European Identity THeft Observatory System

a testimonial by

Vrije Universiteit Brussel – Cyber & Data Security Lab (CDSL)

Background context

In recent years, online identity theft (OIDT) related frauds have increased at an extremely fast pace. This can be attributed to the extensive use of online platforms to support many of our daily activities at personal and professional level, as well as the introduction of new technologies and sophisticated tools which facilitate criminals to commit their frauds in online environments. As a result, EU citizens feel less confident about their capacity to stay safe online. As yet, Member States (MS) have not agreed upon a common approach for the identification of OIDT crimes, and there is no central referral mechanism to report such crimes at the European level. Additionally, besides the European Union Agency for Cybersecurity (ENISA), there is no centralised point in Europe for providing OIDT and cybercrime-related information and intelligence, to advise EU citizens about the sensitivity of their personal information and ways to be secure and stay safe online.

The EITHOS project

Against this background, in response to call HORIZON-CL3-2021-FCT-01-12 *[Online identity theft is countered]*, the EITHOS project aims to develop a "European Identity Theft Observatory System" (EITHOS), empowering EU citizens, Law Enforcements Agencies (LEAs), and policy makers to further contribute to the prevention, detection, and investigation of crimes related to OIDT. EITHOS is a 36-month project (October 2022 - September 2025), funded by the European Union's Horizon Europe research and innovation programme under grant agreement number 101073928.

The overarching goal of the EITHOS project is to build a system for OIDT information and intelligence in Europe for both citizens and LEAs. To this end, the EITHOS consortium strives to achieve the following objectives:

a. inform and educate European citizens through the observatory itself and via innovative awareness campaigns, regarding the safety of their personal data and identity;
b. identify and address challenges that police authorities face against OIDT and develop a robust software toolset for detecting fake media to support them and enhance their investigations.

The proposed system will provide easy access to information and intelligence about previous and current identity theft related trends (such as the methods that fraudsters follow to steal information, personal data protection, or the ways that victims can be supported) through its front end, while offering

a cutting-edge AI-based technological toolkit via its back end. Additionally, the project will analyse the societal impact of identity theft, as well as the legal framework under which the utilisation of AI remote technologies and e-evidence exchange can be achieved. Focusing on educating civil society and addressing the obstacles that hinder LEAs to efficiently fight identity theft, EITHOS differentiates from previous projects which often concentrate on digital identity management and secure transactions.

On the question of practical implications of EITHOS as a project, **Prof. Vagelis Papakonstantinou**, coordinator of the VUB Cyber & Data Security Lab (CDSL), replied: "*OIDT research is still unexplored when it comes to the precise structure of the response system, its key actors and their interactions. Research has indeed highlighted the emotional repercussions of identity crime, and that these are largely misunderstood by the criminal justice system and the community at large. Yet, affected individuals are more often met with dismissal rather than treated as genuine crime victims worthy of support*".

The Observatory

The observatory will be an online, centralised portal (gateway) containing all available information about OIDT protection in Europe. This includes information that is already known, as well as newly identified information during the project's trajectory over the months. The information will be relevant to different contexts around OIDT, such as: (i) different methods used by criminals to steal personal information online; (ii) various techniques and strategies people can use to protect their data from being stolen; (iii) trends regarding OIDT and cybercrime (e.g. statistics about the usage of a specific malware, victim demographics); (iv) where to seek victim support; (v) engage citizens in providing feedback about the observatory and victims for describing their experiences.
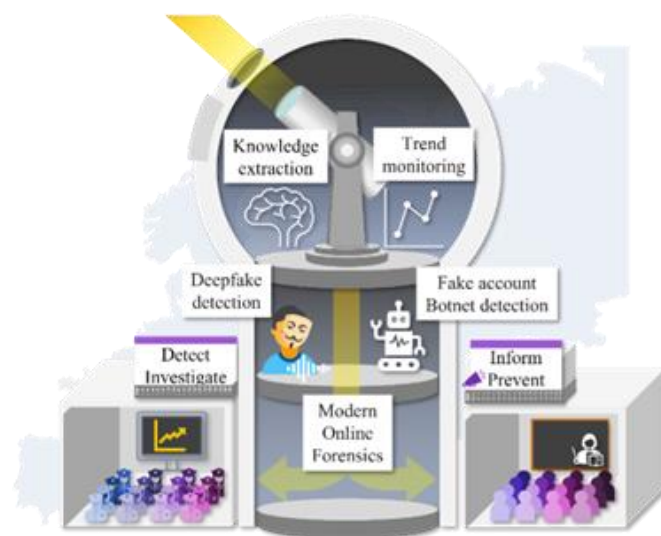

Fig. 1: The EITHOS Observatory concept

The Consortium

The EITHOS consortium is a multidisciplinary team that comprises 12 partners in five countries (Belgium, Greece, Italy, Spain, and Sweden), representing four types of stakeholders (Research Organisations, Law Enforcement Agencies, Technology Providers, Industry-Research-End-User Forum). The EITHOS project is led by the Centre for Research and Technology Hellas (CERTH).

VUB-CDSL in EITHOS

The Cyber and Data Security Lab (CDSL) is part of the internationally renowned research group on Law, Science, Technology and Society (LSTS), within the Faculty of Law and Criminology, at Vrije Universiteit Brussel (VUB). VUB-CDSL is at the forefront of the rapidly growing field of cybersecurity and information security law and policy, investigating the relationship between EU laws and policy on cybersecurity, privacy and data protection and the use of cutting-edge technologies in the wider context of law enforcement and the criminal justice system.

As a research group, we envisage to set a new paradigm in the domain of information security, with legal and ethical considerations built-in as integral parts of the process, in line with the 'by-design' and 'by-default' principles, ensuring that citizens have confidence that technology not only achieves required security objectives, but doesn't undermine fundamental rights, societal values, or legal protections of privacy. Evidently, our mission and vision is perfectly aligned with the objectives of the EITHOS project. Our role in the project entails: (i) ensure that research activities carried out by the partners adhere to legal requirements and ethical standards; (ii) examine current procedures of electronic evidence collection and exchange in the context of identity related crimes in online environments; (iii) identify and assess regulatory and ethical risks of the investigatory tools developed in EITHOS. Our contribution to the project includes the delineation of EITHOS' Data Management Policy, monitoring data processing activities within the project and the identification of legal frameworks applicable to the investigation of OIDT related crimes.

A key challenge encountered at the early stages of the project had been the lack of a semantic harmonisation of frequently used concepts in the field, such as the very notion of Online Identity Theft (OIDT), Deep/Dark/Web, or electronic evidence. While recognising their usefulness for illustrating a major problem affecting our societies, we have stressed how the use of these terms is not optimal when used in the context of a criminal proceeding. As an example, by looking into the typology of offences related to identity taking place online, we have observed that the term "online identity theft" might not be the best suited to adequately embrace all criminological angles of the problem. At the same time, the evidence required by competent authorities investigating different offences requires of a more specific treatment as well.

According to **Sergi Vazquez Maymir**, VUB-CDSL lead researcher in EITHOS, the added value of participating in such a project is "[…] *the opportunity to collaborate first hand with law enforcement authorities involved in criminal proceedings, which offers a great opportunity to grasp the empirical side of identity related crimes online. At the same time, supporting technical partners responsible for the development of the EITHOS toolbox, enabled our group to bring data privacy and ethics assessments into the design of innovations solutions that might soon be deployed at wider scale in society*".

VUB-CDSL, August 2024