

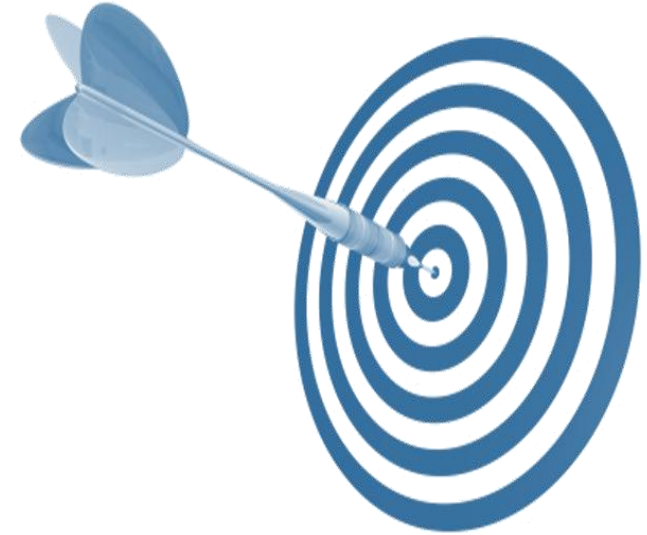


PRESENTATION ON EVM & VVPAT

September 2019.

AGENDA

1. History
2. Technical Expert Committee (TEC)
3. Technical Security
4. Administrative safeguards
5. Debate around EVMs- Explained
6. Aspersion Vs. Confidence
7. Past Judgements
8. VVPAT



HISTORY OF EVM

Four Decades and more

HISTORY OF EVM – 40 YEARS

1977

CEC- S L Shakdar talked about introducing an Electronic machine.

1980-81

EVMs developed and demonstrated by ECIL and BEL.

1982-83

EVMs used first time in 50 polling stations of Parur AC in Kerala. And then in 11 Assembly Constituencies: 8 states, 1UT.

1984

SC suspends EVM usage: cannot be used till RP Act is amended.

1988

RP Act amended: enabling use EVMs wef 15.03.1989.

2018

SC dismissed petition asking for return to Ballot papers!

Since 2000, EVMs have been used in all elections: 4 Lok Sabha and 122 State Legislative Assemblies. Till date, **>315 crore votes** cast on EVMs.

TECHNICAL EXPERT COMMITTEE

INDEPENDENT EVALUATION

TEC- HISTORY & ROLE



1st Technical Expert Committee (TEC) formed

January, 1990

TEC constituted for evaluation of upgraded EVMs Submitted an Evaluation Report in 2006

December 2005

April 1990

Recommended use of the EVMs unanimously

November 2010

Current TEC

- Approves EVM Design
- Vets and seals the software
- Recommends continuous design improvement
- Monitors Secure Manufacturing

Past TECs

Composition of First Technical Expert Committee on EVMs – 1990

1. Professor S. Sampath, Chairman Technical Advisory Committee, Defence Research & Development Organization (DRDO), Ministry of Defence.
2. Professor P.V. Indiresan of the IIT Delhi.
3. Dr. Rao C. Kasarabada, Director, Electronic Research & Development Centre (ERDC), Trivandrum.

Composition of Second Technical Expert Committee – Dec 2005

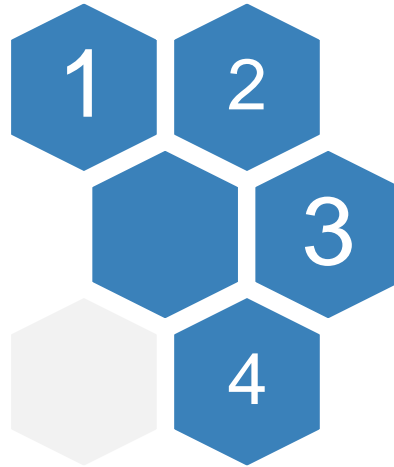
1. Prof P.V. Indiresan, Ex-Director, IIT Madras as Chairman of TEC.
2. Prof. D.T. Shahani of IIT Delhi.
3. Prof. A.K. Agarwala of IIT Delhi.

PRESENT TEC COMPOSITION



4 Eminent Professors from IITs: Renowned Experts in their Fields.

Prof D T Shahani,
Prof Emeritus, IIT-Delhi



Prof A K Aggarwala,
IIT Delhi

Prof Rajat Moona,
Director IIT Bhilai,
Former Director General CDAC

Prof Dinesh K Sharma,
Prof Emeritus, IIT Bombay

TECHNICAL SECURITY

DESIGN, PROCESS AND MANUFACTURING



1. SECURED DESIGN FEATURES



**Standalone
Machine**

**No Radio
Frequency
transmission or
reception
possible:
No wireless
communication
possible**

**One Time
Programmable
(OTP) chip:
Software cannot
be modified**

**Dynamic
Coding
of Key
Press**

**Date and Time
Stamping of
every key press**



2. SECURE DEVELOPMENT & MANUFACTURING

- ❑ Manufactured by Premium PSUs- BEL & ECIL: Both deal with manufacturing of sensitive equipment critical to the safety and security of the Nation and have strong security protocols.
- ❑ In-house SOFTWARE Developed. Fully vetted by TEC. Never sub-contracted.
- ❑ Secure Manufacturing: 3-level Physical/Process access Control, Regular frisking, Outside e-gadgets prohibited, CCTV Coverage, Access Data and Process Data logging, Alarm and Alert generation.
- ❑ Third Party Testing by Standardisation Testing and Quality Certification (STQC) as per Standards & Quality Process set by TEC. Software is also tested & checked by STQC for authentication.

ADMINISTRATIVE SAFEGUARDS

SECURE HANDLING &
MANAGEMENT OF EVMS/VVPATs

ADMINISTRATIVE SAFEGUARDS

1. Stakeholder Participation
2. Allocation & Secure Movement
3. First Level Checking
4. Randomization
5. Candidate Setting
6. Mock Poll
7. Poll Day Checks
8. Poll Closure & Transportation
9. Storage & Security
10. Counting Day Protocol

1. STAKEHOLDER PARTICIPATION

Active Participation of & Witness by Political-Parties/Candidates in **All Processes**

Opening & Sealing of EVM Warehouses & Strong-rooms

Conduct mock poll and receive mock poll results



First Level Check (FLC) & Candidate Setting

List of EVMs after 1st & 2nd randomization shared

Sign on Paper Seals on EVMs after all processes



Participation During FLC

2. ALLOCATION & MOVEMENT

Planned Allocation

EVMs are allocated to poll going State by the Commission.

Received by District Election Officer (DEO) who is personally responsible for secured storage.

EMS used for inventory management of all EVMs nationwide for the sake of transparency.

Secured Transportation

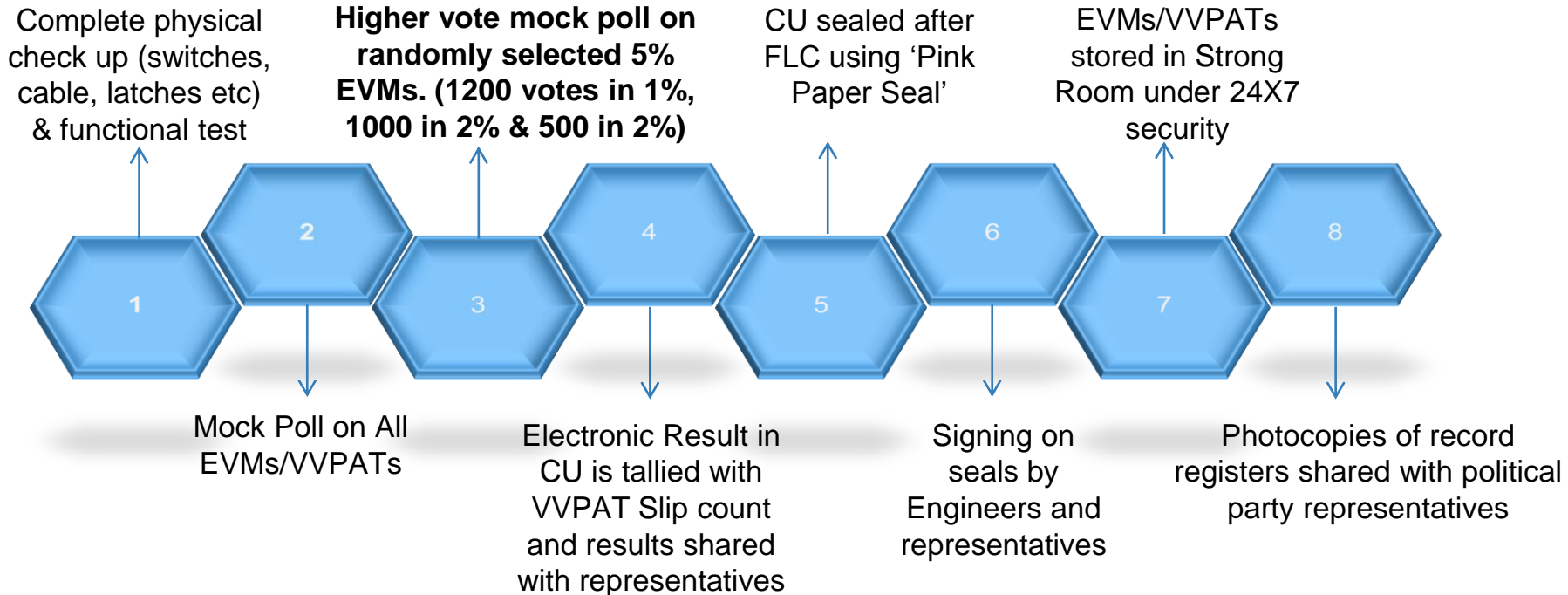
- Movement of EVMs/VVPATs mandatorily managed through EVM Management System (EMS).
- Only Containerized/Sealed Trucks used.
- All Trucks sealed with Lock and Paper Seals.
- Mandatory GPS tracking of EVM vehicles.
- All movement under 24X7 Police Escort.
- Videography done of shifting process.
- Political parties informed in advance about the opening, stocking and sealing of warehouses while moving EVMs/VVPATs.

3. FIRST LEVEL CHECKING (FLC)

- FLC is mandatorily done in the presence of representatives of political parties.
- Fully sanitized hall under videography and full security.
- Full functionality and behavioural check is done on every EVM.
- Defective (non-functional) EVMs are kept aside and not used in election.
- FLC status captured in EMS.



FLC PROCESS



4. RANDOMIZATION

(1/4)



- EVMs are **Randomized twice** using EMS.
- No human intervention in randomisation.
- Only FLC approved EVMs as per EMS get picked up for first randomisation.

1st Randomization



- Done after FLC
- To allocate EVMs from district, randomly, to a particular AC/AS.
- In presence of representatives of political parties.
- List of AC/AS-wise Randomized EVMs shared with political parties.

4. RANDOMIZATION

(2/4)



- EVMs are **Randomized twice** using EMS.
- No human intervention in randomisation.
- Only FLC approved EVMs recorded in EMS get picked up for first randomisation.

1st Randomization

2nd Randomization



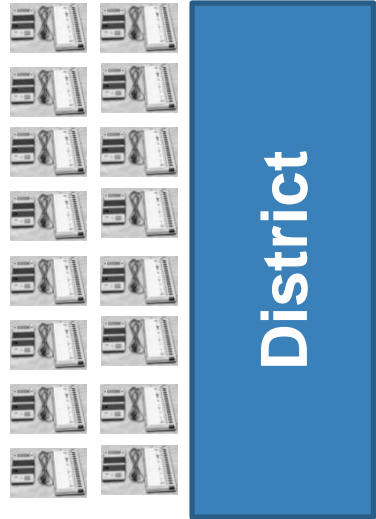
- Done just before 'candidate setting'.
- To allocate EVMs available in an AC/AS to polling stations.
- In presence of candidates/election agents and list shared.

4. RANDOMIZATION

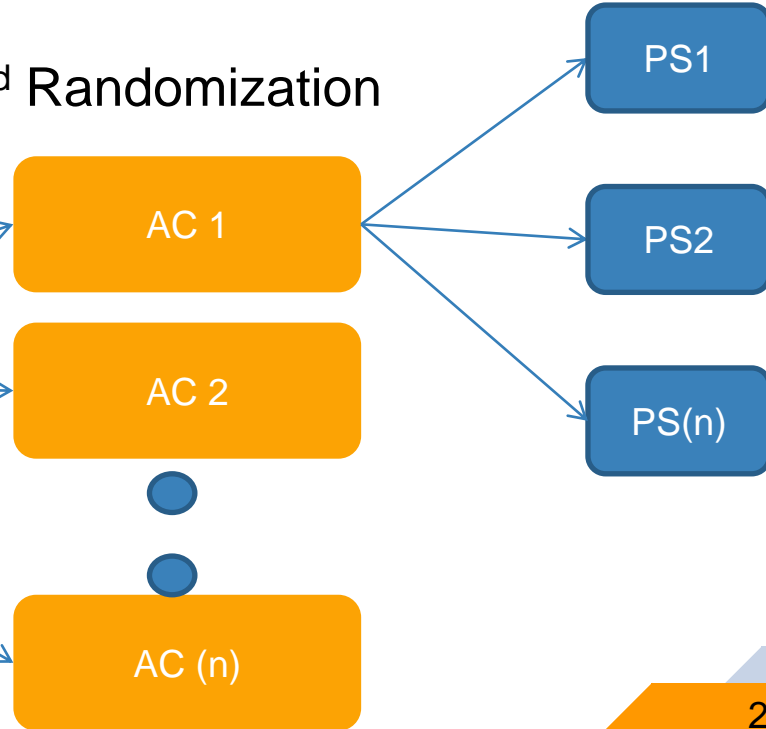
(3/4)



1st Randomization



2nd Randomization



4. RANDOMIZATION- THE FOUNDATION OF EVM SECURITY (4/4)



- Till first randomization- no one knows **which EVM is going to which Constituency.**
- Till nomination finalization- no one knows **the sequence of names on the ballot paper.**
- Hence, till candidate setting **no one (not even RO/DEO/CEO/Commission) knows which button on which BU will be assigned to which candidate,** making even an attempt to tamper absolutely futile.
- Till 2nd Randomization- no one knows **which EVM will go to which PS.**
- Added to this is the **3 stage Randomization** of polling officials to different polling stations.

5. CANDIDATE SETTING

The Process

Insert ballot paper in the Ballot Unit & Set Number of Candidates

Seal Ballot Unit

Mock Poll on Every EVM with VVPAT + 1000 vote on 5% EVMs with VVPATs



Security Measures

- 1 Done only **after** finalization of the names of contesting candidates.
- 2 **Fully sanitized hall** under videography and full security.
- 3 Done in the **presence of candidates** or their agents.

6. MULTIPLE MOCK POLLS



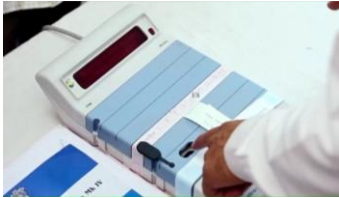
- Each EVM undergoes mock poll during FLC, and again during Candidate Setting. In addition 10% EVMs are randomly picked up for higher vote (500-1200) mock poll.
- 10% EVMs randomly taken out for Training and Awareness undergo Mock Polls several times. During LSE 2019 approx 9 crore mock votes cast and checked on around 1 lakh EVMs during awareness camps.
- Before start of actual poll, Mock poll on each EVM with at least 50 votes in the presence of polling agents.

7. POLL DAY CHECKS

- Polling Agents
- Central Armed Police Force (CAPF) and Micro Observers deployed at polling stations.
- Web Casting/CCTVs
- Frequent visits (Sector Officers /Senior officers/ Observers)
- 2 hourly reporting of votes polled
- Media vigil



8. POLL CLOSURE & TRANSPORTATION



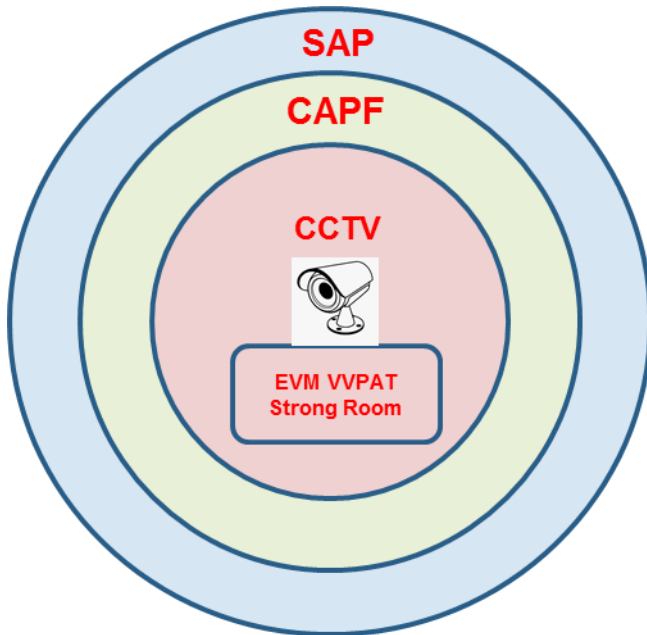
Poll Closed on EVM by pressing CLOSE button – EVM cannot accept any further vote.

EVMs sealed in carrying cases & polling agents sign on them.



EVMs transported back to the reception centres under armed escort. Candidates' representatives are allowed to follow them.

9. SECURE STORAGE IN STRONGROOMS TILL COUNTING



- Polled EVMs kept in strong room, sealed in the presence of the Candidates and Observer.
- Facilitation for Candidates to watch the Polled EVM Strong Room 24/7.
- *Starting from FLC of EVMs to Counting of votes, EVMs are kept in Strong-room with full 24/7 security.*

10. STORAGE & SECURITY

(1/3)



- EVM Warehouse/Strongroom with **only One Entry Point**.
- Entry secured by a **Double Lock System** with DEO & Dy DEO, each having custody of keys of one lock each.
- **24X7 Armed security.**
- **The opening & closing of EVM warehouse ONLY in presence of Political party representatives- advance written intimation mandatory.**
- Every EVM/VVPAT moved is managed by ECI through EMS.

Post Polling:

- Polled EVMs/VVPATs are stored in strong room having double lock system.
- Candidates allowed to put their **own seals on locks.**



Various layers of security of polled EVMs/VVPATs

1. **Unique ID of BUs, CUs & VVPATs** shared with political parties/candidates.
2. **Sealing of CU and BU with Pink Paper Seals** at FLC and commissioning respectively on which political parties and candidates put their signatures.
3. **Sealing of EVMs/VVPATs** before starting actual poll on which polling agents also put their signatures.
4. **Seals on carrying cases** of EVMs/VVPATs after closing of poll on which polling agents also put their signatures.

10. STORAGE & SECURITY

(3/3)



5. **Double lock system** at the door of strong room on which candidates also put their own seals.
6. **CCTV feed** to Candidates Camping Area to monitor strong room.
7. **Two Cordoned** round-the-clock security (Inner perimeter manned by CAPF and Outer perimeter by State Armed Police).
8. **Log-book and videography** of officers inspecting the two cordons daily.
5. **24/7 security arrangement** for unused EVMs also.

11. COUNTING DAY PROTOCOL



- On the day of counting, strong room opened in the presence of Candidates, RO and Observer under videography.
- Round-wise CUs are brought to the counting tables from Strongrooms **under CONTINUOUS CCTV Coverage.**
- Unique ID number of the CU & the signed seals are verified and shown to the polling agents.
- EVMs & VVPATs are stored back in Strong Room in the presence of candidates/their representatives till the completion of the Election Petition period.



ELECTION PETITION PERIOD

REGISTERING COMPLAINT

ELECTION PETITION PERIOD



- Election Petitions can be filed within 45 days of result declaration.
- EVMs (BU+CU) & VVPATs remain under sealed conditions till EP position is ascertained.
- EVMs and VVPATs under EP, are kept under safe custody of DEO (Strong Room) till final disposal of EP.
- Print on VVPAT Slips remains for 5 years.
- Remaining EVMs and VVPATs not in EP are now free for re-use.

EVM Management System (EMS)

- In house EVM Stock Management Software
- Barcode of every EVM is scanned into EMS every time it moves from one Warehouse to another
- All EVM Allocations done on EMS
- FLC status(OK/Rejected) captured in EMS
- EVMs Randomisation twice on EMS
- EVM sent for repair captured in EMS
- EVMs under EP marked in EMS



DEBATE AROUND EVMs-EXPLAINED!

CLARIFICATION ON ALL ISSUES



DOUBTS CREATED AROUND EVM

How EVMs are registering votes only for BJP: Kejriwal

Continued from page 1
Congress leader Arvind Kejriwal has accused the Election Commission of rigging the polls in favour of the BJP. He said that the EVMs are only registering votes for the BJP and not for other parties. He also accused the EVMs of being hacked and tampered with. He said that he has filed a petition in the Supreme Court to challenge the EVMs. He also said that he has written a book on the EVMs and how they are rigged.



Hacked EVM

Vote Stuffing after Poll Closure

Remotely Altered Control Unit Display

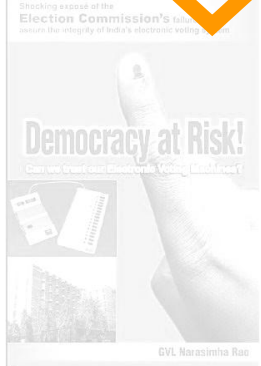
इलैक्ट्रॉनिक वोटिंग मशीनों की टैपिंग का मुद्दा फिर चर्चा में

Altered software code

International Comparison

Memory Manipulation

Replaced Microcontroller or Memory chips





NO POSSIBILITY OF EVM HACKING

‘Hacking’ is unauthorised access to or control over computer network security systems for some illicit purpose.

In the case of ECI EVMs, the word **‘Hacking’** is **not applicable** for following reasons:

- The EVM is a **stand-alone** machine and is not connected to any network through wire or wirelessly.
- The SW programme in the OTP Microcontroller can **neither be read nor modified**.

NO POSSIBILITY OF REMOTELY ALTERED DISPLAY THROUGH WIRELESS COMMUNICATION

It is alleged this can be done by either replacing the original display module with another display fitted with a wireless device or inserting an extra circuit board which can communicate with an external unit via a wireless device and tamper the result by controlling the CU display used for declaring the result.



- Such a modification would require unfettered access to the EVM after FLC – **Ruled out.**

MEMORY MANIPULATION RULED OUT

- It is alleged that voting data can be altered by clipping a Memory Manipulator IC to the memory chip where Vote data is stored.
- This would need,
 - Full and free access to CUs after the Polling is over- **Ruled Out !!**
 - Breaking the seals and locks of the strong room in the presence of two layers of security plus the representatives of the candidates camping near the strong room- **Ruled Out !!**



REPLACEMENT OF MICROCONTROLLER/MEMORY CHIP or MOTHERBOARD IMPOSSIBLE

Administrative Safeguards

- Chip replacement would require access to EVM Warehouses – **Ruled Out.**
- Any chip replacement before FLC will get caught during FLC.
- Chip Replacement after FLC would require access to Strong Rooms and breaking of EVM Pink Paper seals– **Ruled Out.**

Technical Security

- BUs and CUs communicate only amongst themselves and go into error mode if connected to any other machine. Thus, **any modified EVM (with microcontroller /memory changed) would not be usable** even if someone is able to hypothetically bypass security arrangements and modify EVM.

TAMPERED SOURCE CODE “TROJAN” RULED OUT

- It is alleged that Trojan can be introduced in the following manner
 - by reprogramming the chip, or
 - by the chip manufacturer during fusing of the software.
- Re-programming **Ruled Out** as these are OTP chips.
- Code tampering by the chip manufacturer **Ruled Out** as it will get caught during the code integrity check.



NO POSSIBILITY OF VOTE STUFFING AFTER POLL CLOSURE



Administrative safeguards

- Poll closed by pressing the “CLOSE” button on the CU after last vote, Representatives of candidates who are present signs on the seals.
- EVM seals checked on counting day.

What if seals broken and votes stuffed while transporting?

- EVM does not accept any votes after CLOSE button pressed in CU.

What if CLOSE button not properly pressed and Votes Stuffed while transporting?

- Poll Closure time recorded in the PO's diary and any votes polled in the EVM after this time can be identified due to time stamping of key presses.

DEFECTIVE VS TAMPERED

DEFECTIVE/NON-FUNCTIONING VS MANIPULATION/TAMPERED (1/2)



- **Tampered** machine is one which would behave in a predefined biased manner to favor someone.
- **Malfunctioning** machine is one which would randomly behave erroneously, but without a predefined biased manner.
- **Defective or Non-functioning** machine is one which becomes in-operative.
- While 1-2% EVMs may become Defective/Non-functional (and are replaced with good EVMs), **no case of Malfunctioning EVM (i.e. one recording wrong vote) ever reported.**
- **Question of Tampering absolutely ruled out** due to several layers of technical and administrative safeguards.

DEFECTIVE/NON-FUNCTIONING VS MANIPULATION/TAMPERED (2/2)

Defective/Non-functional	Manipulation/Tampering
An EVM can be said defective/non-functional, if they do not work due to any mechanical/electronic fault.	An EVM can be said manipulated/Tampered, if someone has made unauthorised alteration to interfere in its working. The same is ruled out due to technical security implemented in EVM and administrative safeguards prescribed by ECI.
Dictionary meaning- 'Failing to work or function properly'.	Dictionary Meaning- 'to interfere in an illegal & disruptive manner or to make alterations or adjustments, especially <u>secretly</u> so as to <u>subvert</u> an intended purpose or function.
EVMs, like any other machines can become non functional. Such defects get detected during the 3 mock polls and are replaced.	A tampered EVM must <u>behave in a pre-defined and biased manner to favour a particular candidate</u> and this partisan behaviour of the machine must be replicable/demonstrable.
All such defective EVMs are <u>promptly removed</u> from the election process and replaced with a full functional EVM.	No evidence of any incident of any EVM Tampering, ever has been produced.

❖ **However, No incident of EVM tampering ever found.**

DEFECTIVE EVM PROTOCOL



Defective EVMs

EVMs that fail to function due to any mechanical, structural or physical defect like faulty switches, broken button, faulty connections etc.

However, these **NEVER record Wrong Vote**.

- EVMs are checked for defects 3 times - during FLC, candidate setting, before start of poll.
- Serial Numbers and defects of these EVMs are noted and EVMs are sent to the manufacturers for analysis and repair.
- Manufacturers follow same security protocols during repair as they do for manufacturing new EVMs.

Electronic Voting in Other Countries



VARIOUS FORMS OF ELECTRONIC VOTING IN OTHER COUNTRIES



Electronic Voting (Fully /Partially)

- **19 Countries** using electronic voting in some form through EVMs (Direct Recording Machines), some with Paper Trail.
- India, USA, Canada, Australia, Belgium, Bulgaria, Italy, Switzerland, Mexico, Brazil, Chile, Peru, Venezuela, Armenia, Namibia, Nepal, Bhutan, Bangladesh.



Electronic Counting

- **13 Countries** are using e-technology for counting of votes
- Argentina, Brazil, Venezuela, Dominican Republic, Lithuania, Bulgaria, Belgium, Australia, South Korea, Philippines, Mongolia, Bhutan, Namibia.

Country Specific Details

Other countries using EVMs (DRMs):

USA, Australia, Belgium, Bulgaria, Italy, Switzerland, Canada, Mexico, Argentina, Brazil, Chile, Peru, Venezuela, Namibia, Nepal, Bhutan, Armenia, Bangladesh.

❖ Currently, in the **USA**, **the Direct Recording Machines are used in 27 states**, among which **paper audit trails are used in 15 states**.

❖ The other voting methods include: **Optical Scan Paper Ballot Systems, Ballot Marking Devices, and the Punch Card Ballot.**

Why Some Countries Discontinued Electronic Voting



ECI EVM	Foreign EVM
Standalone	Mostly networked
Manufactured in Premium PSUs	Manufactured entirely by private entities
Verified and certified by an independent Technical Experts Committee	No such robust and independent certification/ checks
Data is stored internally and not transferrable by any device	Voting data recorded in the DRM is transferred by means of CD, etc
Full end to end security protocol and administrative safeguards for the use, storage, transportation and tracking	No such protocols, e.g. in Ireland
Administrative and physical security as per legal framework across the country.	No such legal framework, e.g. in Netherlands
Voter verifiability and auditability of every vote cast	Lack of such facility in the NEDAP machines-un-Constitutional by German Supreme Court as lacked public examinability

ASPERSIONS VS CONFIDENCE

Between MAR-DEC 2017

BHIND FINDINGS

Commission's enquiry found 4 buttons of BU pressed in the following order and VVPAT printed corresponding slips-

Button no	Symbol	Name of Candidate
03	Handpump	Raju Pal
04	Lotus	SatyaDev Oanchori
03	Handpump	Raju Pal
01	Hand	Ambuj Shukla

It is pertinent to mention here that it is completely false to say that multiple times slips of lotus were printed during the demo on 31st March as alleged.

Between March-May 2017



120 Petitions Received

41 alleging wrong results

17 Related to SEC

Evidence Sought from 24

Reply by 3

Evidence by none



- Commission organized an EVM Challenge on **3rd June 2017.**
- All National and State Political Parties invited to participate in the Challenge.
- Parties allowed to pick EVMs/VVPATs of their choice from the 5 poll-gone States (UP, Punjab, UK, Goa, Manipur), which were securely held in the Strongrooms under 24*7 armed security.
- Parties given opportunity to demonstrate EVM manipulation/tampering in the votes recorded in the EVMs/VVPATs of their choice, as variously alleged earlier.



- **NO Political Party participated** in the Challenge.
- **Only 2 parties i.e. NCP & CPI-M reported to venue, ONLY TO UNDERSTAND THE EVM PROCESS BETTER** and were given detailed briefing.
- The credibility and integrity of ECI-EVMs has always remained perfectly intact and unscathed.

Aspersions in the 5 State Assembly Elections Nov-Dec 2018:

(1/2)

Allegation/Aspersion		Fact	Action Taken
1.	In Khurai (Madhya Pradesh) some reserve EVMs and VVPATs reached the strong room 48 hours after the polling was completed.	Violation of ECI instructions for deposition of all Reserve EVMs/VVPATs on the same day. However no impact on secured storage of polled EVMs.	Returning Officer and Assistant Returning Officer of Khurai were suspended.
2.	CCTV cameras outside the EVM strong room in Bhopal, MP did not function from 8.19 am to 9.35 am on 30 th November, 2018 - allegations of manipulations.	Due to power failure in the area, the recording could not be done. However no impact on secured storage of polled EVMs, as there are 7 layered security.	An inverter and a generator were installed in order to ensure continuous power supply.
3.	A Security personnel allegedly found using Laptop outside EVM strong room in Bemetara district of Chhattisgarh.	Laptop can never connect to an EVM. Manipulation in EVMs stored inside Strongroom by laptop outside the building absolutely ruled out.	Sub-inspector of the 175 th battalion of the BSF was replaced.

Aspersions in the 5 State Assembly Elections Nov-Dec 2018:

(2/2)

	Allegation/Aspersion	Fact	Action Taken
4.	A sector officer with Reserve EVM at a private hotel owned by a candidate in MP.	Sector Officer halted at night at a private hotel-Violation of ECI instruction. However all seals were intact, and the Reserve EVM not used.	EVM taken out of election system. Sector Officer suspended.
5.	1 EVM was alleged to be found at a candidate's residence in Pali, Rajasthan.	Sector Officer had gone to his house, which was close to the candidate's house. Violation of ECI Instructions. However all seals were intact, and the Reserve EVM not used.	EVM taken out of election system. The Sector Officer was suspended and the Returning Officer, Pali was transferred.
6.	01 reserve EVM found lying on road in Baran district (Kishanganj AC) in Rajasthan.	Fallen from the jeep while transporting. Violation of secure EVM transportation protocol.	EVM taken out of election system. Patwari and Inspector were suspended.

Aspersions in the Lok Sabha Elections 2019: (1/5)

Allegation/Aspersion		Fact	Action Taken
1.	Transporting of unused EVMs from Tezpur to the office of DC Kamrup (Rural), without inviting political parties at Kamrup.	Tezpur DEO failed to inform Kamrup (Rural) DEO before shifting of “Unused EVMs/VVPATs” to State Central Warehouse at Kamrup.	The Commission conducted an enquiry in the matter. Disciplinary action has been taken against DEO, Tezpur.
2.	News 18 alleged that EVMs found in the vehicle of City Magistrate Jhansi (Uttar Pradesh).	The said news pertained to unused EVMs, which were brought for storing in the strong room situated at Bhojla Mandi, Jhansi (Uttar Pradesh).	The said EVMs/VVPATs verified in front of the complainant candidates and they were fully satisfied. Thereafter, the said EVMs/ VVPATs stored in the respective strong rooms (different from Polled EVM Strong Rooms).

Aspersions in the Lok Sabha Elections 2019: (2/5)

Allegation/Aspersion	Fact	Action Taken
<p>3. Suspicious movement of EVMs in 60-Dumariganj PC of Uttar Pradesh.</p>	<p>The EVMs under question were unused EVMs. As per ECI instructions unused EVMs/VVPATs were being stocked at central locations for quickly shifting to subsequent phases whenever required.</p>	<p>The matter was explained to the contesting candidates by the District Election Officer and they were satisfied.</p>
<p>4. Suspicious movement of 50 Ballot Units from Coimbatore to Theni, 20 VVPATs from Coimbatore to Erode and 20 Control Units and 30 VVPATs from Tiruvallur to Theni.</p>	<p>Poll in the State of Tamil Nadu was held on 18.4.2019 and on 6th & 7th May, 2019, the unused reserve EVMs and VVPATs were moved under intimation to the political parties for the purpose of use in expected repoll in some polling stations. Some of the representatives of the political parties were also present during the actual shifting.</p>	<p>There was no violation of any instructions of the Commission, as the movement of EVMs was done as per instructions of the Commission.</p>

Aspersions in the Lok Sabha Elections 2019: (3/5)

	Allegation/Aspersion	Fact	Action Taken
5.	In mock poll at polling station No.31 of 34-Cuncolim AS of South Goa PC, 8 additional votes in favour of BJP instead of INC.	During mock poll, there was no complaint from the polling agents that the votes shown on VVPAT slip having any mismatch. However repeat Mock poll done, again with no mismatch between EVM and VVPAT slips count.	However, the set of machines was replaced with reserve set of machines and poll was held after conduct of mock poll to the satisfaction of candidates' representatives.
6.	Pressing any button on EVM, vote goes to BJP. No Written complaint, just a vague statement in an interview to TV 9/TV 18 Lokmat News channels on 18/4/2019 at Solapur.	DEO clarified that the complaint is wrong and no such thing happened anywhere in Solapur PC.	A clarification was given to Lokmat TV 9 & TV 18 News channels. They immediately stopped broadcasting the wrong news.

Aspersions in the Lok Sabha Elections 2019: (4/5)

	Allegation/Aspersion	Fact	Action Taken
7.	Theft of DVRs from the intermediate strong room of Umred AS of Ramtek PC on 12 th /13 th April, 2019. Allegation of wilful default in providing security to EVMs enabling the miscreants to lay their hands on EVMs and tamper with EVM.	DVRs and TVs installed at police guard room were not uninstalled while polled machines were shifted from intermediate strongroom, Umred to main strong room at Nagpur. Later DVRs found on 4 th May, 2019 near temporary strong room, Umred. Forensic test of DVR established that there was no attempt to tamper with EVM.	Departmental action has been taken against the ARO & Tehsildars and explanation of DEO, Nagpur called. 1 year increment withheld for Police Inspector.
8.	News item that in PS in Lumani of Zunhebotu district, Nagaland only one button on ballot unit was getting lighted and the VVPAT slips showing the symbol of only one party regardless of the buttons pressed.	Sector Magistrate visited the said PS and investigated. It was found that the EVM was functioning normally and no variation was observed.	The facts of the matter were shared with the media during the press conference after the poll was over.

Aspersions in the Lok Sabha Elections 2019: (5/5)

Allegation/Aspersion		Fact	Action Taken
9.	EVMs kept at Badaun strong room have been tampered after breaking the seal of the strong room.	No such incident occurred.	CEO UP issued Press Note on 3rd May 2019 clarifying that no such incident actually occurred.
10.	Complaint that at PS No. 151 of 139—Kovalam AS of Thiruvananthapuram PC, Kerala, there was discrepancy between the button that was being pressed and the vote that was being actually cast.	No such incident occurred. Polling agents and polling parties inside the polling station were not even aware that such a news was spreading outside.	Sector Officer and ARO visited the PS. There was no issues. It was clarified by the DEO that such an information was false. Observer also arrived and explained to the candidates the false nature of the widespread complaint.

PAST JUDGEMENTS

JUDGEMENTS



❑ Karnataka High Court 1999

'This invention is undoubtedly a great achievement in the electronic and computer technology and a national pride'.

❑ Madras High Court 2001

'There is also no question of introducing any virus or bugs for the reason that the EVMs cannot be compared to personal computers.'

❑ Kerala High Court 2002

The High Court recorded its appreciation on the efficiency of the mechanism of detecting votes cast by impersonators. Upheld by the Hon'ble Supreme Court in 2003.

Forensic Checking and Secured Storage

❑ **Bombay High Court: Order dated 23.02.2018:**

The Bombay High Court ordered a detailed **Forensic Examination** of the EVMs from CFSL, Hyderabad for checking any manipulation etc. **The CFSL report clearly ruled out any tampering, alteration or manipulation in the EVMs.**

❑ **High Court of Madhya Pradesh: Order dated 05.12.2018:**

In Writ Petition (Civil) No. 28016/2018 Naresh Saraf Vs ECI & Anr, Hon'ble High Court of Madhya Pradesh expressed satisfaction at the **Security and Storage Protocols** for EVMs and VVPATs established by the ECI and rejected petition to give directions for any changes.

Hon'ble Supreme Court: Dismissed Ballot Paper Request



❑ **Order dated 22.11.2018:**

In Writ Petition (Civil) No. 1332/2018, Nyaya Bhoomi & Anr Vs ECI, Hon'ble Supreme Court dismissed the petition requesting for return to Ballot paper system.

Upon hearing the counsel the court made the following **ORDER-**

“Having heard learned counsel for the petitioners and upon perusing the relevant material, we are not inclined to entertain the writ petition. The same is, accordingly, dismissed.”

The Hon'ble Supreme Court on VVPAT counts

❑ Order dated 08.04.2019:

- *“We are certain that the system ensures accurate electoral results.”*
- *“Verification of VVPAT slips of 5 Polling Stations per Assembly Constituency or Assembly Segment in a Parliamentary Constituency would lead to greater satisfaction.”*
- **Review Petition** against above order dismissed on 07.05.2019.

❑ Order dated 21.05.2019:

The Supreme Court on 21.05.2019 dismissed a PIL seeking counting of VVPAT slips of all EVMs while **rebuking** the petitioner NGO **for making a “mockery of democracy”** by moving the court despite a clear ruling by the apex court directing counting of VVPAT slips of five Polling Stations per assembly segment.

VOTER VERIFIABLE PAPER AUDIT TRAIL (VVPAT)

VVPAT



VVPAT- allows the voters to verify that their votes are cast as intended.

VVPAT



- Voter Verifiable Paper Audit Trail is an independent system, attached with the Electronic Voting Machines, that allows the voters to verify that their votes are cast as intended.
- When a vote is cast, the elector shall be able to view through the transparent window of the VVPAT, the printed paper slip showing the **serial no**, **name** and the **symbol** of the candidate of his choice.
- The slip is visible through the VVPAT window after which it automatically gets cut and falls in the sealed drop box of the VVPAT.
- Since June 2017, VVPATs are being used in all Elections.

HISTORY OF VVPAT

- **4th October 2010:** An all-party meeting agreed to incorporate VVPAT with EVM.
- **14th August 2013:** The Conduct of Elections Rules 1961 amended to use VVPAT.
- **September 2013:** First used in Bye-election for 51-Noksen AC in Nagaland.
- **October 2013:** Hon'ble Supreme Court allowed ECI to introduce the VVPAT system in a phased manner.
- **4th March 2017:** **Goa** became the first State where **100% coverage of VVPATs with EVMs** during Goa Legislative Assembly Election, 2017.
- **12th August 2017:** In all party meeting, the Commission committed to ensure 100% coverage of VVPATs in all future elections.
- **April-May 2019:** **100% Deployment of VVPATs** in Lok Sabha Elections 2019.

VVPAT Complaint – Rule 49MA

In case a voter complains of wrong printing by VVPAT:

- He will report to Presiding Officer.
- Presiding Officer will take a declaration explaining that if found false he can be penalized.
- PO will then record in 17A and permit him to cast a 'test vote' in presence of PO and Polling Agents.
- If found false PO will record in 17A and 17C so that the test vote is not counted.
- If found true then PO will stop poll and report to RO.
- **Since the introduction of VVPATs, more than 83 crore voters have cast their votes with full satisfaction & ONLY 17 (seventeen) complaints received u/r 49MA, which were all FOUND TO BE FALSE.**

VVPAT RECOUNTING PROCESS

- Counting of votes according to Rule 56C of Conduct of Election Rules, 1961.
- After announcement of result any candidate/ his agent may apply in writing to the RO for counting of paper slips of VVPAT under **Rule 56D**.
- The RO shall pass a speaking order on whether the slip counting to be allowed.
- Till date, in **16 (Sixteen)** instances RO has allowed slip counting since 2017. **All counts matched.**

VVPAT RECOUNTING PROCESS

- Between Dec 2017- Dec 2018 VVPAT slip count done in 1500 randomly selected PS and all these counts matched.
- In 2019 Lok Sabha Elections 20,687 VVPATs counted and around 1.25 crore slips matched with EVM count. A total count variance of only 0.0004% found in 8 VVPATs, that too due to human errors and not machine errors, which are being looked into.

Why Going Back to Ballot not a Solution

1. Average around 2000 invalid votes in each Constituency when ballots used.
2. Vote stuffing was very easy with Ballot papers. EVMs designed to allow only 4 votes per minute ruling out vote stuffing.
3. Counting of Ballot Papers was always prone to manual errors. EVM counting both quick and accurate.
4. Retrograde step in the era of Technology when even financial transactions done electronically.
5. Ballot papers are made of wood pulp and hence made at a cost to environment.



THANK YOU