



EUROPEAN COMMISSION
Research Executive Agency (REA)
Safeguarding Secure Society



ANNEX 1 (part A)

Research and Innovation action

NUMBER — 700626 — iCROSS

Table of Contents

1.1. The project summary.....	3
1.2. The list of beneficiaries.....	4
1.3. Workplan Tables - Detailed implementation.....	5
1.3.1. WT1 List of work packages.....	5
1.3.2. WT2 List of deliverables.....	6
1.3.3. WT3 Work package descriptions.....	11
Work package 1.....	11
Work package 2.....	13
Work package 3.....	17
Work package 4.....	21
Work package 5.....	24
Work package 6.....	28
Work package 7.....	31
Work package 8.....	35
1.3.4. WT4 List of milestones.....	38
1.3.5. WT5 Critical Implementation risks and mitigation actions.....	39
1.3.6 WT6 Summary of project effort in person-months.....	44
1.3.7. WT7 Tentative schedule of project reviews.....	45

1.1. The project summary

Project Number ¹	700626	Project Acronym ²	iCROSS
One form per project			
General information			
Project title ³	Intelligent Portable ContROl SyStem		
Starting date ⁴	01/09/2016		
Duration in months ⁵	36		
Call (part) identifier ⁶	H2020-BES-2015		
Topic	BES-05-2015 Border crossing points topic 1: Novel mobility concepts for land border security		
Fixed EC Keywords	Biometric equipment, Detection technology, Detection, identification and authentication		
Free keywords	Risk based approach, deception detection, anti-hacking cloud based architecture		
Abstract ⁷			
<p>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.</p>			

1.2. List of Beneficiaries

Project Number ¹	700626	Project Acronym ²	iCROSS
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List of Beneficiaries

No	Name	Short name	Country	Project entry month ⁸	Project exit month
1	EUROPEAN DYNAMICS LUXEMBOURG SA	ED	Luxembourg	1	36
2	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	ICCS	Greece	1	36
3	STREMBLE VENTURES LTD	STR	Cyprus	1	36
4	THE MANCHESTER METROPOLITAN UNIVERSITY	MMU	United Kingdom	1	36
5	ITTI SP ZOO	ITTI	Poland	1	36
6	EVERIS AEROESPACIAL Y DEFENSA SL	EVR	Spain	1	36
7	BIOSEC GROUP KORLATOLT FELELOSSEGU TARSASAG	BIO	Hungary	1	36
8	JAS TECHNOLOGIE SP ZOO	JAS	Poland	1	36
9	GOTTFRIED WILHELM LEIBNIZ UNIVERSITAET HANNOVER	LUH	Germany	1	36
10	ORSZAGOS RENDOR - FOKAPITANYASAG	HNP	Hungary	1	36
11	KOMENDA GLOWNA STRAZY GRANICZNEJ	PBG	Poland	1	36
12	TRAINOSE METAFORES-METAFORIKES YPIRESIES EPIVATON KAI FORTIOU AE	TRA	Greece	1	36
13	LATVIAN STATE BORDER GUARD	BSG	Latvia	1	36

1.3. Workplan Tables - Detailed implementation

1.3.1. WT1 List of work packages

WP Number ⁹	WP Title	Lead beneficiary ¹⁰	Person-months ¹¹	Start month ¹²	End month ¹³
WP1	Ethics requirements	1 - ED	█	1	36
WP2	Relevant EU Legislation, Requirement Analyses and Reference Architecture	2 - ICCS	█	1	8
WP3	Technological Components and Subsystems Development	6 - EVR	█	3	24
WP4	Development of the iCROSS software platform and related interfaces	3 - STR	█	3	24
WP5	Integration and technical testing	1 - ED	█	15	30
WP6	Pilot Deployment and system evaluation	10 - HNP	█	15	36
WP7	Dissemination, Exploitation, Communication	5 - ITTI	█	1	36
WP8	Project Management and Quality Assurance	1 - ED	█	1	36
Total			█		

1.3.2. WT2 list of deliverables

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D1.1	GEN - Requirement No. 7	WP1	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	18
D1.2	OEI - Requirement No. 2	WP1	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	9
D1.3	GEN - Requirement No. 1	WP1	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	3
D1.4	GEN - Requirement No. 8	WP1	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	36
D2.1	Requirement Analysis Report	WP2	4 - MMU	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D2.2	Reference Architecture and components specifications	WP2	2 - ICCS	Report	Confidential, only for members of the consortium (including the Commission Services)	8
D2.3	EU wide legal and ethical review report	WP2	9 - LUH	Report	Confidential, only for members of the consortium (including the Commission Services)	8
D3.1	Data Collection Devices - specifications	WP3	5 - ITTI	Report	Public	15
D3.2	First version of all technological tools and subsystems	WP3	6 - EVR	Report	Public	18

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
	(Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue)					
D3.3	Second version of all technological tools and subsystems for integration (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue)	WP3	2 - ICCS	Report	Public	24
D4.1	First version of the iCROSS software platform	WP4	3 - STR	Report	Public	18
D4.2	Second version of the iCROSS software platform	WP4	1 - ED	Report	Public	24
D5.1	Integration plan	WP5	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D5.2	Early version of the integrated prototype (limited functionality)	WP5	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D5.3	Early version of the portable unit for border guards	WP5	8 - JAS	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D5.4	Final version of the integrated prototype and portable unit (full functionality)	WP5	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D5.5	Technical validation and evaluation report – User's guide (involving education and training tools and material)	WP5	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D5.6	Report on legal monitoring and	WP5	9 - LUH	Report	Confidential, only for members	30

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
	legal aspects implementation				of the consortium (including the Commission Services)	
D6.1	Experimental Design for Pilot Deployment and Evaluation	WP6	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D6.2	Feedback of components evaluations with end users	WP6	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D6.3	Analysis of pilot data feedback on early prototype	WP6	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	28
D6.4	Evaluation report of final prototype pilot deployment and Best Practices - Analysis of pilot feedback on final prototype	WP6	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D7.1	Project Web Portal	WP7	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D7.2	Project flyer	WP7	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D7.3	Dissemination and communication plan	WP7	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D7.4	Early Business Plan	WP7	1 - ED	Report	Confidential, only for members of the consortium (including the	12

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
					Commission Services)	
D7.5	Exploitation plan	WP7	6 - EVR	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D7.6	Yearly communication report including communication material	WP7	5 - ITTI	Report	Public	24
D7.7	Project Flyer 2	WP7	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D7.8	Dissemination and communication plan 2	WP7	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D7.9	Dissemination and communication plan 3	WP7	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D7.10	Exploitation plan 2	WP7	6 - EVR	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D7.11	Yearly communication report including communication material 2	WP7	5 - ITTI	Report	Public	36
D8.1	Quality Management Plan	WP8	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D8.2	Final Project Report	WP8	1 - ED	Report	Confidential, only for members of the consortium	36

Deliverable Number ¹⁴	Deliverable Title	WP number ⁹	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
					(including the Commission Services)	
D8.3	Periodic Progress Report	WP8	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D8.4	Annual Report	WP8	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D8.5	Periodic Progress Report 2	WP8	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	18
D8.6	Periodic Progress Report 3	WP8	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D8.7	Annual Report 2	WP8	1 - ED	Report	Public	24

1.3.3. WT3 Work package descriptions

Work package number ⁹	WP1	Lead beneficiary ¹⁰	1 - ED
Work package title	Ethics requirements		
Start month	1	End month	36

Objectives

The objective is to ensure compliance with the 'ethics requirements' set out in this work package.

Description of work and role of partners

WP1 - Ethics requirements [Months: 1-36]

ED

This work package sets out the 'ethics requirements' that the project must comply with.

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D1.1	GEN - Requirement No. 7	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	18
D1.2	OEI - Requirement No. 2	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	9
D1.3	GEN - Requirement No. 1	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	3
D1.4	GEN - Requirement No. 8	1 - ED	Ethics	Confidential, only for members of the consortium (including the Commission Services)	36

Description of deliverables

The 'ethics requirements' that the project must comply with are included as deliverables in this work package.

D1.1 : GEN - Requirement No. 7 [18]

A report by the ethics Advisor must be submitted to the EU with the periodic reporting.

D1.2 : OEI - Requirement No. 2 [9]

The ethics of profiling and the risk of stigmatization of individuals and groups must be addressed in the context of WP2 and linked to the possibility of false positives. Furthermore, an appropriate mitigation plan must be included in D2.2 (Reference Architecture and Components Specifications).

D1.3 : GEN - Requirement No. 1 [3]

Given that the project involves complex and significant ethics issues, it is required that an independent Ethics Advisor (with appropriate expertise in data protection, surveillance and profiling) is appointed to oversee the implementation of the ethical concerns involved in this research.

D1.4 : GEN - Requirement No. 8 [36]

A report by the ethics Advisor must be submitted to the EU with the periodic reporting.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
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[illegible]

Participation per Partner	
Partner number and short name	WP2 effort
1 - ED	
2 - ICCS	
3 - STR	
4 - MMU	
5 - ITTI	
6 - EVR	
7 - BIO	
8 - JAS	
9 - LUH	
10 - HNP	
11 - PBG	
12 - TRA	
13 - BSG	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D2.1	Requirement Analysis Report	4 - MMU	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D2.2	Reference Architecture and components specifications	2 - ICCS	Report	Confidential, only for members of the consortium (including the Commission Services)	8
D2.3	EU wide legal and ethical review report	9 - LUH	Report	Confidential, only for members of the consortium (including the Commission Services)	8

Description of deliverables

D2.1 Requirement Analysis Report (MMU) M4

D2.2 Reference Architecture and components specifications (EVR / ICCS) M8

D2.3 EU wide legal and ethical review report (LUH) M8

D2.1 : Requirement Analysis Report [4]

Report that includes: - a list of documented, actionable, measureable, testable, traceable requirements related to each stated project objective, to a level of detail sufficient for system design, - a set of scenarios to be used in the experimental design (Use Cases Scenarios based on the pilot cases) - identification and requirements of the pilot sites.

D2.2 : Reference Architecture and components specifications [8]

Specifications on the components' implementation, including system hardware, firmware and software, taking into account relevant standards. Besides the functional description, the non-functional requirements will be defined, such as real-time constraints (e.g. video and audio recording, image and face recognition, alerts, etc). In addition, aspects like capacity and performance will be investigated along with evolution qualities such as flexibility, extensibility and scalability.

D2.3 : EU wide legal and ethical review report [8]

A review of current legislation across the EU and legal and ethical issues arising from the deployment and use of the activity monitoring system will be identified, aligned with the use cases. Specific needs of the various stakeholders will be addressed in the project to assure that the planning and implementation of the overall solution is based on morally sound decisions.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Reference Architecture and components specifications	2 - ICCS	8	Completion of the reference architecture, and components

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
				technical and functional specifications

Work package number ⁹	WP3	Lead beneficiary ¹⁰	6 - EVR
Work package title	Technological Components and Subsystems Development		
Start month	3	End month	24

Objectives

WP3 objectives aim to develop and technically test all the internal components and modules of the iCROSS system:

- To adopt the physical sensors and hardware to be used for data collection.
- To develop the automated real time deception detection system (ADDS), the travel document authenticity analytics tool (DAAT), the face matching tool (FMT), the automated border control avatars
- To provide hidden human and vehicle detection devices as alert tool
- To design and implement the radio network to guarantee wireless connectivity and QoS

Description of work and role of partners

[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	

Partner number and short name	WP3 effort
1 - ED	
2 - ICCS	
3 - STR	
4 - MMU	
5 - ITTI	
6 - EVR	
7 - BIO	
8 - JAS	
9 - LUH	
10 - HNP	
12 - TRA	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D3.1	Data Collection Devices - specifications	5 - ITTI	Report	Public	15
D3.2	First version of all technological tools and subsystems (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue)	6 - EVR	Report	Public	18
D3.3	Second version of all technological tools and subsystems for integration (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue)	2 - ICCS	Report	Public	24

Description of deliverables

D3.1 Data Collection Devices - specifications (ITTI) M15
D3.2 First version of all technological tools and subsystems (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue) (EVR) M18
D3.3 Second version of all technological tools and subsystems for integration (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue) (ICCS) M24

D3.1 : Data Collection Devices - specifications [15]

Identification of the necessary hardware sensors – cameras, scanners and other devices that will be used to capture all the necessary input. In-depth analysis of biometric sensors. State-of-the-art surveillance and document authentication instruments. SWOT analysis. Portable travel document scanners and related sensors. Selection of proper document RFID chip reader, QR code scanner, and UV for document authentication purposes.

D3.2 : First version of all technological tools and subsystems (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue) [18]

Report about a first version of all technological tools and subsystems, including the Deception Detection System, biometrics, Document Authenticity Tool, Human and Vehicle Detection Tool, Avatar Based Dialogue and Portable Radar

D3.3 : Second version of all technological tools and subsystems for integration (Portable unit, ADDS, DAAT, portable radar, FMT, Avatar based dialogue) [24]

Report about the second version of all technological tools and subsystems, including the Deception Detection System, biometrics, Document Authenticity Tool, Human and Vehicle Detection Tool, Avatar Based Dialogue and Portable Radar

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS2	First version of all tools	6 - EVR	18	Completion of the first version of all system tools

Work package number ⁹	WP4	Lead beneficiary ¹⁰	3 - STR
Work package title	Development of the iCROSS software platform and related interfaces		
Start month	3	End month	24

Objectives

WP4 aims at the development of the iCROSS software tools and the relevant interfaces. Specifically to develop:

- the storage and retrieval infrastructure of the data collected.
- the risk based Assessment tool (RBAT) and the integrated automated border control analytics tool
- the social interface and interfaces with external and legacy systems
- the central data repository to collect the data into a single environment and the user interfaces for the agent

Description of work and role of partners

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Participation per Partner

Partner number and short name	WP4 effort	
1 - ED		
2 - ICCS		
3 - STR		
5 - ITTI		
6 - EVR		
7 - BIO		
8 - JAS		
9 - LUH		
10 - HNP		
11 - PBG		
13 - BSG		
Total		

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D4.1	First version of the iCROSS software platform	3 - STR	Report	Public	18
D4.2	Second version of the iCROSS software platform	1 - ED	Report	Public	24

Description of deliverables

D4.1 First version of the iCROSS software platform (STR)	M18
D4.2 Second version of the iCROSS software platform (ED)	M24

D4.1 : First version of the iCROSS software platform [18]

Report on the first implementation of iCROSS solution, including first versions of Secure Cloud Based Storage, Processing and Data Protection, Risk Based Assessment Tool, external, legacy and social interfaces capabilities, mobile application, BCAT and AUI

D4.2 : Second version of the iCROSS software platform [24]

Report on the second implementation of iCROSS solution, including Secure Cloud Based Storage, Processing and Data Protection, Risk Based Assessment Tool, external, legacy and social interfaces capabilities, mobile application, BCAT and AUI

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS2	First version of all tools	6 - EVR	18	Completion of the first version of all system tools

Work package number ⁹	WP5	Lead beneficiary ¹⁰	1 - ED
Work package title	Integration and technical testing		
Start month	15	End month	30

Objectives

This WP deals with the integration of all components and technologies developed in WP3 and WP4 and their merging to complete functional prototypes that will undergo the verification and validation procedures with real end users in the following WP6. The overall final prototype will be defined by its hardware platform, developed components and integrated external devices (scanners and readers).

Description of work and role of partners

[illegible]

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Participation per Partner

Partner number and short name	WP5 effort
1 - ED	
2 - ICCS	
3 - STR	
4 - MMU	
5 - ITTI	
6 - EVR	
7 - BIO	
8 - JAS	
9 - LUH	
12 - TRA	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D5.1	Integration plan	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D5.2	Early version of the integrated prototype (limited functionality)	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D5.3	Early version of the portable unit for border guards	8 - JAS	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D5.4	Final version of the integrated prototype and	1 - ED	Report	Confidential, only for members of the consortium (including the	30

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
	portable unit (full functionality)			Commission Services)	
D5.5	Technical validation and evaluation report – User’s guide (involving education and training tools and material)	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D5.6	Report on legal monitoring and legal aspects implementation	9 - LUH	Report	Confidential, only for members of the consortium (including the Commission Services)	30

Description of deliverables

D5.1 Integration plan (ED) M20

D5.2 Early version of the integrated prototype (limited functionality) (ED) M24

D5.3 Early version of the portable unit for border guards (JAS) M24

D5.4 Final version of the integrated prototype and portable unit (full functionality) (ED) M30

D5.5 Technical validation and evaluation report – User’s guide (involving education and training tools and material) (ED) M30

D5.6 Report on legal monitoring and legal aspects implementation (LUH) M30

D5.1 : Integration plan [20]

Specification of a detailed roadmap for a continuous integration of the developed components and platforms, describing the integration process and responsibilities of the partners and setting the objectives of each integrated prototype. Registry of the dependencies between the components and a schedule of integration milestones with expected maturity for each component. Contingency plan.

D5.2 : Early version of the integrated prototype (limited functionality) [24]

Report on early prototype implementation of the integrated solution including limited functionality.

D5.3 : Early version of the portable unit for border guards [24]

Report on early prototype implementation of the portable unit for guards including limited functionality.

D5.4 : Final version of the integrated prototype and portable unit (full functionality) [30]

Report on the fully functional integrated prototype and portable unit for guards.

D5.5 : Technical validation and evaluation report – User’s guide (involving education and training tools and material) [30]

- Description of the integration test cases with reference to their source code; - Log of execution of the integration test cases; - Register of raised issues with their status; - A user guide of the iCROSS system’s overall implementation

D5.6 : Report on legal monitoring and legal aspects implementation [30]

Report on the monitoring of the technical and organisational developments and several version of the prototypes in order to evaluate them, in particular on their data protection implications throughout the project.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS3	Early version of the integrated prototype (limited functionality)	1 - ED	24	Completion of the early integration and development of the early integrated prototype with limited functionality
MS4	Final version of the integrated prototype and portable unit (full functionality)	1 - ED	30	Completion of the final integrated prototype and portable unit with full functionality

Work package number ⁹	WP6	Lead beneficiary ¹⁰	10 - HNP
Work package title	Pilot Deployment and system evaluation		
Start month	15	End month	36

Objectives

The objectives of this work package are:

- To stepwise deploy the entire iCROSS system in the pilot sites of the end-users for pilot usage and evaluation
- To gather the end-user feedback on the pilot use of the overall framework
- To derive lessons learned and best practices of the comparative analyses and end user validation

Description of work and role of partners

Page 28 of 45

Participation per Partner

Partner number and short name	WP6 effort
1 - ED	
2 - ICCS	
3 - STR	
4 - MMU	
5 - ITTI	
6 - EVR	
7 - BIO	
8 - JAS	
9 - LUH	
10 - HNP	
11 - PBG	
12 - TRA	
13 - BSG	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D6.1	Experimental Design for Pilot Deployment and Evaluation	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D6.2	Feedback of components evaluations with end users	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D6.3	Analysis of pilot data feedback on early prototype	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	28

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D6.4	Evaluation report of final prototype pilot deployment and Best Practices - Analysis of pilot feedback on final prototype	10 - HNP	Report	Confidential, only for members of the consortium (including the Commission Services)	36

Description of deliverables

D6.1 Experimental Design for Pilot Deployment and Evaluation (HNP) M20
D6.2 Feedback of components evaluations with end users (HNP) M22
D6.3 Analysis of pilot data feedback on early prototype (HNP) M28
D6.4 Evaluation report of final prototype pilot deployment and Best Practices - Analysis of pilot feedback on final prototype (HNP) M36

D6.1 : Experimental Design for Pilot Deployment and Evaluation [20]
Report about a specific methodology for executing the experimental evaluation in order to capture the end-user feedback in a unified and consistent manner in all deployment sites.

D6.2 : Feedback of components evaluations with end users [22]
Report of an experimental evaluation that will capture the end-user feedback in a unified and consistent manner in all deployment sites.

D6.3 : Analysis of pilot data feedback on early prototype [28]
Collection and analysis of the evaluation of the components and collection of the feedback on the deployed prototypes in all pilots. Performance, cost and time calculation.

D6.4 : Evaluation report of final prototype pilot deployment and Best Practices - Analysis of pilot feedback on final prototype [36]
Final Evaluation Report that will include the results of each hypothesis tested, conclusions reached, and a thorough discussion on lessons learned.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS5	Evaluation report of final prototype pilot deployment and Best Practices	10 - HNP	36	Completion of evaluation report for the final prototype pilot deployment and best practices

Work package number ⁹	WP7	Lead beneficiary ¹⁰	5 - ITTI
Work package title	Dissemination, Exploitation, Communication		
Start month	1	End month	36

Objectives

The objectives of this WP are: to develop the project communication infrastructure and material, to guarantee the impact on European economy through the planning and management of exploitation and dissemination and follow-on activities, to safeguard the process of exploitation of results and to investigate the market exploitation potentials. Furthermore, to ensure wide communication of the projects' results to all potential interested parties and the widest audience during the project lifecycle.

Description of work and role of partners

Participation per Partner

Partner number and short name	WP7 effort
1 - ED	<div style="background-color: black; width: 100%; height: 15px;"></div>
2 - ICCS	<div style="background-color: black; width: 100%; height: 15px;"></div>
3 - STR	<div style="background-color: black; width: 100%; height: 15px;"></div>
4 - MMU	<div style="background-color: black; width: 100%; height: 15px;"></div>

Partner number and short name	WP7 effort
5 - ITTI	
6 - EVR	
7 - BIO	
8 - JAS	
9 - LUH	
10 - HNP	
11 - PBG	
12 - TRA	
13 - BSG	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D7.1	Project Web Portal	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D7.2	Project flyer	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D7.3	Dissemination and communication plan	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D7.4	Early Business Plan	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D7.5	Exploitation plan	6 - EVR	Report	Confidential, only for members of the consortium (including the Commission Services)	24

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D7.6	Yearly communication report including communication material	5 - ITTI	Report	Public	24
D7.7	Project Flyer 2	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	20
D7.8	Dissemination and communication plan 2	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D7.9	Dissemination and communication plan 3	5 - ITTI	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D7.10	Exploitation plan 2	6 - EVR	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D7.11	Yearly communication report including communication material 2	5 - ITTI	Report	Public	36

Description of deliverables

D7.1 Project Web Portal (ED) M3
 D7.2 Project flyer (ED) M6, 20
 D7.3 Dissemination and communication plan (iTTI) M12,24,36
 D7.4 Early Business Plan (ED) M12
 D7.5 Exploitation plan (EVR) M24, 36
 D7.6 Yearly communication report including communication material (iTTI) M24,36
 D7.1 : Project Web Portal [3]
 Web portal of the project for dissemination, communication and awareness raising.
 D7.2 : Project flyer [6]
 Flyer of the project for dissemination, communication and awareness raising.
 D7.3 : Dissemination and communication plan [12]
 Communication planning and development of project materials

D7.4 : Early Business Plan [12]

Early business plan of the project

D7.5 : Exploitation plan [24]

Report of the potential exploitation paths for the project's results.

D7.6 : Yearly communication report including communication material [24]

Yearly report of the communication plan and material.

D7.7 : Project Flyer 2 [20]

Flyer of the project for dissemination, communication and awareness raising.

D7.8 : Dissemination and communication plan 2 [24]

Communication planning and development of project materials

D7.9 : Dissemination and communication plan 3 [36]

Communication planning and development of project materials

D7.10 : Exploitation plan 2 [36]

Report of the potential exploitation paths for the project's results.

D7.11 : Yearly communication report including communication material 2 [36]

Yearly report of the communication plan and material.

Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS6	Exploitation plan	6 - EVR	36	Completion of the exploitation plan

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Participation per Partner

Partner number and short name	WP8 effort
1 - ED	
2 - ICCS	
8 - JAS	
Total	

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
D8.1	Quality Management Plan	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D8.2	Final Project Report	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	36
D8.3	Periodic Progress Report	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	6
D8.4	Annual Report	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D8.5	Periodic Progress Report 2	1 - ED	Report	Confidential, only for members of the consortium (including the Commission Services)	18
D8.6	Periodic Progress Report 3	1 - ED	Report	Confidential, only for members of the consortium (including the	30

List of deliverables

Deliverable Number ¹⁴	Deliverable Title	Lead beneficiary	Type ¹⁵	Dissemination level ¹⁶	Due Date (in months) ¹⁷
				Commission Services)	
D8.7	Annual Report 2	1 - ED	Report	Public	24

Description of deliverables

D1.1 Quality Management Plan (ED) M3
 D1.2 Final Project Report (ED) M36
 D1.3 Periodic Progress Reports (ED) M6,18,30
 D1.4 Annual Reports (ED) M12,24
 D8.1 : Quality Management Plan [3]
 Management for the quality assurance of the project
 D8.2 : Final Project Report [36]
 Final report at the end of the project.
 D8.3 : Periodic Progress Report [6]
 Periodic report of the project progress.
 D8.4 : Annual Report [12]
 First year report of the project.
 D8.5 : Periodic Progress Report 2 [18]
 Second periodic report of the project progress.
 D8.6 : Periodic Progress Report 3 [30]
 Third periodic report of the project progress.
 D8.7 : Annual Report 2 [24]
 Second year report of the project.

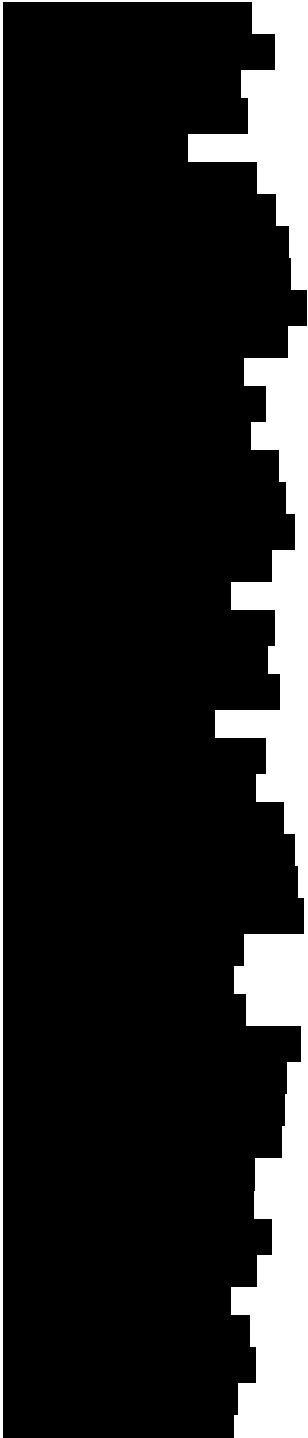
Schedule of relevant Milestones

Milestone number ¹⁸	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
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1.3.4. WT4 List of milestones

Milestone number ¹⁸	Milestone title	WP number ⁹	Lead beneficiary	Due Date (in months) ¹⁷	Means of verification
MS1	Reference Architecture and components specifications	WP2	2 - ICCS	8	Completion of the reference architecture, and components technical and functional specifications
MS2	First version of all tools	WP3, WP4	6 - EVR	18	Completion of the first version of all system tools
MS3	Early version of the integrated prototype (limited functionality)	WP5	1 - ED	24	Completion of the early integration and development of the early integrated prototype with limited functionality
MS4	Final version of the integrated prototype and portable unit (full functionality)	WP5	1 - ED	30	Completion of the final integrated prototype and portable unit with full functionality
MS5	Evaluation report of final prototype pilot deployment and Best Practices	WP6	10 - HNP	36	Completion of evaluation report for the final prototype pilot deployment and best practices
MS6	Exploitation plan	WP7	6 - EVR	36	Completion of the exploitation plan

1.3.5. WT5 Critical Implementation risks and mitigation actions

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
R1	Risk to travelers private data related to the ADDS.		The video data will be transmitted via the internet during pre-registration will be protected from unauthorized interception by encrypted exchange of information methods.encrypted
R2	ADDS possibility to provide false alarm of miss.		

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
R3	Difficulty in collecting and analysing end-users requirements	WP2	The detailed methodology to be developed in Task 2.1 will describe how to collect and analyse the relevant data. Partner's expertise also reduces the likelihood of this risk; in case it occurs, the methodology will be redesigned and simplified.
R4	Requirements of the pilot users are not aligned	WP2	Although the border control addresses similar problems, in case this risk occurs the project will address the common and generalizable requirements.
R5	HD data stream overloads Silent Taker classifiers, affecting real-time performance	WP3	

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
R6	Internet or radio connectivity fails	WP3	
R7	Low ability of through-the-(metal)wall hidden human detection	WP3	
R8	RBAT thresholds are not optimal	WP4	RBAT thresholds will be defined and tested iteratively in order to arrive at the optimum. It is possible however, that even during the tests several additional tests will be needed to ensure their values. This is why the tool foresees ways to review the risk estimation procedure and change the values of the thresholds.
R9	Integration is too complex and time consuming	WP5	The integration plan will be developed in parallel to the system design. The aim is to understand the potential complexity and risks as early as possible to

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
			develop the integration plan accordingly. In addition we will setup a continuous integration environment before the actual software development starts. This will allow to have daily software builds with automatic test cases in order to identify bugs and issues as early as possible.
R10	Users feedback is poor	WP6	Components will be further developed to accommodate the feedback. These components will be removed from the final version.
R11	Cultural Objections	WP6	Some religious/ cultural groups are resistant to being photographed. Also in Islam women generally wear a Hijab which covers the head and chest. Some variants require more covering such as the Niqab face mask or the full Burka. Mitigation: The standard Hijab should not prove too much of an obstacle, it does not hide facial features but may obscure head movements. iCROSS architecture could be trained to work specifically with Hijab wearers. Niqab and Burka pose serious problems. These are common to most other forms of traveller screening. The current fall-back is to deal with these travellers manually, using respectful and sensitive procedures. We expect this to be the case in the iCROSS solution. WP2, WP4 contribute knowledge for such mitigation strategies.
R12	“Conspiracy Theory” Objections	WP7	When any new technology is introduced the internet abounds with conspiracy theories such as “using the equipment increases your chances of getting

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
			<p>cancer.” There may also be data protection concerns on the part of travellers about how the data collected will be used. Firstly, the use of travellers’ own mobile devices will contribute to confidence about the safety of the process, Secondly, disclosure of copious information about the safety and security of the other technologies involved in the communication strategy will help to alleviate remaining fears. Finally, the privacy issues will be formally addressed and all necessary actions will be made.</p>

1.3.6. WT6 Summary of project effort in person-months

	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	Total Person/Months per Participant
1 - ED									
2 - ICCS									
3 - STR									
4 - MMU									
5 - ITTI									
6 - EVR									
7 - BIO									
8 - JAS									
9 - LUH									
10 - HNP									
11 - PBG									
12 - TRA									
13 - BSG									
Total Person/Months									

1.3.7. WT7 Tentative schedule of project reviews

Review number ¹⁹	Tentative timing	Planned venue of review	Comments, if any
RV1	18	tbd	mid-term review
RV2	36	tbd	final review

1. Project number

The project number has been assigned by the Commission as the unique identifier for your project. It cannot be changed. The project number **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

2. Project acronym

Use the project acronym as given in the submitted proposal. It can generally not be changed. The same acronym **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

3. Project title

Use the title (preferably no longer than 200 characters) as indicated in the submitted proposal. Minor corrections are possible if agreed during the preparation of the grant agreement.

4. Starting date

Unless a specific (fixed) starting date is duly justified and agreed upon during the preparation of the Grant Agreement, the project will start on the first day of the month following the entry into force of the Grant Agreement (NB : entry into force = signature by the Commission). Please note that if a fixed starting date is used, you will be required to provide a written justification.

5. Duration

Insert the duration of the project in full months.

6. Call (part) identifier

The Call (part) identifier is the reference number given in the call or part of the call you were addressing, as indicated in the publication of the call in the Official Journal of the European Union. You have to use the identifier given by the Commission in the letter inviting to prepare the grant agreement.

7. Abstract

8. Project Entry Month

The month at which the participant joined the consortium, month 1 marking the start date of the project, and all other start dates being relative to this start date.

9. Work Package number

Work package number: WP1, WP2, WP3, ..., WPn

10. Lead beneficiary

This must be one of the beneficiaries in the grant (not a third party) - Number of the beneficiary leading the work in this work package

11. Person-months per work package

The total number of person-months allocated to each work package.

12. Start month

Relative start date for the work in the specific work packages, month 1 marking the start date of the project, and all other start dates being relative to this start date.

13. End month

Relative end date, month 1 marking the start date of the project, and all end dates being relative to this start date.

14. Deliverable number

Deliverable numbers: D1 - Dn

15. Type

Please indicate the type of the deliverable using one of the following codes:

- R Document, report
- DEM Demonstrator, pilot, prototype
- DEC Websites, patent filings, videos, etc.
- OTHER
- ETHICS Ethics requirement

16. Dissemination level

Please indicate the dissemination level using one of the following codes:

PU Public
CO Confidential, only for members of the consortium (including the Commission Services)
EU-RES Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)
EU-CON Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)
EU-SEC Classified Information: SECRET UE (Commission Decision 2005/444/EC)

17. Delivery date for Deliverable

Month in which the deliverables will be available, month 1 marking the start date of the project, and all delivery dates being relative to this start date.

18. Milestone number

Milestone number: MS1, MS2, ..., MSn

19. Review number

Review number: RV1, RV2, ..., RVn

20. Installation Number

Number progressively the installations of a same infrastructure. An installation is a part of an infrastructure that could be used independently from the rest.

21. Installation country

Code of the country where the installation is located or IO if the access provider (the beneficiary or linked third party) is an international organization, an ERIC or a similar legal entity.

22. Type of access

VA if virtual access,
TA-uc if trans-national access with access costs declared on the basis of unit cost,
TA-ac if trans-national access with access costs declared as actual costs, and
TA-cb if trans-national access with access costs declared as a combination of actual costs and costs on the basis of unit cost.

23. Access costs

Cost of the access provided under the project. For virtual access fill only the second column. For trans-national access fill one of the two columns or both according to the way access costs are declared. Trans-national access costs on the basis of unit cost will result from the unit cost by the quantity of access to be provided.