

The H2020 project SMILE:

SMILE: SMart mobility at the European land borders

Center for Research and Technology Hellas – Information Technologies Institute

Presenter:

Mr. Georgios Stavropoulos

Electrical & Computer Engineer, Research Associate Information Technologies Institute Centre for Research and Technology Hellas







General Information

Project summary

- July 2017 to June 2020
- Activity: SEC-14-BES-2016 Towards reducing the cost of technologies in land border security applications
- Work Programme Objective: Secure societies - Protecting freedom and security of Europe and its citizens
- Grant Agreement No: 740931
- Duration: 36 Months
- Coordinator: CERTH / ITI

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land-borders

Summary

- Delivered a palette of low-cost technological solutions that make the management of land border control points less resource intensive, while at the same time contribute to the traveller's convenience without sacrificing security
- Explored the capabilities of smart mobile devices in biometric control for low-cost but secure and trusted authentication, embedding their exploitation as a part of a multimodal biometric verification process that complements existing approaches.
- The long-term goal of the SMILE team is to provide a set of affordable and easy to be installed modules, to support the needs of EU Land Border Infrastructures.



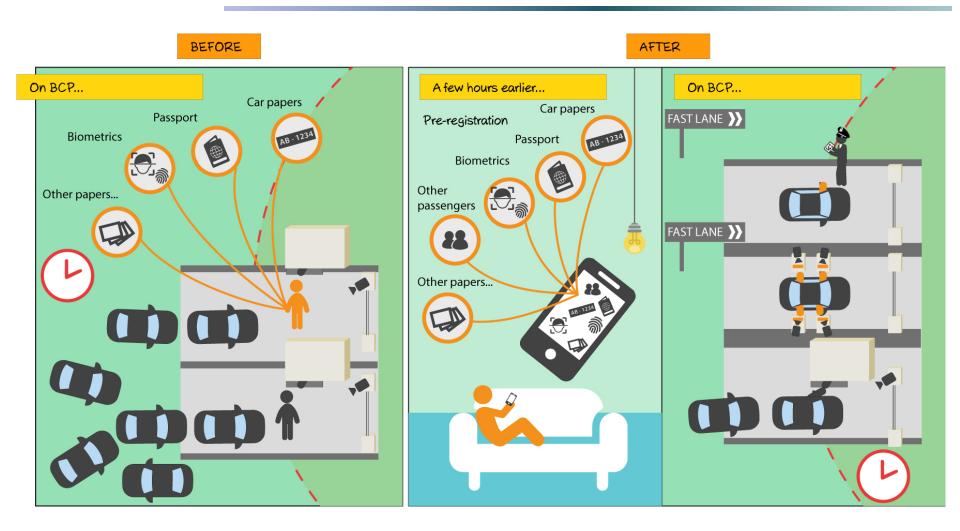


- Project ended as of 30/06/2020
- Finalized all applications/developments
 - Travellers' application (mobile and web based)
 - BCP officers application (tablet)
 - High-ranking officers application for monitoring and statistics (web)
 - Backend services
- Pilot demonstrations
 - Three pilot sites:
 - Nadlac: Romanian Hungarian borders
 - Ruse: Bulgarian Romanian borders
 - High-security building scenario (Bucharest)
 - Pilots were active from 11/2019 03/2020
 - Total number of participants: 524
 - Interrupted due to COVID-19



SMILE overview

SMILE - GA: 740931



18/06/2020



Pilot sites: Ruse

Participants

Number of participants

136

Pilot test stages and duration

Pilot test	Duration
Briefing & Informed consent	7'
signing	
Enrolment and pre-registration	7'
Checks time	3′
Debriefing	3'

Traveller experience	Participants percentage (%)
Negative	0
Negative-Neutral	0
Neutral	2.9
Positive-Neutral	2.2
Positive	94.9

Main remarks:

- ✓ Overall satisfying results
- ✓ Face and soft biometrics false detections caused by ambient light dependency
- ✓ Flawless performance by iris and fingerprint modules
- ✓ About 1 in 10 travellers willing to participate



Pilot sites: Nadlac

Participants

Number of participants

221

Pilot test stages and duration

Pilot test	Total time needed
Briefing & Informed consent signing	15'
Enrolment and pre-registration	13'
Document check	1'
Biometrics check	3'

Traveller experience Participants percentage (%) Negative Negative-Neutral Neutral Positive-Neutral 35 Positive 55

Main remarks:

- ✓ Promising results
- ✓ Face and soft biometrics were widely tested.
- ✓ Iris and fingerprint modules were evaluated with satisfying results only to few officers due to COVID-19 restrictions
- ✓ Officers' familiarization with SMILE system and resolution of minor technical issues are expected to reduce the border checks' duration to less than 1 minute.



Pilot sites: High-Security Building

Modalities and number of participants

Tested module	Number of participants
Enrolment	147
Document check	147
Integrated checks	20 (COVID-19 period)

Pilot test stages and duration

Pilot test	Duration
Briefing & Informed consent signing	10'
Enrolment and pre- registration	9'
Document check	5" (application time)
Face Biometric check	3" (application time)

Main remarks:

- ✓ Promising results for document scanning and face biometric check
- ✓ Accelerated check procedures that last less than 10 seconds
- ✓ The pilot was greatly impacted from COVID-19 restrictions
- ✓ Many updates and troubleshooting took place during COVID-19 depriving the chances for testing the new versions



Outcomes

The proposed system is used only for 1st line authorization
 2nd line remains as-is
SMILE uses the concept of "pre-registration":
 Similar to air-travel "check-in", travellers provide their information (documents,
biometrics, travel plans, ETA etc.) prior to their arrival at the Border Crossing Point
• Checking are performed off-line. SMILE system collects information from national and
international databases (e.g., EES, ETIAS, VIS, SIS etc.) and runs a "risk analysis" on
the travellers.
• If no alerts are risen, the travellers are allowed to go through the "fast-lane", where a
final identification is required
Similar approach applied to lorries (only for border crossing, NOT for customs)
Special case of buses: passengers treated as <i>group</i> instead of individuals, aiming to
improve the flows at the borders.
The SMILE platform also can <i>suggest</i> the best arrival time period, based on the expected
traffic, thus improving the flows and reducing waiting times.
As reported by end-users, communication delays between various systems can increase

waiting times by a lot. The "pre-registration" application improves in this point.



Thank you for your attention!



Contact Details: Dr. Dimitrios Tzovaras

dimitrios.tzovaras@iti.gr

Mr. Georgios Stavropoulos

stavrop@iti.gr