



PEN-CP

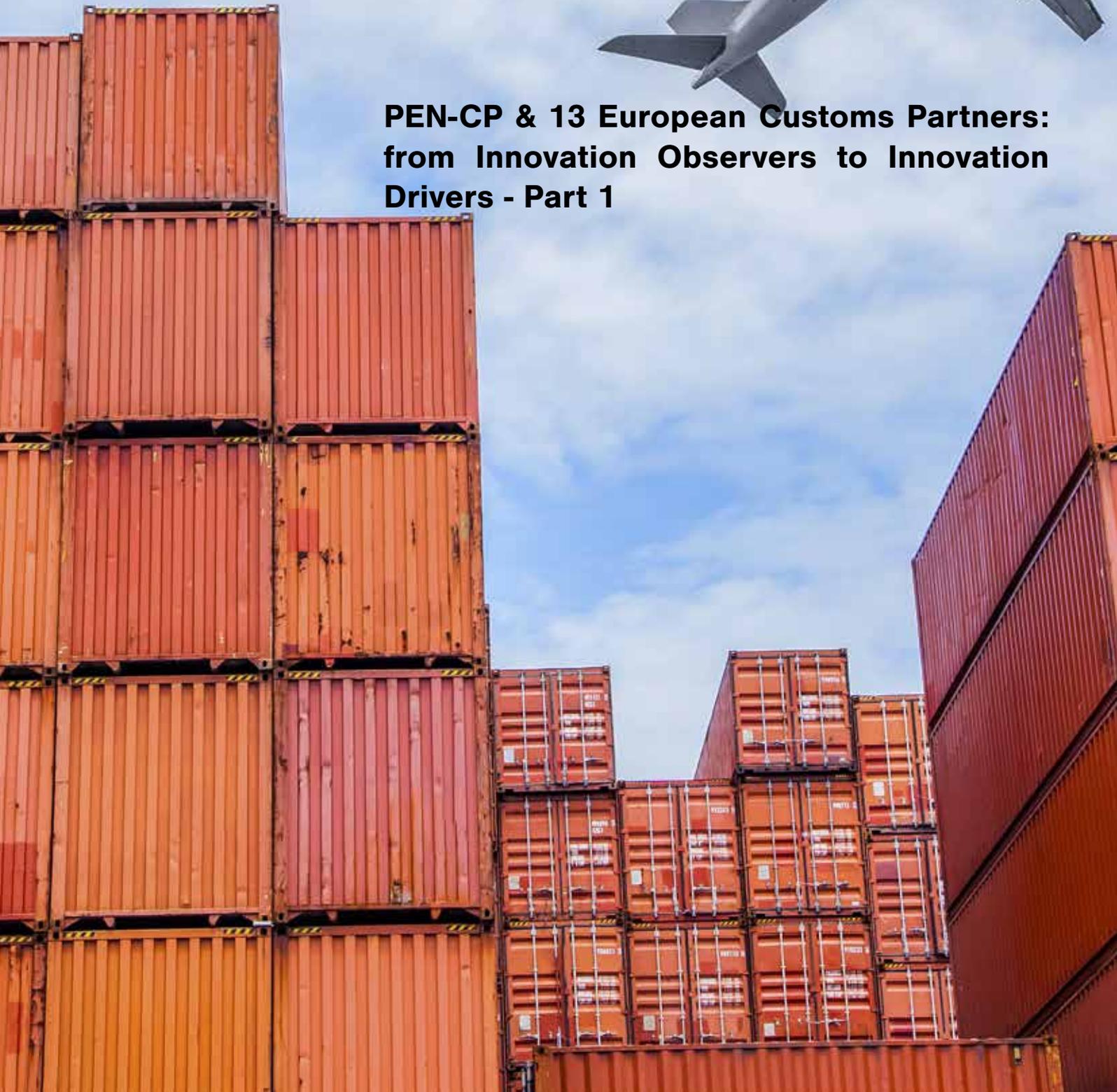
Pan-European Network
of Customs Practitioners

MAGAZINE

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PEN-CP & 13 European Customs Partners: from Innovation Observers to Innovation Drivers - Part 1



Editorial

Welcome back to PEN-CP Magazine, this being our first issue in 2022! As many of our readers would recall, PEN-CP, the Pan-European Network of Customs Practitioners – EU Horizon 2020 funded Customs security practitioner project – acts as a European Customs innovation boosting network, powered by an innovation-centric online platform, and tailored innovation intermediary services.

The project consortium consists of 13 Customs administrations - nine EU and four non-EU - supported by four research and administration partners. PEN-CP focuses on accelerating innovation efforts across three core Customs technical areas: Data and risk management; Detection technologies; and Laboratory equipment – both stand-alone, as well as in combinations.

We have a broad variety of innovation and knowledge instruments in use, including Prototype grants, Challenge competitions, Innovation awards, Annual studies and Expert reports. Across our activities, we aim to connect innovation-spirited customs officers, helping them to ‘find friends in Customs innovation’.

The vision is to become a solid & permanent Customs innovation boosting network, helping to accelerate both incremental and radical innovations, for the direct benefit of Customs administrations in Europe and beyond.

In this Magazine 12, we share information on PEN-CP set-up and fundamentals, including our Online Platform (POP), Expert Teams (PETs), Main Events, and more. Stay also tuned for Magazine 13 & more information about our concrete knowledge creation and innovation boosting activities during years 2018-2021!

Juha Hintsä

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The PEN-CP Magazine:

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PEN-CP On-line Platform (POP)

A key element in the heart of our project is called POP, the PEN-CP Online Platform. The content and features on POP-platform are manifold, to support achieving the ambitious Customs innovation boosting goals of the project.

First, customs user needs and requirements regarding new innovations, across the three main technical areas in PEN-CP, and sometimes even beyond, are collected and stored as **PUNIs, PEN-CP User Need Ideas** (around 65 entries in total, status March 2022). For each PUNI, the Customs expert / team of experts is asked to provide an overall description of the challenge involved; to link it to the PEN-CP technical theme(s); to identify which modes of transport are involved/affected; to explain whether other agencies than Customs may share this challenge; and so forth. To make the PUNI-concept bit more concrete, we share below examples on titles of eight PUNIs, from the past three years:

- Re-use of the customs equipment (a portal)
- Help for data interpretation by targeting officers and front-line officers
- Quick determination of THC content in hemp products
- Visualization of traces of illicit substances on surfaces
- Laboratory screening for material stemming from endangered species (CITES)
- Headspace sampling in cargo containers to detect narcotics (and possibly explosives)
- Heavy duty axel scales and piezoelectric systems
- Comparison of x-ray images versus import declarations

Second, **PSIMs, PEN-CP Security Innovation Monitoring items**, keep track of a broad variety of customs relevant innovations, solutions, projects and patents (near 450 entries in total, growing steadily). As one example, the PSIM-section of the POP-platform supports PEN-CP

partners in keyword-searches like “Past research projects & Customs laboratory equipment”, or, “Solutions & patents across non-ionizing detection technologies”. There are almost endless ways to explore and to query the PSIM-database, depending on the specific information needs and creativity of PEN-CP Customs experts.

Third, following priorities and requests by PEN-CP partners, the **PUNI-PSIMs matchmaking** takes place by a team of 2-4 experts, first picking a specific high-priority PUNI, and then searching for all possible PSIM matches, including solutions, projects and patents; followed by categorizing them as “full versus partial matches”; and storing the PSIM-item links on the dedicated section of the POP-platform. One example of a PUNI with multiple PSIM matches in our database is “Screening and detection of illicit items in postal supply chain at flow of commerce”, with eight solutions (on various stages of development), two projects and one patent matched against it – all these listed in *the table below*. It is obvious that this step makes it both faster and more informative for interested Customs officers to find ideas and examples for potential solutions, regarding their high priority challenges and user needs.

Fourth, the POP-platform has a couple of sections covering more generic information needs of our partners, namely the **PEN-CP Information Observatory, PIO**, focusing on Customs relevant news, events, reports, research papers etc. (over 300 entries total, March 2022); as well as data on relevant companies, research institutes etc. (near 450 entries); the **PEN-CP Archive** for all kinds of project document and files; and a set of event management pages, covering the full life-cycles of **PEN-CP Annual Events** – from event announcements, registrations and agenda updates; to sharing pre-readings materials, individual presentations and final (post-event) handouts.

Fifth, the three **PEN-CP Expert Teams, PETs**, have their dedicated workspaces in POP-platform for document and workflow management, as does the **PEN-CP Extended Management Team, PEMAT**, as it is called in short. Without a surprise, such team-level sections on POP-platform increase the efficiency and quality of the innovation boosting and project administration work carried out by the PET and PEMAT teams.

PEN-CP high-priority PUNI: “Screening and detection of illicit items in postal supply chain at flow of commerce”	
Matching solutions	<ul style="list-style-type: none"> • Neutron based Substance Identification System (Dynaxion) - https://dynaxion.nl/ • Automated Multimodal Opioid Detection (Battelle) - https://www.battelle.org/ • Enhanced X-ray Diffraction (HALO X-ray Technologies) - https://www.haloxray.com/ • NQR Detection of Nitrogen-Containing Substances (Vadum, Inc.) - http://www.vaduminc.com/ • Scanner and Algorithms for Automatic Opioid Detection (IDSS Holdings) - https://www.ids-scorp.net/ • Noninvasive Detection Using Molecular Signatures (GTBM, Inc.) - http://www.gtbm.com/ • Non-imaging Concealed Drug Detector (One Resonance) • Operator-free X-ray Diffraction (XID, LLC) <p><i>Note: these are the eight finalists of the global Opioid Detection Challenge for detecting opioids in international mail (2019); and, their solutions do position on a variety of Technology Readiness Levels (TRLs), which are not presented on this PEN-CP Magazine table - https://www.opioiddetectionchallenge.com/meet-the-finalists/</i></p>
Matching projects	<ul style="list-style-type: none"> • ColdNano-X -project (ZnO-nanotech cold cathode x-ray tube for the security market) - https://www.luxbright.com/coldnanox.html • SAFEPOST -FP7 project (Reuse and development of Security Knowledge assets for International Postal supply chains) - https://www.posteurop.org/SAFEPOST
Matching patent	<ul style="list-style-type: none"> • Mail parcel screening using multiple detection technologies (US20090248319) - https://patentscope.wipo.int/search/en/detail.jsf?docId=US42758159&tab=NATIONALBIBLIO&office=&prevFilter=&sortOption=Pub+Date+Desc&queryString=FP%3A%28Mail+parcel+screening+using+multiple+detection+technologies%29&recNum=2&maxRec=3



PEN-CP Expert Teams (PETs)

The three technical customs themes have played a central role in PEN-CP, from day one of our project. As envisioned already in our Horizon2020 proposal (written during years 2016-17), big part of PEN-CP's innovation boosting activities and innovation instruments take place in the context of a specific technical theme, sometimes as combinations of two or even all three of them. In 2020, we established following three Expert Teams, PETs as we call them, to drive the user need identification, prioritization, and finetuning work; to propose and agree on the innovation instrument usage; among few other key activities in PEN-CP:

- **PET-1 Data and risks** (6 active members from 5 different administrations, status March 2022)
- **PET-2 Detection technologies** (6 active members from 6 administrations)
- **PET-3 Laboratory equipment** (5 active members from 5 administrations)

Each PET-team is chaired by a seasoned technical expert from PEN-CP Customs partners, while secretarial support is provided by PEN-CP research and administrative partners. Multiple meetings were held in 2020-2021, all organized virtually; in 2022, we plan to also have two physical meetings (Dublin in April, and Maastricht in October 2022), next to a handful of virtual PET sessions.

When it comes to specific objectives and actions with the PET-teams, they have of course full freedom to set and follow agendas agreed among the team members. The overall PET-menu includes the following innovation facilitation and boosting activities:

- **Collecting, iterating, elaborating and finetuning on Customs User needs and Challenges, the PUNIs**; aiming to the adequate degree of detail and clarity so that next-step innovation boosting

actions can be successfully triggered.

- **Matchmaking between prioritized PUNIs versus Security Innovation Monitoring items, the PSIMs**; aiming to discover any existing technologies, solutions and projects which might be of instant use/ benefit for Customs.

- In the context of high-priority PUNIs, without “instant solutions on the markets”: **iterating and allocating one or more PEN-CP Innovation Instruments, the PINs**, in order to start tackling the Customs challenge/ PUNI on hand; could trigger follow-up action such as Expert report, Crowdsourcing ideas, Challenge competition, or Prototype grants.

- **Identifying Customs needs and priorities for technical or process standardization**, and formulating such topics to be part of the PEN-CP Standardization roadmap (note: actual standards development is out-of-scope for PEN-CP)

- **Preparing and proposing specific discussion points and messages, PEN-CP Briefings, towards a variety of key stakeholders**, including the following: DG TAXUD, DG HOME, DG REFORM, CELBET, CLEN, WCO, Horizon Europe program, and parallel Customs-relevant Research and Innovation projects and networks.

We always welcome new experts to join the PET-teams, from all of our 13 Customs partners!



PEN-CP Main Events

Common virtual and physical meetings are in the heart of PEN-CP network, calling for active participation by all partner Customs administrations, most of them with multiple individual experts.

The Annual PEN-CP events have been organized so far three times: live 3-day sessions in Thun, Switzerland (fall 2018, as the kick-off meeting) and in Budapest, Hungary (fall 2019); and one virtual annual event (January 2021). The fourth annual event is again a live 3-day session, in Dublin, Ireland, in April 2022.

Annual events are rich in parallel sessions and workshops, where active participation and sharing of insights is encouraged across all partners and experts. The annual events have a dual purpose: (i) presenting and discussing outcomes of joint work from the past 12 months, and (ii) scoping and fixing priorities, and planning the concrete work for the coming 12-24 months.

The monthly Pendency-events were first introduced in early 2021, to facilitate continuous interaction and dialogue among PEN-CP partners; a timely

arrangement also considering the lack of physical meetings due to Covid-19. The afternoons of second Monday of each month have been dedicated to these 3-4 hour long online sessions, filled with both internal and external presentations and discussions.

Most Pendency sessions have started with updates by the PEN-CP Expert Team, PET, leaders, then followed by 1-2 guest presentations, PEN-CP activity updates and administrative matters, and lastly 'word is free' discussions.

The popular Pendency guest talks have been delivered for example by CustomsClearance.net, Apirasol and DHL – see topics of six guest interventions from 2021 in *the box below*.

By March 2022, around ten Pendency-events have been organized – and, following the positive feedback by PEN-CP partners, we are most committed to continue with these events, aiming towards 9-10 sessions per annum.

Box. Examples of well-perceived Pendency guest sessions in 2021

- “Morocco Port Challenge/ Hackathon advisor shares his hands-on experiences in supporting the event arrangements” (Pendency-February-2021) - <https://www.tradefacilitation.org/article/smart-port-challenge-the-first-port-sector-hackathon-in-morocco/>
- “The Platform of Customs Clearance Knowledge for Practitioners – Some ideas for PEN-CP Customs partners” (Pendency-March-2021) - www.customsclearance.net
- “Cargo ship risk scoring, in Customs, Coast guard and Police context (Pendency-March-2021) - www.wnwd.com/solutions/
- “Combining online intelligence with shipments analytics, uncovering the entire illicit supply chain, from producers to importers, distributors and retailers” (Pendency-April-2021) - <https://www.apirasol.com/>
- “Open Innovation: Potential and Challenges of engaging with the Crowd” (Pendency-May-2021) - https://www.time.rwth-aachen.de/cms/TIME/Die_Research_Area/Team/TIM_Team/Habilitanden/~eeoy/Diener-Kathleen/
- “Navigating through year 2021 with VAT reform, ICS2.0 intro, and Brexit” (Pendency-May-2021) - <https://www.dhl.com/>

Outreach and Dissemination



Regarding **monitoring, dissemination, outreach and interaction with the outside world**, PEN-CP has opted for an active approach in social media and other online channels. Announcing new calls for Expert Reports, Challenge Competitions or Prototype Grants, and disseminating information about finalized Annual Study reports, are obvious examples where active presence in social media can pay off.

All in all, we are reasonably well present across the likes of Twitter, LinkedIn, and Facebook; and, we also have video/animation and podcast channels in YouTube and Podbean, both still in bit experimental stages. You can find links to our online channels in *the box on the right*.

By summer 2021, we had published **11 issues of the PEN-CP Magazine**, our flagship dissemination instrument, with a wide reader base, both inside and outside the PEN-CP consortium. PEN-CP Magazine articles cover a broad variety of topics as interviews, announcements, technical readings, concept descriptions, visions, and more. Now, in March 2022, starting with Magazine 12, we to continue in a “less-pages, streamlined-layout, more-frequent” -modality. You can find all past issues for downloading here: <https://www.pen-cp.net/download-pen-cp-magazine>.

Let us know if you have suggestions for topics and themes towards new articles & PEN-CP Magazine issues!

PEN-CP social media channels:

https://twitter.com/PENCPC_NET
<https://www.linkedin.com/groups/8183667/>
<https://www.facebook.com/groups/pen-cp>
<https://pencast.podbean.com/>
<https://youtu.be/OXwQPHHS5Ls>
<https://www.researchgate.net/project/PEN-CP-EU-H2020>

All open calls (Experts Reports, Open Innovation instruments etc.) by PEN-CP:

<https://cmt.sym.place/groups/profile/302707/pen-cp-innovation-instruments-and-innovation-events>

For more information on PEN-CP, please visit:

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