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Electronic voting in parliamentary chambers

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This briefing paper provides information on electronic voting in selected legislatures, including the capacity for remote voting.

This information is provided to Members of the Legislative Assembly (MLAs) in support of their duties, and is not intended to address the specific circumstances of any particular individual. It should not be relied upon as professional legal advice, or as a substitute for it.

1 Introduction

This briefing paper has been prepared for the Committee on Procedures. It provides information on the use of electronic voting in legislatures.

The paper looks at the provision, if any, for electronic voting in the Canadian House of Commons, Scottish Parliament, Senedd, Dáil Eireann, the European Parliament, Spanish Senate and United States House of Representatives.

The Covid-19 pandemic, and the subsequent need to adopt new ways of working, led to the introduction of remote voting systems in some legislatures. These are also considered as part of this research, as well as electronic voting infrastructure in chambers.

2 The prevalence of electronic voting

Inter-Parliamentary Union reports

The Inter-Parliamentary Union produces bi-annual e-parliament reports, looking at the use of technology in legislatures. As part of this, the prevalence of electronic voting is surveyed. Reports from 2010 to 2018 (no report was published in 2014) show a majority of parliaments using, or showing a desire to implement, some form of electronic voting.

Furthermore, there was clear evidence that more legislatures had adapted some form of e-voting as a result of having to amend procedures to allow parliamentary business to continue. The picture is more complicated when the reports examine the Covid-19 era, although unsurprisingly legislatures embraced alternative forms of voting to allow business to continue.

Figure 1, showing data from the 2020 report, displays the most frequently used forms of e-voting.

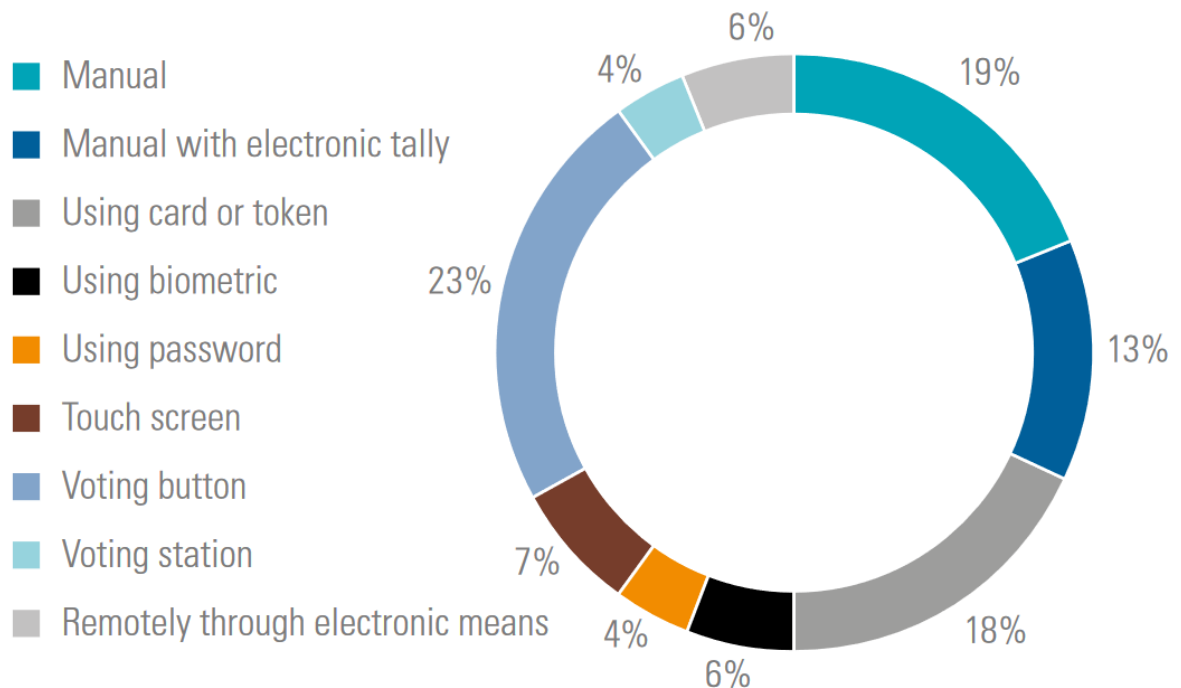


Figure 1: methods of electronic voting (2020 Inter-Parliamentary Union e-parliament report)

3 Canadian House of Commons

Consideration of electronic voting in the Canadian House of Commons dates back to 1959, but it wasn't until 2004 that infrastructure was installed in the chamber.¹ Despite this, no progress was made on adopting electronic voting methods for members until the Covid-19 pandemic.

An article by the Clerk Assistant of the House of Commons sets out the development process of the electronic voting system for use during the pandemic:

The electronic voting system was developed, tested and refined between September 2020 and March 2021 using an iterative process. Prototypes were presented to the party Whips and the Speaker to help ensure that the proposed solution would respond to the needs of the House. In

¹ House of Commons Procedure and Practice, Third Edition, 2017:
https://www.ourcommons.ca/procedure/procedure-and-practice-3/ch_12_4-e.html#12-4-4-12

February 2021, members participated in two simulations and provided feedback to the House of Commons Administration. Extensive testing was done on all aspects of the system to ensure that all components would perform to the highest standards.

The House Administration designed the electronic voting system according to various priorities, including security, equal access for all members, integration in the Chamber, bilingualism, and immediate voting results.²

The hybrid voting process

Hybrid voting provisions were extended via a motion adopted on 25 January 2021. Guidance was issued to members on the use of the electronic voting application and this is summarized below.

- In order to use the electronic voting application, members must use a mobile device provided by the House of Commons and be connected to a cellular or Wi-Fi network in Canada. The device must also be enrolled on the House's mobile device management platform, and members must be registered within the electronic voting system.
- The division bells will ring as usual in the Parliamentary Precinct; a countdown clock will appear on the Chamber proceedings broadcast and in the remote voting system when Members are logged in. Members will also receive notification of the vote through multiple channels, including their personal parliamentary email address.
- Members participating virtually will see a countdown clock in the voting system, as well as the motion on which the House is voting. Members can tap Motion Details to see the motion's subject, sponsor and full text. To cast their vote through the electronic voting system, Members must tap the Vote button and:

² Jeffrey Leblanc, The Table 2022, Electronic Voting in Canada's House of Commons

- Indicate “Yea,” “Nay” or “Abstain” and confirm their selection. They then confirm their identity through facial recognition technology and finally submit their vote. Every time a Member casts their vote, they must take a live picture of themselves through the system (with their mobile device’s camera).
- The House of Commons does not record abstentions in the official record. If a member is present in the chamber and wishes to abstain, they remain seated when called. The abstain option on the voting app is the equivalent of remaining seated, but they are not recorded.
- After a Member’s picture has been captured, the screen will display a Submit Vote button, along with the Member’s voting intention. The Member must then tap Submit Vote to register their vote.
- After voting, members receive a confirmation of their voting intention. They are also able to change their vote before the end of the 10-minute voting period. To do so, they must repeat all three steps for casting a vote. If a member votes both in-person and via the app, the in-person vote takes precedence. Should a Member wish to change their vote following the close of a voting period, the unanimous consent of the House is required for them to do so.
- A technical support team is available to assist Members before, during and after a vote. In the event of a technical issue with the electronic voting system during a vote, Members may log in to the virtual House sitting and, immediately following the close of the 10-minute voting period, the Speaker will recognize Members with technical difficulties who wish to record their vote. The voting period concludes once the Clerk announces the results to the House. At the end of the voting period, the votes cast by Members who experienced technical difficulties will be confirmed and included in the tally reported to the Speaker.

Permanent hybrid proceedings

In January 2023 the Standing Committee on Procedure and House Affairs published its report *Future of Hybrid Proceedings in the House of Commons*. It recommended the continued use of the hybrid parliament, including the voting application. The committee's report contained a dissenting view from the Bloc Québécois, which supported electronic voting except for confidence votes, which it argued should be conducted according to the Standing Orders of the House.³

During an evidence session the committee asked Commons officials about the potential security concerns around electronic voting and were advised that:

...IT security had to be “remodelled” in the context of a virtual Parliament. As a result, major steps to secure members’ devices were taken.⁴

The report and proposed changes to Standing Orders were debated in June 2023. The Bloc Québécois reiterated its stance on electronic voting while the Liberal Party highlighted its advantages:

...Many members will no doubt remember that in the early days of the pandemic, each recorded division took up to 45 minutes, because members had to weigh in and state their vote. Now that we have the voting application, we are averaging about 10 to 12 minutes, which is on par with the quickest recorded divisions before the pandemic.

Not only that: With the advantage of the electronic voting application, the House has seen greater democratic participation in voting in the House, which makes sense. If members are available to vote remotely because they cannot be in Parliament, more people will vote, and more people are voting. Having more members vote can be seen as making the House

³ Report of the Standing Committee on Procedure and House Affairs, *Future of Hybrid Proceedings in the House of Commons*, January 2023:
https://www.ourcommons.ca/content/Committee/441/PROC/Reports/RP12177996/441_PROC_Rpt20_PDF/441_PROC_Rpt20-e.pdf

⁴ As above

more transparent, more participatory, and definitely more accountable to the people whom we are elected to serve.⁵

Following the debate, the proposal to make permanent the hybrid proceedings passed by 171 to 137, including the option for members to cast their vote electronically.⁶

Standing Orders

Standing Orders set out how votes are to be conducted:

Electronic votes cast from within Canada.

(a) electronic votes shall be cast from within Canada and a confirmation of a member's visual identity be required,

Ten-minute period for voting electronically.

(b) the period allotted for voting electronically on a motion shall be 10 minutes, to begin after the Chair has read the motion to the House, and members voting electronically may change their vote until the electronic voting period has closed,

Precedence of vote cast in person.

(c) in the event a member casts their vote both in person and electronically, a vote cast in person takes precedence,

Technical issues.

(d) any member unable to vote via the electronic voting system during the 10-minute period due to technical issues may connect to the sitting remotely to indicate to the Chair their voting intention before the results are announced,

Concern raised by a House officer of a recognized party.

⁵ Canadian House of Commons, 13 June 2023: <https://www.ourcommons.ca/documentviewer/en/44-1/house/sitting-212/hansard#Int-12290560>

⁶ CTV News, Hybrid sittings are here to stay as House passes sweeping rule changes, 16 June 2023 <https://www.ctvnews.ca/politics/hybrid-sittings-are-here-to-stay-as-house-passes-sweeping-rule-changes-1.6443326>

(e) following any concern, identified by the electronic voting system, which is raised by a House officer of a recognized party regarding the visual identity of a member using the electronic voting system, the member in question shall respond immediately to confirm their vote, either in person or remotely, failing which the vote shall not be recorded,

Confirmation of visual identity of members voting by electronic Means.

(f) the whip of each recognized party has the capacity to confirm the visual identity of each member voting by electronic means, and that the votes of members voting by electronic means be made available to the public during the period allowed for the vote,

Secret ballot.

(g) any question to be resolved by secret ballot shall not be subject to the provisions of this section.

Figure 2: Extract from Standing Orders of the Canadian House of Commons

Security

There are likely to be concerns around cybersecurity and electronic voting systems. In the Canadian House of Commons:

The House Administration maintains close working relations with other legislatures, as well as with national and international security partners and leaders in the technology industry, to ensure that all appropriate security measures and protocols are in place. Canada's national security partners have evaluated the electronic voting system and concluded that it meets or surpasses all essential and recommended security criteria.⁷

Technical issues

⁷ Jeffrey Leblanc, The Table 2022, Electronic Voting in Canada's House of Commons

The research looked for examples where the electronic voting app had failed. It found that, on a number of occasions, members sought the leave of the Speaker to change or record their vote. For example, on 19 June 2024 a member alerted the Speaker that the voting app had malfunctioned and sought the unanimous consent of the House to have her vote recorded as 'No'. This was granted.⁸

On 11th June a member reported difficulties with the app while he was walking to committee and sought the unanimous consent of the House to have his vote recorded as 'Yea'. Again, this was granted.⁹

On 5th June 2024, three members rose in succession to request that their vote be changed from 'Yea' to 'No'.¹⁰

These examples are from a small sample of Hansard debates from June 2024. Interventions such as these appear to be fairly routine and do not appear to cause undue delay to proceedings. The research did not find news articles or information from the parliamentary website that would indicate a significant failure of the voting system.

4 Scottish Parliament

Voting in the chamber of the Scottish Parliament is usually conducted via electronic voting. The approach is as follows:

In the Chamber the Presiding Officer asks MSPs a question. If they do not all agree with the question they will vote.

This question then appears on screens on the MSPs' desks. They can answer "yes", "no" or "abstain". They normally have 30 seconds to touch

⁸ Canadian House of Commons, 19 June 2023: <https://www.ourcommons.ca/documentviewer/en/44-1/house/sitting-335/hansard>

⁹ As above

¹⁰ Canadian House of Commons, 5 June 2024: <https://www.ourcommons.ca/documentviewer/en/44-1/house/sitting-325/hansard>

the screen to answer. Then the Presiding Officer reads out the results of the vote.¹¹

Votes in the Scottish Parliament are taken at 'Decision Time':

Decision Time is the period which normally begins at 17:00 where a meeting of the Parliament is held on Monday, Tuesday, Wednesday or Thursday and at 12:00 where a meeting of the Parliament is held on Friday and which ends when every decision which is to be taken during Decision Time has been taken.¹²

Electronic voting has been used since the Parliament was opened in 2004 and has worked largely without controversy. However, in 2016 a missing vote from a Labour member allowed the Government to narrowly avoid defeat on a council tax debate. The Labour member in question was insistent that she had pressed the button to cast her vote but the parliamentary authorities were clear that there had been nothing defective with the voting system.

In June 2016 the system failed and a vote on education had to be postponed until the following day. According to the BBC "The system as a whole actually had to be replaced in 2011, at a cost of £270,000 - although this was because the supplier was no longer able to provide spare parts."¹³

Impact of COVID

The Scottish Parliament adapted and extended its electronic voting system to address the challenges posed by COVID.

Rule 11.7.1 of the Parliament was changed to: "allow for voting to take place using "an" electronic voting system, rather than referring solely to "the"

¹¹ Website of the Scottish Parliament, *About votes*: <https://www.parliament.scot/chamber-and-committees/votes-and-motions/about-votes-and-motions>

¹² Standing Orders of the Scottish Parliament: <https://www.parliament.scot/about/how-parliament-works/parliament-rules-and-guidance/standing-orders/chapter-11-decisions-and-voting>

¹³ BBC News online, How does Holyrood's electronic voting system work? <https://www.bbc.co.uk/news/uk-scotland-scotland-politics-37450323>

electronic voting system in the Chamber. This has allowed other voting systems provided for the purpose to be used in the Chamber.”¹⁴

According to a report by the Standards, Procedures and Public Appointments Committee:

By the end of June (2020), a digital voting system had been developed and work continued over the summer to ensure that this was reliable and operational. The Presiding Officer, in a letter to MSPs confirmed to Members that remote voting would be possible in the Chamber after the summer recess to allow all Members taking part in Chamber business to vote.¹⁵

The report also quoted a response it had received from the Scottish Parliamentary Corporate Body (SPCB) in relation to remote electronic voting in the context of the pandemic:

The SPCB felt strongly that being able to take part in parliamentary business was not enough and that all Members should be able to take part in parliamentary decision-making through casting their votes. The identified solution has taken time to bed in, but it is a secure system which is producing reliable results that would withstand legal challenge. The SPCB also recognises the need to build remote voting into our new sound and voting system as and when the time comes for it to be replaced.¹⁶

Some Members expressed concern with the remote voting system when it came to consideration of a large number of amendments at Stage 3 of a bill, and the stress that could accompany this. But overall there was a feeling that

¹⁴ Scottish Parliament Standards, Procedures and Public Appointments Committee, *Standing Order Rule Changes – Inquiry into the resilience of the Scottish Parliament's practices and procedures in relation to its business*, February 2021: <https://sp-bpr-en-prod-cdnep.azureedge.net/published/SPPA/2021/2/23/67bb1cc0-ce9d-49be-8e2d-7f9af86b75d5/SPPAS052021R02.pdf>

¹⁵ As above

¹⁶ Scottish Parliament Standards, Procedures and Public Appointments Committee, *Standing Order Rule Changes – Inquiry into the resilience of the Scottish Parliament's practices and procedures in relation to its business*, February 2021

while the system was not without its flaws, “most issues were due to individual errors and connectivity issues.”¹⁷

Following consultation with Members, the Standards, Procedures and Public Appointments Committee recommended that the change to Rule 11.7.1 be made permanent so that “the rule no longer only refers to the use of the single voting system that is used to run votes when all Members are in the Chamber.”¹⁸ This had followed a recommendation from the SCPB that the rule change be made permanent to support the resilience of the Parliament.

The Rule (Standing Order) governing the electronic voting process, incorporating the rule change, is as follows:

1. Normally members shall vote at a meeting of the Parliament or of a Committee of the Whole Parliament using an electronic voting system.
2. If it appears to the Presiding Officer that the electronic voting system cannot be used for any reason, a roll call vote, or a vote in accordance with such other manner of voting as the Presiding Officer may decide, shall be held.
3. If it appears to the Presiding Officer that the electronic voting system has produced an unreliable result, he shall ask members to cast their votes again in accordance with any manner of voting the Presiding Officer considers appropriate.
4. In a roll call vote, the roll shall be called in alphabetical order. Voting shall be by word of mouth and shall be expressed by “Yes”, “No” or “Abstain”.

Figure 3: Extract from Standing Orders of the Scottish Parliament


Below is an extract from a recent Decision Time, which includes a reference to the voting app.

¹⁷ As above

¹⁸ Scottish Parliament Standards, Procedures and Public Appointments Committee, *Standing Order Rule Changes – Inquiry into the resilience of the Scottish Parliament’s practices and procedures in relation to its business*, February 2021

Decision Time

The Presiding Officer (Alison Johnstone)

 **Share**

The question is, that motion S6M-13477, in the name of Ivan McKee, on the Bankruptcy and Diligence (Scotland) Bill at stage 3, be agreed.

As this is a motion to pass the bill at stage 3, the question must be decided by division. Members have been voting throughout the afternoon. I suggest that they refresh their app.

The question is, that motion S6M-13477, in the name of Ivan McKee, on the Bankruptcy and Diligence (Scotland) Bill at stage 3, be agreed.

Members should cast their votes now.

The vote is closed.

Mairi Gougeon (Angus North and Mearns) (SNP)

On a point of order, Presiding Officer. My app was frozen. I would have voted yes.


The Presiding Officer

Thank you, Ms Gougeon. We will ensure that that is recorded.

Sarah Boyack (Lothian) (Lab)

On a point of order, Presiding Officer. Can I just double-check that my vote was cast?

The Presiding Officer

 **Share**

I can confirm that your vote has been recorded, Ms Boyack.

The result of the division is: For 109, Against 0, Abstentions 0.

Figure 4: extract from Decision Time at the Scottish Parliament, 6 June 2024

Issues with the voting app can occur occasionally, but they do not appear to affect the outcome of the final vote.

5 Welsh Parliament (Senedd)

The Welsh Parliament chamber (or Siambr), is an electronic debating chamber whereby: “A dedicated computer system operates in the Siambr and all information relevant to Plenary proceedings is accessible via each Member’s

individual computer. Members also have full access to the rest of their ICT system in the Siambr.”¹⁹

The *Members’ Guide to Plenary*²⁰ sets out the electronic voting process:

Electronic voting

144. If a vote is required, such votes are usually taken electronically and are therefore recorded individually.

145. At the base of the computer there is a slot for a card which identifies each Member. There are also three buttons:

- Green: to vote in favour;
- White: to abstain; and
- Red: to vote against.

146. Members are requested to vote by the Presiding Officer. Members vote by pressing the button of their choice. The results are shown on display screens in the Siambr at the end of each vote. Once the vote is closed it is not possible to change the vote cast. If Members encounter any problems with the voting system during the electronic vote, this should be drawn immediately to the attention of the Presiding Officer, before the vote is closed.

147. All voting results are published after the meeting in the Votes and Proceedings and the Record of Proceedings. A ‘Votes Summary’ is also published containing the full details of how each Member voted on each item of business.

Voting by show of hands

148. If the electronic voting system fails for any reason, the Presiding Officer may decide, in accordance with Standing Order 12.43, to run the vote by

¹⁹ Welsh Parliament, *Members’ Guide to Plenary*, May 2021: https://senedd.wales/NAfW%20Documents/Assembly%20Business%20section%20documents/Guide-to-Plenary/Guide-to-Plenary_public_eng.pdf

²⁰ As above

show of hands. This is provided that no more than two Members object. Should a vote by show of hands occur, all Members in favour of the motion or amendment will be asked to raise their right hand and keep it raised until notice is given. The Clerk will count those voting in favour. All Members who are against the motion will be asked to raise their hands in the same manner next, followed by all those who wish to abstain.

Voting by roll call

149. Alternatively, the Presiding Officer may choose to conduct the vote by roll call, in alphabetical order of all Members present. All Members will be called and asked in turn if they are in favour or against the motion or amendment, or wish to abstain. The Clerk will record the result of the vote(s).

If more than two Members object to a show of hands, then the vote would have to be taken by roll call.

Figure 4: Extract from Members' Guide to Plenary

In March 2022 the Business Committee considered the future of remote participation in Senedd proceedings as part of its review of Standing Order 34 (Emergency Provisions) and agreed that the ability for Members to participate remotely in both Plenary and committee meetings should be maintained.

Furthermore:

...the Business Committee also agreed that further guidance should be issued by the Llywydd [Presiding Officer], in consultation with the Business Committee and the Chairs' Forum, to cover a range of matters relating to procedures and rules on attendance and conduct that should apply in meetings held in virtual or hybrid formats, as well as in relation to voting in Plenary proceedings.²¹

²¹ <https://senedd.wales/media/ay5h0mki/public-guidance-on-virtual-and-hybrid-proceedings.pdf>

In November 2022 the Presiding Officer issued *Guidance on Virtual and Hybrid Proceedings*²². It sets out the process for remote electronic voting and the relevant extracts are reproduced in figure 2:

In accordance with Standing Order 12.41, Members will cast their votes individually using electronic voting. All Members will use the same online voting application.

Members casting votes must be present in the meeting and visible to the Chair at all times. (If it is not possible for a Member to be visible to the Chair for reasons of technical failure, they must be present in the Zoom meeting and clearly audible).

In accordance with Standing Order A12.41A, prior to a vote in which they intend to participate, it is solely the responsibility of Members to ensure that they have in person or remote access to a Plenary meeting and any voting system that is in operation. Members should ensure that they are joining meetings from a location, and with a device and connection, that will enable them to be visible to the Chair and to use the remote voting system in good time ahead of the anticipated time of any votes.

Members should be aware that the timings on Plenary agendas are estimated and of the potential for meetings to run ahead of schedule. Therefore any Member intending to vote remotely is strongly advised to ensure that they have secured their access to the meeting and voting system ahead of any votes. They should allow time to access ICT support in the event of any issues. Any Member who anticipates that they may experience difficulty in casting a vote should make this known to ICT support staff at the earliest opportunity.

Figure 5: Extract from Guidance on Virtual and Hybrid Proceedings

²² <https://senedd.wales/media/ay5h0mki/public-guidance-on-virtual-and-hybrid-proceedings.pdf>

6 Dáil Éireann

Electronic voting was introduced in the chamber of the Dáil in 2002 after consideration by the Sub-Committee on Dáil Reform. The Sub-Committee recommended a system whereby members would have to vote at designated seats, rather than, for example, using a card system:

The main security attaching to the designated seating method of voting is that it is visibly obvious whether or not a particular seat is occupied if the corresponding light on the display board is illuminated while all members are present in the Chamber and voting at the same time.....the card method offers a higher level of security in that it is a more personal method of voting...however the visibility factor associated with designated seating is lost with card voting since Members may vote from any location in the Chamber...²³

Nevertheless, there was a recognition that deliberate or accidental misuse of the system could not be ruled out.

Divisions are taken electronically except in the case of:

- Election of the Ceann Comhairle;
- Nomination of the Taoiseach and Members of the Government;
- Motions of confidence in the Government.

There are provisions in place to amend the result if a Member inadvertently presses the wrong button.

The Dáil was embroiled in controversy in October 2019 when it emerged that Members had been voting on behalf of colleagues using their electronic voting system located at each seat in the chamber.

²³ Dáil Éireann, *Report of the Committee on Procedure on the Review by the Clerk of Dáil Éireann of Electronic Voting in Dáil Éireann on Thursday 17 October 2019*, 24th October 2019: https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/working_group_of_committee_chairmen/reports/2019/2019-10-24_report-on-the-review-by-the-clerk-of-dail-eireann-of-electronic-voting-in-dail-eireann-on-thursday-17-october-2019_en.pdf

The voting procedure in Dáil Eireann was summarised in a report by the Clerk of the Dáil that had examined the irregularities of October 2019:

- After the bells have been rung and the doors locked, the Ceann Comhairle announces the item of business, the question to be decided and the names of the tellers for each side. The Ceann Comhairle advises members of the requirement to take their designated seat for the purposes of electronic voting.
- The Clerk starts the vote, the voting system goes live, and the Deputies have one minute to vote.
- Each Deputy votes from their assigned seat. They will previously have been informed of their seat number, which is displayed on the seat's voting panel. A Deputy's assigned seat is only changed on instruction by the relevant Whip.
- Voting maps are sent to the Whips of parties and groups, and a revised map is re-circulated where changes are made. While Deputies should be familiar with their assigned seat, they can consult their Whip or the Clerks in the House to confirm their seat position.
- For most seats, the Deputy will see the voting panel in front of them. For the seats in the very front row the Deputy lifts one of their armrests to reveal the panel.
- The voting panel displays buttons for Tá, Staon and Níl, each of which has a light beside it.
- When voting begins, the Tá, Staon and Níl lights flash on each Deputy's voting panel. When one of the buttons is pressed the associated light comes on continuously and the other lights stop flashing and turn off. Deputies may change their vote within the one-minute window. If a Deputy changes their vote, the light for their new vote turns on.
- When a Deputy has voted, the wall display and TV broadcast shows a green, blue or red light corresponding to the seat, depending on whether the Deputy has voted Tá, Staon or Níl respectively. If they change their vote this changes accordingly.

- The wall display also shows a countdown with the number of seconds remaining in the vote.
- An electronic vote can be changed any number of times in the minute during which voting takes place.
- While a vote can be changed, once cast it cannot be revoked on the system (i.e., once a vote button has been pressed, it can be changed to another voting option, but it cannot be switched off altogether); if a Deputy realises that they have voted from the wrong seat they should bring this to the attention of the tellers so that a correction can be made before the Tellers sign the Teller Sheet and the Ceann Comhairle announces the result.
- When the 60 seconds for the division have expired the vote is stopped at the Clerks desk. Once stopped, no more votes are registered.
- A printout of the results, in the form of a tellers sheet with the numeric result (Tá and Níl) and division sheets listing the names of members who have voted by party/group and alphabetically, is given to the Clerk; once the tellers are satisfied with the results on the tellers sheet, they sign it.
- The tellers for the winning side hand the sheet to the Ceann Comhairle, who announces the numbers in the form of Tá and Níl, along with any Staon numbers, and then declares the decision.

There are provisions in place for votes to be taken by means other than electronic, for example where the electronic system is deemed unreliable. Standing Orders also allow for a division to be run again where the difference between the total of yes and no votes is 10 or less. In such circumstances, any member may demand that the vote is rerun electronically or taken again otherwise than by electronic means.

In response to the voting controversy, Professor David Farrell of University College Dublin was commissioned to review the voting system in the Dáil.

Although not publicly available, the Irish Times summarised the key points of Professor Farrell's report:

- The report presented five options for reform:

- chip card readers;
- a two-hand voting system;
- biometrics;
- voting displays; and
- additional cameras.

The report recommended that: “the installation of additional cameras to record the act of voting would seem the best on grounds of effectiveness and cost.”²⁴

The report went on to say:

Installing additional cameras would enable the recording of all Deputies in their seats as they vote. The data could then be stored for a period of time to allow Dáil authorities to carry out an audit of the vote if needed. This [the cameras] would be relatively cheap to implement, although the estimates vary: SKS Communications estimates the cost of installing new CCTV cameras at between €45,000-€50,000, whereas the Oireachtas Broadcasting Unit suggests a series of options ranging in cost from less than €1,000, working off existing CCTV cameras, to somewhere between €50,000-€100,000.²⁵

Subsequently:

At its meeting on Wednesday 6 May, 2020, the Committee on Procedure considered the recommendations in Professor Farrell's report, and agreed to the recommendation that additional cameras be installed in the Dáil chamber, to make video recordings of divisions which can be used later, if necessary, as part of an audit trail.²⁶

²⁴ The Irish Times, *Dáil electronic voting review recommends installing extra cameras for €50,000*, 6 May 2020: <https://www.irishtimes.com/news/politics/d%C3%A1il-electronic-voting-review-recommends-installing-extra-cameras-for-50-000-1.4246422>

²⁵ As above

²⁶ Houses of the Oireachtas, *Dáil Committee on Procedure considers report from Professor David Farrell re Dáil voting system*, 7 May 2020: <https://www.oireachtas.ie/en/press-centre/press-releases/20200507-dail-committee-on-procedure-considers-report-from-professor-david-farrell-re-dail-voting-system/>

Remote electronic voting was not available during the COVID-19 pandemic because Article 15.11.11 of the Irish Constitution states:

All questions in each House shall, save as otherwise provided by this Constitution, be determined by a majority of the votes of the members present and voting other than the Chairman or presiding member.

Therefore, Members must be present in the Chamber to cast a vote.

A Private Member's Bill, currently at Second Stage, would seek to amend the Constitution to allow remote voting²⁷. The Explanatory Memorandum to the Bill states:

This Bill enables each House of the Oireachtas to make provision in its rules for specified and limited circumstances in which members not physically present in the House may vote when any matter, or any class of matter as so provided for, is to be determined by a vote of that House. The purpose of the Bill is to enable enhanced flexibility for the working of the Houses of the Oireachtas in times of emergency.

It will also serve that by enabling remote or proxy voting, the Houses of the Oireachtas will be better able to accommodate members who cannot be physically present, either through temporary but enduring incapacitation or by virtue of maternity or paternity provision.²⁸

In December 2022 the Gender Equality Committee recommended that a referendum on remote and proxy voting should take place within the lifetime of the current Government.²⁹

²⁷ The Constitution can only be amended by way of a referendum.

²⁸ Thirty-ninth Amendment of The Constitution (Remote Parliamentary Voting) Bill 2020: <https://data.oireachtas.ie/ie/oireachtas/bill/2020/73/eng/memo/b7320d-memo.pdf>

²⁹ <https://www.breakingnews.ie/ireland/td-says-preparation-needed-for-remote-working-referendum-1406241.html>

7 European Parliament

Rule 192 of the European Parliament provides for an electronic voting system. It states:

1. The technical arrangements for using the electronic voting system shall be governed by instructions from the Bureau.
2. Where an electronic vote is taken, unless it concerns a roll call vote, only the numerical result of the vote shall be recorded.
3. The President may at any time decide to use the electronic voting system in order to check a threshold.

Guidance produced by the Parliament sets out the process for the use of the voting system. This is reproduced in figure 7:

Electronic votes are cast using the blue non-transferable chip card.

Members may vote from any seat in the Chamber using their personal cards.

The voting card is inserted into the slot in the terminal at the Member's seat with the side showing the Member's name facing towards him or her. The terminal then comes on.

If the card has been inserted incorrectly, a yellow warning light will flash and an animated display will appear.

If the card has been correctly inserted, the display will show:

- the card number
- the Member's name
- the current date.

When the President puts a motion to the vote, Members should press the button on the terminal that corresponds to their voting intention. The appropriate light will then come on the terminal:

– left-hand button	FOR	GREEN light
– centre button	ABSTENTION	WHITE light
– right-hand button	AGAINST	RED light

When a vote is taken by secret ballot, only a BLUE light will appear, indicating that the Member has taken part in the vote.

The display will show information about the vote in the form of pictograms:

- subject of the vote
- nature of vote: for (+), against (-), abstention (0) for votes by public ballot X for votes by secret ballot
- type of vote: simple, roll-call or secret ballot
- status of vote: open, closed

Until such time as the President has announced that voting is closed, Members may change their vote by pressing a different button. Members must not remove their cards from the slot until the President has declared the vote closed. Otherwise their vote will not be registered.

The President assesses the data provided by the voting system, notes the result and announces it.

Following the announcement by the President, the display on the terminal and one of the big screens in the Chamber will show the result of the vote.

During debates, and outside voting times, the display will show the following information:

- subject of the debate
- name of the speaker
- names of the upcoming speakers

– the next items on the agenda.

Figure 7: Electronic voting procedure in the European Parliament

8 Spanish Senate

In a report to the Association of Secretaries General of Parliaments (Inter-Parliamentary Union), the Secretary General of the Spanish Senate outlined how the remote electronic voting system operates³⁰.

Phase one

Remote voting was introduced for the first time in November 2013 (two years after the Spanish Congress of Deputies), with the following requirements:

- o The senator must make the request which is then authorised by the Senate Bureau;
- o The cases that may be used in the request (with supporting documentation) include pregnancy, maternity or paternity leave, or serious illness that make it impossible for the MP to attend the Senate;
- o It can only be used for voting on matters that are not susceptible to fragmentation, which excludes - primarily but not only - voting on laws and their amendments;
- o The vote must be cast before the issue is debated, to ensure it is received on time (due to the state of emerging technology in this area) and is added by the Speaker to the votes cast in person.

Without prejudice to the subsequent examination of other aspects, it should be noted that this possibility was very limited in its use, due to the few matters to which it was applicable and, above all, because it could not be used for

³⁰ Association of Secretaries General of Parliaments, Mr Manuel CAVERO Secretary General of the Spanish Senate, on Remote voting in the Spanish Senate, March 2023: https://asgp.co/wp-content/uploads/2023/07/Spain-Comm-EN-new_4.pdf

voting on the most important items on the agenda. Nevertheless, it was a useful test bench for what was to come.

Phase two – the pandemic

All kinds of solutions were required to ensure that the Senate, like all parliaments, could continue to function during the COVID-19 pandemic.

Among them was the political agreement to limit the physical presence of senators in the chamber to avoid the spread of the virus as much as possible.

This was a political agreement and not legally binding so as to respect each senator's right of attendance. This limitation meant that it was not possible to use the in person electronic voting system.

The Senate agreed (by means of a Supplementary Rule to the Standing Orders of 9 June 2020, issued by madam Speaker) to establish remote voting for all senators on a mandatory basis, including those present in person. It was considered necessary to prioritise equal voting conditions for all senators. The system of voting in person was deactivated.

Remote voting was used for all voting, regardless of the item on the agenda. A sufficient period of time was allowed for voting to ensure (1) that the subject of the vote was known, (2) that the vote was cast, (3) that it was received, (4) that it was counted and (5) that any technical problems arising from the voting process could be resolved.

Voting always took place once the debate on the corresponding issue had been concluded.

Phase three - 2022

In April 2022, and on the successful technical basis tested during the pandemic phase, Article 92 of the Senate Standing Orders was amended. Section 3 established the general rules for remote electronic voting:

- The senator makes the request with the supporting documentation and the Bureau gives its authorisation, if it fits in the Standing Orders requirements.
- The vote can be cast by this method for all items on the agenda (except those resolved by assent) and for any type of voting.
- Senators may submit a request for the following circumstances: “... pregnancy, maternity and paternity leave, or exceptional or unpredictable circumstances that may be sufficiently proved to prevent the senators from attending those sessions, such as accidents, health issues or attendance at international meetings”.
- Remote votes are always cast once the debate on the corresponding issue has been concluded, within the time period allocated by the Speaker. At the end of this period, votes will be cast in person, at the time announced by the speaker. The voting system adds up the remote votes and those cast in person.

In addition to the above, the new Article 92(4) of the Standing Orders provides as follows: “In extraordinary events, such as catastrophes, disasters, health crises, suspension of essential public services for the community, as well as in those extraordinary events in which the normal parliamentary activity may not be held in the Senate Palace, or in which the in-person electronic vote procedure may not be used, the Speaker, in agreement with the Board of Spokespersons, may resolve that all senators cast their vote by the remote electronic procedure.” Provision is made in the Standing Orders for cases such as those which gave rise to the above-mentioned Supplementary Rules.

Technical aspects of the Spanish system

The Secretary General outlined the technical features of the voting system in the Senate³¹:

- It was developed by the Senate's ICT services;
- Senators authorised to vote remotely can access the voting application from any computer, tablet or mobile phone. They have to enter the username and password;
- Senators authorised to vote remotely can access the voting application from any computer, tablet or mobile phone. They have to enter the username and password. When remote voting opens, senators must select "yes", "no" or "abstain" for each of the matters put to vote. They can review the options and when they want to cast their vote, they accept the selection and enter the OTR code received on their mobile phone. For now, this is how the system guarantees the "personal" nature of the vote. However, it is clearly not 100% guaranteed. The possibility of using facial recognition on mobile phones is being studied to give further assurance.
- The votes are received by the Senate's computer systems and the application prepares them to be added to the in-person votes. Once the vote takes place in person, the results shown on the screens in the plenary hall and those published on the website reflect the votes cast in-person and those cast remotely.
- For the moment, it is not technically possible to have remote voting and in-person voting at the same time. In-person voting needs to be held after remote voting, which means that if there is a change of opinion in the way a political group votes, it is not possible for those who voted remotely to change their vote during this period of time.
- In any case, the electronic system for in-person voting remains blocked for senators authorised to vote remotely. So the same MP cannot cast two votes.

³¹ Association of Secretaries General of Parliaments, Mr Manuel CAVERO Secretary General of the Spanish Senate, on Remote voting in the Spanish Senate, March 2023

- In addition, the usual and logical parliamentary practice of extending the political negotiation of some of the issues to be voted on to immediately before the vote (amendments to laws, for example), involves delays in remote voting that affect the running of the agenda and sometimes require the suspension of the session to allow senators voting remotely sufficient time to have a proper understanding of the text of the matter to be voted on.
- The remote voting system also entails rigidity in the in-person voting process that prevents or makes it extremely difficult, for example, to change the voting order of the amendments.

9 United States House of Representatives

The automated voting system in the House of Representatives dates back to 1973, but proposals relating to the concept goes back even further to 1869, when Thomas Edison filed a patent for a vote recorder and provided a demonstration to Congress. The first legislative proposal followed in 1886.

The Legislative Reorganisation Act 1970 provided for the overhaul of the voting system in the House. Following consideration, there were five criteria set for the design of the electronic voting system. These were:

1. The system should significantly reduce the time required to vote and also meet the information needs of system users.
2. Each system user, Representative, Tally Clerk, press, etc., should have a simple and consistent interface with the system from both a hardware and software viewpoint.
3. The system should have a very high degree of reliability with appropriate levels of automatic testing.
4. Hardware should be highly compatible with the Chamber decor so as to be as unobtrusive as possible and still function properly.

5. Absolute lowest cost is not a prime consideration when weighed against other design objectives; however, costs should be handled prudently.³²

Electronic voting is carried out in the following manner:

When the Speaker or the Chair announces that the yeas and nays are ordered and a recorded vote is ordered or announces that a quorum is not present and the yeas and nays are automatic, the vote is taken by electronic device. A Member casts a vote by electronic device by inserting a voting card into the nearest voting station and pressing the appropriate button: “yea,” “nay” or “present.” Members should also visually check the voting board to make sure that the light next to their name reflects their intended vote.

Members that do not have their electronic voting card should go to the table in the Well and obtain an appropriate voting card from the boxes placed there (green card for yea, red card for nay, orange card for present). The Member should sign the card and give it to the Tally Clerk who will be standing on the first level of the rostrum. The Clerk will then register the vote into the computer, but the Member should visually check the board to make sure the vote is recorded correctly.

Members deciding to change their vote may do so by reinserting their card into a voting station and pressing the appropriate button during the first 10 minutes of a 15-minute vote, or at any time during a 5- or 2-minute vote. However, during the last 5 minutes of a 15-minute vote, a change in a Member’s vote can only be made by going to the Well, taking a card from the table, signing it, and handing it to the Tally Clerk on the rostrum. The Clerk then registers the change and a statement will appear in the Congressional Record indicating that the Member changed his or her vote.

The allotted time for a quorum call or recorded vote under the rules of the House is not less than 15 minutes (clause 2 of rule XX). It is the

³² Congressional Research Service, *Electronic Voting System in the House of Representatives: History and Usage*, June 2011:
<https://crsreports.congress.gov/product/pdf/R/R41862/2>

prerogative of the Speaker or presiding officer to allow additional time beyond the 15 minutes. One may hear Members calling “regular order” when an electronic vote extends beyond 15 minutes under the mistaken impression that recorded votes are limited to 15 minutes — they are not limited. The regular order is to allow more time on recorded votes if the Chair desires.

The system allows members to come and go as they please – they do not have to vote at a particular voting station or remain in the chamber once they have voted.

In 2018 the House installed a new system that, on the surface, looked almost identical to the one that had operated for the previous 20 years. Two new additions were braille for visually impaired members and a LCD screen to notify the member if an invalid card had been inserted, for example a credit card or library card.³³ However, it was hoped that changes to the internal hardware would make them cheaper and easier to maintain. Figure 8 depicts one of the voting stations (PRES means Present and OPEN, when illuminated, means the station is ready for use).



Figure 8: Voting station in the US House of Representatives

10 Conclusion and potential issues for consideration

The research has highlighted a selection of legislatures where electronic voting is available to members. In some legislatures, including the Scottish Parliament,

³³ Fedscoop, The House got a brand new electronic voting system this summer, November 2018: <https://fedscoop.com/house-got-brand-new-electronic-voting-system-summer/>

Senedd and Dáil Eireann, this has been the normal practice for a number of years.

In others, the reality of the Covid-19 pandemic and the need to adapt processes led to the introduction of e-voting. This extended to remote voting, which has been continued in, for example, the Scottish Parliament. Even in those legislatures where e-voting had been available in the chamber, such as the Scottish Parliament and Senedd, remote e-voting has been made a permanent option.

What is perhaps less clear is to what extent electronic voting saves time by cutting down on the time taken to vote. The Canadian experience seems to show only modest improvements, but it is difficult to estimate how much time, if any, the Assembly might save by switching to electronic voting. One potential benefit, cited in an Australian parliamentary committee report, could be to allow Members to leave the chamber once their vote has been accurately recorded, thus allowing them more time to spend on other duties.³⁴ The committee itself was not persuaded by this argument.

Once Covid restrictions had been lifted, not all parliaments decided to maintain hybrid options. For example, the Flemish Parliament, having introduced remote voting in response to Covid, was minded to move back to the original requirement that members be physically present in order to vote.³⁵

There are essentially two aspects to electronic voting – infrastructure in the chamber and remote capability. The choice between opting for in-chamber electronic voting and allowing members the option to vote remotely will impact on issues such as security, timings, cost and perhaps the tone and/or quality of debate itself.

³⁴ Parliament of Australia, Division required? Electronic voting in the House of Representatives, Committee on Procedure, April 2016: https://www.aph.gov.au/-/media/02_Parliamentary_Business/24_Committees/243_Reps_Committees/Procedures/Division_required/FINAL_report_evoting.pdf?la=en&hash=508E587526AE4B066B97318A07E2123BE81DCD37

³⁵ Scottish Parliament, Standards, Procedures and Public Appointments Committee, Report on inquiry into Future Parliamentary procedures and practices, July 2022: <https://bprcdn.parliament.scot/published/SPPAC/2022/7/6/e5cd2e5a-9b82-41e1-b787-d5d3f169b22e-2/SPPAS062022R06.pdf>