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PENTION

The EU-cofunded PENTION project is developing a next-generation vapour detector based on differential mobility analysis combined with mass spectrometry; a breakthrough technology capable of identifying new drugs, precursors, clandestine labs, and production sites through accurate chemical fingerprints.



Co-funded by
the European Union

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The PENTION project focuses on combating the production and trafficking of drugs, which represents a significant social challenge globally and particularly within the European Union.

The project specifically targets the rapidly evolving and highly dangerous situation of the proliferation of synthetic drugs, including New Psychoactive Substances (NPS), which pose a serious cross-border threat to public health. This emphasis is necessary because the traditional model of drug production and supply has changed, previously based on importing chemical precursors from Eastern countries with highly concentrated local production in various areas of the EU, such as the Limburg region in the Netherlands, where clandestine labs have been increasingly established. As a result, traditional seizure methods are no longer efficient or effective.

Although PENTION is focused on synthetic drugs, the results and technologies developed will also be directly applicable to NPS cases, such as fentanyl and new opioids.

The main goal of the PENTION project is to develop and implement new strategies and technologies with improved performance for detecting these substances and identifying clandestine labs involved in their production.

Designed for maximum operational flexibility, PENTION will be developed in two versions:



A mobile version integrated in a van, capable of detecting vapours directly in open areas and clandestine production zones.



A stationary unit designed for detection in warehouses and cargo storage areas.

HIGHLIGHTS



Innovation

Cutting-edge vapour detection technology using differential mobility and mass spectrometry.



Precision

Creates accurate chemical fingerprints to identify emerging drugs and their precursors.



Impact

Strengthening Europe's response to synthetic drug manufacturing and trafficking.



Collaboration

Bringing together experts from science, technology and law enforcement.



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