Project name and abbreviation: Detecting Document frauD and iDentity on the fly (D4FLY).
Programme: Horizon 2020.
Project duration: 1 September 2019 - 31 August 2022.
Budget: € 6 984 727,50.

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D4FLY in a nutshell:

Border authorities seek to improve their capabilities and capacities to respond to emerging threats in document and identity verification and in this case, the advanced technology in document analysis and biometric on-the-move identity verification can enable faster and more secure document issuance, traveling, and border checking processes.

The overall D4FLY concept was to identify, reduce, and avoid vulnerabilities in the identity lifecycle of modern border management, thereby strengthening European Smart Borders against serious and organized crime.

The D4FLY project augmented the capabilities and capacities of border authorities in countering emerging threats in document and identity verification (e.g., forged documents, impostor fraud, morphed faces) at manual and highly automated border control points, as well as in the issuance process of genuine documents.

The project set of tools and systems improved the quality of verification and reduced major time sinks in the processes, enabling a real on-the-move border crossing experience for travelers.

The D4FLY solution consists of a border control kiosk equipped with enhanced enrollment, verification, and detection capabilities; smartphone applications for improved performance and verification capabilities; and a non-stop on-the-move system for biometric verification. Four different border control points and one document fraud expertise center formed the project's testing and demonstration grounds.

Novel sensor hardware based on advanced light-field cameras and algorithms developed during the project enhanced verification accuracy and robustness through the combined usage of 2D+thermal face, 3D face, iris, and somatotype biometrics. Additionally, analytical tools to identify known criminals based on somatotype and 3D face data generated from mugshots and observation data were developed. The innovative approaches have also been successfully demonstrated in a series of prototypes using technologies such as AI-based recognition systems, smartphone applications, and biometric corridors.

D4FLY also created a resilient document verification system capable of verifying a multitude of physical and electronic security features (e.g., Kinegrams®, MLIs, CLIs), detecting complex forms of electronic fraud and advanced morphing, and identifying fraud in breeder documents. The potential benefits of blockchain technology in identity verification were also investigated.

All tools and solutions were validated against European societal values, fundamental rights, ethics, privacy, data protection, and applicable legislation.

The D4FLY project involved 19 partners consisting of border control authorities, universities, research institutes, and industrial companies from 11 countries.

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More information about the project: https://d4fly.eu/.
More information on CORDIS: https://cordis.europa.eu/project/id/833704.
Project video on YouTube:
https://www.youtube.com/watch?v=haMgPl0Q0ZA&list=PLJFfWNEv1cG5g7q4hadZk9E8-dx3u3sao&index=18.