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D7.3 Dissemination and communication plan

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Abbreviations

ADDS	Automatic Deception Detection System
BCAT	Border Control Analytics Tool
BorderPol	The International Association of Border Guards
CEPOL	European Union Agency for Law Enforcement Training
DAAT	Document Authenticity Analytics Tool
EU-LISA	European Agency for the Operational Management of Large-scale IT Systems in the Area of Freedom, Security and Justice
EUROPOL	The European Union Agency for Law Enforcement Cooperation
FMT	Face Matching Tool
FRONTEX	The European Border and Coast Guard Agency
HHD	Hidden Human Detection
KPI	Key Performance Indicator
LEA	Law Enforcement Agency
MRZ	Machine Readable Zone
NGO	Non-Governmental Organization
OCR	Optical Character Recognition
RBAT	Risk-Based Analytics Tool
RFID	Radio-Frequency Identification
WCO	World Customs Organisation
WP	Work Package

Executive Summary

The main goal of the Dissemination and Communication Plan is to raise awareness of the project activities and outcomes. For this reason, one of the WP7 tasks aims to assure that iBorderCtrl results are handled and disseminated so as to reach all relevant stakeholders. The hereby deliverable D7.3 provides information on the iBorderCtrl dissemination strategy and objectives. The purpose of this document is to describe all planned communication and dissemination actions during the project funding period, to ensure relevant stakeholders reach iBorderCtrl public reports and project events.

The document presents diversified content on such aspects as project dissemination tools and channels as well as the targeted end users of the iBorderCtrl project. Moreover, the document identifies specific measures of dissemination to different target groups, which includes, European industry, scientific community, wider public, policy makers, and media. What is more, the key performance indicators (KPIs) determining the effective dissemination activities have been identified within the report. In addition, the hereby report, is a first iteration of the document. The document will be reviewed and updated as needed, as the project proceeds. The next iterations will be released in M24 and M36.

1 Introduction

1.1 Purpose of this Document

This report describes Task 7.3, which is devoted to defining awareness raising plan focusing on various dissemination and communication channels.

The overall objectives of WP7 are to:

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

The proper identification of target groups and efficient communication is essential for the take-up, while take-up is vital for the project success and sustainability of results after project's end.

1.2 Structure of the Document

The structure of the document is as follows:

- ξ Section 2 constitutes a major share of the document. The section describes the iBorderCtrl dissemination strategy, objectives that are planned to be attained, various dissemination channels, as well as all relevant addressees of dissemination activities.
- ξ Section 3 provides the description of expected impact of dissemination and communication activities. The section describes and identifies the key performance indicators of successful iBorderCtrl dissemination channels/tools.
- ξ Section 4 provides conclusions stemming from the document.

2 Dissemination

2.1 Dissemination Strategy and Objectives

The dissemination strategy will follow principles and best practices successfully tested by consortium partners in other FP7 and H2020 projects and it includes:

- ξ Detailed specification of target audience of produced knowledge and tailored dissemination materials to meet their needs (who),
- ξ Communication means and channels specification allowing to reach the audience (how),
- ξ Both electronic and printed materials preparation (what),
- ξ Timing plan for the most effective dissemination (when).

Means for verification of the success of the dissemination activities is presented in section 3.

The objectives of the dissemination task include the management of the knowledge acquired in the course of the project and maintaining constant relations with key stakeholders and widely understood border control research community, policing institutions to facilitate further research and discover new market opportunities.

2.2 Dissemination and Communication Roadmap

The key to the effective dissemination of project results is to communicate important achievements in the right time and to the right stakeholders. That is why generated knowledge will be made available to the groups of interest in three consecutive phases:

- 1) Initial awareness phase (year 1) during which the concept and project objectives will be communicated to wide range of stakeholders,
- 2) Targeted awareness market phase (year 2), during which early demonstrable outcomes will be published and validated,
- 3) Strategic phase (year 3), during which pilot trials with end users will be held maximising market penetration.

The communication roadmap draft is presented in the Table 1 below.

Table 1 Communication Roadmap

Phase	Phase 1: Initial awareness phase (M1-M12)	Phase 2: Targeted awareness market phase (M12-M24)	Phase 3: Strategic phase (M25-M36)
Objectives	<ul style="list-style-type: none"> ξ Agree upon Communication strategy and future activities ξ Create an initial awareness in the markets related with iBorderCtrl project objectives and scope ξ Present the concept, objectives and expected results 	<ul style="list-style-type: none"> ξ Create a more "targeted awareness" regarding iBorderCtrl technologies with key players and potential users ξ Inform about the technological benefits to the target market of iBorderCtrl ξ Demonstrate early results (components and early technical validation results) 	<ul style="list-style-type: none"> ξ Maximize target market and industry awareness regarding iBorderCtrl system by providing more tangible results, i.e. from pilot trials, verification and feedback from pilot users. ξ Demonstrate more advanced results (components and intermediate and final validation results)
Activities	<ul style="list-style-type: none"> ξ iBorderCtrl logo validation ξ iBorderCtrl project web-site ξ Event, literature, research source identification ξ Press release ξ Project leaflet ξ Select events for attendance and start attending 	<ul style="list-style-type: none"> ξ Refine web-site with more concrete results and news ξ Social media and online promotion, such as news about early results in Twitter, Facebook, etc. and newsletter ξ Publish brochure, press release with intermediary results ξ Distribute marketing material ξ Attend events ξ Create YouTube videos showcasing components and intermediary results ξ Publish scientific papers in conference journals 	<ul style="list-style-type: none"> ξ Refine web-site with news, videos, photos, public deliverables and partial results ξ Social media and online promotion, such as about early results in Twitter, Facebook, etc. and newsletter ξ Publish brochure, press release and newsletter to registered parties and partners' relevant contacts ξ Distribute marketing material ξ Attend events, workshops ξ Issue final press release ξ Create YouTube videos showcasing the system in trials and users' opinion ξ Publish scientific papers in conference journals ξ Demonstrations and feedback of trials evaluation

The issuing of this deliverable falls on M12, which means that the first phase of Communication Roadmap has been completed. All initially envisioned activities have been completed and the key objectives have been met, as would be presented in the following sections.

2.3 Main Dissemination Players

In the iBorderCtrl project all consortium members are actively involved in disseminating project outcomes. As partners come from different environments and have different expertise, they will use diverse mechanisms for spreading the project news and most recent achievements.

Industrial/SME partners:

ED has extensive expertise in disseminating project results and will complement the dissemination activities of the project given its worldwide presence in 45 countries. ED is commercially active offering – among others- services for the professional community of Governments services and Security, thus participating in related events, conferences, fairs and workshops; iBorderCtrl, through these channels, will be presented to both the commercial as well as research stakeholders thus creating a more “targeted awareness” regarding the functionalities and technologies it offers. ED has already created the project logo, the project flyer, the global presentation and the iBorderCtrl website which is and will be continuously updated with news, events, publications, etc. during the project lifetime to attract interested parties and disseminate the project achievements. ED has already presented iBorderCtrl at a workshop organised by FRONTEX and has disseminated the project through an article and by participating in a journal publication. In addition, ED plans to continue to participate in conferences, exhibitions, events and workshops relevant to iBorderCtrl. Also, to author articles and journal publications presenting the outcomes of the project and the innovations related to the development of the modules that ED is responsible for. Furthermore, to pursue connections with other relevant projects to identify and set up any potential synergy with aim to increase impact.

STR has disseminated the project through its website by dedicating a page on the iBorderCtrl project and their specific role in it. STR has included iBorderCtrl in their own dissemination material and they are planning press releases related to iBorderCtrl to disseminate specific milestones sub-tasks that they are involved in. As the project progresses and evidence based results become available STR plans activities at the national as well as international level to help promote iBorderCtrl and especially the modules they are involved in.

ITTI will promote project results to its rich contact network comprising both national and international entities. ITTI will use a number of media in order to raise awareness of the iBorderCtrl project including taking part in the conferences and events, issuing scientific publications. Moreover, iBorderCtrl online presence will be supported by posting project accomplishments, open access publications, and public deliverables on social media, and project website.

EVR will organise several workshops with Spanish stakeholders in order to present the project and disseminate the results obtained during the whole project. Also EVR is going to ensure that iBorderCtrl results will be present in several conferences and technical fairs, both national and international.

BIO will promote iBorderCtrl via its national international reseller and connection network and use its communication resources (newsletter, press releases, social media) on national and international level to promote the results of the project. BIO is a widely known biometric solution provider in the field of personal authentication as middleware, access control, IT security etc. BIO will use its existing client infrastructure in the state sector to promote the results. In addition BIO will make a presentation at a border crossing point for possible stakeholders.

JAS will have already started a dissemination of the project results by presenting in June this year iBorderCtrl solution to Estonian Border Guards. As a result, positive feedback has been collected

Furthermore, during 8th Annual IEEE International Conference on RFID Technology and Applications that takes place on September 20-22, JAS will take part in the thematic session with the paper on the iBorderCtrl as a proposed solution for the integrated border guards' management system. In JAS commercial activity, it is planned to promote early results of project in order to familiarize potential users (Border Guards in Eastern Europe) with iBorderCtrl solution.

Research/academic partners:

ICCS as an Academic Research Institute will actively disseminate the project results and create awareness by pursuing publications in national and international Conferences and peer-review Journals in order to address the wider scientific and academic research society. ICCS has already published a paper in the EUCAP 2017 (11th European Conference on Antennas and Propagation) as early results of a radio network preliminary study concerning mobile satellite communications supporting high data rates for mobile terminals in various regions as the iBorderCtrl system could be deployed at. Furthermore, ICCS participated in the recent paper submission attempts jointly held by other consortium members.

In the following period, as the project results and the HHD tool become more mature, ICCS intends to submit publications applying to Conferences and Journals with topics either more focused in the ICCS specific work (i.e. the European Signal Processing Conference; International Journal on Multi-Sensor, Multi-Source Information Fusion) or addressing the wider iBorderCtrl aspects (such as IJCAI/ECAI on Artificial Intelligence in joint cooperation with the rest of the consortium partner). ICCS will exploit its already established channels within scientific forums (IEEE, MTT), since ICCS's senior staff is active as members in Scientific Committees, Conference organizers or as IEEE Greek Section Chapter Chairs, to participate in related international security workshops and organise special sessions in IEEE events, pursuing a multi-disciplinary approach in addressing holistic security systems and encourage the wider research community to further research on the iBorderCtrl issues of concern, spreading the scientific excellence.

Finally, ICCS will also exploit media and social networks and contribute in the creation of printed and electronic dissemination and communication material.

MMU's plan for rapid impact from early results will be to submit a paper based initial training experiments to IJCNN 2018 which will take place as part of the IEEE WCCI 2018 conference which takes place in July 2018. We will also submit the proposal for the WCCI 2018 special session "The Role of Computational Intelligence Technologies in Controlling Borders" by December 15th 2017 which is intended to attract a large number of international researchers, companies and security agencies.

It is also planned to submit a journal paper during 2018 to IEEE Transactions on Human-Machine Systems (impact factor 2.493) on their theme 'human information processing concerns in systems and organizations' covering a mix of technology and the user experience during initial ST training sessions. This will form a basis for comparison with the pilot system (in which the avatar presents attitudinal states to the traveller) in 2019, targeting the same journal.

We expect the findings of the work to produce at least two more conference papers and one more high quality technical journal paper during 2019 in collaboration with other technical iBorderCtrl partners.

LUH will publish papers in relevant legal journals as well as present relevant result in conferences, seminars and other discussion environments where legal issues concerning border controls are discussed. Also, LUH blog and other social media channels will be used for this project dissemination purposes.

End-Users:

HNP will disseminate project results A) internally, through national-level workshops for law enforcement practitioners; B) on national and international conferences organized for police sciences in Hungary.

KEMEA and the Hellenic Police will bring to the attention and promote the IBORDERCTRL project to the Greek Ministry of Interior. Having strong links, under its constitutional law will promote the IBORDERCTRL solution in all supervised by the Ministry Agencies. Moreover, KEMEA and Hellenic Police will promote the solution in FRONTEX workshops in which they regularly take part.

TRA will disseminate the project results in railway passengers in Greece. Moreover, the results of the project will be available in main railway stations of Hellenic Region. Apart from this, the results can be presented in railway industries and clients of TRAINOSE around Europe.

BGL will disseminate the information about the project activity and final results of it among national agencies responsible for the border/state/public security, as well as bring project information to the table of international/national conferences, seminars and workshops related border/state/public security which are going to be hosted/represented by the State Border Guard of Latvia.

2.4 Identification of Stakeholders and User Groups

When developing a communication strategy, one of the most critical steps after determining the goals and objectives is the identification of the target audience for the project. In order for the produced knowledge to be disseminated effectively, the following groups have been identified. At each phase of the project, different groups will be targeted so as to provide particular groups the most relevant information.

Table 2 Identified Stakeholders

Phase	Phase 1: Initial awareness phase (M1-M12)	Phase 2: Targeted awareness market phase (M12-M24)	Phase 3: Strategic phase (M25-M36)
Target groups	<ul style="list-style-type: none"> ξ public workers, ξ facility managers, ξ working conditions advisors, ξ IT engineers, ξ students, ξ researchers, ξ general public, ξ travellers, ξ families, ξ seniors citizens, ξ communities, ξ police associations. 	<ul style="list-style-type: none"> ξ policy makers in government, ministries, ξ regulators and managers, ξ donors and grants providers ξ development partners, ξ representatives from international and national development cooperation agencies 	<ul style="list-style-type: none"> ξ industry stakeholders, ξ intelligent border/security supplier companies, ξ electronics and sensors manufacturers, ξ mobile, web and it developers

2.5 Dissemination Strategy for Stakeholders and User Groups

2.5.1 Dissemination to European Industry

2.5.1.1 Assumptions

The industrial partners and public bodies will disseminate the usage of iBorderCtrl within their companies and organisations, out of the department or unit in charge of iBorderCtrl participation and through their networks.

For this reason, the following mechanisms are expected to be applied:

- ξ Informal knowledge transfer within each organisation, through internal websites, portals and newsletters.
- ξ Meetings of iBorderCtrl related staff with other personnel out of the project, so that synergies are identified. These can take place within the clustering with other EU and national initiatives and research projects already in progress.
- ξ Dissemination to related Business Interest Groups with the use of all dissemination channels, mostly through electronic media and participation in conferences and joint events.

2.5.1.2 Results

Three categories of industrial stakeholders which will be potentially interested in the iBorderCtrl outcomes and innovations have been identified and are presented below:

- ξ **Manufacturers and suppliers of hardware material such as tools/sensors/scanners used in the border control procedure. Namely, document scanners for travel documents (passport, visa, id, resident permit etc.) including MRZ and OCR readers, RFID scanners, QR code scanners, biometrics scanners (palm vein, fingerprint), HD cameras, sensors for human presence detection in vehicles/containers (Doppler radars, acoustic sensors or arrays, acoustic dynamic microphones, geophone, heartbeat or CO₂ sensors).**
- ξ **ICT applications suppliers, who are specialised in risk management with aim to identify, analyze, assess and take action to minimize or eliminate risks in the border control procedure in cooperation with public and other relevant authorities. These stakeholders with expertise in: Big Data, Risk Management in Border control, SaaS (Cloud-based applications) are following the trend of structured risk management which includes systematic collection, timely assessment and analysis of information and intelligence which identifies high risk from low risk. An outstanding paradigm can be met in the World Customs Organisation (WCO) compendium for customs risk management¹, where the adoption of holistic risk-based compliance management approach is presented, and optimal levels of both facilitation and control can be achieved; a similar model, to collect experience and know-how from involved stakeholders that design such systems could be applied also to the border control procedure.**

Industrial Community (Technological domain) players which provide complete and integrated services and solutions (including both software and hardware) to cover the

¹http://www.wcoomd.org/en/topics/enforcement-and-compliance/instruments-and-tools/~/_/media/B5B0004592874167857AF88FC5783063.ash

overall border control procedure. The offered systems are comprised of several integrated subsystems which offer control solutions, communication infrastructure and advanced services and tools to facilitate the border control procedure.

iBorderCtrl will establish relations and share non-confidential information about the potential and the progress of the project for potential translation to other fields of interest, further exploitation of the results so that it can easily be the basis for many other applications for other target groups and even other application domains.

2.5.2 Dissemination to the Scientific Community

2.5.2.1 Assumptions

The iBorderCtrl consortium is strongly motivated for providing technological and scientific results that will be of major importance and interest for the scientific and industry communities. These results will be communicated on the iBorderCtrl website, through social media, at scientific, ICT and security society meetings, submitted for publications in peer-reviewed conferences (see section 2.6.2.3.1) and journals (see section 2.6.2.2.2) and in press releases for popular and sectorial magazines, and newspapers. Efforts will be made to promote Open Access policies. This section provides a brief overview of the different dissemination approaches that will be used to communicate to the scientific community.

Peer reviewed journals will be selected based on the discipline and content. Metrics such as the Impact Factor will be used in conjunction with specialist discipline expertise to make decisions with regards to the most appropriate, most important active journal for the scientific content. Section 2.6.2.2.2 shows an example of the types of journal which are candidates for iBorderCtrl scientific outputs.

2.5.2.2 Special Session

Academic dissemination will include the submission of a proposal for a technical Special Session at the 2018 IEEE World Congress on Computational Intelligence ², entitled “The Role of Computational Intelligence Technologies in Controlling Borders”.

The IEEE World Congress on Computational Intelligence is a premier conference in the field of computer intelligence and associated technological applications having a long history first starting in 1994 when it was held in the USA. It has since been held international around the globe including Canada, Hawaii, Beijing, Hong Kong and Barcelona (Figure 1). The conference is sponsored by a number of organisations including the IEEE and the IEEE Computational Intelligence Society. Papers are peer reviewed by at least three reviewers and accepted papers are published in IEEE Xplore.

The general aim of the proposed special Session is to firstly provide a forum to new computational intelligence methodologies / techniques and systems which contribute towards improving border crossing efficiency and security within border control solutions; secondly to investigate the social and ethical implications of using computational intelligence technology on the ‘passenger’ themselves. Thirdly the session provides a forum for which the novel sub-systems developed as part of iBorderCtrl can be submitted for peer review and if accepted, be presented to an international audience comprising both academics and industry.

² <http://www.ecomp.poli.br/~wcci2018/>

Continuous border traffic growth, combined with the increased threat of illegal immigration, is putting border agencies under considerable pressure internationally. Border control is likely to face increasing demands for performance efficiency whilst maintaining high levels of security and conformity to legal frameworks, implying the need for intelligent systems that are user friendly and reliable in operational conditions, overcoming the limitations and potential gaps of current operational procedures. Key challenges are in the design of such systems which harness computational intelligence algorithms whilst allowing human empowerment, through the use of technologies which are familiar to all stakeholders.

History of WCCI



Figure 1 History of IEEE WCCI

To address these challenges multi-disciplinary research needs to be carried out in order to develop comprehensive systems to be designed and implemented which can provide automated computationally intelligence platforms. Recent research examples focused on the land border control include disciplines in the areas of: analysis of the traveller’s non-verbal behaviour, analytics of document authenticity, discovery of key patterns through data-mining and machine learning for border control analytics, hidden human detection to confront illegal immigration, advanced algorithms, big data, artificial intelligence and neural networks along with face, fingerprints and palm vein biometric models. These are just some key examples of how scientific disciplines can be combined together to enable automatic risk assessment enabling reliable decision making at border control points which respect an individual’s privacy whilst maintaining data security.

Based on these emerging research trends, the aims of the proposed Special Session will be to:

- ξ to provide a forum for new computational intelligence methodologies / techniques and systems which contribute towards improving border crossing efficiency and security within border control solutions;
- ξ to provide the opportunity to present recent advances towards holistic systems that combine computational intelligence within an expanded multi-disciplinary context
- ξ to highlight and assess novel insights and intelligence that can effectively contribute in identifying threats, vulnerabilities and risks in border control improving decision making and efficiency

ξ to investigate the social and ethical implications of using computational intelligence technology on the ‘passenger’ themselves.

The deadline for special session proposals to WCCI 2018 is December 15th, and the conference takes place 8th – 13th July 2018 in Brazil.

Apart from the above, towards the end of the project, a scientific workshop in English will be hosted to present the results of the iBorderCtrl project. The workshop will both inform and demonstrate aspects of the system to industry, members of the public and other academics.

2.5.2.3 Exemplar System in the wide debate of the legal, ethical and societal aspects of using Artificial Intelligence

The iBorderCtrl system will be promoted as an exemplar state of the art system through the Task Force on Ethical and Social Implications of Computational Intelligence. This will be through panel sessions at IEEE conferences, cross disciplinary debates and a publication. Whilst the scientific content will be the main focus, the impact on, and opinions of the public on the role of artificial intelligence are vital to its long term success.

The iBorderCtrl system will feature in a response to a call from the UK on what opportunities exist in the development and use of artificial intelligence, and what risks there might be House of Lords Select Committee on Artificial Intelligence (submission date 6/9/2017).

2.5.3 Dissemination to the Wider Public and Users

2.5.3.1 Assumptions

iBorderCtrl assumes dissemination to diversified user groups and wider public. Therefore, it is planned to promote the project via popular channels including social media and project website. It is important, however, to adjust the content as well as dissemination channels to the target group.

2.5.3.2 Results

So far, the project has been promoted to the wider public mainly via social media and project website. More details about iBorderCtrl social media profiles are presented in section 2.6.2.4.2. It is important to mention that throughout the year, project partners prepared a web-based questionnaire, which helped to gather requirements from travellers as well as raise awareness about the project among them. What is more, in order to reach other users, such as border authorities, iBorderCtrl objectives and innovations were presented at a FRONTEX “Workshop on EU funded border security research projects” in Warsaw on 8th June 2017.

2.5.4 Dissemination to Policy Makers

2.5.4.1 Assumptions

For the results of the iBorderCtrl to be effectively integrated into the existing border control frameworks as identified in D2.3, some policy and legal reforms may be necessary as some of the novel technologies integrated into the iBorderCtrl systems are not yet covered in the current legislative dispensation. In fact, a statutory legal basis will be required to implement some of technologies and procedures included in the iBorderCtrl toolkit. In particular, the core functionalities of the system such as the DAAT, ADDS, Social Media Interface, HHD, BCAT, RBAT, risk calculations, which invariably affect the overall design of the toolkit, will require adjustments in the

legal framework.³ Therefore, it is important that the results of the project be disseminated to EU and national policy makers to the extent that these technologies need to be integrated into several border control facilities.

2.5.4.2 Relevant actors

To foster such legal reforms, the key stakeholders need to be addressed properly. Part of the dissemination plan to reach policy makers and other stakeholders relevant to the iBorderCtrl result includes first, to identify these stakeholders and second, to target the dissemination activities such stakeholders through the best channel.

The **first group** of actors in the field of policy makers are obviously members of the parliament both on EU (European Parliament) and national level, who debate and vote on legislation. Policy makers influence many activities that happen at the borders such as initiating the procedure for border checks, the level of cooperation of different stakeholders at the borders, nature of information gathering and exchange, among others. The European Parliament, for example, passes EU laws, together with the Council of the EU, based on European Commission proposals and has been active in passing the various legislation⁴ and resolutions⁵ relating to border controls. It also has committees on Security and Defence, as well as Civil Liberties, Justice and Home Affairs that look at issues of border controls among others. The national Parliaments, on the other hand, are responsible for the national legislative development and enforcement within their jurisdiction and may act to reintroduce border control at the country's internal borders if there is a serious threat to public policy or internal security.

The European Commission is another relevant actor in border controls policy making. It is responsible for initiating policies, including proposing legislation to be debated by the Parliament. In the area of border control and migration, the DG Home and Migration of the European Commission is an important Directorate that should be targeted for policy reforms in this area.

The manner for approaching policy makers is often focus-based, due to lack of their expertise certain aspects of their work, and would require detailed explanation at times. With regard to iBorderCtrl, both the border checks itself as well as the technology proposed for border control revolve around complex problems and solutions. To address this group, it is crucial to offer detailed information (as detailed information is required to make an "informed" decision), which has to be easily understandable at the same time.

The **second group** of actors are stakeholders that are active in the field of border checks while also being connected to decision-making bodies. This would include for instance, the police and the border guard authorities, and the ministries that control those authorities. Border guards⁶ will be able to understand and assess the impact of iBorderCtrl regarding their needs in their daily activities. These needs can then be communicated to appropriate other entities and finally, in the case of a ministry, also to a political level. Dissemination to those channels should be detailed and offer solutions to the most pressing issues the border guard authorities might face. Other entities

³ For further information, see Deliverable D2.3.

⁴ E.g., Regulation (EC) No 1987/2006 (Border control cooperation); Schengen Borders Code.

⁵ E.g., European Parliament resolution of 12 April 2016 on the situation in the Mediterranean and the need for a holistic EU approach to migration (2015/2095(INI)).

⁶ See their list at: <http://frontex.europa.eu/partners/national-authorities/>



that fall under this group include: the European Border and Coast Guard Agency – FRONTEX;⁷ the European Union Agency for Law Enforcement Cooperation – EUROPOL;⁸ the European Union Agency for Law Enforcement Training – CEPOL;⁹ the international association of border guards BorderPol¹⁰.

The **third group** of actors are the citizens. They have the ultimate source of political power, and their opinions could have an immediate impact on legislation as well. However, it might be difficult to utilise the wider public to foster an implementation of iBorderCtrl solutions because as described above, iBorderCtrl offers complex solutions to complex problems, therefore would require complex discussions. Some citizens might feel that enhancing border security is of utmost importance, while others might feel that the technologies proposed by iBorderCtrl should not be used at all due to ethical concerns. However, it is unlikely that a clear consensus among all citizens (or at least robust majority of citizen in favour of the adoption / implementation of iBorderCtrl tools) could be achieved, which would be required to reliably put pressure on policy makers. On the contrary a controversial public debate might also even hamper the implementation of policies required for iBorderCtrl. While disseminating the project results also to the wider public as described in section 3.3 could at least have an immediate impact on legislation as well, respective steps have to be carefully prepared.

2.5.4.3 Results

A first overview both on legislative needs and possible ethical concerns have been developed in the deliverables D1.2 and D2.3 which have been submitted recently (M8 and M9).

However, with regard to these results, it has to be noted that iBorderCtrl as a research project is a work in progress: The legal assessment is based on the status quo, which might change due to variety of reasons (such as technical reasons, differing needs expressed by end-users, legislative changes). In particular, some functionalities could not be described in detail, so that a further elaboration once the project progresses will be required. Consequently, the legal assessment and the derived legislative needs might change.

As implementing policies can be a rather complex and difficult task, high-level policy makers should only be approached with final recommendations. Therefore, it appears to be not recommendable to approach policy makers with requests for legislative changes in this stage of the project. Dissemination activities should rather focus on basic information, such as which issues could be identified and how the technology proposed by iBorderCtrl could fit into these gaps.

2.5.5 Dissemination to Civil and Security Organizations

2.5.5.1 Assumptions

Since iBorderCtrl project focuses on novel system for land border crossing points, it seems essential to spread the news about the project and its goals to civil and security organizations not only to raise the awareness about existing threats at EU/Schengen border but also to demonstrate that the iBorderCtrl proposes sufficient and relevant measures to respond to current threats and provide a

⁷ <http://frontex.europa.eu/>

⁸ <https://www.europol.europa.eu/>

⁹ <http://www.borderpol.org/>

¹⁰ <http://www.borderpol.org/>

secure system. As a consequence, consortium members will target, via their dissemination activities, the representatives of different groups of organizations. These groups include the following:

- ξ Law Enforcement Agencies (LEAs) – the group comprises such entities as state police, customs office, and other law enforcement agencies, for example, Hungarian National Police, Polish Border Guard, Italian Agenzia delle Dogane (Customs) and/or French Gendarmerie National. The project can be disseminated to organizations, which are not directly involved in performing border checks but whose daily tasks are related to the sector through the integrated border management concept.
- ξ European Union agencies – this category consist of such organizations as the European Border and Coast Guard Agency (FRONTEX), European Union Agency for Law Enforcement Cooperation (Europol), European Union Agency for Law Enforcement Training (CEPOL), and European Agency for the operational management of large-scale IT systems in the area of freedom, security and justice (EU-LISA).
- ξ Non-governmental organizations (NGOs) – the third group is the largest and most diverse, containing NGOs serving as watchdogs for human rights, e.g. the Helsinki Committee to Neighbourhood Watch organizations across Victim Support Organizations such as the Anonymous Ways Foundation saving victims of Human Trafficking. Special part of these groups are the civil organizations acting internationally for security, e.g. Borderpol.

The aforementioned dissemination activities are foreseen to be performed in the later stages of the project. It is assumed that representatives of the above listed entities will be invited to observe the operational iBorderCtrl system during the project pilots.

The actor groups enlisted above can also be directly accessed on large security related scientific or market events, like exhibitions, conferences and expos. However, it should be taken into account that not all types of events are open for every group. In addition, some events are country or region specific. The most relevant events are the World Border Summit, an annual conference in the US (<http://www.internationalsummitonborders.com/>) and the European Day For Border Guards (<http://www.ed4bg.eu/>) a conference and exhibition organized by Frontex and its Partner Academies also visited by key industry and government stakeholders.

2.5.5.2 Results

European Dynamics (ED) participated in a workshop in FRONTEX headquarters in Warsaw, which gathered representatives of different EU funded projects. This was the first appearance of the iBorderCtrl project at such event in front of domain experts and FRONTEX representatives. It is assumed that iBorderCtrl consortium members will participate in such events more frequently in phase 2 and 3 of the project.

2.5.6 Dissemination to Other Research Projects and Clustering

2.5.6.1 Assumptions

iBorderCtrl system integrates several multi-disciplinary technologies to result in an overall efficient system facilitating an easier and reliable border crossing for both travellers and Border Guards. However, the rapid increase of migration in Europe along with the envisioned future Schengen Management Systems and the policies involved often result in changes in the current regulations and procedures, dictating the implementation of Large-Scale IT Systems for Migration, Border

Checks and Security. This in turn, leads to demanding requirements for applied research and harmonisation of EU Border Capabilities in terms of current activities and future research needs.

The iBorderCtrl aims to effectively address the current and future trends in Border Crossing and to be integrated into several border control facilities while it attempts to adequately contribute to the European policies and growing role in relevant research and implementations. Therefore, it is important that the project results be disseminated to relevant EU research initiatives while synergies and clustering with other research projects need to be pursued.

2.5.6.2 Related planned dissemination actions

To this respect, the following relevant dissemination actions are envisioned and planned within the iBorderCtrl framework of activities:

Clustering with other research projects in the field:

Intra-project dissemination and clustering with relevant EU security projects is an essential and important tool for improving collaboration between researchers within Europe. The iBorderCtrl will pursue clustering opportunities with currently running or already finished EU research projects in the area not only of Security and Border Control but also in other EU research or scientific programs. This will be accomplished by establishing relationships and investigating potential common interests, along with similar and/or different approaches that could act complementary for creating new procedures in border crossing and checking implementations.

The aim is to exchange views and information with other EU researchers, drawing their attention to common approaches or activities of interest and to jointly raising awareness concerning the related aspects. Furthermore, this will enable reducing replications within the research involved while leveraging activities and joint forces in respect to effective knowledge dissemination and especially assisting also exploitation towards policy makers. The clustering activities with other related EU projects will facilitate the consortium partners to discuss, and present the project related matters, fostering cooperation with other researchers on the field providing expert feedback and enabling stakeholders' interaction.

At this early point, the following security projects can be highlighted within the pool of projects that have been identified by the iBorderCtrl consortium to be subject of clustering activities:

- ξ **PROTECT** – “*Pervasive and UseR Focused BiomeTrics BordEr ProjeCT*”¹¹ (BES-6-2015: Border crossing points - Exploring new modalities in biometric-based border checks), 2016-2019.
- ξ **BODEGA** – “*Proactive Enhancement of Human Performance in Border Control*”¹² (H2020)
- ξ **ARIES** – “*reliAble euRopean Identity EcoSystem*”¹³, H2020-FCT-2015, 2016-2019
- ξ **MobilePass** - a secure, modular and distributed mobile border control solution for European land border crossing¹⁴, FP7, 2014-2017
- ξ **LIGHT^{est}** – “*Lightweight Infrastructure for Global Heterogeneous Trust management in support of an open Ecosystem of Stakeholders and Trust schemes*”¹⁵, H2020-DS-2015-1, 2016-2019

¹¹ <http://protect.mozello.com/>

¹² <http://bodega-project.eu/>

¹³ <http://aries-project.eu/>

¹⁴ <http://www.mobilepass-project.eu/>

- ξ **SIIP** – “*Speaker Identification Integrated Project*”¹⁶, FP7, 2014-2018
- ξ **INGRESS** – “*Innovation Technology for Fingerprint Live Scanners*”¹⁷, FP7, 2013-2016
- ξ Other projects that will be addressed are: **ABC4EU**¹⁸ (“*Automated Border Control Gates for Europe*”), **FastPass**¹⁹ (“*A harmonized, modular reference system for all European automated border crossing points*”), **Tabula Rasa**²⁰ (“*Trusted Biometrics under Spoofing Attacks*”) **along with projects focused in biometrics** since this is an important dimension of iBorderCtrl project.

Since the above set of EU related projects form a mixture of currently on-going, running their final stage or already finished projects, the iBorderCtrl project will exploit their outcomes and current research in order to foster collaboration and leverage its own research results, exchanging approaches and information. The primary means for getting in touch would include: establishing contacts through their coordinator, along with through focused emails, the iBorderCtrl website and through social media. Joint Press releases and newsletters and co-organization of workshops will be pursued as well.

Participation in Clustering Events organised by EC, Research Initiatives or Security Organizations:

The dissemination activities of iBorderCtrl during specific external clustering events is a unique opportunity for the project to foster cooperation and to enhance joint collaboration and synergies among other related EU projects. Apart from direct contacts with other research projects Coordinators or partner members, these joint events provide the best way in order:

- ξ To promote research carried out in the projects, forge new links and networks, and identify the appropriate partners for possible future project applications
- ξ To meet and exchange information with the relate projects representatives but also with the Clustering Event’s Organizers and discuss on the joint follow-up actions
- ξ To inform them about iBorderCtrl technology and policy issues in a direct manner
- ξ To engage them in a dialogue about the requirements of the Border Crossing procedures in terms of needed technology and legal framework improvements identified by iBorderCtrl and to invite them to consider recommendations made by the project
- ξ To encourage them to raise awareness of their members concerning the iBorderCtrl and consider the adoption of the project system, methods and technologies within the new research frameworks
- ξ To get feedback on needs, requirements or possible offers by the involved attendees, along with getting in contact with other participants representing other sectors (i.e. industrial / technology partners, other end users etc.)

¹⁵ <http://lightest.eu/>

¹⁶ <http://www.siip.eu/>

¹⁷ <http://www.ingress-project.eu/>

¹⁸ <http://abc4eu.com/>

¹⁹ <https://fastpass-project.eu/>

²⁰ <http://www.tabularasa-euproject.org/>

To this respect, the iBorderCtrl intends to actively participate in the relevant clustering events with research projects organised by the:

- ξ European Commission and especially the Directorate-General of Migration and Home affairs (DG HOME) ²¹;
- ξ The Joint Research Center (JRC) Initiative (DG-JRC) ²² of the European Commission
- ξ The research units of European Border and Coast Guard Agency (FRONTEX) ²³ and FRONTEX's Partner border control authorities ²⁴
- ξ The Smart Borders initiative of the EU-LISA (European Agency for the operational management of large-scale IT systems in the area of freedom, security and justice) ²⁵
- ξ And related units of European Border Control Authorities and Security Agencies.

Among others. The above Initiatives aim to manage EU external, borders in a more efficient and modern way by using new and innovative technologies, by exploring next generation of border checks, using new, more effective technologies to speed up border crossing, enhance travellers' experience, remove manual passport stamping, and better use of Border Guard resources.

In light of the above, and during this early project stage, iBorderCtrl has already:

- ξ Participated to the **“Workshop on EU funded border security research projects”, organised by FRONTEX in Warsaw on 8th June 2017.**
- ξ Made the necessary arrangements to participate and present the iBorderCtrl project in the **4th edition of the EAB Research Projects Conference (EAB-RPC 2017) that will take place on the 18th and 19th of September 2017, at the premises of Fraunhofer IGD in Darmstadt, Germany.** The conference is organized by the European Association for Biometrics (EAB) in cooperation with the Joint Research Center (DG-JRC) of the European Commission, through its Cyber and Digital Citizens' security Unit.

Which represent some of the largest events in the related fields. Beyond the EU, iBorderCtrl will also attempt to develop clustering with US and International related initiatives, programmes, and projects where applicable.

Clustering with other Research / Scientific Associations and Expert Working groups:

In the same manner, the iBorderCtrl project throughout its whole duration will pursue clustering actions through participation and contacts with other working groups and associations focused more on specific research or scientific fields such as:

- ξ European Associations focused on disciplines related with the iBorderCtrl aspects i.e. the European Association for Biometrics (EAB)
- ξ IEEE Societies, Technical Committees and Working Groups or IEEE National Chapters that simultaneously are in charge or organise International Conferences or Journals (i.e. on Computational Intelligence / WCCI Conference, BIOSIG and related Conference,

²¹ <http://www.consilium.europa.eu/en/home>

²² <https://ec.europa.eu/jrc/en>

²³ <http://frontex.europa.eu>

²⁴ <http://frontex.europa.eu/partners/national-authorities/>

²⁵ <http://www.eulisa.europa.eu/AboutUs/SmartBorders/Pages/default.aspx>

Communication or MTT Chapters etc.) since members of the iBorderCtrl consortium are relevant Chairs or Contributors.

- ξ Authorities, Agencies and Bodies such as Authority for the Information and Communication Security and Privacy, working groups of Standardization bodies (i.e. ETSI etc) to enable also future exploitation aspects
- ξ EU's Research groups and Initiatives such as AENEAS, ARTEMIS etc.

Through the above, the iBorderCtrl will obtain the opportunity to meet and exchange views with researchers from all over Europe, presenting the advances achieved in the related projects and scientific works, providing updates on how results are being used to improve related technologies and eventually give an insight into the future aspects.

2.5.6.3 Results

Based on the above, it is seen, that even in this early project stage where the project outcomes are not yet mature enough to enable more aggressive actions, the iBorderCtrl project has already managed to get presented in EU-level clustering and to gain visibility of its positioning and opportunities. The consortium has already sought to participate in a number of relevant external events to promote the project and raise awareness about its outputs.

The iBorderCtrl will continue in the next project year, pursuing the relevant activities in order to:

- ξ Enhance clustering collaborations to foster discussions, and put forward ideas and needs, present the challenges faced and propose solutions
- ξ Offer to the research community a more holistic and comprehensive perspective of the status of border management technology in Europe
- ξ Seek collaboration and participation of various stakeholders such as End-users; Policy makers; Managers of large IT-systems and running European systems (i.e. SIS-II); industrial partners; in order to give their perspectives and present the challenges faced proposing of realistic solutions.
- ξ Foster discussion and put forward ideas and needs, finding common approaches and strategies in order to efficiently protect the freedom and security of EU citizens.
- ξ Develop and establish national and international connections with research leaders, engaging in a direct, face-to-face communication.

The consortium partners will prepare slide show presentations, papers, lectures and material at relevant events, the internet and clustering initiatives, in order to effectively liaise with other on-going or finished EU projects.

2.5.7 Dissemination to the Media

2.5.7.1 Assumptions

Consortium members have a strong media footprint throughout the Northwest of the UK (the "Northern Powerhouse"). In particular, it has good relationships with the BBC, Granada TV and other companies sited locally in MediaCity UK. The Silent Talker project, featured in iBorderCtrl's ADDS module, has been of particular interest to broadcast, print and web media over the years and one of our challenges has been to manage the appetite for Silent Talker news. In particular, we have

found a high degree of networking between and within organisations. For example, a single report on a BBC local news programme can result in many contacts from other BBC local news units, giving national coverage.

2.5.7.2 Results

A meeting on Thursday 7th of September between iBorderCtrl partner, staff from Silent Talker Ltd. and representatives of Double Act Productions Ltd, who have been commissioned to produce series on Artificial Intelligence for Channel 4 (national UK independent terrestrial broadcaster) Discussions are currently ongoing.

Progress on pilot experiments for ADDS will shortly lead to appoint where the consortium can produce a press release to promote public participation in ADDS experiments. This will include an invitation to a reporter or production assistant to take part in the experiment, producing high attractive visual accompaniment to the story.

It might be expected that iBorderCtrl project will generate a lot of interest on the part of reporters covering post Brexit border issues.

2.6 Dissemination Tools

In the following sections all the tools that will be used throughout the whole project duration will be described. For each tool, the actions so far will be described at first and then the action plan will be proposed.

2.6.1 Branding

2.6.1.1 iBorderCtrl Logo



Figure 2 iBorderCtrl logo

2.6.1.2 iBorderCtrl Project Web-Site

The project website is available at <http://www.iborderctrl.eu>. The website was created in M3 of the project and has been featuring new content on regular basis. The following tabs can be seen at the website:

- ξ About iBorderCtrl – the section features information on the project, objectives, consortium members and the pilots
- ξ Technical Framework – information on technical approach within the project

- § Publications – the section covers all publications and appearances of the iBorderCtrl project
- § News – presents up-to-date information related to the project and consortium
- § Events – summarizes all events organized by the consortium
- § Related Projects – indicates all EU initiatives related to the iBorderCtrl

It is planned to publish more results and research findings in phase 2 and phase 3 (see Table 1) of the project. A screenshot of the project website is presented in the Figure 3.

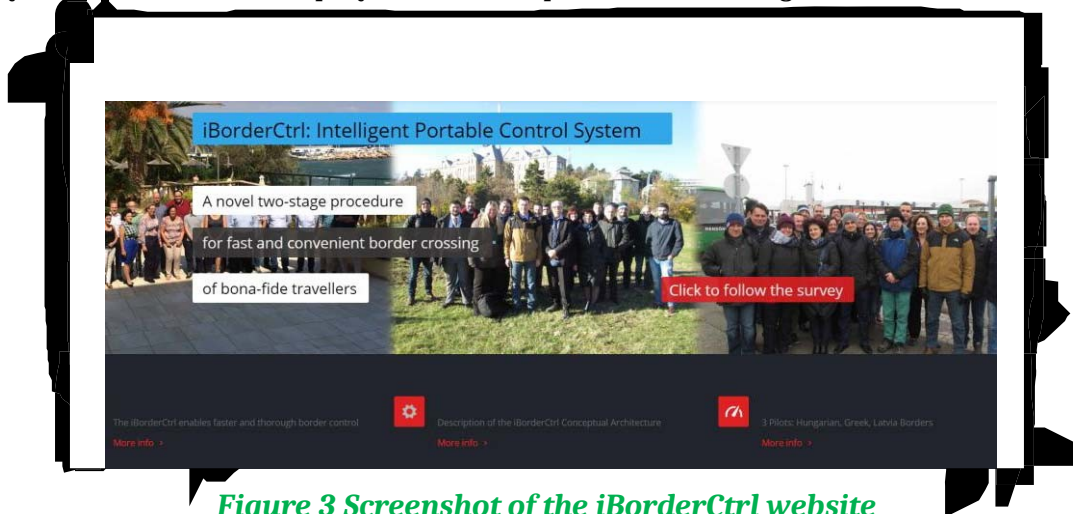


Figure 3 Screenshot of the iBorderCtrl website

2.6.1.3 Project Materials (Brochures, Posters, Leaflets etc.)

For the purposes of dissemination activities at numerous events, iBorderCtrl leaflet has been designed in order to be distributed to end users and stakeholders interested in the proposed system for land border crossing points and its integral components. The leaflet is presented in Figure 4 and Figure 5.



Figure 4 Project leaflet 1/2

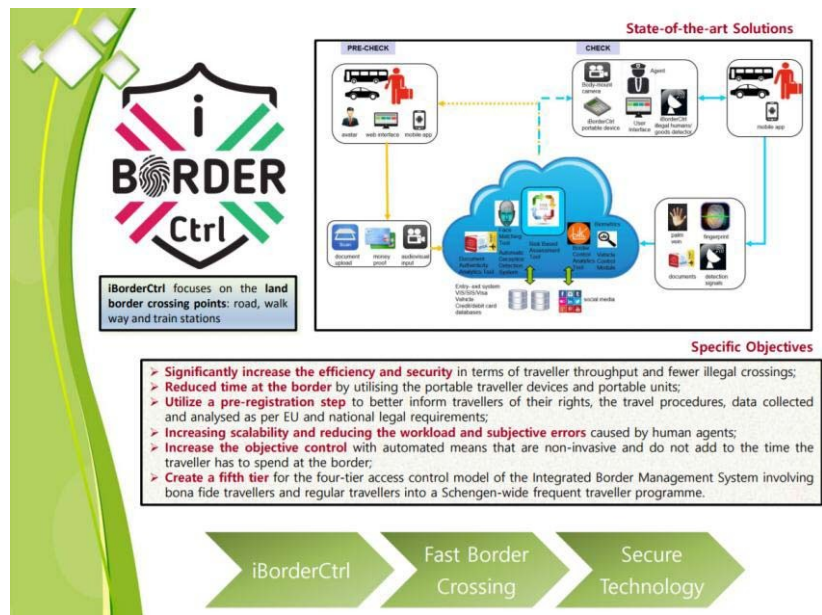


Figure 5 Project leaflet 2/2

Recently, a new iBORDER Ctrl poster has been prepared European Association for Biometrics (EAB) Research Projects Conference (see Figure 6).

Intelligent Portable Control System

ABOUT iBORDER Ctrl

- iBORDER Ctrl enables faster and more thorough border control at EU Member States by deploying novel technologies that adopt the future development of the Schengen Border Management.
- iBORDER Ctrl designs and implements a comprehensive system that adopts mobility concepts deployed in a two-stage-procedure (data collection pre-crossing and at crossing), designed to reduce cost and time spent per traveller at the border crossing station.
- The project envisages an optimal mixture of an enhanced but voluntary form of a Registered Traveller Programme and an auxiliary solution for the Entry/Exit System based on involving bona fide travellers.

Specific Objectives

- Significantly increase the efficiency and security in terms of traveller throughput and fewer illegal crossings;
- Reduced time at the border by utilising the portable traveller devices and portable units;
- Utilize a pre-registration step to better inform travellers of their rights, the travel procedures, data collected and analysed as per EU and national legal requirements;
- Increasing scalability and reducing the workload and subjective errors caused by human agents;
- Increase the objective control with automated means that are non-invasive and do not add to the time the traveller has to spend at the border;
- Create a fifth tier for the four-tier access control model of the Integrated Border Management System involving bona fide travellers and regular travellers into a Schengen-wide frequent traveller programme.

www.iborderctrl.eu
@iBORDER Ctrl
iBORDER Ctrl

scan to visit the iBORDER Ctrl website

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT NO 700626.

Figure 6 iBORDER Ctrl poster

2.6.2 Dissemination Channels

The hereby section presents a range of dissemination channels, which will be applied in the iBorderCtrl project. As presented below, the communication channels have been diversified in order to reach different target groups including academic entities, industry representatives, national agencies, governmental bodies as well as regular travellers. Successful dissemination of the project results is believed to pave the way for fruitful exploitation of the project outcomes and their potential commercialisation.

2.6.2.1 Special Platforms

2.6.2.1.1 Personal Contacts

Actions so far

In the initial stage of the project, consortium members communicated the news on iBorderCtrl project to the organizations they closely collaborate with. Project partners shared the information on iBorderCtrl objectives, innovations, and pilots. Moreover, they suggested to follow any new developments related to the project via the iBorderCtrl social media channels and website.

Action Plan

Project consortium comprises diversified members including industrial/SME, academic/research partners as well as end users. All of the partners have rich experience both in commercial market as well as research & development initiatives. Over the years, they have built a network of contacts with numerous entities including governmental organisations, industrial partners or national agencies. Thanks to their diversified connection network, iBorderCtrl partners will put effort to disseminate the project to the organizations they have close ties with. It is believed that such dissemination approach will help to draw attention of additional number of end users. Perhaps, it might contribute to the overall to further exploitation of the project.

2.6.2.2 Online and Electronic Dissemination

2.6.2.2.1 Project Deliverables

Actions so far

One of the measures to maximize the dissemination outreach and familiarize interested parties with the project achievements is the release of publicly available iBorderCtrl deliverables by the consortium. Within the period of first year, the following iBorderCtrl public deliverables have been made available to the public:

- ξ **D7.1 Project web portal** – publicly available project website features news on the latest developments of the project. The portal, released in M3, contains diversified content such as summary of the project-related events, project objectives, consortium composition, and relevant publications.
- ξ **D7.2 Project flyer** - this is a one page poster, which presents the basic assumptions of the project and its technical framework. This is to graphically illustrate the direction in which the consortium is heading with the proposed system for land border crossing points.

Action Plan

More public deliverables will be released throughout the remaining period of the project;

- D3.1 Data Collection Devices – specifications (M15) – the deliverable marked as public will provide a review of available technologies that could be applied for iBorderCtrl components.**
- ξ **D3.2 First version of all technological tools and subsystems (M18) – the deliverable comprises the first prototypes of portable unit, ADDS, DAAT, portable radar, FMT, and Avatar based dialogue. These prototypes will be validated with the help of end users a stakeholders.**
- ξ **D3.3 Second version of all technological tools and subsystems for integration (M24) - the deliverable is a second iteration of the prototypes, which will be shown during the project demonstration.**
- ξ **D4.1 First version of the iBorderCtrl software platform (M18) – the first iteration of the iBorderCtrl platform, which will be improved following the comments/feedback of end users as well as stakeholders of the project.**
- ξ **D4.2 Second version of the iBorderCtrl s/w platform (M24) - the second version of the platform will be shown during the demonstration of the project.**

2.6.2.2.2 Project Publications

Actions so far

The iBorderCtrl consortium partners are fully aware of the impact the publications might have on the successful realisation of the project. Furthermore, publications in relevant journals and press help in improving the project impact and reaching to research communities. Therefore, iBorderCtrl consortium has been searching for potential worthy venues for publishing project-related news. Until now, the following publications have been released:

- ξ Stoklas, Sicherheit im Schengen-Raum: Eine unendliche Datensammelei?, ZD-Aktuell 2017, 05684.
- ξ J. Stoklas, “Europäischer Grenzschutz 2.0 – Ein Überblick über datenschutzrechtliche Herausforderungen”, ZD-Aktuell, Beck, Munich, Heft 21, 16.12.2016.
- ξ C. I. Kourogiorgas, A. D. Panagopoulos, R. Makri, “A Copulas-Based Time Series Synthesizer for Mobile Satellite Communications Operating Above 10 GHz”, 11th EUCAP Conference, Paris, France, March 2016
- ξ E. Bilby. 2017. *Avatar interviews and portable scanners to speed up border crossings*. Horizon, The EU Research & Innovation Magazine. (URL: https://horizon-magazine.eu/article/avatar-interviews-and-portable-scanners-speed-border-crossings_en.html) (Date of Access: 25 Aug 2017).
- ξ K. Crockett, J. O’Shea, S. Zoltan, L. Szklarski, A. Malamou, G. Bouladakis. 2017. *Do Europe’s borders need multi-faceted biometric protection*. Biometric Technology Today, vol. 2017, 7, pp. 5-8.

Action Plan

The iBorderCtrl plan for future publications assumes more publications in scientific journals and magazines related to security solutions as well as border control technologies. The indicative list of such journals and magazines include the following items:

- ξ International Journal of Biometrics
- ξ Artificial Intelligence
- ξ Information Fusion An International Journal on Multi-Sensor, Multi-Source Information Fusion

- ξ International Journal of Information Management
- ξ Elsevier Computer Communications
- ξ IEEE Transactions on Pattern Analysis and Machine Intelligence
- ξ Computers & Security
- ξ International Journal of Risk Assessment and Management
- ξ IEEE Computational intelligence Magazine
- ξ IEEE Systems
- ξ IEEE Transactions on Audio, Speech, and Language Processing
- ξ IEEE Transactions on Information Forensics and Security
- ξ IEEE Transactions on Human-Machine Systems
- ξ Pattern Recognition
- ξ Journal on Signal Processing, Elsevier Science
- ξ IEEE Transactions on Antennas and Propagation
- ξ IEEE Transactions on Microwave Theory and Techniques
- ξ International Journal of Wireless and Mobile Computing
- ξ International Journal of Microwave Science and Technology
- ξ IEEE Transactions on Communications

What is more, it is worth adding that iBorderCtrl publications might be published as proceedings from different conferences, at which the project will be presented.

2.6.2.3 Non-electronic dissemination

2.6.2.3.1 Presentations at External Events, Workshops, Info Days, Exhibitions

Actions so far

In the first year, the iBorderCtrl appeared on several events, which include the following:

- ξ **1st iBorderCtrl Workshop in Hungary** (9-11 November 2016) – the workshop was a part of requirements elicitation process. The workshop featured a presentation and discussion on current border control procedures led by experienced border control officers. Moreover, while staying in Hungary, consortium members had the opportunity to visit the **Tompa-Kelebia** Border Crossing Point in order to observe conditions in which border control activities are performed.
- ξ SZÉKELY Zoltán (HNP) has presented the project with the title “The Intelligent Border Control System and the future of Integrated Security Management in Public-Private Cooperation” on the **international scientific conference “Tourism and Security”**, in Nagykanizsa, Hungary, 2016.
- ξ **Presentation of iBorderCtrl at the Fun Tech Jobs event** (5 December 2016) - Keeley Crockett (MMU), as a Chair of IEEE Women in Engineering United Kingdom and Ireland, organized the Fun Tech Jobs Event. The event featured short talks on Computer Science and Engineering. During the event, an iBorderCtrl presentation was delivered by Keeley Crockett. The presentation focused on such aspects as traveller’s pre-registration as well as ethical and social use of the artificial intelligence to detect deception.
- ξ **iBorderCtrl End-Users Workshop** (14 December 2016) – the workshop was dedicated to discussion on new, intelligent, portable control systems for land border checks. The event was attended by representatives of iBorderCtrl project, external experts from law

enforcement, private security sector, research and academia. The purpose of the meeting was also to collect and validate user requirements related to iBorderCtrl prototypes.

- ξ **Presentation of iBorderCtrl at Levensulme Girls High School in Manchester** (15 December 2016) – a short presentation on Artificial Intelligence and Artificial Neural Networks in the context of iBorderCtrl was delivered by Keeley Crockett (MMU). The presentation was followed by a discussion on iBorderCtrl Pre-Travellers system with emphasis put on Schengen and Non-Schengen countries.
- ξ **Presentation of iBorderCtrl at FRONTEX workshop** (8 June 2017) – FRONTEX workshop featured a number of EU-funded H2020 projects dealing with border security. The workshop constituted an important opportunity to disseminate the iBorderCtrl project among border authorities and official as well as representatives of other projects. It is believed that the event is likely to spark potential synergies between iBorderCtrl and other EU projects.
- ξ **A presentation about iBorderCtrl at the British Academy** - Keeley Crockett gave a key note talk entitled “Automated Deception Detection for EU Borders” / Goldsmiths Sponsored Event at Manchester Metropolitan University on 31st March 2017.
- ξ **A technical workshop** that was held in Athens on 22-24th of March 2017 with the participation of ED, ICCS, STR, EVR.

Action Plan

iBorderCtrl consortium members actively seek relevant opportunities to present and promote the project objectives and results. The indicative list of the potential upcoming meetings which might be of interest for the consortium partners include the following events:

- ξ **EAB-PRC Research Projects Conference (The European Association for Biometrics (EAB) in cooperation with the Joint Research Center (DG-JRC) of the European Commission, and Fraunhofer IGD)**– 18-19 September 2017, Darmstadt (Germany)
- ξ **Smarter Border 2017 Conference** –7 November 2017, London (United Kingdom)
- ξ **The 7th International Conference on Pattern Recognition Application and Methods** – 16 – 18 January 2018, Funchal, Madeira (Portugal)
- ξ **Border Security Expo** – 31 January – 2 February 2018, San Antonio (United States)
- ξ **ICB 2018 Conference** – 20 – 23 February 2018, Queensland (Australia)
- ξ **11th Annual Border Security conference and exhibition** – 21-22 February 2018, Rome (Italy)
- ξ **World Border Security Congress** –20-22 March 2018, Madrid (Spain)
- ξ **Mediterranean Conference on Pattern Recognition and Artificial Intelligence 2018** – 27-28 March 2018, Rabat (Marocco)
- ξ **13th IAPR International Workshop On Document Analysis Systems** – 24 – 27 April 2018, Vienna (Austria)
- ξ **Security of Things World** – 2-3 July 2018, Berlin (Germany)
- ξ **IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE** – 8-13 July 2018, Rio de Janeiro (Brazil)
- ξ **The 12th Annual Border Security Expo 2018** – Phoenix (United States); the exact date is not fixed yet.
- ξ **26th European Signal Processing Conference 2018** – August/September 2018
- ξ **European Conference on Computer Vision (ECCV)** – 8 – 14 September 2018, Munich (Germany)
- ξ **25th IEEE International Conference on Image Processing (ICIP) 2018** – 7- 10 October 2018, Athens (Greece)

- ξ **XXIX International Biometric Conference (IBC 2018)** – 8-13 July 2018, Barcelona (Spain)
- ξ **Thirty-second Annual Conference on Neural Information Processing Systems (NIPS)** – 3 – 8 December 2018, Montreal (Canada)
- ξ Action to attend a future **ACI Europe Event** - ACI EUROPE organises a range of events and workshops every year, including dedicated conferences on airport economics & finance, commercial activities, regional airports, human resources and operations, e.g. November 2016 ACI EUROPE Security & Crisis Management Summit, Brussels.
- ξ **Annual Network and Distributed System Security Symposium (NDSS 2018)**, February 18 – 21, 2018: NDSS Symposium, San Diego, CA USA
- ξ **2018 European Conference on Antennas and Propagation (EUCAP)**, 9-13 April 2018, London, UK
- ξ **2018 IEEE Radar Conference**, 23 Apr - 27 Apr 2018, Oklahoma City, OK, USA
- ξ **2019 IEEE Radar Conference (RadarCon)**, 22 - 26 Apr 2019, Boston, USA
- ξ **SPIE Defense + Security Conference 2018, including SPIE Sensors, and Command, Control, Communications, and Intelligence (C3I) Technologies for Homeland Security, Defense, and Law Enforcement XVII**, 15 - 19 April 2018, Orlando, Florida, United States
- ξ **ICDSA 2019 : 21st International Conference on Defense and Security Analysis**, March 29 - 30, 2019, Paris, France

What is more, SZÉKELY Zoltán (HNP) has submitted a paper with title „iBorderCtrl and BBA242: Examples for research and innovation in border security at European and national level” to the 2017 CEPOL Research and Science Conference 'Innovations in Law Enforcement' and the application was accepted, therefore the project will be presented for EU law enforcement practitioners, trainers and policy-makers on the conference in Budapest, 2017.11.28-30. Moreover, the paper will be considered for publication as fully referenced paper in the Special Conference Edition Nr. 4 of the European Police and Law Enforcement Bulletin (see: <https://bulletin.cepol.europa.eu>).

2.6.2.3.2 Policy Papers

Actions so far

No Policy paper has been published, so far. However, a first assessment on the legislative needs can be derived from the outcome of D1.2 and D2.3. In addition, the legislative needs for a possible deployment of the iBorderCtrl toolkit have been outlined in D7.4 – Early Business Plan.

Action Plan

While an initial text on required policy changes has been already produced as outlined above, it has to be noted that – being a research project – technical and/or organisational realities with regard to the iBorderCtrl toolkit might change. Even small changes in the design of a functionality could significantly change the legal assessment. Apart from that, external factors such as changes in the legislation can occur any time. Therefore, a constant monitoring both of the project as well as of the legal situation is required. A final policy paper based on the already existing deliverables will be produced in the final stage of the project, once all legislative requirements can be clearly foreseen.

2.6.2.4 Interactive Dissemination and New Media

2.6.2.4.1 Plenary Meetings

Actions so far

Until now, the iBorderCtrl consortium held **two plenary meetings**:

- ξ **1st Plenary Meeting** in Budapest was held on the occasion of workshop in Hungary on 9-11 November 2016. The meeting mostly focused on discussing the requirements collection process and agreeing on the necessary next steps.
- ξ **2nd Plenary Meeting** in Madrid on 25-27 July 2017. The meeting focused mainly on the summary of performed activities throughout the year. What is more, consortium partners discussed about the development process of the architectural components. The consortium members also planned future activities including the system deployment and pilots.

Action Plan

As set out in the **D8.1 Quality Management Plan**, the consortium has planned consortium meetings on regular basis, **every six months**. The meetings will be organized with the purpose to validate the project results, ensure the project is proceeding according to the objectives accepted by the European Commission. Moreover, the meetings will help to resolve minor problems or issues that might have emerged during the work.

2.6.2.4.2 Social Media

Actions so far

At the onset of the project, consortium members created iBorderCtrl social media accounts on Twitter and LinkedIn. The profiles have been used to publish minor updates and short news related to the project. Though preliminary the profiles gathered a number of followers and members, the recent change of the project name resulted in the necessity to rename the social media profiles (which in fact required setting them up from scratch). Therefore, at the moment, the iBorderCtrl Twitter account has gathered 23 followers.



Figure 7 iBorderCtrl Twitter profile

What is more, following the renaming of the project, new LinkedIn group was created. The group currently comprises 12 members and is likely to grow over time. The group features short news

about project events and publications. A major online dissemination channel is, however, the project website, which has been already described in section 2.6.1.2.

Action Plan

New content will continue to appear on social media profiles as well as project website. As indicated in D8.1 Quality Management Plan, it is assumed that effective dissemination via Twitter and LinkedIn will require at least 50 followers/members per year.

2.6.2.4.3 Project Video

Action Plan

In order to diversify and make the iBorderCtrl results more appealing to potential end users, the consortium will prepare and release to the public a video, which will present the capabilities and effectiveness of the iBorderCtrl land border system. The video will be published following the project pilots, by the end of the project lifetime. The timing of the video is in line with the expected availability of evidence based measures of the efficacy and accuracy of the proposed platform allowing for a more attractive dissemination with longer term re-usability of the video. Once prepared, the video, will be made available on the project website and disseminated via social media (i.e. LinkedIn and Twitter) and relevant partners channels of communication.

2.6.2.4.4 Newsletters

Action Plan

Newsletter is a short piece of news that includes information on project details (e.g. key objectives, consortium composition), updates on progress made since the beginning of the project or the last issued newsletter, summary of the implementation progress, brief explanation of iBorderCtrl prototypes for land border crossing points, encouragement to share feedback, information on upcoming project events, publications. Each newsletter shall comprise hyperlinks to relevant information, references made in the text, and project website/social media profiles.

It is planned to disseminate such newsletters to stakeholders, end-users, national agencies, industry representatives, as well as academia and research entities. The objective is to release newsletters on regular basis. However, the first newsletter is expected to be released in Phase 2 of the project (see Table 1) and they are to be distributed every six months until the end of the project.

2.6.2.4.5 Media Communication and Press Releases

Actions so far

An important aspect of the project dissemination is appearance in media and relevant press. In the first year of the iBorderCtrl project, a publication in **Horizon, the EU Research & Innovation Magazine** titled “Avatar interviews and portable scanners to speed up border crossings.” was produced (available at https://horizon-magazine.eu/article/avatar-interviews-and-portable-scanners-speed-border-crossings_en.html).

MMU submitted a response to the call British Science Festival 2017 – Press conference submission form. We were not selected for a press conference this year, due to the small number of places available and the relative immaturity of the work and were invited to re-submit in 2018.

Action Plan

The action plan in the context of media communication and press releases assumes intensification of action following the first year of the project. In particular, key project events such as pilots will be communicated in appropriate media/press.

2.7 Mapping of the Tools with Stakeholders Groups

The following table presents the mapping of dissemination tools used within the project to reach defined target audience.

Table 3 Mapping of the tools with Stakeholder Groups

Tool	Industry	Scientific Community	Wider Public and Users	Policy Makers	Civil and Security Organizations	Other Research Projects and Clustering	Media
Personal Contacts	X	X	X	X	X	X	X
Project Deliverables	X	X				X	
Project Publications		X	X	X	X	X	X
Events, workshops, info days, exhibitions	X	X	X			X	
Policy Papers				X	X		
Plenary Meetings			X		X		X
Social Media			X		X	X	X
Project Video	X	X	X	X	X	X	X
Newsletter	X	X	X	X	X	X	X
Press Releases	X	X	X	X	X	X	X

3 Expected Impact of Dissemination and Communication Activities

Key Performance Indicators, also known as KPI or Key Success Indicators (KSI), are a type of performance measurement that helps an organisation define and measure progress toward its goals. So the key point in any KPI is that they are quantifiable measurements, agreed to beforehand, that reflect the critical success factors.

When choosing a KPI there must be always a way to accurately define and measure it. It is also important to don't change the definition and set clear target for each KPI. Some typical marketing KPIs are, for example, number of tweets, number of post, number of followers, traffic or visits in the website, downloads, mentions in other website.

In this days web analytics are very advanced and there are tools like Google Analytics, Omniture and more that have made digital marketing measurement and reporting more simple and accessible. Some of these tools are:

- ξ Google Analytics: web analytics solution that provides insights into the website traffic and marketing effectiveness. From this application it is possible to measure traffic, countries origin, etc.
- ξ Hootsuite: social media tool to monitor keywords, manage multiple networks as Twitter, Facebook and LinkedIn. Provides information such as Klout level, followers, etc. Hootsuite allows users to sort their followers by who has the most influence on social networks.
- ξ LinkedIn own statistics, will be able to measure and compare KPI and its success.

But as important as knowing the available tools, is to understand what they are measuring. For example Google Analytics provides page-level details of where the content is being read. This geographic information helps to understand where to allocate more budget and resources based on where your audience is. Other example is Unique Visits, which is the most standard measure of how many individuals have viewed one content within a given time frame (typically a 30-day cookie window). This KPI provides a good baseline for which to compare different forms of content and trends over time. Other example of different types of measures are Bounce rates/time spent, Heat maps and click patterns or social sharing.

Following it can be found the list of KPIs for iBorderCtrl list by type of activity:

Events:

- ξ Number of attended events
- ξ Audience attending events
- ξ Feedback obtained from the audience

Social Media:

- ξ Number of contacts in LinkedIn
- ξ Feedback from contacts
- ξ % increase of comments
- ξ Social sharing

Web site:

- ξ Number of visits

- ξ Social sharing
 - ξ Bounce rates/ time spent
 - ξ Geography
- Publications:
- ξ Number of scientific publications
 - ξ Number of non-scientific publications

In accordance with the previous listed KPIs the first set of objectives to achieve is the following:

Table 4 iBorderCtrl dissemination KPIs

ACTIVITY	OBJECTIVES
Social Media	LinkedIn: <ul style="list-style-type: none"> ● One post every two weeks ● Get 20 views of the profile Twitter: <ul style="list-style-type: none"> ● One tweet per day. ● Achieve 10 new followers monthly.
Web-Site	<ul style="list-style-type: none"> ● Have visits for at least 5 different countries each month ● Visitors which surfer less than 30 seconds must be inferior to 20% ● At least 50 visit per month
Publications	<ul style="list-style-type: none"> ● Publish at least 5 scientific publications ● Publish at least 2 non-scientific publications
Events	<ul style="list-style-type: none"> ● Make at least 3 Workshops ● Attend at least 10 different events

4 Conclusions

In conclusion, the iBorderCtrl dissemination strategy proposes a diversified channels of promoting the project throughout its lifetime with specific plans appropriate for the targeted stakeholders. The aforementioned channels include dissemination via social media the project website, participation in related events, conferences, publishing papers, etc. To ensure the effectiveness and continuity of dissemination activities, all consortium members have been involved in this task. Furthermore, each project partner has promoted the iBorderCtrl project via their company's/organization's website and used their network of contacts to spread the news on iBorderCtrl objectives and achieved results.

What is more, the dissemination activities will be performed throughout the entire project duration. During this time, all activities related to dissemination will be targeted at various groups including end users, stakeholders, policy makers, media, other projects, and wider public. Such outreach is believed to contribute to the successful exploitation of the iBorderCtrl solution. In order to measure the effectiveness of the aforementioned activities, key performance indicators have been defined and explained in section 3 of the document.

In addition, the hereby report is the first one on dissemination and communication. Next iterations will appear in M24 and M36. They will provide information on phase 2 and phase 3 of dissemination activities.