CONTROL AND SECURITY

**WHEN YOU NEED SPEED AS WELL AS SAFETY AND SECURITY IN BORDER CONTROL,
AN AUTOMATED SYSTEM IS IDEAL**

Increase in international travels and global efforts to reduce international crime and terrorism have generated great pressure over migrations and customs authorities around the world. The tourism industry loses a lot of money because many international travellers refuse to accept long delays with migrations and customs procedures.

An automated border control and self check-in system called Fast Track can be effectively used in passenger control processes by verifying documents and biometric information. Documents are analysed, controlled and verified:

• Certain analyses on document reliability are performed, storing obtained images (visible, infrared and ultraviolet). Passenger information is extracted from the document MRZ code.

• A specific camera captures the passenger's face.

• Biometric information is collected: fingerprint image and hash taken in a standard format, which enables comparison with any AFIS system.

• A proximity card (MIFARE) contains necessary information for it to be used for access to Fast Track.

Control processes are quicker and increasing efficiency and reliability. A state-of-the-art detection system is able to verify one or multiple passengers, thus allowing the monitoring process of individuals at all times. The system can discriminate between passengers, luggage and other objects, such as abandoned luggage. Two pairs of secu-

rity gates with an auto-blockage system prevent forced opening or closure by hand and/or premature entrance or exit. The construction material is stainless steel with glass sides and gates, which enables it to be installed in any architectural environment. The glass has the additional benefit of internal visibility and also reduces the possibility of passengers feeling claustrophobic. One lane can process about 70 transactions per hour. It complies with international security rules and regulations.

BENEFITS
• Security improvements.
• Increases passenger volume, reduces waiting times and inefficiency of manual operations.
• Increases free time so that passengers can shop at duty-free and other stores at the airport.
• Increase flight control efficiency.
• Hastens tasks of all control and security agencies involved, generating better and more accurate information.
• Remarkable performance and reliability, providing more security to airlines and increasing passenger confidence in the aviation system.
• Ergonomic design, easy to use and quiet.
• Supports the use and detection of all lug-

□ **1. Fast Track border control in action**
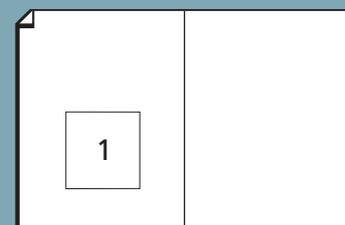
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> The anti-tailgating system carries photodiode elements on the left-hand side of the Fast Track portal and phototransistors on the right-hand side

gage, including carry-on luggage.
• Allows the design and development of the best user-oriented solutions.
• Can be used for unidirectional and bidirectional applications, identifying direction by a passenger detection system.
• Complementary to baggage control.
• Remote administration enables the verification of improper use or unauthorised access alerts.
• Greater than 10-year life.

INDIVIDUAL CONTROL The anti-tailgating system carries photodiode elements on the left-hand side of the Fast Track portal and phototransistors on the right-hand side, in both upper and lower parts, to verify that only one person has entered the system.

ENROLMENT STAND The enrolment stand is a special module that delivers a membership card that enables use of the Fast Track. In order to obtain this card, frequent passengers must present the required documents. Their travel document is scanned and the images are stored. Their fingerprints are captured and a facial photograph is registered with a special camera. A VIP passenger card is then issued containing the above-mentioned information (print and digital) in a memory chip in the card.

Every time the passenger uses this card he must confirm his identity by fingerprint comparison.

Procedure

The passenger brings his proximity card near the entrance to the Fast Track (the card is provided on enrolment). If he has no card, he can be biometrically identified by fingerprint comparison. If comparison of the card or the biometric identification is correct, the first pair of security gates is opened.
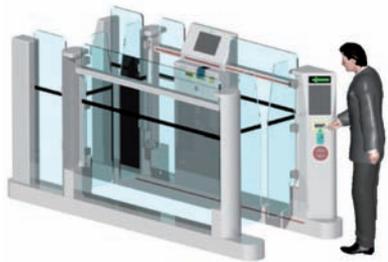
The passenger enters the migratory control lane. The detection system verifies that there is only one person, filters the luggage and prevents any gate closing over an obstruction. The first pair of security gates close. Available flights are shown and the passenger selects his flight on the touchscreen or introduces his boarding pass to be read by the 2D barcode reader. The passenger is biometrically identified by fingerprint comparison. His border-control pass is printed.

If another passenger brings his proximity card near the entrance of the Fast Track while the previous passenger is still in the system, the detection system will ensure that the first pair of security gates is not opened.

After finalising the verification of the first passenger, the second pair of security gates is opened and the first passenger exits the Fast Track.

The detection system verifies that the first passenger has left the Fast Track and did not leave his luggage. The second pair of security gates is closed and the first one is opened. The control cycle starts again.

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- CUTE (Common User Terminal Equipment)
- Self check-in Point
- E-gate & Fast Track
- PACSS (Passenger Automatic Control Security System)
- FIDS (Flight Information Display System)
- RMS (Resources Management System)
- BRS (Baggage Reconciliation System)
- AIRCOM Solutions
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WHO GOES THERE?

TO ENABLE SAFE AND SECURE HANDLING OF INCREASING NUMBERS OF PASSENGERS, BIOMETRIC IDENTIFICATION IS BECOMING A NECESSITY

In terms of passenger flow, international air travel grows year after year, which translates into large amounts of passenger information that must be controlled almost instantly. Security controls at airports have generally been concentrating on passengers' belongings and not on their individual profile, which has become extremely relevant since 9/11.

PACSS makes sure, through biometric controls, that the individual boarding the aircraft is the one who performed the check-in procedure and was successfully cleared by all controls, including border control. It relies on four security phases: document authentication, biometric identification, database comparison and profile rules application.

It also maintains or improves attention times established by international organisations. Controls are accelerated on low-risk passengers and increased on those seen as medium to high risk. Thus controls are based on the use of selection rules for passenger profiles. As an example, passengers coming from conflict zones, those who paid for their ticket in cash less than 48 hours before departure, or those with inconsistent layovers, could be selected for more thorough attention.

MODULE 1: PROFILING CHECK-IN This module runs on computers used for check-in, by using standard CUTE hardware at the check-in counter and it is 100 percent compatible and approved by SITA. The system is set up to process the flight assigned to the check-in.

> If there is any anomaly in the document, the system issues a warning and marks the passenger as a 'selectee'

It carries the following devices: document scanner with e-passport function, 2D barcode reader, barcoded boarding pass (BCBP) reader and a fingerprint reader. If it is used at airports that do not have a CUTE solution, it can be placed on an independent stand that can be mobile or fixed. This module is used to enrol passengers into the system. The following actions are performed:
• Document information reading. By reading the MRZ (OCR-B) code, the image is saved in JPG format. If the document has no MRZ, the information can be saved in the system manually – first name and surname, nationality, date of birth, sex, number and type of document, expiry date, with the scanned image of the document always being saved in the system. If there is any anomaly in the document, the system issues a warning and marks the passenger as a 'selectee'. The information can also be read by the active element of the e-passport reader.

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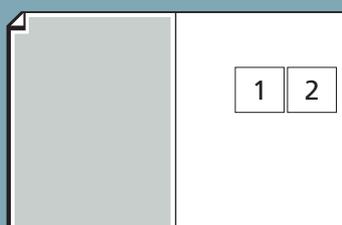
📷 1. PACSS makes sure the individual boarding the aircraft is the one who checked in

📷 2. It uses biometric controls to identify people

• Fingerprint capture. The fingerprint from the index finger of both hands is captured digitally, with an interface showing if the passenger follows the right procedure for fingerprint comparison.

• BCBP. Information is captured from the 2D barcode on passenger's boarding pass, recording, among other data, the flights and different sectors.

• Immigration form print. With the information collected in the previous procedures it is possible to print a complete immigration form with all the appropriate information.

MODULE 2: BORDER CONTROL This stand is in the border control area of the airport and consists of the following devices:

• Fingerprint reader. When the passenger enters the control stand, he puts his index finger (right or left hand) in the machine to be identified. When the identification is compete, the information obtained at the check-in is revealed.

• Documents scanner: Although the system will show the document captured at check-in, it can be done again. All the characteristics of the document can be seen at this point and the system shows, by carrying

out several tests, which areas or characteristics of the document are inconvenient. It will also have a world passport image store where comparison between the original passport and the one submitted by the passenger can be carried out.

• Facial recognition camera. The facial recognition system compares the image of the passenger's face with various organisations' watch-lists.

MODULE 3: TRANSIT PASSENGERS
Passengers in transit are enrolled in the system in order to control all individuals boarding a flight. The stand can be fixed or mobile, with a computer, a 2D BCBP reader and fingerprint reader. Airports using a CUTE system can include it in the equipment, just like on a check-in desk.

Transit passengers go to the stand and their boarding passes and fingerprints are scanned, storing them in a database together with their identification code.

MODULE 4: AUTOMATIC CHANNEL The system has a special module for VIP or frequent passengers, consisting of a membership card that allows the traveller to use fast immigration and self check-in channel (Fast Track).

In order to obtain this card, frequent passengers must submit the required documents, their travel documents will be scanned and the collected images stored. Their fingerprints will be captured and a facial photograph will be taken with a special camera. After that, the VIP passenger card will be issued containing this information (print and digital) on a memory chip in the card.

Each time the passenger uses this card, he must confirm his identity via fingerprint comparison.

MODULE 5: BOARDING GATE It is necessary for all passengers to be identified by fingerprint comparison at this module. It can come as a fixed or mobile stand and will be set up by the system administrator to deal with the relevant flight. This module comes equipped with a tablet PC and a fingerprint reader.

After identification the system shows a message wishing the passenger a good flight or an error message if the passenger is not registered on the flight. If the passenger tries to board the wrong flight, the system displays the error and indicates the correct flight with the appropriate boarding gate.

📷 **1/2. Border control facilitation**