TRADE LOGISTICS INFORMATION PIPELINE

Improving trade with distributed ledger technology
Project

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For the last 9 years, Erick has held various positions in Trademark East Africa. He has delivered various ICT projects in East and Central Africa focusing on Trade & Transport programmes.

Jens Munch
Head of Global Trade
Building partnership to advance the use of DLT technology in international trade. Prior to joining IOTA Foundation, Jens spend 8 years in different roles within A.P. Moller – Maersk.
IMAGINE THE SUPPLY CHAIN IS ONE ORGANIZATION
All stakeholders locked into a room for 4 days
What Must Our Solution Do?

Enable time savings
Time saved is increased quality in the market reduced costs, increased competitiveness.

Make one truth visible
We need one holistic platform where all data related to trade is in one place-facilitating all aspects of trade.

Be owned collectively
For our Region we want a platform that is owned and managed locally for a group of local stakeholders and the government.

Accommodate current infrastructure
Any electronic solution coming to Kenya should be able to communicate effectively with all systems.

Foster adoption by all
We need to convince them that their business will not suffer but it will make things better for them.
How will Customs benefit?

Can Customs use distributed ledger technology to fetch data from multiple sources across the supply chain in a trusted way?
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.
THE PROPOSED SOLUTION

Consignment 852376

The e-Pouch contains all of the documents that need to be collected and approved for cargo to reach its destination.

Exporters
- Commercial Invoice
- Airway Bill
- Cargo Manifest
- Pre-Clearance Approval
- Import Certificate

Logistics
- Airway Bill
- Cargo Manifest

Dutch Customs
- Pre-Clearance Approval
- Import Certificate

Kenyan Authorities
- KEPHIS
  - Phyto-sanitary Certificate
- HCDA
  - HCD Phyto-sanitary Certificate
  - C.63 Export Declaration
- KRA
  - Certificate of Origin
  - Certificate of Export

https://poc-tpisp.dag.sh

ALL LOGIN CREDENTIALS

- FloraHolland: jan
- Masai Flowers: akeyo
- KLM: nancy
- KRA: rachel
- KEPHIS: anasa
- Dutch Customs: lars

Password: a
The Innovation

**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.

Why IOTA

**Data management**
- No centralized database. The technology allow for data producers to manage access privileges - given control to data owners as well as accountability.
- Security: the protocol use encryption and quantum-secure principles to ensure highest level of security.
- Scalability: The tech scales to cater for the high-volume of transactions in international trade.

**Open source & low cost**
- Open source: The technology is open source and freely available for all - making the cost of implementation low.
- Non-for-profit: The IOTA Foundation is a non-for-profit registered in Germany. They provide access to the technology but they will not own the infrastructure.

**Permissionless & interoperability**
Given the permissionless nature of the technology, interoperability mechanisms are easier to setup - for both public and private systems.
IT Architecture - before

- Trader
- Local Customs
- Certification Authorities

- ICMS
- NSW
- Cert. Authority
- ICS/ECS
- Documents Store
- Registration and Payment plane (KRA)
- Process Management plane (KENTRADE)
- Documents generation and storage plane (Kephis et al.)
IT Architecture - after

- TLIP
- ICMS
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- Cert. Authority
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- Documents Store
- Registration and Payment plane (KRA)
- Process Management plane (KENTRADE)
- Documents generation and storage plane (Kephis et Al)
- Documents integrity, authentication, sharing and access control plane († trader feedbacks)

Trader
Local Customs
Certification Authorities
International Customs
Pilot with focus on flowers

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).
Policy & regulatory implications

- What are the potential barriers or enables for a digital pipeline?
- What is the policy updates needed to recognize DLT-authenticated information?
- How do we define data ownership when data is generated by an ecosystem - not individual actors?
Join us!

We believe in open innovation. DLT innovation is an improvement relevant to the international ecosystem of trade - will not have any effect if only introduced by single actors!

BECOME AN OBSERVER - OR - BUILD WITH US FOR LEARNING AND COST SHARING

As large elements of implementation are “modular”, we believe a deeper collaboration can both improve project costs and enhance implementation efforts. Long-term we believe there is a shared synergism to co-develop the system.

If you have an interest to test and learn within own country/region, we are happy to share our work and methodology. We also find it valuable to share learnings and receive comments from other customs organisations.

Please contact jens@iota.org or erick.sirali@trademarkea.com to receive more information or to setup a call to discuss options of collaboration.
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