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Standards

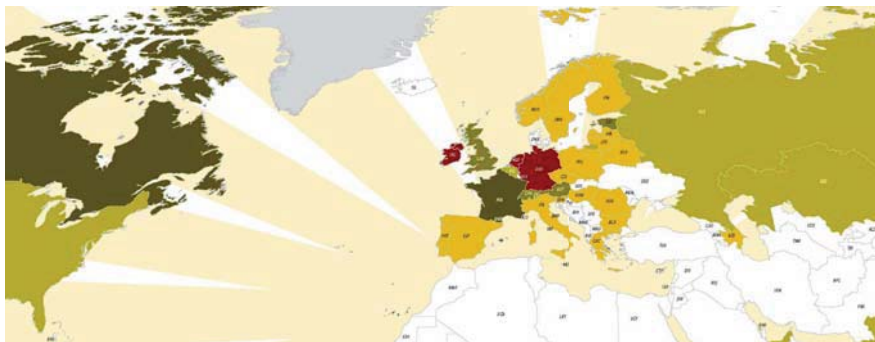
- Council of Europe Recommendation on Legal, Technical and Operational Standards on Electronic Voting
- OASIS Election Markup Language (EML)
- Protection Profiles (Gesellschaft für Informatik)
- Several national standards: VVSG, ...

Forms of Electronic Voting

Medium \ Place	Controlled (Polling Station)	Uncontrolled (At Home)	Optical Scanner
Paper	Ballot Sheet	Postal Voting	
Electronics	DRE Electronic Voting Machines Kiosk Voting	Internet Voting	

Overview

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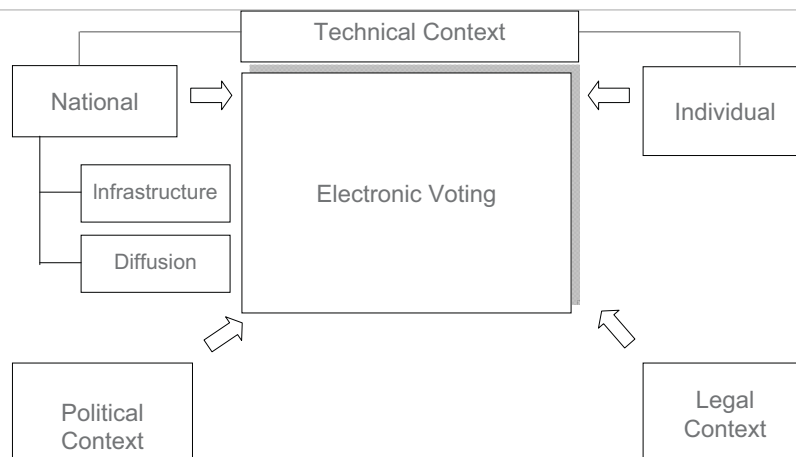


Legend: ■ Discussion ■ Uncontrolled ■ EVM ■ Both ■ Stopped

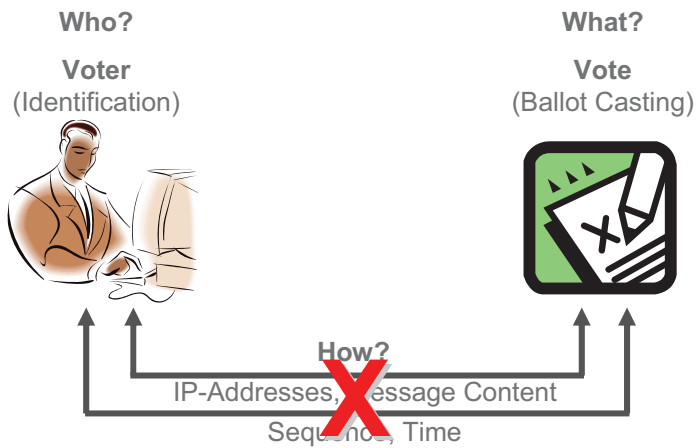
Reasons

Voter	Administration	Politicians
Increasing voter mobility	Count quicker and more reliable	Inclusion
Support for the voter in casting the vote	Improve voter register	Innovation
Increase accessibility for handicapped voter	Reduce costs on the long run	Change in the electorate (+/-)

Context



Secrecy I



Secrecy II

- **Controlled Environment: Electronic Voting Machines**
having separate machines/applications
for identification & vote casting
- **Uncontrolled Environment: Remote Electronic Voting**
Cryptographic Algorithms to establish anonymity
 - Pre-voting: random numbers
 - During voting: separate servers
 - Post-voting: double-envelope

Certification

- Ex-ante analysis of systems against norms and standards by competent national bodies
- Happening within a framework (regulation, evaluators)
- Non-disclosure Agreement
- Valid for certain period (incl. possibility for de-certification)
- Needs extended period of time
- General availability of results
- Purpose of “Certificate” to check which version of a software is able to fulfill the requirements of a norm

Training

- IT literacy needed by
 - Election Management Bodies to operate
=> internal training
 - Voters to use the system to cast votes
=> Voter education programs

Observation I

- Analysing process
- Principle of Non-Interference
- Transparency is a key challenge Access to documentation might not be sufficient
- Longer observation (certification, deployment, safeguards) esp. with Internet voting
- There are crucial aspects which cannot be directly observed (electronic security, secrecy of ballot, ...)

Observation II

- Voter-Verifiable Paper Audit Trails are only useful with a meaningful number of recounts
- Should e-voting be implemented in countries with distrust in election administration?
- Role of vendors
- STO must be briefed on issues of EVM
- New role of “E-voting Expert” in core team

Further Areas of Concern

- Selection Process: How was the system chosen
- Documentation: Access, Language
- Audits / Testing: Independent, transparent, comprehensive
- Costs: High costs in the beginning, savings only on long run
sustainability

Conclusions

- Role separation, principle of non-interference
- New Voting Technologies **can** be applied in many ways
- While they are **new** they still have to **fully fulfill** the **existing commitments** and standards
- Not a uniform trend, it is not a **must**
- Trust needs to be established by **maximum transparency**
- Methodology on Election Observation of New Voting Technologies under development



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