting solutions (1)

Postal vote



Voters may vote by post from a remote location of their choosing. Some Member States restrict its use to certain categories of users.

- ✓ Serves less mobile voters, voters overseas, and voters residing in remote locations
- ✗ Vulnerable to fraud or 'family' voting; dependence on postal services

In person abroad



Voting takes place in embassies, consulates or other locations in foreign countries. In some cases this option is also open to those who are temporarily abroad.

- ✓ Serves overseas voters and takes place in a controlled environment
- ✗ Voters may have to travel far to reach the voting location.

Mobile ballot box

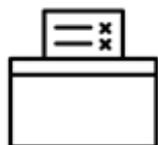


A ballot box is brought to the location of the voter, e.g. the voter's home or a hospital.

- ✓ Serves voters who are sick, have a disability, or reside in remote areas
- ✗ Risks of coercion and violation of secrecy

Benefits and drawbacks of the use of remote voting solutions (2)

In another district



Voters may vote in polling stations outside the electoral district in which they are registered.



Lowers voter's travelling time, while maintaining all benefits of 'normal voting'; enables voting on the day while travelling



Risk of double voting, may need to transport ballots between constituencies

Special polling station



Voters cast their ballot in a polling station set up in a predetermined location, such as hospitals or prisons, with the purpose of facilitating the vote for particular groups of voters unable to otherwise access it.



Serves voters who are sick or have a disability; voting takes place in a controlled environment



May involve costs for host institution

Proxy vote



A proxy voter votes on behalf of another. Voters decide who they want to trust.



Serves voters who live remotely or overseas, are imprisoned, are too sick to travel or have a disability



Risk of coercion, identification fraud, or not respecting the will of the voter; secrecy of the ballot is compromised

Benefits and drawbacks of the use of remote voting solutions (3)



Votes are cast from a desktop computer or mobile device connected to the internet.



Voters can vote from anywhere, which serves voters with a disability amongst others



Voting takes place in an uncontrolled environment; risk of cyber-attacks on the system; difficult to audit results

Postal vote

Benefits

- It can be used by people who live in **remote areas**.
- It can be used by people who **live abroad**, including those with no consulate nearby.
- It may be easier to use for people who are sick or have a **disability**.
- It may be used by people in **hospital**, long term care facilities or similar institutions.
- It may be used by **prisoners** (provided they are not disenfranchised).
- It could facilitate voting of people with **no fixed abode** (except if the only way to obtain the voting material is through delivery to a home address).
- It may entail **less travelling** for voters (depending on whether they live need to travel to submit the application and/or their postal ballot).

Drawbacks

- Voting takes place in an **uncontrolled environment**. It is difficult to ensure that the person votes freely and without coercion.
- There is the risk that another person votes on behalf of the voter (It is difficult to **identify** the voter).
- The vote may be **intercepted** and **manipulated**.
- It is difficult to **observe** the whole voting process.
- **Postal services** may not work well in certain countries, or their service may be disrupted.
- Voters may not receive the voting **material on time**.
- Ballots may get **lost or damaged**, or they may arrive **late** at the place of counting.
- It may be difficult to **verify** that the vote has arrived.
- The procedures for requesting the vote and for sending the ballot are sometimes criticised for being too **bureaucratic**.
- Sometimes voters need to **pay for the postage**.
- It implies some **costs** for the public administration, as well as organisational efforts.
- Votes usually need to be cast **in advance**. From this moment until Election Day the voter may change their electoral decision if new information becomes available.

Voting by proxy

Benefits	Drawbacks
<ul style="list-style-type: none">- It can be used by people who live in remote areas.- It can be used by people who live abroad, including those with no consulate nearby.- It may be easier to use for people who are sick or have a disability.- It may be used by people in hospital, long term care facilities or similar institutions.- It may be used by prisoners (provided they are not disenfranchised).- It may entail less travelling for voters (this also depends on whether they need to travel to a specific location to establish the proxy).- The proxy votes in a controlled environment. Thus, the proxy votes freely and without coercion.- Voters decide who they want to trust.- There is no dependency on the postal services.- There is no risk that votes get lost, damaged, or arrive late at the place of counting.- It implies low costs for both the voter and the public administration, as the proxy votes in the standard polling stations.	<ul style="list-style-type: none">- It may entail some additional travelling for the proxy if they do not vote in the same location than the principal.- There is no secrecy of the vote between the voter and the proxy.- It is difficult to ensure that the proxy does not coerce the voter to obtain the authorisation.- The proxy may falsify the documents authorising him/her to vote on behalf of the principal- The proxy can decide to vote according to the own preferences, changing the voter's will.- Some people may not find an appropriate person to trust with their vote.- Due to the limitations on the number of proxy votes per person, there might not be enough proxies.

Voting in person abroad

Benefits

- It can be used by people who live **abroad**.
- Voting takes place in a **controlled environment**, following the standard process. Secrecy is ensured because voters themselves place the vote in the ballot box.
- There are often **polling booths** or specific spaces to vote in private.
- The identity of the voter can be verified in person.
- It may be **observed** (although it could be more complicated and resource-intensive than in standard voting).
- There is no dependency on the **postal services**.
- It implies low costs for voters if they live close to the consulate.

Drawbacks

- Not all Member States have **consulates** in all countries.
- It may entail a lot of **travelling** for those who live abroad but **without a nearby consulate**.
- It may be difficult to use for people with a **disability**.
- If votes are counted at the polling station abroad and there are very few voters, secrecy can be at risk.
- There may be problems of **dual inscription**, with voters being registered in the electoral lists abroad and within the country.
- If votes are sent to the country for counting, there is some risk that they get **lost or damaged** during transportation.
- An **advance application** is often needed to use this option.
- It implies some **costs** for the public administration, as well as organisational efforts.
- If there are very few polling stations, there may be long **queues** for voters.
- Voters may not be able to use **constituency-specific ballots** (or require additional organisation to deliver such ballots to the voters' location abroad).

Voting in special polling stations within the country

Benefits	Drawbacks
<ul style="list-style-type: none">- It may be used by people in hospital, long term care facilities or similar institutions.- It may be used by prisoners (provided they are not disenfranchised).- It can reduce the need to travel to the polling station for voters who are sick or have a disability.- It lowers voters' travelling time, as they can often vote in their location.- Voting takes place in a controlled environment. Secrecy is ensured because voters themselves place the vote in the ballot box.- There are often polling booths or specific spaces to vote in private.- The voter can be identified through their official identification document.- It may be observed (although it could be more complicated than in standard voting).- There is no dependency on the postal services.- It implies low costs for voters.- Often the voter does not need to submit a request to use this option, as the responsibility lies with the institution.	<ul style="list-style-type: none">- There is some risk that the employees of the institutions may attempt to influence or interfere with voters' decisions.- Polling stations may only be used by a small number of voters.- If votes are counted at the special polling station and there are very few voters, secrecy can be at risk.- It implies some costs and organisational efforts for the public administration and, in some cases, the institution.- The special electoral lists may contain sensitive information on individual's health status and criminal behaviour. There is the risk that this is used in an unauthorised way.- If votes are cast in advance, the voter may change their electoral preference if new information becomes available between the vote-casting and election day.

Voting in mobile polling stations

Benefits	Drawbacks
<ul style="list-style-type: none">- It can be used by people who live in remote areas.- It avoids the risk of travelling to the polling station for voters who are sick or have a disability.- It may be used by people in hospital, long term care facilities or similar institutions.- It may be used by prisoners (provided they are not disenfranchised).- The mobile polling station can travel to several places during the day to reach a higher number of voters.- It lowers voters' travelling time, as they can often vote in their location.- The identity of the voter can be verified in person.- There is no dependency on the postal services.- It implies low costs for the voter.- It implies low costs for the public administration as there is no need to set up additional polling stations.	<ul style="list-style-type: none">- Some locations may be difficult to reach for the members of the election authorities.- The voter may feel observed while voting, or may be victim of coercion.- There is the risk that the election authorities check the vote (violating its secrecy) or that they change or remove it.- It may be more difficult to observe.- There is a risk that votes get lost or damaged during transportation.- An advance application is often needed to use this option. Sometimes, a medical certificate is also required. The special electoral lists may contain sensitive information about an individual's health status. There is the risk that this is used in a unauthorised way.

Voting in any polling station in the country

Benefits	Drawbacks
<ul style="list-style-type: none">- It lowers voters' travelling time, as they can vote close to their Election Day location.- It could facilitate voting of people with no fixed abode.- Voting takes place in a controlled environment, following the standard process. Secrecy is ensured because voters themselves place the vote in the ballot box and they can vote freely using polling booths.- The identity of the voter can be verified in person.- It can be observed through standard procedures.- There is no dependency on the postal services.- If votes are counted in the polling station where they are cast, there is less risk that they get lost, damaged, or arrive late at the place of counting.- It implies low costs for the voter.- It may imply low costs for the public administration compared to other types of remote voting, especially if there is a single constituency and if votes do not need to be transported to the voter's district of residence.	<ul style="list-style-type: none">- There is the risk that a single person votes in more than one location.- If votes are transported to the voter's constituency, there is some risk that they get lost or damaged during transportation.- It may imply some costs and organisational efforts if there are multiple constituencies and votes need to be transported to the voter's district of residence.

Internet voting

Benefits

- It can include features to allow persons with a **disability** to vote without assistance.
- It may be used by people in **hospital**, long term care facilities or similar institutions.
- It can be used by people who live in **remote areas**.
- It can be used by people who live **abroad**, including those with no consulate nearby.
- It lowers voters' **travelling** time as people can vote from anywhere with an Internet connection.
- Votes can be **encrypted** to guarantee the secrecy of the vote.
- The computer system can check whether a person has voted more than once.
- There is no dependency on the postal services.
- There is a lower risk that votes arrive late at the place of counting.
- It may reduce the incidence of **counting** errors.
- Results can be counted automatically.
- It implies **low costs** for the voter.

Drawbacks

- It takes place in an **uncontrolled environment**. It is difficult to ensure that people vote freely.
- There is a risk of **cyber-attacks** from internal or external actors, which may manipulate the votes.
- **Denial of service attacks** may prevent citizens from casting their vote.
- Software errors or **malware** on voters' devices may affect the vote casting. Voters may be required to **update** their software or browsers.
- It may be difficult to guarantee at the same time an accurate voter **identification** and **secrecy**.
- **Identification codes** may be stolen or sold.
- It is difficult to **observe** the process without relying on specialist expertise.
- It may be difficult to **verify** that the vote has arrived.
- It may be difficult to **recount** the votes, making it more complicated to audit the results.
- There are some **costs** related to software development and maintenance and security safeguards.
- There is a dependency on voters having a reliable **internet connection**. Internet penetration and availability and use of e-government services in some countries is limited.

Impact of the use of remote voting solutions (1)

- There is little evidence from the existing literature that remote voting solutions affect overall **turnout**.
- The literature review found some studies that report positive impacts of **postal voting** on turnout, others that do not, and others that report a negative effect. Our experimental task in the online survey showed that postal voting did not have much impact on likelihood and intention to vote.
- The literature examining the impact of **Internet voting** on voter turnout presents mixed results. Our experimental task showed that the existence of internet voting sometimes had a positive effect.
- The results of the experiment we conducted, as well as data from the 2016 Eurobarometer survey on electoral rights, suggest that **citizens generally view Internet voting as convenient, but they also have some concerns** related to usability, fraud, secrecy and other security issues. However, the extent to which these were highlighted as concerns by a majority of the population differ across Member States.

Impact of the use of remote voting solutions (2)

- In practice, the impact on turnout may depend also on other features of the electoral system, such as the existing remote voting options available to the voter or the specific design and implementation of such options. It is important to stress that there are several factors related to turnout and, thus, one should be wary in assuming that simply adding a voting option leads to a great increase in participation.
- Member States would need to apply a package of measures to increase turnout for example, new or improved remote voting options, awareness-raising campaigns on the European Parliament elections and the role of the European Parliament, and strategies to increase the trust in EU institutions and political actors in general.

Impact of the use of remote voting solutions (3)

- The impact of internet voting on **costs** is unclear.
- It is often argued that an internet voting system can be cheaper than other voting options. In fact, some interviewees from Member States' bodies responsible for electoral matters consider that internet voting could reduce the costs of elections. However, there is no clear consensus in the literature as to the relative cost-effectiveness of remote voting systems.
- At the beginning, internet voting implies some costs related to software development, testing and implementation. However, it is important to analyse the costs and savings in the context of multiple elections over a longer period.
- Costs may also depend on the design of the voting system and the overall combination of voting solutions offered. For example, some Internet voting solutions may still require login details to be posted to the voter.

Internet voting in the EU (1)

- While lots of early trials or **pilot projects** with internet voting took place in early 2000s and 2010s, fewer have taken place in recent years. However, there has seemingly been renewed interest in a few countries in exploring internet voting solutions in the coming years. As of October 2018:
 - Plans to trial internet voting have been announced in Bulgaria.
 - Trials may also take place in Sweden, at local and regional level, and in Wales (UK).
 - The Ministry of Justice of Lithuania presented a bill before the parliament to establish an electronic voting system.
 - At the time of writing, a consultation on electoral reform is being undertaken by the Scottish government, including on issues of internet voting.
- Nonetheless, concerns over the potential **cybersecurity risks** of electronic voting systems – and the potential consequences for the **legitimacy** of election results and ballot integrity – remain.

Internet voting in the EU (2)

- In fact, **there is no consensus across EU countries regarding whether internet voting should be implemented.**
 - Estonia is the only Member State that has fully implemented internet voting.
 - In France, it was used for overseas voters in the 2012 legislative elections, but it was not used in 2017.
 - Three systems were implemented in the Netherlands, but they have been abandoned.
 - Portugal, Spain and the UK conducted pilots in the past, but there are no current plans to implement Internet voting at national level.
 - Other countries have had debates about Internet voting or launched unsuccessful proposals (e.g. legislative proposals, citizens' petitions, inclusion in a coalition agreement).
 - Furthermore, in Germany, the Federal Constitutional Court established voting machines as unconstitutional in 2009.

Internet voting in the EU (3)

- There are ways in which countries implementing internet voting have sought to **balance the trade-off between risk and convenience** for voters by taking measures to reduce or minimising the risk to overall results. For example, France offers Internet voting solely to a (relatively) small constituency (overseas voters) who cannot attend the polling station on the day. Switzerland has different levels of security required for different scales of elections.
- **Piloting internet voting solutions** may also help to test systems before implementation. Moreover, piloting solutions at local level may enable the use of quasi-experimental methods to study the impact of new methods on voting patterns and outcomes by comparing pilot areas to other demographically-similar areas.

Internet voting in the EU (4)

- It is important to note that **digital and e-government technologies can facilitate the administration of elections** beyond Internet voting:
 - Several countries allow voters to submit online applications to use a specific voting option, and have implemented IT systems for voters' registration, for counting the votes and for transmitting the results.
 - Some countries (e.g. Romania and Lithuania) use an IT system to check on Election Day whether a person willing to cast the vote is registered in the electoral roll and whether this person has already voted in another polling station.
 - The Netherlands delivers voting documents to voters abroad by email.
 - The UK uses scanning machines to match signatures from postal ballot applications to statements submitted with returned ballots.
 - In Croatia voters can use an online application to change their polling station until a few days before the elections.

Recommendations (1)

- Member States may consider exploring the extent to which their voting system is fit for the needs of its voting population, and whether an **extension or adaptations to their remote voting offering** would make voting more accessible, especially for specific groups especially for specific groups (e.g. people living abroad, people with disabilities, people who are in hospitals/nursing homes, etc.)
- At the same time, Member States may explore whether remote voting may present issues relating to **electoral legitimacy** and additional **administrative burdens** for the state. Therefore, they should understand the trade-offs between the benefits and drawbacks of remote voting when implementing or adapting voting options.

Recommendations (2)

- The optimal solution may depend on **country particularities**, such as the size and distribution of their diaspora or their values (e.g. emphasis on vote secrecy or on accessibility). Therefore, in selecting or adapting a remote voting offer, Member States should decide what **aspects of the voting process should be prioritised**, involving all stakeholders in the decision-making process, and taking into account **pros and cons** for specific groups (e.g. people living abroad, people with disabilities, people who are in hospitals/nursing homes, etc.)
- This decision should be based on an **assessment of needs and risks**. Member States could use research to explore the extent to which their voting system is fit for the needs of its voting population, and whether it would be convenient to extend their remote voting offering.

Recommendations (3)

- There are some research gaps relating to the **electoral participation of specific groups** of voters (including also registration and receipt of voting materials). For example, in the case of voters of no fixed abode. Greater **transparency** about how particular groups of citizens have access to the vote in their country would help them to understand what help is on offer and how best to participate in the democratic process; it would also help to ensure that democracy is a reality for all citizens in European Union elections.
- Although Member States have a wide diversity of traditions and attitudes on remote voting, the European Commission can play a role in supporting Member States by helping them **to share best practice in the implementation and administration of remote voting solutions**, based on what has been already implemented, evaluated or trialled in other Member States or in third-countries.
 - This could include ways to engage with specific groups of voters in the remote voting process; electoral processes, including registration, dispatching and tracking voting materials, and mitigating fraud and security risks; and exploring the ways in which digital technologies may further enable the effective implementation of electoral processes short of internet voting.

Thank you for listening

Source document:

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The full report can be found at:

[Insert link to published report here]