

NEC AFIS created the world's largest civilian fingerprint identification database for HANIS.

NEC's global expertise is a key to large scale national projects. Using NEC AFIS, HANIS provides a fully integrated 10 fingerprint identity solution to cater for over 50 million adults.



Customer Profile

South Africa is a country with approx. 48 million citizens of all colors and creeds. The government provides all citizens over the age 16 with official ID booklets to ensure access to public services and enable daily transactions. The booklet is based on the most secure form of personal identification – the holder's fingerprint.

To obtain an ID booklet, citizens must go to the Home Affairs office, submit an application form and supporting documents, and then be fingerprinted for accurate identification. As a result, the government's archives had amassed some 45 million paper files.

In the past, fingerprint authentication had to be manually checked in a time-consuming process.



The manual database had become too large and unmanageable as the volume of files continued to grow. The poor accuracy of manual searching was yet another crucial challenge.

Key Facts

The 21st century solution powered by NEC AFIS provides the answer to the challenges

As the 21st century solution to the challenges, the Home Affairs National Identification System (HANIS) project is led by South Africa's Department of Home Affairs, aiming to replace the legacy paper system with a cutting-edge digital database and to ensure that every single new and existing fingerprint could be properly processed, verified and accessible in real time.

The government turned to NEC's award-winning Automated Fingerprint Identification System (AFIS). With accuracy rates of more than 99.9%, the NEC AFIS is the most cutting-edge fingerprint identification technology in the world.

Using the NEC AFIS, HANIS implemented a one to many (1:n) search database as the system's core technology. Current records (in excess of 30 millions) are now digitally and securely stored in the database, and the search engine powered by NEC AFIS demonstrates a significant improvement in accuracy. The NEC AFIS implemented within HANIS is currently capable of storing and searching up to 50 million records.



Ever faster and ever more accurate

“Every fingerprint is different. Every fingerprint has a different ridge structure. And we utilize such minutiae in matching.”, according to Masanori Hara, Project Director of NEC Corporation.

The better the software is at recognizing such differences, the higher the accuracy there is in validating an identity. NEC AFIS also works fast, processing as many as 70,000 searches in a single working day.

NEC technology contributed to national unity

“NEC has provided us with an amazing amount of technological advancement.”, said Vusumuzu Mkhize, Acting Deputy Director General for Civic Services South African Department of Home Affairs.

Collaboration between NEC and local South African engineers was key to the success of the project. Queues are now shorter and delays reduced, and the accuracy of the system dramatically reduces the possibility of the fraud and identity theft that are a growing problem in the world.

But for South Africa, this next-generation digital database platform also means something more. In the past its citizens were divided by race or belief. Today, everyone is integrated into a single digital archive, recognized through NEC technology by just one universal human feature, their fingerprint.

NEC AFIS track records within the HANIS Project

- 2001 Completion of Phase-1
HANIS facility officially opened in Feb, 2002
- 2002 Completion of Phase-2 and systems commissioning
- 2003 Completion of Phase-3
- 2005 Completion of system expansion, to cater for 70,000 searches per day
- 2008 Completion of system expansion and technology upgrade
Currently, over 50 million ten print records can be stored within the AFIS, with an initial workload of 70,000 searches per day

About Us

NEC Corporation is one of the world's leading providers of Internet, broadband network and enterprise business solutions dedicated to meeting the specialized needs of its diverse and global base of customers. NEC has also consolidated its position in the development, marketing and implementation of biometrics solutions. NEC's AFIS has enjoyed unparalleled success in the worldwide market, and a large part of the world's fingerprints are now stored on NEC's AFIS, helping solve more crimes from latent prints than all other systems.