

Netcompany

OrbIntel*:

An on-premise, domain-specific LLM solution for enhanced investigative processes

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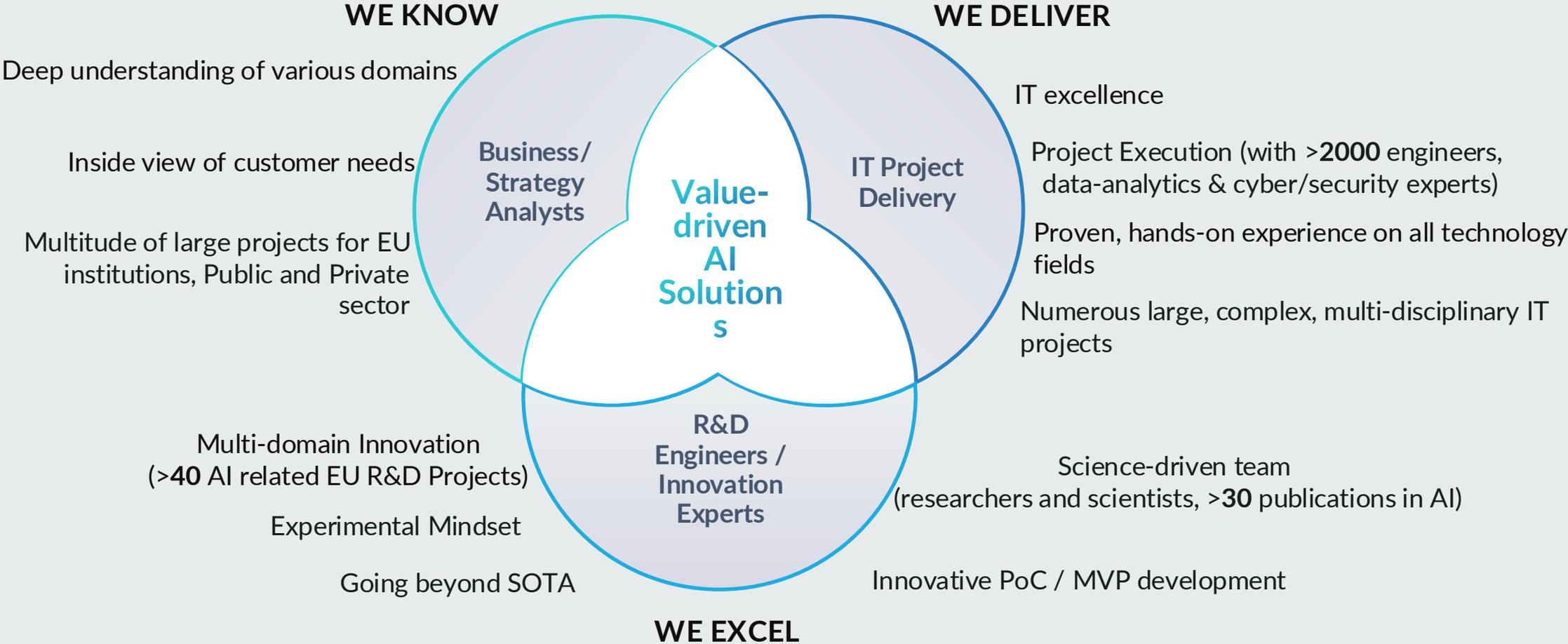
*Intelligence that orbits around a specific domain and specific infrastructure providing comprehensive insight and support

Netcompany-Intrasoft at a glance

- ❑ A leading IT Solutions & Services Company
- ❑ Established in 1996
- ❑ Operating in 13 countries
- ❑ Key player in EU Institutions for over 25+ years
- ❑ Outstanding record of 500+ organizations in 70+ countries, that have chosen our solutions and services
- ❑ INTRASOFT International was acquired by Netcompany in November 2021 and rebranded as Netcompany-Intrasoft in January 2022



Netcompany-Intrasoft at a glance

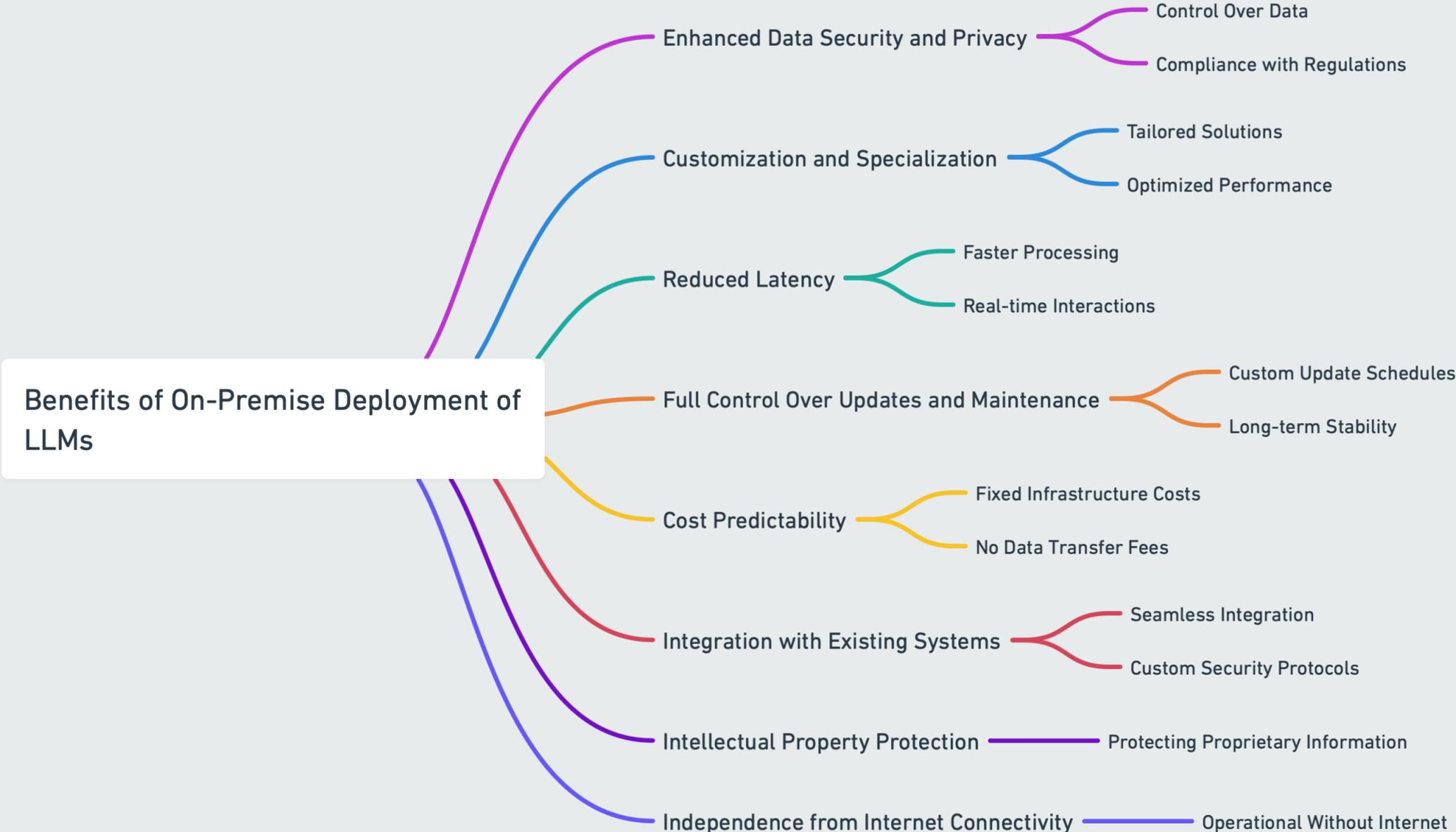


Towards On-Premise LLM Implementations

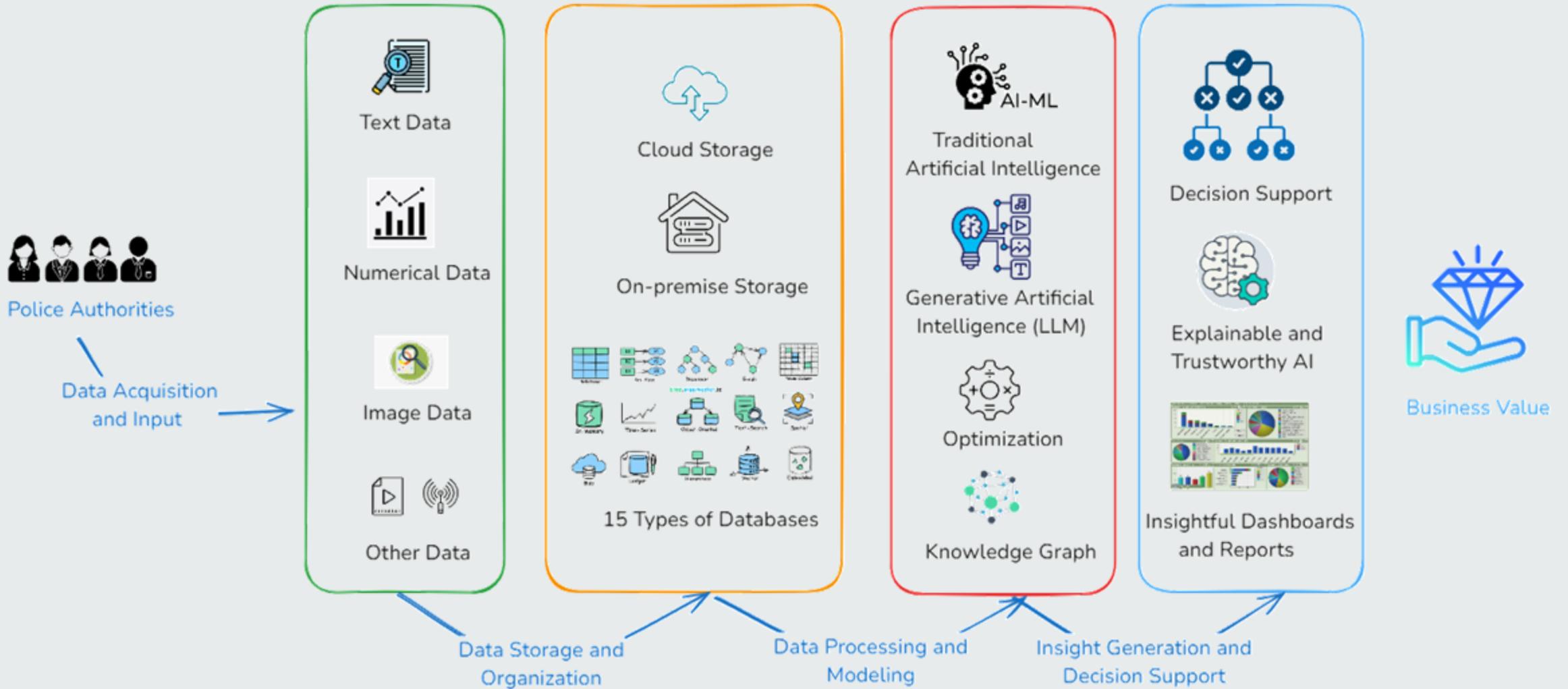
LLMs as a powerful tool in border and security operations

- ❑ LLMs can **analyze** vast amounts of structured and unstructured data, identifying potential threats, suspicious patterns and emerging risks in real-time, allowing for proactive border security measures.
- ❑ LLMs **streamline** data processing from various sources, such as social media, open-source intelligence, surveillance systems, etc., to provide actionable insights and speed up intelligence gathering.
- ❑ LLMs can assist **in identifying anomalies** in travel documents, visa applications and identification records, enhancing fraud detection and reducing the risk of unauthorized entry.
- ❑ LLMs' deep understanding of multiple languages can facilitate communication and **intelligence sharing** among agencies in different countries, aiding cross-border operations and coordination.
- ❑ LLMs offer security practitioners quick **access** to relevant information and recommendations, enabling informed decision-making and better allocation of resources.
- ❑ LLMs can support **risk profiling** by integrating historical data and current trends, aiding in the identification of high-risk cargo, thereby enhancing the efficiency of screening processes.
- ❑ LLMs can serve as **training** aids for new security personnel, providing them with procedural knowledge, real-time updates, and scenario-based learning, ensuring knowledge continuity and improving preparedness.

Towards On-Premise LLM Implementations



LLM for Security Practitioners



OrbIntel

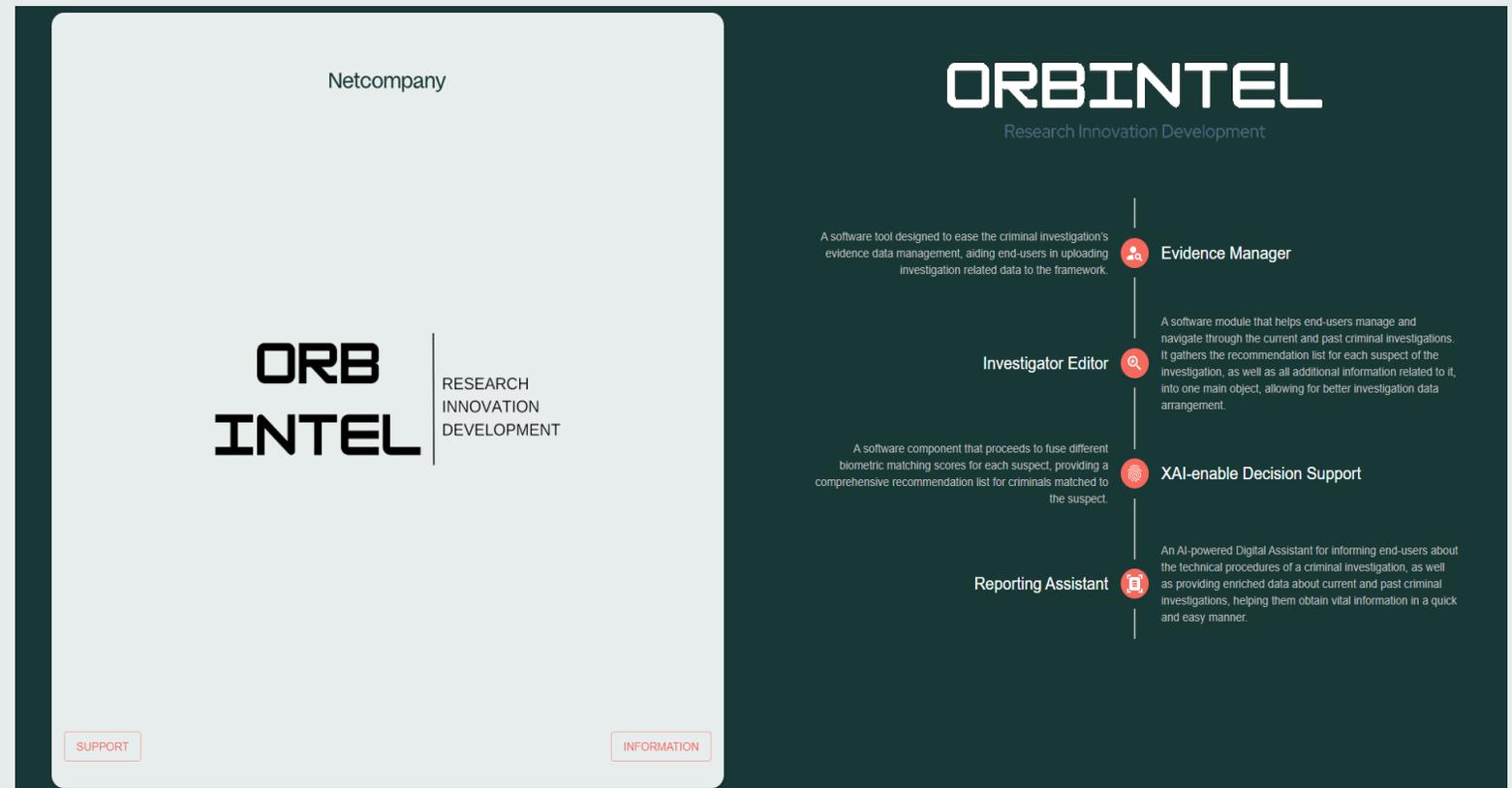
AI-powered Virtual Assistant for Law Enforcement Agencies (LEAs)

Orbintel – Key functionalities

- Leverages the capabilities of an offline Large Language Model (LLM) enabling real-time communication with LEA officers and enhancing the investigation process
- Acts as a digital assistant offering interactive content and vital information in natural language
- Assists in managing the overwhelming volume of data generated in a daily basis (witness statements, forensic reports, digital evidence, etc.)
- Identifies patterns, connections and anomalies that might not be immediately apparent to LEA's personnel
- Improves data analysis and information sharing, assisting LEAs and relevant stakeholders to respond more effectively to security challenges
- Ensures compliance with the European Union's AI Act and guidelines for responsible AI usage.

Orbintel's User Interface

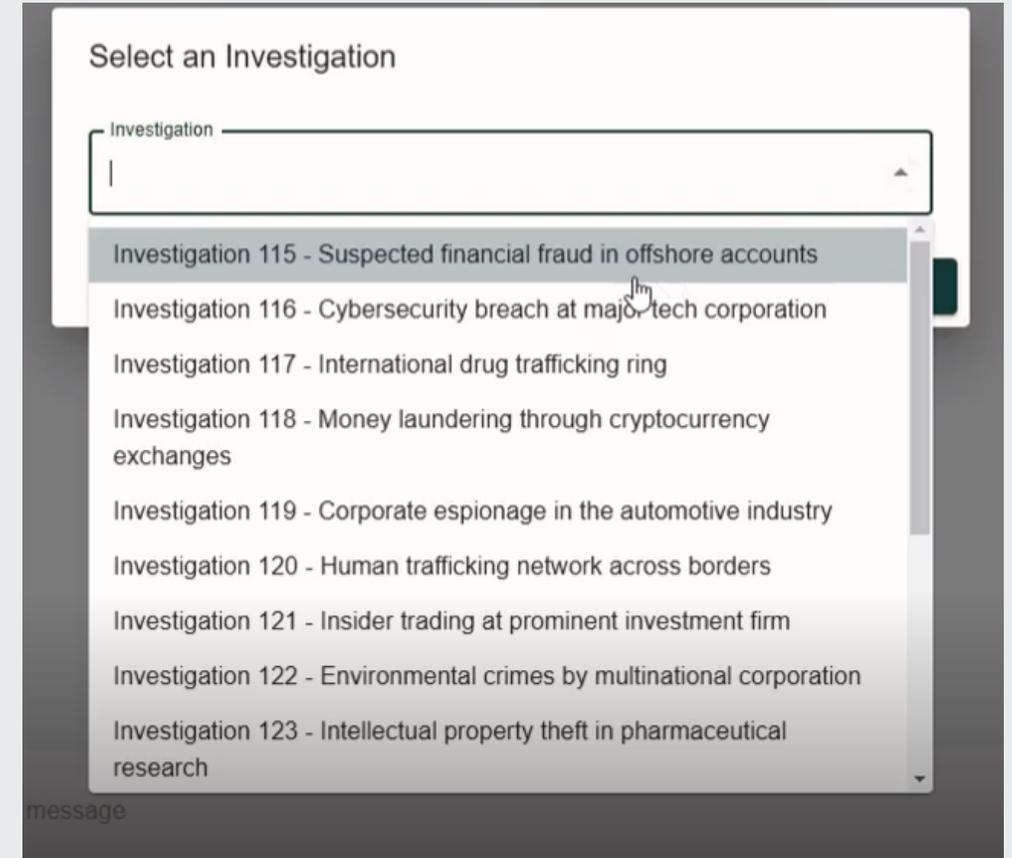
- ORBINTEL consists of four main components:
 - **Evidence Manager**, facilitating the criminal investigation's evidence data management.
 - **Investigation Editor**, helping end-users manage and navigate through the current and past criminal investigations.
 - **XAI-enabled Decision Support**, providing an explainable recommendation list for criminals matched to the suspect
 - **Reporting Assistant**, providing enriched data about current and past criminal investigations



Orbintel's Investigation Editor

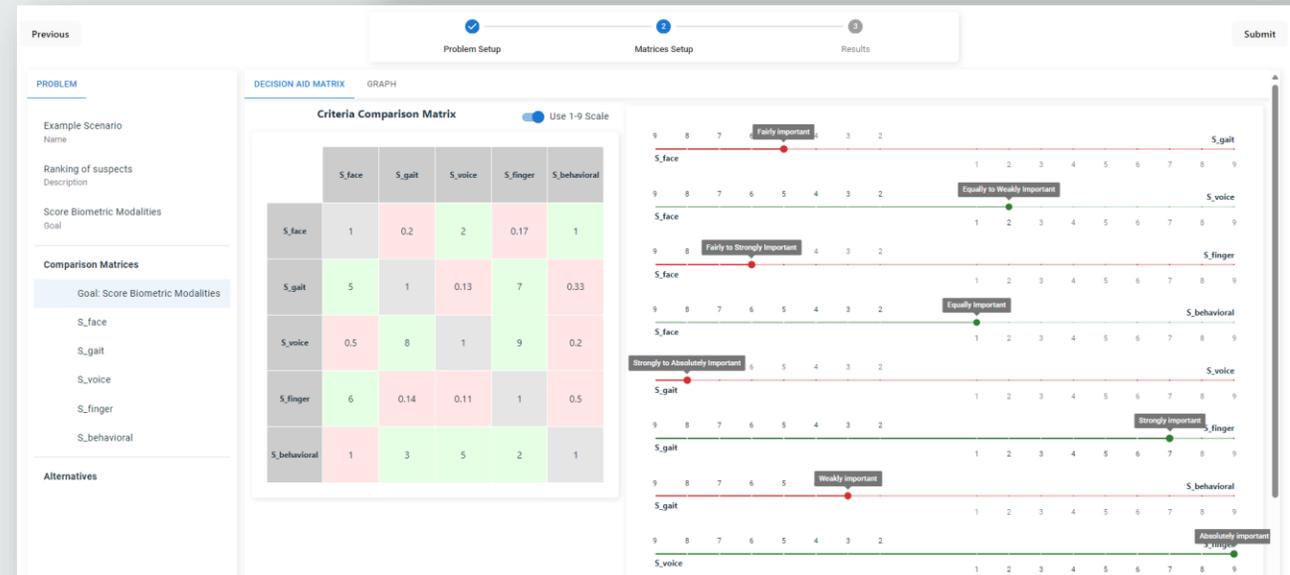
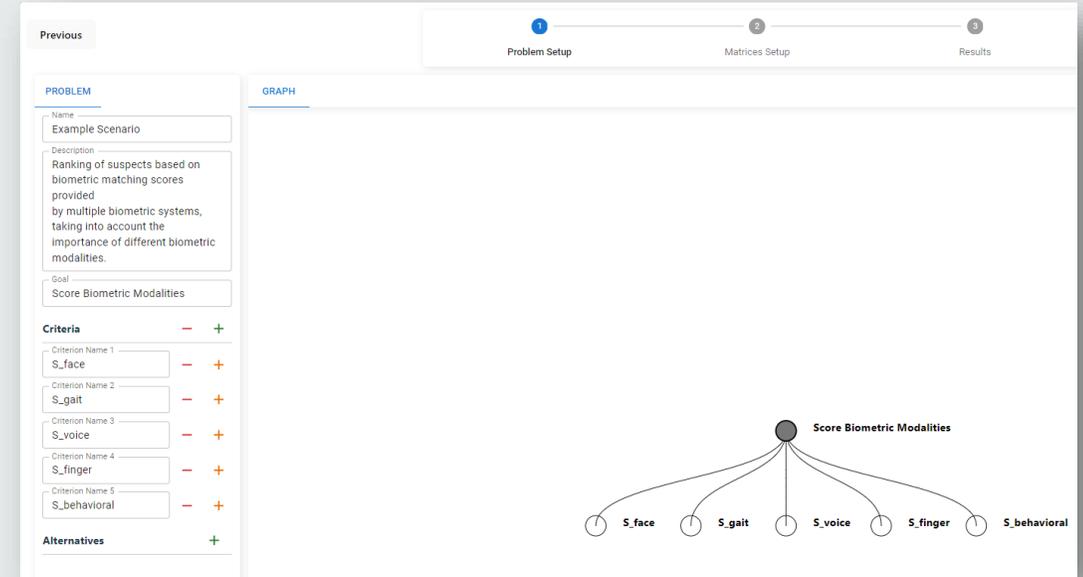
■ Investigation Editor:

- assists end-users in managing and navigating through current and past criminal investigations.
- collects the recommendation list for each suspect, as well as all additional information related to the investigation.
- integrates the findings of the XAI-enabled **Decision Support** module, with the evidence collected by the **Evidence Manager**
- interacts with users through the Reporting Assistant's UI.

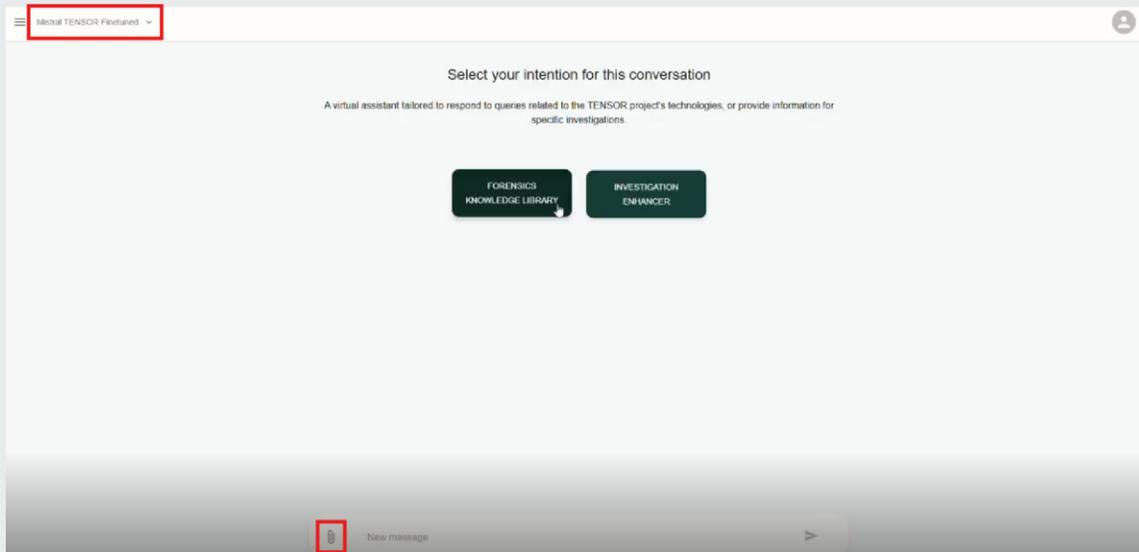
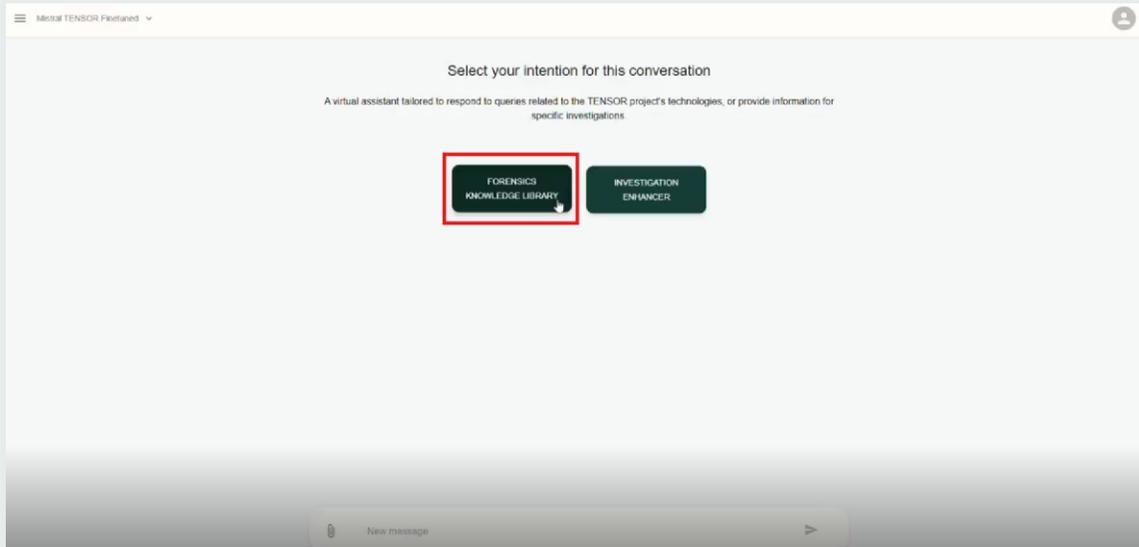


Orbintel's eXplainable AI Decision Support

- Decision Support:
 - helps users to define multi-criteria decision-making problems in a hierarchical structure
 - allows them to include preferences and score/rank criteria and alternatives.
 - fuses different biometric matching scores for each suspect
 - provides a comprehensive recommendation list for criminals matched to the suspect.



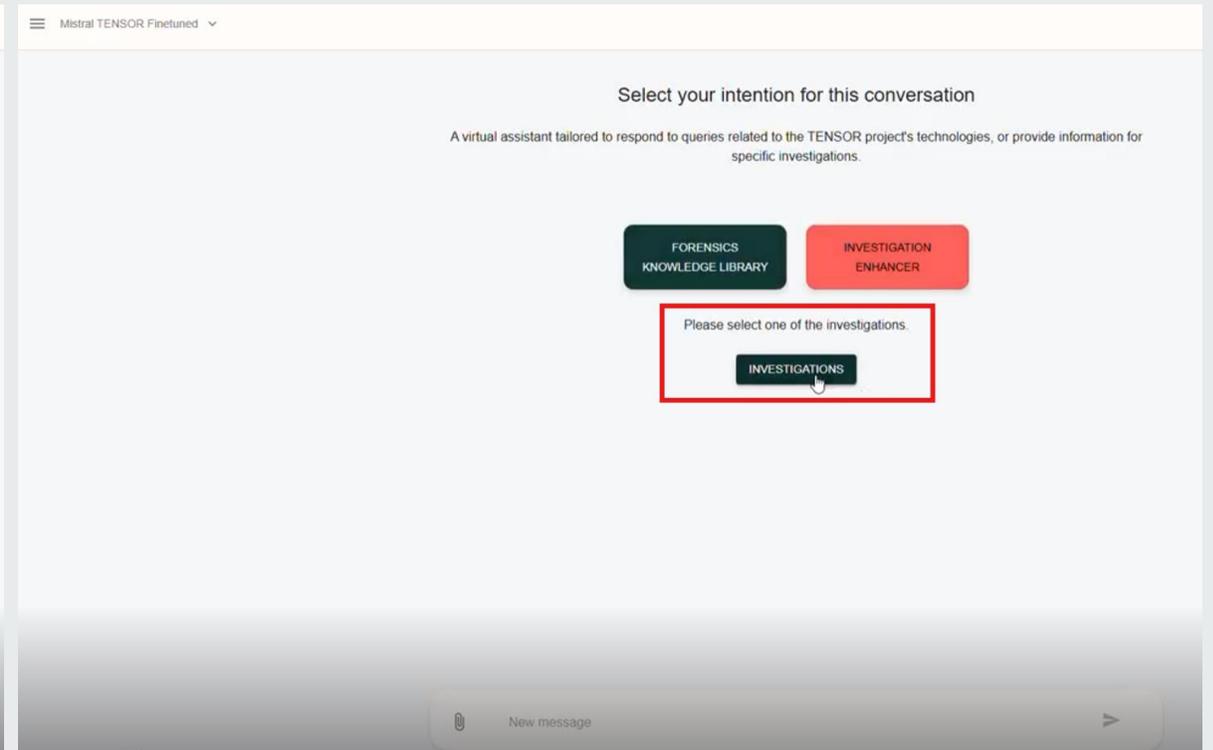
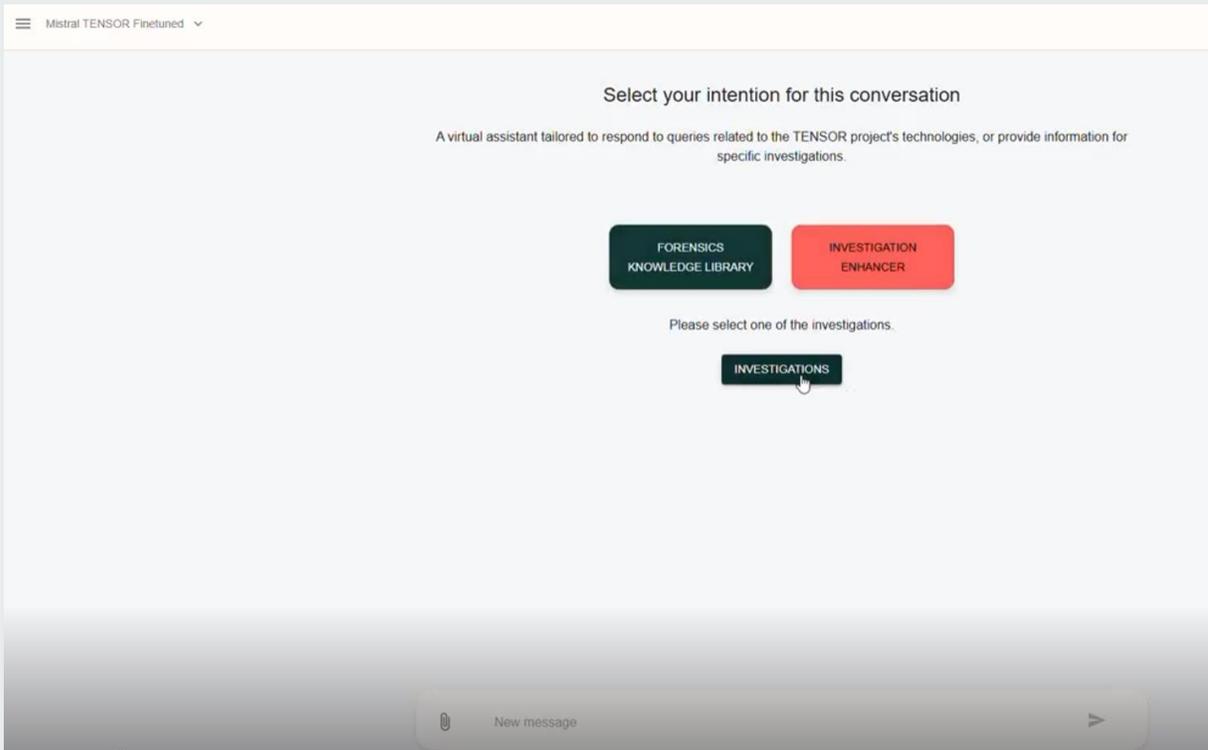
Orbintel's Reporting Assistant



- Reporting Assistant:
 - informs end-users about the technical procedures of a criminal investigation
 - helps end-users understand several aspects of how some software solutions operate (Forensics Knowledge Library).
 - provides end-users with enriched data about current and past criminal investigations.
 - assists them in obtaining vital information in a quick and easy manner (Investigation Enhancer).

■ Use-Case Scenario:

- ❑ Law Enforcement Agents might have questions on how biometric traits are extracted from a suspect, or how criminal recommendations are actually being made. The Reporting Assistant is able to accurately respond to all such questions.
- ❑ Instead of having to read complex documentations and guidelines for sophisticated forensics software solutions, end-users will be able to conduct conversations with ORBINTEL's Reporting Assistant.





Select your intention for this conversation

A virtual assistant tailored to respond to queries related to the TENSOR project's technologies, or provide information for specific investigations.

FORENSICS
KNOWLEDGE LIBRARY

INVESTIGATION
ENHANCER

Select an Investigation

- Investigation 115 - Suspected financial fraud in offshore accounts
- Investigation 116 - Cybersecurity breach at major tech corporation
- Investigation 117 - International drug trafficking ring
- Investigation 118 - Money laundering through cryptocurrency exchanges
- Investigation 119 - Corporate espionage in the automotive industry
- Investigation 120 - Human trafficking network across borders
- Investigation 121 - Insider trading at prominent investment firm
- Investigation 122 - Environmental crimes by multinational corporation
- Investigation 123 - Intellectual property theft in pharmaceutical research



New message





Select your intention for this conversation

A virtual assistant tailored to respond to queries related to the TENSOR project's technologies, or provide information for specific investigations.

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INVESTIGATION
ENHANCER

Selected Investigation:

Investigation 118 ✕

Generate Narration

Analyze Top Matched Criminals ✕

Explain which matched criminal has the highest Face score

Summarize investigation findings



New message



Orbintel – Demo Video

Mistral TENSOR Finetuned ▾

Select your intention for this conversation

A virtual assistant tailored to respond to queries related to the TENSOR project's technologies, or provide information for specific investigations.

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INVESTIGATION
ENHANCER

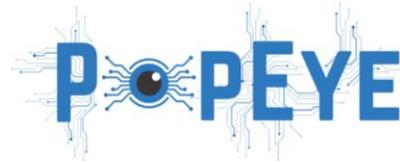
📎 New message ▶

Acknowledgment

TENSOR – (HEU, GA: 101073920) Reliable biomeTric tEchNologies to asSist Police authorities in cOmBating terrorism and oRganized crime



PopEye – (HEU, GA: 101168317) robust Privacy-preserving biOmetric technologies for Passengers' identification and verification at EU external borders maximising the accuracY, reliability and throughput of the rEcognition



SafeTravellers – (HEU, GA: 101121269) Secure and Frictionless Identity for EU and Third Country National Citizens



References

A. Nikolakopoulos *et al.*, “Large Language Models in Modern Forensic Investigations: Harnessing the Power of Generative Artificial Intelligence in Crime Resolution and Suspect Identification,” *5th IEEE International Conference in Electronic Engineering, Information Technology & Education (EEITE)*, Chania, Greece, 2024, pp. 1-5, doi: 10.1109/EEITE61750.2024.10654427.



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