



INTERPOL

# INNOVATION SNAPSHOTS

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For contributions: IC-Snapshots@interpol.int

## SCAMETER: HONG KONG'S INITIATIVE FOR FRAUD PREVENTION

Scameter is a platform developed by the Cyber Security and Technology Crime Bureau of the Hong Kong Police Force, China. The development of Scameter, which has recently been upgraded to Scameter+, is part of their fraud prevention initiative. Scameter is both an application and a website where a user can input a link, social media username, or email address for verification. The platform will then identify if the inputted material has been reported in a scam case, as well as the risk level associated with that information. It has now been upgraded with the functions of Call Alert and Website Detection, which can automatically compare calls and websites against the scam database with information that has been reported as a scam.

The goal of Scameter is to mitigate

fraud in Hong Kong and protect users from being scammed. Once a scam is reported, the information used for that scam is added to the database, so the next user can be informed about the risks associated. This initiative provides users with knowledge and empowers them to cross-check any activity that raises a question. Scameter simplifies the process of acquiring information about scams by promoting knowledge sharing, raising awareness, and centralizing scam reporting.

By preventing reported information from being easily reused, Scameter aims to disrupt fraud operations, particularly AI-related scams in Hong Kong.

This initiative aligns with the Innovation Centre's broader exploration

of AI and crime, with related topics discussed in ongoing IC Virtual Discussion Rooms.



Sources: <https://www.scmp.com/news/hong-kong/law-and-crime/article/3253145/new-fraud-victim-every-13-minutes-hong-kong-police-scameter-app-upgraded-send-pop-alerts-amid-hk55>;

<https://www.police.gov.hk/offbeat/1251/eng/9023.html>

## COMBATTING DEEPFAKES WITH THE SCIENCE OF MICRO EXPRESSIONS

European law enforcement is pioneering technology to combat the growing threat of deepfakes, particularly in the areas of identity theft, fraud, and extortion. The European Identity Theft Observatory System (EITHOS) is developing innovative tools to help police detect synthetic media. EITHOS is a collaborative project that brings together law enforcement agencies, research institutions, and technology companies to develop a range of tools to combat online criminal activities. These tools include deepfake detection for both video and audio, analysis of social media botnets involved in phishing, and the extraction of data from online platforms where deepfake technologies are discussed.

EITHOS is supported in this initiative

by Herta Security, which uses an approach rooted in the science of micro expressions to detect deepfakes. Micro expressions, such as the way people naturally blink or smile, are difficult for deepfake technology to imitate, making them a consistent indicator of manipulated content. Herta's solution focuses on comparing facial expressions in suspected deepfake videos with authentic footage of the same individual. By analysing involuntary micro expressions, the tool flags inconsistencies in natural behaviour, making it easier to spot synthetic media. This approach draws from Herta's previous work with Spain's National Police, where they used similar technology to study suspect and victim behaviour during interrogations.

Currently in its trial phase, the

deepfake detection software is being tested by law enforcement in Sweden, Greece, and Spain. The EITHOS team anticipates that the tools will be accessible to police forces by 2025 to help address the challenges of rapidly evolving deepfake techniques, and support law enforcement's toolkit in this area.



Sources: <https://www.biometricupdate.com/202410/eu-has-an-innovative-new-way-of-fighting-against-deepfakes>

## SNIFFING OUT CRIME: GIANT RATS TO THE RESCUE IN ILLEGAL WILDLIFE TRADE

Could we soon be using the world's largest rats to detect the world's most commonly traded illegal wildlife products? A pioneering study by researchers at Anti-Personnel Landmines Detection Product Development (APOPO) has led to the latest innovation in applied forensic zoology. Researchers at APOPO, a Tanzania-based non-profit organization that specializes in training African giant pouched rats (*Cricetomys ansorgei*) to detect various objects/substances for humanitarian purposes, have now trained these rats to identify the scents of four commonly trafficked wildlife goods, including endangered animal parts (i.e. pangolin scales, elephant ivory, and rhinoceros horn), as well as African blackwood. Even when these flora and fauna contraband have been concealed among 146 other substances (e.g. coffee beans, electric cables, and washing powder) that are frequently used by traffickers to mask the scents, these rats, dubbed "HeroRATs" by APOPO, have been able to demonstrate a high rate of accurate detections while successfully ignoring the non-target materials.

The rats underwent several stages of training, including training to learn to hold their noses for several seconds in a hole where the target scent is

placed. Rodent pellets were used as rewards for the rats after successfully identifying a scent.

The study also showed that after five to eight months without exposure to these smells, the rats still retained a near-perfect ability to recognize and detect them well. This bears a remarkable similarity to the cognitive ability of dogs in remembering specific smells, which is unsurprising given that these rats have extensive olfactory receptors and bulbs. Although typically used by border patrol for their scent detection capabilities, dogs are noticeably more costly and time-consuming to train, and require trained handlers to control. Though the need for certain species may impact scalability, rats have a low up-front purchase cost in addition to a low cost of food, housing, and maintenance.

Illegal wildlife trade is a complex, transnational crime that poses a serious threat to natural habitats and biodiversity. Current methods to screen and detect wildlife, such as X-ray scanning, are expensive and time-consuming. Scent detection using these agile animals is an innovative solution to detect illicit wildlife products as concealment methods become more sophisticated. Rats, in particular, are a cost-effective resource that can be trained quickly,

making these mammals easy to employ in constrained operational environments like tightly packed cargo in shipping containers.



Sources: [https://www.frontiersin.org/news/2024/10/30/giant-rats-fight-illegal-wildlife-trade?utm\\_source=facebook&utm\\_medium=Social&utm\\_content&utm\\_campaign=imp\\_scipr\\_11-24\\_fcosc\\_en\\_wvis-ww\\_](https://www.frontiersin.org/news/2024/10/30/giant-rats-fight-illegal-wildlife-trade?utm_source=facebook&utm_medium=Social&utm_content&utm_campaign=imp_scipr_11-24_fcosc_en_wvis-ww_) ;

<https://www.discoverwildlife.com/environment/rats-trained-to-fight-illegal-wildlife-trade-africa> ;

<https://www.frontiersin.org/journals/conservation-science/articles/10.3389/fcosc.2024.1444126/full> ;

<https://www.smithsonianmag.com/smart-news/these-giant-vest-wearing-sniffer-rats-could-help-combat-the-illegal-wildlife-trade-scientists-say-180985364/> ;

INTERPOL Environmental Security Programme.

## PERUVIAN NATIONAL POLICE'S VIRTUAL SHOOTING RANGE

In a commitment to modernize their training systems, the Peruvian National Police recently launched the use of a virtual shooting range, which allows officers to improve their shooting techniques, precision, concentration, response capacity, and verbalization, in order to efficiently carry out their work for the benefit of public safety, within the framework of respect for human rights.



The virtual shooting simulator, which has a capacity for five firing lines in an aligned configuration, will economically benefit the police institution, as it will not be necessary to purchase ammunition for staff training. Moreover, the virtual shooting environment does not require maintenance as a traditional shooting range.

Peru's Minister of Interior expressed the need to keep up with technological developments and advancements, so that law enforcement can be sufficiently prepared to confront organized crime more efficiently.

Sources: <https://www.gob.pe/institucion/mininter/noticias/1003067-ministro-santivanez-inauguro-poligono-de-tiro-virtual-mas-moderno-de-latinoamerica-en-escuela-pnp-de-puente-piedra> ;

<https://www.infodefensa.com/texto-diario/mostrar/4960941/policia-nacional-peru-inaugura-poligono-tiro-virtual> ;

[https://www.instagram.com/reel/C-0aP9AMK40/?utm\\_source=ig\\_web\\_button\\_share\\_sheet](https://www.instagram.com/reel/C-0aP9AMK40/?utm_source=ig_web_button_share_sheet)



## REVOLUTIONIZING DECEPTION DETECTION DURING SUSPECT QUESTIONING

Recent advancements in machine learning technology are opening new possibilities for artificial intelligence (AI) to transform how law enforcement agencies approach suspect interviews. Current investigative interviewing practices place immense cognitive demands on investigators, who must possess a high level of skill to detect subtle cues of deception, such as fleeting micro expressions or minute changes in pupil dilation, during the questioning. AI, on the other hand, may outperform officers at capturing and interpreting these cues in real time. For instance, deceptive speech often correlates with specific vocal changes, such as pitch elevation or altered patterns, which AI-driven linguistic models can identify with remarkable precision.

Pilot studies have shown that AI systems such as AVATAR (Automated Virtual Agent for Truth Assessments in Real-Time) and iBorderCtrl are capable of detecting signs of deception with accuracy levels ranging from 80-85%. AVATAR has been tested by the Canada Border Services Agency, at a United States border port in Nogales, Arizona, and at an airport in Bucharest, Romania. Meanwhile, iBorderCtrl has been trialed for border security

in Hungary, Latvia, and Greece. These systems achieve their results by analysing facial micro expressions, pupil dilation, and changes in voice pitch and surpass not only human cognitive limits but also traditional lie detection methods, such as polygraphs, by analysing large datasets to identify nuanced deception patterns.

Similarly, commercial companies worldwide are also developing innovative solutions in this area. For example, Tobii Pro Spectrum utilizes high-speed cameras for precise eye-tracking studies, while Silent Talker leverages neural networks to analyze nonverbal behaviors, including blinking patterns and micro-expressions. At the same time, EyeDetect is being adopted by over 50 law enforcement agencies across the United States for employee screenings and investigations, offering a complementary tool for detecting dishonesty. In the state of Georgia, police agencies have also incorporated EyeDetect to assist in solving violent crimes.

While these novel technologies are paving the way for a new era in law enforcement investigative capabilities for extracting truthful

information from suspects, it is fundamental to address the concerns surrounding data bias, ethical implications, and over-reliance on technologies. Furthermore, deception is a multifaceted psychological phenomenon, and despite extensive research in the field, there is no consensus on the definitive indicators that consistently signal deceptive behaviour. As such, most of these tools are still utilized in experimental settings or trial phases. The admissibility of machine-assisted findings in court also warrants careful consideration. Therefore, to ensure the responsible development and implementation of these tools, oversight, transparency, and rigorous testing must be prioritized.

Despite the limitations, these innovative solutions provide investigators with complementary data-driven insights, enabling them to refine their screening and questioning strategies without missing potential signals of deception.

Sources: <https://www.police1.com/investigations/augmenting-criminal-interrogations-with-machines/>;

<https://converus.com/press-releases/advanced-lie-detection-technologies-help-restore-trust-in-law-enforcement/>;



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INTERPOL

Innovation Centre  
INTERPOL Global Complex for Innovation  
18 Napier Road  
Singapore 258510  
T: +65 65503569  
Email: IC-Snapshots@interpol.int



## Call for Contributions

### Join Our Mission to Highlight Innovations in Law Enforcement

The world of law enforcement is rapidly evolving, with groundbreaking innovations and collaborations reshaping how safety and security are maintained. Our *Innovation Snapshots* newsletter is dedicated to showcasing these advancements, and we welcome your insights and contributions. Whether you're involved in law enforcement, technology development, or academic research, we invite you to share your stories of innovation and collaboration.

#### What We're Looking For:



**Innovative Developments in Law Enforcement:** Have you or your organization developed new technologies or methodologies that are changing the game in law enforcement? We're interested in hearing about innovative tools, software, or strategies that are being implemented in your country.

**Collaborative Efforts:** Stories of successful partnerships between law enforcement agencies and external entities like universities, think tanks, or tech companies are highly encouraged. How have these collaborations led to innovative solutions or improved outcomes?

#### Submission Guidelines:



**Word Limit:** Please keep your contributions to approximately 400 words.

**Photos:** Submissions with relevant and high-quality photos are highly appreciated. Ensure you have the right to use any photos you submit.

**Neutrality:** Stay neutral and factual in your descriptions.

**Structure:** Follow our suggested structure for clarity:

[Law enforcement agency and country]

[Innovation development]

[What the development provides/does]

[Any additional information]

#### How to Submit:



Please send your contributions to [IC-Snapshots@interpol.int](mailto:IC-Snapshots@interpol.int), including any photos (with credits) and a brief bio of yourself or your organization. Join us in highlighting the innovative spirit within law enforcement and the collaborative efforts that are making our communities safer. Your insights and experiences are invaluable to this mission.