

# The Journey to Paperless Trade Industry Initiatives for Interoperability



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Senior Vice President, Trade Products  
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# Today's Speakers



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Head of Trade Finance  
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**Loh Sin Yong**  
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Secretary General  
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Director of  
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# Introduction and Overview



**Henry Roxas**  
Head of Trade Finance  
R3



# Trade - Adapting to Present and Future Challenges



**Loh Sin Yong**

Director, Trade

Trade & Connectivity Cluster

Sectoral Transformation Group

Infocomm Media Development Authority





## AGENDA

- **Introduction to the Infocomm Media Development Authority**
- **COVID19 underscores importance of Trade Digitalisation**
- **Singapore's Trade Digitalisation Efforts**
  - **TradeTrust**





## 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



## COVID-19 HAS CHANGED BUSINESSES GLOBALLY

Lockdowns and supply-chain breakdowns have introduced  
**new challenges** for all countries' businesses

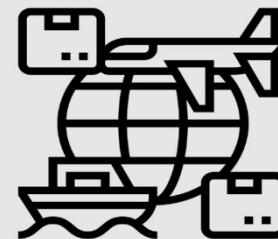
**Can we be sure of  
who we are trading  
with if we cannot  
meet them?**



**Can we still send  
invoices overseas  
and make  
payment?**



**Can we continue  
selling products  
and make  
deliveries to  
overseas clients?**



**What about  
physical trade  
documentation for  
bank loans and  
trade financing?**





## WHOLE-OF-GOVERNMENT (WOG) EFFORT



# THE NEED FOR A DIALOGUE BETWEEN COUNTRIES

## Capturing Different Needs



With the global digitalization of businesses and products, trade, and the economy at large, is evolving.



New technologies transforming trade & supply chains



Data flows underpin the digital economy



Increased pervasiveness of eCommerce

## Synchronised Rules



- WTO JSI plays important role in developing international rules to deal new developments and challenges in trade from digitalisation
- Push to facilitate cross border paperless trade
- Areas for JSI to consider: connecting National Single Windows, harmonizing data standards for trade documents, recognizing electronic trade documentation e.g. Bills of lading



# What is working in Singapore?





## SINGAPORE'S NETWORKED TRADE PLATFORM

- Singapore pioneered the submission of electronic trade documentation to Customs with **TradeNet** our national single window launched in 1989
- **National Trade Platform** launched in 2018 and is shifting from a traditional national single window for regulatory transactions, to a one-stop interface, allowing traders to interact with business partners, stakeholders and regulators on trade related transactions
- This helps companies raise productivity, boost competitiveness, and uncover new opportunities
- ***A key challenge remains – how to enable cross border transaction and submission of trade documents ?***





# What is next?





# MOVING BEYOND PAPER WITH TRADETRUST: B2B AND B2G INTEROPERABILITY WITH LEGALLY-BACKED TITLE TRANSFER

## Inefficient Processes

### Trade Digitalisation

TradeTrust provides an easy way to convert hardcopy trade documents into digitally-signed assets that are compliant to MLETR requirements



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

## Fragmented Systems

### Trusted Interoperability

TradeTrust is designed to support the following:

1. Working in harmony with the paper-based process by facilitating the seamless transition from paper to digital and vice versa along different parties of the value chain to cater to different degree of digital readiness
2. Working in harmony with different blockchain technologies like Hyperledger, Quorum and R3 Corda by connecting them to a common public blockchain





# WHAT IS TRADETRUST?

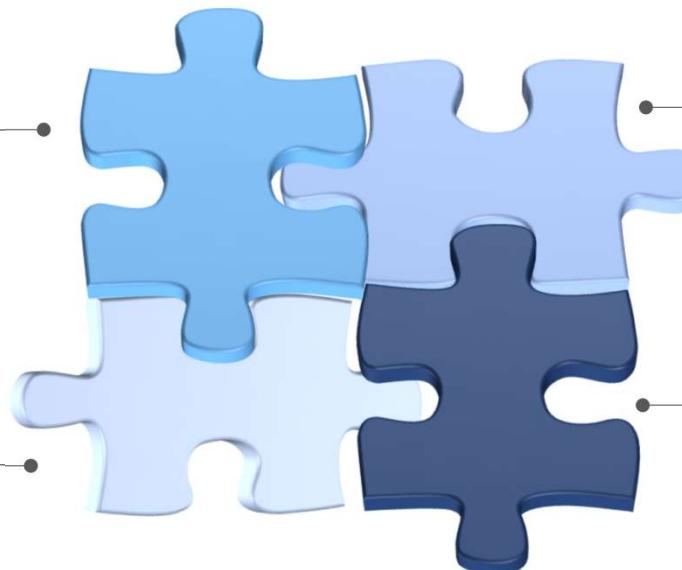
**TradeTrust** is a **digital utility** that comprises a set of **globally-accepted standards and frameworks** that connects governments and businesses to a **public blockchain** to enable **trusted interoperability and exchanges** of electronic trade documents across digital platforms

## 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 Structure

*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*





# 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*

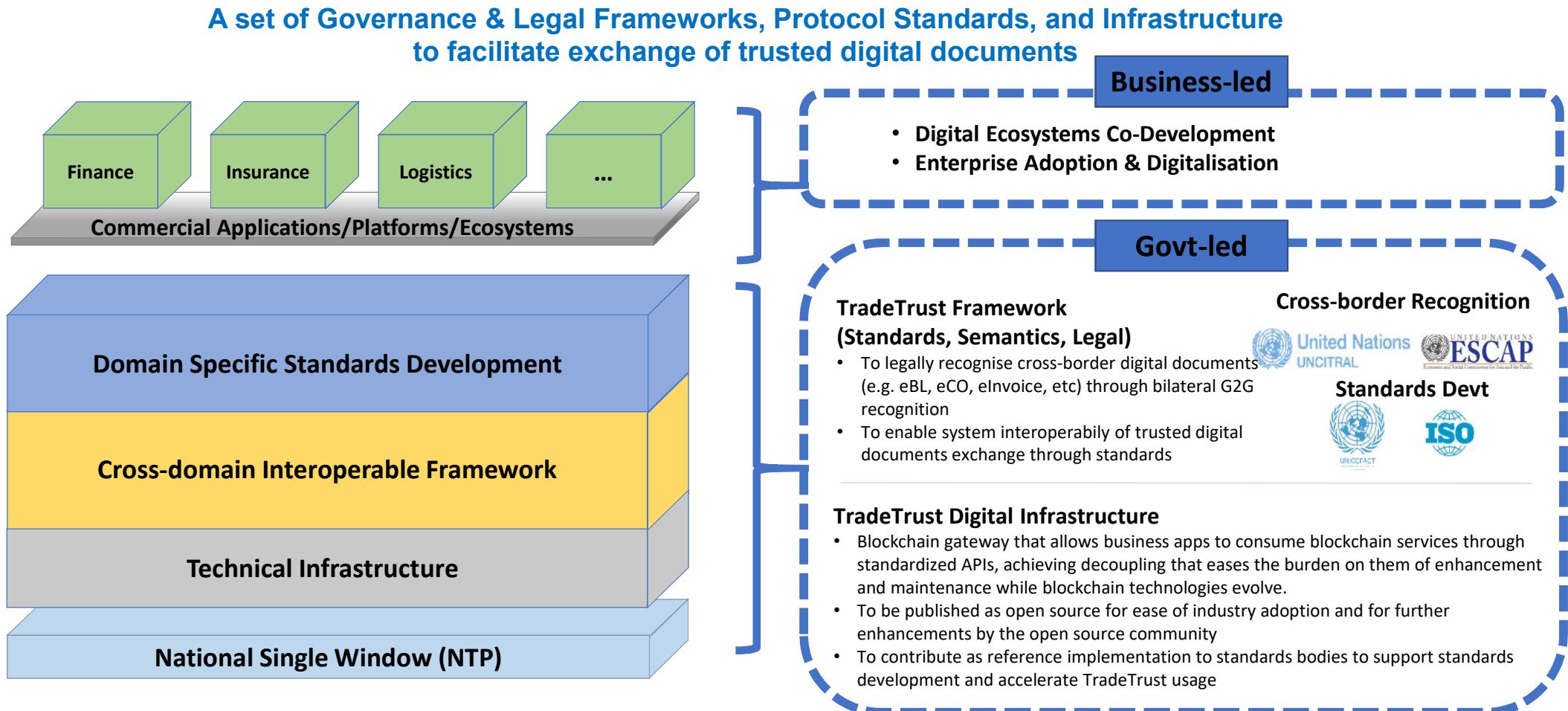


## MLETR-Compliant

*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

# THE TRADETRUST FRAMEWORK





# TRADETRUST TECHNOLOGY STACK

**Application Layer**  
Commercial implementations of TradeTrust.



**Services Layer**  
TradeTrust services that support the commercial applications and connection to other technologies.



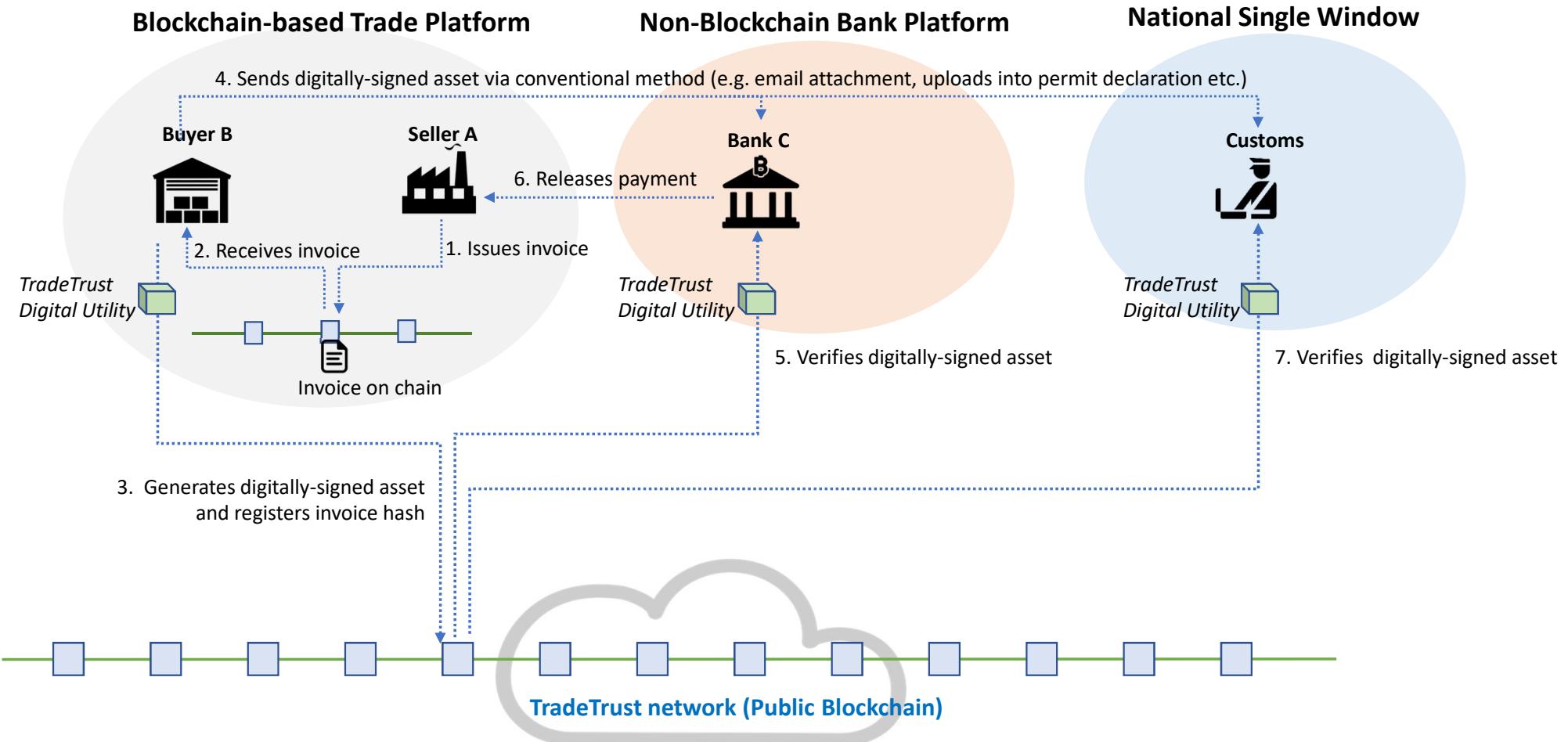
**Blockchain Layer**  
Network participation requirement .



**Legal Harmonisation & Standards Development**  
To legally recognise cross-border digital trade documents and document exchange through standards.



# An illustrative example of a potential inter-operability scenario



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



## JAN 2020 MOU TO FURTHER DIGITALISATION IN TRADE



# GLOBAL CALL TO ACTION

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

If you're from:

- a) Shipping lines
- b) Shippers/Consignees
- c) Logistics Service Providers
- d) Financial Institutions providing Trade Financing Service
- e) Govt Authorities involved in cross-border matters

## 2) Incorporate TradeTrust code into your Applications

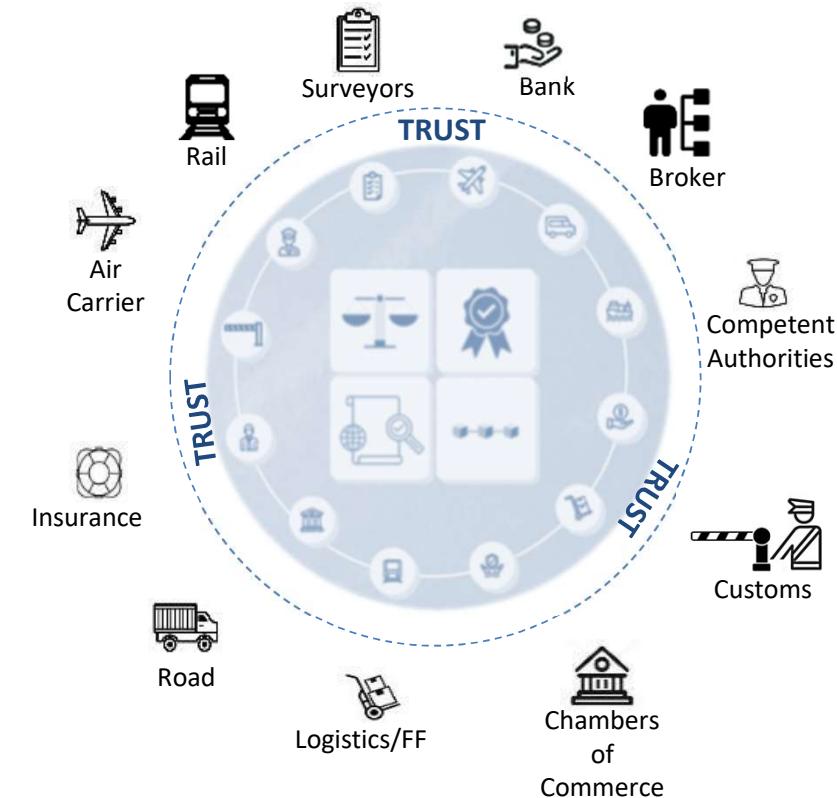
If you're from:

- Tech Companies
- Platform Providers

Source code and documentation available to download at

<https://docs.tradetrust.io>

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



# Regional Digital Trade Transformation



**Kobsak Duangdee**  
Secretary General  
Thai Bankers' Association



## Background

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- As several steps in the processes in international trade are currently done manually and they are not connecting end-to-end with each other. The processes involve several steps of manually use/key-in and re-use/re-key information and data, and paper transmission.
- The purpose of this exercise is to improve efficiency both in term of cost and time in handling trade transactions through digitalization of the process and to have the whole processes connect end-to-end through digital.

# International Trade Trend

- Current Status of Digital Trade Platforms
- There are several Digital Trade Platforms both initiated by the government and by private sector
- List of some Digital Trade Related Platforms

<b>NTP of Singapore</b>	<b>GeTs of Singapore</b>
<b>E-Trade Connect of Hong Kong</b>	<b>TradeWaltz of Japan</b>
<b>U Trade Jhub of Korea</b>	<b>Trade Lens</b>
<b>We. Trade</b>	<b>Marco Polo</b>
<b>Bolero</b>	<b>Bay Area Platform</b>
<b>Voltron</b>	<b>National Digital Trade Platform (NDTP) of Thailand</b>

# Advantages of National Digital Trade Platform (NDTP)

## Faster

Automatic process helps reduce time of information input and information exchange

## Cost Reduction

Elimination of document handling and many duplicate rekeys helps save redundant costs

## Online Process

No paper, No messenger. All steps can be done on computer or mobile device.

## Efficiency

Process documents without redundant procedures, which are time consuming and prone to human errors

## Transparency

Standardized document. Once recorded, transactions cannot be changed or altered; hence creating trust and transparency

## Shared Infrastructure

One time system development which can be used among stakeholders and in conjunction with other value-added services in future

# National Digital Trade Platform (NDTP) : Purpose & Counterparty

## PURPOSE

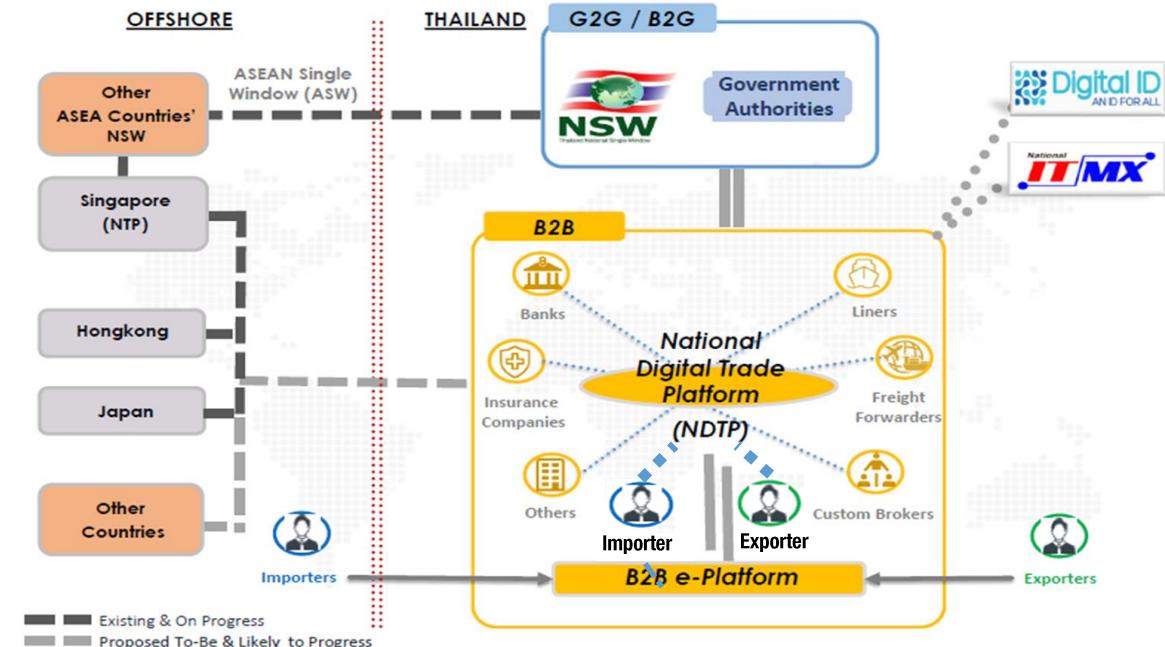
- To simplify business process and eliminate unnecessary activities relating to import and export business transaction
- To shorten turnaround time on import and export activities
- To prevent fraudulent and double financing transaction
- To increase financing accessibility for SMEs



## COUNTERPARTY

- Bank
- Liner
- Freight Forwarder
- Insurance Company
- Corporates – Exporter & Importer
- Custom Broker
- Other exporter/importer stakeholders

## Ecosystem of National Digital Trade Platform (NDTP)



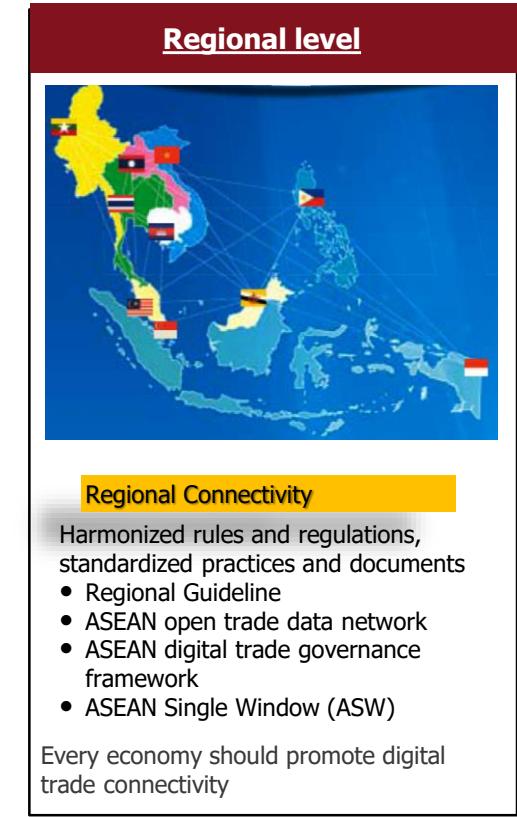
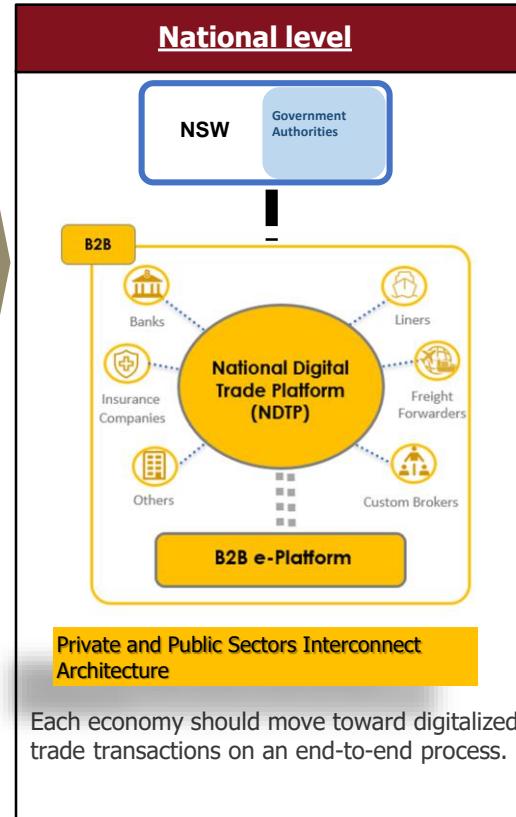
# Regional Digital Trade Transformation

Digital Processes have been used in various parts of trade and trade facilitation including supply chains and international trade transactions. However, the ecosystem with end-to-end process is still not digitalized.

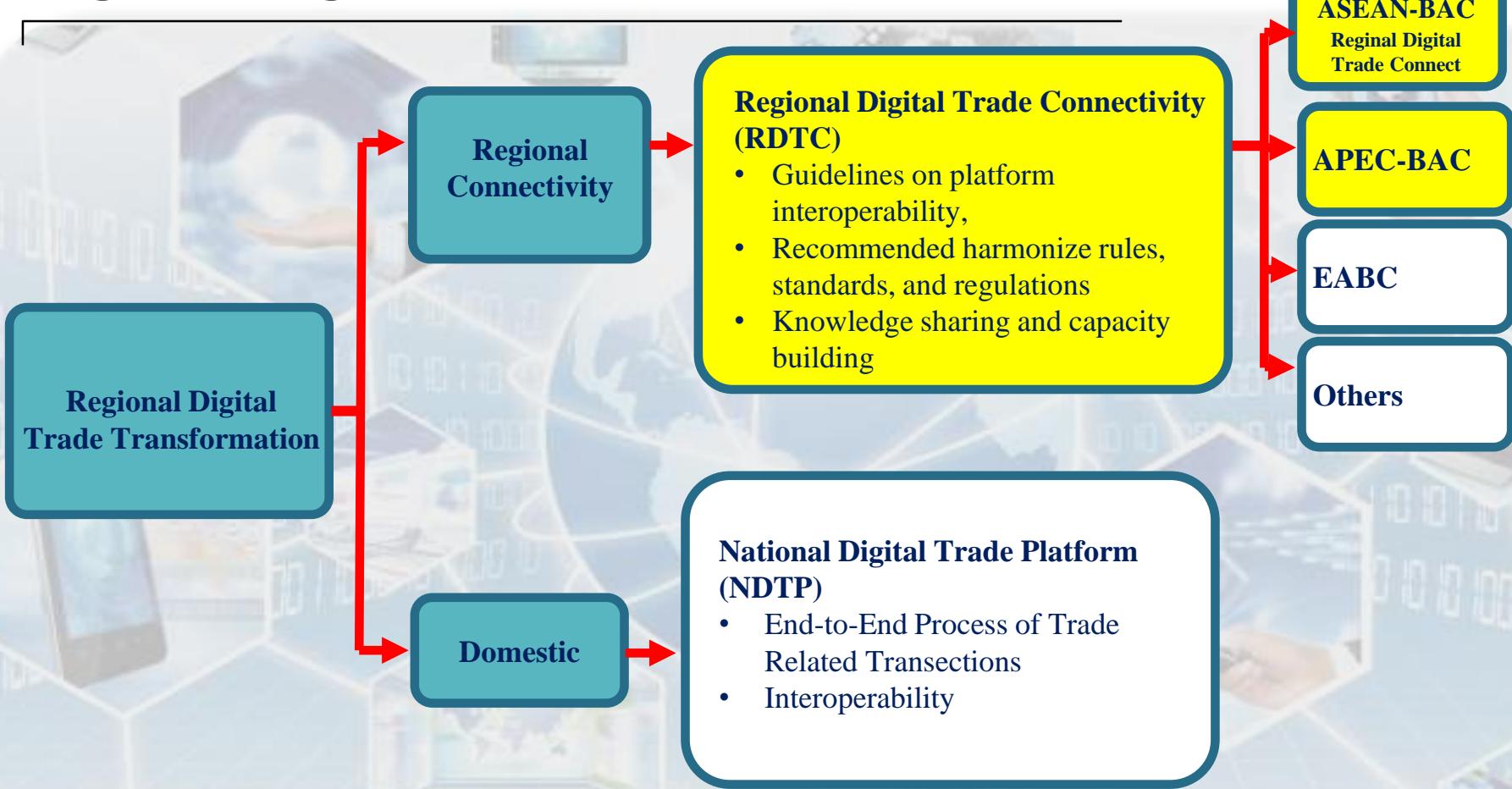


1. Reduce transaction costs and improve efficiency, speed, and reliability of international trade and supply chain. Thus, enhance intra-regional trade transactions.
2. Reduce potential fraud and double financings. Increase "TRUST" through digital transactions.
3. Supporting data analytic through "Big Data".
4. Increase potential trade finance and SME Access to Finance
5. Improve Ease of Doing Business Rating
6. In-line with APFF Workstream on "Digitalization of Trade and Supply Chain Finance" and "Next Generation Initiatives for MSME Finance"

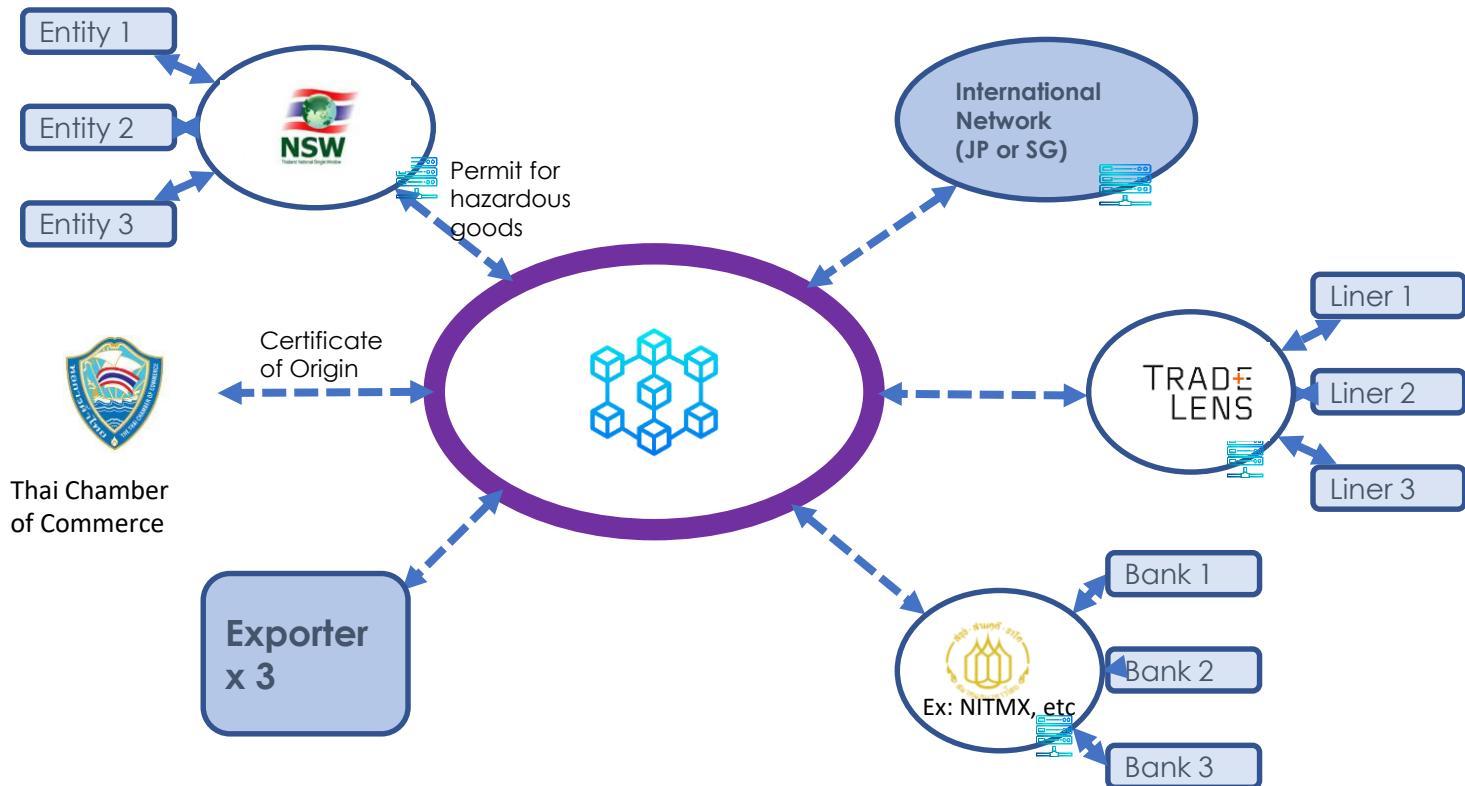
**Building up the ecosystem that support the Regional Digital Trade Connectivity**



# Regional Digital Trade Transformation



# Pilot release will focus on key stakeholders with limited use cases.



# Regional Digital Trade Transformation and Connectivity

Regional Business Corporation	Project	Details
ASEAN-BAC	Digital Trade Connect	<ul style="list-style-type: none"><li>• Include in the business recommendations of ASEAN-BAC to ASEAN Economic Ministers and ASEAN Leader</li><li>• Regional Guidelines on Standard rules and regulations</li><li>• Platform Interoperability</li><li>• Gapping Analysis of each ASEAN Countries</li><li>• Engage Consultants (IMC&amp;MURC)</li></ul>
APEC-BAC	Digital Trade Lab	<ul style="list-style-type: none"><li>• One of the Workstreams of Asia Pacific Financial Forum (APFF) of ABAC</li><li>• Include in the FEWG's recommendation to APEC Finance Ministers</li><li>• Include in the Announcement of APEC Finance Minister</li></ul>
	Digital Supply Chain Finance	<ul style="list-style-type: none"><li>• One of the Workstreams of Asia Pacific Financial Forum (APFF) of ABAC</li></ul>
Others		

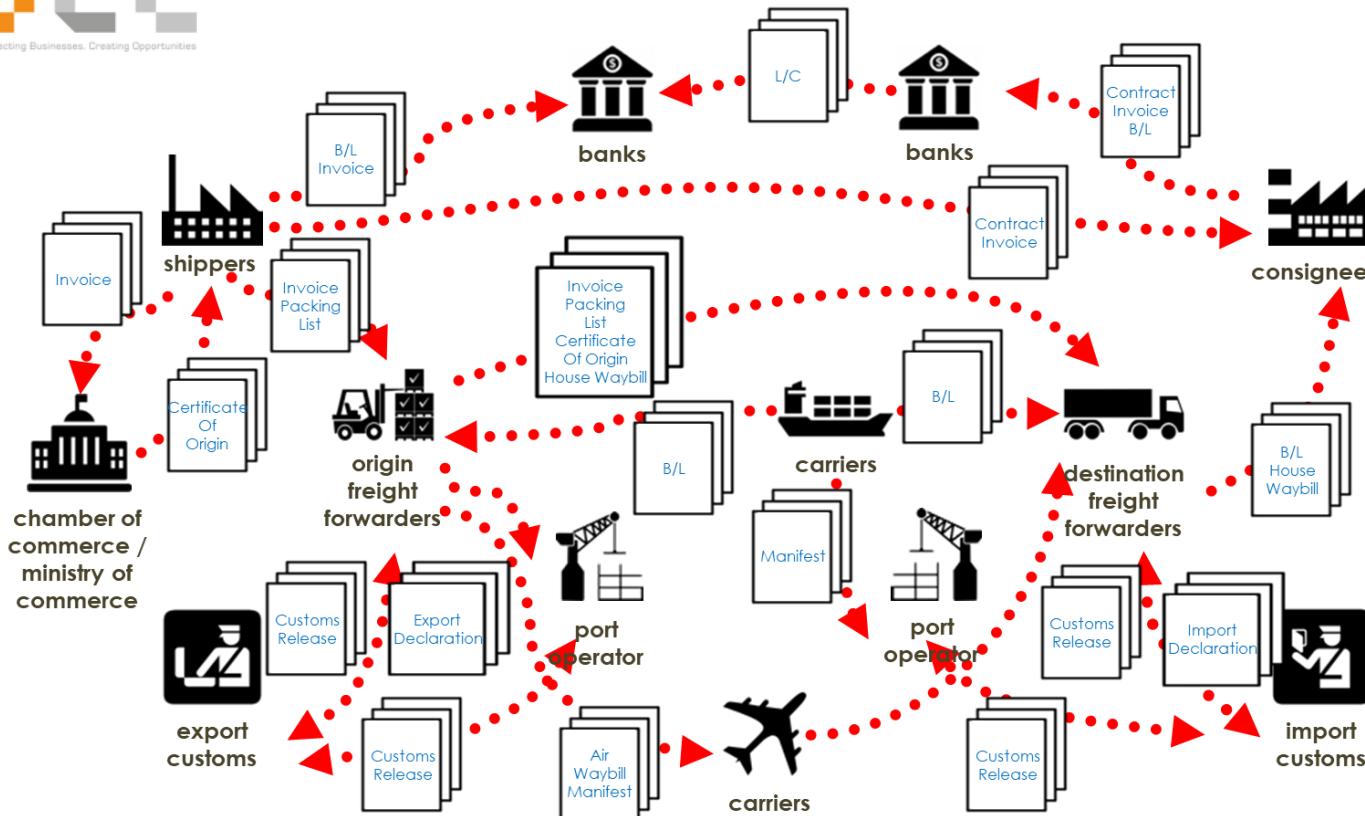


# Towards Paperless Cross-Border Trade with Blockchain



**Viboon Chaojirapant**  
Director, Product Development,  
vCargo Cloud Pte. Ltd.



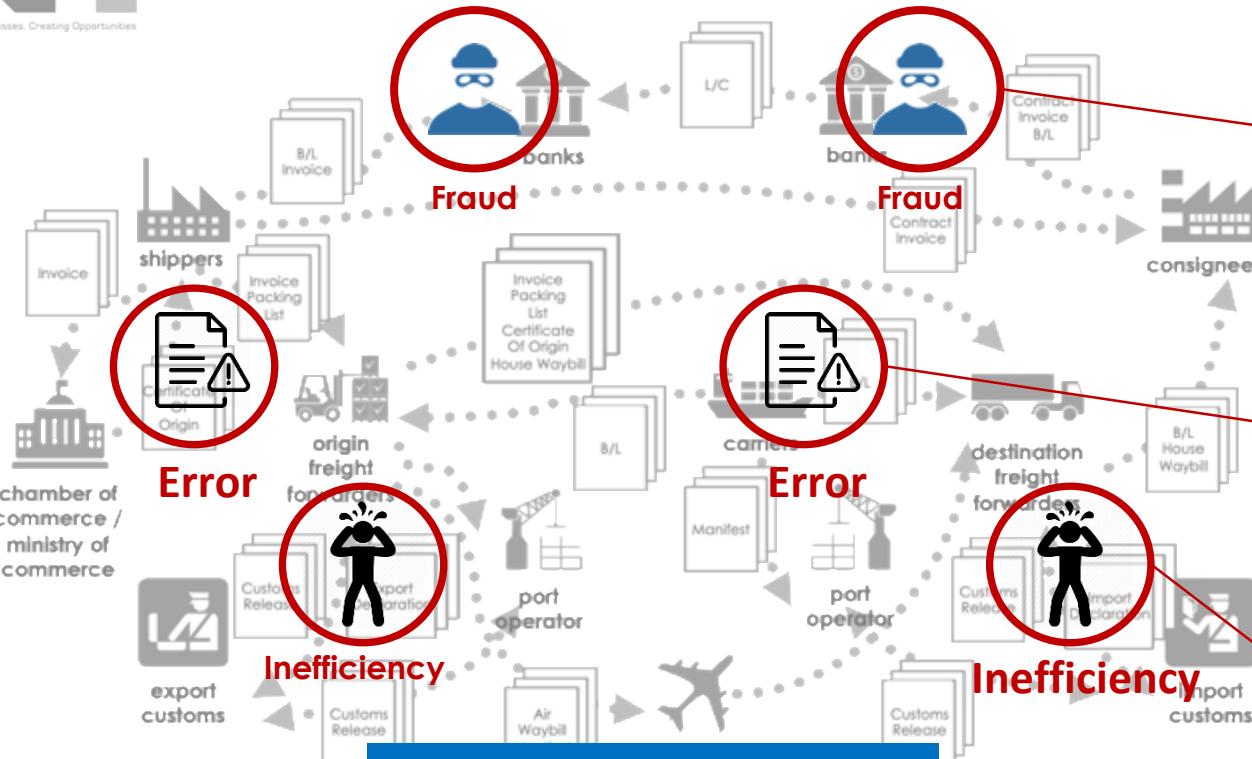


Documents are “Paper Bridges” Linking Trade Processes.

According to the World Economic Forum, the costs of processing trade documents can be as much as a fifth of the shipping cost.

IATA reported that an air cargo shipment can generate up to 30 paper documents. In each year, more than 7,800 tons of paper documents are processed, the equivalent of 80 Boeing 747 freighters filled with paper.<sup>1</sup>

1. IATA e-AWB Implementation Playbook, Sep 2018



Digitization is necessary.

Fraud in trade finance is a constant threat. As much as 80 per cent of global flows of merchandise - worth about US\$9 trillion - is financed by some form of credit, guarantee or insurance, according to a global survey by the International Chamber of Commerce.<sup>1</sup>

Manual data entry, sometimes across multiple documents, leads to error in data, and eventually inaccurate trade statistics.

Multiple parties submit paper documents to multiple agencies for processing leads to inefficiency and high cost for traders.

1. Singapore Straits Times, 6 May 2019

# Digitization of Trade Documents



**Data From Source** – Data are exchanged between the source of data and its recipients electronically, enabling automation in some of the process (such as verification) and reduce manual data entry work.



**Fraud Prevention** – Supporting documents such as Bill of Lading, Customs Permits, Certificate of Origin are transmitted directly from reliable source, such as Traders, Shipping Lines, Customs, Chambers, etc. Hence, providing trusted data to recipients.

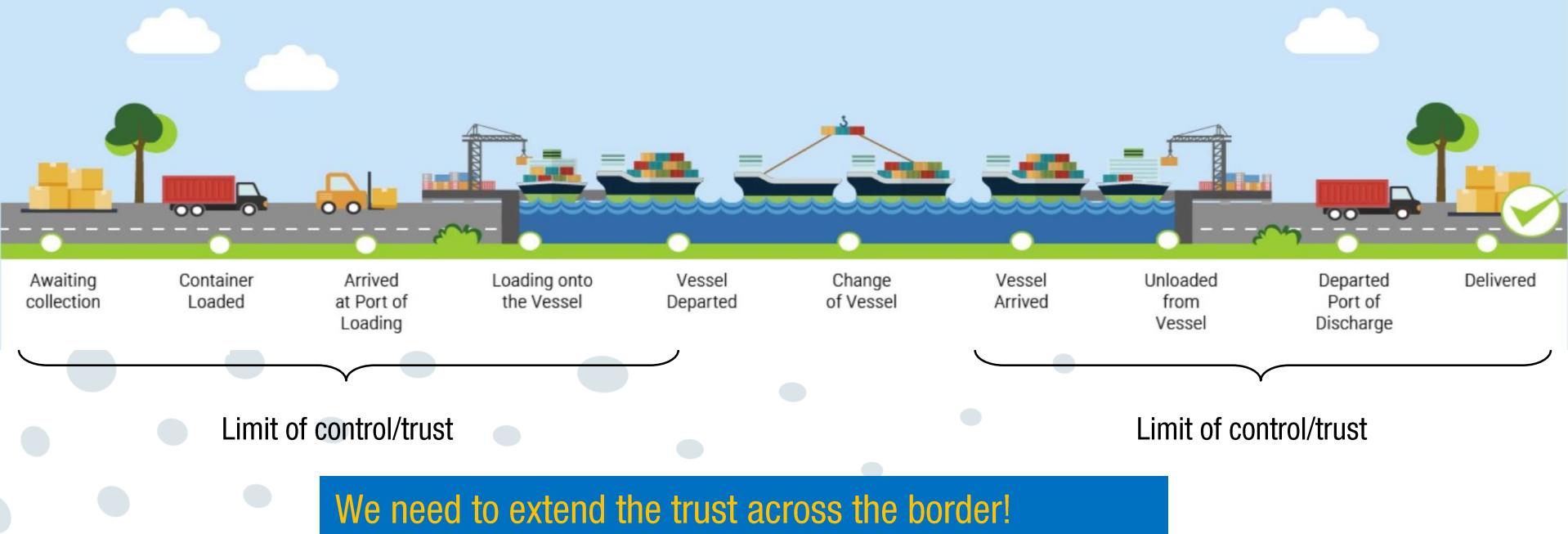


**Improved Trade Compliance, Visibility & Data Analytics** – Increase in transparency of information flow. Governments obtain better data for trade statistics. All stakeholders in the ecosystem have access to the necessary information in order to make decisions to benefit the entire ecosystem.

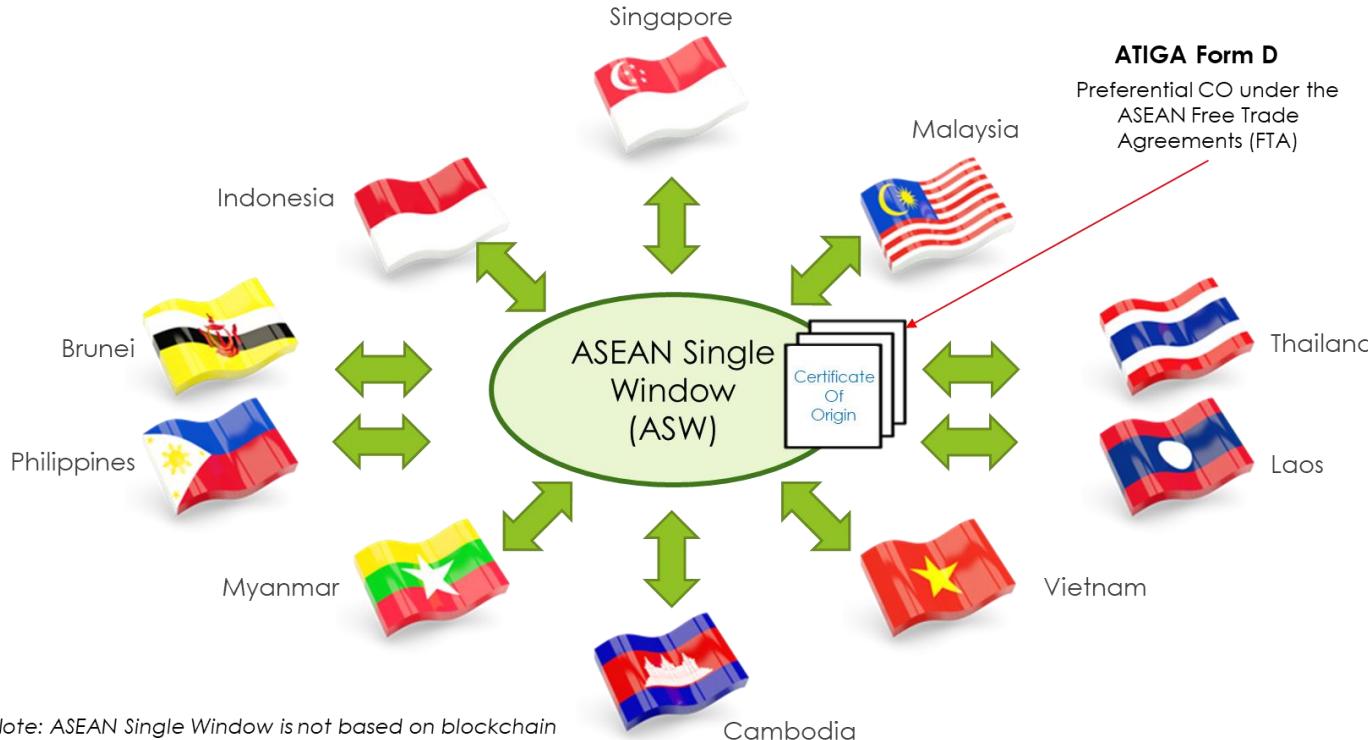


**Efficiency and Cost Reduction** – Reduce manual paperwork and manual handling of documents.

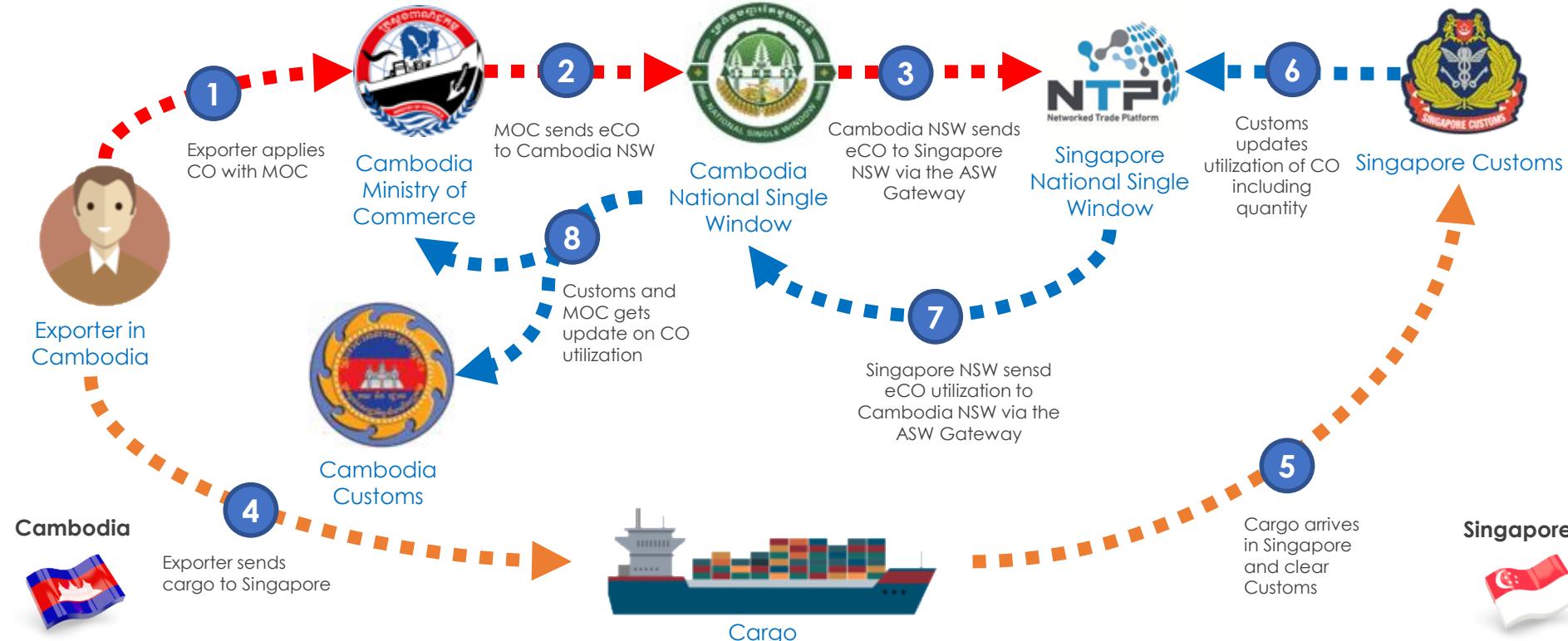
# Cross-Border Trade



# G2G: The ASEAN Single Window



# G2G: The ASEAN Single Window



# G2G: The ASEAN Single Window

1

**Establishing Trust and Prevent Fraud** – In the ASW, trust is established by the government. The government agencies at each country provide the “guarantee” that the digital document (and data) received is authentic and verified.

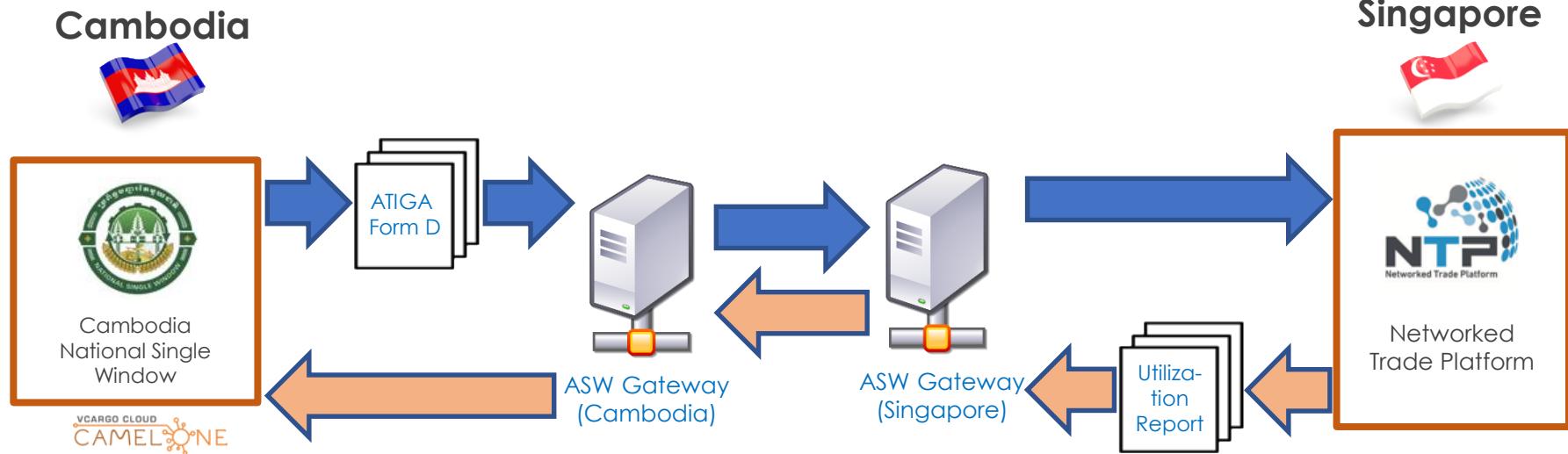
2

**A Step Towards Paperless Clearance** – With the electronic exchange of ATIGA Form D, there is no need for paper CO to be submitted for Customs clearance.

3

**Real Time Update** – With ASW, once the ATIGA Form D is issued in the exporting country, it will be transmitted to the importing country within minutes. Utilization of the CO is reported almost immediately as well, which was not possible previously.

# G2G: The ASEAN Single Window



Adding new documents to be exchanged through the ASW is a slow process.

Meanwhile what about the B2G, G2B and B2B documents?

# Using Blockchain

## Distributed Shared Ledger

A blockchain is a distributed database that is used to maintain a continuously growing list of records, called blocks. Each block contains a timestamp and a link to a previous block. A blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for validating new blocks.

## Inherently Resistant to Modification of Data

By design, blockchains are inherently resistant to modification of the data. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks and a collusion of the network majority.



We believe that the characteristics of blockchain is perfectly suited to help solve the problem of cross-border paperless exchange of trade documents. And equally important, it can be implemented fast.

VCC is working with Federation of Thai Industries and R3 to implement a cross-border CO exchange proof-of-concept.

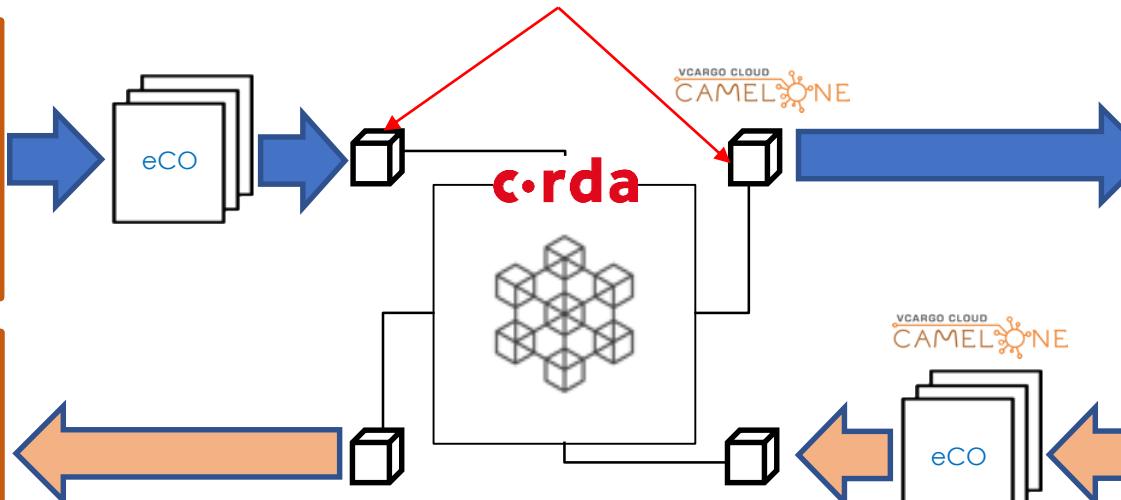
# Cross-border CO Exchange with Blockchain

Thailand



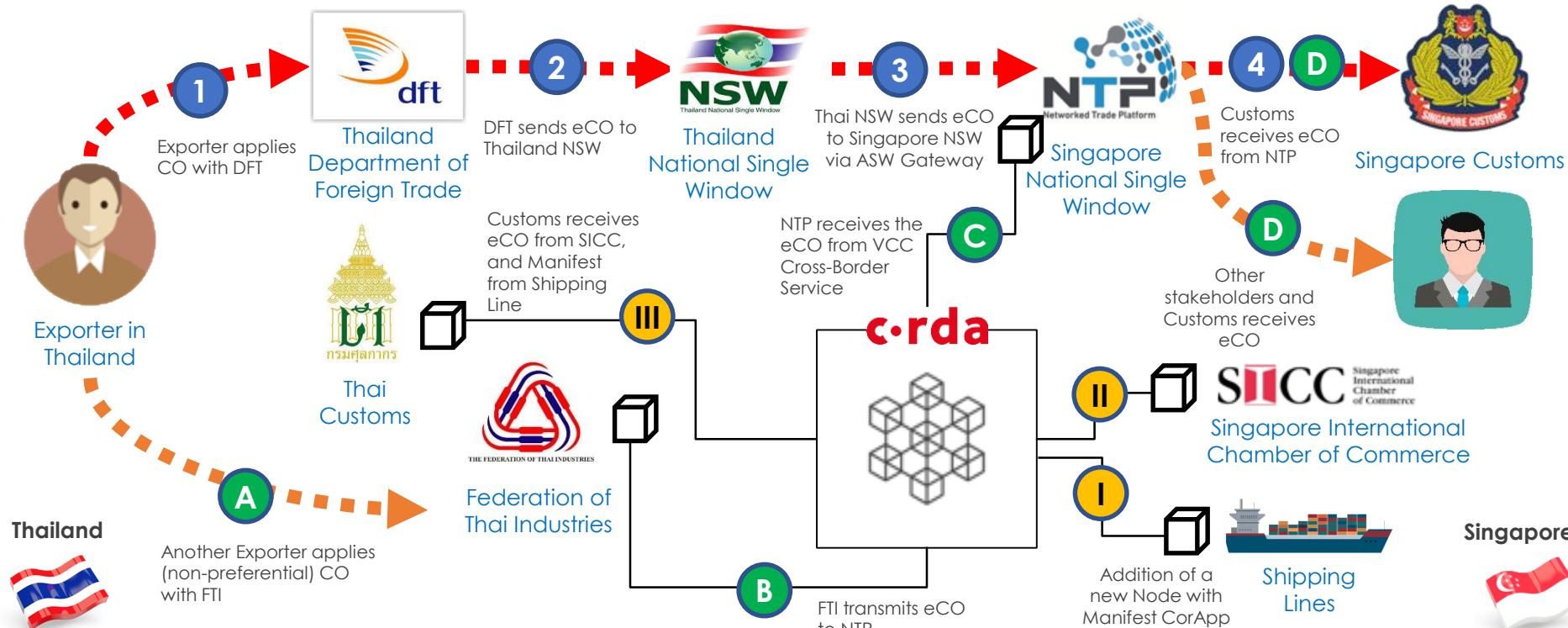
VCC implemented the Trade Facilitation Corda Node and an eCO CorApp for the POC

Singapore



New stakeholders = new Node | New document = new CorApp

# Envisioned Scenario



# What we've learned

1

**Blockchain is well suited for cross-border trade** – The nature of blockchain enables trust to be established between parties, which will facilitate the adoption of electronic exchange of trade documents.

2

**Establishing document standards is important** – Blockchain is an enablement technology only. What's important is that standards for the trade documents must be established and agreed upon prior to any exchange.

3

**Need a legal environment for paperless trade** – The legality of paperless trade facilitation has to be established by the government as a prerequisite for electronic documents to flourish.