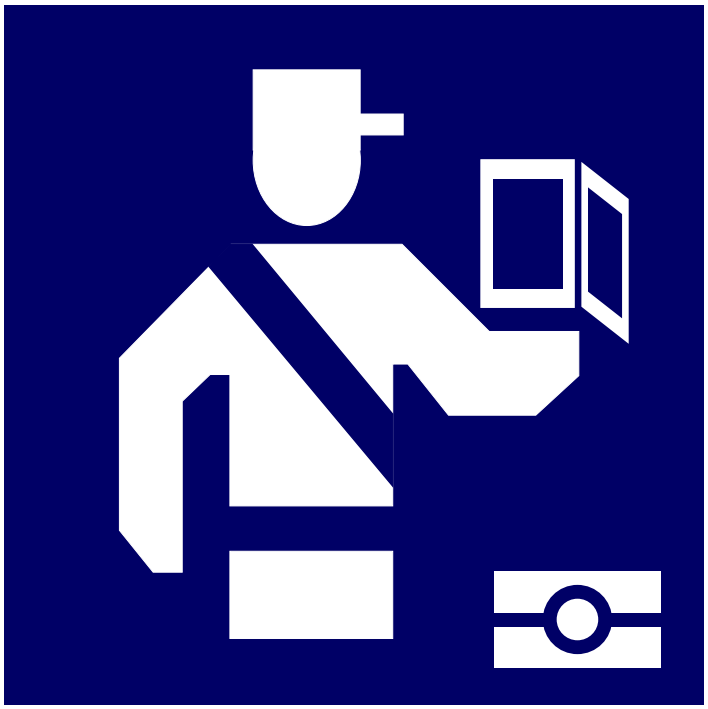
# Biometric Border Control Solutions



With the new regulations of the United States of America for the Visa Waiver Program and the European regulation (EG) No. 2252/2004 of the council from December 13, 2004 new passports of several countries will carry not only printed features but electronical chips with personal data of the holder.

The new biometrical information stored in the chip (face, finger and/or iris) establishes a link between the document and the holder. Travellers moving across borders will in future not only visibly inspected by an officer but they will also use a fingerprint scanner and a camera for face recognition.

Our effort contains the integration of the new technologies into already existing processes and infrastructures without producing additional work for an officer. The result is a better and more secure control without a loss of time for travellers at the border.

Solutions of ID Travel combine these efforts and more in their products for border control. The three main products, which cover the whole process from manufacturing the document to the use during travelling, work independently from each other in several infrastructures.

Border Control solutions are seperated into two main core products:

- **eBorder**
  helps an officer to check documents and document holders in a fast and secure way (e.g. foreigners, visa holders, …).

- **EGate**
  gives a group of trusted people (e.g. frequent flyer, locals, …) the chance to cross the border Through an automated gate in a faster way. This procedure needs a prior registration of these people.

## eBorder - Enterprise Border Management System

The Enterprise Border management System is a solution for enhancement and handling of new border control processes.
The main idea to develop this system was to simplify and accelerate proceedings of border crossing with the enhancement of security and data capturing for countries.
The main core of this unique system is a modular client-server architecture fully based on a .NET-Framework-Technology. This allows an independence from operating systems and technologies. All the data handlings between internal software parts and also to the databases are secured through security features which are state of the art.

### Document module (DM)

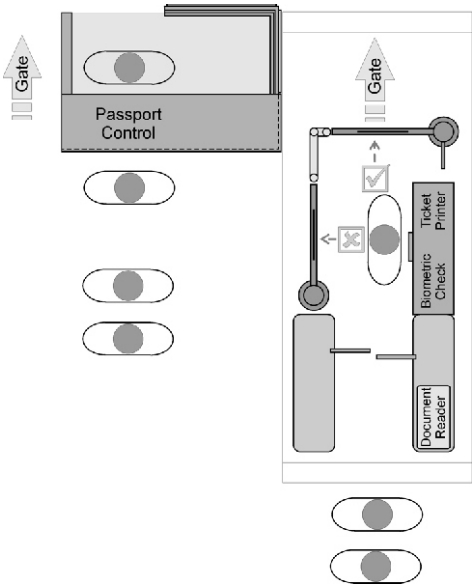
The module is for initializing of the whole process. Every passenger will be identified and classified through his passport. The core module controls the whole process of checking, defines the necessary information for the modules and makes the decision which and how many biometric checks have to be performed.
In the document module the documents (e.g. Passport) are read with a passport scanner optically and electronically when a chip is implemented into the passport.
The module is recognizing the type of the document and starts to check for the security features that are normally implemented into this type of document. The necessary decryption for the implemented chip will also be done automatically. With MCI (Multi-Communication-Interface) several external and internal searches of databases can be enforced automatically (e.g. FBI, Inpol/SIS, …).

### Visa (VM)

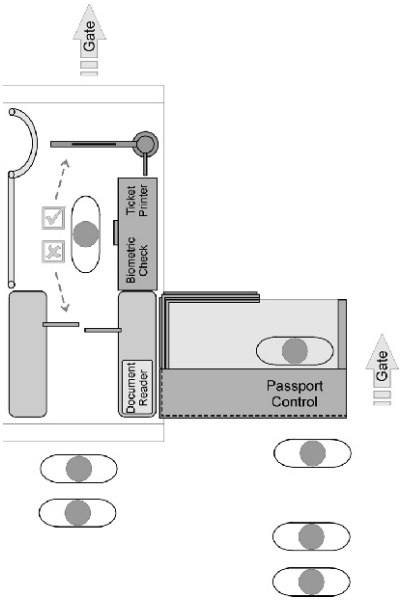
The visa module will be activated through the core process automatically, if a travel document is recognized, which requires an additional visa because of internal policies. Security checks for falsification will also be done automatically. If there is electronical reference data available then this data will be read either from a chip or from a central database.
Optical and electronical information will be compared with the data read from the travel document (e.g. Passport).

### Biometric Module (BM)

The recognition of persons with biometrical technology will be done with this module. All the biometric information available for this person will be displayed and will be able to be checked.




eBorder/eGate with three doors



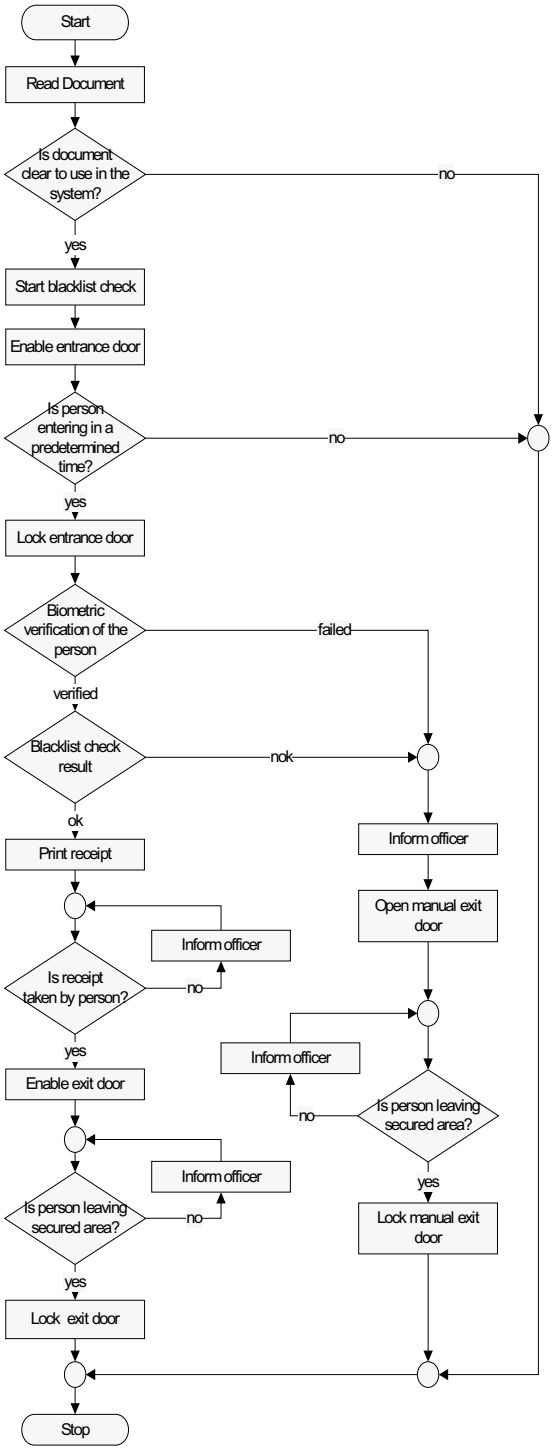

eBorder/eGate with two doors

# Procedure description

## eGate - Automated Border Crossing Gate

eGate is an automated border crossing gate (also called fast lane).

Identification of the document can be done in several ways. Optical reading with a document scanner or electronical reading of RFID chips or contact smart cards (e.g. Passport, ID-Card, Frequent Flyer Card, …).
We recommend optical reading of passport or id-card with optional electronical reading of a RFID chip. This will make sure that the person will carry a valid travel document when crossing the border.
After reading of the document number and nationality the system will check the database if this document is registered and not suspended.
According to the system setup the system will retrieve the biometrical data from the document or from the database. Then the entry door is enabled and the system is prompting the person to enter the secured area.
Now the system is checking if the person is entering the secured area. When in a predetermined time the person is not entering, then the system will abort the whole process.
When the person has entered the secured area, then the system is activating the biometrical verification. The person has now a predetermined time and/or a limit of trials to verify himself with the data read in the first step. The system is independent of biometrical systems (fingerprint, face recognition, iris recognition, …) and vendors. The products will be integrated into the process on customer requirements. If the verification fails then an officer is informed about the events in the secured area and the door to the manual border inspection is enabled. The person is prompted to leave the secured area to the manual border inspection. Leaving the secured area will also be checked and reported.




Besides the entering and verification process a check of external databases will be done (e.g. FBI, Inpol / SIS, …). If the result of this blacklist checks is not clear then the person also has to leave to the manual border inspection. The officer will be informed about the detailed results of the whole process.
An other system configuration with only two doors is also possible. Then the person will be directed backwards to the entry door if biometrical verification fails or will be hold in the secured area until an officer is unlocking one door manually.
If biometrical verification and blacklist check is accepted, then the person is prompted to leave the secured area.

On a separated station for an officer it is possible to see all information of the process and to interrupt the automatic process every time. Then all doors will be locked until the officer is unlocking one door manually.
Only when the secured area is empty it is possible for an officer to reactivate the automatic process again.

Optionally it is also possible to print a ticket for the traveller. The exit door then will only be enabled when the person is taking the ticket.

In case of failures and/or false behaviour of the persons after a predetermined time (no biometrical information available, not leaving the secured area, not taking the ticket, …) the system will inform an officer who can help the person in the secured area. After correct usage (e.g. taking the ticket) the automatic process will be continued.

# eBorder / eGate

## General Informaion

The market volume for biometric technologies increased in the last year and is projected by IBG to grow from US$ 2.1b 2006 to US$ 5.7b in 2010. As an outcome of several terror attacks, legally powered by the US Patriot Act as well as European Council Regulation, biometric identification became a normal, daily used technology. A lot of new vendors with different techniques, algorithms and devices enter the competitive market. Only experts are able to separate the best combination out of vendors, products and technologies for customer satisfying solutions. To enable experience and know how to anybody, a group of international known experts out of the areas: Biometric, ID Documents, Security Technology, Border Crossing Applications and Access Control have founded the company ID Travel AG with headquarters in Oberwil, Switzerland.

ID Travel AG is developing customized solutions for identification and verification. Within the first weeks, ID Travel AG was awarded for projects in the military and finance market segment. The guideline: “Simple customer and user oriented solutions” describes the competitive advantage of ID Travel AG. The Swiss company is the interface between customer requirements and technology vendors and helps as a neutral partner in integration and development from planning to roll-out.

The world is growing smaller day by day. More and more people are travelling from one town to another town and conduct business globally. In recent years international air traffic has grown exponentially. A process that has yielded just as many opportunities as risks. Illegal frontier crossing is growing and a seamless control of entry and exit movements can no longer be achieved by conventional means. New regulations to the border control processes have to be fulfilled.

Today, heavy demands are placed on immigration staff at international airports and borders. A thorough check on each arriving person would soon lead to a total collapse of international traffic. So what can be done? New technologies are needed. Intelligent systems which make the process of border control more efficient and, above all, more reliable

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All Software parts of ID Travel are full .NET 2.0 applications and are based on a modular architecture to integrate any combination out of biometric traits, sensors and algorithms, to support existing business processes.


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