Biometrics and Border Security Challenges

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Agenda

- Biometric Passports in Turkey
- Schengen Visa Liberalisation Roadmap of Turkey
- Automated Border Control Systems in Europe
- Turkey’s Case: Biometric Integrated Automatic Gates System

Biometric Passports in Turkey

- Turkish Biometric passports compatible with the new ICAO standards, have been available since June 1, 2010.
- Applications for the new passports can be submitted online through the government's website http://www.epasaport.gov.tr/.
- Passports are then sent via mail.
- The biometric passports have different color covers; regular passports in maroon and diplomatic passports in black, in compliance with ICAO standards.

Schengen Visa Liberalisation Roadmap of Turkey

- The EU launched the Visa Liberalisation Dialogue with Turkey on 16 December 2013, in parallel with the signature of the EU-Turkey Readmission Agreement. The Dialogue is based on the Roadmap towards a visa free regime with Turkey.

- The Roadmap sets out the requirements that Turkey needs to meet in order to enable the European Parliament and the Council to put Turkey on the visa-free list which would allow Turkish citizens holding a biometric passport in line with EU standards to travel for short stays (i.e. of 90 days within any 180-day period) in the Schengen area without a visa.

- On 20 October 2014, the Commission adopted its First report on progress by Turkey in fulfilling the requirements of its visa liberalisation roadmap.

- On 29 November 2015 an EU-Turkey Summit took place, where the Turkish side expressed its commitment to accelerate the fulfilment of the Roadmap, with the objective of obtaining visa liberalisation by October 2016.

- On 4 March 2016 the Commission adopted its Second report on progress by Turkey in fulfilling the requirements of its visa liberalisation roadmap accompanied by a Commission Staff Working Document.

Schengen Visa Liberalisation Roadmap of Turkey

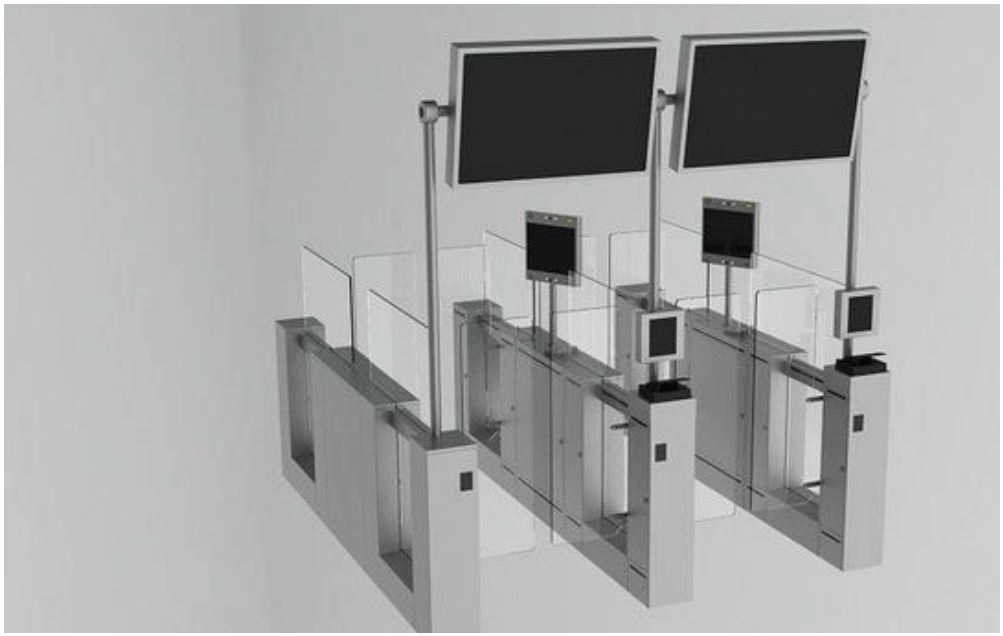
- In view of the June 2016 deadline, the Commission has adopted its Third Progress Report on 4 May 2016, and tabling a legislative proposal to enable the European Parliament and Council to take the necessary decisions to allow Turkish citizens to travel without a visa for short stays in the Schengen area, once all the requirements have been met by Turkey.

- Turkey is preparing to issue biometric passports to its citizens as part of an agreement with the European Union.

- European Member States are responsible of issuing biometrically enabled Passports to their citizens since August 2006, as per EU Council's December 2004 regulation number 2252/2004 [2].

- The first generation e-Passport, which features one biometric modality only, i.e. the facial marker, is now broadly available. The second generation e-Passport featuring two biometric modalities, i.e. the facial and fingerprint markers, has been in circulation since June 2009. It is envisaged that 90% of the passports available worldwide will be electronic by 2016.

Automated Border Control Systems



- An ABC is an automated system which reads and authenticates the electronic travel document, verifies the identity of the document holder, performs background checks and resolves the eligibility for border crossing.
- Biometrics plays role in verification of the identity of the document holder.
- While the facial image can be considered the de facto standard biometric modality for ABC systems, fingerprint availability allows for security enhancement and false rejection rates improvement.

Country	Name	Eligibility requirements	Biometric marker
Registered Traveller Programmes (pre-enrollment required)			
Germany	ABG	18 or above. Schengen citizens Passport holders	Iris
United Kingdom	IRIS mySense	18 or above. Schengen citizens Passport holders	Iris
France	PARAFES	18 or above. Schengen citizens Passport holders Nationals of the third States, living of the EU holders of a membership card of family of a National of the EU.	Fingerprint
Netherlands	Privium	Schegen citizens and diplomats stationed in the Netherlands. Passport holders.	Iris
ABC Systems (no pre-enrollment)			
Portugal	RAPID	18 or above. Schengen citizens e-Passport holders	Face
United Kingdom	ABC System	18 or above. Schengen citizens e-Passport holders	Face
Finland	ABC	18 or above. Schengen citizens e-Passport holders	Face
Germany	EasyPass	18 or above. Schengen citizens e-Passport holders	Face
Spain	ABC System	18 or above. Schengen citizens e-Passport holders or Spanish e-ID holders	Face & Fingerprint
Netherlands	No-Q	18 or above. Schengen citizens e- Passport holders	Face

Automated Border Control Systems in Europe

A multi-modal biometric fusion implementation for ABC Systems, Daniel Cuesta Cantarero, David Antonio Perez Herrero, Fernando Martin Mendez

Biometric Integrated Automatic Gates System (BEOGS)

Ministry of Interior, Turkish National Police and TAV Airport built consensus for enhancing the level of border security control as well as automating the crossings, without sacrificing and disturbing the wellness of low-risk passengers.

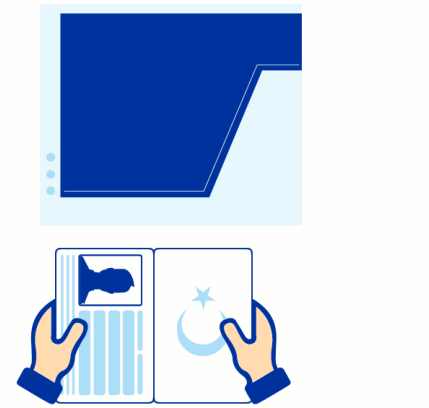
Biometric Integrated Automatic Gates System (BEOGS)

Controlling the border security of the İstanbul Atatürk Airport, which is now Europe's 4th largest and the world's 13th largest airport, necessitates further dedication, more than systematic task.

A tailored system that sweeps away the enrolment process led a revolutionary automatic e-gate system, by the integration of APFIS (Automated Palm and Fingerprint Identification System – National Biometric Database of the
Republic of Turkey) and BEOGS.

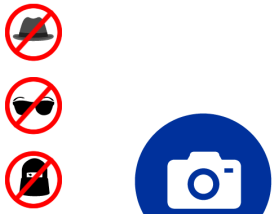
4 BEOGS e-gates were installed to İstanbul Atatürk International Airport and running more than 1,5 years now.

Biometric Integrated Automatic Gates System (BEOGS)

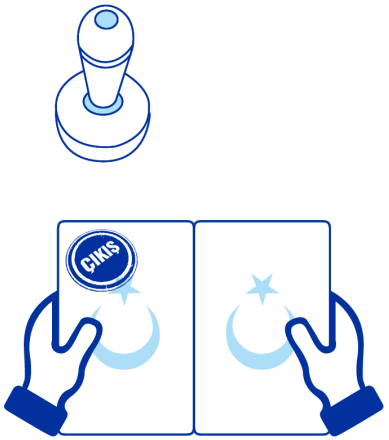


Pasaportunuzu GÖSTERİLDİĞİ gibi yerleştiriniz.

Sağ elinizi parmak izi tarayıcıya yerleştirip ekrana bakınız.



DİKKAT!
Sistemimiz fotoğrafınızı çekerken



Lütfen "ÇIKIŞ" damgası vurdurunuz.

- Document verification,
- Fingerprint identification,
- Facial image capture
- Skeleton analysis technology

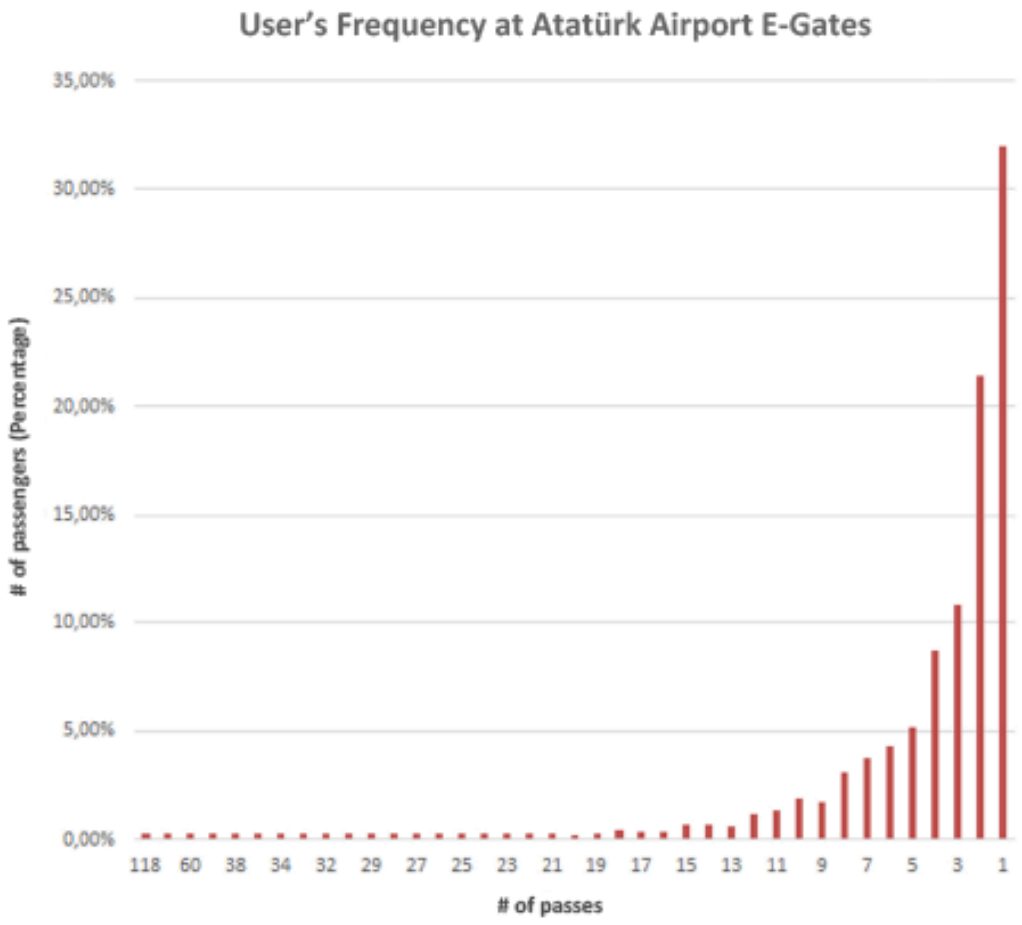
Biometric Integrated Automatic Gates System (BEOGS)

Full police database connection

As Turkish National Police has already obtained approximately 30.000.000 of biometric data of both criminals and civilians, real-time verification from that already-running system (APFIS).

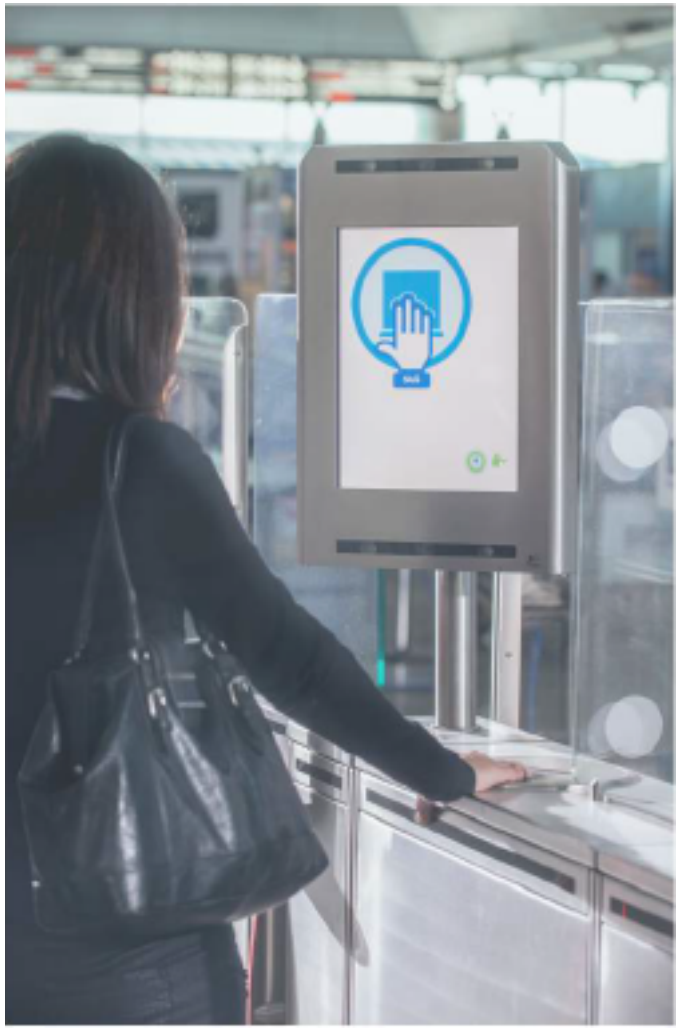
There are no enrolment requirements in the system. Therefore no deficiency of biometric data, simply because during the passport registration, a citizen must give his/her fingerprints to Passport Turkish National Police, which will be stored in APFIS.

Biometric Integrated Automatic Gates System (BEOGS)



- Approximately 25.000 passengers are subjected to use BEOGS within pilot period.
- False Rejection Rate (FRR) is 0.31% which is tremendously low with respect to ABC4EU's (Automated Border Control for Europe) FRR rate (14%).
- Transition time (border crossed) is approximately is 10-15 seconds with all background security checks.

Biometric Integrated Automatic Gates System (BEOGS)



Highly ergonomic design: Perfect guidance

One of the operational challenges in BEOGS was the ergonomics of fingerprint scanner – the accurate positioning of the fingers could not exactly have understood, so the solution was placing directive boards that is vertically positioned on top of the hardware.

Full support of relevant CE/TSE/ICAO standards.

Biometric Integrated Automatic Gates System (BEOGS)

A major handicap was monitoring passenger's movement path within the gate…

Skeleton Analysis

In the scenario of more than one person attempts to pass through access control checkpoint or violates the district zone, system generates an alarm and warns the operator. If required, person could be trapped within the checkpoint through Skeleton Analysis.

Skeleton Analysis is a leading technology for human detection, tracking and counting. The unique technology that lies behind the Skeleton Analysis is to extract skeleton map of a human body through captured live images. These images are captured via skeleton scanner camera which is especially designed for skeleton mapping. The entire system comprising both hardware and software, which can be integrated with Access Control System units. The main element when developing Skeleton Technology; is to utilize infra-red lights in order to precise extraction of human body without causing any harm

Special Thanks…

PAPILON SAVUNMA

Thank You…