



## **TRIBUNAL SUPREMO DE ELECCIONES, COSTA RICA: PRESERVING THE INTEGRITY OF THE VOTING SYSTEM**

### **The Challenge**

Costa Rica takes pride in being the oldest democracy in Central America, and the *Tribunal Supremo de Elecciones* (TSE) is committed to preserving the integrity of its voting system.

In 1998, TSE was ready to modernize the election system by transforming the existing national ID card into a modern, fraud-proof card. This was a very important step, given the fact that the ID card, which all citizens apply for at the age of 18, was already used for almost all identification needs such as cashing checks and applying for a driver's license. Traditionally, the issuance process was done manually and entailed taking a photograph of each citizen, collecting a signature on paper, and sealing the photo and signature in a plastic ID card. Cards took about four weeks to process and were susceptible to tampering. TSE wanted to improve the system by incorporating technologies that could accurately verify each voter's identity, efficiently deliver tamper-proof ID cards, and streamline the electoral process.

### **The Solution**

BioEngine® technology and 500 dpi single fingerprint DFR® readers helped in delivering an integrated biometric identification solution. This solution enabled TSE to issue biometrically-secured, tamper resistant identity cards to each of the nation's 2 million voters, and was integrated into the existing national demographics database maintained by the TSE, which contained four million records.

The solution consisted of BioEngine technology for one-to-many identification, and 140 DFR® readers for capturing fingerprints. Upon enrollment, each applicant's two-finger record is searched against the entire Automated Fingerprint Identification System (AFIS) database of previously enrolled applicants to weed out duplicates. At 29 sites throughout Costa Rica, the system electronically captured images of two fingertips, the face, and signature from each of the applicants. Once approved, the TSE issued the ID card, which stores the applicant's biometric data.

These tamper-proof cards enable the TSE to accurately verify each voter, thus ensuring the integrity of the election process. Additionally, the electronic imaging system helped the government accelerate the delivery of service in other situations where Costa Ricans used their ID cards, such as cashing checks, applying for healthcare benefits, immigration, and driver licensing.

### **About BioEngine® Technology**

BioEngine technology is a minutiae-based algorithm that analyzes the fingerprint image for endings, splits and bifurcations in the ridge patterns. The strength of the BioEngine® algorithm comes from its ability to discern fingerprint images over an extended period of time. BioEngine® SDKs allow developers to create custom one-to-one verification and one-to-many identification applications, such as time and attendance, transaction verification, physical access, information security and ID programs. L-1 technology has issued more than 100 million BioEngine fingerprint templates around the world for various large-scale identification programs.



## CASE STUDY

### **About L-1 Identity Solutions**

L-1 Identity Solutions, Inc. (NYSE: ID), together with its portfolio of companies, offers a comprehensive set of products and solutions for protecting and securing personal identities and assets. Leveraging the industry's most advanced multi-modal biometric platform for finger, face and iris recognition, our solutions provide a circle of trust around all aspects of an identity and the credentials assigned to it -- including proofing, enrollment, issuance and usage. With the trust and confidence in individual identities provided by L-1 Identity Solutions, government entities, law enforcement and border management agencies, and commercial enterprises can better guard the public against global terrorism, crime and identity theft fostered by fraudulent identity. L-1 Identity Solutions is headquartered in Stamford, CT. For more information, visit [www.l1id.com](http://www.l1id.com).