



CustomAI: AI technologies for enhancing capabilities, greater efficiency and effectiveness for customs

*George Bardas (Netcompany S.A.)
CustomAI Technical Coordinator*

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Why do customs need a new approach?



Trade is growing, but inspections cannot scale by simply adding more personnel.

A lot to inspect

Today, only a small share of containers can be assessed thoroughly because documents, routes, and external data take a long time to review.

Too many false checks

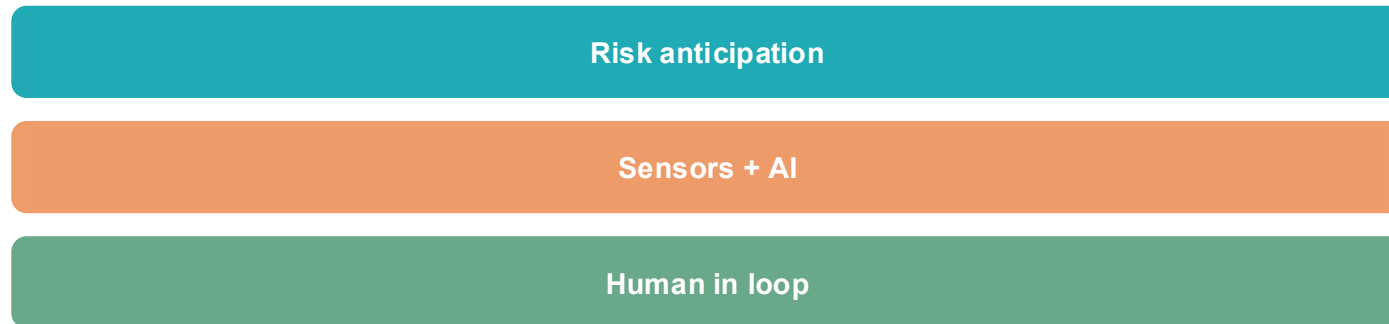
For example, in the Port of Valencia, about 1% of containers selected for inspection actually contain contraband. CustomAI targets >10%.

Too many separate tools

Risk data, sensors, scanning, and documentation are often fragmented, making quick, confident decisions harder.

The opportunity: use AI to review more data, focus officers on the highest-risk cases, and reduce disruption for legitimate trade.

A simple view of a smarter customs inspection system



- 1 Read the data**
manifests, declarations, routes
- 2 Score the risk**
focus attention on the right cargo
- 3 Check with sensors**
vapor, x-ray, and camera evidence
- 4 Support the officer**
explain findings and keep records

What is CustomAI?



One integrated solution that combines data, sensors, and officer decision support.

Virtual Customs Control Office (VCCO)

The digital “brain” that gathers the case, plans checks, and keeps learning.

AI risk anticipation

Reads manifests, declarations, and external data in multiple languages to score risk.

Sensor confirmation

Uses vapor analysis, x-ray, and camera evidence only where needed.

Secure traceability

Stores process data securely for trusted sharing, traceability, and audit.

In simple terms: CustomAI helps customs move from “inspect what we can” to “inspect what matters most.”

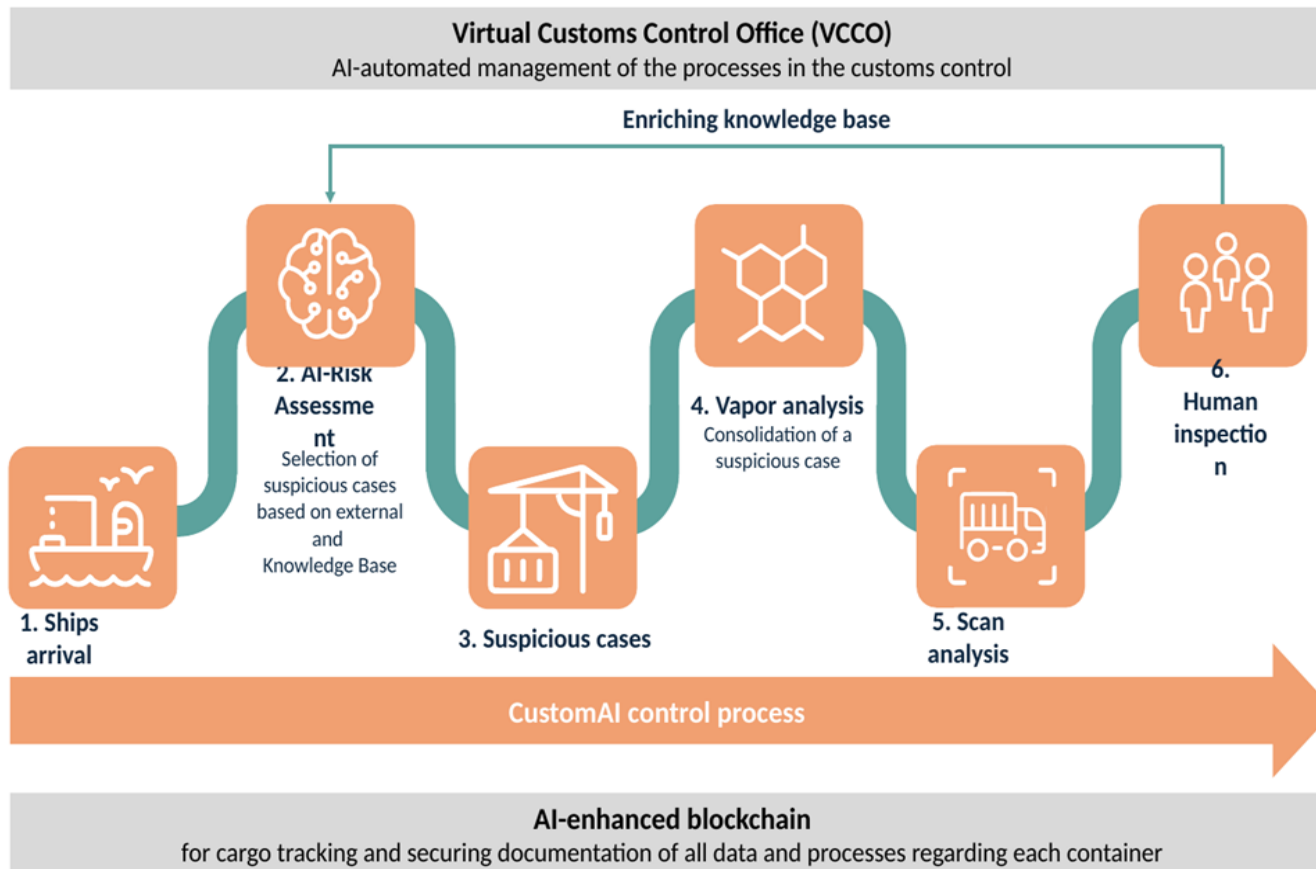
- Designed for containers, parcels, and cultural goods.
- Built to work with existing customs systems.
- Keeps humans in control, while AI supports and explains.

Outcome target

Better selection, more positive findings, less wasted effort, and faster movement for legitimate goods.

How the solution works in practice

A staged process: widen intelligence first, narrow inspections later.



Why this matters

- Most cargo is cleared using data-driven risk scoring, not manual guesswork.
- Only suspicious cases move to vapor and scan analysis.
- Human inspection becomes the last step, not the first reaction.
- Each case feeds back into the system so future decisions improve.

Think of it as a funnel: broad intelligence in, focused action out.

1st Innovation: the Virtual Customs Control Office



A digital case manager that brings knowledge, process, and learning into one place.

What VCCO does

- Creates a digital case for each container, parcel or object.
- Chooses which data sources and analyses are relevant.
- Updates risk as new information arrives.
- Learns from inspection outcomes and officer feedback.
- Keeps secure documentation for all stakeholders.



Why is it innovative?

Today, customs expertise often sits in separate systems or in people's heads. VCCO captures that logic, applies it consistently, and improves it over time without removing officers' control.

2nd Innovation: AI-enhanced blockchain for trusted cargo intelligence



The project uses blockchain combined with AI to make cargo information more secure, traceable and useful, connected with VCCO.

Secure documentation

Important cargo data, checks, and decisions are stored in a tamper-resistant record that can be audited later.

Cross-border visibility

Customs partners can share reliable, traceable information across organizations without losing the audit trail.

Smarter decision support

AI analyses trusted historical and real-time data to spot patterns, improve risk scoring, and support faster action.

3rd Innovation: combining multiple sensing methods

CustomAI does not rely on a single signal, it combines evidence.

For containers

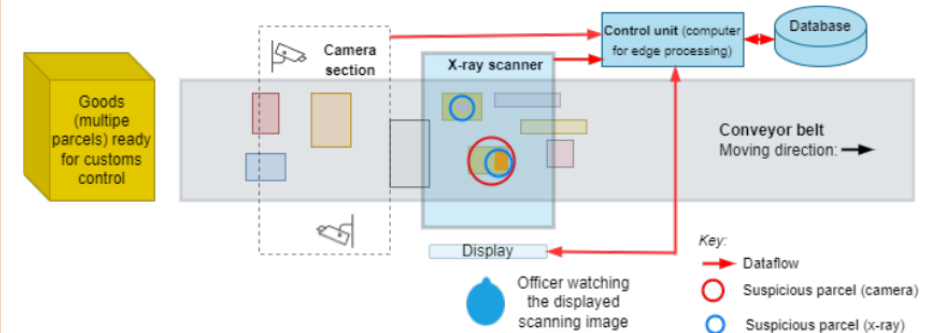
- AI risk analysis selects suspicious cargo.
- Vapor detection checks for hidden substances without opening the container.
- X-ray analysis adds a deeper visual check before manual inspection.

Why is it useful?
Fewer unnecessary openings,
better detection, faster
processing.

For courier parcels

- Camera images and x-ray images are read together.
- Suspicious parcels are highlighted to the officer in real time.
- Inspection results feed continual learning so the system keeps improving.

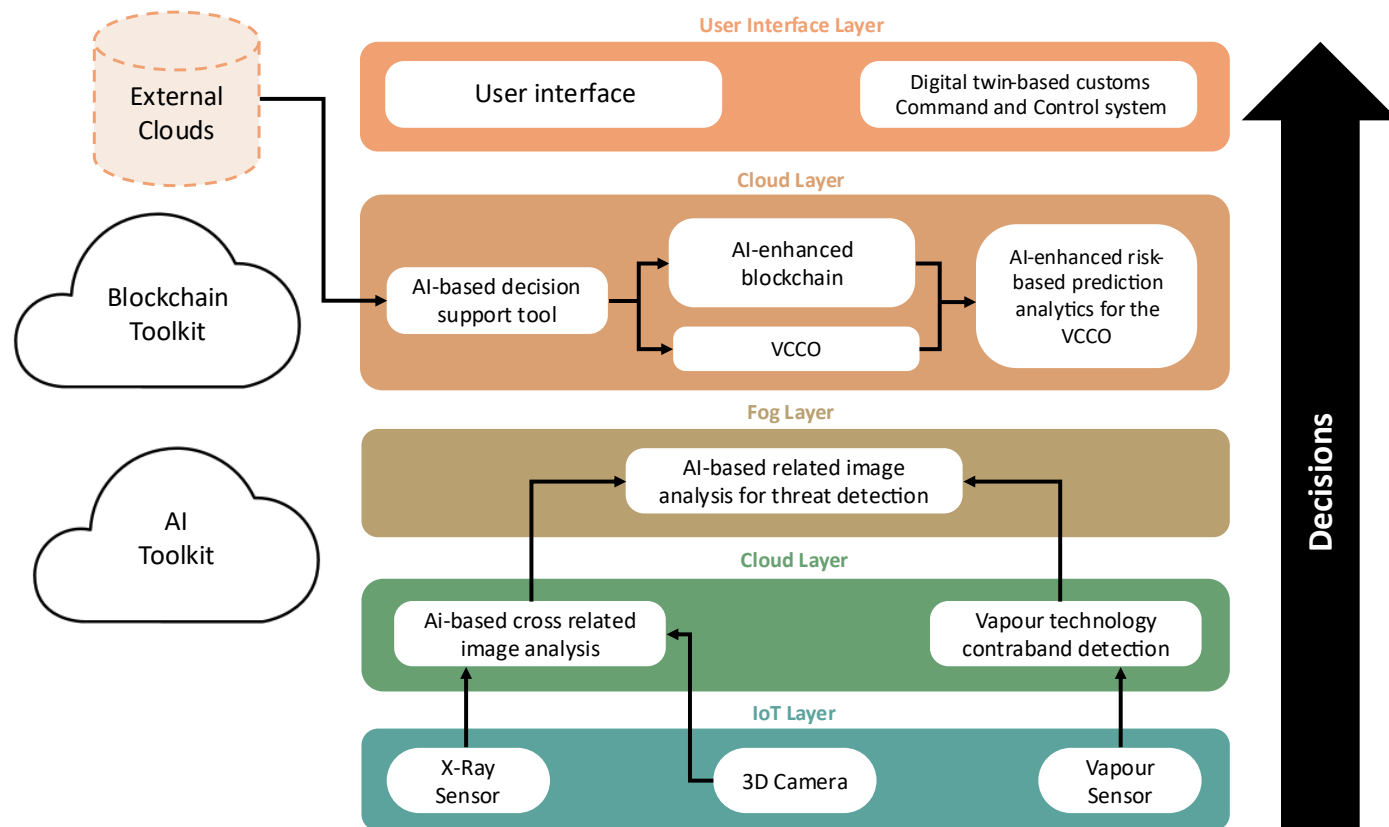
Why is it useful?
A stronger answer to high-
volume postal and courier flows.



4th Innovation: secure, explainable and interoperable architecture



The project is designed for trust, not only for detection.



Secure traceability

Blockchain-backed documentation helps create a tamper-resistant record of cargo data and control actions.

Real-time architecture

IoT, edge, fog and cloud layers support fast decisions across ports and parcel checkpoints.

Trustworthy AI

The project emphasises robustness, explainability, auditability, and human oversight.

Where will CustomAI be demonstrated?



The solution is grounded in real customs environments, not only in the lab.

Valencia, Spain	Main seaport pilot: AI risk analysis, secondary inspection support and MION vapour screening.
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Constanta, Romania	Risk classification and x-ray-led selection in a major Black Sea gateway.
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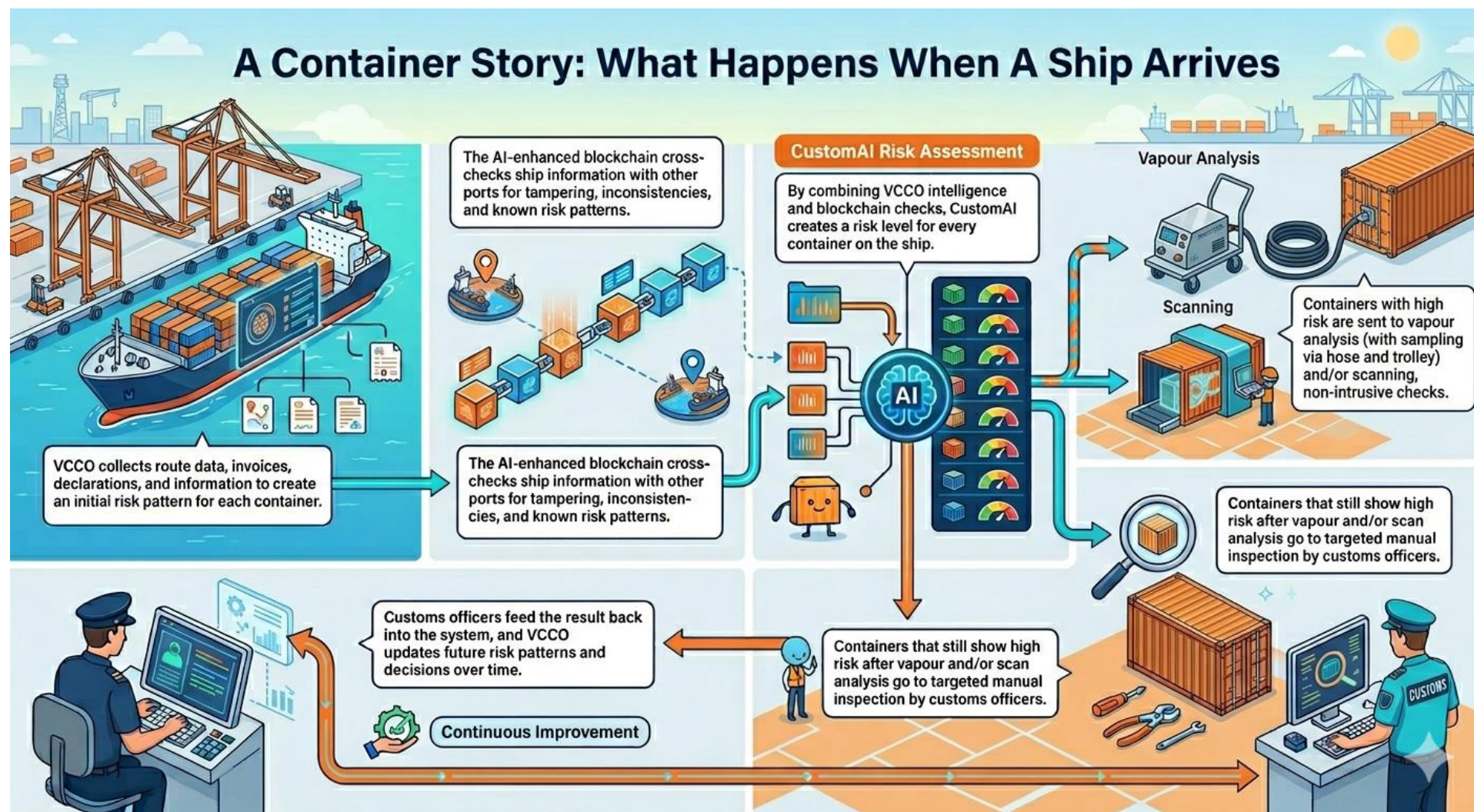
Aarhus, Denmark	AI-supported container risk profiling using manifests and linked systems.
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Copenhagen Airport	Courier parcel pilot using camera, x-ray and continual learning.
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Cultural goods	Detection of illegal trafficking using 3D semantic representation and risk scoring.
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This range of pilots is part of the innovation: one architecture, multiple customs contexts.

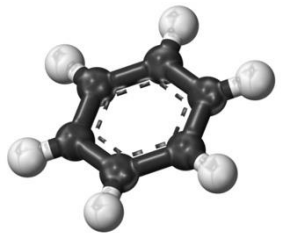
CustomAI: A container Story



The Partners



Netcompany



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GENEL MÜDÜRLÜĞÜ



Thanks for your attention



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