



# Electronic Voting Machines (EVM)

## Why in News?

Recently, elections are being conducted in [Jammu and Kashmir](#), with [Electronic Voting Machines \(EVMs\)](#) playing a crucial role in the polling process.

## Key Points

- **About:** EVM is a device used to record votes electronically. They were first used in the **Paravur Assembly Constituency of Kerala in the year 1982**.
  - **Since 1998**, the Election Commission has increasingly used EVMs instead of ballot boxes.
  - **In 2003**, all state elections and by-elections were held using EVMs.
    - **Encouraged by this, in 2004**, the Commission took a historic decision to use only EVMs for the Lok Sabha elections.
- **Development:** It has been devised and designed by the **Technical Experts Committee (TEC)** of the [Election Commission](#) in collaboration with two Public Sector undertakings: **Bharat Electronics Ltd, Bangalore (under Ministry of Defence )** and **Electronic Corporation of India Ltd, Hyderabad (under Department of Atomic Energy)**.
- **Functionality:** It has two parts, a Control Unit and a Balloting Unit connected by a cable.
  - The Control Unit stays with the polling officer, while the Balloting Unit is in the voting booth.
  - The voter has to simply press the blue button on the **Ballot Unit** against the candidate and symbol of his choice and the vote is recorded.
- **Key Features:**
  - An EVM being used by **ECI can record a maximum of 2,000 votes**.
  - They do not require electricity. They run on an ordinary battery assembled by Bharat Electronics Limited/Electronics Corporation of India Limited.
  - The microchip used in EVMs is a **one-time programmable/masked chip**, which can neither be read nor overwritten.
    - Furthermore, the EVMs are stand-alone machines and there is no operating system used in these machines.
- **Benefits:**
  - **Accuracy:** EVMs eliminate the occurrence of 'Invalid Votes' seen frequently with [paper ballots](#), ensuring a more accurate reflection of voter choice and reducing complaints and legal disputes.
  - **Efficiency:** EVMs streamline the voting process, making it faster and more efficient. They eliminate the need for manual counting, reducing the time required to declare election results.
  - **Transparency:** EVMs enhance transparency in the electoral process by providing a clear and verifiable record of votes cast. **With features like VVPAT**, voters can verify that their votes are recorded accurately.
  - **Cost-effectiveness:** EVMs offer cost savings in terms of paper, printing, transportation, and storage, as they eliminate the need for millions of printed ballot papers for each election cycle.

## VVPAT

- **About:** [Voter Verifiable Paper Audit Trail \(VVPAT\)](#) is an independent system attached with the EVM that allow the voters to verify that their votes are cast as intended.
  - It was introduced in the bye-election of the **Noksen Assembly Constituency of Nagaland in 2013.**
  - In the 2019 Lok Sabha elections, VVPATs were used in all the constituencies.
- **Functionality:** When a vote is cast, a slip is printed containing the serial number, name and symbol of the candidate and remains exposed through a transparent window for 7 seconds.
  - Thereafter, the printed slip automatically gets cut and falls in the sealed drop box of the VVPAT.
  - The machines can be accessed by polling officers only.
- **Related Supreme Court Ruling:** In a 2013 **Subramanian Swamy V/S ECI case**, the [Supreme Court](#) emphasised the necessity of implementing VVPAT in elections conducted through EVMs.
  - Presently, the **M3 Model of ECI-EVM and VVPAT are used.**

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