CONCEPT NOTE

International Conference on Biometrics for Borders 2019: Morphing and Morphing Attack Detection Methods

Warsaw (Poland), 9-10 October 2019

Background

Biometric technologies that are used to recognise persons have become an integral part of the border checks process, with the application of biometric technologies providing new opportunities to border management to facilitate legitimate travelers while at the same time making borders more secure. At the same time, this large-scale integration of biometric technologies into the border control infrastructure introduces new challenges to border security: Biometric systems can be attacked and subverted for the purpose of passing through border control undetected. This means that with the introduction of novel technologies supporting biometric recognition, countermeasures that can prevent, detect or defeat such attacks are needed. For Frontex and the border management community, the exploration and development of advanced biometric technologies and related capacities is crucial to border security and the facilitation of legitimate travellers, especially when considered in the context of the set of EU-wide measures proposed by the Smart Borders Package.

The Agency currently plays the role of contributor: Frontex participates in conferences organised by major players in the field of biometrics, who are not border management authorities, but who are increasingly setting the agenda on biometrics in the context border control and border security. For this reason, the European Border and Coast Guard Agency (Frontex) is planning on organising a series of annual conferences – called the **International Conference on Biometrics for Borders (ICBB**) – dedicated to the topic of biometrics, its (possible) use in border control, and the challenges they may pose to border security.

Objective

The strategic objectives for organising an annual Conference on Biometrics for Borders are:

- Position the Agency as a key player in this area of research by bringing together research institutions, academia, national authorities from Europe and non-EU countries, and industry;
- Enable Frontex to become a driving force in providing support and expertise to Member States and the European Commission on the topic biometrics, and the range of possible applications and implications for borders.

Different thematic areas of interest will be covered on a year by year basis, with the ICBB2019 focusing largely on the topic of morphing and its implications for border management, and will be organised in 9-10 October 2019 in Warsaw, Poland.

Scope of the ICBB2019

Morphing attacks in the context of border control is a relatively new and undocumented phenomenon. Researchers, industry and law enforcement authorities from around the world are actively engaged in research aimed at addressing and overcoming this threat. However, as of yet there is a lacking overview of the many different actions aimed at addressing and overcoming the threat of morphing attacks to border control.

Frontex has undertaken a number of activities related to the topic of morphing and its implications for border control. In the context of the developed training course on Vulnerability Assessment and Testing for Automated Border Control (ABC) Systems, Frontex worked together with experts of the German Federal Office for Information Security (BSI) producing a small study presenting the topic of morphing and the issue of morphing attacks in a border control context for participants of this training to benefit from. This information has also been included by the Risk Analysis Unit in Handbook on Impostor Risk Profiles. In addition, an internal workshop on morphing was organised with the support of BSI for Frontex staff members on 13 September 2017. As such, the primary objectives for the ICBB2019 are:

- To bring together research institutions, academia, national authorities from Europe and non-EU countries, and industry;
- To inventory and discuss ongoing (research) activities related morphing attack detection methods;
- To discuss the current situation and identify the scope of the problem for borders.

As such, the aim of the conference is to support and contribute to research activities undertaken in this area, at EU level and beyond. The conference will furthermore support and contribute to the strategic objectives of the Frontex Centre of Excellence for Combating Document Fraud (CED) and the European Commission in tackling document fraud, referring to the objectives of the European Commission as outlined in the 2016 Action plan to strengthen the European response to travel document fraud (RIU has actively contributed to the action plan, in particular in providing relevant and up-to-date information on the topic of morphing). Through the action plan the European Commission aims to strengthen Research and Development activities in the area of breeder documents and document verification, including addressing the issue of morphing, in the framework of the Horizon 2020 programme for Secure Societies 2018-2020. To underline the importance of this issue the European Commission has established a consortium on a morphing research program, which will be invited to the conference.

Target audience

The target audience consists of national authorities from the European Union (EU) Member States and non-EU countries, EU policy-makers and agencies, researchers and industry with a demonstrated interest in the topic of morphing and involved in developing solutions and/or strategies aimed at addressing and overcoming the issue of morphing.

Structure

The Conference will consist of a Welcome Address, Key Note Speeches and six working sessions in panel format following the structure outlined below:

- **Welcome Address**

- **Key Note Speeches**

  Views on the role of biometrics in border management and, related, the role of Frontex in this field.

- **Panel Discussion: "Setting the scene: Biometrics for border control and the role of Frontex"**

  In this panel participants will discuss the role of Frontex in providing support and expertise to its end user community on the topic of biometrics. The focus will be on biometrics, its application in border control, the challenges it may pose to border security, and the way in which Frontex may interact with the biometric community to mainstream added value for end-users.

- **Thematic Session 1: "Problem Statement: The challenge of Morphing for border control"**

Morphing attacks in the context of border control is a relatively new and undocumented phenomenon. In this session participants will help define what morphing is, discuss morphing and its implications for border management, and discuss possible actions aimed at mitigating the threat of morphing attacks.

- **Thematic Session 2: "National approaches to prevent and detect morphing"**

National authorities from around the world are actively engaged in activities and policy tools aimed at addressing and overcoming the threat of morphing attacks. In this session, representatives from different national authorities will present and discuss their novel approach to morphing.

- **Thematic Session 3: "Ongoing research in the area of morphing and morphing attack detection methods"**

The session will explore the latest research, innovations and developments in the area of morphing and its feasibility as well as potential impact for border control.

- **Thematic Session 4: "The morphing problem, an industry perspective"**

The session will provide border management authorities and other participants with up-to-date information and a hands-on experience on the latest solutions available in the market or under development.

- **Panel Discussion: "The way ahead for borders and biometrics"**

Following the thematic sessions dedicated to one of many challenges the use of biometrics introduces, this closing panel discussion aims return the focus to the broader theme of biometrics in the context of border control. Joined by key representatives of both the biometrics and border management community, this panel will explore some of the main themes, challenges and opportunities presented by the widespread adoption of biometrics for identity verification at the border, such as the planned implementation of future information systems, the importance of standards set at international level, rights and privacy implications, and the role and ambitions of Frontex and the border management community with respect to biometrics.

To support the discussions, an industry exhibition is planned alongside the Conference. The exhibition will go beyond the thematic focus of the conference and provide border management authorities and other participants an insight into the latest developments in the field of biometrics, but also how potential vulnerabilities can be better managed, and the way in which these technologies are impacting border control now and in the future.

Expected Outcomes and Output

The discussions and dialogue during the workshop will result in the following outcomes:

- Establish a network between border management authorities, academia and industry for the exchange of information on on-going research and latest developments in morphing detection algorithms;
- Providing support to the EC and in particular its consortium on an image morphing research program;
- More active support to Member States in raising awareness and support efforts to detect and mitigate against morphing attacks;
- Produce a more exhaustive overview in the format of a report on the outcomes of the workshop and the different activities undertaken around the world aimed at addressing this problem in a proper, methodical fashion.

The Conference key output will be an analytical report presenting the state-of-the art in each of the thematic areas defined above and outlining lessons learned as regards practical challenges and available solutions.

Organisational details

The Conference will take place on 9-10 October 2019 in the **Legia Warszawa Conference Centre** in Warsaw, Poland.

Contact

Should you have any questions about the Conference, than please contact Frontex at the following email address: s@frontex.europa.eu.