



Case Studies in Government Digital Identity

How governments are using secure digital identity verification to improve the lives of citizens globally



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iProov is the world leader in enabling governments and enterprises to assure the Genuine Presence™ of individuals online.

iProov's unique, patented technology uses a simple face scan to confirm that an individual is the right person (and not an imposter), a real person (and not a mask or photograph being waved in front of a camera), and that they are authenticating right now (and not a digitally injected attack using deepfakes or other synthetic media). This highly secure, easy to use technology offers inclusivity to all, young or old, and can be used on mobile devices, tablets, computers and unsupervised kiosks.

Governments, banks and other enterprises worldwide are using iProov authentication to accelerate their digital transformation programs. iProov delivers convenience to citizens and customers, enabling them to securely access digital services from the comfort of their own homes, while reducing costs and preventing fraud. Visit iproov.com or contact us at contact@iproov.com for more information.

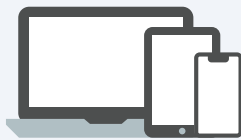
UK Home Office

In numbers:



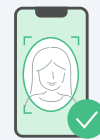
4.2
million

applications



2,300

different makes
and models of
devices used



79%

of applicants

indicated the app
was either “very
easy” or “fairly easy”

Following the UK’s decision to leave the European Union, the Home Office set out to create a simple application process allowing 4.2 million EEA nationals to apply to the EU Settlement Scheme.

Applicants need to complete just three key steps – prove their identity, show that they live in the UK, and declare any criminal convictions. To make this as simple as possible, the Home Office sought out new innovative capabilities to create an optional end-to-end digital application channel.

iProov worked with WorldReach Software and InnoValor to deliver a scalable, secure and usable solution. The details of the project can be seen in this [case study from WorldReach](#).

The highlights of the project:

- More than 4.2 million applications have been successfully concluded.
- A high percentage completed their application in under 10 minutes, with a high level of identity assurance.
- Over 2,300 different makes and models of Android and iOS devices have been used to complete the identity verification process.
- Peaks of 25,000-30,000 applications per day have been supported.
- In a 2019 EUSS survey, 79% of applicants indicated that proving their identity through the app was either “very easy” or “fairly easy”. A further 7% found it neither difficult nor easy.
- The app receives an average 4.1 star satisfaction rating on Google Play Store.

The app enables EEA nationals living in the UK to complete an application in under 10 minutes, using the following innovations to ensure high levels of identity assurance:

- Remote identity documentation checking using the InnoValor solution. Passports, driver's licenses, or other ID credentials can be scanned using a phone using either near field communication (NFC) to read the chip in the document, or optical character recognition (OCR) which reads information from a photo of the document.
- Biometric identity authentication using iProov's Genuine Presence Assurance technology to ensure that the person is the right person, a real person, and authenticating right now.

“There has never been a more crucial time for highly trusted, proven-in-use remote identity verification services given the Covid-19 situation, especially for government digital on-boarding and essential services delivery. The EUSS is a very successful, scalable proof-point of what’s possible and achievable with the right end-to-end processes, technology and collaborative team.”

Gordon Wilson, WorldReach CEO





U.S. Department of Homeland Security

The U.S. Department of Homeland Security (DHS) has invested significantly in commercially available technologies to enable the U.S. Customs and Border Protection (CBP) to streamline cross-border travel at ports of entry while maintaining a high degree of confidence of traveler identity and status.

The DHS Science and Technology Directorate (S&T) awarded \$198,407 in phase 4 funding to iProov, to test and pilot its solution, developed over the first three Silicon Valley Innovation Program (SVIP) project phases, in a full-scale CBP operational environment. This award was made under SVIP's Enhancing CBP Passenger Processing solicitation.

In its first three SVIP phases, iProov successfully developed an integrated solution to enable travelers to quickly transit remote border ports using their personal devices to report their entry and exit to CBP—without requiring the direct engagement of a CBP Officer in person or online—with a secure, privacy focused mobile application.

iProov's Flashmark technology is adapted to capture user imagery and detect spoofs—in the form of replica copies, doctored imagery, and replayed recordings—with a high degree of accuracy without relying on special or trusted hardware. Flashmark uses the screen of a mobile device to flash a unique, one-time sequence of colors, under server control, onto the user's face. The server uses machine learning technology to analyze and determine if the image is a live person.

iProov made their Flashmark solution available as a Software Development Kit (SDK) that can be deployed with any mobile application, which expands its anti-spoofing capabilities. In phase 4, iProov SDK will be deployed and integrated into one of CBP's mobile application pilot deployments to test and validate the technology in an operational setting.

“A critical challenge when delivering digital services that require some manner of identity verification is the need to ensure that the entity being verified is a real live human and not a replica or a recording. The pandemic has accelerated the need for high-value remote digital service delivery, and iProov has now adapted its technology to provide their anti-spoofing solution to a broad range of applications.”

Anil John, SVIP Technical Director

Singapore Government

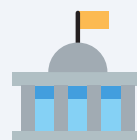
In numbers:



4
million
Singapore
residents



500
digital
services



180
government
departments and
commercial entities

Four million Singapore residents can now access digital government services online using facial verification implemented by iProov and Toppan Ecquaria for the Government Technology Agency of Singapore (GovTech) under the pioneering National Digital Identity (NDI) program.

GovTech is the government agency driving Singapore's digital government transformation and Smart Nation initiative.

iProov and Toppan Ecquaria, a digital transformation company, were selected following an open international tender and many months of user testing and intensive security evaluation.

The system automatically enables four million SingPass users to authenticate themselves and prove that they are genuinely present when accessing online government services on personal devices or at kiosks. Activities such as completing a tax return can now be completed with a simple facial biometric scan, replacing the need to remember passwords.

SingPass is every Singapore resident's digital identity. It has evolved into a gateway allowing convenient and secure access to over 500 digital services offered by more than 180 government agencies and commercial entities.

Singapore is already allowing private sector organizations to leverage the government-built identity infrastructure for SingPass. Banks and other businesses, large and small, can securely integrate with SingPass Face Verification, to offer world-class online customer authentication capabilities without the cost of building their own systems.

It marks the first time that cloud facial verification, provided by iProov, has been used to secure national digital identity.

For Singapore residents, the ability to register for a bank account or engage with other organizations using the SingPass Face Verification offers a number of benefits. As well as access to a wider range of digital services, the user sees greater convenience, a simplified user experience, and increased privacy and security, as they no longer need to set up passwords or share sensitive data with every individual company. Such improvements in accessibility and online trust will lead to greater uptake of digital services, one of the aims of Singapore's Smart Nation initiative.

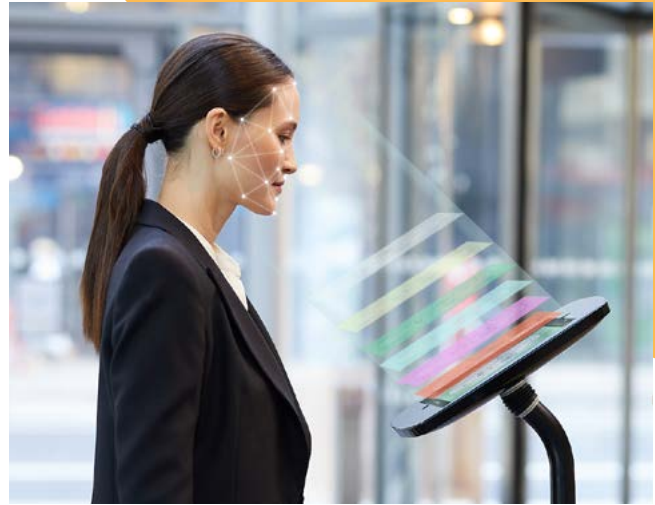
Unlike face recognition, which matches a physical face seen in a crowd to a list of images on a database, face verification is done with the knowledge and collaboration of the user. iProov's Genuine Presence Assurance technology uses a facial biometric scan that is highly secure, yet effortless to use. The camera on the mobile device, computer or kiosk scans the user's face while the screen illuminates with a sequence of colors for a few seconds. This confirms that a user is the right person (the rightful holder of their national identity number); a real person (not a photograph, mask or digital spoof); and authenticating right now (not a deepfake or injected video).

The cutting-edge solution of iProov facial biometric authentication and Ecquaria Government Platform Suite will augment and replace a device-based security solution, which uses SMS one-time passcodes. The new approach provides a secure, cloud-native solution that benefits citizens, businesses and government agencies in Singapore.



The face verification solution:

- Is simple to use - a brief face biometric scan requires no effort from the user. As it compares the user's physical face to the image held in the Government biometric database, the user does not have to enrol in the program.
- Increases accessibility by encouraging Singaporeans, especially older residents with limited mobility, to use online banking and other services.
- Improves inclusivity to those without smartphones, by extending the service to Government agencies' kiosks.
- Gives private businesses, both large and small, the ability to grow their digital services without needing to build their own infrastructures and biometric database.
- Grows the digital economy by encouraging uptake and use of online services, both from government and private businesses.
- Increases security - passwords and other credentials stolen through phishing attacks will be useless as Genuine Presence Assurance checks that the individual is the right person, real person, authenticating right now.
- Reduces the need for password and reset administration.
- Improves convenience for millions of Singapore residents, who will be able to easily and securely access government and business services online using their existing national identity.



“Singapore’s national digital identity, SingPass, enables citizens and permanent residents to transact seamlessly and securely with public and private sectors’ digital services. We recently introduced a new biometrics face verification service for users to log in more conveniently to digital services, whilst providing an added layer of security for government agencies and businesses. SingPass Face Verification, under our National Digital Identity (NDI) program, will help partners enhance their customer service journeys. We will continue to extend useful and trusted NDI services to more private sector organizations to accelerate digitalization and grow Singapore’s digital economy.”

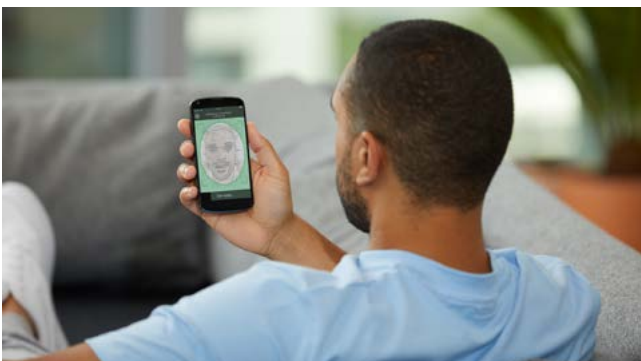
Quek Sin Kwok, Senior Director of National Digital Identity at GovTech Singapore

Australian Government

Millions of Australians will soon be able to access digital government services online after proving their identity using face verification from biometric authentication leaders, iProov. Following an open tender process, iProov was selected to provide a liveness solution for myGovID.

iProov's Genuine Presence Assurance technology will enable Australians to set up their myGovID digital identity using a simple face scan on their mobile devices. This will provide access to a range of services, including managing tax returns, accessing health services and applying for benefits.

Unlike face recognition, which matches a physical face seen in a crowd to a list of images on a database, face verification is done with the knowledge and collaboration of the user. iProov's Genuine Presence Assurance uses a facial biometric scan that is highly secure, yet effortless to use on any personal device.



This Genuine Presence Assurance process delivers a multitude of benefits including:

- Simple and inclusive to use - a brief, passive face biometric scan requires no effort from the user. No need for movement, following instructions or other skills
- Inclusive to access - works on any device and is not dependent upon any particular brand or model
- Convenient - enables users to access more services securely online reducing the need for visits to shopfronts or phone calls.
- Secure – protects against identity theft by preventing impersonation or the use of copies of victims' faces
- Resilient – actively mitigates risks from emerging threats
- Privacy is maximized and respected - user data is fully protected
- Encourages growth of Australia's digital economy by increasing uptake and use of online services

“iProov was selected through an open tender based on a value for money assessment, which included consideration of technical, risk and other factors.”

ATO spokesperson

UK National Health Service (NHS)

In numbers:



1.8 million
registrations



60,000
in first week of April 2020

iProov technology has been deployed to verify users signing up for their NHS login. This enables users in England to create their NHS login remotely, securely and conveniently at a time when they need it most, removing the need for manual and in-person verifications.

The NHS App allows for easy and fast access to essential services such as GP appointments, access to medical records and ordering repeat prescriptions.

iProov's Flashmark facial verification technology is now used by users to create an NHS login through the NHS App. Once a user submits a photo of their identity document, such as a valid passport or driver's license, they will be prompted to position their face correctly on the screen. Following a short sequence of flashing colours, the user's identification will be verified and they will be able to access all

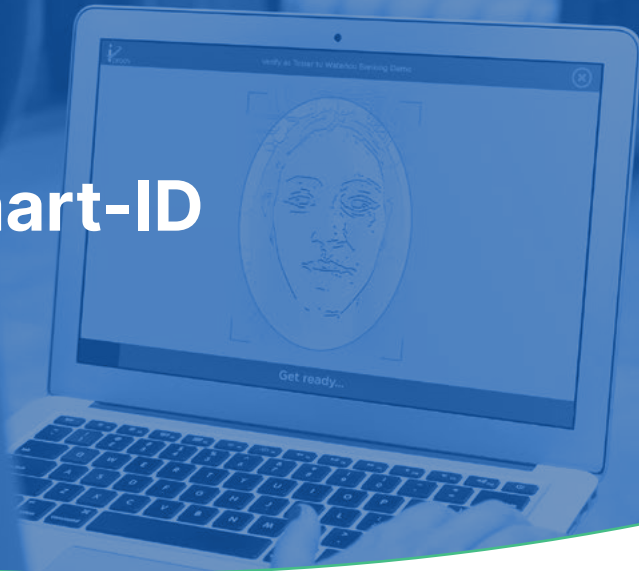
the information and services the NHS App has to offer, following completion of all other checks including matching a user to their medical record.

The iProov process verifies that an individual is a real person, the right person, and is authenticating themselves right now. This protects against the risk of identity theft while giving people quicker and more convenient access to vital services wherever they are. It also frees up valuable NHS resources and saves money, as NHS Digital now needs to process far fewer manual applications. More than a million people have now registered with NHS login, with a peak of over 60,000 new IDs verified during the first week of April. The combined iProov and NHS solution has proven its ability to cope with an unprecedented increase in demand.

“Over the past couple of months we have seen a surge in demand in people registering for an NHS login as they look to manage their health digitally. More automated tools like this will help us to improve the experience of our users, increase demand capacity and ensure nobody is waiting too long to complete identity verification checks to gain access to their digital healthcare services.”

Melissa Ruscoe, Programme Head for NHS login

Estonia Smart-ID

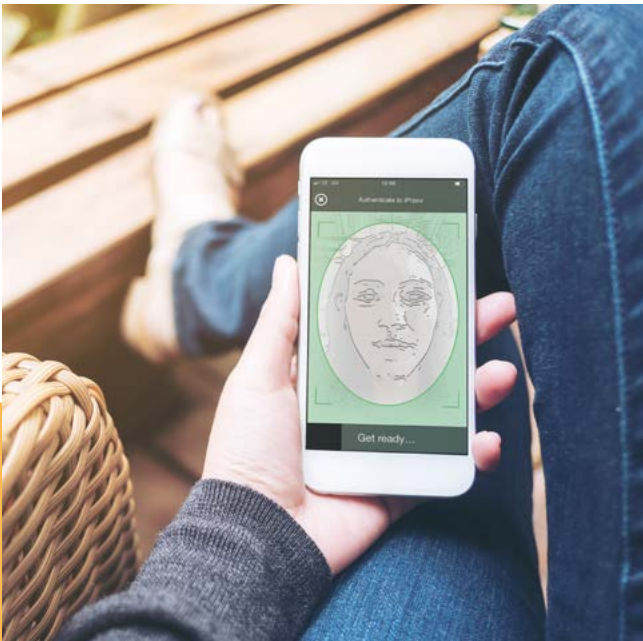


iProov’s facial authentication technology became the first to achieve international digital identity conformance certification and went live in Estonia’s state-certified digital identity program. This represents a world-first for biometric authentication, machine learning and cloud-based services.

Since 2014, Estonia has earned a global reputation for pioneering the provision and use of digital identities for its citizens. The Smart-ID service now allows Estonians to renew a Smart-ID account, wherever they are in the world, without having to visit a bank branch.

Using an app on their smartphone, a user simply scans the chip of their ID document using the phone’s contactless reader. They then prove that they are the holder of that document by ‘iProoving’ themselves with a 3 second scan that checks if they’re the right person, a real person, and present right now, thus protecting against fraud and criminal activity. With a Smart-ID they can authenticate their identity and provide digital signatures online, recognized as being equivalent to handwritten signatures, anywhere in Europe.

The Smart-ID service, which is also available in Latvia and Lithuania, is provided by SK ID Solutions, a Trust Service Provider in the Europe-wide eIDAS digital identity system. The Smart-ID mobile app also uses InnoValor’s NFC-based ReadID document verification technology alongside iProov’s patented Flashmark facial verification technology.

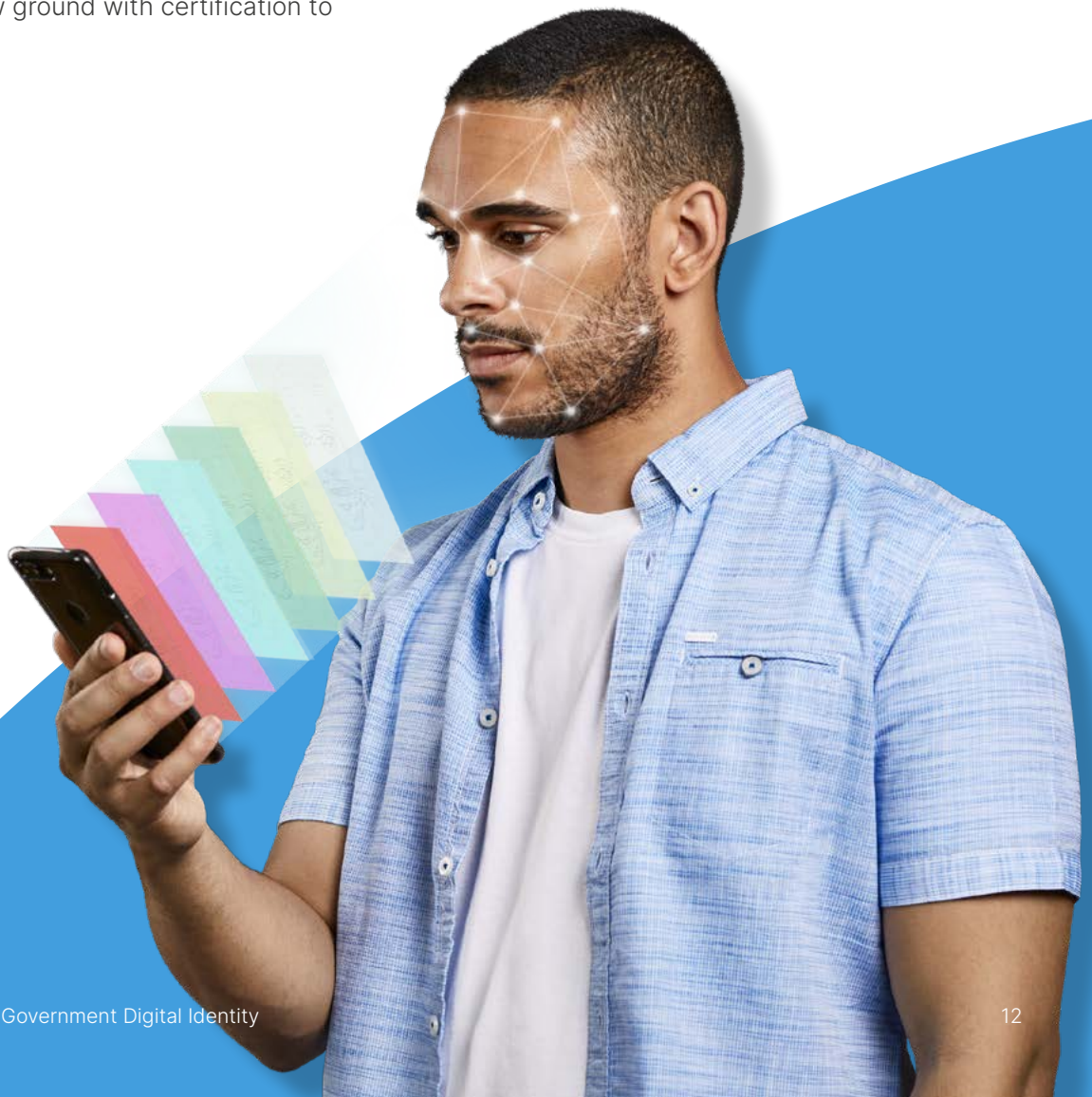


The new biometric service is a world-first and could only be realized by achieving certification to the most rigorous EU standards for trust and security online. Independent German auditors TÜV have certified the solution for conformance to eIDAS Clause 24 1(d) and this has been confirmed by the Government of Estonia. The solution is now authorized to be used to issue “Qualified Signatures”, the EU’s highest level of security. Through conformance to EN 319-401 (and other standards), the certification confirms that the facial verification service provides ‘equivalent assurance in terms of reliability to physical presence’; a huge step forward for the industry.

This is the first time that this “high” level of eIDAS certification has been awarded to any solution which includes services delivered in the cloud, or reliant on machine learning, or based on biometric authentication. iProov’s service is all three of these and has broken new ground with certification to EN 319-401.

“Tens of thousands of people will be updating their Smart-ID accounts in the next few months. With this new solution, those people can choose to complete the process from the comfort of their own homes or offices. The benefits to the citizen are enormous – great convenience, a simple user experience, and trust in the security of the service.”

Kalev Pihl, CEO of SK ID Solutions





For more information on how to assure the genuine presence of the **right** person, **real** person, authenticating **right now** contact us at **contact@iproov.com**

contact@iproov.com

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