



# ELECTIONS AND VOTERS' REGISTRATION MOZAMBIQUE



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## ABSTRACT

With a geographically distributed population and a high rate of voter fraud, the Mozambique government recognized an opportunity to utilize mobile biometric identification and registration units to create national electronic voter roll that could be used for multiple elections.

## THE SITUATION

In June, 2007 STAE (Secretariado Técnico da Administração Eleitoral), a division within the Mozambique National Electoral Commission recognized the need for a single electronic voters' roll to be used in national elections. With the high rate of voter fraud, this solution would help STAE guarantee the integrity of electoral decisions. But with Mozambique's distributed population, the selected voter registration system faced unique challenges:

- Mobile registration units that could operate in the field on battery power,
- Technical support for 11 provincial capitals, and

In addition, STAE had a requirement to print voter lists at local offices requiring a centralized, national database of consolidated voter information. Of course, all of these requirements were secondary to the need for an electronic voter registration system that provided deduplication and fraud analysis.

# CASE STUDY

## THE CRITICAL ISSUES

To implement the type of secure, mobile voter registration system identified, STAE need the mobile systems, the software, and the training. In doing so, STAE identified three key objectives for the solution:

- 3500 mobile voter registration systems with 8-hour battery life and fingerprint scanner capable of printing voter registration cards on-site;
- A national database to aggregate all digital identity data from the mobile voter registration systems; and
- An end-to-end biometric analysis and capture system (AFIS) capable of rapid deduplication and fraud detection.



## THE SOLUTION

STAE selected a local Mozambique firm that utilized Face Technologies to provide the system mobile electronic voter registration system. This system provided a number of benefits including:

**END-TO-END SOLUTION** - Innovatrics ExpressID AFIS solution includes both end-point technologies for biometric identification and analysis as well as server components for data aggregation and storage;

**FRAUD PREVENTION** - Innovatrics ExpressID AFIS can ensure that citizens who are registering for biometric identification are not already registered;.

**SYSTEM EFFICIENCY** - The Innovatrics' technologies boast the fastest biometric algorithms in the industry ensuring that users are not kept waiting at identification terminals.



## IMPLEMENTING THE SOLUTION

The implementation of the Face Technologies solution (incorporating Innovatrics ExpressID AFIS product) as the solution for SATE mobile voter registration required a number of hardware and software elements.

## THE COMPONENTS

**SOFTWARE** - Innovatrics ExpressID AFIS and IDKit PC SDK for the registration/ authentication functionality;

**BIOMETRIC HARDWARE** - CrossMatch Verifier 320LC scanners;

**MOBILE REGISTRATION UNIT** - 3,500 units with LCD screens, USB cameras, fingerprint scanner, network capability, and 8-hour battery life

**COMPUTER HARDWARE** - HP Notebooks for capture of mobile data in 11 provincial capitals, HP Servers with Innovatrics ExpressID and Oracle 11g to store biometric fingerprint images and provide high-speed duplication check (AFIS).



## DESIGN

Face Technologies designed and implemented a system that would enable SATE to both register a distributed population as well as provide an electronic voter's roll. Based on SATE's expressed needs and requirements, Face Technologies provided the following suggested the following:

**CENTRALIZATION** - the installation of the core software components and database in a single location to maximize system efficiency and performance. Face Technologies implemented the Innovatrics ExpressID AFIS Government edition (Dispatcher and Node Service) and Biometric Data Repository (Oracle 11g) inside a highly-available datacenter to aggregate data collected at 11 provincial locations;

**ENROLLMENT** - mobile enrollment equipment and provincial data collection stations with a centralized Oracle 11g repository built on Innovatrics Express ID AFIS for government;

**VERIFICATION** - a client application for verification and enrollment stations that handles duplication prevention and authentication. The Integration of Innovatrics .NET IDKit PRO SDK to handle duplication checking prior to enrollment.



## THE RESULTS

Innovatrics proven ExpressID AFIS, integrated with Face Technologies mobile biometric solution, enabled SATE to effectively register 10+ million citizens and create an electronic voter roll for future national elections. This system also ensured that voters were unique, leveraging Innovatrics industry-leading algorithms to check for duplicates.

## ABOUT INNOVATRICS

Innovatrics is focused on providing fast, accurate, interoperable and sensor independent fingerprint recognition software for incorporation into final biometric applications. Innovatrics components offer exceptional performance perfectly suitable for both, high-end and low-cost biometric applications. More information about Innovatrics products and technologies can be found at [www.innovatrics.com](http://www.innovatrics.com).

## ABOUT FACE TECHNOLOGIES (PTY) LTD

Specializing in smart card technology, beneficiary payment systems, and biometrics and card solutions, Face Technologies focuses on enabling businesses and organizations to identify personnel, clients, and assets. The company prides itself on providing integrated business solutions. More info can be found at [www.face.co.za](http://www.face.co.za).



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