Fast and Seamless Travel (FAST) at T4

Fully Automated Departure Process

T4 offers a fully automated departure process. It will be the first terminal at Changi Airport to integrate facial recognition technology with end-to-end self-service options. Self-service options are available at each stage of departure – check-in, bag drop, immigration and boarding.

With the extensive use of technology, including facial recognition software, FAST at T4 redefines the passenger's travel experience, enhances operational efficiency and raises productivity. Passengers will enjoy the flexibility of checking in at their own convenience, without having to wait for counters to open. FAST will also yield productivity gains with manpower savings of about 20% expected in the longer term, when operations have stabilised.

Use of facial recognition technology
At Changi Airport's existing terminals, passengers' identity checks are currently carried out manually by airline and security personnel at key touch points. At T4, state-of-the-art facial recognition technology is integrated in the FAST process to authenticate the passenger's identity. This automated process removes the need for manual identity verification by staff.

Ground staff to provide assistance
T4's Departure Hall houses seven check-in rows. Of these, four are designated for FAST, featuring a total of 65 automated check-in kiosks and 50 automated bag drop machines. For passengers who may not be familiar with FAST, roving passenger service agents will be on hand to assist. Counter service will also be available especially for those who need special assistance such as families with young children and large travel groups.

The passenger's FAST journey in T4 entails the following:

1. Automated Check-In Kiosks

Depending on the airline, passengers enter their booking reference or scan their passport to retrieve the flight booking, select seat (where available), print boarding pass and bag tag(s). They then tag their luggage to be checked in.

2. Automated Bag Drop

Passengers scan their boarding pass and passport. A photo of the passenger is captured and matched against the photo in the passport before the luggage is accepted and inducted into the baggage handling system.

3. Automated Immigration Gate (AIG)[1]

This is an enhanced version of the automated immigration lanes currently being used at existing terminals. The AIGs at T4 use a dual facial and thumbprint biometric recognition system. The passenger's photo is captured and matched against the one in the passport.
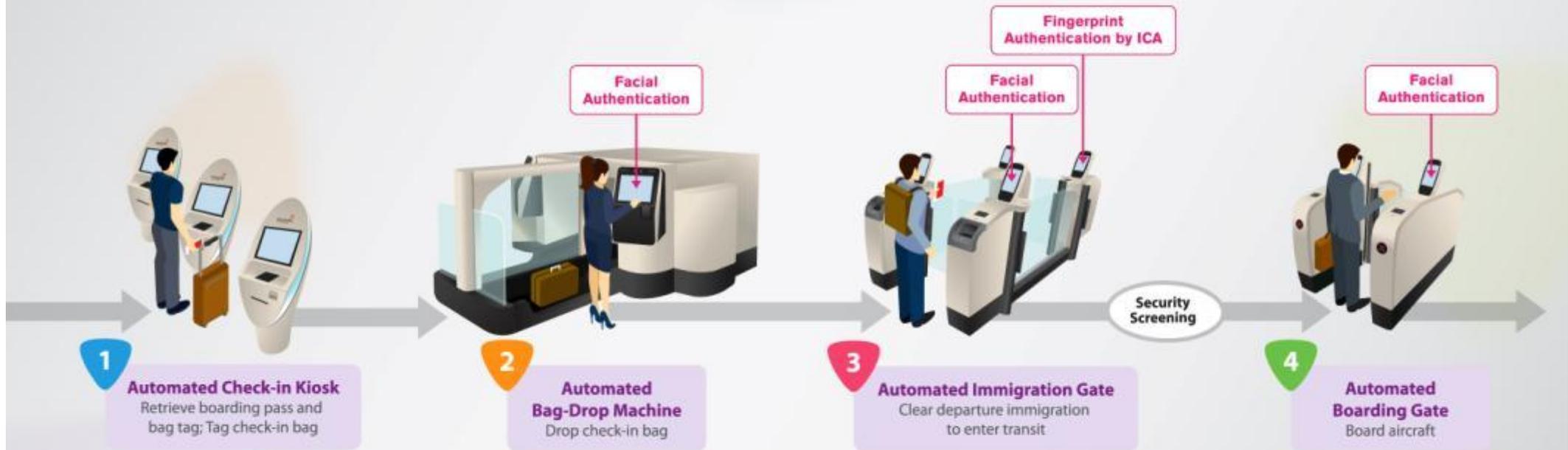

4. Automated Boarding Gate

At the boarding gate, passengers only need to scan their boarding pass and authenticate their identity by taking a photo. The facial recognition system matches this photo against the photo taken earlier at the AIG.

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[1] Only Singaporeans, Permanent Residents and passengers who have registered with the Immigration & Checkpoints Authority can use the AIG. They must also be at least six years old.

FAST Departure Journey
Process Flow

Facial Authentication

Fingerprint Authentication by ICA

Facial Authentication

Facial Authentication

Security Screening

1 **Automated Check-in Kiosk**
Retrieve boarding pass and bag tag; Tag check-in bag

2 **Automated Bag-Drop Machine**
Drop check-in bag

3 **Automated Immigration Gate**
Clear departure immigration to enter transit

4 **Automated Boarding Gate**
Board aircraft

Centralised Security Screening

Due to its compact size, security screening will be centralised at T4, unlike at Changi Airport's other terminals. This means that all departing passengers, including those using FAST, will go through security screening immediately after they clear immigration. These areas are located at the south end of the terminal, providing a single directional path for passengers towards their boarding gates.

CT security screening for hand-carry luggage

To improve efficiency and processes at the screening checkpoints, T4 will be first terminal in Changi Airport to introduce computed tomography (CT) at all the security lanes to screen hand carry luggage at the passenger security checkpoint.

Using advanced 3D screening technology, there is no need to divest electronic devices such as laptops and tablets. Passengers simply place their bag in the tray, saving the hassle of unpacking and repacking their hand-carry luggage. The usual liquids, aerosols and gels restrictions will still apply.

Automated Tray Return System

To further streamline the process, a new Automatic Tray Return System, which replaces the need for manual handling of luggage trays by both passengers and security screening officers, will be implemented at T4.

With this automated system, two passengers can present their items for screening simultaneously. The trays are then automatically returned to the start of the line after each screening cycle is completed. The convenience brought about by this process automation will improve screening efficiency and reduce waiting times for passengers.

Enhanced passenger screening

Currently, departing passengers at Changi Airport are screened using walk-through metal detectors. To improve screening capabilities, T4 will implement body scanner machines that use millimetre wave technology to detect both metallic and non-metallic items. Passengers, after removing items in their pockets or on their body, simply need to walk into the body scanner and be scanned, a process that takes a few seconds.

The data will be analysed by a computer algorithm. If a concealed item is detected, this allows the security officer to zoom in on the identified area to check the item, which would be more

efficient. If nothing is detected, a green screen with an 'OK' appears and the passenger clears quickly.

The millimetre wave technology has been certified to be safe. It poses no known health and safety risks as it utilises a very low-power non-ionising form of electromagnetic technology. The amount of electromagnetic radiation emitted by millimetre wave security scanners is many times smaller than that emitted by a mobile phone.

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