

Deliverable D5.4 Recommendations and specifications for video based risk analysis – Summary

The deliverable D5.4 is related to Task 5.5 that aims to study if video based technologies and related systems can support the border guard task, with special interest being devoted to which technologies might be used. Therefore, this deliverable is aimed to propose possible enhancements for the BCP using video based technologies.

This document presents an overview and revision of some existing video based technologies with proposals how these technologies can be used at the best by personnel involved in the border control process. It was desirable to get access to real data. Due to both reasons security and policy this access was not possible. Besides, deliverables D3.2, D4.1 and D4.2 were not available at the moment when the present document was started to be written. However, deliverable D3.1 and deliverable D3.3 were partially used as input and in addition a survey related to video based technologies was developed. Deliverable D3.1 provided first recommendations based upon on the analysis of raw data and deliverable D3.3 describes and summarises relevant information collected during the field studies. The survey was put on-line and it was used during the showcases. Examples of information collected during the field studies are a description of how the border check is done or the perception of the process from the travellers' point of view. The major achievements related to Task 5.5 are:

- Analysis of the state-of-the-art in video based technologies;
- Identification of problems of current technologies in operation;
- Generation of following recommendations: (i) For improving the interaction between BCP and current systems; (ii) for improving the interaction between BCP and possible future implementations; and (iii) for improving technologies in operation.

Recommendations listed on deliverable D3.1 and information inferred from the field studies (deliverable D3.3) are integrated with the overview, analysis and revision of existing technologies here done to generate new lists of recommendations. Following the statement line expressed in aforementioned deliverable, these lists of recommendations are another step to further analysis in other work packages of BODEGA. Due to lack of experience and time constraints, a number of topics have not been covered in detail in this document. This, however, might be addressed in future projects or future lines of research. At the time of writing this document, the following topics have been identified: (i) the use of different cameras (for example, thermal ones), (ii) managing and protecting data privacy, and (iii) Fusion of data coming from different sensors.

The deliverable is organised as follows: Section 1 describes the involved processing. Section 2 briefly addresses the current video based technologies in both areas commercial products and scientific research. Section 3 presents the assessment of studied technologies summarising the aims and objectives (section 3.1), abnormal behaviour detection (section 3.2), left object detection (section 3.3), people counting (section 3.4), people tracking (section 3.5) and queue length detection technologies (section 3.6). Each section is divided into 2 subsec-



tions: evaluation metrics and criteria used (section 3.X.1) and on-going evaluations which are continuously carried out (section 3.X.2). Section 3.7 summarises results obtained during the showcase in November 2017. Section 4 then discusses possible improvements and presents various recommendations. Section 5 concludes the document.

Main author(s): Gustavo Fernández Domínguez (AIT)

Contributors: Arndt Bonitz (AIT)

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