



Public Safety in a New Age

Public safety and protecting the welfare of citizens is a top concern to governments around the world. Globalization and new technologies have required everyone to rethink how to protect civilians, access government services and programmes, as well as preserve political liberties. Communities exposed to risks end up costing millions, and can become harmful to the well-being and fulfilment of all of us. Fortunately, identification and surveillance solutions are now available to safeguard civilians, as well as protect government-managed programmes.

Investments in public safety are growing rapidly. Market indicators forecast that in 2012 more than US\$48 billion will be spent on public safety solutions. Investments in solutions designed to verify identities for government programmes – such as passports, licenses and aid – alone will grow 29% in 2012 to an estimated US\$18 billion. Clearly, public safety and identity verification are gaining widespread support as a dependable method for protecting the quality of life and safety of people.

Secure, Tamper-proof ID

Identity authentication is required for nearly all transactions in our daily lives. Identity fraud in civilian programmes can compromise the integrity of

licenses and permits, increase costs, prevent aid from reaching those who need it, and threaten civilian safety.

Avoiding identity fraud in government licensing and entitlement programmes can be as simple as a fingerprint. The reliability and accuracy of fingerprint recognition systems – even on fingerprints that are sweaty or manipulated – is the highest among all non-invasive biometric identifiers. This additional layer of identity verification increases security in public environments where identity confirmation is imperative.



Based on international standards, NEC's National ID solution with smartcards and fingerprint recognition simplifies the identification process, prevents identity fraud, and streamlines the process for citizens to benefit from government services. National ID represents the most secure, tamper-proof documentation available today for protecting national borders, and providing dependable

identity verification for drivers' license programmes, healthcare and welfare management, and disaster relief.

Unrivaled Matching

For nearly 40 years, NEC has been dedicated to developing the fastest, most accurate biometric technologies for a higher level of security to communities around the world. With its patented algorithm, NEC was awarded first place ranking in accuracy – 99.97% with a FAR (false accept rate) of 0.01% – on the Proprietary Fingerprint Template Evaluations (PFT) test carried out by the National Institute of Standards and Technology (NIST), commissioned by the U.S. Department of Homeland Security.

NIST test results do not constitute endorsement of any particular system by the government. For more information, visit http://www.nist.gov/itl/iad/ig/pft_2003.cfm

Fair & Open Elections

It is ideal for all eligible citizens to have a voice in their government process and the decisions that affect their lives. Governments are eager for open and fair elections, and encouraging eligible voters to exercise their right to vote.

NEC's Voter ID system with cutting-edge biometric technology helps confirm voter identities and attain

fair elections. For fast and accurate verification of each voter's identity on Election Day, NEC's Voter ID fingerprint identification with centralized voter database prevents duplicate IDs and election fraud. Fair elections preserve citizens' civil and political rights, and strengthen trust in election outcomes. Further, open and verifiable elections demonstrate the integrity of the government and its citizens.

Controlling Access

Early detection of suspicious behaviour or individuals is the best approach to preventing serious damage or injury among citizens. NEC's automated bi-directional control gate solution utilizes facial, fingerprint, iris or vein recognition, as well as surveillance technologies, to ensure that only authorized individuals are granted access at public locations like airports and borders. Potentially dangerous breaches in clearance or procedure can be easily detected, including tailgating, jumping the gate, or leaving suspicious packages.

NEC's integrated surveillance solution with intruder detection uses image analysis technology. The video analytics with facial recognition technology can detect unauthorized access, unidentified objects, unusual behaviour, fire and any type of environmental abnormality. A video clip is sent instantly to security personnel so they can quickly respond to provide assistance.

Facial authentication offers the advantage of not requiring direct contact. Face images can be captured from crowds and authenticated discretely from a distance without causing congestion. NEC's facial recognition technology can identify dangerous or wanted individuals regardless of the vantage point and changes in appearance.

Modernizing Civil Services

The Institute of Identification of the Civil Police of the Federal District in Brasilia, Brazil performs fingerprint identifications to provide civilians with identity documents (IDs), as well as to help solve crimes. The manual identification system was not able to support demand for civilian IDs, criminal investigations or the judicial process, which left citizens at risk. The Brasilia Civil Police needed to modernize its technologies in order to identify people by their fingerprints against millions of records quickly and accurately.

NEC delivered a complete Automated Fingerprint Identification System (AFIS) that performs both Civil ID and Criminal ID searches, analysis, and checks. With the new

NEC AFIS, the Civil Police now issues a record-breaking 22,000 IDs monthly, so there is no backlog of identity document requests. The NEC AFIS also eliminates the risk of duplicate identifications being issued and identity fraud.

In only eight days, investigators were able to identify 111 criminals in cold cases; while a thefts and robberies police task force solved 440 cases in only 22 days. The citizens of Brasilia now enjoy more security, justice, dignity and citizenship.



Fast & Accurate

NEC's facial authentication technologies have achieved top ranking in the NIST Multiple-Biometric Evaluation 2010 Still-Face Track testing with an accuracy rate of 99.7% (FAR 0.1%), well ahead of the second place competitor. While achieving the highest accuracy rating, NEC's average time to process a query from a total of 1.6 million images was by far the fastest among all participants.

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The Power of Innovation

NEC, a \$37.5 billion global powerhouse with over 115,000 employees worldwide, enjoys the distinction of being one of the few companies that can supply end-to-end public

safety solutions – including hardware, networking, applications and service.

For more than 100 years, NEC has delivered innovative technologies and services in IT and networking with the purpose of improving the quality of people's lives.

"Helping communities improve public safety and quality of life through our identification technologies, as evidenced by our unrivaled matching algorithms, is a priority to NEC," said Takaaki Shimizu, Senior Vice President, NEC Corporation. "It is satisfying to know that NEC's extensive portfolio of public safety solutions is contributing to the protection and well-being of people around the world. NEC aspires to leverage the power of innovation to realize an information society friendly to humans and the earth."

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