Global Trade and Blockchain Forum

World Customs Organization

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Trade facilitation in action

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Customs use cases

Regulatory issues

Data standardization and data quality

Interoperability

Blockchain : Key benefits

WCO

Principle of data generated at source

By using DLT, we ensure data is generated at source, giving trust and accountability to information

Single-version-of-truth

Enable a shared Information Pipeline where all actors can have higher visibility on consignment status and trade certificates.

Authentication of trade documents/data

Provide the technology to authenticate that trade documents/data (Certificate of Origin etc.) are authentic and haven't been forged.

Customs will benefit on three areas

RISK ASSESSMENTS
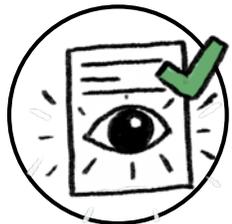
Unnecessary interventions, or "false positives" due to late and missing information. Poor visibility of private actors activities.

Provides greater visibility, more complete information, available earlier and with better provenance. Thus enable better decision-making on which consignments or documents require inspection.

COUNTER ILLICIT TRADE, FRAUD & FORGERY
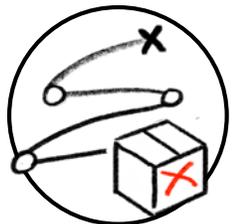
Illicit trade, fraud and forgery of documents are major problems

Increases probability of identifying bad actors due to a more robust, immutable audit trail for documents and event data. Reduce fraud opportunity by replacing inspections and paper-based documents with more secure DLT-based documents and data.

TRADE FACILITATION
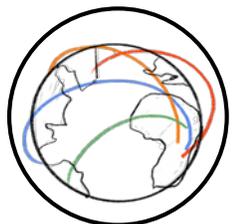
Slow cross-border processes. Costly, paper-intensive work. Juggling efforts to integrate ecosystem into multiple platforms.

Facilitates sharing of documents and status information and approval workflows between government agencies within a country and with other countries. Improve trade facilitation and streamline import and export processes by making measures such as advance clearance possible.

Potential use cases

- Customs declaration and regulatory submissions

- Exchange of advance electronic information – Inter-agency cooperation

- Electronic certification/verification of regulatory requirements

- Implementation of Free Trade Agreements

- Implementation of AEO-MRA

- Transit

- Identity Management

- Revenue Collection

- Compliance Management

- Post Clearance Audit

- Passenger baggage imaging exchange

Customs use cases

o **Challenge of Customs Declarations**

» Creation of Customs declaration documents is a very complex task in a distributed supply chain.

» Difficulties in pulling correct information from various documents - sales data, product information, manufacturing details, as well as logistics information.

» Because of outsourced services and distributed data sources this process is highly manual and runs with a potential risk of non-compliance.

» Traders often involve 3rd party providers to handle the Customs declaration process with Customs

o **Blockchains can overcome these challenges**

» Blockchain can help collecting and managing automated interactions with Customs authorities—collecting any required information from ordering, preparing and shipping the products in a common ledger

» Customs could automatically pull the required information from the sources with the benefit of transparency and immutability that nobody in the process changed any source data

» We can realise the "data pipeline" using Blockchains

» Customs to get accurate data, right from the source

» Business case will provide benefits on the trader side due to the dramatically reduced work to assemble the required Customs information (plus the cost avoidance of customs penalties) as well as on the Customs side reducing their manual verification and resources required to validate decarations and identify mistakes/frauds

» This would lead to faster Customs declaration processing and with that reduced end to end lead times

o **Challenge of Compliance**

» Compliance to non-tariff requirements

» LPCO Data on products/ manufactured goods too voluminous

» Product certification interests all – product quality and safety

» Certifiers, labs, producers, regulators and consumers alike

» Certification of inputs to products (iteratively) are of concern

- e.g. IPR of Products, IPR of inputs/constituents

» Certification linked to licensing/permitting, clearance and consumption

» Not shared between all concerned

o **Blockchains can overcome these challenges**

➢ Product lifecycle data can be managed on a blockchain

» Community of producers, logistics players, regulators & consumers

» Application include provenance & certification, licensing & permitting

» A new way to meet the LPCO challenges!

o **Challenge of implementing agreements**

» Fulfilment of requirements/criteria

» Exchange of information

» Validation

» Data privacy and protection

» **Blockchains can overcome these challenges**

➤ Implementing criteria and benefits through smart contracts

» FTA

» AEO-MRA

» Mutual recognition of controls

Regulatory implications
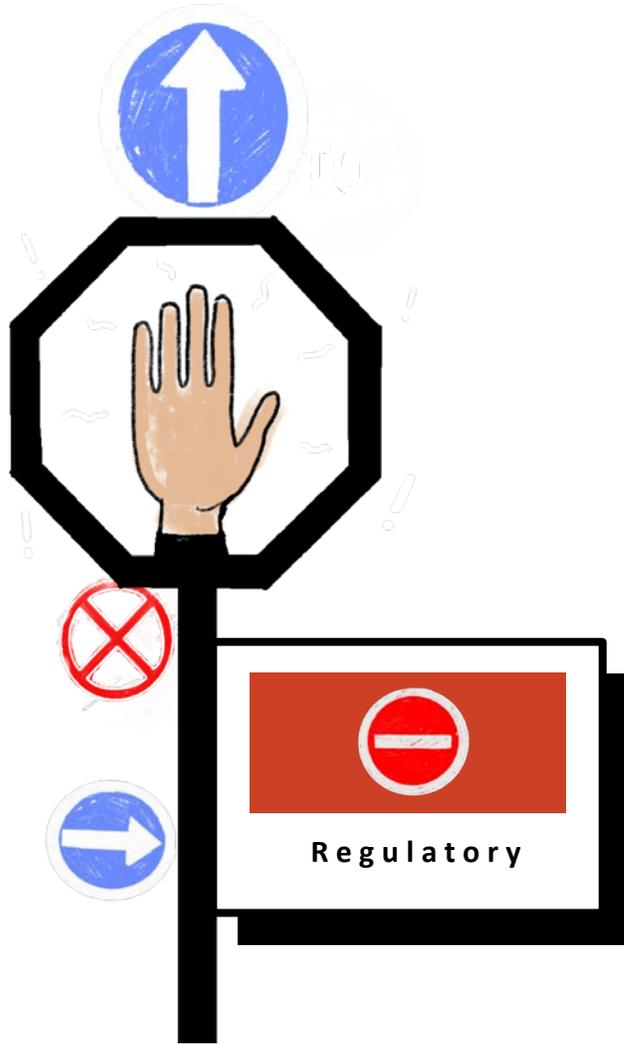
- What are the potential barriers or enablers for a digital pipeline?

- What is the policy and legal updates needed to recognize DLT-authenticated information?

- How do we define data ownership and liability when data is generated by an ecosystem - not individual actors?

Regulatory

Interoperability and data standardization

- Interoperability between blockchains and Customs IT/Single Window clearance systems

- G2B connectivity framework

- Data exchange between on-chain and off-chain databases

- Data transfer from one blockchain to another

- WCO Data model

Case study: Kenya (KRA, TMEA and IOTA)

The system will be tested on **one trade lane** involving **flowers** from Kenya to Holland involving **multiple actors** (different *Kenyan border agencies, the trader, transporter, airline carrier, buyer and Dutch customs*); focusing on **status events** (*order submitted, cargo booking, authority inspection, custom clearance, oversea transport, import processing, cargo delivered*) and **multiple trade documents** (*Commercial invoice, Certificate of Export, Export Certificate, Certificate of Origin and Phytosanitary Certificate*).

Case study: Kenya

PERMISSIONED BLOCKCHAIN

Data flows trough an encrypted tunneling channel, between countries and according to the respective agreement

b-CONNECT
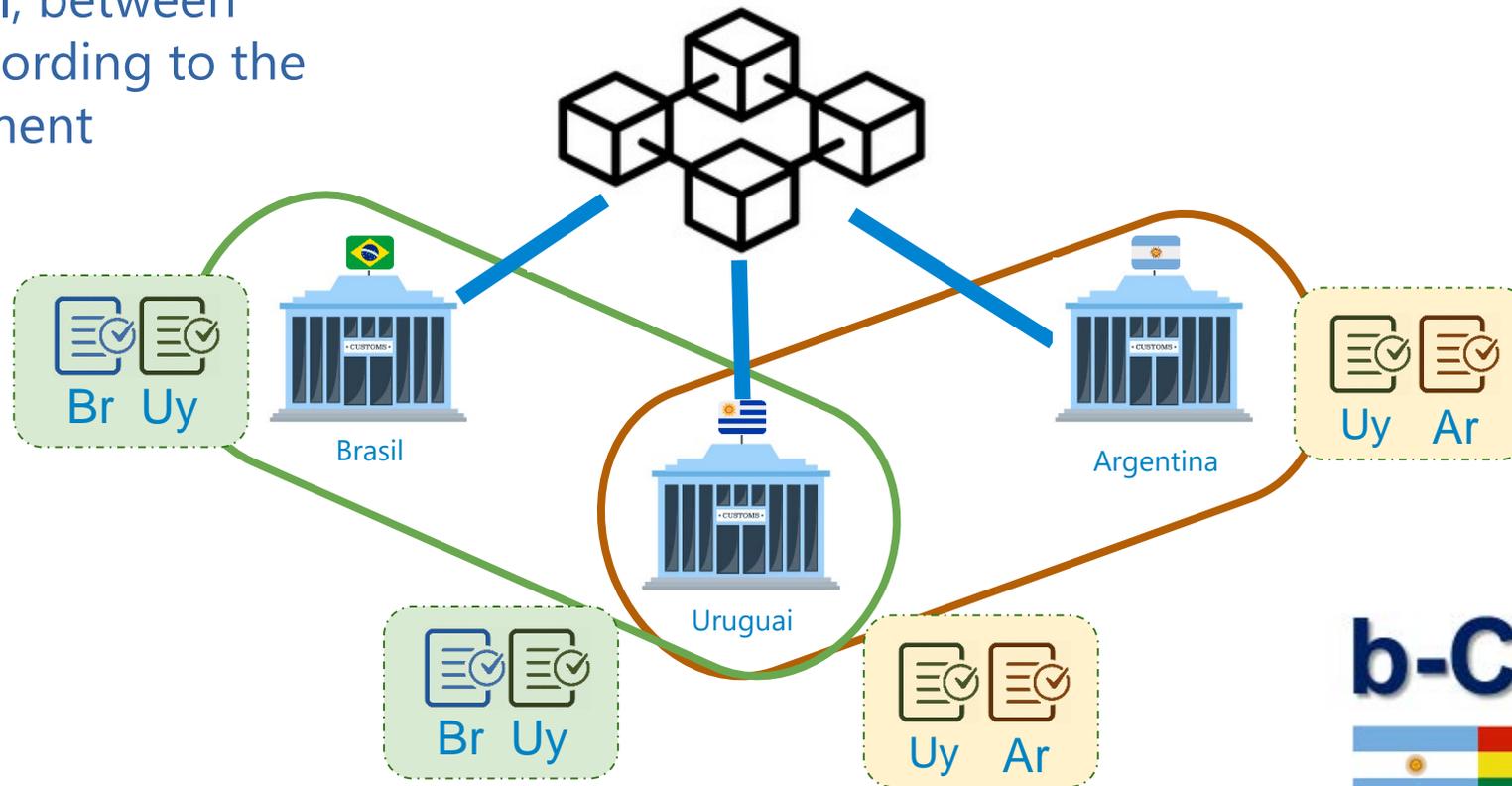
Actual stage

- **Data and files exchanged within de blockchain**
- **Expansion to new nodes possible**
- **Proof of concept is ready and running**
- **Not a Brazilian solution, but a Federative Solution**
- **Belongs to the signature countries**

Next steps

- **Celebrate Regional agreements – Expand to different countries.**
- **Celebrate multiregional agreements – two or more regions**

Challenges and Future Vision

- **Blockchain interoperability - Essential to use <u>WCO Data Model</u>.**
- **Massive non-AEO Master Data Exchange - Risk Management**

1

CADENA is a Blockchain enabled Trade Facilitation tool for Customs Administrations, other Government Agencies and the Private Sector that contributes to streamline and secure trade.

Building trust with Blockchain in the global supply chain

CADENA empowers customs administrations, which engage in an MRA, **to share a single view of the status of an AEO certified companies in real time** with the highest standards of security, traceability, and confidentiality of the data.

2

Case study: Cadena project

Creation of Users

Loading of AEO companies

Unloading of information

Traceability of information
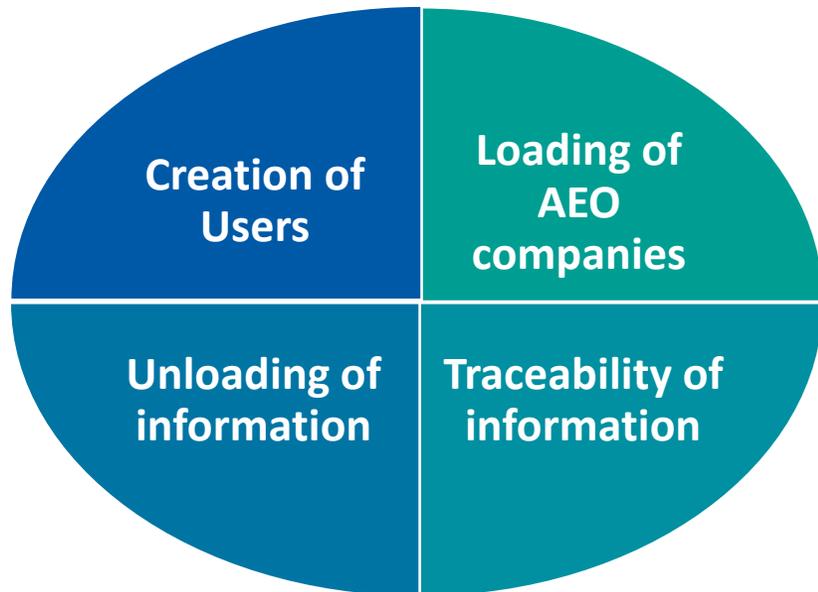
- 2018
- Costa Rica, Mexico, Peru
- Supported by the InterAmerican Development Bank (IDB) and Microsoft
- Development of the blockchain solution, infrastructure and validation of its functionality and usability
- Scope: AEO-MRA

Case study: Cadena project: how it works

Creation of Users with different access levels

Country A certifies an AEO company and upload its information into **CADENA**

**CADENA notifies Country B** about the new certified company.

Country B verifies the information and send or **push it to its own Risk Analysis System.**

AEO company receives the MRA benefits in Country B.

Public permissioned blockchain infrastructure: LACChain

Automatization of the data exchange through the digitalization of AEO status

Data exchange is performed in a **safer and trusted way with data integrity** and access control

Traceability of information changes

Low cost, sustainable and autonomous application to **function with any cloud system or in premises**

Allows **easier interoperability** and **scalability** for other customs to join

Avoids human mistakes for "copying" information

Transparency in the data associated with AEO certificates
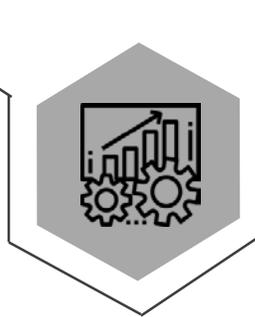
Immediate access to benefits**: time reduction** of trade operations
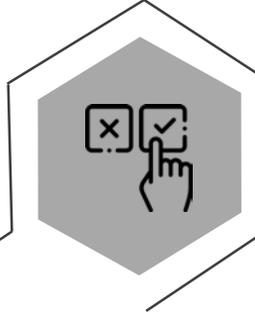
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Thank you

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