

## What is FastPass?

FastPass is a Collaborative Project funded by the European Commission under its Seventh Framework Programme (FP7). The project is designed to establish and demonstrate a harmonized, modular approach for Automated Border Control (ABC) gates.

One of the major factors for security and mobility within the EU is border control. All travellers wish to cross external borders with maximum convenience and without losing too much time at border controls. At the same time border guards must still fulfil their obligation to secure the EU's borders against illegal immigration, terrorism, crime and other threats. FastPass will respond to the needs of both travellers and border guards.

FastPass will develop all technologies in a user-centric way. This means that the ABC system will be compliant with societal values and will fully respect citizen rights, protecting users' personal information.

To make this happen FastPass will bring together key players from the entire ABC value chain - system and component producers, research institutions, governmental authorities and end-users. The development of a harmonized ABC gate will be accomplished with continuous end-user involvement. The entire innovation process, from components development to the final design of the user interface, will continuously be evaluated by the two end-user groups: travellers and border guards. FastPass will serve both groups at the same time by keeping security at the highest level while increasing the speed and the comfort for all legitimate travellers at all border control points, while ensuring a high level of privacy and data protection and protection of other fundamental rights.

To make travelling through European ABCs smooth and time-efficient, a harmonized user interface is needed. Using the full potential of ID documents travellers would be able to pass through ABC with minimum delay. Moreover, FastPass will make use of the state-of-the-art identification technologies such as new biometric modalities. This is expected to increase the security of the ABC process and minimize the risk of spoofing.

In order to demonstrate and evaluate the project, the solution will be implemented in at least three different member states, at all types of border (air, land and sea).



Picture 1: Biometric pass



Picture 2: Harbour of Mykonos



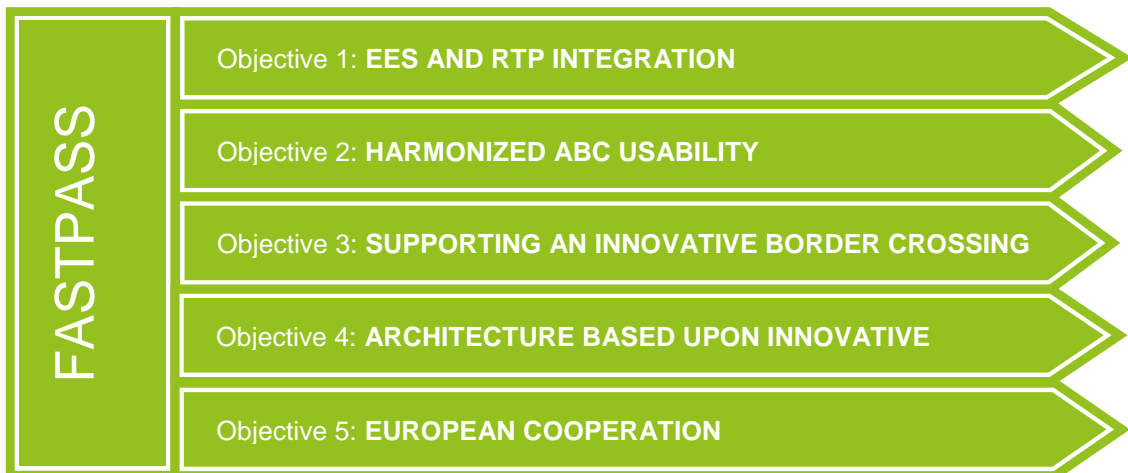
Picture 4: Vienna International Airport



Picture 3: Street crossing point



# Objectives



## Objective 1: EES and RTP integration

Since the EU's internal border controls are now largely dismantled, there is a need for shared responsibility and solidarity to manage its external borders. The Smart Borders Initiative was taken to strengthen the overall governance of the Schengen area. The Smart Borders Initiative consists of two main components: an entry/exit system (EES) and a registered traveller program (RTP). However, to fully exploit their power, they need to be combined with automated border control (ABC) systems. The technological harmonization of EES and RTP will reduce the cost of such systems. Thus, FastPass will examine the opportunities that the Smart Borders Initiative offers and try to integrate the elements that could enhance the ABC. FastPass will support the Smart Borders Initiative and propose a further technological integration and harmonization of EES and RTP in ABC.



Picture 5: A harmonized and easy concept to use crossing board

## Objective 2: Harmonized ABC usability

Different countries have used different ABC test installations, pilot solutions and diverse procedures. However, none of these have been officially evaluated with respect to users' satisfaction. FastPass will optimize ABCs to the needs of travellers

and border guards making their travel and work smooth, fast and secure. FastPass will focus on a user-centric approach by bringing user satisfaction and all relevant technical, social, ethical and legal issues to the forefront.



# FASTPASS

## Objective 3: Supporting an innovative border crossing concept

Current solutions aim only at the automation of border crossing process with little or no connection to the overall security (e.g. security checks) or infrastructure processes (e.g. check-in, boarding etc.). Different infrastructures (harbours, roads, and airports) already have independently developed security processes in place. FastPass will examine those solutions with the aim to interface them with the interlinked security and infrastructure processes. On the basis of the findings FastPass will develop a harmonized recommendation, and set up demonstrations at air (Vienna International Airport), land (main road border between Poland and Ukraine), and sea borders (Harbour of Mykonos, Greece).

## Objective 4: Architecture based upon innovative technology

Existing solutions exhibit major technological challenges in the following areas:

- (a) the document checking technology,
- (b) the biometric identification technology,
- (c) the intelligent surveillance of the pre-border and border area,
- (d) the interoperability and adaptability of the system architecture,
- (e) the gate technology for convenient and fast transit.



Picture 6: Biometric passport

FastPass will focus on these issues, thus achieving technological leadership.

## Objective 5: European cooperation

With the cooperation of the key FastPass partners (manufacturers of ABC gates, hardware components, software systems and middleware) across Europe, the introduction of security solutions and deployment of gates will be even more efficient than before. The ABC business is growing worldwide and is heading towards standardization. FastPass also plans to start a network for all European vendors in the field of ABC. An agile approach along with the continuous feedback from both travellers and the border control personnel toward developing the system will be used.

## Partners

AIT Austrian Institute of Technology GmbH, Teknologian tutkimuskeskus VTT, Bundesministerium fuer Inneres (Federal Ministry of the Interior, Republic of Austria), Österreichische Staatsdruckerei GmbH (Austrian State Printing House), Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung E.V., Katholieke Universiteit Leuven, Rajavartiolaitos – Finnish Border Guard RVL, secunet Security Networks AG, Mirasys Oy, Regula Baltija Ltd., University of Reading, International Centre for Migration Policy Development, Tampereen yliopisto (University of Tampere), Gunnebo Entrance Control Ltd, Giesecke & Devrient GmbH, MODI Modular Digits GmbH, Magnetic Autocontrol GmbH, The European Union, represented by the European Commission, represented by the Joint Research Centre, ITTI Sp. z o.o., Deltabit Oy, The Chancellor, Masters and Scholars of the University of Oxford, Oxford Internet Institute, The Romanian Border Police, Finavia Cooperation, Municipal Port Authority (Fund) Of Mykonos, Fraport AG Frankfurt Airport Services Worldwide, Flughafen Wien AG (Vienna International Airport), Intrepid Minds Ltd.



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# Impact – key points

## Identification

FastPass will fully examine currently existing identification methods, combining them to increase security even more. It will offer the integration of additional identification features such as iris or palm print recognition. Also enhancing image acquisition will contribute to reliable identification systems.

## Monitoring and surveillance in ABC systems

New algorithmic approaches will be investigated to provide enhanced monitoring of e-Gates. Also new behavior-detection algorithms will be used to ensure fewer false alarms on spoofing and avoidance attempts. This will improve the level of security while reducing staff interaction.

## Usability and border crossing speed of ABC systems

To harmonize the user experience the end-users will participate in the analysis, in the design phase, and usability testing in line with the development of different solutions. FastPass will be user-friendly by supplying the user with the information in the form and means that is best suited for different kinds of borders. It will also concentrate on the human behavioural factors by testing different ways to capture a good quality picture in the short period of time and will guide the user all the way through the checking process.

## Border control processes

FastPass will evaluate current border control processes in EU member states and propose common standard operating procedures using ABC gates. This will optimize and harmonize the experience for travellers in the EU and improve security. FastPass will also evaluate and determine state-of-the-art technologies that will be used at ABC gates which will improve security and speed up the border crossing process.

## Harmonization, interoperability and information security of ABC systems

FastPass will develop an open, standardized architecture for ABC systems and a reference implementation of the system components, based on the ISO/IEC 10746 RM-ODP. FastPass will focus on modularity and will provide open specification interfaces between components for third party ABC component developers to implement their own versions of the FastPass components. FastPass will also aim to be compliant with all relevant international technical and procedural standards (eg ISO/IEC and ICAO).

## Passport Verification

FastPass will allow for additional configuration matching rules for security documents and security features which will increase the flexibility. Also spoofing and identity frauds will be evaluated in FastPass to provide solutions by enhanced checks of security features. Moreover, optical inspection abilities and human vs. machine performance will be evaluated to increase machine performance.

**For more information please visit our website: <http://www.fastpass-project.eu/>**

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