

## 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

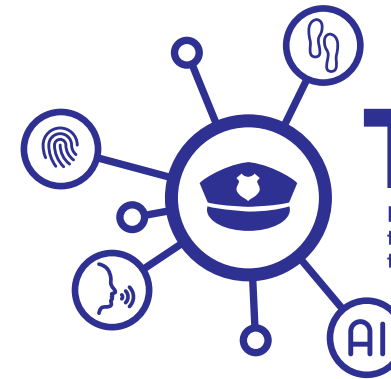


Digital Forensic Extensions allowing Orphan Device Owner Identification

Responsible and Explainable AI for Fair and Unbiased Biometric Technologies



European Biometric Data Space



# TENSOR

Reliable biometric Technologies to assist Police authorities in combating terrorism and organized crime



## TENSOR PILOTS

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

**PORTUGAL**

**FINLAND**

Digital Forensics Extensions allowing Orphan Device Owner Identification  
@ 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

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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.

**Start Date**  
01/01/2023

**End Date**  
31/12/2025

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

**Total cost**  
€ 5 739 725

**EC funding**  
€ 4 562 975

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.
- (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.



TENSOR is co-funded by the EU Horizon Europe research and innovation programme under GA 101073920

## 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.

## CONSORTIUM

