Customs innovations
for fighting fraud and trafficking in cross-border parcel flows

Dr. Toni Männistö, Cross-border Research Association

WCO-UPU Global Conference, 6-8 June 2023, Tokyo, Japan

PEN-CP study on customs innovations for combating postal trafficking

Goals of the study

1. Show examples of best practices from around the world

2. Recommend better ways to combat trafficking in the international postal network

PEN-CP

Pan-European Network of Customs Practitioners

with 13 customs partners

Download at ResearchGate

PEN-CP
Pan-European Network
of Customs Practitioners

Here are the main recommendations

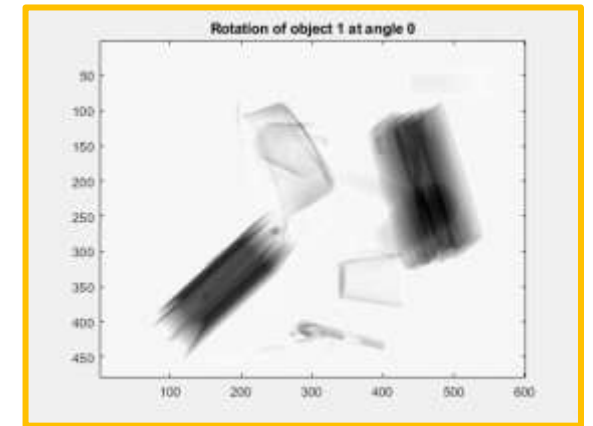**Develop reference databases for non-intrusive inspection technologies**

Build customs in-house data analytics capabilities

Leverage data for customs-post operational integration

PEN-CP
Pan-European Network
of Customs Practitioners

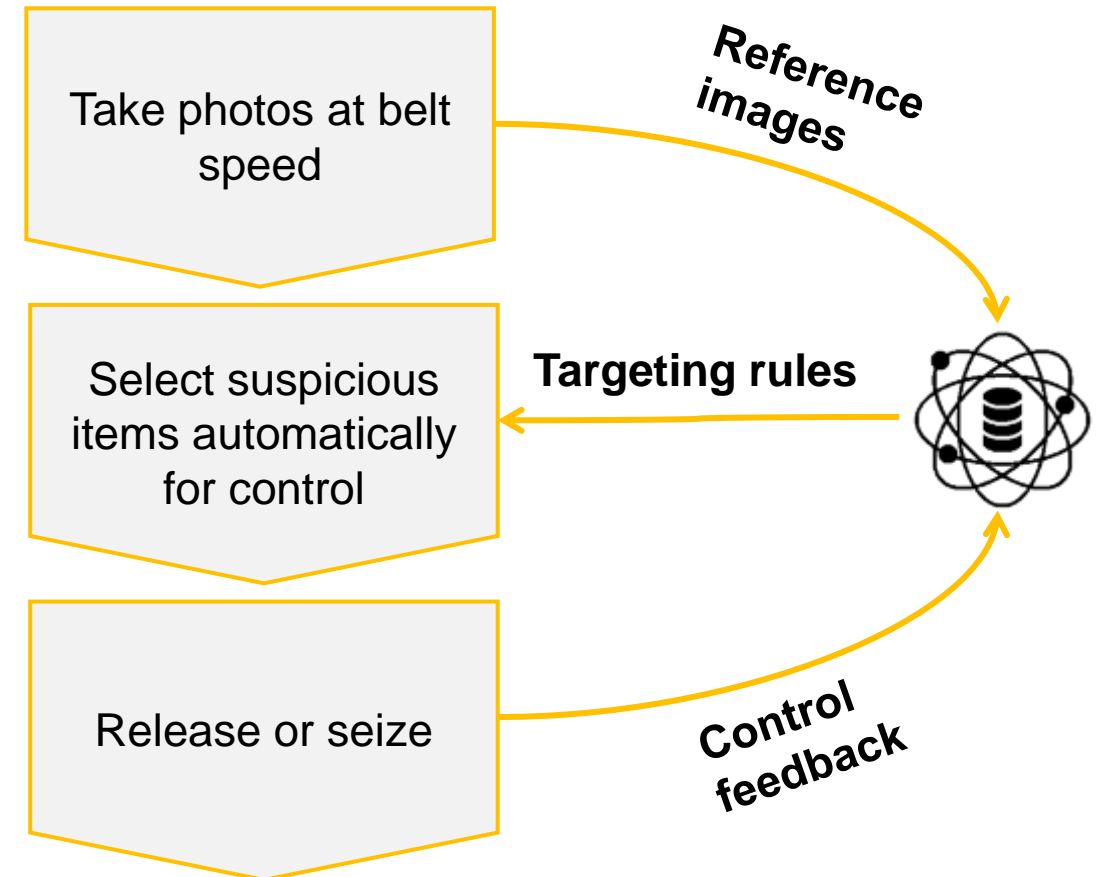# What it takes to develop reference databases for NII technologies?

- Scores of X-ray and regular images with labelled normal and abnormal features
  - From different angles
  - Against a variety of background materials

- Test kits of postal items of different shapes, sizes, materials and types of packagings

- Samples of illicit materials

- Pre-recorded spectra* that can be used to identify unknown samples based on their elemental fingerprints

- Control feedback from customs inspections

Rotation of object 1 at angle 0

The US pilot program for automatic image-based targeting of postal items

Some high-risk indicators of postal items

- False return addresses

- Sensitive recipients

- Restrictive markings

- Unusual appearance like oily stains

- Subtle cues that become meaningful when they co-occcur with other indicators

Take photos at belt speed

Select suspicious items automatically for control

Release or seize

Reference images

Targeting rules

Control feedback

Source: Expert interviews, CBRA analysis

PEN-CP
Pan-European Network
of Customs Practitioners

Develop reference databases for non-intrusive inspection technologies

Build customs in-house data analytics capabilities

Leverage data for customs-post operational integration

PEN-CP
Pan-European Network of Customs Practitioners

Why it makes sense to…

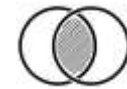## … build customs data analytics capability   … in-house?

Digitalisation of declarations and documents and e-commerce
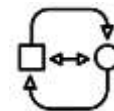
Need for automatic processing

Calls for high levels of control and facilitation

Criticality of customs domain knowledge

Data confidentiality & security

Speed and flexibility

Continuous learning

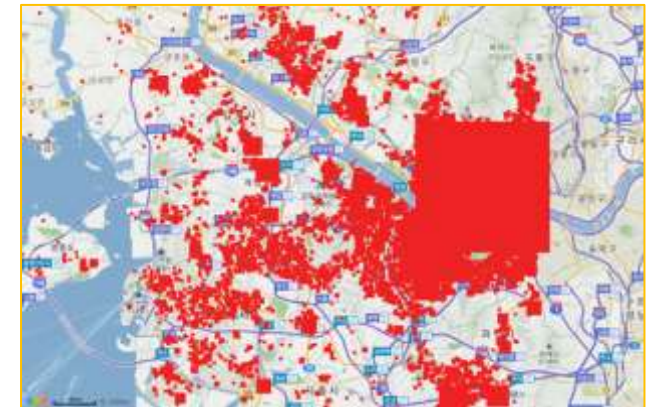PEN-CP
Pan-European Network
of Customs Practitioners

Korean Customs Service has made data analytics competence a strategic priority

- Multiple pilot projects on data analytics

- Training of customs officers in data analytics

- Hiring new talents from the private sector and academia

- Creation of cross-disciplinary data analytics teams

Fighting split shipment fraud with data analytics

- Analysis of 200 million import records KCS had collected on postal and e-commerce items over ten years

PEN-CP
Pan-European Network
of Customs Practitioners

Develop reference databases for non-intrusive inspection technologies

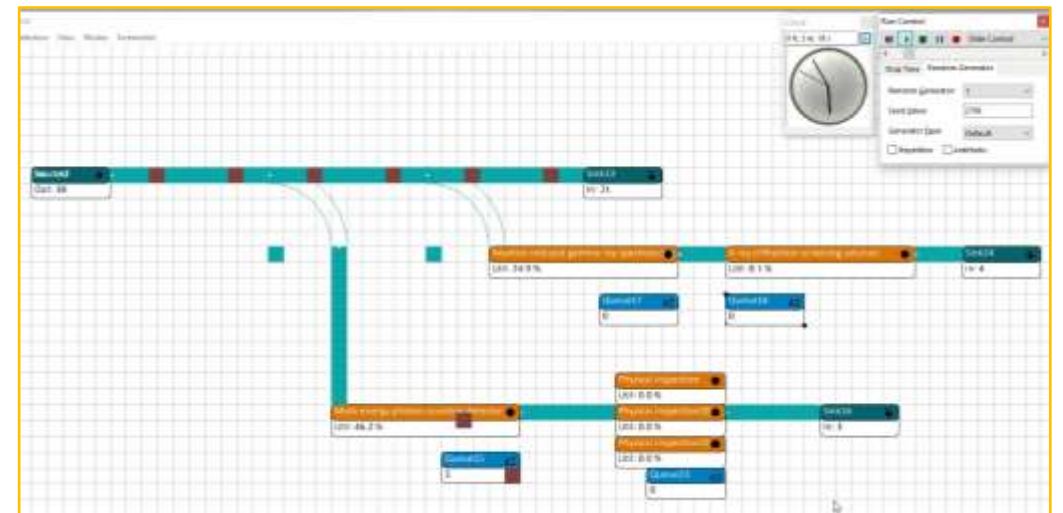Build customs in-house data analytics capabilities

Leverage data for operational integration

Optimizing parcel flow through international offices of exchange — simulating effects of NII technologies

Customs operations Postal operations

PEN-CP
Pan-European Network
of Customs Practitioners

How can postal operators contribute?

Develop reference databases for non-intrusive inspection technologies	• Test kits of postal items
Build customs in-house data analytics capabilities	• Work with customs to understand customs requirements for data
Leverage data for operational integration	• Sharing of operational data for simulation purposes • Co-design of processes

Thank you!

toni.mannisto@cross-border.org

PARSEC

PEN-CP
Pan-European Network of Customs Practitioners