PRESS RELEASE

March 1st, 2023

Improving European investigation capabilities to fight terrorism and serious crime by leveraging the latest advancements in modern biometric technologies

The newly launched TENSOR project is set to enhance public safety in the EU by revolutionising the investigation capabilities of forensic institutes and Police Authorities through the use of emerging biometric technologies. This 3-year innovation action, supported by the Horizon Europe Programme, brings together 20 partners from 15 European countries on the way to accelerate the adoption of modern biometric solutions in law enforcement and create a common ground among security practitioners and researchers by introducing the one-of-its-kind European Biometric Data Space.

Biometrics address a longstanding concern to prove one's identity, irrefutably, by using what makes a person unique. Over the past few years, biometrics have transitioned from a novel technology to being an essential part of daily life, as more and more people leverage biometric authentication techniques to gain access in devices (mobile phones) and services (e-banking). Today, biometric identification is being combined with other advanced technologies such as behavioural detection, emotion recognition, and brain-computer interfaces to serve an array of purposes, including healthcare, law enforcement, and border control.

In the law enforcement domain, the undisputable power of biometrics is being fully harnessed by Police Authorities and forensic investigators who have been relying since the 1980s on the Automated Fingerprint Identification Systems (AFIS) to tackle global terrorism, criminality, and illegal migration. However, matching the evidence - often smudged, incomplete, or deposited on top of other markings - with complete prints on file in AFIS databases is not a simple task. To overcome this, recently forensic investigators have resorted to the combination of multiple biometric modalities such as fingerprint and voice biometrics.

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 biometrics technologies will be exploited, as well as their fusion with less distinctive features (e.g., shoemarks) in case of partial evidence gathered in the crime scenes by forensic experts, strengthening their acceptance in court. In TENSOR, lawful evidence derived from CCTVs (face, gait, voice), mobile devices (behavioural patterns) and fingerprints, will be combined with more or less distinctive features towards accurate and multimodal identification and criminal identity verification. Through novel smart contracts operating over an accountable and sovereign blockchain infrastructure, a trusted environment with self-learning capabilities will be created to check the integrity and detect the anomalies in the extracted forensic evidence once these have been shared by the participating agencies.

At the heart of the TENSOR project lies the creation of a unique European Biometric Data Space, which will enable seamless sharing of biometric data between stakeholders, allowing for faster and more accurate identification of suspects. This new paradigm aims to revolutionise investigation capabilities, helping law enforcement agencies to more effectively combat serious crime and terrorism.

Through active collaboration of security stakeholders, TENSOR's developments will be extensively evaluated in real-life settings, in three (3) different European countries, considering different operational procedures and diverse environments. Three pilot studies will take place in Czech Republic, Finland, and Portugal with the participation of a wide range of stakeholders and citizens. The targeted use cases have been carefully selected to demonstrate the innovation potential of TENSOR solutions and their applicability in different operational environments and procedures across Police Authorities and forensic institutes. The foreseen scenarios include (a) evidence collection through intelligence derived from correlated physiological and behavioural biometrics (more or less distinctive) based on CCTV footage, (b) unlocking criminals' smartphone devices leading to the extraction of the stored biometrics data and other lawful evidence, and (c) the biometric data protection and secure exchange in a cross-border scenario.

The consortium has kicked-off the project's activities with the official Kick-Off Meeting that took place on February 1-2 2023, welcoming over 40 participants. **Netcompany-Intrasoft** is proud to lead the consortium of 20 partners across 15 European countries, serving as the project coordinator and system integrator. Through this collaborative effort, we aim to bring together the diverse skills and expertise of our partners to successfully execute the project and achieve its objectives and deliver a seamless and efficient project outcome: a sustainable and comprehensive biometric ecosystem that will help protect EU citizens from the threats of serious crime and terrorism.

TENSOR Fact Sheet

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

Consortium
20 partners from 15 countries
- 5 x RTOs
- 5 x Police Authorities & forensic institutes
- 3 x large industries
- 7 x SMEs

Funding
- TENSOR has received € 4 562 975 from European Union's Horizon Europe research and innovation programme under grant agreement No 101073920 (Total cost: € 5 739 725).

Dates
- Start Date: January 1st, 2023
- End date: December 31st, 2025
- Duration: 36 months

Pilots
- Evidence collection through intelligence derived from correlated physiological and behavioural biometrics based on CCTV footage
  @ Police of the Czech Republic
- Unlocking criminal's smartphone devices leading to the extraction of stored biometrics data
  @ Ministry of the Interior, Finland
- Biometric data protection and secure exchange in a cross-border scenario
  @ Ministry of Justice, Portugal

TENSOR Partners

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