Use Cases on Blockchain for Cross-Border Trade Facilitation

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As of 2022, blockchain technology has drawn the attention of several Customs Authorities around the world. **59%** of the world Customs Authorities had initiated or plan to initiate blockchain projects.



19% implementing proof of concepts

14% implementing pilot projects

2% full deployment

24% plan within next 3 years

Source: WCO / WTO



Blockchain Benefits

Survey with Customs Authorities

Adoption Curve on Blockchain

What Are the Use Cases?

Stage One

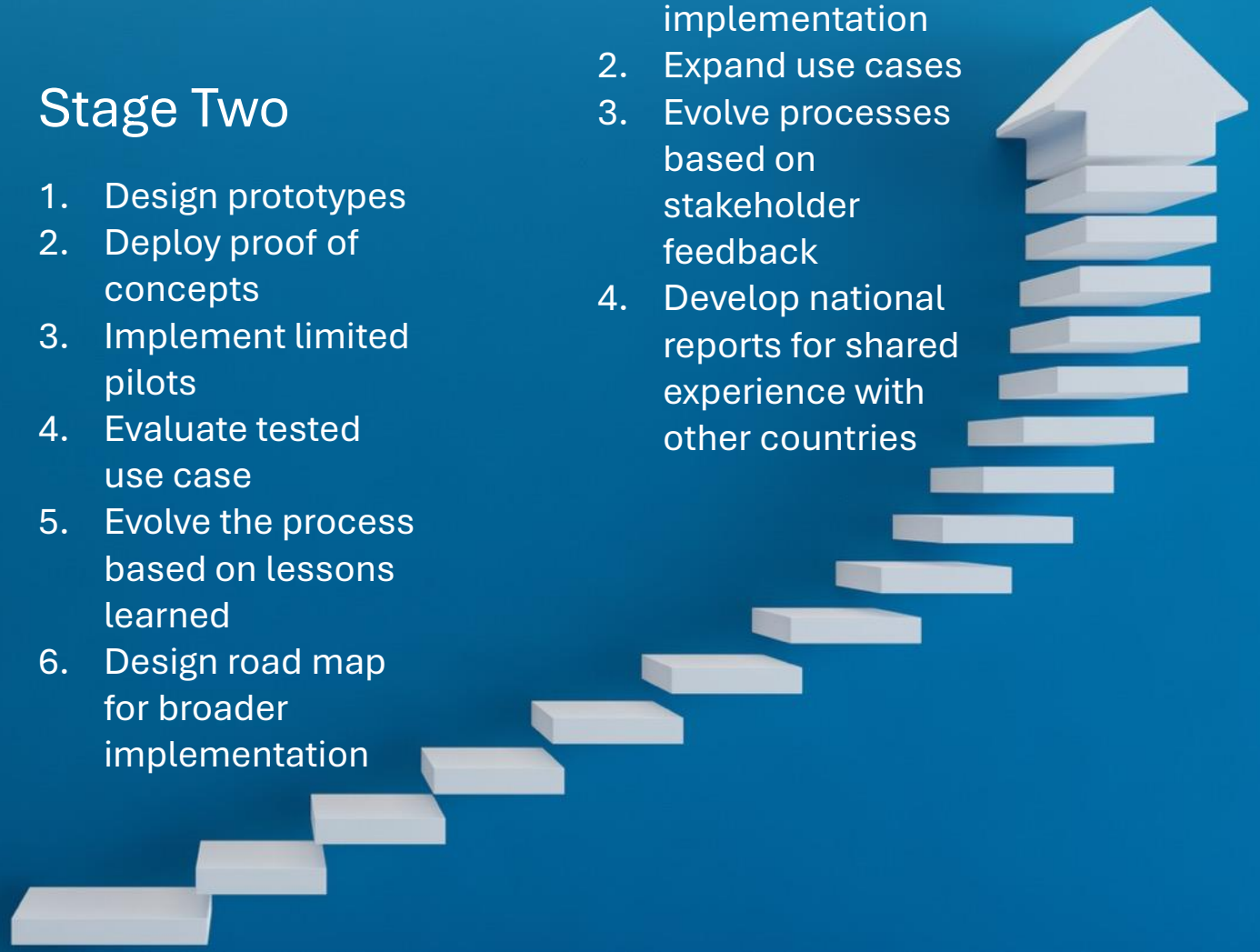
1. Identify use cases of blockchain based on needs assessment and feasibility studies
2. Develop an implementation strategy

Stage Two

1. Design prototypes
2. Deploy proof of concepts
3. Implement limited pilots
4. Evaluate tested use case
5. Evolve the process based on lessons learned
6. Design road map for broader implementation

Stage Three

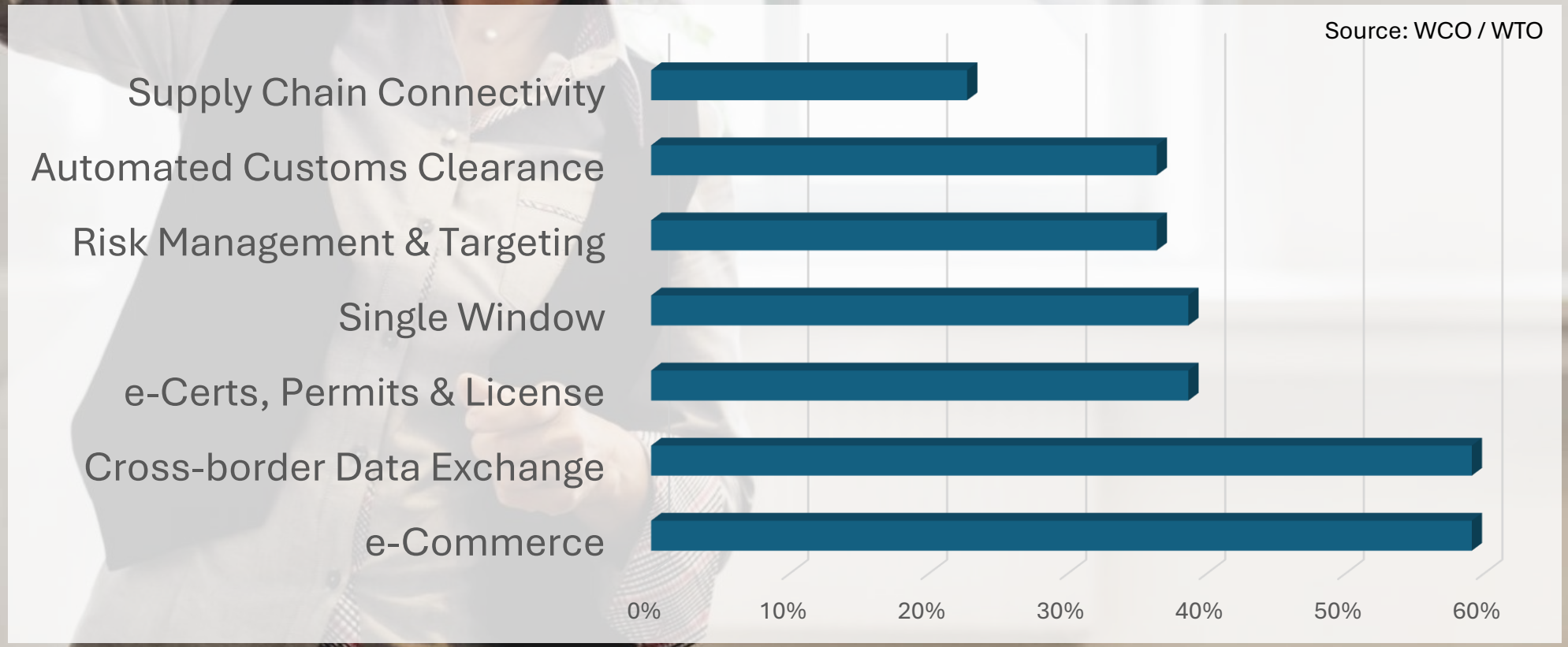
1. Scale up implementation
2. Expand use cases
3. Evolve processes based on stakeholder feedback
4. Develop national reports for shared experience with other countries



Source: UNCTAD

Project Areas

Survey with Customs Authorities



Case Study – Singapore Electronic Certificate of Origin

Singapore International Chamber of Commerce in collaboration with cross-border trade facilitator vCargo Cloud unveiled the first blockchain-based platform for electronic certificates of origin using the Ethereum blockchain infrastructure, it made information authenticatable and accessible using simple QR codes, scannable with smart phones, thereby eliminating data duplicates and the requirement for manual re-entering of information by trade stakeholders. This use case opened the door for many more trials on the front of data authentication, validation and verification using simple applications built on top of the blockchain.

Source: UNCTAD





Case Study – Singapore Trade Finance (eBL)

Enabled by IMDA's TradeTrust framework, banks, shipping lines, buyers, sellers, platform service providers and fintech companies have collaborated on successful technical pilots on trade financing using simulated electronic Bills of Lading eBLs). UOB, together with its Shenzhen Branch in China, and their clients have successfully concluded two digital trade financing technical pilots. DBS Singapore, DBS China and their client have also conducted a third successful technical pilot. The successful pilots conducted in second half of 2021 demonstrated how key maritime trade documents like the eBL could be used across different trade financing platforms and jurisdictions.

Source: WCO / WTO

Case Study – Egypt
Advance Cargo Information

In 2019, the Arab Republic of Egypt decided to move away from a slow and burdensome paper-based way of processing cross-border transactions to one based on automation and digitization. As part of this transformation, the country required economic operators and government entities to begin exchanging all required documents for import and export through digital channels. The gateway to such data exchanges is the NAFEZA single window. A blockchain document transfer platform was added to this arsenal to enable the Customs Administration to receive and process Advance Cargo Information (ACI) filings and control the compliance of the importation process prior to the loading of the shipments from the countries of export.



Source: WCO / WTO

Case Study – CADENA (8 Countries)
AEO-MRA Status Exchange

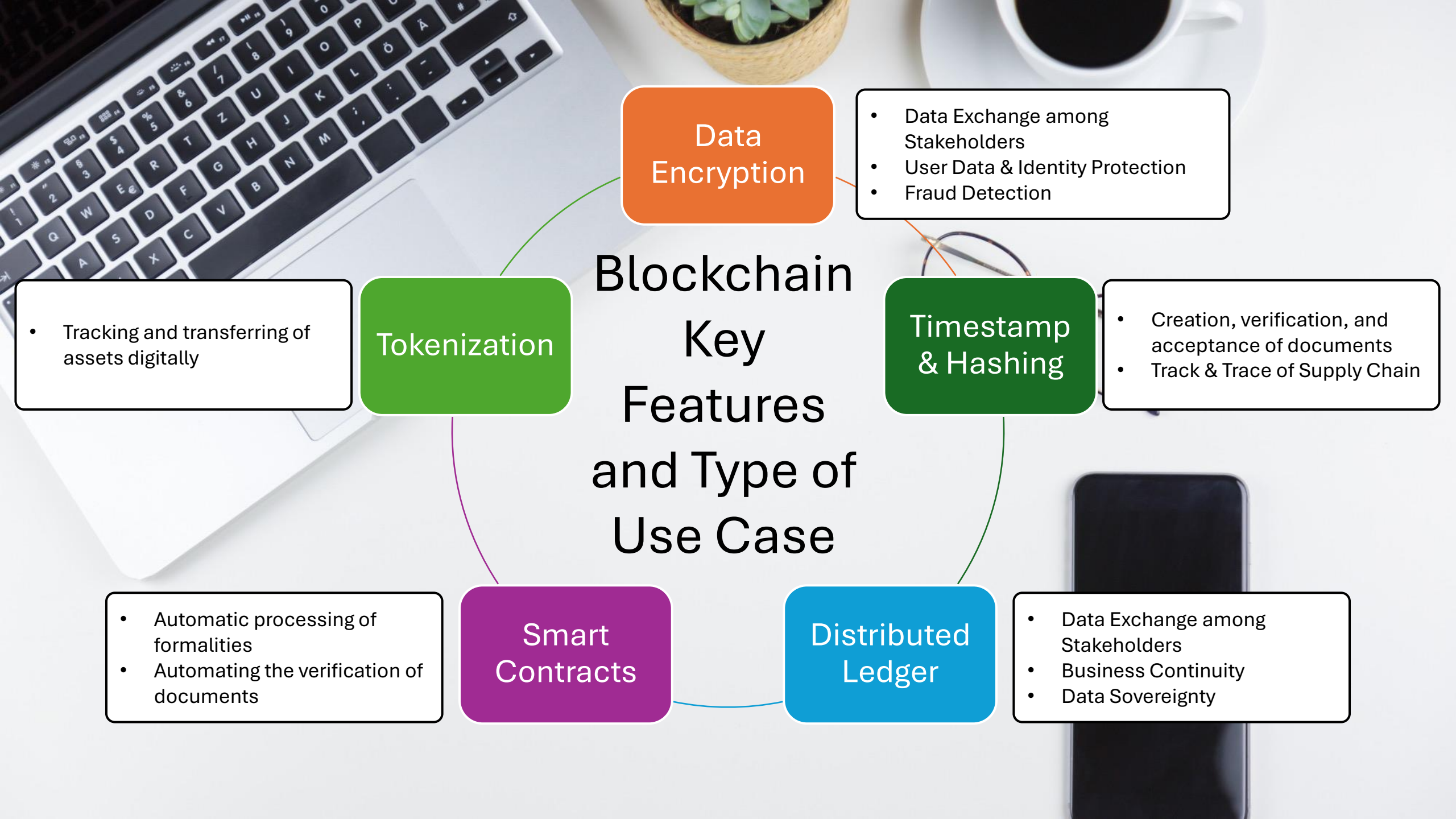
CADENA is an application based on blockchain technology that helps to facilitate and secure international trade through the efficient exchange of data between Customs administrations and, potentially, between other government entities and the private sector. CADENA´s design and implementation was funded by the Inter-American Development Bank (IDB) through an inclusive co-creation proves with eight Customs administrations (Chile, Colombia, Peru, Mexico, Costa Rica, Ecuador, Bolivia, and Guatemala). CADENA improves the operational implementation of binational or multilateral Mutual Recognition Arrangements (MRAs). It improves the management of AEO programmes and contributes to strengthening the security of supply chains by ensuring that AEO information with regard to certifications, suspensions, and cancellations executed by a Customs administration are shared in real time with those Customs administrations that have signed an MRA, so they can take the appropriate measures.



Source: WCO / WTO



to Blockchain or not to Blockchain?



Blockchain Key Features and Type of Use Case

Data Encryption

- Data Exchange among Stakeholders
- User Data & Identity Protection
- Fraud Detection

Timestamp & Hashing

- Creation, verification, and acceptance of documents
- Track & Trace of Supply Chain

Distributed Ledger

- Data Exchange among Stakeholders
- Business Continuity
- Data Sovereignty

Smart Contracts

- Automatic processing of formalities
- Automating the verification of documents

Tokenization

- Tracking and transferring of assets digitally

Possible Type of Use Cases for Mongolia Paperless Cross-border Trade Facilitation

Customs Declaration and Regulatory Submissions

Using blockchains to collect all the required information for Customs Declaration in a common ledger. Hence, reduce or eliminate the requirement of supporting documents for goods cargo declarations

Electronic Certification & Verification of Regulatory Requirements

Using blockchain for electronic certification of LPCO, e.g. e-Phyto certificate and e-Certificate of Origin (e-CoO) in a more efficient, secure and trusted manner.

Implementation of Free Trade Agreements

Using blockchain to track goods from input stage. E.g. cost of inputs, its HS classification, origin, processing cost and value addition, change of HS classification of the finished goods, etc

Implementation of AEO-MRA

Using blockchains to:
(i) secure exchange of AEO master data with MRA partner Customs administrations, including a real-time sharing of changes in the AEO status, and
(ii) efficient identification of AEOs by MRA partner Customs administrations for the grantof mutually agreed benefits.

Transit Entry and Exit

Blockchain can solve the issues on reconciliation required between the transit Entry declaration at Customs Entry office and the transit Exit declaration at Customs Exit office; reconciliation Exit-Entry is based on bilateral message exchange even each country has its own IT system for Customs transit declarations;

Trade Finance Document Repository

Using blockchain to implement a document repository that is accessible across the banks. This can resolve the issue of duplicate invoice financing where Bills of lading are financed multiple times due to the inability of banks to verify their authenticity

Thank You

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