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Enhanced Customs Agility through Innovation: Data-Driven Decisions for Comprehensive, End-to-End Security Solutions

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*Harnessing the Transformative Potential of Detection Technology:
How Non-Intrusive Inspection Systems are Reshaping Customs Operations*

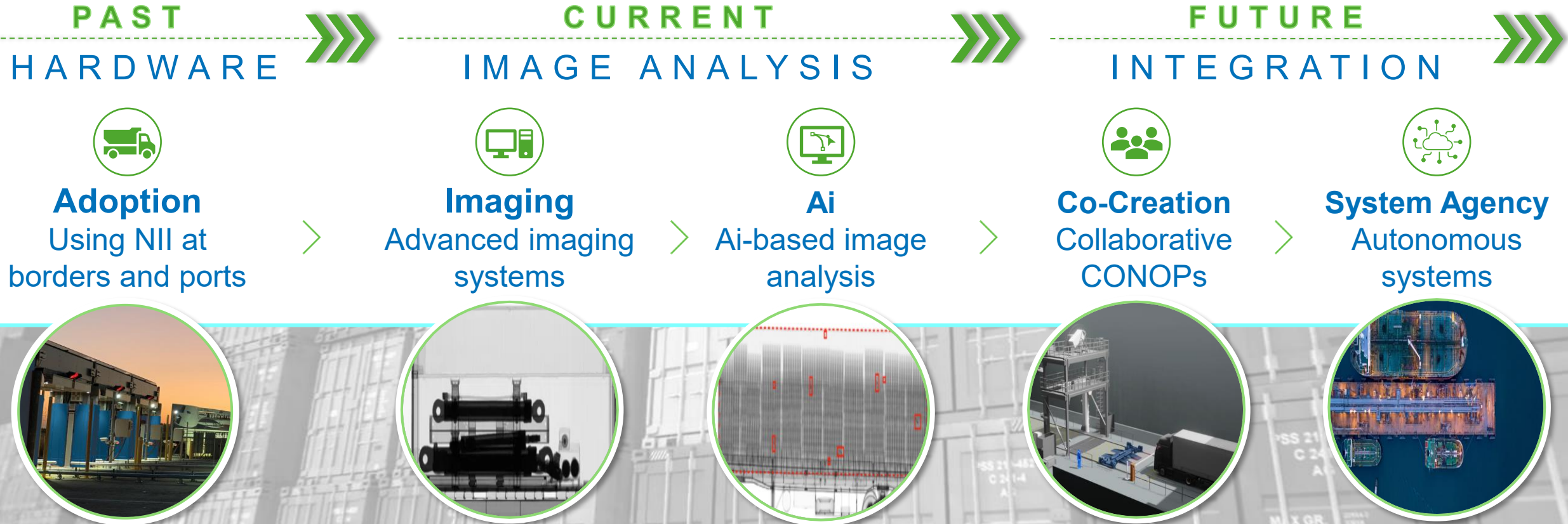


WORLD CUSTOMS ORGANIZATION
ORGANISATION MONDIALE DES DOUANES

SECURITY SOLUTIONS FOR A SAFER WORLD

PROJECTING THROUGH THE CUSTOMS REVOLUTION

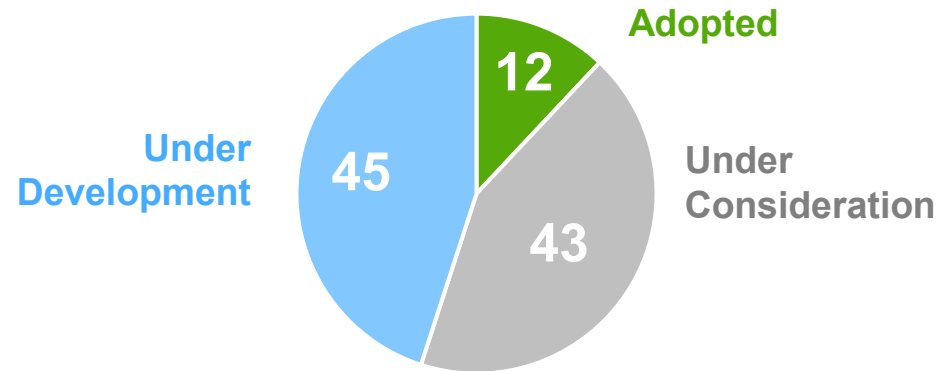
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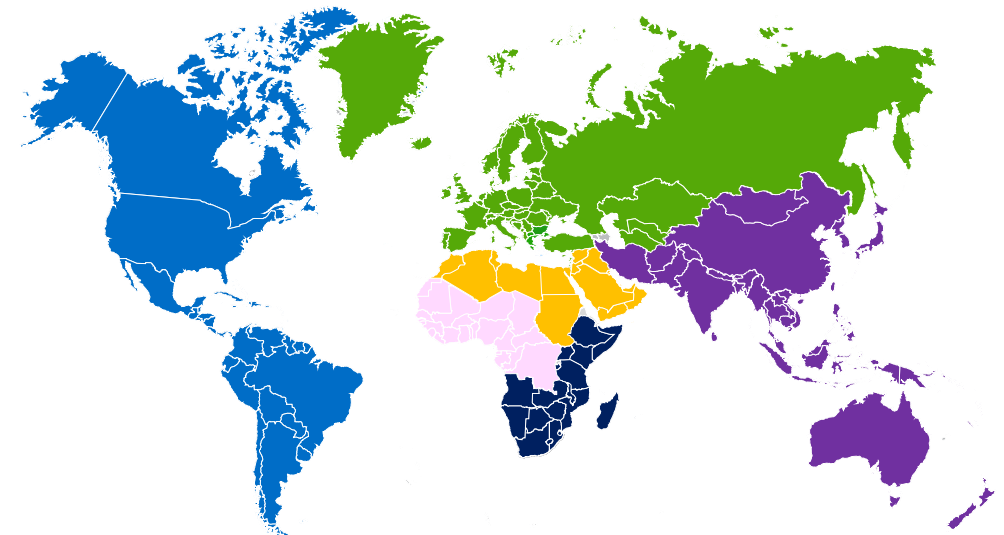
VARIED TRENDS IN AI/ML ADOPTION STATUS

- Results of the recent WCO Smart Customs Survey highlight many countries still only considering the use of AI solutions.
- In addition, Customs in three regions have no AI solutions deployed.
- **How do we design systems that allow agencies to cross this chasm to agentic AI implementation—without asking them to start again from scratch?**

AI/ML ADOPTION ACROSS ALL WCO REGIONS



AI/ML ADOPTION WITHIN WCO REGIONS





It has **nine brains**—one central brain, and **one in each of its eight arms**. Each arm can independently sense, decide, and act—without waiting for instruction from the center.



Its **neural necklace**, a band of neurons that connects and coordinates those arms, allows them to **share information in real time**—touch, movement, texture—without routing everything back to the central brain first.

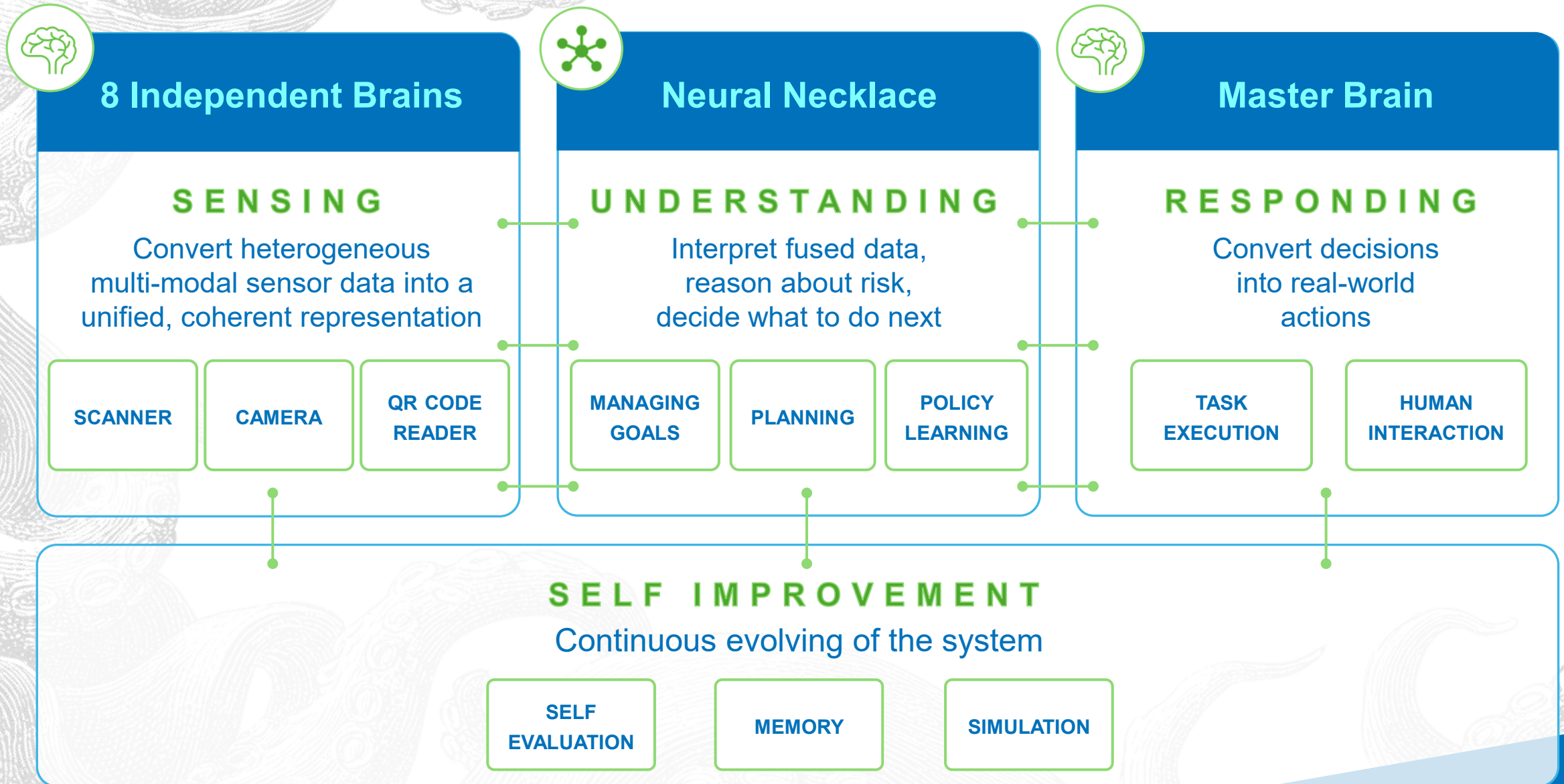


A system where **intelligence is distributed**, decisions are **made locally**, and yet actions remain **globally coherent**.

This is precisely the mindset of an **agentic customs system**.

INDEPENDENT. COORDINATED. COHERENT.

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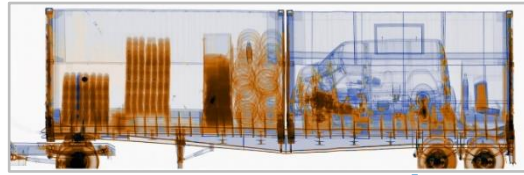
MULTIPLE TECHNOLOGIES WITH AN AGENTIC AI LAYER

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Container ID



X-Ray Scanner



Radiation Detection



CCTV

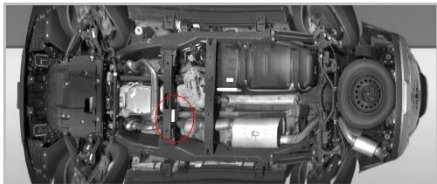


License Plate Reader & Vehicle Analytics



- Continuous learning without re-training – updated correlation weights
- Distributed autonomy with global coherence – one lane measures all benefit
- Integration of existing hardware - multiple suppliers and generations

Future-proof upgrades while extracting more value from your current estate



Under-Vehicle Imaging



QR Code Reader/Credentiailling Kiosk



Command & Control Center



Vehicle Occupant Detection

When embarking on AI/ML projects, one of the key considerations for Customs administrations is technical feasibility...evaluating the existing technical expertise within the Customs administration. — *WCO Detailed Report on the Adoption of Artificial Intelligence and Machine Learning in Customs, June 2022*

THE OPERATOR'S ROLE

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AI agents don't just accelerate tasks; they restructure the entire screening system—who acts, when, and with what decision rights.

Think of the operator not as a checker of outputs, but as the **Custodian of Causation**.

The operator ensures that the system's correlations are grounded in **evidence**, **context**, and **legal sufficiency**.

The operator is an additional input into the brain of the screening solution, giving critical **situational context** that the AI agent is unable to provide.

“While advanced AI/ML models and generative AI offer significant benefits to Customs operations, an important trend is the adoption of the Human-in-the-Loop (HITL) approach”

Source: WCO Detailed Report on the Adoption of Artificial Intelligence and Machine Learning in Customs, June 2022

FINAL TAKEAWAYS

The future of customs security isn't just better sensors.

It's how we orchestrate them, how we share intelligence across the border, and how we place humans precisely where causation, accountability, and law still matter.

We don't need a moon shot - We need a learning system with humans in the right place

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Thank you!

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