

Proposal Evaluation Form

	EUROPEAN COMMISSION	Evaluation Summary Report - Research and innovation actions/Innovation actions
Horizon 2020 - Research and Innovation Framework Programme		

Call: H2020-BES-2015
 Funding scheme: Research and Innovation action
 Proposal number: 700626
 Proposal acronym: iCROSS
 Duration (months): 36
 Proposal title: Intelligent Portable ContROI SyStem
 Activity: H2020-BES-2015

N.	Proposer name	Country	Total Cost	%	Grant Requested	%
1	European Dynamics Luxembourg SA.	LU			863,000	19.17%
2	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	EL			600,000	13.33%
3	STREMBLE VENTURES LTD	CY			345,000	7.66%
4	THE MANCHESTER METROPOLITAN UNIVERSITY	UK			387,988	8.62%
5	ITTI SP ZOO	PL			276,750	6.15%
6	EVERIS AEROSPAIAL Y DEFENSA SL	ES			437,000	9.71%
7	BioSec Group Kft.	HU			226,250	5.03%
8	JAS technologie sp. z o.o.	PL			512,250	11.38%
9	GOTTFRIED WILHELM LEIBNIZ UNIVERSITAET HANNOVER	DE			346,640	7.70%
10	Országos Rendőr-főkapitányság	HU			146,250	3.25%
11	Karpacki Ośrodek Wspierania Strazy Granicznej imienia 1 Pułku Strzelców Podhalanskich w Nowym Sączu	PL			96,750	2.15%
12	TRAINOSE METAFORES-METAFORIKES YPIRESIES	EL			165,000	3.67%
13	EPIVATON KAI FORTIOU AE	LV			99,000	2.20%
Total:					4,501,878	

Abstract:

iCROSS envisages to enable faster thorough border control for third country nationals crossing the borders of EU, with technologies that adopt the future development of the Schengen Border Management. The project will present an optimal mixture of an enhanced, voluntary form of a Registered Traveller Programme and an auxiliary solution for the Entry/Exit System based on involving bona fide travellers. iCROSS designs and implements a system that adopts mobility concepts and consists of a two-stage procedure, designed to reduce cost/time spent per traveller at the crossing station. It leverages software and hardware technologies ranging from portable readers/scanners, various emerging and novel subsystems for automatic controls, wireless networking for mobile controls, and secure backend storage and processing. The two-stage procedure includes: (A) the registration before the travel to gather initial personal, travel document and vehicle data, perform a short, automated, non-invasive interview with an avatar, subject to lie detection and link the traveller to any pre-existing authority data. Utilizing multifactor analytics and risk-based approach, the data registered is processed and correlated with publicly open data or external systems such as the SIS II. Processing will need the travellers consent as set in EU legislation and national law. (B) the actual control at the border that complements pre-registered information with results of security controls that are performed with a portable, wireless connected iCROSS unit that can be used inside buses/trains or any point. Multiple technologies check validity and authenticity of parameters (e.g. travel documents, visa, face recognition of traveller using passport picture, real-time automated non-invasive lie detection in interview by officer, etc.). The data collected are encrypted, securely transferred and analysed in real time, providing an automated decision support system for the border control officers.

Evaluation Summary Report

Evaluation Result

Total score: 13.00 (Threshold: 10)

Form information

SCORING

Scores must be in the range 0-5.

Interpretation of the score:

- 0– The **proposal fails to address the criterion** or cannot be assessed due to missing or incomplete information.
- 1– **Poor.** The criterion is inadequately addressed, or there are serious inherent weaknesses.
- 2– **Fair.** The proposal broadly addresses the criterion, but there are significant weaknesses.
- 3– **Good.** The proposal addresses the criterion well, but a number of shortcomings are present.
- 4– **Very good.** The proposal addresses the criterion very well, but a small number of shortcomings are present.
- 5– **Excellent.** The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Criterion 1 - Excellence

Score: ■■■■ (Threshold: 3/5.00 , Weight: 100.00%)

Note: The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description in the work programme. If a proposal is partly out of scope, this must be reflected in the scoring, and explained in the comments.

Clarity and pertinence of the objectives

The objectives of iCROSS are clear, pertinent and they are relevant to the current work program. They demonstrate a very good understanding of the operational environment as the use of pre-arrival checks will lead to a reduction of the time needed to cross the border control by one third. However it is not clear why the deployment of the hidden human detector tool (not required by the topic) is included in the proposal.

Credibility of the proposed approach

The approach is very ambitious and convincing and a thorough description of all steps is presented. For example the functionality of different subsystems, the rationale behind ideas and technical details are very well described. Furthermore the credibility of the approach is significantly enhanced as it includes evaluations in 3-4 real-world scenarios (including a robust justification of the choice of cases), it demonstrates extensive preparatory work and it uses a flexible overall approach.

However the case study on refugees on the Greek/Serbian/Hungarian land borders is not sufficiently contextualised and it causes confusion - the proposal establishes a link between the arrival of refugees in recent months in this region and the iCROSS technological solution but does not adequately acknowledge the fluidity of current and unfolding refugee situation in Europe.

Soundness of the concept, including trans-disciplinary considerations, where relevant

The proposed concept is sound building on face recognition that has already been piloted at several airports. Additionally the proposed BCAT risk calculation will adapt to changing circumstances at border control over time. However, providing wi-fi hotspots for connecting to the system is technically trivial, but the rationale for its uptake is not sufficiently demonstrated.

The proposal effectively takes into account trans-disciplinary considerations through the inclusion of cognitive psychologists.

Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground breaking objectives, novel concepts and approaches)

Although the idea of pre-screening third country nationals prior to their arrival to EU is not new, the proposed solution and inclusion of various type of information in this context demonstrates some innovation potential. Even though Silent Talker is well respected and already used as a back-end for Automatic Deception Detection System and so is no longer state-of-the-art per se, the scenario in which the Automatic Deception Detection System and multi-modal biometrics is to be tested and explored is very innovative.

Criterion 2 - Impact

Score: ■■■■ (Threshold: 3/5.00 , Weight: 100.00%)

Note: The following aspects will be taken into account, to the extent to which the outputs of the project should contribute at the European and/or International level:

The expected impacts listed in the work programme under the relevant topic

The proposed impacts correlate to those listed in the work programme. One shortcoming is that the affordability of the technology is not adequately explained.

Enhancing innovation capacity and integration of new knowledge

One of the main innovations of iCROSS is the applicability of the proposed solution in land border operations across Europe by means of standardization and by integrating knowledge among a significant number of end users.

Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets and where relevant, by delivering such innovations to the markets

The proposed solution has the potential to stimulate the market to deploy existing technologies in a new domain, namely, land border control scenarios and thus contribute to the growth of companies in related sectors.

Any other environmental and socially important impacts

The proposal addresses the potential negative impact of new technologies on travellers and provides a pre-registration step as a means to better inform travellers of their rights.

Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant

The plan to disseminate the results of the project is appropriate and includes a range of communication tools. One of the strengths of the dissemination strategy is that it provides different sub-strategies and activities for the different audiences (European industry, scientific community). The exploitation strategy is comprehensive and plans include promotion of Open Access. IPR is appropriately managed.

Criterion 3 - Quality and efficiency of the implementation

Score: ■■■■ (Threshold: 3/5.00 , Weight: 100.00%)

Note: The following aspects will be taken into account:

Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

The work plan is coherent and generally effective. The allocation of the tasks and resources is generally appropriate with the exception of some of the resources that are not sufficiently detailed, for example the pilot train case, avatar, consumables and equipment.

Complementarity of the participants within the consortium (when relevant)

The participants of the consortium are complementary, covering academia, industry and private sectors. In particular, the participation of border guards authorities (Hungarian National Police, Polish Border Guards, State Border Guard of the Republic of Latvia) strengthens the consortium and establishes clear linkages between technology providers and the end user community.

Appropriateness of the management structures and procedures, including risk and innovation management

The project management structure is detailed and appropriate for the proposed activities. The project describes effective decision making processes, including conflict resolution plans. Risk and innovation management plans are adequate. However, the proposal heavily relies on automated deception detection which poses certain risks that are not adequately addressed.

Scope of the proposal

Status: **Yes**

Comments (in case the proposal is out of scope)

Not provided

Operational Capacity

Status: **Operational Capacity: Yes**

If No, please list the concerned partner(s), the reasons for the rejection, and the requested amount.

Not provided

Exceptional funding of third country participants/international organisations

A third country participant/international organisation not listed in [General Annex A to the Main Work Programme](#) may exceptionally receive funding if their participation is essential for carrying out the project (for instance due to outstanding expertise, access to unique know-how, access to research infrastructure, access to particular geographical environments, possibility to involve key partners in emerging markets, access to data, etc.). (For more information, see the [Online Manual](#))

Based on the information provided in the proposal, we consider that the following participant(s)/international organisation(s) that requested funding should exceptionally be funded:

(Please list the Name and acronym of the applicant, Reasons for exceptional funding and the Requested grant amount.)

Not provided

Based on the information provided in the proposal, we consider that the following participant(s)/international organisation(s) that requested funding should NOT be funded:

(Please list the Name and acronym of the applicant, Reasons for exceptional funding and the Requested grant amount.)

Not provided

Use of human embryonic stem cells (hESC)

Does this proposal involve the use of hESC?

No

If yes, please state whether the use of hESC is, or is not, in your opinion, necessary to achieve the scientific objectives of the proposal and the reasons why. Alternatively, please also state if it cannot be assessed whether the use of hESC is necessary or not because of a lack of information.

Not provided

Overall comments

Not provided