Election Commission of India working with IIT Madras and CDAC for a more efficient voting system

The Election Commission of India accepted IIT Madras's proposal for the implementation of blockchain technology for a secure e-voting process. The online voting system is being developed by IIT Madras and the Centre for Development of Advanced Computing (CDAC). The discussions that led to this partnership were facilitated by the Office of Principal Scientific Adviser to the Government of India.

The Election Commission of India was exploring the potential applications of blockchain technology to enable remote voting (for migrant workers who cannot be physically present to cast their vote). Blockchain technology could help accomplish the objectives of electronic voting that include an increasingly credible voting process and maximize poll accessibility. The issues that needed to be addressed concern election security, voter registration integrity, poll accessibility, and voter turnout.

Blockchain technologies come with the following qualities that would help circumvent the above-mentioned issues:

1. *Decentralization* – Presence of computer or network of computers called *nodes* at different geographical locations.
2. *Transparency* - The decentralized nature of blockchain technology ensures all transactions are transparently viewed at each node which, in turn, has a copy of the blockchain.
3. *Immutability* - Blockchain can be used to unalterably record any number of data points. This will make fraudulent voting far more difficult.
4. *Encryption* – A blockchain-enabled electronic voting system will work by sending a single cryptocurrency or token to each eligible voter. Each candidate contesting the election will have a unique wallet address. The voters will vote by sending their token or crypto to the candidate of their choice. This process will reduce vote tampering that has been observed with physical ballots.