

# How biometrics technology can improve voting systems in Africa

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Many countries are still finding themselves confronted with difficulties in registering and authenticating voters. It's a familiar scenario in present-day African elections.



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They are gauging the negative effects of this on their democratic process, even if, over the last ten years or so, the usage of biometrics has become more widespread, seeking to ensure voter equality, based on the principle of one voter, one vote, in other words, that everyone's vote should count equally.

When someone registers to vote, their registration data may be considered public record and available to a variety of individuals or groups. Voter registration records typically include personally identifying information such as home address and may also include political party affiliation and other details. It's important for voters to be fully aware of how their voter information is used or even shared in their specific regions so they can make informed decisions about their privacy and safety when registering to vote.

From a local – and even international perspective – there is an immediate need to increase voter registration by implementing, or considering the implementation of, a more automated process which may allay the fears of potential voters who are concerned about their privacy.

Therefore, all solutions which make it possible to improve the electoral process with the approval of the various political powers already in place are a form of democratic progress for the country, its constituents and often for neighbouring countries too.

## The challenges

Africa, having welcomed many innovations and technological advances is now witnessing a growing desire to digitise and secure data and documents related to civil identity. This is indeed a step in the right direction for a continent that for many decades has been notorious for not recognising the true value of its individual members and giving them full entitlement to exercise their civic and social rights.

With 53 legislative and presidential elections in Africa in 2015 and 2017, the question of electoral processes is a very topical issue and deserves all the attention it receives.

Of course, with the benefits of access to simplified administrative procedures comes a set of challenges and voter registration processes are no exception. Among these challenges is the fact that a democratic, reliable and fraud-free electoral process is an important factor in establishing lasting peace and stability in a country. To this end, elections give individuals the opportunity to cast their vote for or against a political candidate without recourse to violence and to make a peaceful contribution to political change.

Voter registration, in turn, makes it possible to ensure that citizens who are eligible to vote are able to exercise their right to vote on election day.

## **Enter biometrics**

Biometrics is the best technology to identify and authenticate individuals reliably and quickly based on their unique physical characteristics, such as fingerprints to cite just the most well-known example.

In the past, the preserve of applications such as for securing military or strategic sites, biometrics has come to see a more widespread use for general public applications, meeting the need of mobile users, companies and public authorities. For voter authentication, the fingerprints are compared against reference fingerprints stored on an identity document or in a fingerprint database, which enables the owner to be securely authenticated as the holder of the document.

## **So, what does this mean exactly?**

Identification answers the question "Who are you?" In this case, the person is identified as one among a group of others (1: N matching). The personal data of the person to be identified are compared with the data of other persons stored in the same database or possibly other linked databases.

Authentication, also called verification, answers the question: "Are you really who you say you are?" In this case, biometrics allows the identity of a person to be certified by comparing the data that they provide with pre-recorded data for the person they claim to be (1:1 matching).

The usage of biometrics in electoral processes makes it possible to meet challenges involved in the implementation of the principle of "one voter, one vote" which is a necessary condition for the holding of democratic, free and transparent elections. For the electoral authorities, it implies an obligation to guarantee the fairness of the ballot. To do this, all steps in the electoral process must be considered, from the enrollment of voters through to the definitive results of the ballots, as well as electoral operations themselves.

## **Is it the answer to the problem?**

Protecting the equality of votes is, and remains, a key consideration for any electoral process – be it in Africa or anywhere else in the world for that matter. In electoral law, the ballot is considered to be fair if it meets requirements of equality and liberty, and the secrecy of voting is respected.

Most importantly, however, biometrics for elections caters to two very important key objectives. Firstly, it makes it possible to compensate for the lack of a mechanism for the identification of voters and secondly, it guarantees the elimination of multiple enrollments on voter lists.

In the African context, the issue of elimination of multiple enrollments is one which comes to the fore. In this regard, the said elimination is demonstrated by a systematic search for duplicates (based on biometric characteristics such as fingerprints) using an automated fingerprint identification system (AFIS).

It is in this very scenario where the value of biometrics can be easily noted. Biometrics is thus first and foremost a tool for voter verification. It proves to be very useful in cases of electoral fraud related to identity theft, in cases where it is impossible to authenticate the voter or in the event of statistics on persons registered to vote that have been artificially inflated due to the introduction of fictitious voters.

However, until cases of electoral fraud have been demonstrated and quantified, it remains difficult to establish what contribution the use of biometrics would make to the fairness of the ballot. It is only useful in cases where the civil register or population records are not able to fulfil the function of identifying voters.

## **When it's all said, and done...**

The conditions for the implementation of biometrics serve to validate its effectiveness. The context in which biometrics is applied plays an overriding role in its success or failure.

It is true that in a tense political context, where there is a total lack of trust between the different people involved in the electoral process, biometrics can itself become something of a double-edged sword: it may help to resolve problems with the identification of voters and prevent fraud of a certain type but it cannot, by itself, render an electoral process reliable, credible and transparent.

It must take account of local specificities and of the impact of cultural and human factors on the limits of the technology. In the specific case where biometrics is introduced to compensate for the lack of a reliable civil register, it is not the electoral process which has to be biometric, but the national system for the identification of citizens.

This approach is very attractive as it can lead to a reliable method of identification of populations and to a civil register which can subsequently be used in an electoral context.

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