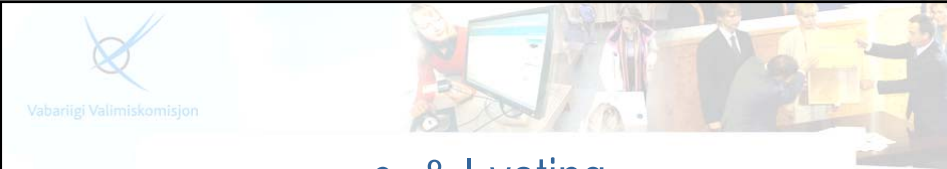


Vabariigi Valimiskomisjon

Internet Voting in Estonia

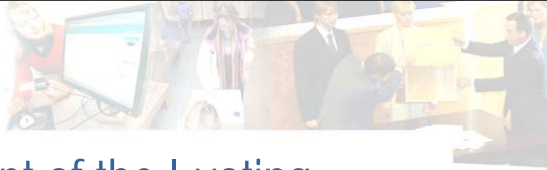
Prof. Ülle Madise
Tallinn University of Technology
Legal adviser to the President



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e- & I-voting

- Election Information System
- Remote Internet voting, countrywide, binding results
2005 & 2009 Municipal elections
2007 *Riigikogu* (Parliament) elections
2009 European Parliament Elections



Concept of the I-voting

- Voting from any computer connected to the Internet
- Alternative to the paper-ballot
- Digital voters register
- Voter's identification with ID card
- Virtual double envelope scheme
- Public-private key cryptography
- Virtual voting booth



Tools for I-voting

Voter needs:

- an Estonian ID card with valid certificates and PIN codes



Computer used for voting must have:

- a smart card reader
- a driver for ID card (free to download page www.id.ee/installer)





Legal solution

Teleological interpretation of the principle of secrecy:

- Secrecy consists of two sub-principles:
 - Privacy of the voting act
 - Anonymity of the vote
- Secrecy is not an aim in itself, it is a means to guarantee freedom of voters choice



Why I-voting?

- More convenience for the voter
- Reliable infrastructure for remote authentication & digital signature present



The role of the Central Electoral Committee

- Centralized & independent management: National Electoral Committee (independent from political & business interests)
 - NEC Members
 - Project leader
 - Project team & experts
-
- **Analyse, private and public tests (2002-currently)**
 - **Free Observers Education**
 - **Independent IT-Auditing (2002-currently)**



Ensuring that I-voting is reliable & sure

- independent certified IT auditors + IT auditors / observers from NGO
- check the I-voting platform against a list of requirements previously set up
- the list of requirements is set up according to the law requirements & risk analysis provided by academia & NEC
- whole procedure documented & video-recorded
- most important procedures open to the public

Who is I-voter?

Non-important factors by choosing I-voting:

- level of education
- income
- type of settlement (urban/rural)
- gender
- self-positioning on political left-right scale

Important factors

- frequency of Internet-use
- age & computing skills
- trust
- [A.Trechsel, K.Vassil *et.al.* 2010, Report for the Co E]

Did voter turnout increase?

- Yes at local elections: I-voting is the only possibility to vote from abroad
- I-voting slightly increases the turnout of voters who have voted in some elections
- I-voting does not change the electoral behavior of those, who always vote or never vote



Statistics 2005, 2007 & 2009

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| | LE 2005 | PE 2007 | EPE 2009 | LE 2009 |
|---------------------------------------|--------------|---------------------|---------------------|-----------------------|
| entitled to vote | 1.059.292 | 897 243 | 909 326 | 1.094.317 |
| e-votes counted | 9 287 | 30 243 | 58 614 | 104 313 |
| e-votes among all votes | 1,9 % | 5,5 % | 14,8 % | 15,7 % |
| first electronical use of ID card | 61 % | 39 % | 19 % | 18,5 % |
| e-votes among advance votes | 7,2 % | 17,6 % | 45,4 % | 44,1 % |
| e-votes cast abroad among all e-votes | n.a | 2 % countries 51 | 3 % countries 66 | 2,8 % countries 82 |



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Thank You!

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National Electoral Committee
<http://www.vvk.ee>