Driving Interoperable Cross-border Paperless Trade with TradeTrust

Presenter:

Mr. Loh Sin Yong, Director, TradeTrust

INFOCOMM
MEDIA
DEVELOPMENT
AUTHORITY

Introduction of the Participating Organisation: IMDA

DIGITAL CHAMPION

Drive digitalisation across industries, with trade digitalisation being an important agenda.

Supporting a digitally enabled workforce

INDUSTRY DEVELOPER

As the architect of Singapore's digital future, IMDA develops 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

IMDA works to accelerate digitalisation through **close collaboration** with public and private sector partners in Singapore and globally.

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Issue: Heavy Dependence on Paper Documents Hinders the Growth of Cross-border Trade

Current State for Cross-border Trade
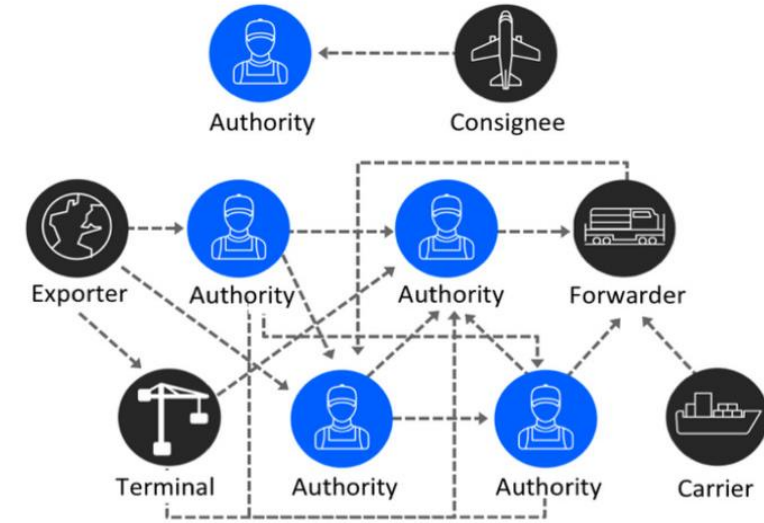
- - - - ▶ Info exchanges

Just 1 shipment involves:

- **About 20 parties** across different sectors and **10-20 paper documents**
- **Many exchanges** of information
- **Many silo systems**

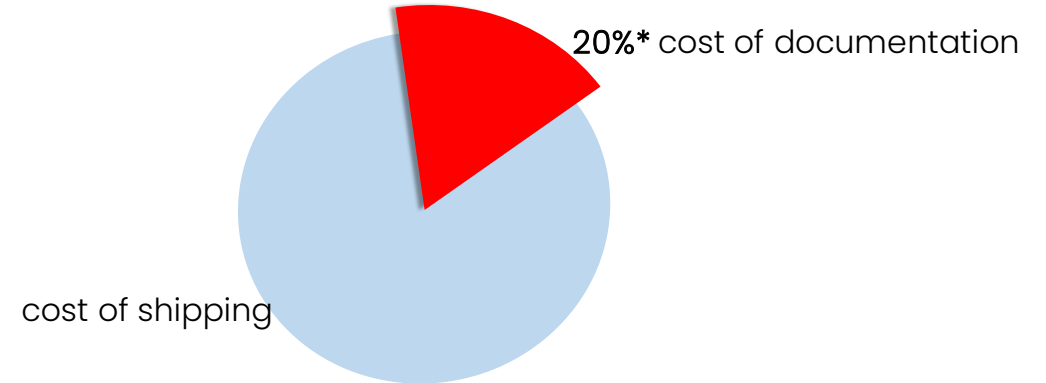## The Costs of Heavy Dependence on Paper

Inefficient and lack of security

- Time delays
- Manual handling - prone to human errors
- Vulnerable to fraud

Fragmented systems

- Costly connections
- No interoperability

20%* cost of documentation

cost of shipping

This inefficiency is COSTLY

Maersk and IBM's Paper Trail Research in 2014

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Essence of the Solution is to Offer 3 Key Functionalities with Digital Trade Documents

Verifiable Documents
(e.g., Certificate of Origin)

Transferable Documents
(e.g. title documents such as Bill of Lading)

1 **Authenticity**
(any tampering would be evident)

2 **Source**
(genuine creators of documents like Carriers, Govt authorities)

3 **Legally-valid Performance Obligation Transfer**

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY
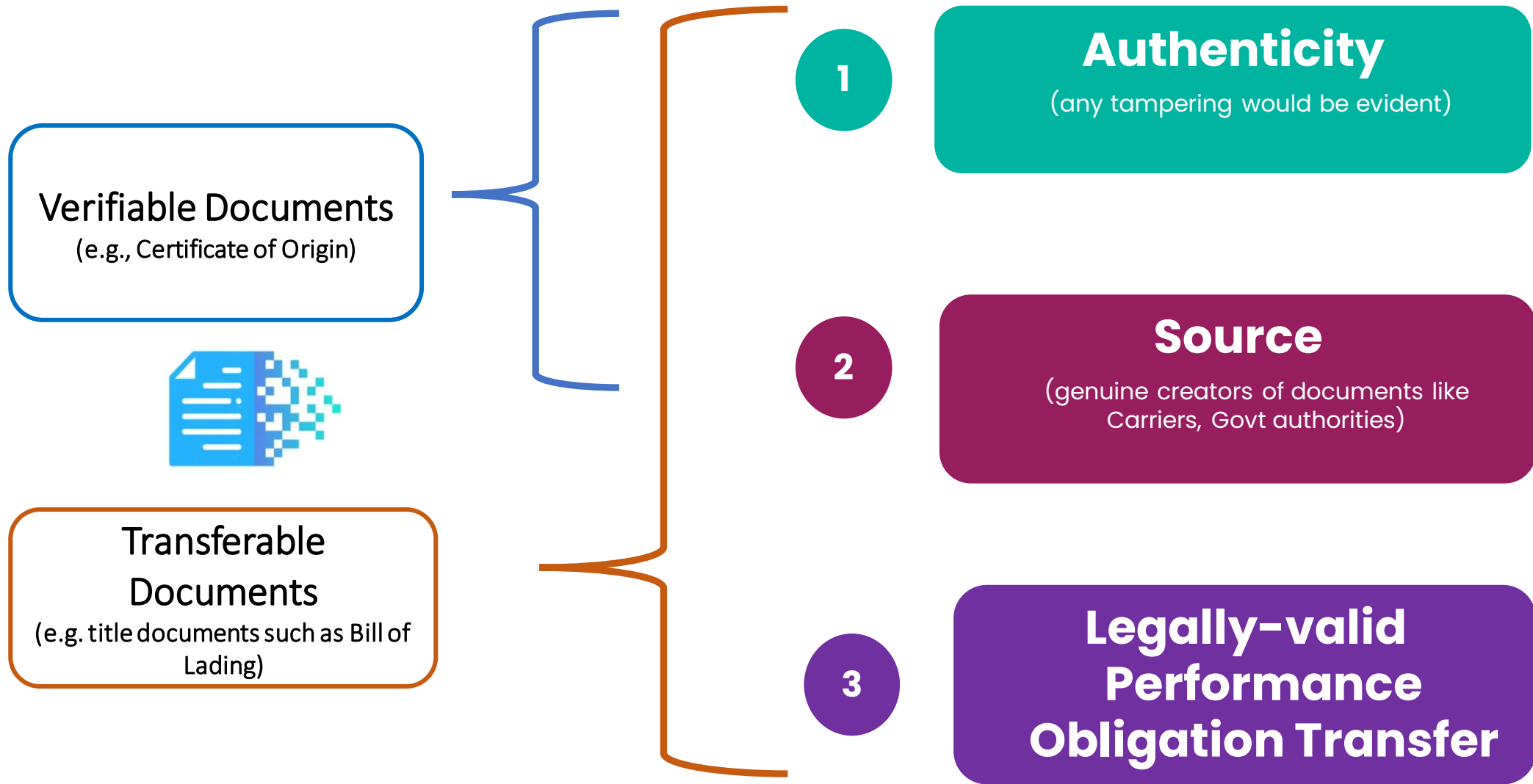
Introduction of the TradeTrust Framework

TradeTrust is a framework that comprises **globally-accepted standards** and enables **trusted interoperability** of electronic trade documents among governments and businesses **across digital platforms** AND it is offered as a **digital utility**.
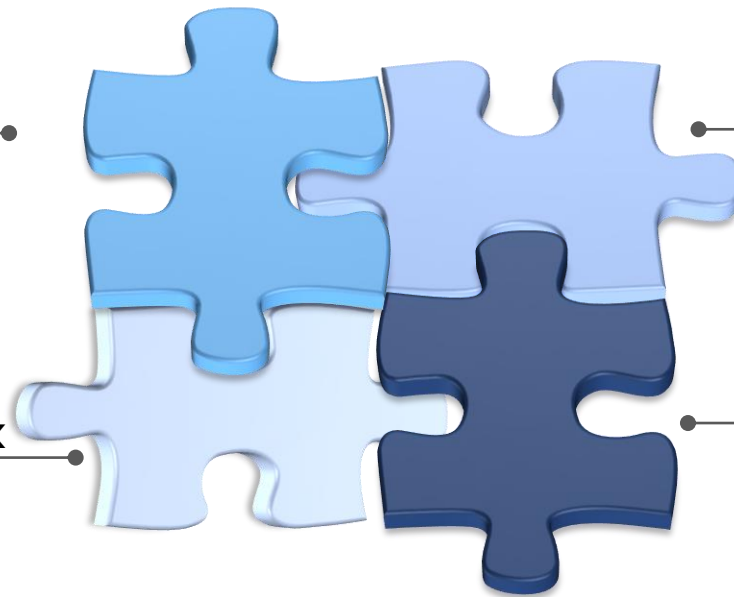
4 Key Components of TradeTrust

1. Legal Harmonisation

Provide legal validity for electronic negotiable documents through compliance to MLETR*

2. Standards Development

Develop international standards that TradeTrust complies to

3. Accreditation Framework

Certify technical solutions meet the requirements of the law

4. Software Components

A set of open-source software code that can easily integrate backend solutions to the TradeTrust network

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

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

TradeTrust is Particularly Innovative and Effective through 5 Design Principles

Public and Permissionless
No central governance authority

Data Off-Chain
Preserves data confidentiality

Payload Agnostic
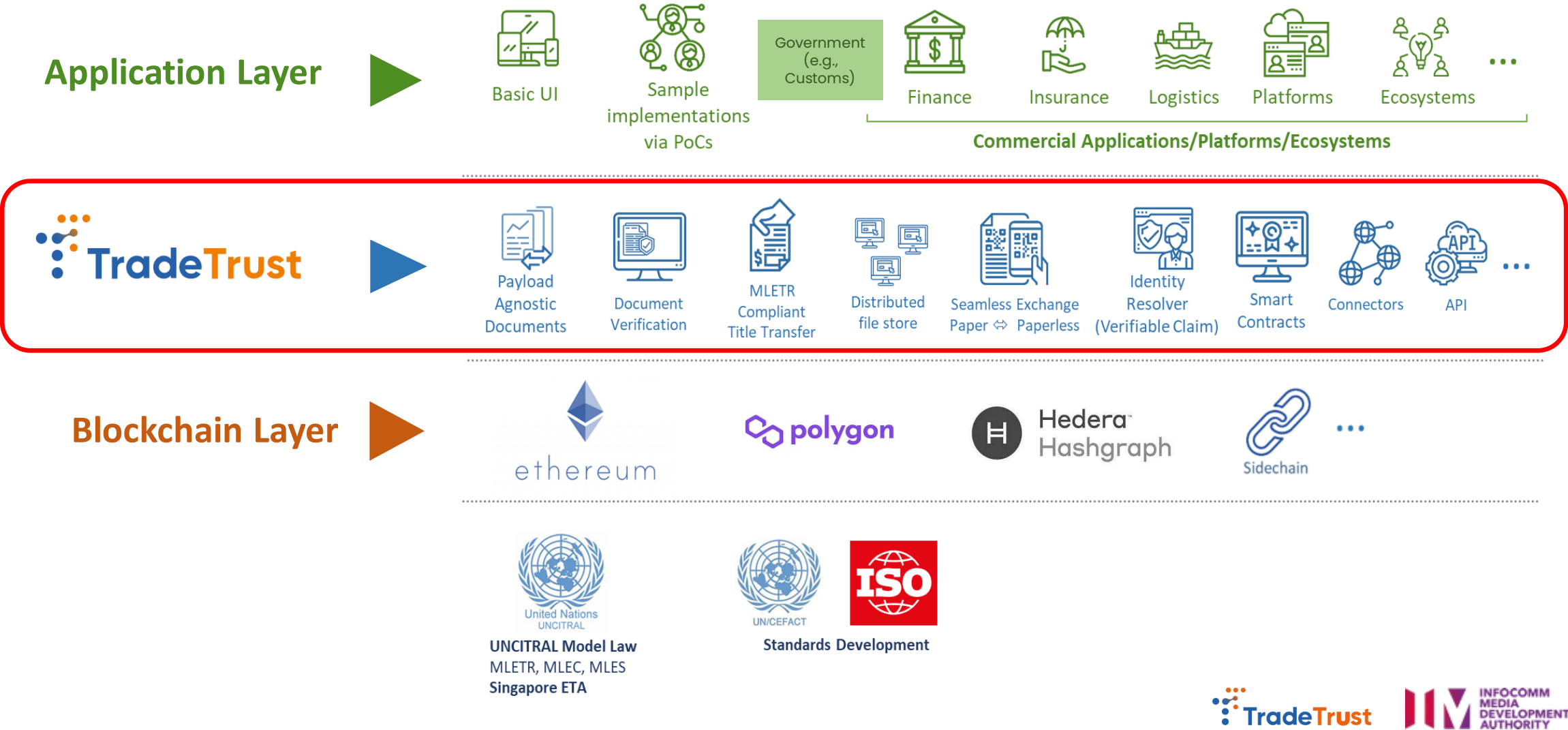*No data format or standards restrictions*

Open-Source
Full transparency for faster adoption

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

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

The TradeTrust Framework is Accessible to All

Application Layer ▶

Basic UI | Sample implementations via PoCs | Government (e.g., Customs) | Finance | Insurance | Logistics | Platforms | Ecosystems ...

Commercial Applications/Platforms/Ecosystems

TradeTrust ▶

Payload Agnostic Documents | Document Verification | MLETR Compliant Title Transfer | Distributed file store | Seamless Exchange Paper ⇔ Paperless | Identity Resolver (Verifiable Claim) | Smart Contracts | Connectors | API ...

Blockchain Layer ▶

ethereum | polygon | Hedera Hashgraph | Sidechain ...

United Nations UNCITRAL

UN/CEFACT | ISO

UNCITRAL Model Law
MLETR, MLEC, MLES
Singapore ETA

Standards Development

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

W3C Verifiable Credentials compliant application of TradeTrust for Interoperability of Verifiable Documents

3. Forward digitally-signed COO and other trade documents via conventional methods (e.g. as email attachment, file transfer, portal upload, data-sharing platform, API, etc..)

5. Submit import Declaration and provide digitally-signed COO and other supporting documents (TradeTrust documents or PDF)

2. Generates digitally signed COO (TradeTrust document) and issues the COO to Exporter

Cert of Origin Issuer
Documentation system

Exporter
ERP System

Trader | **Importer**
Marketplace Platform

Customs
National Single Window

1. Apply for COO

4. Verifies (automated or manual) digitally-signed COO w Issuer's DID

Start

6. Verifies digitally-signed COO and extracts data from TradeTrust documents for automated processing

End

0. Issuer sets up own Decentralised ID (W3C's DID Standard)

TradeTrust network

polygon

ethereum

H

...

LEGEND:

- ········▸ Non-TradeTrust activity
- ········▸ TradeTrust activity
- TradeTrust Open Source digital utility
- Public Blockchain Nodes

Key benefits of such a decentralized verifiable architecture are:

1. Remove the need for expensive data exchange infrastructure to be put in place in between exchanging parties.
2. Remove tight coupling and inter-dependencies between exchanging systems. This means exchanging parties can proceed to upgrade and make changes to their IT systems at their own pace according to their own priority.

Case Study : Certificates of Origin Trial using TradeTrust between Australia and Singapore

Trial

As part of the Australia-Singapore Digital Economy Agreement
- ❑ Driven by Australia Border Force (ABF), Singapore Customs and IMDA

Scope and Description
- ❑ Test Policy : Acceptance of digitally verifiable documents using Certificate of Origin (COO) as an example
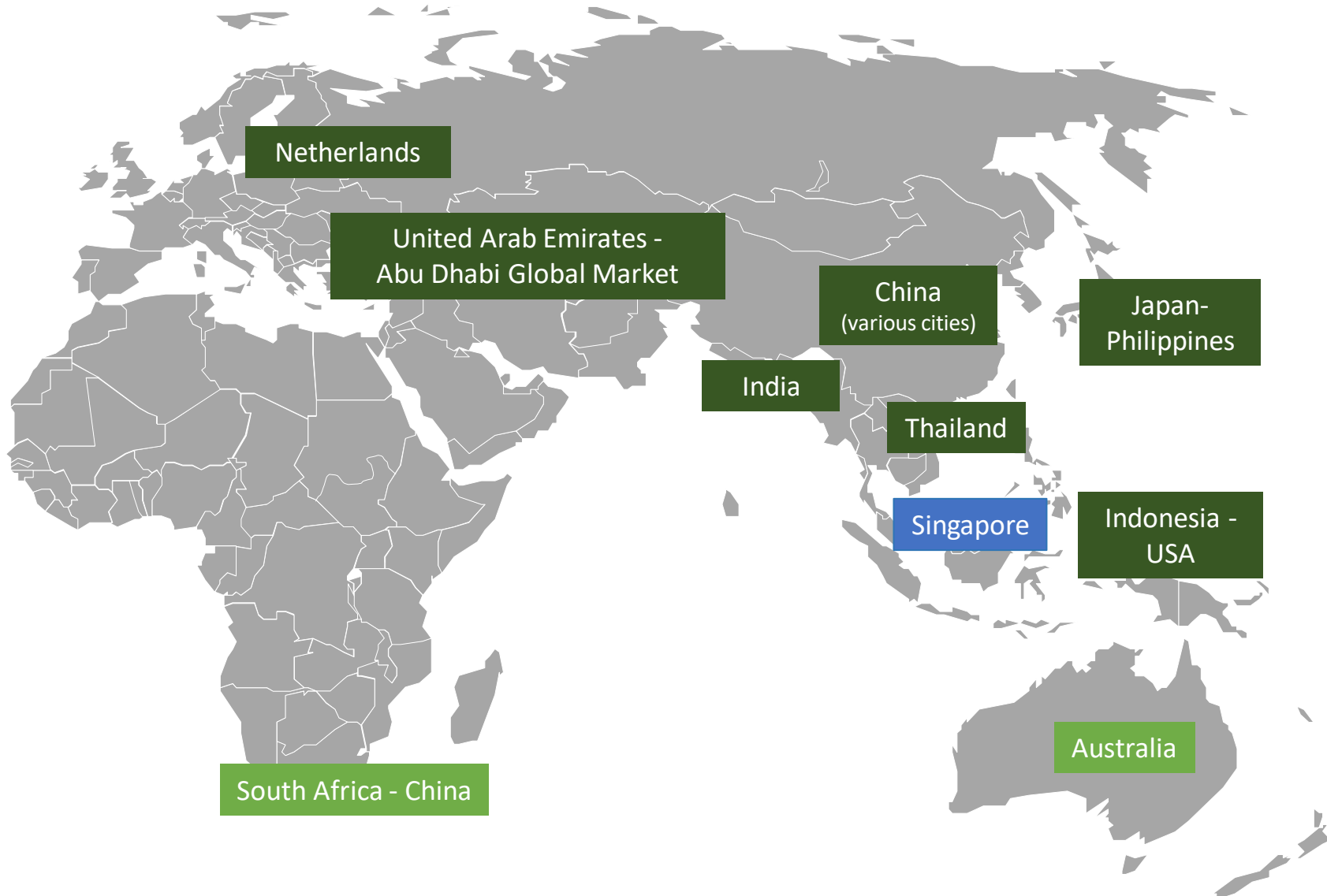- ❑ Test Technology : Interoperability between AU Intergovernmental Ledger (IGL) and the TradeTrust reference implementation

Participants
- ❑ Issuers of COO: Australian Chamber of Commerce and Industry, Australian Industry Group
- ❑ Commercial users: Rio Tinto, ANZ Bank, DBS Bank and Standard Chartered Bank
- ❑ Regulatory Authority: Singapore Customs

Observed Benefits
- ❑ Participants acknowledged value-add to the cross-border trade process such as instant authentication and provenance.
- ❑ Achieved acceptance from regulatory authority (Singapore Customs) and commercial users

Please find out more about the trial here.

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

TradeTrust has Completed Multiple Successful Pilots and is Advancing for Live Shipments

Netherlands

United Arab Emirates - Abu Dhabi Global Market

China (various cities)

Japan-Philippines

India

Thailand

Singapore

Indonesia - USA

Australia

South Africa - China

- There have been multiple successful TradeTrust pilots conducted under various efforts such as Government to Government collaborations, public –private partnerships and industry–led initiatives.

- Interest for trials remains strong – there is potential for new trade routs, new public and private sector participants and for different trade documents (e.g., animal health certificates, phytosanitary certificates).

- Pipeline for live shipments has also been established.

Pilots on Transferable Documents

Pilot on Normal/Verifiable Document

TradeTrust

INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Collaborations and Partnerships which Demonstrate the Relevance of TradeTrust

Please refer to this link for examples and evidence of recognition and praise which include but not limited to the collaborations listed on this slide.

ICC
INTERNATIONAL
CHAMBER
OF COMMERCE

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.

World's first digital trade financing pilot between MLETR-harmonised jurisdictions

Paves the way for wider adoption of IMDA's TradeTrust framework to facilitate the exchange of digital trade documents in global trade finance

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

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.

TradeTrust has been featured by **international organisations** such as:
1) ICC and WTO: ICC DSI and WTO's Standards Toolkit for Paperless Trade.
2) WTO/WCO Report on disruptive technologies and subsequent publication launch event (2022)
3) WTO-WEF TradeTech Phase 2 Report (2022)

Port of Rotterdam

Succesfull 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.

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.

TradeTrust

IMDA INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Thank you!

INFOCOMM
MEDIA
DEVELOPMENT
AUTHORITY