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Fabio Bargiacchi
Senior Electoral Assistance Advisor

Introduction to Electronic Voting

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Introduction to Electronic Voting

- Two main categories of e-voting
- E-voting in controlled environments (EVM or DRE voting)
- E-voting in uncontrolled environments (internet voting, PDA or mobile telephone voting)

E-voting in uncontrolled environments

- Internet voting is being piloted in more than 30 established democracies
- Estonia, October 2005, first country-wide elections with the possibility to vote through internet
- Tests on Internet voting have not given yet a definite answer on how to ensure the secrecy of the vote and eliminate the potential coercion exerted on remote voters
- Internet voting will soon be available for countries which enjoy a deep trust in their respective EMB and have a relatively conflict-free society, where the secrecy issue has a more limited weight than in other younger democracies, where the trust in the institutions and in the EMB might not be a given.

E-voting in controlled environments

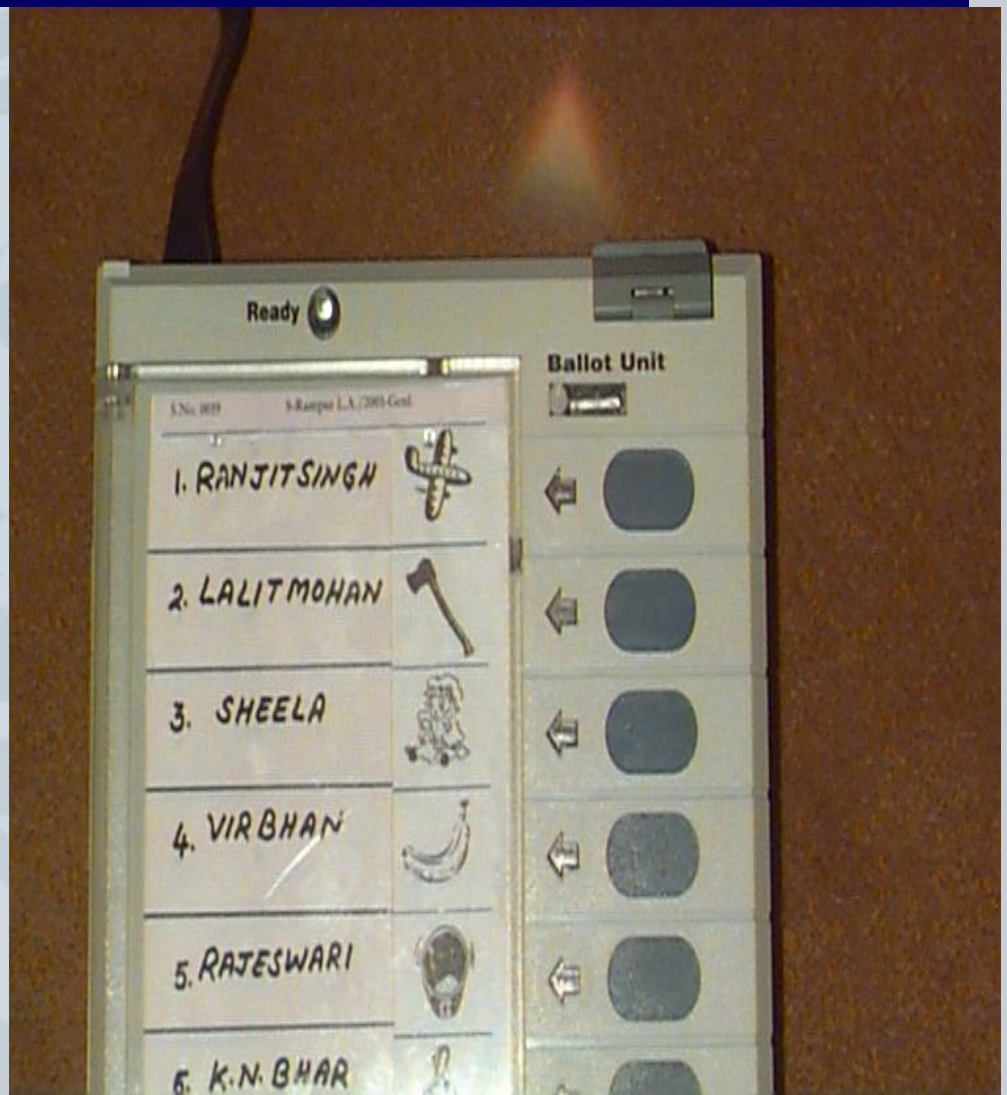
- More than half billion voters in the world already use this form or voting in two of the most populous world democracies (India and Brazil)
- Does not present the same range of advantages normally attributed to uncontrolled internet e-voting (better turnout, enable voters' mobility, facilitate disadvantaged categories)
- It does not endanger the fundamental requisite of the secrecy of the vote
- It does offer some important answers on the issue of transparency through a development of various forms of auditing mechanisms. Possibility to introduce Voter Verified Audit Trails (VVATs)
- Increase in requests by EU partner countries

Indian Voting Machines

- Two sub units, control and balloting
- Linked with 5 meter long cable
- 7.5 volt single alkaline battery

Indian Voting Machines – Balloting Unit Detail

- Provision for conventional ballot paper
- Voting by pressing button *instead* of marking.
- Can be used for 64 candidates and 3840 voters.
- No provision for invalid votes



Indian Voting Machines
Control Unit Details

- Manned by the PS Chair
- Displays the number votes who voted
- Informs the PS Chair of when the voter has voted
- Get the results by pushing the results button

US voting machines 1

US voting machines 2

Brazilian Voting Machines

The Venezuelan voting machines

- **Touch Screen to support multiple electoral races**
- **Printer Attached to produce VVAT**
- **Two memories available**

The Venezuela Paradox

- The extreme sophistication and high reliability of the voting system does not make up for the lack of trust in the EMB among several stakeholders
- The huge investment in technology has not been yet matched by a similar effort in capacity building and voter information
- The higher the distrust in the EMB, the higher the need for transparency and security measures

Main consideration in favour of e-voting

- Longer-term cost reduction
- Speed and accuracy of the results
- Potential turn-out increase
- Fraud prevention

Main consideration against e-voting

- Lack of transparency
- Increased training and voter information needs
- Vendor "dictatorship"
- Increased potential for central manipulation

Issues for Discussion

- There is an inverse relationship between the degree of sophistication and security measures applied to EVMs and the degree of trust enjoyed by the EMB
- The key role played by independent auditing procedures
- What role observation can play in electoral processes using e-voting in controlled environment?
- E-voting in controlled environment with touch-screen machines producing VVAT appears to be the most reliable and transparent way forward for e-voting in developing countries. It will not be the cheapest option.