PARSEC NEWS

Issue Number 3 February 2025

PARSEC Project actively involved in detection and security initiatives

The PARSEC project (Parcel and Letter Security for Postal and Express Courier Flows) has actively continued its research and participated in a number of events where innovation has been a key subject. You will find below an overview of the main events of the last 2 months.

PARSEC co-Organizes the first Detection Hub Workshop in Madrid, with key contributions from Martin Palmer and Trevor Francis

On December 13, 2024, the inaugural meeting of the newly established **Detection Hub** *(#detectionhub)* took place at the CETSE premises in Madrid, Spain. PARSEC was one of the co-organizers of this groundbreaking event.

The Detection Hub is a collaborative dissemination and communication platform involving several EU-funded projects, in addition to PARSEC, including DrugDetect, BAG-INTEL, ODYSSEUS, iFLOWS, UnderSec, EURMARS, MELCHIOR, CosmoPort, SAUST, Meteor Rapid Cargo Screener, and RISEN. The initiative aims to foster collaboration and innovation in the detection of drugs, explosives, and illicit goods, supporting enhanced security efforts across multiple sectors.

The event featured representatives from key stakeholders, including law enforcement agencies, research institutions, universities, government bodies, and technology providers. The workshop provided a forum for experts to share insights, operational experiences, and scientific advancements in multi-sectoral detection approaches.

PARSEC's active involvement was highlighted by the participation of Martin Palmer, Co-Founder of Hurricane Modular Commerce Ltd, and Trevor Francis from the UK Border Force. Both experts delivered insightful presentations during dedicated panels.

In the session titled "Multi-Sectoral Detection of Illicit Goods: Operational Experiences and Capabilities," Martin Palmer shared his expertise on practical challenges and innovations in detection strategies.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

Similarly, Trevor Francis participated in the panel "Innovation Procurement for Detection: Bridging Theory and Practice," where he addressed procurement challenges and opportunities for advancing detection capabilities.

The Detection Hub Workshop marked a significant milestone in fostering collaboration and innovation in civil security. Participants left with a shared commitment to overcoming emerging detection challenges and enhancing cross-sectoral cooperation.

This event set the foundation for future collaborative efforts aimed at leveraging cutting-edge technologies and strengthening operational capabilities to combat threats posed by illicit goods.

PARSEC completes and submits Deliverable D4.2. Multi-Energy Long Strip Photon Counting Detector

The Deliverable 'D4.2. Multi-Energy Long Strip Photon Counting Detector' report presents a comprehensive overview of the development and testing of a proof-of-concept multi-energy photon counting detector, designed to enhance capabilities in detecting various contraband and drugs in increasingly complex postal environments. The creation of this proof-of-concept detector involved hardware, firmware, and software development, all of which have been described in detail.

Following the successful production of the proof-of-concept detector, multi-energy scans were successfully generated, establishing its functionality. Rigorous performance assessments were subsequently conducted, yielding satisfactory results while identifying potential improvements that, when implemented, could lead to enhanced performance. These improvements will be carried out in future iterations to mature this technology from prototype to production.

As part of the prototype primary inspection system being developed in WP4, the detector used, is that of an existing dual-energy detector, which cannot inherently produce multi-energy images. To demonstrate multi-energy imaging within this hardware infrastructure, an innovative approach was implemented to modify the existing dual-energy detector's firmware. This method enables the production of multi-energy images using only the current hardware. While this approach results in slower acquisition speeds—an anticipated limitation—it successfully integrates with the existing hardware infrastructure. The resulting images from this integration have been included in the report.

In the future, advanced techniques for utilizing multi-energy spectral information will be explored. This is to maximize the potential of spectral imaging, enhancing material

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

discrimination and detection accuracy while improving overall system performance in identifying contraband within postal environments.

Webinar E-commerce: friend or foe? – CustomsClear

On 29 January 2025, the PARSEC Coordinator Frank Janssens has participated in a CustomsClear online seminar on the challenges of e-Commerce. The ever-increasing volume of e-Commerce poses many challenges not only in the EU but worldwide.

Current volumes of e-Commerce parcels make it exceedingly difficult to detect parcels which contain security threats, such as drugs/narcotics, weapons (and parts of them), explosives and inflammables.
In addition, the volume of parcels poses problems for detecting IPR[1] infringements, such as counterfeit and pirated goods.

A third challenge is the rise of companies like Shein and Temu, offering inexpensive products or that often fail to meet EU product standards and safety regulations and the staggering speed with which the number of e-commerce imports increases, has made e-commerce reform a highly debated topic.

The online seminar discussed how the EU should address security and safety concerns posed by e-Commerce. How e-commerce impacts the level playing field for EU companies. And what should be done in practice to address urgently these threats. This last point includes the EU Customs Reform as well as measures taken by other jurisdictions.

The DETECTION HUB - PARSEC will participate as co-organiser of the second detection hub meeting

The second meeting of the DETECTION HUB will take place in Riga, Latvia on 17 and 18 June 2025. Whist on the first day new Horizon Europe projects will be presented and panel discussions will be organised on relevant border and security topics, the second day will include a visit to the Russian border where a demonstration of the use of a new type of detection equipment will be demonstrated.

PARSEC Partners are invited to participate, and especially Customs Administrations and Detection technology partners are encouraged to apply. 1 or 2 partners will be able to participate in a panel discussion. In the first Detection hub meeting in December 2024 the PARSEC Partners UK Border Force and Hurricane Modular Commerce participated as panellists.

[1] Intellectual property Rights

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

More information and an invitation will follow to all PARSEC Partners. The coordinator will participate in the organisation costs (including bus transport to and from the LV - RU border), but travel, hotel and meals are at the cost of the participating partner (as eligible Project costs). EU Commission has confirmed its participation.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.