TENSOR TECHNOLOGIES

Face and Person biometrics

Voice biometrics

Fingerprint biometrics

Gait biometrics

Behavioural biometrics

Distributed biometrics data sharing platform

Biometric Data Protection and Privacy

Large-scale Biometric Data Indexing and Privacy

Automation and Scalability of Identity, Intelligence and Investigation

Unlocking criminals' devices using Biometric Data

Responsible and Explainable AI for Fair and Unbiased Biometric Technologies

European Biometric Data Space

TENSOR PILOTS

FINLAND
Unlocking criminal's smartphone devices leading to the extraction of stored biometrics data
@ Ministry of the Interior, Finland
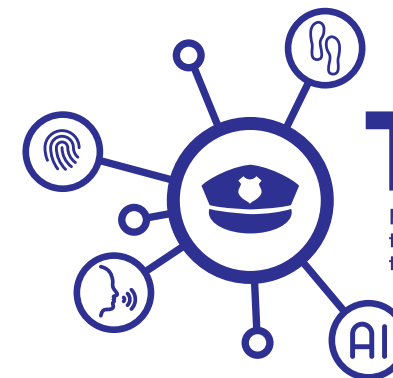
CZECH REPUBLIC
Evidence collection through intelligence derived from correlated physiological and behavioural biometrics based on CCTV footage
@ Police of the Czech Republic

Biometric data protection and secure exchange in a cross-border scenario
@ Ministry of Justice, Portugal

PORTUGAL

TENSOR

Reliable biomeTric tEchNologies to asSist Police authorities in cOmbating terrorism and oRganized crime

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TENSOR OVERVIEW

TENSOR will provide Police Authorities a platform that facilitates the biometric evidence extraction, sharing and storage in cross border environments allowing them to share best practices in an automated, robust, secure, privacy-preserving, and scalable manner. The full potential of biometric technologies will be exploited along with their fusion to strengthen their acceptance in court when partial evidence is gathered from the crime scenes. More particularly, TENSOR will equip security practitioners with novel tools focusing on:

(a) Extraction of biometrics and other distinctive features that will assist police authorities in identification, identity verification, intelligence and investigation processes and can be leveraged to unlock criminals' mobile devices.

(b) Sharing of biometrics through secure, scalable exchange of biometric intelligence and court-proof evidence among police authorities in a cross-border manner, enhancing the interoperability among legacy systems owned by security practitioners and Forensic Institutes.

(c) Storage of biometrics in a privacy-preserving way through a biometric data protection mechanism enabling revocability of biometric templates.

TENSOR will also introduce the one-of-its-kind European Biometric Data Space creating a common ground among police authorities, Forensic Institutes and Security Researchers assisting in the faster adoption of modern biometric solutions.

Start Date
01/01/2023

End Date
31/12/2025

Topic
HORIZON-CL3-2021-FCT-01-05 – Modern biometrics used in forensic science and by police

Total cost
€ 5 739 725

EC funding
€ 4 562 975

TENSOR OBJECTIVES

SUPPORT the forensic investigation through the provision of innovative biometric intelligence and insights

EXPLOIT further the potential of behavioural and physiological biometrics via emerging, privacy preserving and legally compliant technologies enabling the derivation of concrete and robust contextual evidence.

FACILITATE the secure cross-border exchange of biometric data through accountable and sovereign blockchain mechanism, while ensuring interoperability with different legacy systems.

DEMONSTRATE and validate the effectiveness and accuracy of the proposed solutions in three complementary use cases in real settings with the active engagement of several LEAs and Forensic institutes accomplishing at the end of the project a TRL 7 for the entire platform.

ENSURE wide communication of the produced results and the efficient exploitation and business planning of the TENSOR concepts, processes and solutions facilitating their rapid uptake by relevant Police Authorities and Forensic Institutes.

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