Workshop on Innovation in Border Control 2013

13-14 August 2013, Uppsala, Sweden
wibc2013@gmail.com
Co-located with the European Intelligence and Security Informatics Conference (EISIC 2013)

Call for Papers

Paper submissions due on 29 April 2013

The aim of the Workshop on Innovation in Border Control is to bring together academic researchers, practitioners, and industry to:

- discuss innovative solutions to current and future challenges in border control (including border surveillance),
- present the latest results of research in the field of border control,
- evaluate current applications,
- identify next steps toward bringing solutions to fruition, and
- disseminate information on ongoing border security-related research projects and initiatives

The focus will be on application-oriented research and technology that addresses practical operational challenges encountered by the border control community.

The workshop should be relevant to researchers in such fields as information technologies, computer science, remote sensing, public policy and social and behavioural studies, as well as to practitioners, consultants and technology industries with interests in border security and control, law enforcement and intelligence. Bringing together these diverse communities of interest is intended to enrich understanding of the challenges that exist and to extend research and technology development in practical directions.

The workshop is jointly organised by:

- the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (Frontex),
- the European Commission's Joint Research Centre (JRC), and
- the National Center for Border Security and Immigration (Borders), University of Arizona (USA).

IMPORTANT DATES

- Paper submissions due: 29 April 2013
- Notification of acceptance: 30 May 2013
- Camera-ready versions due: 15 June 2013
- Authors registration due: 15 June 2013
- Workshop: 13-14 August 2013

FRONTEX European Commission THE UNIVERSITY OF ARIZONA BORDERS

TOPICS OF INTEREST

1. Detection, identification and authentication

CHALLENGES: (A) An ever-increasing number of people coming to the EU poses a challenge of having less time for the entire process of person and document authentication and/verification, and efficiently detecting the "risky" ones, which should undergo a more thorough check; (B) Various types of insignificant-in-size maritime means are used by third-country nationals to enter into the EU in an irregular manner. Timely detection and classification of such means, in particular differentiating between suspicious and legitimate ones, poses a serious challenge.

- Access control: authentication of documents, people and vehicles
- Risk assessment of travellers (prior and upon arrival)
- Deception detection
- Modelling and optimization of the border control processing chain
- Detection and risk-level classification of both large and small (fast) boats in maritime environment
- Detection of persons attempting to enter illegally
- Long range maritime positive identification of facilitators in poor optical conditions
- Psycho-physiological and behavioural detection of risk
- Small and wide land area intruder detection

2. Communication

CHALLENGE: An increasing field-cooperation between Border Guard authorities of (neighbouring) countries is often hindered by non-compatible mobile secure communication networks that could be used to exchange data of various kinds (videos, images, text) in a straightforward and efficient manner.

- Efficient transfer of high volume of data, including video and images, from mobile (manned or unmanned) platforms to end users, and vice versa from operations centres to field assets
- Ergonomic and user-friendly wireless mobile communication tools
- Interconnection of secure communication networks of border guard authorities in neighbouring countries, including technical and legal aspects

3. Information sharing and interoperability

CHALLENGE: An ever-growing requirement to exchange border security-related information of various kind at the EU-level poses a challenge in terms of: (a) making existing systems interoperable, (b) willingness to share information "across the sectors and borders", (c) having a common understanding of the content to be shared.

- Platforms and systems for secure exchange of information
- Collaboration across cultures, or the effects of culture and legal and organizational constraints on information sharing
- Techniques to facilitate the exchange of information between non interoperable information systems
- Integrated visa/immigration facilities control systems
- Interoperability for information exchange: protocols, schemes, ontologies, topologies, semantic translations and common definitions of content

4. Information acquisition, fusion and utilisation

CHALLENGE: The ever-growing amount of heterogeneous border security-related data stemming from different sources of varying reliability makes it difficult to efficiently process, analyse, fuse and convert it into actionable knowledge.

- Real-time and near real-time text/data mining methods for processing vast amount of heterogeneous data
- Techniques for data/information fusion (text, video, images, etc.) in real or close to real time
- Trend analysis, pattern detection, cross-analysis of databases, optimisation analysis
- Utilisation of new sources of information (e.g., open sources) for intelligence gathering and situational awareness (e.g., online news, social media, forums, deep web), including assessment of their quality, usefulness, reliability, and techniques to analyze them
- Usability of new type of information in the border security-related decision making process
- Intelligence-based risk assessment, threat classification and vulnerability assessment models

5. Technology impact, acceptance and integration

CHALLENGE: Various new technologies with border control application potential are emerging, however, their integration into the border control processing chain poses administrative, technical, societal, privacy and human-machine optimisation issues.

- Assessment of user acceptance
- Data Protection, Fundamental rights and social impacts of use of technology at the border
- Analysis of factors that may hinder introduction of new technologies (legal, organizational, societal)
- Ergonomic impacts of use of technology at the border
- Human-system optimization
- Methods for diffusing and integrating new technology
- Comparison of technology solutions (opportunity/risk analysis)
- Modelling, simulation and training capabilities for border control (virtual environments)

The descriptions of the topics above are not meant to be complete. Other related topics, e.g., impact of immigration policy on border control (introduction of visa-free regime, local traffic agreements, asylum policies, etc.) are welcome. Submitted papers may fall in several categories.

SUBMISSION

The Workshop on Innovation in Border Control 2013 (WIBC 2013) is soliciting both research and "practice and experience" papers. Paper submissions to WIBC 2013 are divided into FOUR tracks:

(1) Research Track

Papers submitted to the research track should either: (a) present results of substantial research/scientific work, (b) report on an ongoing research activity/effort, or (c) describe a solution that involves utilization of novel

research results, which will be demonstrated live during the workshop. In particular, there are two types of submissions:

- Long papers that describe results of work on application-oriented research, evaluations, operational tests, lab tests, etc. Long papers should report substantial, completed, and previously unpublished/novel research results.

- Short papers that describe work in progress, ideas, new challenges for the next 5 - 10 years, emerging areas relevant to border security and control or demos (System/application descriptions, interactive demos, etc.).

Long papers will be allocated 8 pages of content, whereas short papers will be allocated 4 pages of content.

(2) Young Researcher Track

The Young Researcher Track provides a venue for student researchers investigating topics in the area of border security to present their research results, to meet potential advisors, and to receive feedback from the end-user community and international research community.

The main goal of this track is to aid students and young researchers at various stages of their education/careers: from those in the final stages of undergraduate training to those who are preparing their graduate thesis proposal.

Papers submitted to this track can either describe thesis/research proposals or present completed work or work in progress with preliminary results.

The papers in this track can have up to a maximum of 6 pages.

(3) Industrial Practice and Experience Track

Papers submitted to the Industrial practice and experience track should demonstrate and/or report on innovative border control lab-prototype solutions with strong application potential that are not yet on the market, or are on the market, but require guidance regarding further steps required in order to convert them into real-world border control solutions. This track also welcomes submissions describing experiences encountered in applying novel research results and methods in the context of developing and deploying border control solutions.

Submissions should be written in technical style rather than sales styles.

The papers in this track can have up to a maximum of 4 pages.

(4) European Projects Track

The EU Framework Programmes provide funding for R&D projects to bridge the gap between research and practitioners. In particular, EU Framework projects allow the research community to practice with their research ideas in real industrial environment while, at the same time, they can provide an insight into new solutions for the end-user community.

Papers submitted to the European Projects Track should describe EU-funded border security-related projects or other research projects involving European actors that are funded by national or local funding organizations, or

even by individual universities and industries. The submissions should briefly describe the objectives of the projects, their deliverables, gained experience and outcomes. Special interest goes to submissions that describe how the projects results have been assessed and evaluated.

The European Projects Track should offer the possibility to project participants to share and disseminate their project results and to provide WIBC participants a better insight in which European research projects are currently going on in Europe within the field of border security.

The papers in this track can have up to a maximum of 4 pages.

Submissions to all four WIBC 2013 tracks are electronic and in PDF format via EasyChair, a web-based conference management system.

For producing the manuscripts the authors should use the IEEE two-column style available at:
http://www.ieee.org/conferences_events/conferences/publishing/templates.html

The information about the author(s) should be omitted in the submitted papers since the review process for all four WIBC 2013 tracks will be blind.

Submissions will be reviewed by at least 3 members of the Program Committee. Submissions will be judged based on novelty, impact, usability, technical strength, clarity of presentation, and significance/relevance to the workshop. Authors of accepted papers will receive guidelines regarding how to produce camera-ready versions of their papers.

PROGRAM

The 2-day program will consist of: (a) 2-3 invited/keynote speakers, (b) presentation of long/short/demo papers, and (c) panel discussion(s) on operational challenge(s) related to border control.

PUBLICATION

All accepted papers will be published in WIBC 2013 proceedings, except the papers accepted to the WIBC 2013 research track, which will be included in the proceedings of EISIC 2013 (the main conference) published by IEEE Computer Society's Conference Publishing Services.

After the Workshop, we envisage to make a selection of the best papers submitted to WIBC 2012 and WIBC 2013 and to publish expanded versions thereof in a special journal issue or as a volume of a book series with a reputable publisher.

COMMITTEES

Programme Committee Chairs

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- Jakub Piskorski (Frontex)
- Guenter Schumacher (Joint Research Centre)

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