

Towards European Standards on e-voting/

Practical experiences with e-voting in
Council of Europe member states



Project

"Making democratic institutions work"

Michael Remmert



Why e-voting?

- Democracy is becoming irrevocably entwined with new technologies;
- As citizens are increasingly using new technologies as the medium for communication and civic engagement, the electoral system should reflect this
- Modernising the electoral process is expected to encourage greater participation by citizens in democratic elections
- New e-enabled channels have the potential to reach people currently less likely to vote and accommodate the requirements of the entire eligible community irrespective of disability or language



Why e-voting? ctd.

- E-enabled voting and vote counting systems will deliver the results of elections more quickly
- Developing new democratic channels through e-enabled voting should, once the necessary initial investment has been made, reduce the cost of electoral administration
- Governments' bargaining position with regard to electronic election equipment and services can be improved through widespread adoption of the Election Markup Language (EML) by the industry as an international interoperability standard



Not just a vision

E-voting is not just a vision for some far away future time: certain Council of Europe member states have a tradition of using digital devices in elections (Belgium, the Netherlands), others have experimented with different types of e-voting techniques in local level elections (UK and Switzerland in particular).



However...

- Modernising how people vote will not, per se, improve democratic participation but failure to do so is likely to further undermine the credibility of democratic institutions.
- E-enabled elections and referenda will need to be accompanied by other initiatives to improve voter turnout and engagement with politics



However... ctd.

- E-voting initiatives should seek to provide opportunities for multi-channel voting (a combination of traditional paper ballot, kiosk/poll site e-voting and remote e-voting) in order to maximise benefits for citizens who have access to, and are confident in using new technologies without penalising those unfamiliar with such systems
- Only e-enabled voting systems which are straightforward, efficient, secure and readily accessible to all voters will build the public trust and technical robustness to such an extent as to make it feasible to hold large-scale e-enabled elections



Commonly perceived obstacles

- Obstacles related to electoral culture and tradition, concerns about privacy and equality of suffrage (e.g. family voting, vote trading, forced voting),
- Problems with the secrecy of suffrage (system security, privacy, voter authentication)
- Problems with monitoring and auditing of elections
- Increased effects of the « digital divide » (in the absence of multi-channel voting)





Towards Council of Europe standards on e-voting

- The Council of Europe started working on e-voting in 2002. Since February 2003, there is the Multidisciplinary Ad Hoc Group of Specialists on legal, operational and technical aspects of e-voting (IP1-S-EE)
- The IP1-S-EE is supported by 2 subgroups, one dealing with legal and operational aspects of e-voting, the other one with technical aspects
- It is expected that the Committee of Ministers of the Council of Europe will be able to adopt a Recommendation to member states on e-voting in the first half of 2004



Towards Council of Europe standards on e-voting ctd.

- The standards on e-voting will be prepared in such a way as to be accepted and applied by governments and industry alike
- The key assumption adopted by IP1-S-EE:
E-voting has to be as secure as traditional ways of casting a vote and comply with the fundamental principles of democratic elections (universal, free, equal, secret and direct elections)



The Council of Europe will prepare standards at 3 levels:

- *Legal standards*, reflecting the fundamental principles of elections enshrined in international legal instruments
- *Operational standards*, regarding basic matters of organisation and procedure with regard to e-elections which would ensure the respect of the fundamental legal standards
- *Core technical standards*, which would be needed to deliver operational standards in a secure and cost-effective manner while ensuring the interoperability across devices and enabling control at any stage of the election process



Application of Council of Europe standards

- The Council of Europe standards for e-voting will be applicable to both remote voting (internet, telephone, etc.), and voting in controlled environments (polling stations, mobile kiosks etc.).
- The standards could be used as benchmarks for the evaluation of pilot projects. They should be valid in a long-term perspective and irrespective of changes in technology



Council of Europe standards will cover all the elements of an election

- Notification of an election
- Voter registration
- Candidate nomination
- Voting
- Results
- Audit



Results of the first internet vote held in Switzerland

Anières, Canton of Geneva
19 January 2003*

*Source: République et Canton de Genève



Results

- Registered voters: 1162
- Participation rate 63.77%
- Votes cast via Internet represented 46% of remote votes
- Remote votes (Internet + Postal vote) represented 93.52% of total votes cast
- Only a few voters used the terminal made available at the town hall of Anières



Counting the Electronic Votes

- The electronic urn was opened and decrypted on the morning of 19 January at 08.00 with the assistance and in the presence of the inspectors designated by the political parties
- 323 votes were found, exactly the amount which had been cast
- Count time: 73 seconds



All quiet on the hacking front

- There were no attacks or intrusions during the voting period
- The company given the task of attempting to break into the system or manipulate the votes did not succeed.



Opinion Poll

An opinion poll conducted at the end of individual electronic votes showed the following results:

- 22% of those who occasionally or regularly abstain from voting, voted via Internet
- 75% of cybervoters are keen internet users, i.e. use Internet between 2 and 7 times a week

Voting on-line is a natural extension of increasing Internet use



Opinion Poll

- 93% of users have confidence or great confidence in the system
- Confidence declines in inverse proportion to age, but reaches the level of 88% with younger voters
- 62% of voters expect to vote regularly via Internet
- Trust in the Internet increases with use



UK May 2003 pilots summary

- First UK pilot in May 2002 pilot: the first real experience of voting electronically.
- The 2002 experience was expanded upon in 2003, with a total of 61 local authorities involved in 59 pilots (including those with all-postal ballots), covering over 6.4 million electors.
- The biggest ever test of new voting technology: 18 e-voting pilots, including digital television, Internet, touch telephone and text messaging, and e-counting machines and all-postal ballots.



The highlight results are:

- 2003 e-voting pilot elections had an average turnout of 37.5%. The national average turnout was around 33%.
- In the 18 e-voting schemes, an average of 27% of voters chose to use innovative electronic voting methods. Considering that this was the first time this technology had been offered in most areas it is an encouraging rate of take-up



Highlight results ctd.

- - In total around 146,000 votes were cast electronically during the two week election period.
- - In Sheffield where e-voting was also piloted in 2002, 37% of voters chose to use electronic channels;
- - In Swindon, where technology was offered in 2002, there was a 75% increase in votes cast electronically.

UK 2003 E-voting pilots

This table shows the local authorities having conducted the e-voting pilots in May 2003, and the e-voting channels they were piloting

Place/e-channels	Kiosk	Internet	Telephone	SMS	DTV	e-count
South Tyneside	x	x	x	x		x
Sheffield	x	x	x	x		
Shrewsbury& Atcham		x	x		x	x
St. Albans, S. Somerset	x	x	x			
Kerrier, Swindon		x	x		x	
Chorley		x	x			x
Ipswich, Norwich		x	x	x		
Stroud, Vale Royal		x	x			
Stratford-on-Avon	x	x				
Epping Forest Basingst.&Deane	x					x
Chester	x					
Rushmoor		x				
Derwentside						x

Name of Authority	% turnout last election	Total no. of votes cast	% total turnout	Change in % from last election	votes cast using e-channels	% electorate using e-channels	% of turnout using e-channels	Notes
Basingstoke & Deane	29%	28,317	31.33%	2%	21,504	23%	75.90%	Voting only 1 May
Chester	36%	22,482	34.02%	1.48%	6,699	10%	29.05%	
Chorley	62%	32,900	49.89%	-12%	3,072	6%	9%	Includes all-postal ballot
Epping Forest	30%	15,431	28.40%	-2%	14,683	27%	95%	Voting only 1 May
Ipswich	32%	28,516	31.88%	-1%	6,183	9%	21.70%	7985 pre-registered
Kerrier	32%	17,662	28.29%	-3.30%	3,374	5%	15%	
Norwich	35%	33,866	35.77%	1%	3,442	4%	10.66%	
Rushmoor	35%	18,345	31.00%	-4%	2,760	6%	15%	3249 pre-registered
Sheffield	30%	110988	29.53%	0%	20,845	12%	37%	Smart cards for wider use
Shrewsbury & Atcham	43%	22,039	54.45%	11%	4,090	10%	19%	Includes all-postal ballot
South Somerset	38%	53,311	46.85%	8.85%	8,428	7%	16%	Includes all-postal ballot
South Tyneside	55%	52,368	46.32%	-9%	6,008	5%	11.43%	Includes all-postal ballot
St Albans	38%	41,489	43.29%	5%	17,177	41%	17.92%	
Stratford-on-Avon	45%	21,669	35.60%	-9%	4,176	7%	19%	
Stroud	43%	20,441	36.72%	-7%	4,176	8%	20.40%	
Swindon	31%	40,812	29.82%	-1.40%	10,189	7%	24.96%	
Vale Royal	31%	40,904	43.60%	13%	9,752	10%	23.80%	
Average	38%		37.46%		146,558	12%	27%	



FURTHER INFORMATION

Dr. Michael REMMERT

Project Manager

“Making democratic institutions work”

Office B 135

F-67075 Strasbourg Cedex

Tel: +33(0)388 41 34 05

E-mail: michael.remmert@coe.int

<http://www.coe.int/democracy>