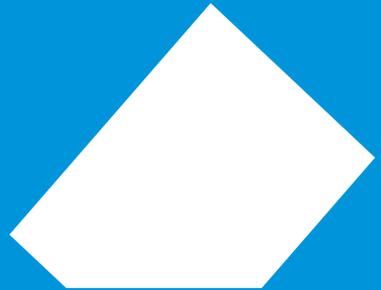

GEN
KEY



Delivering biometric elections

What we do. How we do it.





Throughout Africa, GenKey’s biometric solutions are helping to deliver free and fair elections, securing the fundamental democratic principle of one person, one vote. That success is down to a combination of state-of-the-art technologies, and an end-to-end approach to biometrics that covers every stage of the election process, from registration all the way to the polling booth.

→ The principle of “one person, one vote” is one of the cornerstones of democratic elections. Upholding this principle requires reliable and up-to-date voter lists, which is often a challenge for many countries for various reasons. In parts of Sub-Saharan Africa, low birth registration rates, lack of official ID documentation and the prevalence of rural populations make it particularly difficult to register and identify eligible voters accurately. This increases the risk of voter fraud, undermining the credibility of elections and therefore of the democratic process itself.

At GenKey, we believe that biometrics has a major role to play in overcoming that challenge. Many countries in Africa are reforming their voter registration process and adopting biometric technology to improve the credibility and transparency of their elections. In fact, Africa is fast becoming a global forerunner in biometric elections. Of all the countries worldwide using biometrics in the election process, more than half are located in Africa, with many more African countries including Chad, Zimbabwe and Botswana set to embark on biometric elections in coming years.

But any biometric election program is only as good as the technology and processes that drive it. >

47% of voter registrations in elections in Africa are biometric, according to the Institute for Democracy and Electoral Assistance (Nov. 2014).

> All too often, biometric elections have been let down by poor quality data capture during voter registration, or by faults in the process of deduplicating voter lists and verifying voter IDs. An analysis of one African country's voter registration program in 2010 found that as many as 30% of duplications in the registry persisted even after the introduction of the biometric system.

If Africa is committed to investing in biometric systems to support its democratic processes, it's vital that those systems are fit for purpose. To answer that need, GenKey has developed a rigorous, end-to-end approach to biometric elections that's proven to be highly reliable, easy to implement, cost-effective and compatible with existing administrative systems.

Since 2012, we've worked with partners in Africa and elsewhere

to successfully deliver biometric programs for several large-scale elections in countries throughout Africa, including Ghana, Cameroon, Tanzania and Mozambique.

One key advantage of our approach is that it's fully comprehensive, with biometric solutions covering each of the three critical stages of the process: registering voters, deduplicating voter lists and verifying voter identities on polling day. While they can work effectively as stand-alone solutions, each can also work in tandem with the others, creating a seamless, complementary system that strengthens reliability and accuracy.

The first stage of the process is voter enrollment. This involves registering voters by collecting their biographic details (name, date of birth, gender, address, and so on), along with biometric data. In order to register all eligible voters for

GenKey was an instrumental part of the consortium that registered an average of 230,000 voters per day across Ghana between March 24 and May 5 2012.



a national election a large number of registration centers are set up throughout the country, staffed by trained operators using biometric enrollment devices. For Ghana's 2012 presidential elections, voter registration was conducted at more than 23,000 registration centers across Ghana by 32,000 temporary staff. In remote rural areas, we offer mobile enrollment using handheld biometric enrollment tablets that can register citizens, wherever they are.

GenKey's mobile enrollment solutions gather a range of biometric data for increased reliability. They use advanced software and sensors designed for high quality data capture. For example, in Ghana's presidential elections, the voter registration process involved capturing image templates of all ten fingerprints, as well as a facial picture. The cumulative processing of hundreds of millions of fingerprints has enabled GenKey to refine the quality of its processing to an unprecedented level. This vital experience demonstrates our ability to achieve the highest level of data integrity, not just under laboratory conditions, but in real-life field conditions.

Immediately after registration, each eligible voter receives a voter ID card, which includes their facial photograph and a barcode with the unique ID card number. These cards are used to verify the identity of voters on Election Day, along with their biometric signature and biographic details.

The next stage in the creation of a clean voter registry is the

“The new registration methodology marked a substantial improvement in the transparency and credibility of the electoral process.”

**Report of the Commonwealth Expert Team,
Cameroon Legislative and Municipal Elections 2013**

deduplication process. This step detects and eradicates any duplicate records in the voter list, ensuring that candidates are enrolled only once. Our deduplication process is powered by GenKey's ABIS (Automated Biometric Identity System), an industry-leading technology that's proven to deduplicate large-scale electoral registers securely and reliably.

The processing speed of GenKey's ABIS goes far beyond industry standard, reaching up to 1 billion fingerprint matches per second per server. In fact, our ABIS is so fast that the deduplication process can happen continuously and in real time, in parallel with registration. Duplicate entries are detected, adjudicated and handled accordingly as soon as they enter the database, resulting in an electronic voter list that's always accurate and up to date.

GenKey's approach to voter registration and deduplication has provided clean, reliable voter lists for large-scale elections throughout Africa. In Mozambique and Ghana, our technology helped to provide a credible voter register of 9 million and 15 million eligible voters respectively. For Tanzania's 2015 presidential elections, >

“Our biometric registration programme was successful not only because of the registration rate, but also because we were able to undertake the deduplication process simultaneously with the registration.”

Ghana Electoral Commission

➤ our biometric program resulted in a clean voter list of 23 million people.

The third and final stage of the process is the verification stage – the moment when a voter’s identity is verified so they can cast their vote. Using a combination of biometric and biographic data, our approach ensures that only those eligible to vote can do so, and that they vote only once.

When a voter arrives at a polling station, they present their voter ID card. A polling officer then uses a biometric verification device (BVD) to compare the details on the card (name, voter ID, facial picture, and so on) with the details on the voter register. If these match, the officer scans the barcode on the voter register, which brings up an image of the voter’s face on the device display. If the image corresponds to the face of the voter, the officer then scans the voter’s fingerprint to biometrically verify the voter’s identity. If this is successful, the officer inks the voter’s finger and issues a ballot paper. From start to finish, the whole process takes around 20 seconds.

By adopting GenKey’s verification solution for its presidential elections in 2012, Ghana became the first country in the world to secure a fair polling process using biometric voter verification. On the day of the election, December 7 2012, biometric verification took place at 26,002 polling stations throughout Ghana. To support the process, GenKey delivered 33,500 biometric verification devices, which were operated by 26,002 trained officials.

Following the election, the Ghana Electoral Commission announced that voting was satisfactorily completed in about 98.4% of all polling stations on Election Day. Due to logistical and technical challenges at some polling stations, verification and voting continued and was successfully completed in the remaining polling stations on the following day.

Supported by GenKey’s technology, Ghana’s first fully biometric election has been heralded as an unprecedented success by both the country’s own Electoral Commission and the international community. Ghana’s President John Dramani Mahama described the event as “a historic election,

We’ve issued more than 72,000 biometric verification devices to support elections in Ghana since 2012.

which witnessed progressive reforms with the use of a biometric voter's register and biometric verification for voting which has been acclaimed by both domestic and international observers as free, fair and transparent".

Since our first biometric verification in 2012 the functionality of our devices has continued to improve. Today, they're capable of transmitting tally data to the authorities at the end of polling day.

This brings increased speed and transparency to the electoral process.

Transparency can be further improved by providing live daily statistics on election participation, biometric authentication of officials, and using digital audit trails in addition to paper audit trails. GenKey continues to bring new innovation to the verification process with enhanced result consolidation and transmission functionalities. ■

“It takes about 20 seconds for a voter to go through the voting process”

Ghanaian Times



“By 2030, provide a legal identity for all”

UN sustainable development goal 16.9

Sustainable Identity

For many countries, our biometric voter registration solution provides a key building block to creating a sustainable national identity system. The biometric and biographic data collected during the registration process for an election can also contribute to a national central register. This can be accessed, with the appropriate approvals, by multiple government agencies, covering a variety of functions from healthcare to Social Protection.

Working towards Identity for all

For many emerging economies, biometric identity is the key to unlocking a range of basic civil rights and freedoms, including the right to democratic elections. At GenKey, we're proud to be supporting the transition to more democratic societies, throughout Africa and beyond.



We've helped register **millions** of voters



Cameroon Legislative and Municipal Elections 2013

6.5 million

Mozambique Municipal Elections 2013 and General Elections 2014

9 million

Ghana General Elections 2012

15 million

Tanzania General Elections 2015

23 million

23k

Voter registration centers nationwide

Ghana General Elections 2012

11m

Voters biometrically verified on election day

Ghana General Elections 2012

72K

Biometric Verification Devices (BVDs) issued

Since 2012 in Ghana



World's first biometric voter verification

Ghana General Elections 2012



230m

Fingerprints deduplicated by our ABIS
Tanzania General Elections 2015

GenKey's election record

Enroll Solution

Our Enroll Solution ensures that millions of people's data is registered to the highest standards, and all it takes is a few minutes. GenKey's enrollment SDK is designed to capture high quality data, whilst simultaneously running a (local) deduplication, for real-time feedback.

1=1 Solution

Our 1=1 Solution is the hub of GenKey's ID management. It enables a voter's data to be retrieved, updated and maintained efficiently and securely. It also runs a continuous deduplication check, powered by GenKey's Automated Biometric Identification System (ABIS). The result is a clean voters' list that ensures that one person = one vote.

Verify Solution

Our Verify Solution enables biometric verification of millions of voters on Election Day, before they cast their vote. GenKey's handheld Biometric Verification Devices (BVDs) are equipped with specialized technology that verifies a voter's identity and right to vote. They are designed to operate even in the most challenging environments and support Electronic Results Transmission and consolidation at the end of Election Day.

Featured projects

Biometric voter registration (BVR) for:

- Ghana General Elections 2012 and 2016 and District Level Elections 2015
- Cameroon Legislative and Municipal Elections 2013
- Mozambique Municipal Elections 2013 and General Elections 2014
- Tanzania General Elections 2015

Biometric voter verification (BVV) for:

- Ghana General Elections 2012
 - Ghana District Level Elections 2015
 - Ghana General Elections 2016
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We're GenKey. We're experts in biometric elections.

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www.genkey.com

We work with governments and their partners to help millions of people across Africa to register and verify their identity.

Our 3 step approach is proven to deliver large scale ID programs across a wide range of markets, including elections, healthcare and social protection to name a few.

There are 1.5 billion people with no legal identity, that means no birth certificate, no ID card, no passport. Nothing. What's more, it's estimated that over 600 million children alive today have no registered birth. Access to a legal identity is one of the UN Sustainable Development Goals. It calls for every person to have a legal identity by 2030.

It's GenKey's mission to help bring about *Identity for all.*