



**Asia-Pacific
Economic Cooperation**

2021/CTI/TF/WKSP3/005

Session 2c

Trade Digitalisation - TradeTrust

Submitted by: Singapore



**Utilizing Digital Technology in the Field of
Trade Facilitation Under the Current
COVID-19 Pandemic and Beyond: Best-
Practices Sharing Workshop -
Interoperability and Data Security for
Single Windows
3 August 2021**



Trade Digitalisation - TradeTrust

Mr. Loh Sin Yong,
Director, Trade
Trade & Connectivity Cluster
Sectoral Transformation Group
INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Roles of IMDA

DIGITAL CHAMPION



Drive digitalisation across industries

Supporting a digitally enabled workforce

INDUSTRY DEVELOPER



Develop the digital tech and media industries as an engine of growth for Singapore

Foster a data ecosystem for the digital economy

ENABLER



Master-planner for connectivity, digital infrastructure & standards

Prepare tech & media manpower, and segments of society to be digitally-ready

REGULATOR & PROTECTOR

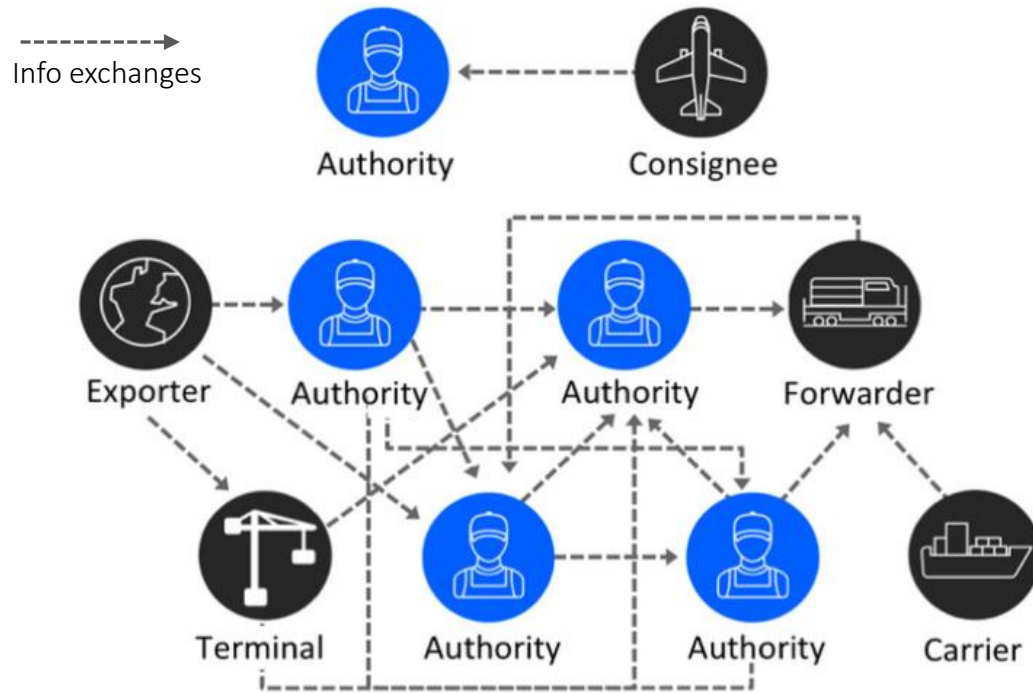


Ensure resilient telecom & broadcast networks

Govern market conduct and protect consumer interest through infocomm, media, postal and data protection regulation

Difficulties with Paper in Cross-Border Trade

Current State



Just 1 shipment involves

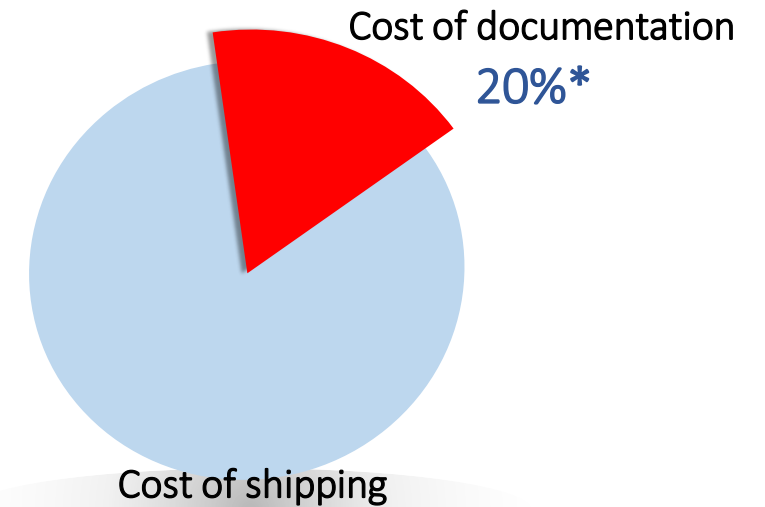
- Many parties across different sectors
- Many exchanges of information
- Many silo systems

Inefficient

- Manual handling
- Vulnerable to fraud

Fragmented Systems

- Costly connections
- No interoperability



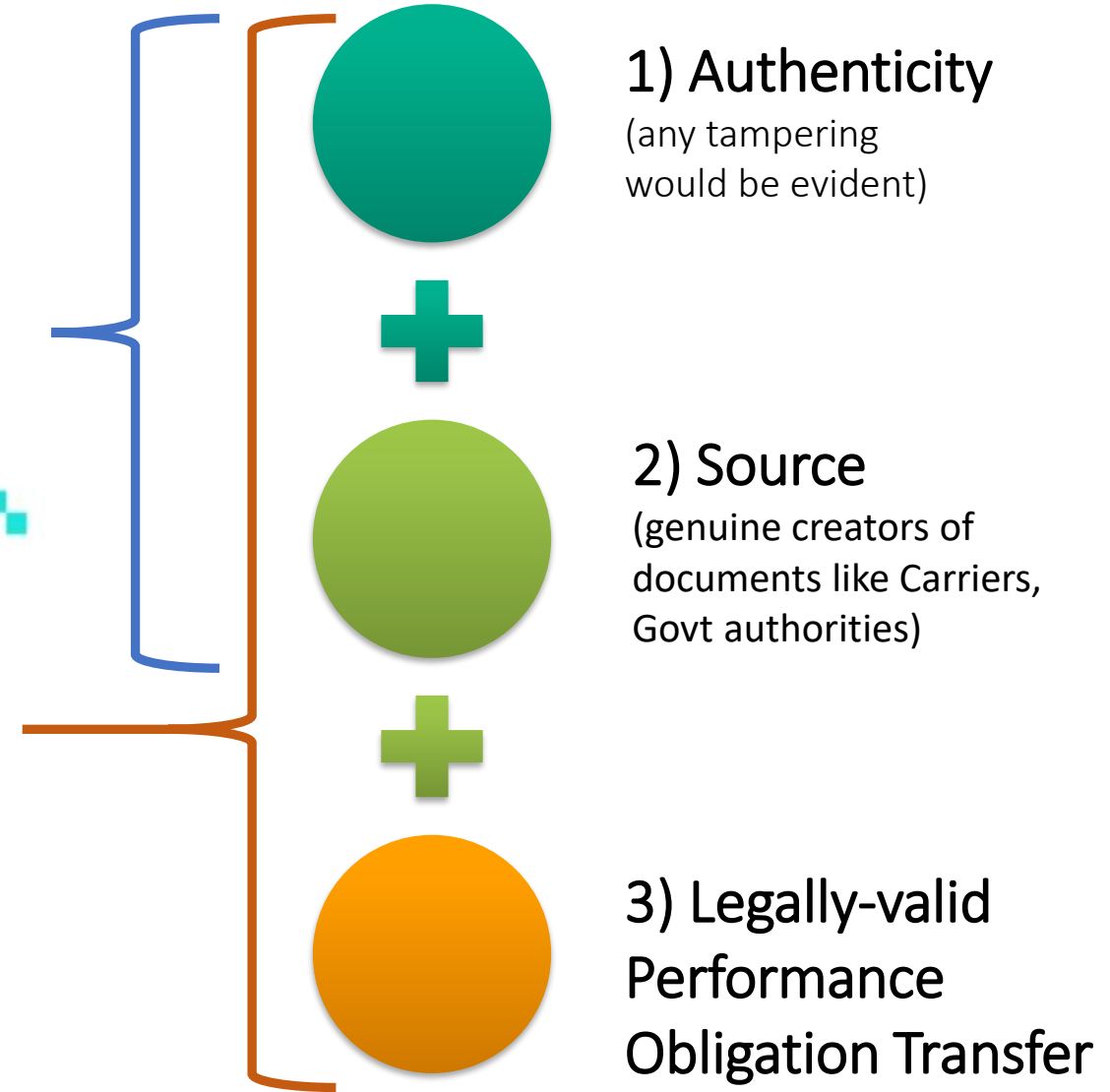
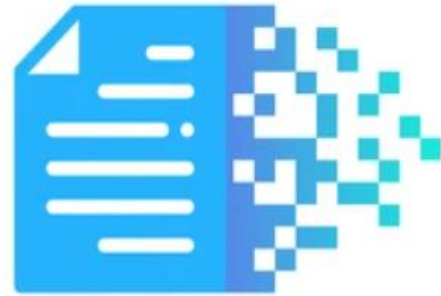
This inefficiency is costly

**Maersk and IBM's Paper Trail Research in 2014*

End-Result: TradeTrust Functions

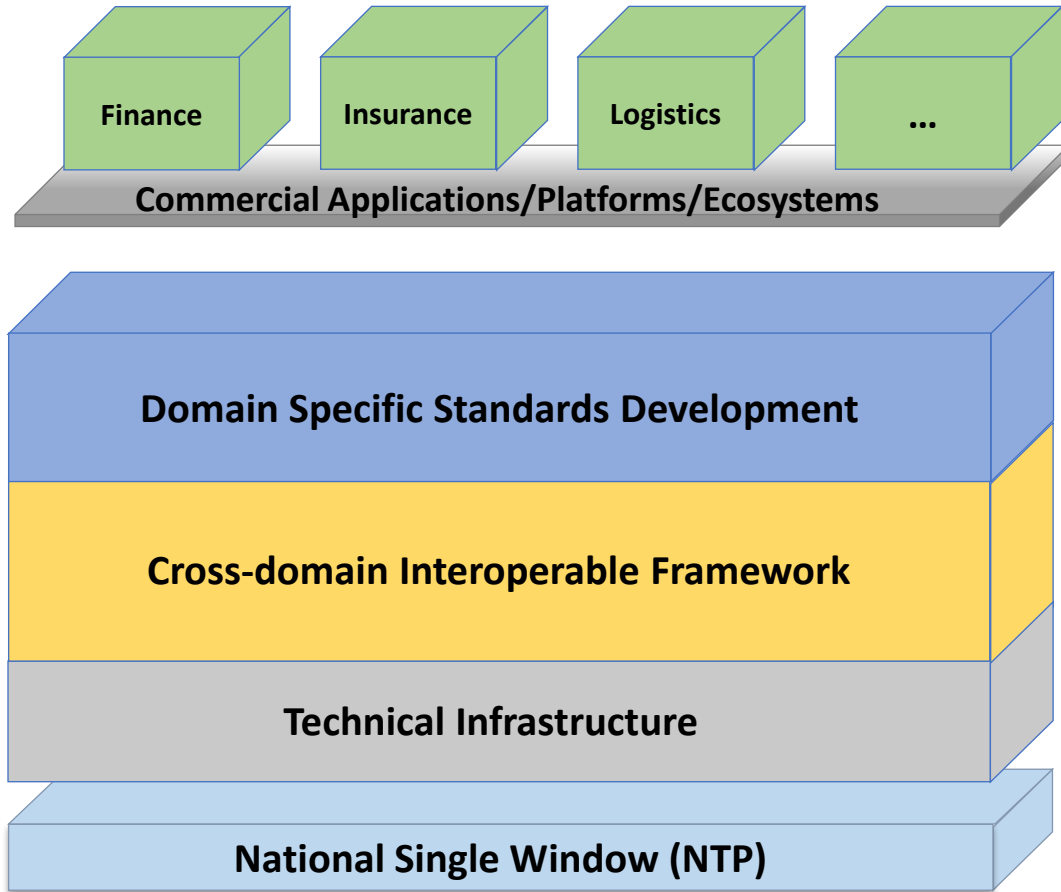
Normal Documents

Transferable Documents
(e.g. Bills of Lading)



The TradeTrust Framework

TradeTrust is NOT a platform. It SUPPORTS Platforms and Systems to achieve the 3 functionalities ACROSS Platforms and Systems. The technical methods are implemented in open-source software that has been contributed to the community



Business-led

- Digital Ecosystems Co-Development
- Enterprise Adoption & Digitalisation

Govt-led

TradeTrust Framework

(Standards, Semantics, Legal)

- To legally recognise cross-border digital documents (e.g. eBL, eCO, eInvoice, eSPS Certs, eBills of Exchange)
- To enable system interoperability of trusted digital documents exchange through standards



TradeTrust Digital Infrastructure

- Blockchain gateway that allows business apps to consume blockchain services through standardized APIs, achieving decoupling that eases the burden on them of enhancement and maintenance while blockchain technologies evolve.
- Published as open source for ease of industry adoption and for further enhancements by the open source community
- To be contributed as reference implementation to standards bodies to support standards development and accelerate TradeTrust usage

TradeTrust Design Principles



Public and Permissionless
No central governance authority



Data Off-Chain
Preserves data confidentiality



Payload Agnostic
No data format or standard restriction



Open-Source
Full transparency for faster adoption



MLETR-Compliant
Meet the requirements of the law (for electronic negotiable documents)

MLETR = Model Law on Electronic Transferable Records published by United Nations Commission on International Trade Law in Sept 2017

TradeTrust Framework is Accessible to All

Application Layer



Basic UI



Sample implementations via PoCs



Finance



Insurance



Logistics



Platforms



Ecosystems



Commercial Applications/Platforms/Ecosystems



Payload Agnostic Documents



Document Verification



MLETR Compliant Title Transfer



Distributed file store



Seamless Exchange Paper to Paperless



Identity Resolver (Verifiable Claim)



Smart Contracts



Connectors



API



Blockchain Layer



ethereum



HYPERLEDGER



Quorum



Sidechain



United Nations
UNCITRAL

UNCITRAL Model Law
MLETR, MLEC, MLES
Singapore ETA



UN/CEFACT

Standards Development



EMPOWERING POSSIBILITIES



Dealing with Transferable Documents (BL as example)

Paper Transferable Instrument

STX PanOcean BILL OF LADING

Shipper AIMHIGH INTERNATIONAL INC. 1LSHIN BUSINESS CENTER NO.108, 332-3 DANSSAN-DONG 6 GA YOUNGDONGPO-GU, SEOUL, REPUBLIC OF KOREA TEL : +82-070-7578-6674 FAX : +82-2-2677-0130	BL No. _____
Consignee FNB COMPANY LIMITED NO. 6, 7 STREET, TAN KIENG WORD, DISTRICT 7, HCM CITY, VIETNAM TEL : +848. 37714606 FAX : +848. 37716653	RECEIVED by the Carrier from the shipper in apparent good order and condition unto otherwise indicated herein, the Goods, or the container(s) or package(s) said to contain cargo herein mentioned, to be carried subject to all the terms and conditions provided for on the face and back of this Bill of Lading by the vessel named herein or any substitute as the Carrier's option and/or other means of transport, from the place of receipt or the port loading to the port of discharge or the place of delivery shown herein and there to be delivered unto order or assignee. If required by the Carrier, this Bill of Lading duly endorsed must be surrendered in exchange for the Goods or delivery order. In accepting this Bill of Lading, the Merchant agrees to be bound by all the stipulations, exceptions, terms and conditions on the face and back hereof, whether written, typed, stamp or printed, as fully as if signed by the Merchant, any to all custom or privilege to the contrary notwithstanding, and agrees that all agreements or freight engagements for as in connection with the carriage of the Goods are superseded by this Bill of Lading. In witness whereof, the undersigned, on behalf of STX Pan Ocean Co., Ltd., Master and the owner of the Vessel has signed the number of Bill(s) of Lading stated inside all of this tenor and date, one of which being accomplished the others to stand void. Declared Cargo Value \$ _____ If Merchant enters a value, Carrier's liability shall be limited to the amount so declared and shall apply and the Ad Valorem rate will be 26 & 25.
Notify Party FNB COMPANY LIMITED NO. 6, 7 STREET, TAN KIENG WORD, DISTRICT 7, HCM CITY, VIETNAM TEL : +848. 37714606 FAX : +848. 37716653	
Pre-carriage by _____	Destination _____
Ocean Vessel HANJIN VERACRUZ Port of Loading BUSAN, KOREA	Container No. TGHU3862109 Seal No. STXP180769 CO FN NE GR NU MA
Measurement 100KGS 20.000CBM	

Title ownership

BL Data

ORIGIN

PARTICULARS FURNISHED BY SHIPPER

"FREIGHT PREPAID"
 SAY : ONE (1) CONTAINER ONLY.

Freight & Charge	Revenue Tons	Rate	Per	Prepaid	Collect
------------------	--------------	------	-----	---------	---------

AS ARRANGED

Freight Prepaid at BUSAN, KOREA	Freight Payable at BUSAN, KOREA	Place of Issue BUSAN, KOREA
Total Prepaid in	No. of Original B/L THREE (3)	Date of Issue April 28, 2013

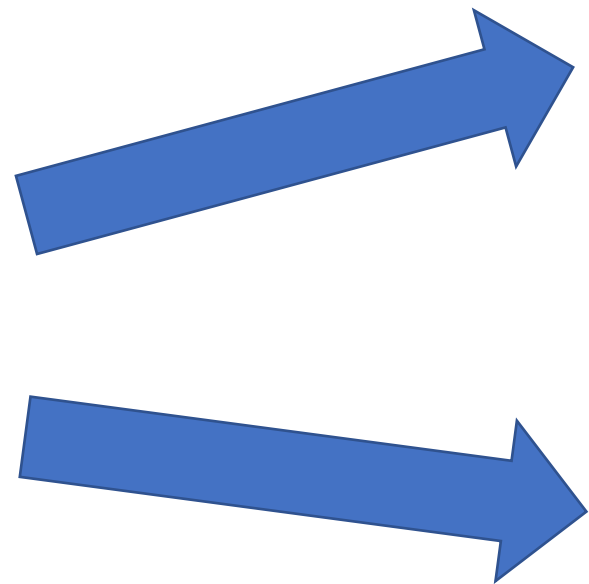
Laden on Board the Vessel
 Date: April 28, 2013
 By: STX Pan Ocean Co., Ltd as Carrier

STX Pan Ocean Co., Ltd as Carrier
 By: _____ for Master

STX FORM No. BL-4000 2039662

Electronic Transferable Record

1) TITLE ownership



Bill of Lading Multinational Transport or Port to Port Shipment

Carrier Shipper Consignee (for consignee unless consigned to order) Notify Address (Carrier not responsible for failure to notify, see Article 12 (2) hereof) Invoice(s) Part of Loading Part of Discharge Container No. (s) Measurement	Carrier's Reference (B/L No.) Date of Issue Forwarding Agent Consignee's Reference Place of Receipt Place of Delivery Measurement
--	---

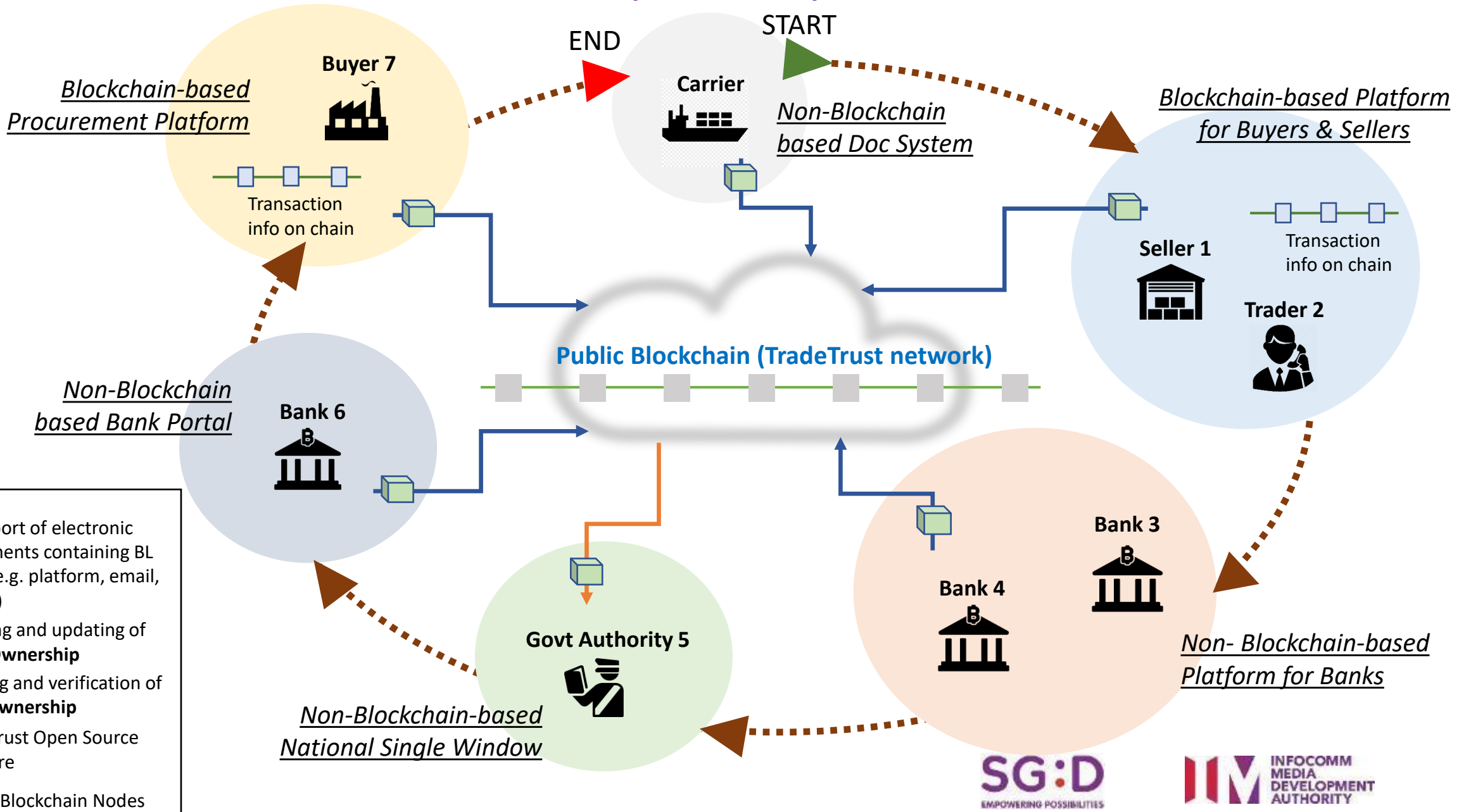
2) BL Data

ORIGIN

NO. ORIGINAL B/L

STX FORM No. BL-4000 2039662

Transferable Documents' Interoperability



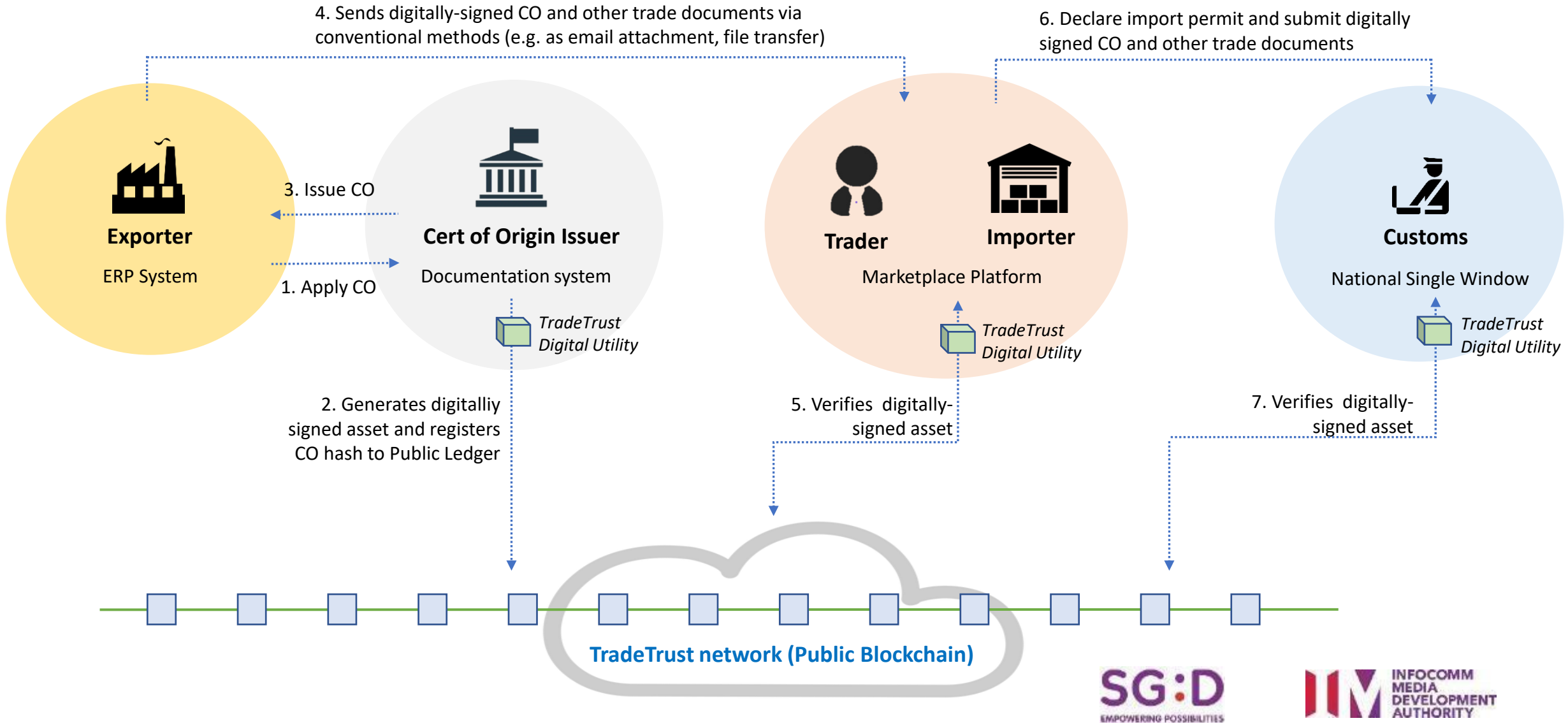
LEGEND:

- Transport of electronic documents containing BL data (e.g. platform, email, portal)
- Reading and updating of **Title Ownership**
- Reading and verification of **Title Ownership**
- TradeTrust Open Source software
- Public Blockchain Nodes

*This figure does not reflect actual business flows but serves to illustrate how Platforms can inter-operate

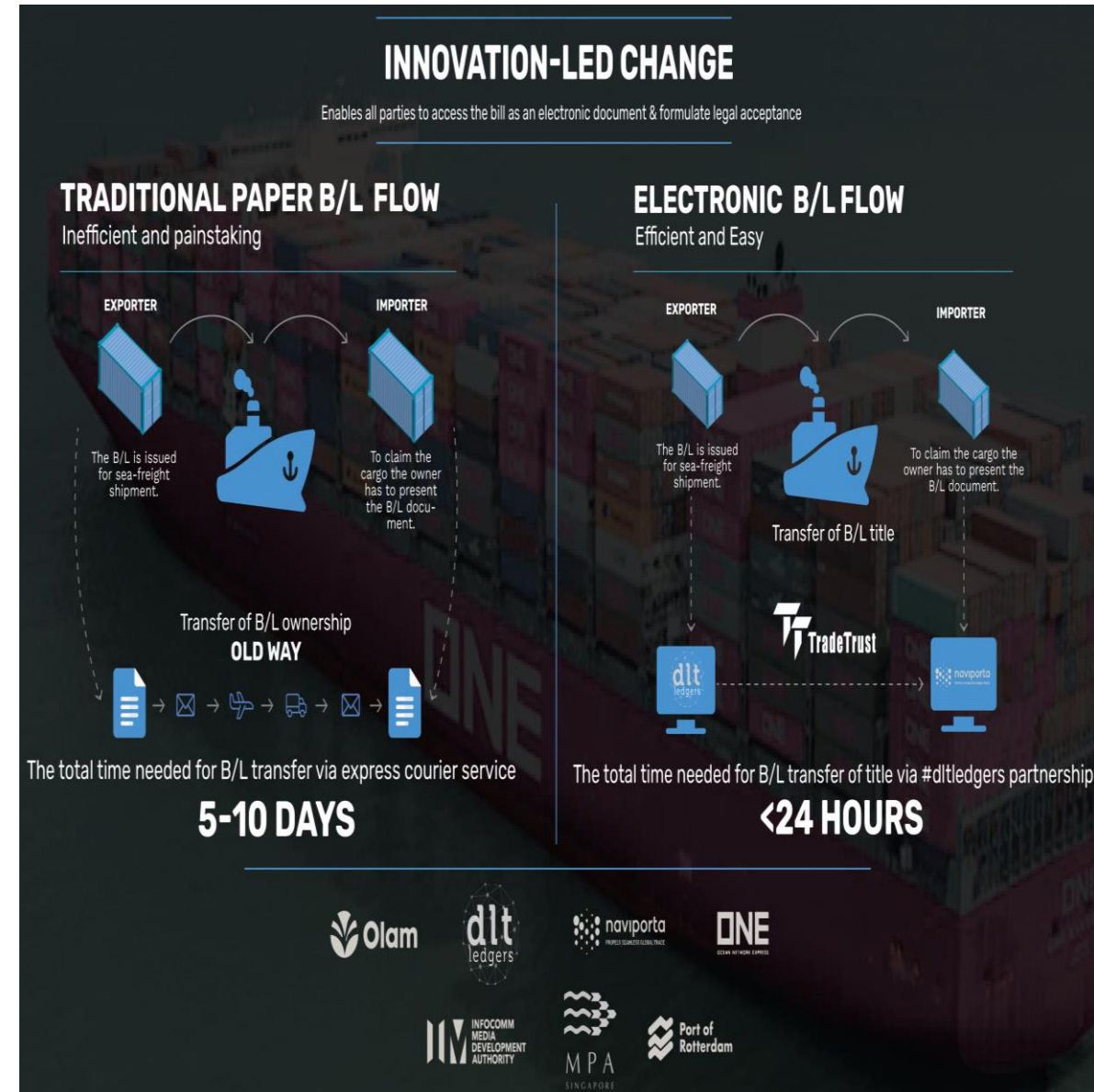


Normal Documents' Interoperability



EBL TRIAL WITH PORT OF ROTTERDAM

- **Trial Scope:**
 - Electronic Bill of Lading (eBL)
 - Cross-platform interoperability of title transfer and surrender of eBL
- **Use Case Description:**
 - Use of eBL to shadow a live shipment in collaboration with Olam from Vietnam to Rotterdam via transshipment in Singapore
 - Trial of Singapore-based #dltledgers' blockchain platform and the Netherlands-based NaviPorta platform to perform the title transfer transaction and thereafter surrender of the eBL issued by ONE
 - The title transfer and surrender capability on both platforms were enabled by TradeTrust digital utility
- **Participants:**
 - **Issuer/Carrier:** Ocean Network Express (ONE)
 - **Commercial user:** Olam
 - **Platforms:** #dltledgers (SG) , NaviPorta (Netherlands)
- **Outcomes:**
 - Time savings from 5-10 days to under 24 hours



CROSS-BORDER COLLABORATION WITH AUSTRALIA



- Australia-Singapore Digital Economy Agreement
 - Australia Border Force, Singapore Customs and Infocomm Media Development Authority of Singapore
- Proof of Concepts:
 - Test Policy : Acceptance of digitally verifiable documents
 - Test Technology : Interoperability between SG TradeTrust and AU Intergovernmental Ledger
- Trial Scope
 - Certificates of Origin
- Participants
 - **Issuers:** Australian Chamber of Commerce and Industry and Australian Industry Group
 - **Commercial users:** Rio Tinto, ANZ Bank, DBS Bank and Standard Chartered Bank
 - **Regulatory Authority:** Singapore Customs
- Outcomes
 - Feedback were highly positive
 - Participants acknowledged value add to their business
 - Secured acceptance from regulatory authority (Singapore Customs) and commercial users



Australian
BORDER FORCE



SINGAPORE CUSTOMS



Global Partnerships



Home » News & Speeches » ICC joins Singapore Government and major industry partners to launch TradeTrust

ICC joins Singapore Government and major industry partners to launch TradeTrust

News • Davos, 22/01/2020

Convening alongside the World Economic Forum Annual Meeting in Davos, the International Chamber of Commerce (ICC) has joined the Singapore Government and industry partners to accelerate the digitalisation of global trade and commerce.

SWIFT and Singapore's IMDA Join Forces to Drive Global Trade Digitalisation

TRADE, 5 OCTOBER 2020

Collaboration combines the reach, scale and reliability of SWIFT with IMDA's efforts on technology and legal frameworks to accelerate trade digitalisation

BT Singapore digital trade documentation framework to combine with global Swift network

FINANCIAL TIMES

Singapore charts its way to digital future for trade

Longer term, Singapore is working on a project called TradeTrust that aims to develop an “interoperability framework” for the exchange of digital trade documentation that would simplify and speed up procedures.

Australia and Singapore to trial blockchain for cross-border trade

The trial will test digital verification platforms across both the ABF-developed Intergovernmental Ledger and IMDA's TradeTrust for electronic trade documents.



Successful Proof of Concept Electronic Bill

In October 2019, IMDA (Infocomm Media and Development Authority) and the Maritime and Port Authority of Singapore (MPA) co-hosted a 2-day workshop for the delegates from Blocklab, Port of Rotterdam's blockchain centre to work together on the requirements of title transfer capability in relation to eBLs for cross-border trade transactions.



DBS and Trafigura collaborate with IMDA to launch open-sourced blockchain trade platform

Cuts end-to-end trade document transit time by more than half from 45 to 20 days



Call To Action

1) Join us to co-create TradeTrust Proofs of Value

If you're from:

- Shipping lines
- Shippers/Consignees
- Logistics Service Providers
- Financial Institutions providing Trade Financing Service
- Govt Authorities involved in cross-border matters

2) Incorporate TradeTrust code into your Applications

If you're from:

- Tech Companies
- Platform Providers

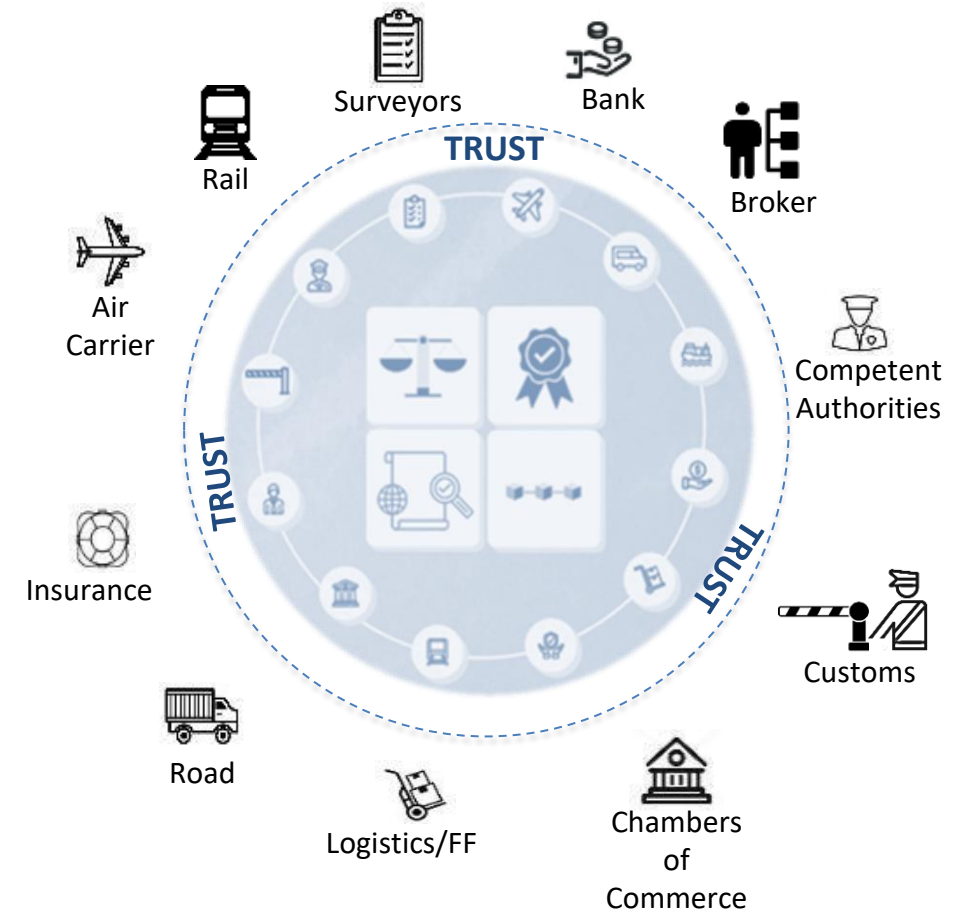
Useful URLs:

Reference Implementation Website: <https://tradetrust.io/>

Docs: <https://docs.tradetrust.io/>

Source code: <https://github.com/TradeTrust>

For more info, contact us at: tradetrust@imda.gov.sg





THANK YOU