

Biometrics brings convenience, efficiency and fraud protection to Singapore's driving license program



Singapore

Singapore Police Force (Traffic Police)

Traffic Police is the unit of Singapore Police Force responsible for safety of all road users, including more than 2 million qualified driving license holders in the country. It enforces road traffic rules, investigates traffic violations and accidents, enhances road safety awareness among the public, regulates the education of drivers, administers driving tests, and issues driving licenses in Singapore. In the performance of its multiple roles, Traffic Police constantly seeks to leverage advanced technology to raise efficiencies and service standards.

CHALLENGES

“The successful digitalization of identity dictates that all channels of enrollment – whether at a manned counter, a self-service booth or online – must be protected from the risk of identity fraud.”

*Tseng Wun Hsiung
CEO
Secur Solutions Group*

Applying for a driving license in Singapore was previously time-consuming for the applicant and manpower-intensive for the Traffic Police (Traffic Licensing Branch).

After passing a Practical Driving Test at one of three driving schools, applicants were required to submit a hardcopy application form and fees at a counter manned by a staff officer of the traffic licensing branch. The officer would scrutinize and verify each applicant's identity, submitted hardcopy photo and hardcopy form, before collating and batch sealing for transport to Traffic Police HQ where photos and forms were processed for license production and mailing. It generally took several weeks from the day an application was submitted, to the applicant receiving the license through the postal service.

As part of a force wide digitalization effort, the Traffic Licensing Branch sought to make the identity validation process more secure while improving enrollment efficiency and reducing manpower stationed at each of the driving schools.

Traffic licensing branch turned to incumbent vendor Secur Solutions Group (SSG), a Singapore-based company that provides consulting and solutions for smart card issuance and digital innovation in the financial, government and enterprise markets.

SSG has been supporting Traffic Police since 2002 when it was first awarded a tender to convert all paper based licenses to highly durable plastic driving licenses secured against counterfeiting. Already familiar with the department's operational environment and workflow requirements, SSG was naturally positioned to help answer the challenge.



SOLUTION

SSG worked with Traffic Police to deploy an electronic Know Your Customer (eKYC) identity verification system at each of the driving schools. The system verifies a person's identity electronically and with mathematical certainty, against a presented identification document, namely the national registration identity card or foreign workers permit.

To deliver these critical capabilities, SSG incorporated HID Global's Lumidigm® V- series Fingerprint Sensors that feature patented multispectral imaging (MSI) technology. MSI technology delivers superior biometric capture performance regardless of finger or environmental conditions and enables liveness detection that ensures the biometric data acquired, is genuinely from a live source and not from a plastic fake or other artificial copy.

"The successful digitalization of identity dictates that all channels of enrollment – whether at a manned counter, a self-service booth or online – must be protected from the risk of identity fraud," said SSG CEO Tseng Wun Hsiung.

"We deploy HID Global's Lumidigm sensors to validate identity at the driving schools with the highest possible levels of trust by accurately matching the applicant's thumbprint to the identity document. Digital photos of the applicants are captured immediately after eKYC identity validation and digitally secured for network transmission to Traffic Police.

According to Mr Tseng, the Lumidigm sensors outperform all alternatives with regards to speed and accuracy of fingerprint image acquisition. Lumidigm delivered these capabilities regardless of challenging indoor and outdoor environments, and across a wide variety of skin types.

"The Singapore driving license is used by a large percentage of the population including people across different ages, ethnicities and skin types. Consistent high quality fingerprint acquisition is essential and a huge challenge that the Lumidigm sensors successfully address during real-world operation." This has been a critical factor in ensuring smooth and continuous operations at the driving schools where applicant traffic and customer service are now being sustained at the highest levels of performance.

System roll-out was completed in under four months. It took less than two weeks during the implementation process for the HID Global Lumidigm sensors to be integrated and put into operation at the three driving schools.

BENEFITS

Traffic Police now achieves biometric matching of each 'live' thumbprint at its enrollment kiosks within seconds, enabling driving school staff to validate and enroll up to 700 individuals a day with no false positives or intervention by Traffic Police officers. The new workflow has cut approximately 1,440 manhours a month for Traffic Police while simultaneously lowering the risk of identity fraud during enrollment. New opportunities are being considered for additional service enhancement, including using parts of the eKYC system for online replacement of driving licenses. SSG e-KYC system with HID Global Lumidigm sensors is also being evaluated by other organisations for integration in self service kiosks, automated teller machines and IOT devices.

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hidglobal.com

North America: +1 512 776 9000

Toll Free: 1 800 237 7769

Europe, Middle East, Africa: +44 1440 714 850

Asia Pacific: +852 3160 9800

Latin America: +52 55 5081 1650

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