ABC4EU proof-of-concept was tested in Madrid-Barajas and Lisbon airports in the end of year 2016 in order to make travelling easier for everyone.

ABC4EU project successfully tested the automated border control, ABC gates, in Adolfo Suárez Madrid-Barajas and Lisbon airport during November and December, 2016.

ABC4EU project deployed the new concepts of entry/exit system and ABC gates to both airports. The participating travellers were third country nationals holding a biometric passport, travelling through the external borders in the Schengen area, and willingly supported the project by participating to the pilot. In the pilot, ABC gates automatically performed the same processes as the border authorities would perform manually when entering or exiting the Schengen Area, aligned with the upcoming EU regulations.

The proof-of-concept was tested during two weeks in both airports. ABC4EU project coordinator Mr. Daniel Cuesta Cantarero from Indra Sistemas describes that the pilot ran successfully for eight days at Adolfo Suárez Madrid-Barajas Airport. The pilot ran between November 30th and December 16th excluding the week of December 5th due to high traveller traffic on that week. During the pilot, 162 non-EU travellers crossed the external border of Schengen area using the ABC4EU system. The majority of participants came from countries who used Madrid as the entry point to proceed further in Europe where visas are not required. The pilot covered the whole process, including the e-gates (mantrap configuration), a kiosk for enrolling in the Entry/Exit System, a desk for simulating enrolment in a frequent traveller facilitation programme at an embassy or consulate, and a mobile device for fully validating the e-passport, the biometric identity and traveler clearance by a standing policeman.

Mr. Daniel Cuesta Cantarero stated that in order to maximize the automation of the whole border crossing process, a considerable amount of work still lies ahead. For example, self-enrollement is not a straightforward task. Fingerprint issues such as dry, dirty or wet skin are well known by the industry and the authorities. However, regular travellers may not be familiar with them. ABC4EU project’s following research activities will take into account the outcome of the Proof-of-Concept pilots. The gathered research results will be implemented and tested in the final prototype pilot in 2017.

The second round of ABC4EU proof-of-concept continues in the beginning of 2017. The pilot in Lisbon airport will continue during the whole month of January, 2017. Furthermore, the ABC gates will be deployed to Algeciras, Spain and the pilot is scheduled to start towards the end of January, where the gates are innovatively tested. For more information follow ABC4EU webpage and social media to keep updated during this period.

Ruggero Donida Labati from Università degli Studi di Milano presented the paper “Enhancing Fingerprint Biometrics in Automated Border Control with Adaptive Cohorts” at the SSCI-CISDA 2016 on 6-9 December 2016.

ABC4EU partner, Università degli Studi di Milano, has been very active in presenting the results gathered in ABC4EU. During December 2016, UMIL has been presented in three scientific conferences, in Europe as well as in India. The below paper is presented in Athens, Greece.
Automated Border Control (ABC) systems are being increasingly used to perform a fast, accurate, and reliable verification of the travelers’ identity. These systems use biometric technologies to verify the identity of the person crossing the border. In this context, fingerprint verification systems are widely adopted due to their high accuracy and user acceptance. Matching score normalization methods can improve the performance of fingerprint recognition in ABC systems and mitigate the effect of non-idealities typical of this scenario without modifying the existing biometric technologies. However, privacy protection regulations restrict the use of biometric data captured in ABC systems and can compromise the applicability of these techniques. Cohort score normalization methods based only on impostor scores provide a suitable solution, due to their limited use of sensible data and to their promising performance.

In this paper, Ruggero Donida Labati presented a privacy-compliant and adaptive normalization approach for enhancing fingerprint recognition in ABC systems. The proposed approach computes cohort scores from an external public dataset and uses computational intelligence to learn and improve the matching score distribution.

A technological and a scenario evaluation has been performed using a commercial matcher currently adopted in real ABC systems and we used data simulating different conditions typical of ABC systems, obtaining encouraging results.

Events of interest:
May 1 - 3, 2017 Connect ID Walter E. Washington Convention Center, Washington DC, USA.