## Countries That Already Used Blockchain

### **Sierra Leone**

**Sierra Leone** conducted a **Blockchain-based voting system** on March 7 and **became the first country to become so**. Leonardo Gammar of Agora, stored votes in an immutable distributed ledger, thereby offering instant access to the election results.

Grammar has previously said “**Anonymized votes/ballots are being recorded on Agora’s blockchain, which will be publicly available for any interested party to review, count and validate,”**

Sierra Leone wished to create an environment of trust and transparency with the voters in a contentious election. By using blockchain as a means to record ballots and results immutably, the country created legitimacy in the election and reduce fall-out from opposition parties.

### **Russia**

Authorities of Moscow planned and launched a blockchain-based electronic voting system pilot project in June 2019. The project was carried out by partnering with the Moscow City Election Commission and Moscow Department of Information Technology (DIT). They provided the required support for the testing of the project.

The Moscow Department of IT functions in the field of IT and also follow the policies of the City of Moscow. It ensures the cross-industry coordination of other executive authorities of the city.

Previously Artem Kostyrko, Deputy Head of DIT: said “We plan to do a test vote in the summer, at the end of June, until the list of participants is determined. While we had conversations with student associations, there are elections to the main councils that have been held on the blockchain for a long time. And we are planning to collect some feedback and see what changes will have to be made to the program.”

The blockchain-based system is not considered as a replacement for the regular voting system but represents another form of voting which the Muscovites used. The Russian Duma saved the results of e-voting with the help of Distributed Ledger Technology (DLT). This helped in enhancing transparency in elections and eliminating intermediaries in the electoral process.

## **Japan**

Tsukuba City became the first Japanese City to introduce blockchain digital voting last year. LayerX a Japanese blockchain startup was integrated into the voting system as part of Tsukuba's smart city initiative. Tsukuba already has an electronic voting system in place, and LayerX's proposal met the criteria that the government has set out for electronic voting systems.

Tsukuba has yet to use the system in government election positions, but they have used the system to vote for social development proposals. LayerX uses Japan's "My Number" system as credentials to confirm registration. Voters can vote remotely online and the votes are registered in a decentralized ledger

The rollout wasn't all smooth sailing, with some voters forgetting their passwords when logging onto the application. But, overall the rollout was considered a success with mayor Tatsuo praising the ease and simplicity of voting through the application

## Countries at a PoC Level

These next countries are all those that have engaged in blockchain development, and are looking to test the system at some scale.

## **South Korea**

Given the relative ease of integration, South Korea has considered moving to the blockchain for security reasons.

South Korea worked with IBM's Hyperledger Fabric to create a blockchain voting pilot. The system will look to authenticate voters and save results in real time. It's been trialed in the private sector by Handysoft Consortium for surveys issued by Korea's internet and Security Agencies. It needs to be voted on by the South Korean legislature before it can be implemented in a federal election.

The system faced similar problems as the Japanese system. Voters forgot passwords and couldn't vote in the time frame provided. Users were also skeptical on whether or not the vote was counted.









## **Thailand**

Thailand's National Electronics and Computer Technology Center has complete development for a system of blockchain-based voting. The system was ready for use for national and local elections, as well as business-based decisions. It allows voters to use email to vote, and will use facial recognition from phone/laptop cameras to verify identity.

As of the last 2019 update found, NECTEC is looking to test the system on small scale elections. They were also looking to deploy the system for ex-pats to vote in national elections rather than domestically.

## **India**

India's Election commission collaborated with IIT Madras to build a blockchain-based voting system to allow remote voting around the country. It would work with EC's Electoral Registration Network to confirm identities with biometrics and mobile cameras. As of February 2020, the project was in a development stage.

### **Conclusion**

Therefore it is safe to conclude that Blockchain has taken the world by storm and is definitely proving to be a saviour in election processes by ensuring uncorrupted elections