

WHITEPAPER

BIOMETRICS – THE FUTURE OF AIR TRAVEL

Smart Solutions from Princeton Identity Improve and Speed Up the Passenger Experience at Dubai International Airport



AN IMPRESSIVELY FAST SOLUTION

Dubai International Airport, nestled in the heart of the United Arab Emirates, is one of the world's busiest airports. In 2019 alone, the airport welcomed over 89.1 million passengers¹. With an indoor swimming pool, multiple spas, gym, trampoline park, and 5-star hotel², Dubai International Airport is more than just an airport, it's a destination. When considering how to maintain a steady flow of traffic for the average 250,000 travelers moving through the airport daily, the solution had to be just as grand and impressive as the airport itself.

"When you are coming to the number one airport in the world, you have to see something different," said Major Salem Bin Al, Director of the Amer Client Happiness Center at the General Directorate of Residency and Foreigners Affairs in Dubai. Dubai International Airport administrators began by specifically targeting the airport's Passport Control centers, as every passenger must pass through these gates during

both the arrival and departure process. Prior to 2016, the Passport Control centers caused long lines and excessive wait times, frustrating both passengers and airport executives.

To reduce the passenger passport check process to a maximum of 30 seconds, the airport installed E-Gates³ in their Passport Control centers. But these E-Gates were not touchless and required users to submit their fingerprint for authentication, ultimately failing to reduce wait times as initially intended. "Previously there were E-Gates," explains Mohamad Tohme, who heads Princeton Identity's business development efforts in the Middle East. "The E-Gates were considered outdated, not fast enough, and the passport capturing process was taking a long time. So they looked for another solution that was much faster and that is when they found Princeton Identity."



¹ Cornwell, A. (2019, January 28). Dubai Airport handles 89.1 million passengers in 2018, misses target. Reuters. Retrieved March 2, 2022, from <https://www.reuters.com/article/us-dubai-airport/dubai-airport-handles-89-1-million-passengers-in-2018-misses-target-idUSKCN1PM0D8>

² Dubai Airports. (2022, February 28). Chill out before you fly. Dubai Airports. Retrieved March 2, 2022, from <https://www.dubaiairports.ae/while-youre-here/relax-refresh>

³ Identix. (n.d.). Dubai, UAE: Fast Immigration Clearance with Fingerprint Biometrics. Case Study. Retrieved March 2, 2022, from https://static.aminer.org/pdf/PDF/000/283/358/gste_through_a_case_study.pdf

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In 2016, Princeton Identity, a global leader in biometric identity management solutions was tasked to take over the identity verification portion of the project. Using the iris and facial recognition technology in Princeton Identity's legacy Access 500 systems, Princeton Identity alongside Emaratech Integrators built a new solution called Smart Gates. Using Smart Gates, Passport Control verification that once took passengers substantial time to complete, dropped to about five to ten seconds.

Smart Gates are positioned at Passport Control centers in each of Dubai International Airport's three terminals to be used by both arriving and departing passengers. Passengers wishing to use the Smart Gates first register at one of the many Check-In counters and kiosks located prior to Passport Control and prior to check-in with their airline. During Smart Gates check-in, passengers consent to providing their biometrics. Use of the Smart Gates is entirely optional. Passengers wishing to opt-out of the Smart Gates process use the more time-consuming manual passport check process.

During the registration process, passengers provide their passport information and their biometric information. Airport employees assist passengers through every step of the

registration process, taking biometric scans of a person's face and irises. Because a person's face and irises are unique identifiers, the initial registration process ensures with extremely high confidence that a person is who they claim to be.

High confidence and accuracy are critical, because Passport Control is one of the most important security processes at any airport. "Passport Control is considered the main part, the secure part, of an airport, so there should be absolutely zero errors there," says Tohme. "We are responsible for ensuring no one from the watchlist is able to fly. Princeton Identity is involved at that most critical part of the airport experience."

Upon completing a one-time registration, passengers proceed to the Smart Gates located at Passport Control. Instead of presenting their passport to be checked manually by airport personnel, registered passengers simply walk up to the gate and look at the camera. Using Princeton Identity technology, the camera matches the passenger's irises to the database of enrolled users. If a person is enrolled and recognized within the system, the gate opens and passengers proceeds to security.

Passing through the gate is touchless and takes about seven seconds with airport staff standing by to help if needed.

Improving the Passenger Experience in 4 Simple Steps

Using iris and face recognition technology from Princeton Identity, the Smart Gates at the Dubai International Airport help identify travelers at Passport Control in as little as five seconds. Here is how the entire process works:

1. Passengers travelling to and from Dubai International Airport first register to use the Smart Gates at a handful of available Check-In kiosks. This is where the biometric data from an individual's iris and face are gathered.
2. Registered passengers then approach the Smart Gates.
3. Passengers simply look at the camera installed on the Smart Gate. No passport or fingerprint scanning is required.
4. The Smart Gate opens quickly as it recognizes the passenger.

TAKING IT ONE STEP FURTHER

In 2018, Dubai International Airport again looked to Princeton Identity and its integrator, Emeratech, to expand touchless identity solutions for Passport Control. Princeton Identity provided the Smart Tunnel solution.

The Smart Tunnel solution is currently deployed at Dubai International Airport's Terminal 3 Business and First Class Passport Control. Terminal 3 is the second largest building in the world by floorspace and is the hub for Emirates Airlines. To provide passengers with an even easier, faster Passport Control process, the Smart Tunnel refines a touchless process into a completely seamless one with no stopping and no gates. Passengers simply walk through the Smart Tunnel and glance at the camera as they walk by to clear Passport Control.

Using the same iris recognition technology from Princeton Identity, passengers complete the entire Passport Control process in seconds using the Smart Tunnel. As Lieutenant Colonel Walid Ahmad Saeed, Deputy Director Assistant at the General Directorate of Residency and Foreigners Affairs in Dubai, explains, "This is the future of airport travel. Passengers don't need to use their documents. Your iris is your document."

Similar to the Smart Gates, passengers must first register prior to using the Smart Tunnel. All Smart Gate users are also eligible to use the Smart Tunnel. For added security and monitoring, airport officers are located at the exit of the Smart Tunnel to intervene if any issue arises.

MEASURING SUCCESS & FUTURE PLANS

Since installing the Smart Gates and Smart Tunnel in 2018, the Dubai International Airport reported a 15% reduction in Passport Control wait times in 2019. The same year, more than 12.3 million passengers used the Smart Gates and Tunnel, an increase of 7.4% from the previous year⁴. Beyond the metrics used to measure success, the Dubai International Airport continues to impress travelers with a technology seen nowhere else.

After using the Smart Tunnel, passenger Juilen Moirignot reported that the solution was, "Very fast, very clever, and very efficient." Similarly, Smart Tunnel user Julie Frank said, "It was very easy. They explained it really well. All you have to do is walk through and look at the camera. I haven't seen this anywhere in the world. This is the future."

Using passenger feedback, Princeton Identity and Dubai International Airport continue to monitor the success of the Smart Gates and Tunnels. "Whenever I go to the airport, even if I am just travelling, I go and check out how people are using the Smart Gates and Smart Tunnel," says Tohme. "It is always nice to see it and hear people say, 'Oh really, that's it?' when referring to the process."

Currently there are approximately 125 Smart Gates and one Smart Tunnel deployed at Dubai International Airport. The airport is currently evaluating plans to add more Smart Tunnels to further improve and speed up the Passport Control process. The Dubai International Airport has also deployed other Princeton Identity biometric solutions in other areas within the airport. Given the scalable nature of the Princeton Identity system, the future uses within the airport and beyond are truly limitless.



⁴Dubai Airport Smart Tunnel is the future of travelling. (2020). YouTube. Retrieved March 2, 2022, from <https://www.youtube.com/watch?v=4yZX1DzLbqg>.