D4FLY

Detecting Document frauD and iDentity on the fly

D4FLY Project objectives

Short term and mid/long term

Identify fraud methods
- Existing and potential future methods
- Travel documents
- Identity

New technologies in fraud detection
- Automated document fraud detection
- Face morphing
- Impostor attacks

New technologies in unobtrusive person identification
- Travellers on-the-move
- Known suspects

Knowledge on document fraud and biometrics on the fly
- Compliant to European values, rights and legislation
- Supported by end users
- Demonstrators in border control scenarios

Cost-benefit analysis
- Take up of project results
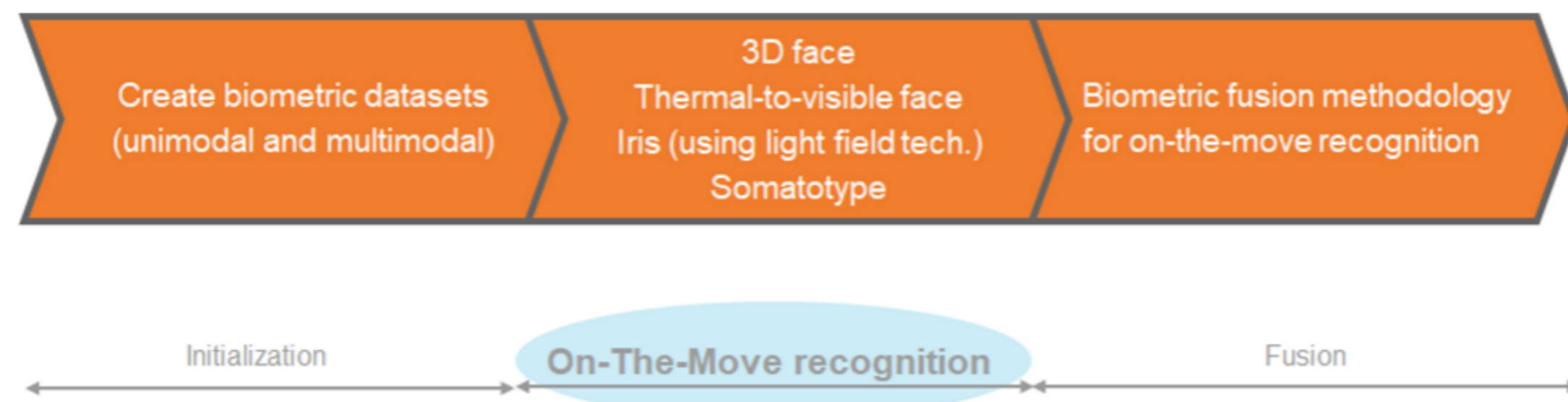- Establishment of legal and social propriety

D4FLY Concept

Interaction points in the Identity lifecycle

D4FLY is built around the identity lifecycle

from document issuance based on breeder documents

to document verification and identity check at border crossing points

Identity lifecycle
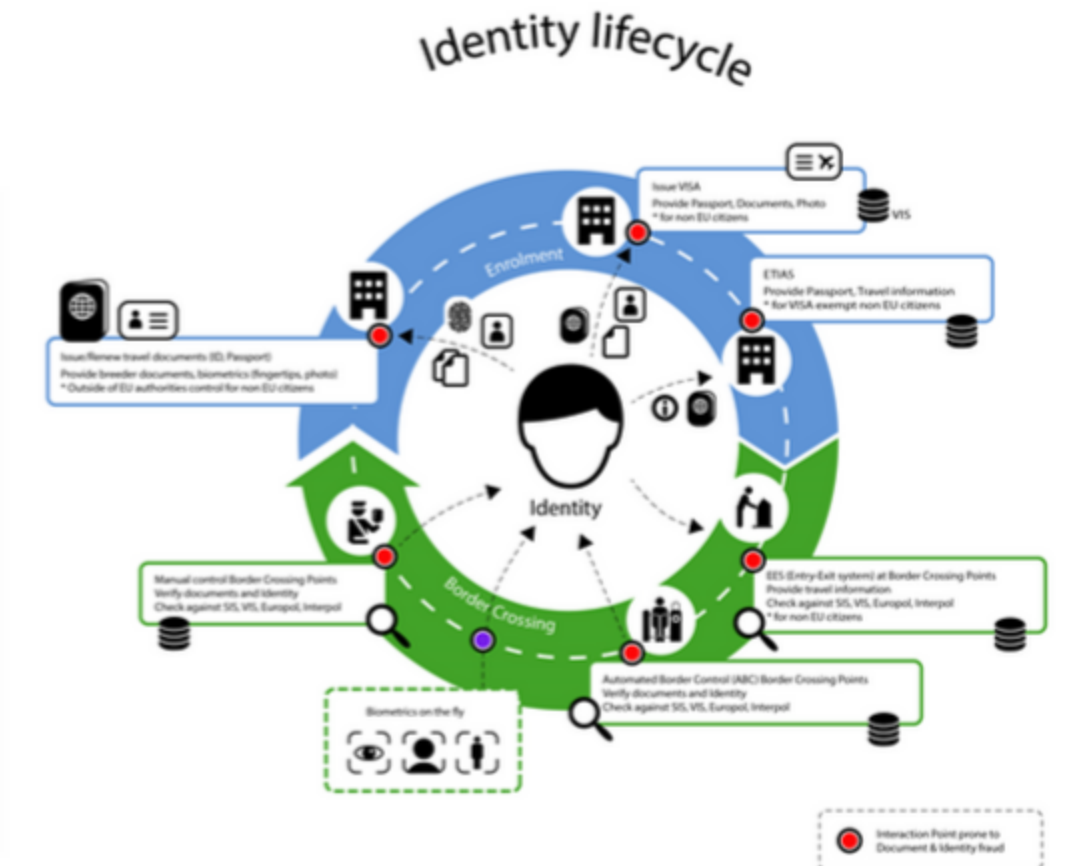
D4FLY biometric technologies

Identifying people on-the-move

- Create biometric datasets (unimodal and multimodal)
- 3D face
  Thermal-to-visible face
  Iris (using light field tech.)
  Somatotype
- Biometric fusion methodology for on-the-move recognition

Initialization | On-The-Move recognition | Fusion

D4FLY biometric technologies

Alternative technologies to identifying people

Smartphone based identification solutions – three innovations
1. Smartphone sensor data analysis
2. Storage and transmission of biometric templates on mobile
3. Mobile app for storing pre-verification data

Blockchain and distributed ledger technology

Biometric cryptosystems and cancellable biometrics

Risk analysis framework based on metadata

e.g. document and biometric checks, smartphone, …

D4FLY biometric technologies

Vulnerabilities and Countermeasures

- Detection
  - Face morphing attacks
  - Presentation attacks
  - Imposter frauds on manual and automatic verification
  - Attacks on IT security
- Development of countermeasures against attacks
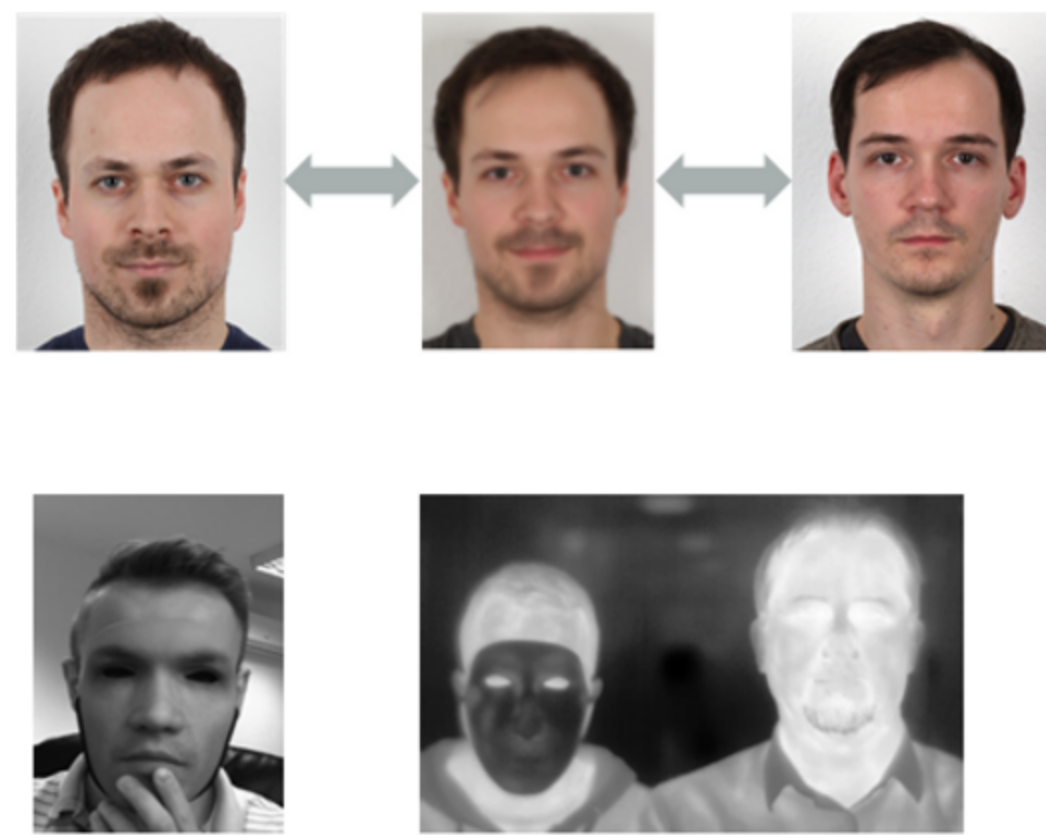
D4FLY Field Tests and Demos

Field/Operational Environment Testing

Enhanced document verification scenario
- Breeder documents – Document issuance
- Travel documents – document verification

Highly automated border post
- Travellers arriving in waves
- High volume of travellers

Land border
- Manual passport controls
- No automated biometric verification systems

Coach scenario
- No fixed post
- Crowded, confined space

D4FLY Consortium

19 partners from 11 countries

Academic research
- University of Reading
- WAT
- NTNU

Applied research
- BPTI
- DEMOKRITOS BALTIC INSTITUTE OF ADVANCED TECHNOLOGY
- Fraunhofer Heinrich-Hertz-Institut
- TRILATERAL RESEARCH
- TNO
- VTT

Industry
- OVD KINEGRAM
- Regula
- raytrix
- VERIDOS

End users
- Immigration and Naturalisation Service, Ministry of Justice and Security
- Royal Netherlands Marechaussee
- Home Office
- ΟΛΠ PIRAEUS PORT AUTHORITY S.A.

VERIDOS

Coordinator

Project Coordinator: Mr. Armin Reuter

Veridos GmbH - Identity Solutions by Giesecke + Devrient and Bundesdruckerei

Truderinger Straße 15
D-81677 Munich / Germany
Tel.: +49 89 4119-7349
mailto: Armin.Reuter@veridos.com

Project start date: 01. September 2019
Project end date: 31. August 2022
Budget/EU funding: € 6 984 727,50