

Assessing technologies to counter the diversion of small arms and light weapons

Side-event to the PoA Review Conference 4

26 June 2024

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flemish
peaceinstitute



Why examine the use of technology?

- Significant attention has already been devoted to develop measures and initiatives to strengthen counter diversion of conventional weapons and related components
- Some technologies have been the focus of discussions in multilateral forums or even tested for strengthening counter-diversion initiatives
- However, there is a gap between increased attention on the potential use of technology and actual broad-scale use for countering diversion

Phase 1: Framework to identify and assess technologies to counter diversion of conventional weapons

1

Aim of technology use



2

Identification of potential technologies that respond to the stated aim



3

Analysis of the context of implementation

Parameters for the assessment of the technologies

Less complex technologies

- 2D codes
- Chemical coding
- DNA coding
- Document authentication

- Electronic seals (eSeals)
- Global navigation satellite system (GNSS) and mobile tracking
- Near field communication (NFC)
- Radio-frequency identification (RFID)

- Sensors
- Internet of Things (IoT)
- Distributed ledger Technology (DLT)

More complex technologies

- Big data analysis (AI)
- Natural Language Processing (NLP) (AI)
- Computer vision (AI)

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Lifecycle stage

Pre-export

Transfer

Post-delivery

Counter-diversion element

Prevention

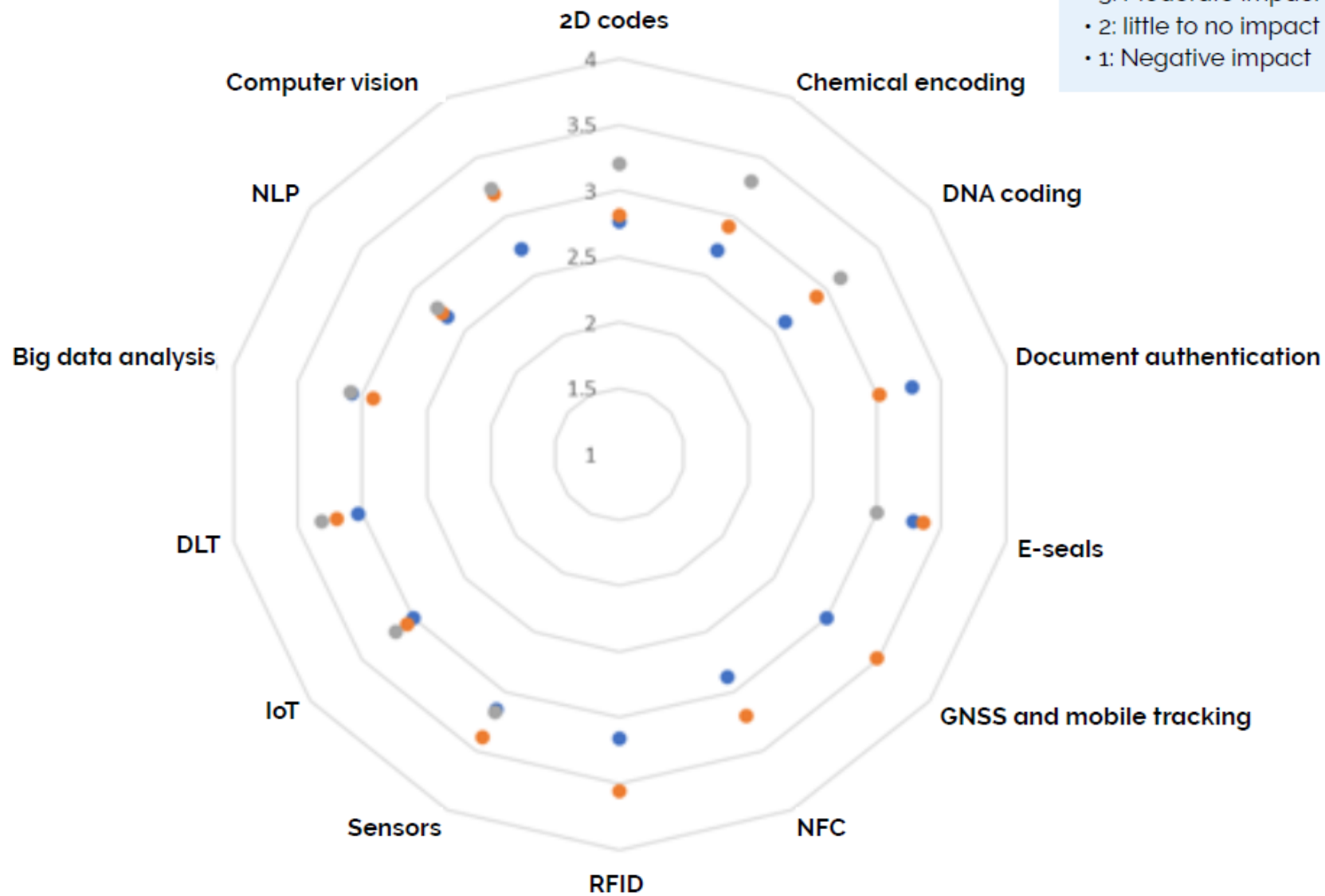
Detection

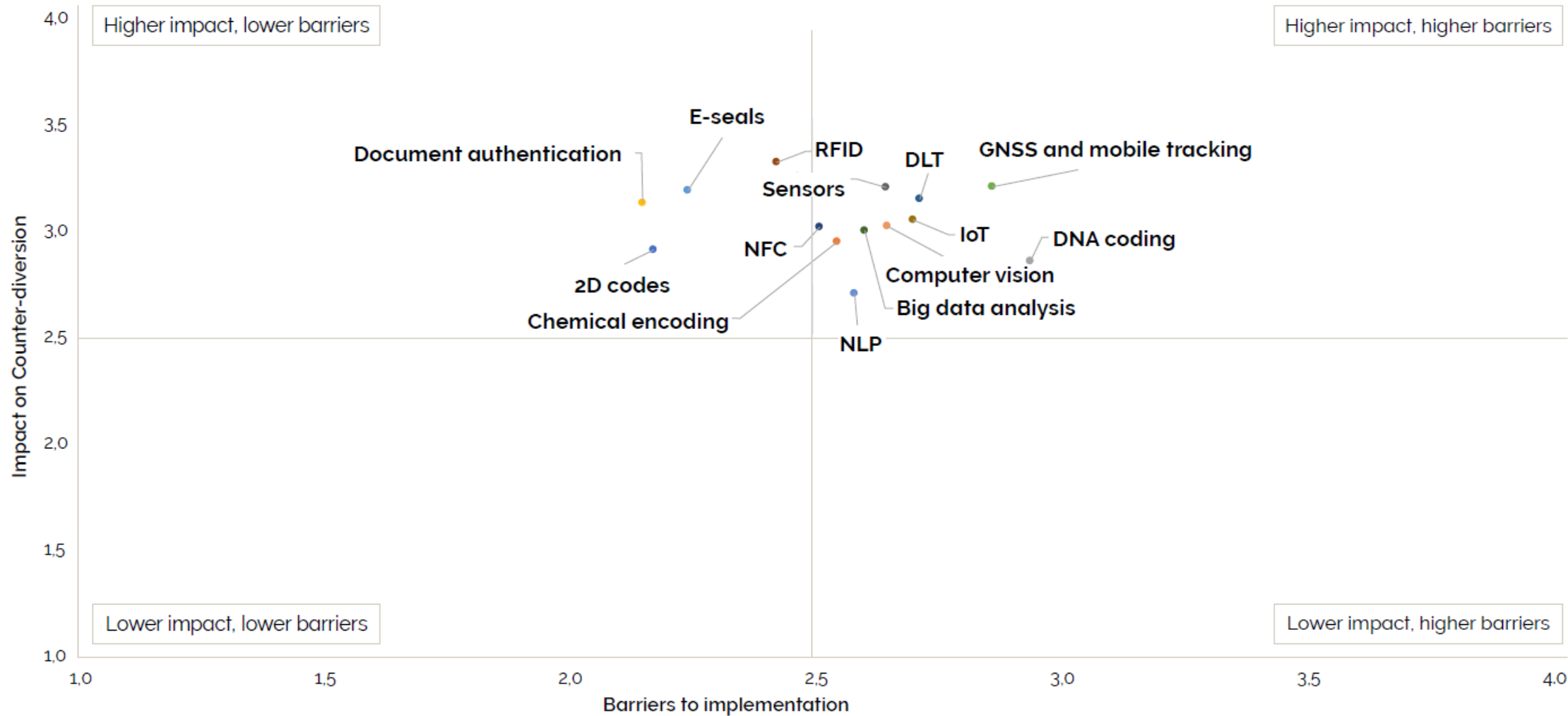
Identification

● Prevention ● Detection ● Identification

Legend:

- 4: High impact
- 3: Moderate impact
- 2: little to no impact
- 1: Negative impact





Legend: X-axis:

- 4: Insurmountable barrier
- 3: Medium barrier
- 2: Small barrier
- 1: Not a barrier

Y-axis:

- 4: High impact
- 3: Moderate impact
- 2: Little to no impact
- 1: Negative impact

Systemic barriers and options and avenues to overcome these

- Fragmentation among the multiple actors involved in SALW;
 - Practicalities of technology development and adoption;
 - Lack of infrastructure (digital, physical, regulatory) surrounding the technology;
 - Cost of technology;
 - National security considerations;
 - Lack of sufficient knowledgeable personnel; and
 - Need for data and data management.
- Strengthening international and regional collaboration and inter-agency cooperation;
 - Building up the evidence and knowledge base;
 - Undertaking institutional capacity-building and individual training; and
 - Reinforcing or establishing the appropriate physical, regulatory and digital infrastructure

Thank you for your attention



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AUSTRALIAN
**CRIMINAL
INTELLIGENCE
COMMISSION**

2005 - 2024

ITI - Marking of Polymer

Gary Fleetwood – Manager

National Firearm Trace Program
National Firearm Identification Database

Australian Criminal Intelligence Commission
June 2024



www.acic.gov.au

International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons

III Marking - Polymer

- ...method is a national prerogative...

III Marking - Polymer

- Exposed surface
- Conspicuous without technical aids or tools
- Recognizable and readable
- Durable
- As far as technically possible, recoverable

International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons

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International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons

III Marking - Polymer

- Dot Peening
- Laser engraving
- 'Window' - allowing viewing to metal internal components
- Covert marking



International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons





International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons

III Marking - Polymer

- Applying metal serial number plates is not marking polymer
- Evidence of where ITI requirements & polymer have been a success ?
- What technology can recover serial numbers applied to polymer ?
- Covert marking - between industry & law enforcement only.



International instrument to enable States to identify and trace, in a timely and reliable manner, illicit small arms and light weapons

www.nfid.acic.gov.au

www.gunnumber.com

Industry participants

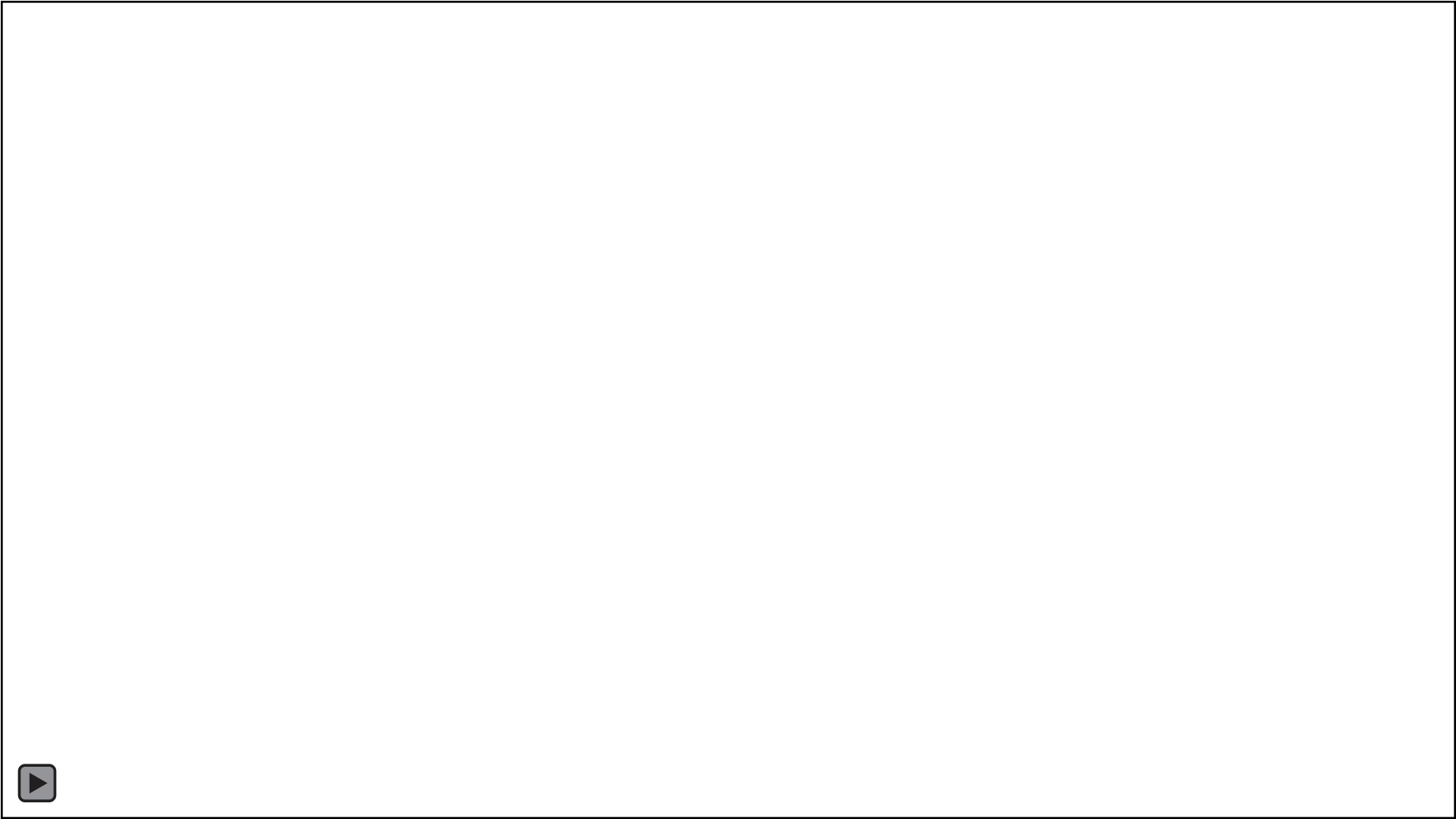
TECHNOLOGY IN WAM

SOMALIA

Programme of Action RevCon 4
Musadak Ahmed
CMD Director, Office of National Security



24 June 2024
New York



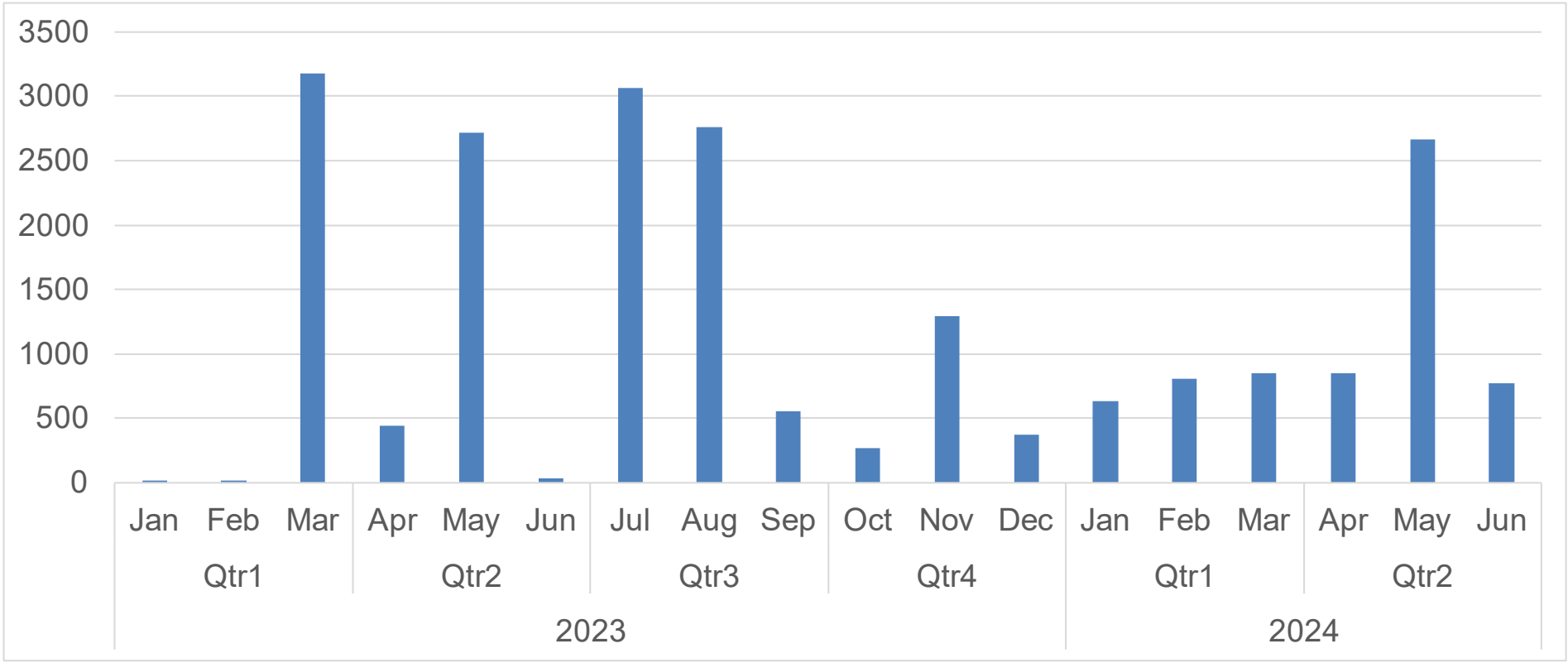
MOBILE MARKING



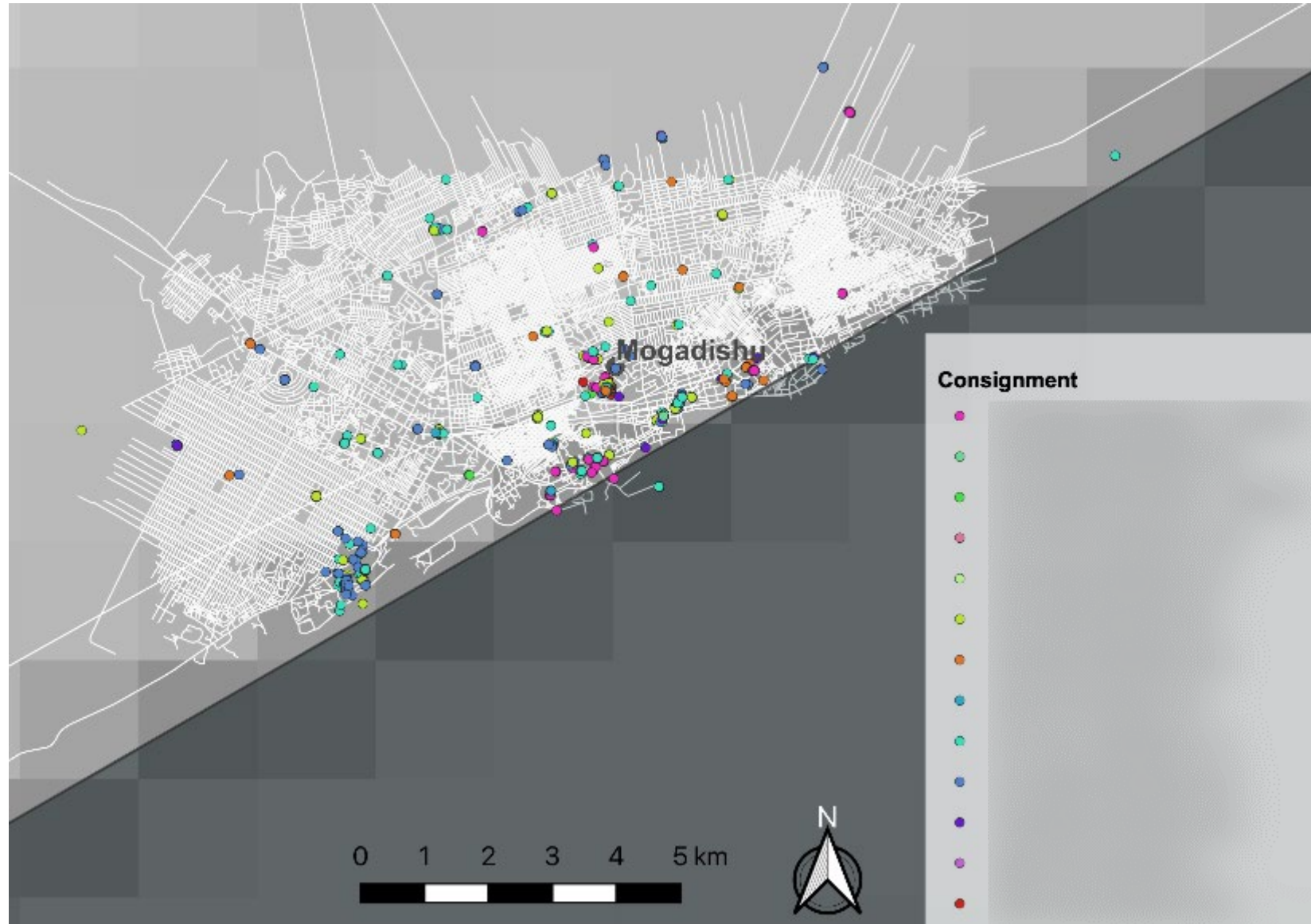


WEAPON REGISTRATION PROGRESS

Total number of weapons registered: 30,219



UN MANDATED END USER VERIFICATION



TECHNOLOGY USED IN TRACING

TRACING THE UNTRACEABLE



CONFLICT
ARMAMENT
RESEARCH

Programme of Action RevCon 4

Henry Leach

Head of Somalia Operations

26 June 2024

New York





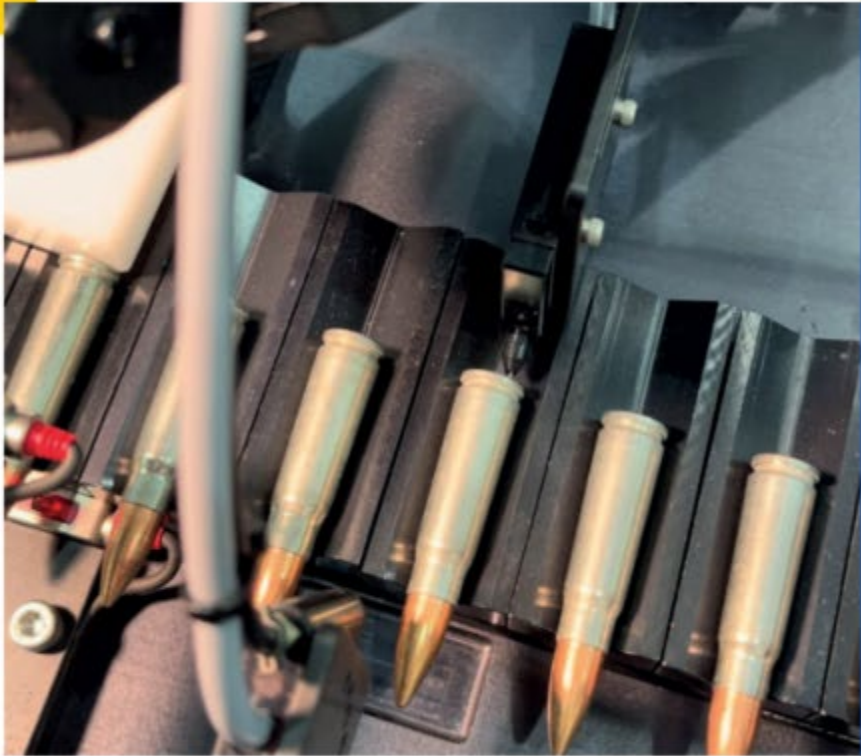


3 ★ 82 ★



AmTag

Secure Materiel Tracing



NATURAL



ULTRAVIOLET



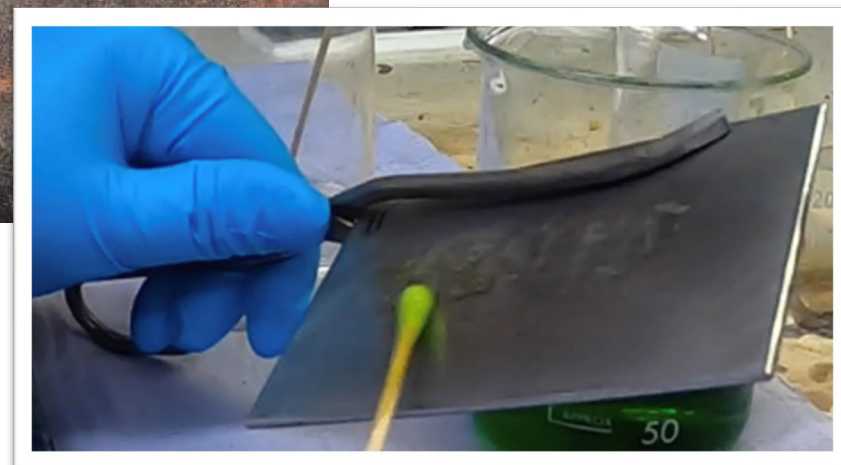
Non-Destructive Serial Number Recovery (ND-SNR)



Fry's Reagent

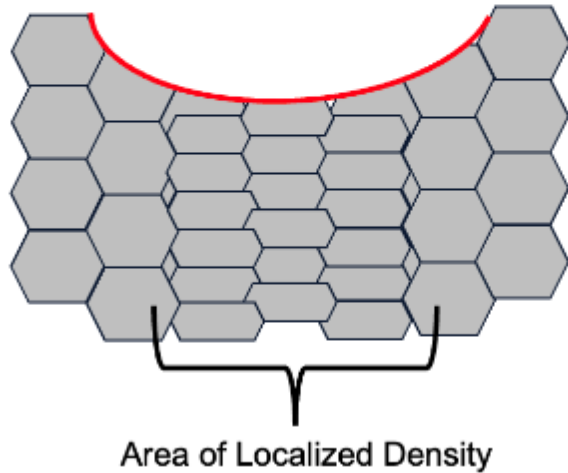


- 5g of copper chloride in 25ml of ethanol
- 40ml of hydrochloric acid in 30ml distilled water

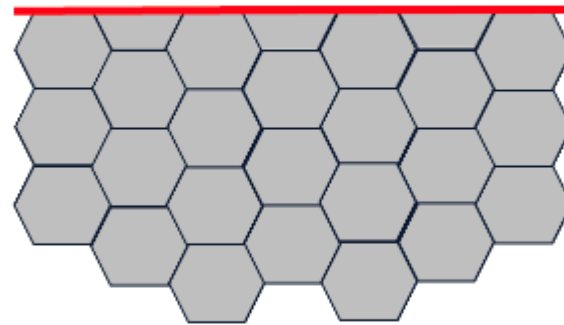


Effects of Marking on Metal

Applied with downward force
Stamped, Dot Peened



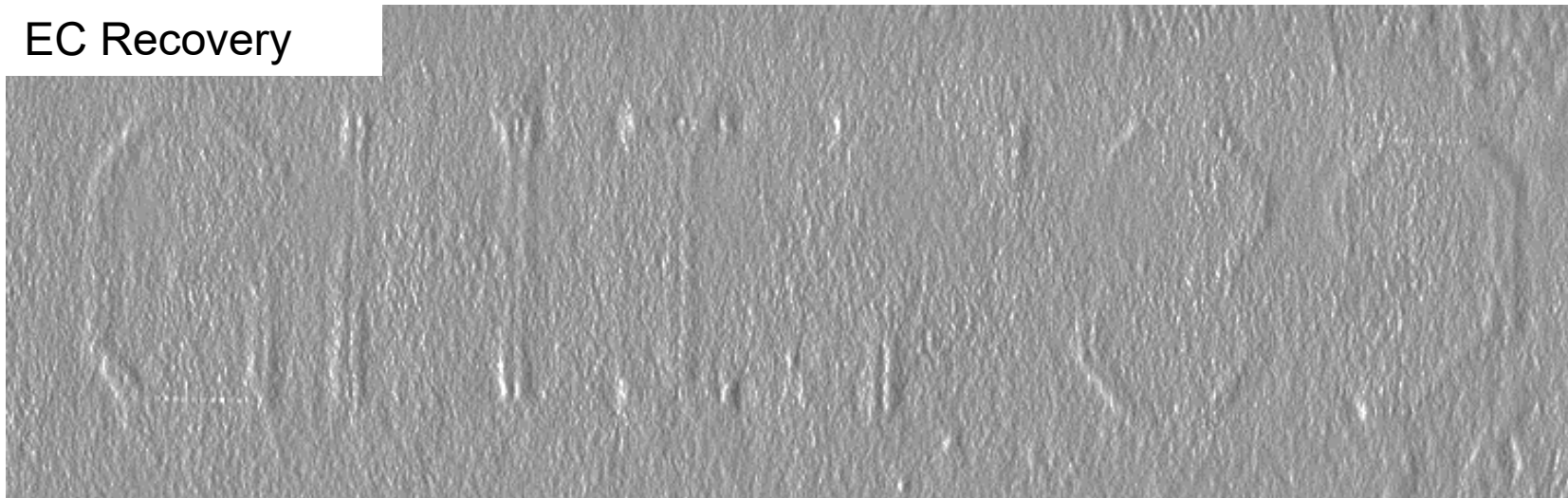
Applied without downward force
Laser Engraved, Etched



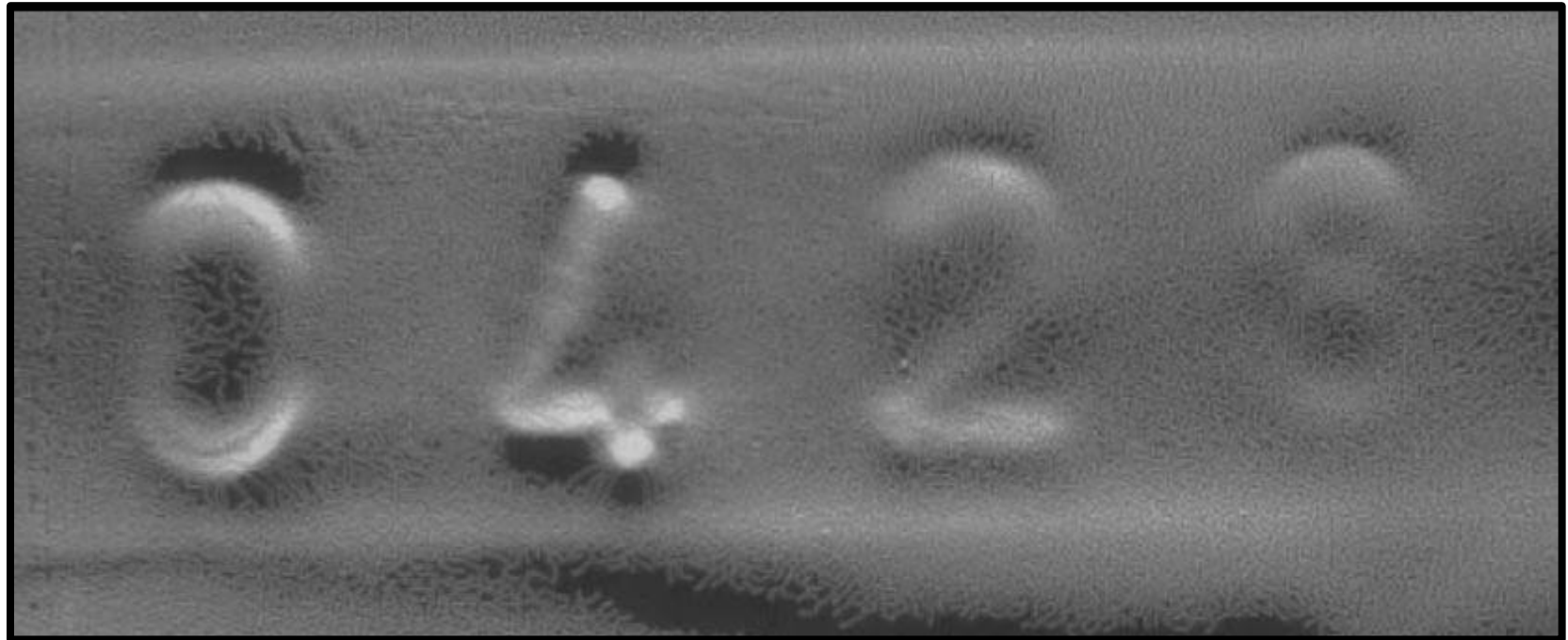
Fry's Recovery



EC Recovery







Use of Technology for Communication and Information-Sharing

Inter-American Framework



OAS

More rights
for more people

PACAM

Program of Assistance on Control of Arms and Munition

- Umbrella program to support OAS Member States in reducing armed violence and **implementing CIFTA obligations**
 - Holistic approach: actions to reduce illicit trade of firearms and ammunition through a supply and demand perspective
- Current phase is **implemented with the support of the European Union**
 - 2019-2025
 - **28 countries in the Caribbean and Latin America assisted**
 - Components:
 - Legislative Assistance to Harmonize and Modernize Firearms Normative Framework
 - Operational Support on Weapons and Ammunition Management
 - IT tools for Record-Keeping and Information Sharing
 - Strengthening Transfer Controls
 - Promotion of Regional Coordination Tools
 - Prevention of Armed Violence at the community level

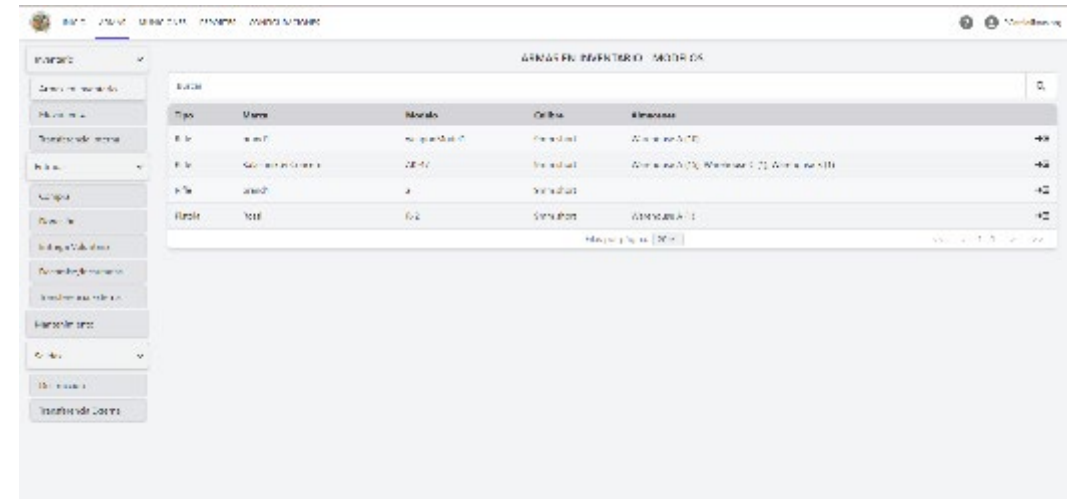
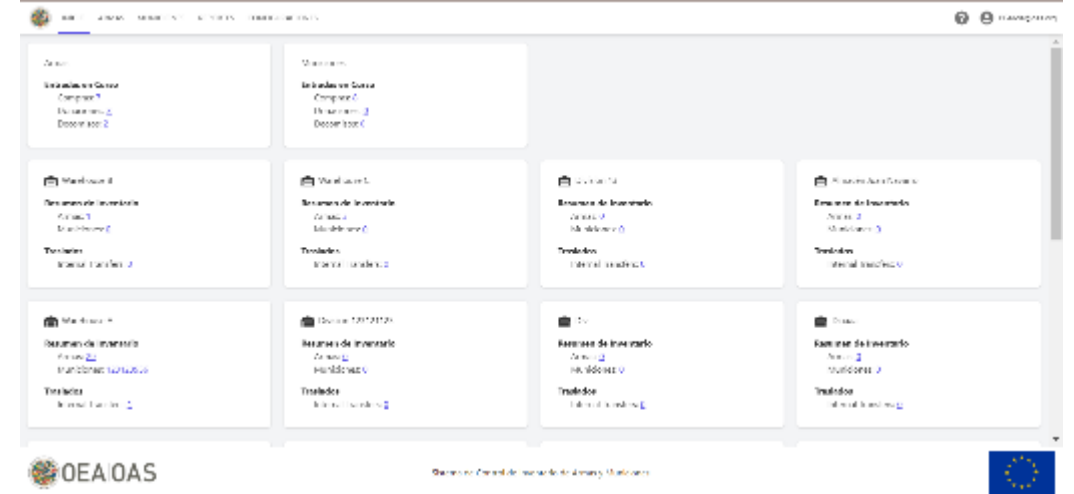


See details



Inventory Control Software (SAM)

- Simple tool to promote inventory control of arms and ammunition of national stockpiles
- Considerations:
 - Developed considering PSSM good practices (MOSAIC 05.20 - Cap 11, 11.1.2 - 11.1.3 e IATG 03.10)
 - Open-source coding to promote sustainability
 - Software installed locally or in the network of countries (countries own the software)
 - Developed in 2020; improved in 2023 (v. 2.0)
 - 15 institutions of 9 countries are using it
- Functionalities:
 - Available in Spanish and English
 - Multi-layer
 - Two-factor authentication
 - Auditable
 - Physical description, location, condition, entry and exit of arms and munition, external transfers, assignment to officers
 - Configurable alerts to users
 - Reports and statistics



Exchange of Information - Transfers

- **Strengthening of control over international transfers and border crossing points → effective measure to support the fight against illicit trafficking**
 - Dispositions of PoA on licensing systems and export control
 - Obligations of CIFTA, Firearms Protocol, and Arms Trade Treaty
- CIFTA – Article IX :
 1. Establish or maintain an effective system of export, import and transit licenses → National Context
 2. States Parties shall not permit the shipment or transit of materials without the issuance of the corresponding licenses by all countries involved in the transfer → International Cooperation: **requires fluid and secure communication between countries**
 3. Prohibition of shipment and transit without licenses
 4. The importing State Party shall confirm receipt of materials, at the request of exporting State Party
- Paragraph 15 – Recommendations from the V Conference of States Parties to the CIFTA: **“To develop, implement, and participate...in mechanisms, consistent with CIFTA, that facilitate the exchange of information on export, import and transit authorizations or licenses between the States Parties, as well as direct communication between the national authorities in charge of issuing such licenses.”**

Regional Situation*

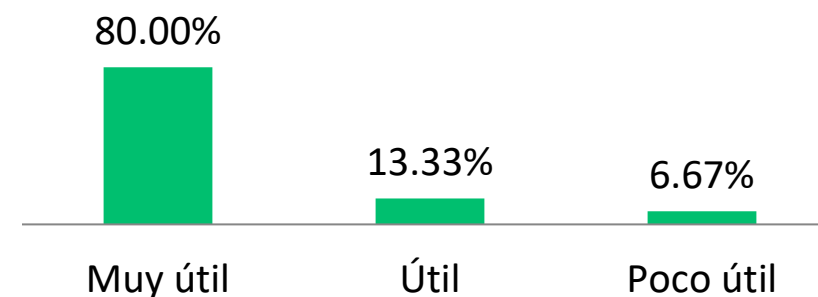
National Level:

- 89% have national legislation and systems for issuing licenses/authorizations of export/import/transit
- 82% of countries do not have effective channels of communication between licensing authorities and customs

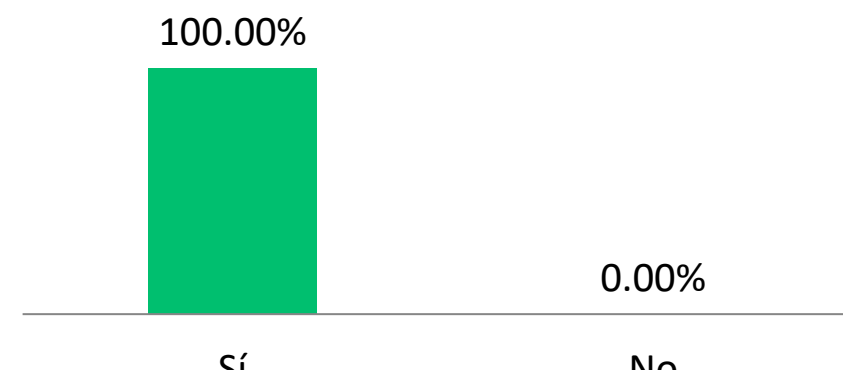
Regional Level:

- 80% of the participants identified a need to strengthen tools to oversee international transfers, including communication with other countries:
 - 63% of countries do not have a direct channel of communication with their counterparts in other countries
 - **82% of countries do not communicate about the denial of licenses**
 - **75% of countries do not inform participating countries over the revocation of previously approved licenses**
 - **Transit countries receive information mostly from transport carriers**
 - **Almost 50% of requests to confirm receipt are left unanswered by importing countries**

How useful would be to have secure communication channels to exchange notifications about the issuance of export and import licenses, and for notifying...



If said system existed, would your country consider participating in this mechanism?



*Survey applied to OAS Member States in the context of developing the design of the MCTA (18 countries answered it)



OAS/PACAM



Funded by the European Union

Challenges or Opportunities?



Operational

- Absence of electronic legal frameworks and national systems that issue licenses
- Lack of standardization in information and nomenclature
- Data privacy laws

Technological

- Information security
- Integration with national systems
- Data Servers



Sustainability

Financing for the maintenance and management of the system



OAS/PACAM



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the European Union

- Objective: Offer a secure and direct communication channel between licensing authorities to exchange information about international transfer processes to reduce vulnerabilities and gaps that facilitate diversion
- Characteristics:
 - Safe web tool with different access levels and multiple languages
 - **Decentralized system with data encryption → only countries involved in transfer will have key to access information**
 - Real-time notifications (issuance/denial/revocation of licenses, delivery receipts, etc.)
 - Formulate alerts and exchange information
 - Standardize information through equivalence tables
 - Risk management repository
 - Database of processes (record-keeping)
- Optional Modules:
 - National licensing system (52% of countries still use paper-based systems)
 - Platform to integrate customs authorities



Development Process

1

Planning (Finalized)

- Definition of the scope of the system and basic needs
- Development of methodology

Design

(Finalized)

- Definition of requirements and functionalities
- Identification of technological solutions

3

Design Validation

(Finalized)

- Review of the Technical Specification (20 countries)
- Political approval (V Conference of State Parties of CIFTA)

Development

(2024)

- Development of solution for national system
- Piloting of national system
- Beginning of development of regional tool (MCTA)

4

5

Development and Implementation

(2025)

- Finalization of regional tool (MCTA)
- Pilot with countries
- Adjustments and expansion
- Agreements with countries to implement the tool



OAS | PACAM



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OAS DPS

Thank you!

Pier Angelli De Luca

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