



Case Study | Guinea | Voter registration

Safeguarding one person, one vote for Guinea's 7 million registered voters





Fast facts

- **Country:** Guinea
- **Population:** 12.5 million
- **Total records in the registry:** Approximately 7 million
- **Minors identification and filtering**
- **Hardware:** Complete backend hardware for central site and regional sites
- **Consultancy and Project management**
- **Onsite support and Supervision**
- **Voters list preparations, voter cards generation, and printing**

Products used

- **Automated Biometric Identification System (ABIS):** for voter registry
- **Field stations with custom enrollment software:** for collecting biometric and biographic data of citizen

Deployment

- **Biometric system on secure servers, 4,000 field stations for collecting biometric data**

Challenge

In many countries, eligible voters do not often have a reliable ID. To prevent election fraud, a biometric registry is necessary to make sure that each registered person gets exactly one vote. The challenge is to collect data in the field and clean it from duplicates and ineligible voters like minors or deceased.

Once we had a clean voters registry, we needed to design, produce and supply voters with voter cards.

- Just 6 months for a complete, reliable biometric registry

Solution

Innovatrics deployed multimodal (finger + face) ABIS and also provided the hardware. It also developed and installed software for field stations that were used to collect data and trained the supervisors of the process. The solution has been explicitly designed to collect high-quality biometric samples without compromising user experience.

After ABIS deployment, we migrated old records from previous elections. After enrolling new voters, we consolidated all data and ran deduplication to eliminate duplicates.

Using our powerful face recognition and AI-driven age estimation, we were able to identify and eliminate minors.

- 7 million high-quality unique voter records
- Deduplication and AI-based age estimation to exclude minors

Results

Innovatrics delivered the biometric registry in record time. It also devised a secure process to collect data from the field stations even without reliable high-speed internet connection, ensuring the data is complete. The elections adhered to international standards according to independent observers.

- Number of eligible voters increased by 2 million
- Voters registry was used to generate unique IDs which can be used as a proof of identity
- Added face recognition modality to increase accuracy when applying one person, one vote principle
- The International Election Observation Mission has affirmed that international electoral standards have been completely observed in the recently concluded Guinea elections

"CENI confirms the quality presence of Innovatrics by its side in the electoral process and would like to hereby reaffirm its gratitude and that of Guinea."

Amadou Salif Kébé
Président de la Commission électorale nationale indépendante (Ceni)

The power of efficient biometric algorithm

Before

5 million voters

2 databases (data scattered between 2 databases)

Single purpose voter cards

Fingerprints only

After

7 million voters

1 database (After migration, we consolidated all the data into 1 DB)

Voter card can be used as an ID

Fingerprint and face

Security as a priority

The system was designed to prevent multiple voting and the process for gathering data guaranteed that no data has been lost in transfer.

International challenge

The elections have been closely monitored by international observers, so the system had to be accurate enough to weed out duplicates.

Clear voter registry

After all the data had been collected in the field, the voters registry was cleaned from duplicates and ineligible voters. Thanks to accurate algorithms and the world's fastest ABIS, we deduplicated the database of 7 million voters in one week. Our advanced age estimation algorithm was then used to eliminate minors from the list.

Basis for future applications

With such a complete biometric registry of the adult population, Guinea can opt to provide other biometric services such as checking identity when providing social aid or financial services.

About us

We are an independent EU-based provider of multimodal biometric solutions. Our algorithms consistently rank among the fastest and most accurate in fingerprint and face recognition. For over 15 years, we have partnered with all types of organizations to build trusted and flexible biometric identification solutions. Our products are being used in more than 80 countries, benefiting more than a billion people worldwide.

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