Global Trade Digitalization

Blockchain in the Domain of Customs Agencies

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Agenda

- What is Blockchain?
- How will it impact trade?
- What should Authorities be doing about it?
Blockchain will revolutionize 21c trade the way the Internet revolutionized 20c communication
Parties in the business network distribute information which is prone to error

Every participant keeps their own ledger updated with their transactions

An incident in one organization can propagate across the network

Each organization in the network has complex silos that require reconciliation
Enter Blockchain ...

- **Unchangeable** data (in blocks)
- Stored in a **sequence** (the chain)
- **Distributed** across organisations (the business network)
Transactions agreed by business network participants

Total clarity of who’s done what, when

One view of truth shared across business network

Disputes easy to resolve

Resilient to failure or fraud
Blockchain and Bitcoin are different…

Bitcoin is:

– An unregulated shadow-currency
– The first blockchain application
– Resource intensive

– Blockchain for business differs in key areas:
  – *Identity* over anonymity
  – *Selective endorsement* over proof of work
  – *Assets* over cryptocurrency
Candidate blockchain use cases: government to government focus

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Coordination of national controls</td>
<td>Co-ordinate necessary checks and inspections across all government agencies</td>
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<tr>
<td>Electronic Licenses, Certificates, Permits</td>
<td>Dematerialise certificates (e.g. phytosanitary, certificate of origin)</td>
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<td>Authorised Economic Operator &amp; Mutual Recognition</td>
<td>Sharing of information collected to grant AEO. Sharing of AEO info as part of mutual recognition agreements</td>
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<tr>
<td>Coordination of intra-community controls</td>
<td>Simplify peer to peer versions of ICS (entry summary), NCTS (transit), EMCS (excise suspension), and VIES (VAT Info. Exch. System)</td>
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Candidate blockchain use cases: wider trade ecosystem

<table>
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<tr>
<th>Collection of Customs Duty by 3rd parties</th>
<th>Improve traceability of Customs Duty collected by 3rd parties (posts, express, brokers)</th>
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<tbody>
<tr>
<td>Cross border VAT fraud</td>
<td>Detect international missing trader VAT fraud</td>
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<tr>
<td>Electronic Transit Carnet</td>
<td>Dematerialise paper transit carnets (e.g. eATA)</td>
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<tr>
<td>Global Trade Digitisation</td>
<td>End-to-end digitisation of supply chain, logistics, trade finance and regulatory processes</td>
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Use-case: Container of Schneider Electric goods, France to Rotterdam, onto Maersk Line ship and transported to Port of Newark.

- **Real time visibility** of shipments’ status
- A technology platform to implement key parts of the **Data Pipeline** concept
- Increased **efficiency**
Role of Authorities:

- Governance & Standards setting
  - GTD/Blockchain facilitates data sharing and transparency.
  - *It does NOT change the need for governments to set standards*
  - Traders will agree standards as well.
  - Minimise the amount of additional standards, Allow the market to come up with innovations,
  - Piggyback on existing practices, and on existing formal (or de facto) standards

- Certification of GTDs
  - Provide an umbrella framework of GTD/Blockchain certification
  - Audit GTD/Blockchain models and certify them based on security, transparency, data provenance
  - Provide guidance to members on use for EO status, inspection waivers and other facilities
Authority Standards:

- Objective: Set standards to enable and safeguard government access to crucial information
  - Specify the crucial events and the type of info per event that customs needs
  - Specify the quality of the provenance trail
  - Specify the use of the WCO data model for event information: eg for purchase order data, for bill of material data
  - Specify data retention times. AEOs might adhere to extra long retention times.
  - Specify mode of access. Specify the interface to a customs – dashboard
  - Specify a quality level of the GTD – (one star, two star, ..) based on
    - Capability to generate customs declaration 'on demand' ,
    - Capability to do this ex post, eg 5 years ex post
    - Capability to provide purchase order, bill of lading, .., .
    - Security – level to which the data is protected
    - Data retention mechanism
    - Resilience
    - Protection level against tampering
    - Protection against hacking
    - Accessibility/ease of access to data from a customs perspective
    - Permissioned – data only visible on a permission base
WCO Guidance for Members

- ‘Blockchain data from a WCO certified pipeline can be trusted to be untampered, if implemented according to WCO standards.’

- ‘Best to use the WCO standard set, which will mandate:
  – Minimal Retention Time
  – Data element formats
  – List of crucial events and published info (data elements) per event
  – Security level of the blockchain type
  – Resilience level
  – Which data elements should be stored in the core blockchain, and which data are allowed ’linked and hashed’
  – Access/identity management ’

- ‘GTD/Blockchain drastically enhances risk insights, and optimises efficiency of the logistic operations, both for traders and for governments. ’

- ‘Prepare yourself to start first pilots early 2018’

- ‘Get ready for Production Implementation before 2025’