



# Create the Future of Trade with Blockchain

October 26, 2021



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# Agenda

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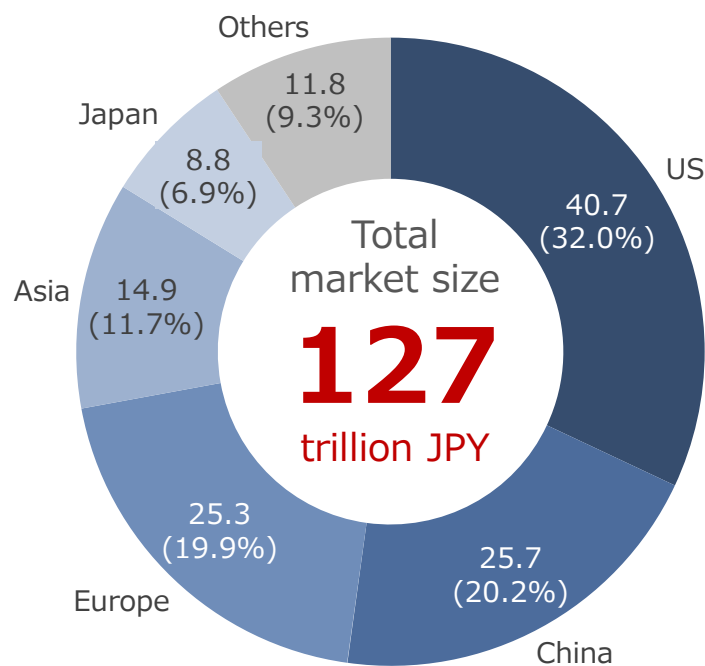
- 1. Trade platform from Japan : TradeWaltz**
- 2. ASEAN expansion with ASEAN-BAC**
- 3. We shall proceed further collaboration with other platformers**

# As you know... DX market is emerging

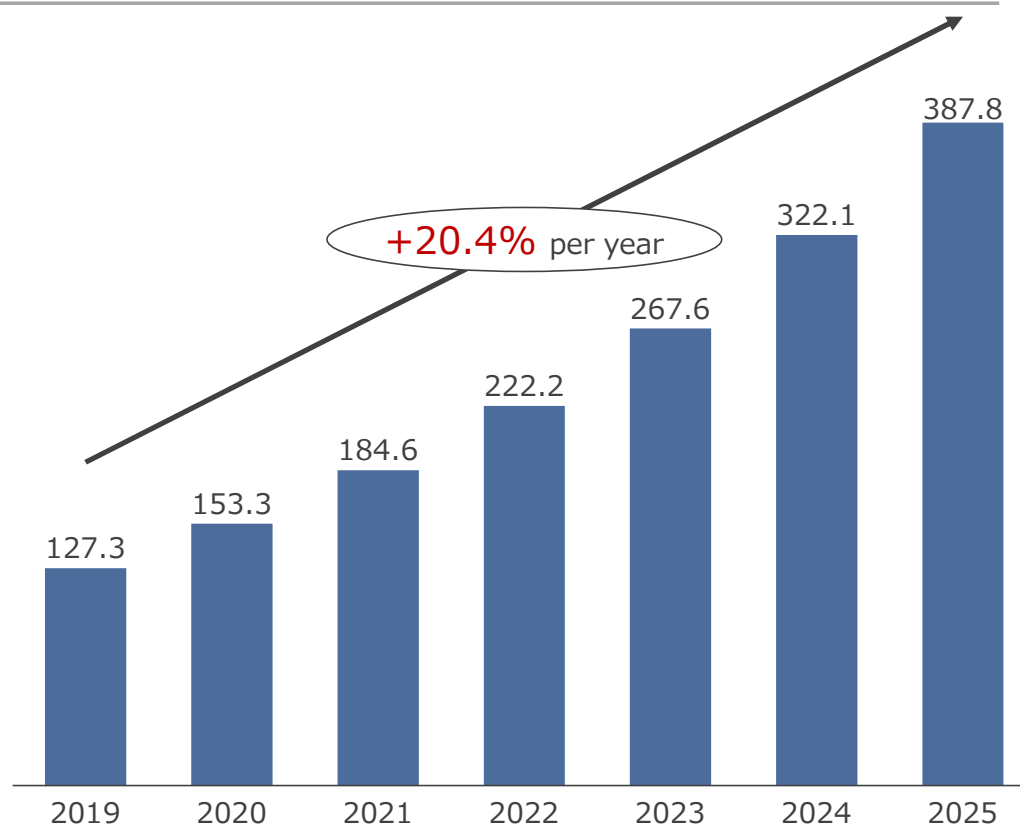
Global DX market size is reaching 127 trillion JPY in 2019.

Growing by 20% each year and may be accelerated by COVID-19.

Region-wise DX market size(2019 | trillion JPY\*)



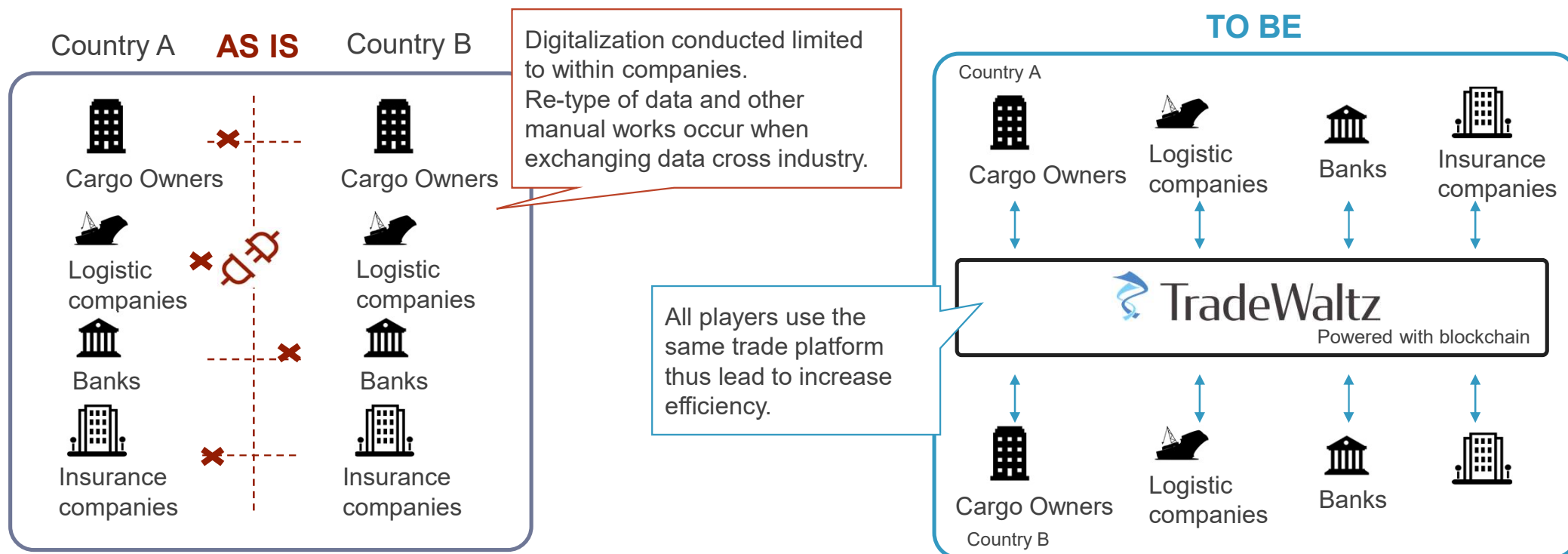
Expected market growth(Global | trillion JPY\*)



\*Calculated as 107.9JPY/USD  
Ref : IDC『Worldwide Semiannual Digital Transformation Spending Guide』

# TradeWaltz is B2B communication DX platform in trade

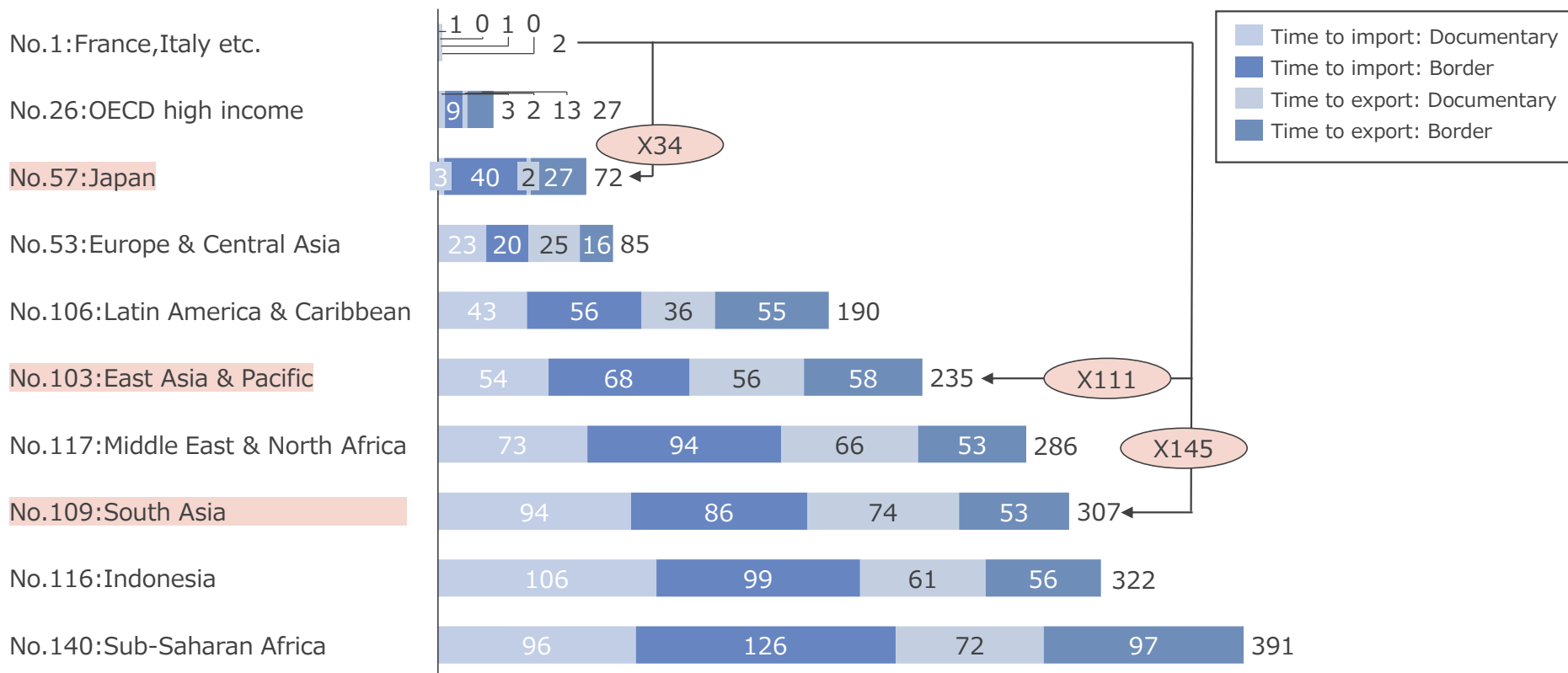
- TradeWaltz is a cross-industry business to business (B2B) trade platform built by utilizing the benefits of blockchain technology.
- TradeWaltz provides a one stop platform for all industry players to increase efficiency and optimize the utilization of EPA/FTA between countries.



# Our targeting issue 1) Operation efficiency, speed

- Japan and ASIA respectively take 34 and 111 times more man-hours than EU to process trade transactions.
- EU is going forward at the point of regulation and digitalization.

Time Spent on Trade Transactions (unit: hour)



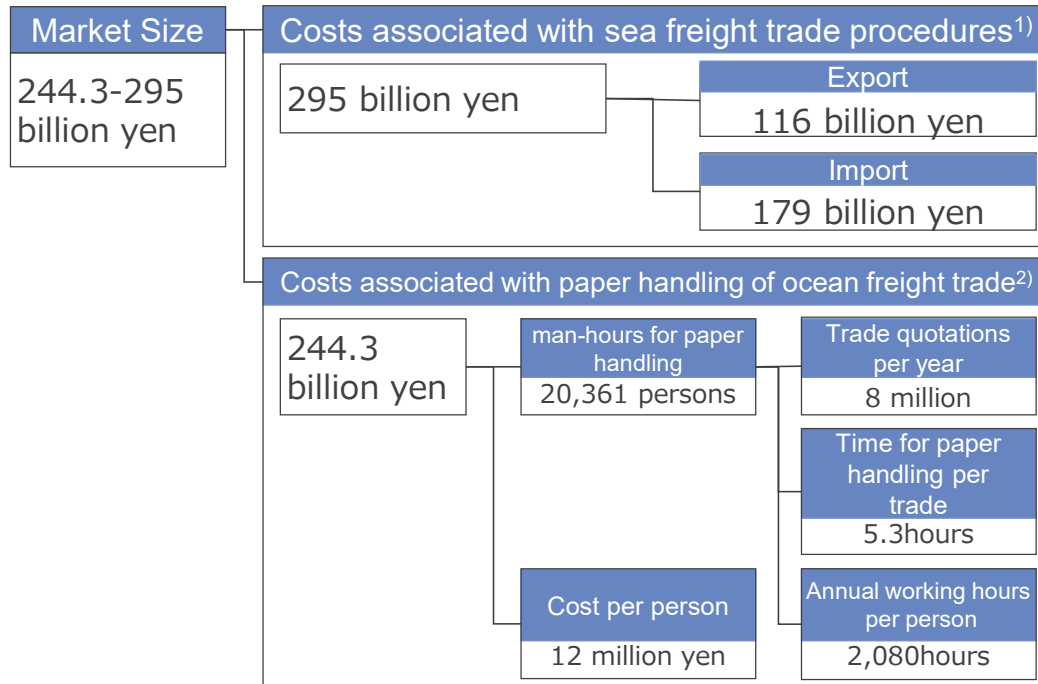
Ref : Trading across Borders (THE WORLD BANK)

# Our targeting issue 2) Paper-work cost

- The market size of the issue in Japan is about 244.3-295 billion JPY per year for the cost of maritime cargo trade procedures.

## Market size of this business

The market size of this project is approximately 244.3-295 billion yen, which is the cost of ocean freight trade procedures and paper handling.



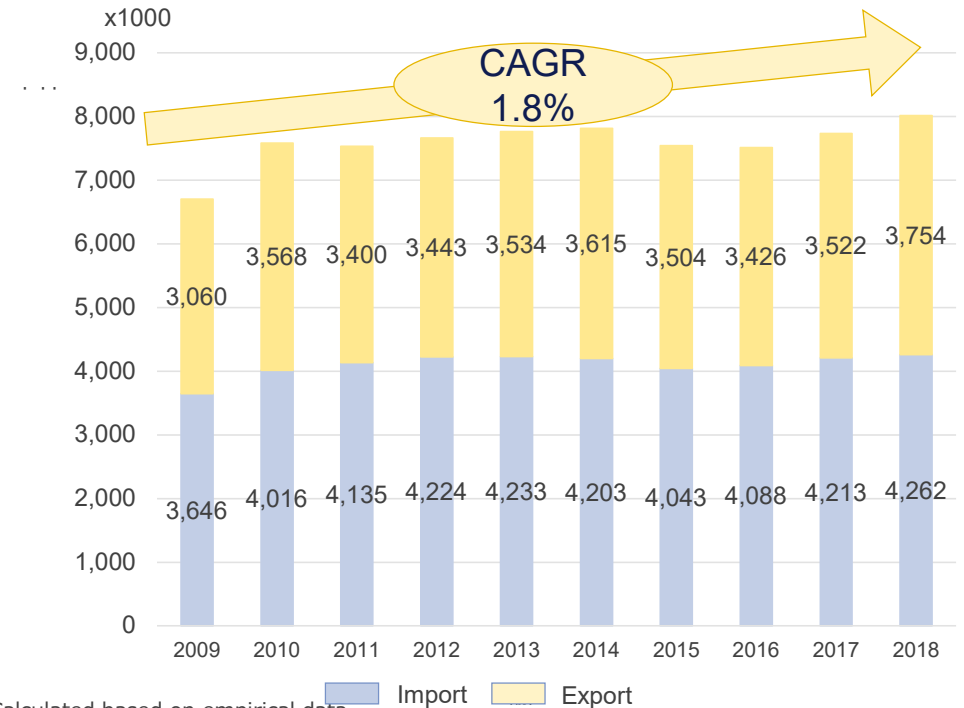
1) Calculated based on the World Bank Group's "Doing Business-Trading Across Borders".

2) Calculated based on empirical data.

3) Based on the number of import/export licenses provided by NACCS. 97% or more of all trade transactions since 2009 have been conducted through NACCS.

## Quotations for seaborne trade in goods <sup>3)</sup>

The number of sea freight trade transactions has been steadily increasing at a CAGR of 1.8%.




# Our targeting issue 3) Needs of remote work in COVID-19


- Due to many tasks that still require paperwork, trade employees in Japan need to come to the office 1-2 times a week even during the spread of COVID-19.
- EU is going forward at the point of rules and digitalization.



**Changes in personal behavior**

 Social Distance  
Work From Home

**Stagnation of economic activities**

 Supply Chain Disruption  
Shortage of essential goods



**By moving from a paper-based trade document to one that is digitalized, ASEAN enjoy major benefits such as reduced face-to-face operation, avoid supply chain disruption.**



**Make trade procedures easy, anytime, anywhere – non face to face operation**



**Make it easy to find alternatives to trading partners- Strengthening Supply Chain**

<b>Issue</b>	<b>Solution by Digital</b>
<b>Analogue &amp; Paper based operation with personnel</b>	<b>Digitized operation with handled remotely</b>

<b>The supply chain breaks at the export source</b>	<b>Continuing the Supply Chain by finding alternative suppliers</b>
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Ref : ASEAN-BAC focal point meeting 2020(Trade Digitalization)

# Our targeting issue 4) Other trade issues

<b>Import/Export</b>	<b>Customs Regulations</b>	<ul style="list-style-type: none"> <li>• Complexity of, and delay during the procedures</li> <li>• Differences in requirements for issuance of certificates by persons in charge (Preferential Certificate of Origin, etc.)</li> <li>• Lack of clarity around import-related risk management laws, etc.</li> </ul>	<div style="border: 1px solid #1a3d54; padding: 5px; background-color: #d9e1f2; margin-bottom: 20px;"> <b>Can be eliminated by electronic transactions</b> </div> <div style="border: 1px solid #1a3d54; padding: 5px; background-color: #d9e1f2;"> <b>Require governmental support</b> </div>
	<b>Repetitive and Inefficient Administrative Procedures</b>	<ul style="list-style-type: none"> <li>• Notices and letters unable to be posted all at once, due to time lags and the limited timeframes they are given to be on the board</li> <li>• New regulatory standards and applications being vague</li> <li>• Demand for a bribe, etc.</li> </ul>	
	<b>Remittances</b>	<ul style="list-style-type: none"> <li>• Complexity of procedures (i.e. being required to attach documents that are not necessary for the transaction)</li> <li>• Overseas remittance by companies with accumulated deficits not being allowed</li> <li>• Restrictions on foreign currency borrowing and use</li> <li>• High overseas remittance fee, etc.</li> </ul>	
	<b>Import/Export Regulations &amp; Customs Duties</b>	<ul style="list-style-type: none"> <li>• High import/export duties</li> <li>• Safeguard</li> <li>• Lack of transparency in tariff system and suspension of exports</li> <li>• Various import regulations (e.g. used machinery, etc.), etc.</li> </ul>	
	<b>Others</b>	<ul style="list-style-type: none"> <li>• Restrictions on entry by foreign companies, shortage of relevant industries</li> <li>• Intellectual property management</li> <li>• Employment system</li> <li>• Land ownership restrictions, etc.</li> </ul>	

Ref : Japan Machinery Center for Trade and Investment



# Our challenge to these issues

- Cross-Industry consortium (established 2017) for paperless international trade

	Participating Companies (as of March. 2020)
Banks	MUFG Bank, Ltd.
	Sumitomo Mitsui Banking Corporation
	Mizuho Financial Group, Inc./Mizuho Bank, Ltd.
Insurance Companies	Tokio Marine & Nichido Fire Insurance Co., Ltd.
	Sompo Japan Nipponkoa Insurance Inc.
	Mitsui Sumitomo Insurance Company, Ltd.
Cargo Owners	Sumitomo Corporation
	Mitsubishi Corporation
	Sojitz Corporation
	Toyota Tsusho Corporation
	Marubeni Corporation
	Itochu Corporation
	Kanematsu Corporation
Mitsui & Co., Ltd.	
Carriers / Logistics Companies	Kawasaki Kisen Kaisha, Ltd.
	Nippon Express Co., Ltd.
	Nippon Yusen Kabushiki Kaisha
	Ocean Network Express Pte. Ltd.
Secretariat	NTT DATA (Blockchain Expert)

## Activities (2017)

- Identification and sharing of cross industrial business issues
- 55 features, 83 API builds
- Proof of concept with NTP Singapore

## Activities (2018)

- Research on AI and semantic technology for L/C document check
- Proof of concept in Japan and Thailand
- Research on relevant laws (MLETR) and submission of written request to government agencies

## Activities (2019)

- Release of pilot version
- Trial deployment in Thailand involving 24 companies

## Activities (2020)

- Exposure at World Economic Forum 2020 sideline event
- Start commercialization

 Co-invested partners

# Built TradeWaltz platform prototype

- We created the TradeWaltz platform prototype using blockchain ([https://www.youtube.com/watch?v=y\\_d9DBM0CQ](https://www.youtube.com/watch?v=y_d9DBM0CQ))



# Built TradeWaltz platform prototype: Blockchain Technology

TradeWaltz selects “**Consortium Blockchain**” with HYPERLEDGER Fabric because it’s well-balanced in the perspective of Security and Performance

	Public Blockchain	Consortium Blockchain	Private Blockchain
Proof & Consensus	<p><b>Trustless/Permissionless</b> This type needs recording approval by general public so they need MINING process and proof</p>	<p><b>Trusted/Permissioned</b> These types need only consensus algorithm and don't need recording approval by general public so they don't need MINING process and proof. Instead, they use proof for security matter so they can get well-trusted blockchain.</p>	
Accessibility & Security	<p><b>Easy Access / Lower Security</b> Everyone can set nodes(record server) and use</p>	<p><b>Hard Access / Higher Security</b> Setting nodes and using these are limited to Consortium companies</p>	<p><b>Hard Access / Higher Security without main company</b> One company controls all</p>
Performance (recording speed)	<p><b>Low</b> Because of MINING, it needs much calculating time</p> <p>  bitcoin            ripple            ethereum         </p>	<p><b>High</b> There's no mining process and much time for recording data</p> <p>  TradeWaltz            MarcoPolo            HYPERLEDGER            corda         </p>	

# Built TradeWaltz platform prototype: Features

## 1 Cross Industry Platform

Players:



Exporter



Negotiation Bank



Issuing Bank



Importer



Insurance Company



Forwarder



Carrier



C/O provider

## 2 Wide coverage of documents

Structured documents (**NOT PDF**) on the platform



Letter of Credit



Invoice



Sea Way Bill



Packing list



Shipping Instruction



Export Permit



Certificate of Origin



Bill of Exchange



Insurance Policy

And attachment files (PDF etc.)

## 3 Creation of ecosystem

Utilize the accumulated data in the trade platform to create new business ecosystem.

# Built TradeWaltz platform prototype: Business variation

- TradeWaltz will expand its business by providing new value-added services and involving 3rd parties to create an ecosystem which will continuously deliver profitable, attractive and innovative services.



Efficiency of trade operations

New business ecosystems

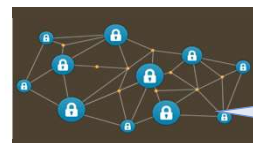
Option Services

Collaboration with 3<sup>rd</sup> Party Services



Open API connectivity

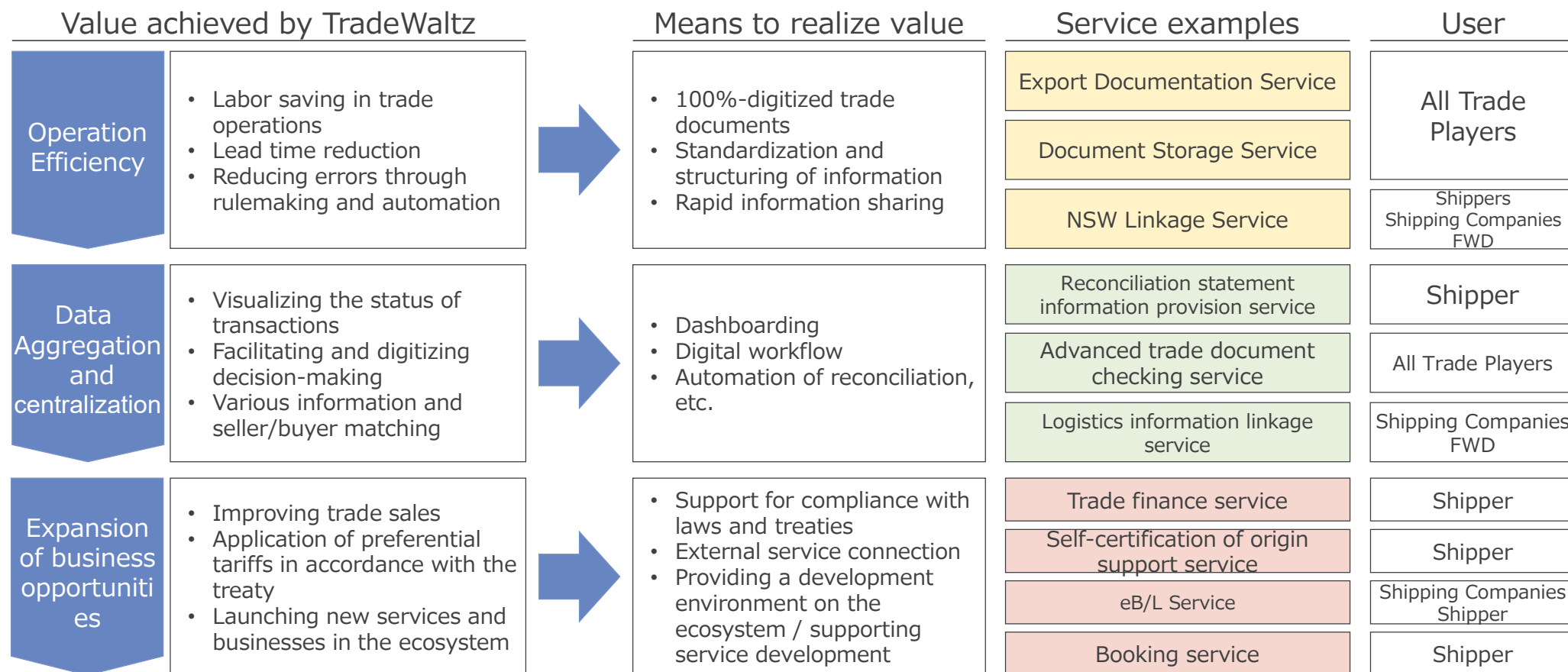
Basic Services



Accumulated trade data

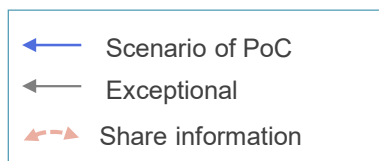
# Built TradeWaltz platform prototype: Business variation

- TradeWaltz will provide a series of services to improve operational efficiency, aggregate the related data, and expand business opportunities in trade.

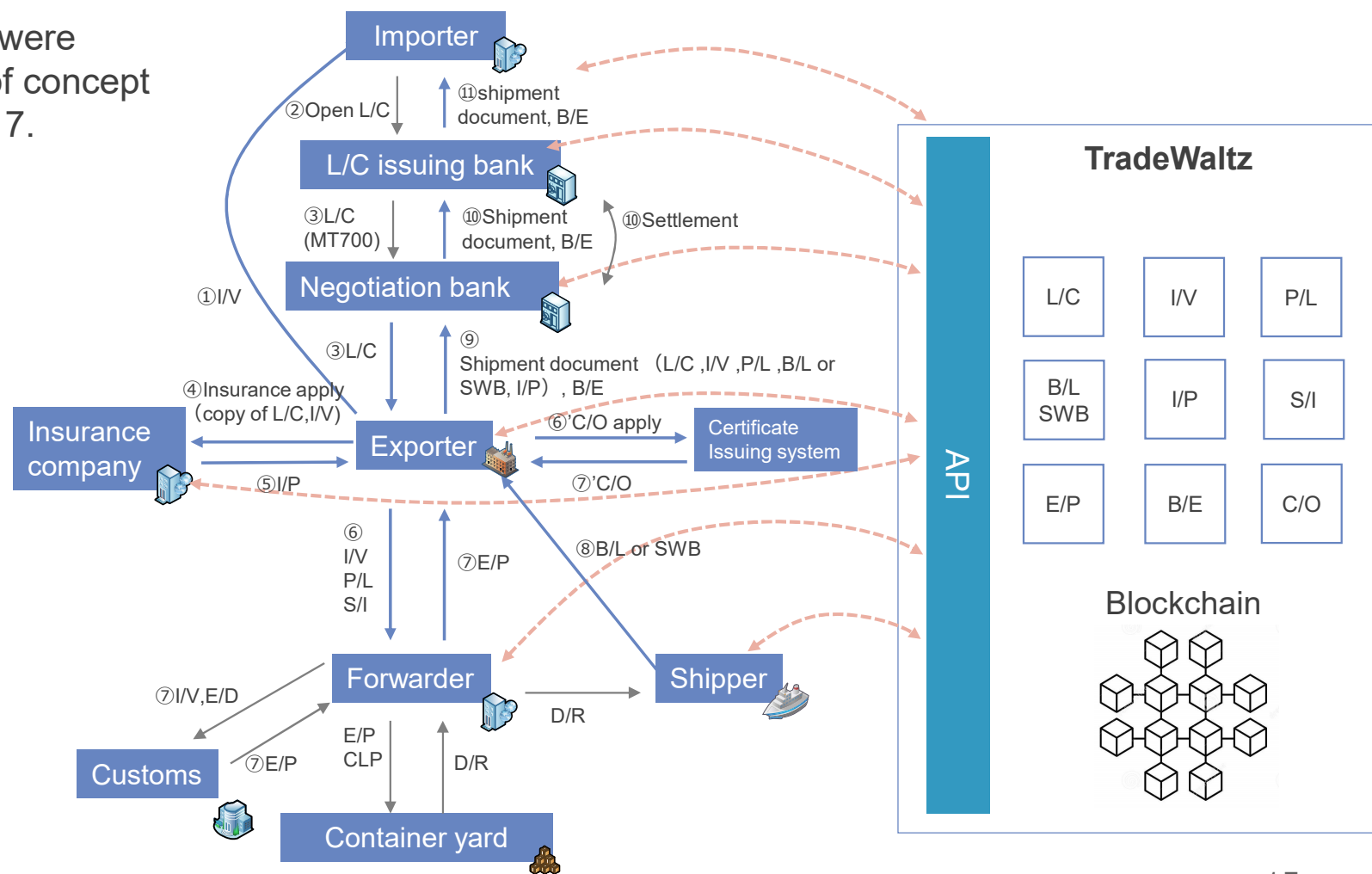


# Proved benefits in Japan

Benefits of TradeWaltz were examined in the proof of concept (PoC) conducted in 2017.



L/C: Letter of Credit  
 I/V: Invoice  
 P/L: Packing list  
 S/I: Shipping Instructions  
 I/P: Insurance Policy  
 C/O: Certificate of Origin  
 E/D: Export Declaration  
 E/P: Export Permission  
 CLP: Container Load Plan  
 D/R: Dock Receipt  
 B/L: Bill of Lading  
 SWB: Sea Waybill  
 B/E: Bill of Exchange



# Proved benefits in Japan

Based on the result of the cross-industrial PoC, TradeWaltz was confirmed that it contributes to the improvement of operational efficiency and the cost reduction effect.

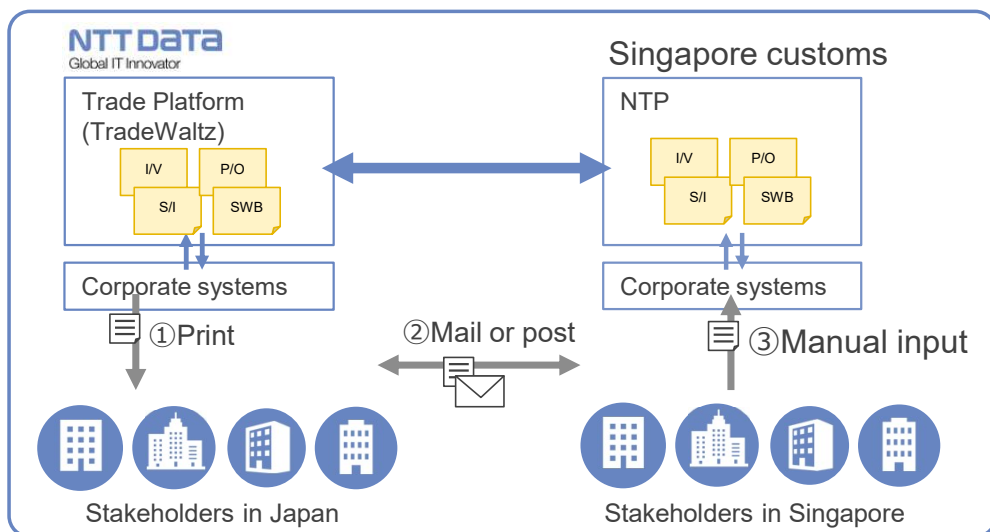
Industries	Procedures	Operational Efficiency/ Cost Saving
Cargo owners	C/O application	<b>60+%</b> Time saving for creating document by pulling data of I/V
Banks	Apply for negotiation of documentary bill	<b>60+%</b> Time saving for confirming the integrity of documents by check function
	Negotiate documentary bill	<b>60+%</b> Time saving for confirming the integrity of documents by check function
Insurance Companies	Deliver documentary bill	<b>30 to 60%</b> Time saving for delivering documents to customers
	Issue insurance policy	<b>30 to 60%</b> Cost saving for managing original documents
Carriers/ Logistic Companies	Issue SWB (B/L)	<b>60+%</b> Time saving for creating I/P by pulling data of L/C
		<b>60+%</b> Cost saving for delivering·managing documents by paperless and collection cost when revising I/P
		<b>60+%</b> Reduction of B/L operation by paperless of SWB(B/L)



# Proved benefits in Japan and ASEAN

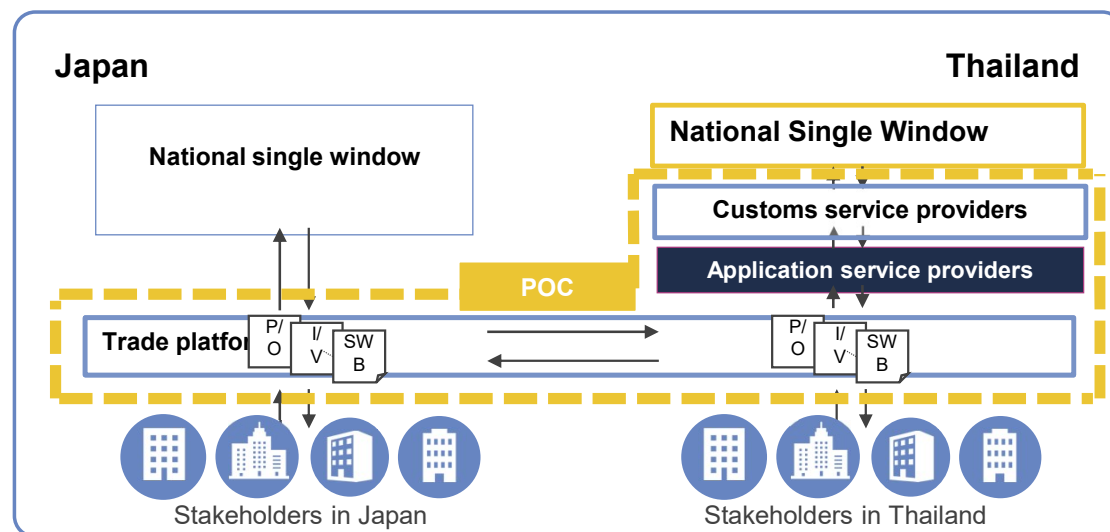
Other Proof of Concepts have also been conducted with Singapore and Thailand. With Singapore, it was confirmed that NTTData has interoperability with Singapore platform. With Thailand, the introduction of TradeWaltz proved over 50% of operational efficiency improvement and accelerate remote work.

## Proof of concept with Singapore NTP (2017-2019)



Proved **Interoperability** Between Platforms

## Proof of concept with Thailand (2019-2019)

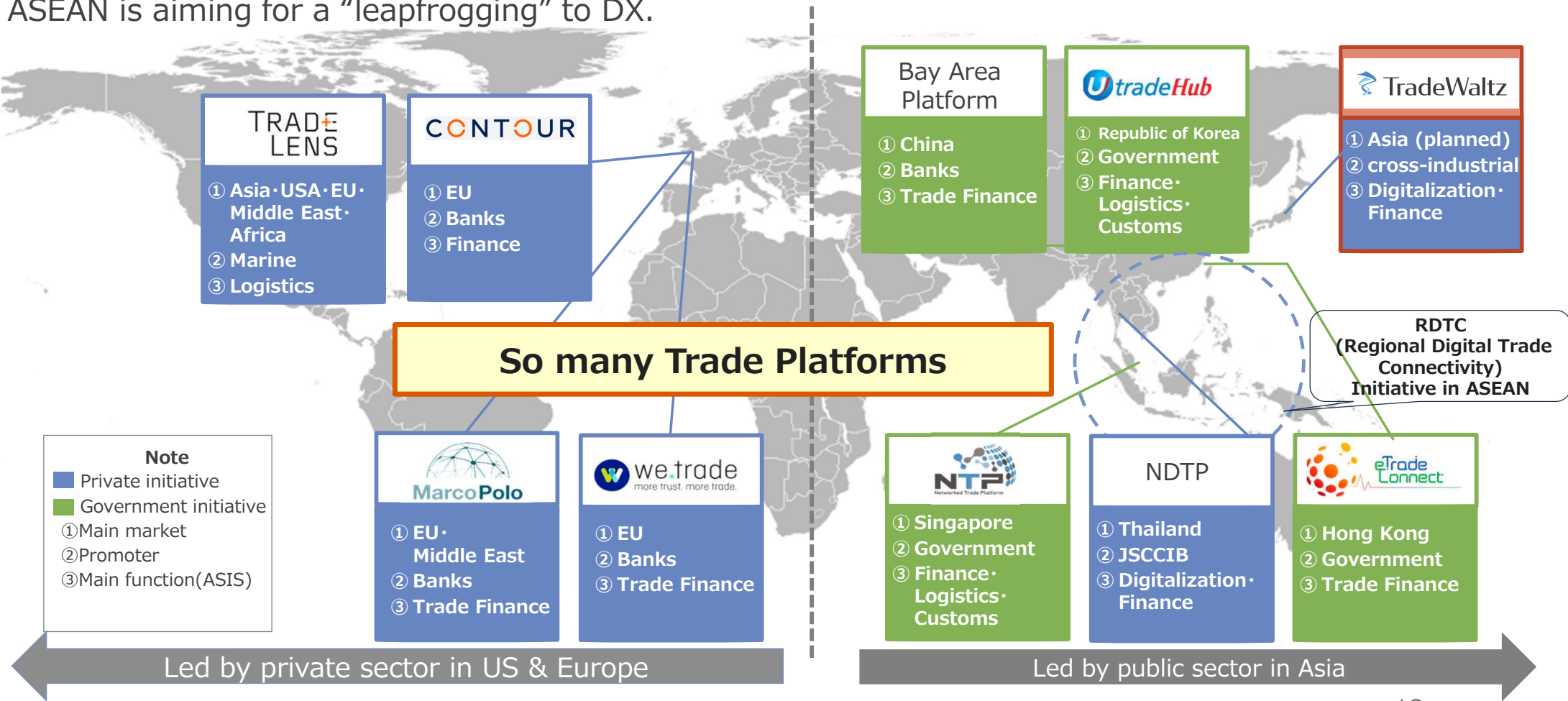


Proved **over 50%** Operational Efficiency improvement in Stakeholders and accelerate remote work

# The number of digital trade PFs is increasing

Same as in Europe & US, Trade PF initiatives are gaining momentum in Asia.

ASEAN is aiming for a “leapfrogging” to DX.



# Agenda

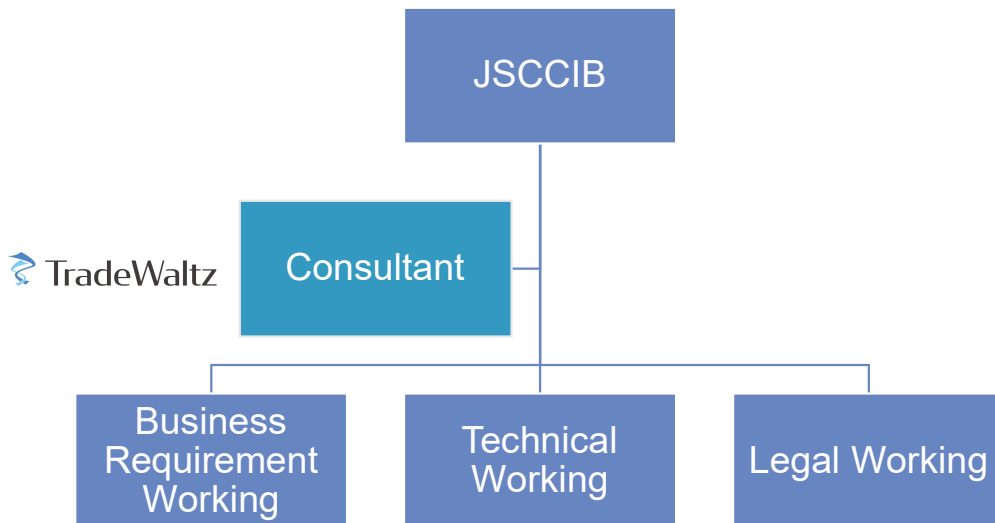
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1. Trade platform from Japan : TradeWaltz
2. ASEAN expansion with ASEAN-BAC
3. We shall proceed further collaboration with other platformers

# Thai, 2019 Chair of ASEAN, started considering with TradeWaltz support

- JSCCIB Thailand takes the lead to drive forward the NDTP.
- (JSCCIB : Joint Standing Committee of Commerce, Industry and Banking.)

## JSCCIB's hierarchy in NDTP consideration



## JSCCIB organization Structure



Thai Bank Association



Thai Chamber of Commerce

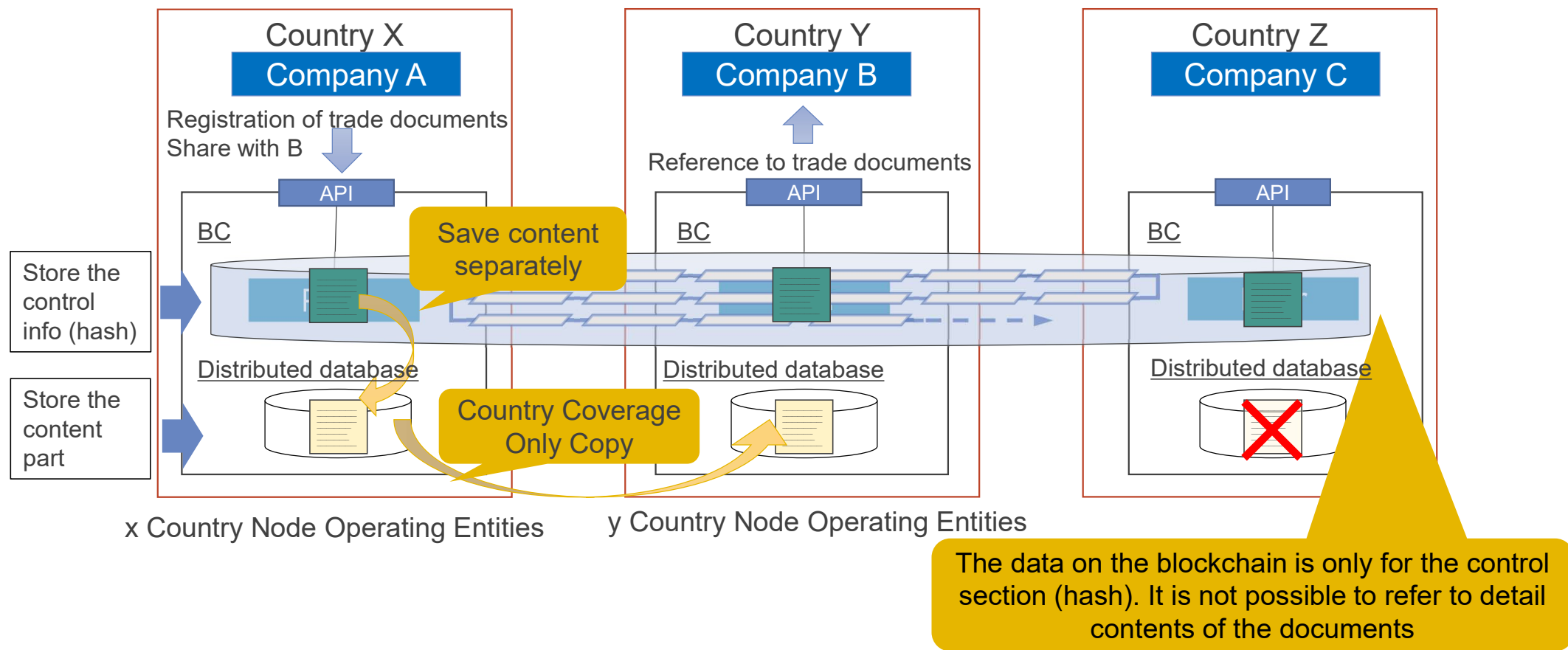


The Federation of Thai Industries

The project started around 2018.  
National agenda by the Thai government in 2019.

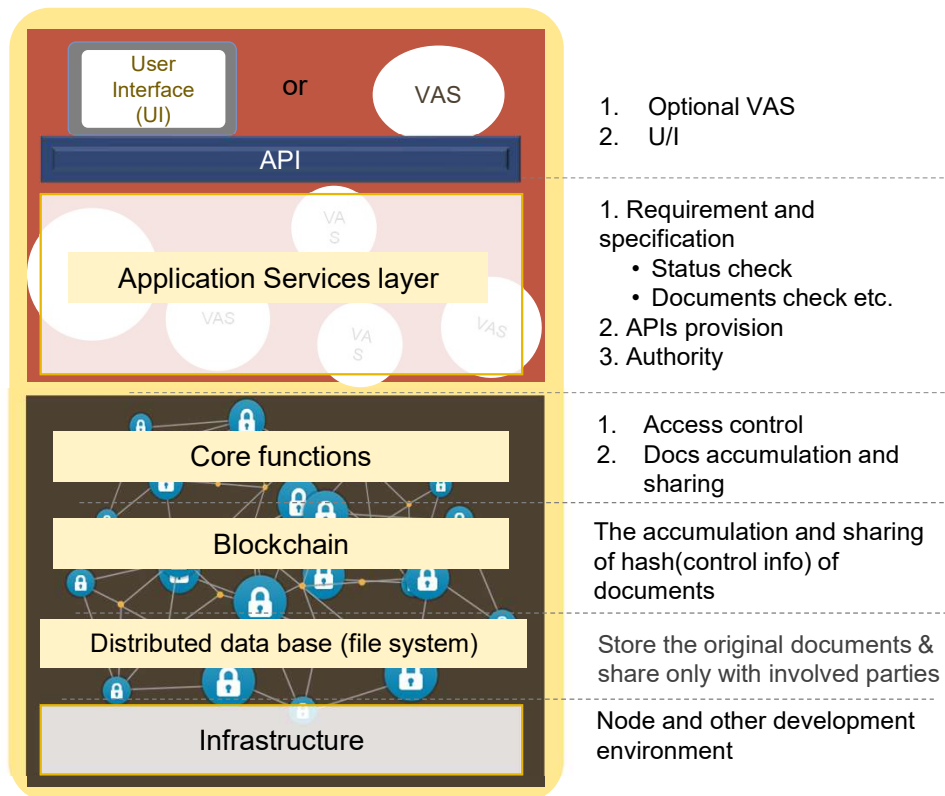
NTT DATA(TradeWaltz) cooperates with JSCCIB to test the effectiveness of having a B2B trade platform in 2019.

# Considered Hybrid data model for security

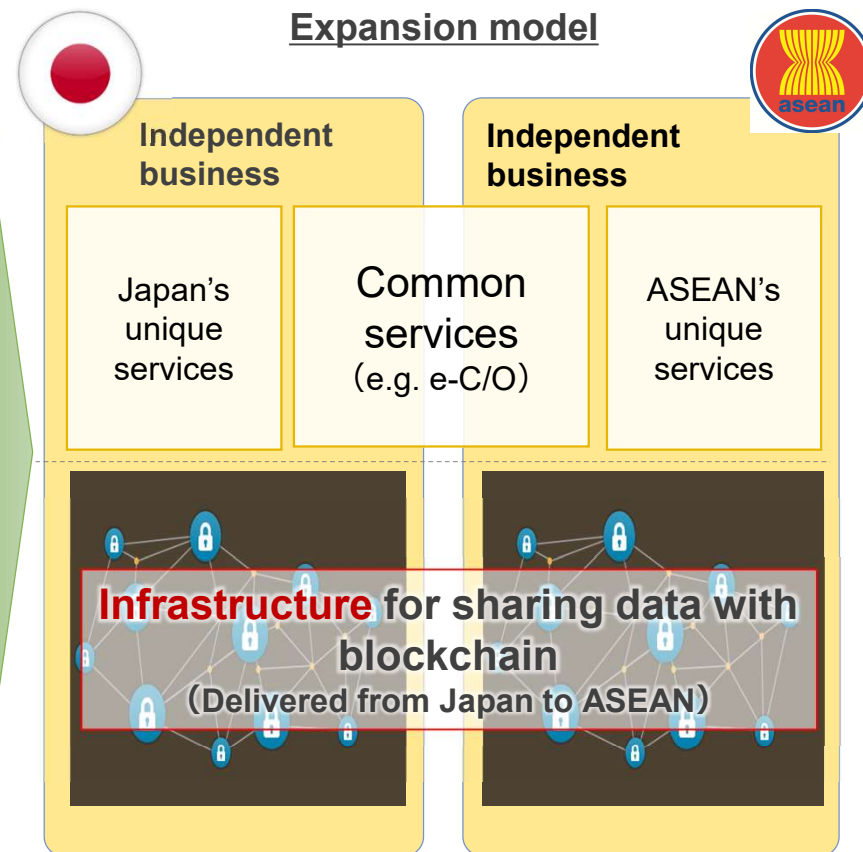


# Ex) suggesting blockchain-sharing model of TradeWaltz

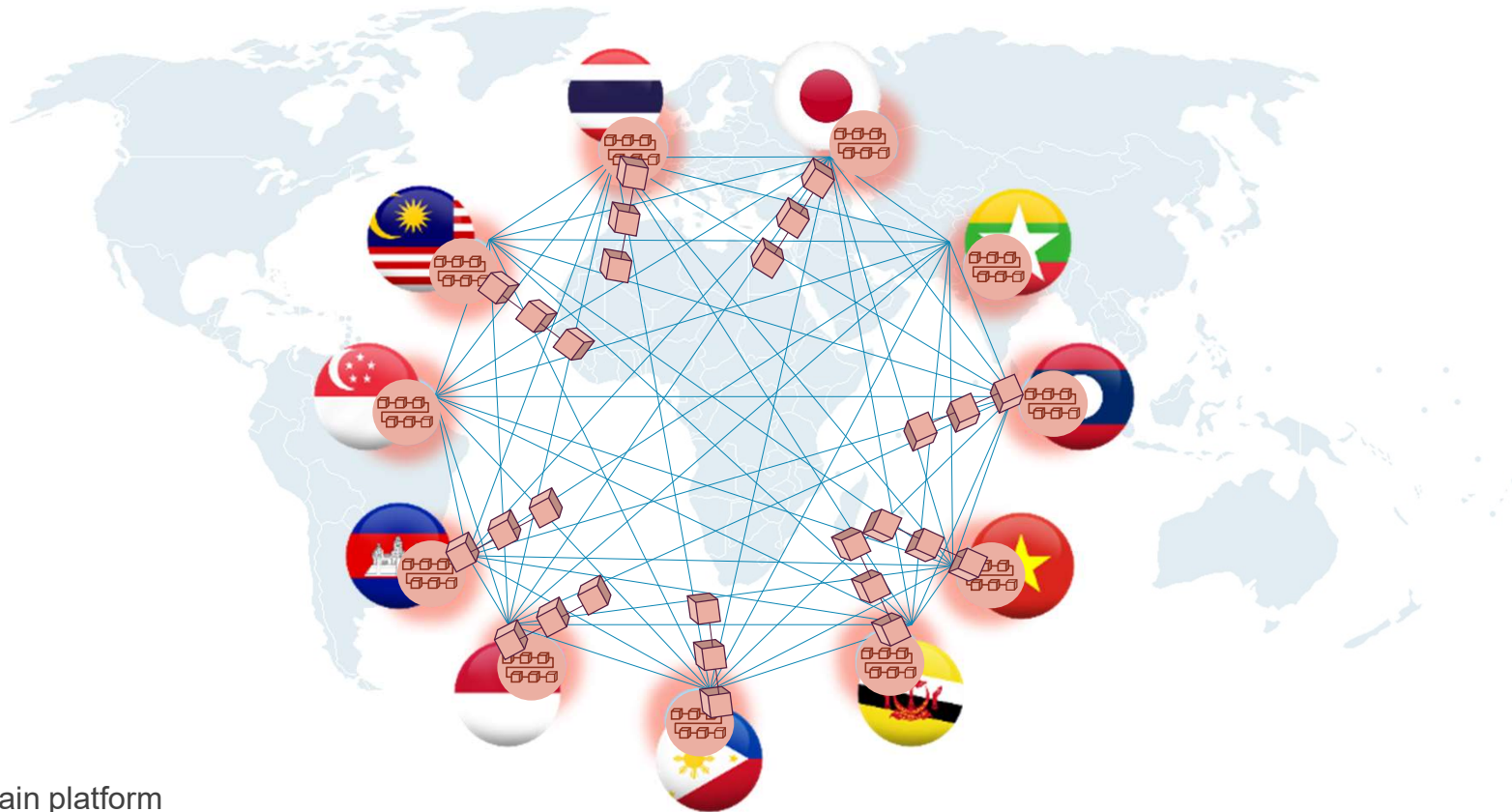
## TradeWaltz Structure



## Expansion model



## Ex) suggesting blockchain-sharing model of TradeWaltz



# Thailand set digital trade as ASEAN agenda

Bangkok Post

THAILAND WORLD BUSINESS OPINION AUTO LIFE LEARNING VIDEO MORE

Hironari Tomioka, President and CEO of NTT DATA Thailand, said the benefits of using electronic documents for international trade were examined by 47 trial participants including Thai banks, forwarders, origin providers and Japanese

Trade documents such as purchase orders, bills of lading, sea waybills, certificates of origin, trade finance documents were examined in a trial.

"Production costs will be reduced by streamlining document processing and other

information sharing via trade platforms to prevent the illegal practices of financing from multiple financial institutions.

The company plans to introduce the platform in cooperation with local government

In 2017, NTT DATA developed the platform in Japan in collaboration with a cross-industry consortium including representatives from banks, insurance companies, cargo owners and carrier/logistics companies which shared a mutual interest in paperless international trade.

BUSINESS

## Business forum maps out digital future

New trading platform roll-out set to make bloc's businesses more efficient

SECTION: NEWS  
DATE: ARUNMAS

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NTT DATA, which develops digital trade solutions in Japan, collaborated with the JSCCIB in studying the feasibility and benefits of a cross-industry trade platform.



# PF's interoperability (hybrid model) was mentioned at the World Economic Forum 2020 sideline event

## International partners ink pact with IMDA to collaborate on digital trade

THE International Chamber of Commerce (ICC) and 17 major multinational firms have signed a cooperation agreement with Singapore's Infocomm Media Development Authority (IMDA) to boost digital trade, which could result in wider adoption of Singapore's TradeTrust framework for connecting digital trade platforms.

Signed at Davos on Wednesday alongside the annual World Economic Forum meeting, the agreement is part of efforts to move from the existing paper-based system for world trade to digitally-enabled trade. The parties agreed to advocate and adopt open and neutral networks, with a focus on interoperability.

Moving towards digitalised trade requires a new trading system, and interoperability is a key element, noted Minister for Communications and Information Digitalisation Forum. The TradeTrust

TradeTrust aims to ensure interoperability by allowing digital trade documentation

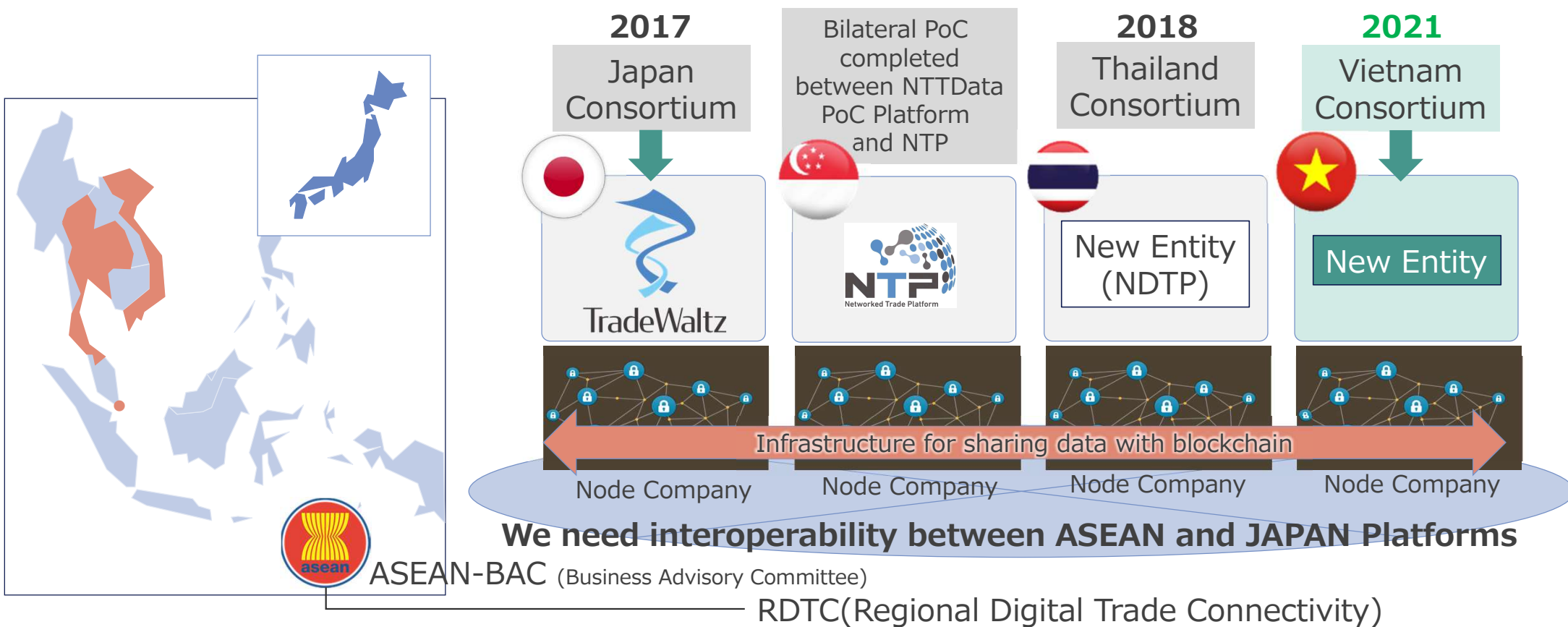


**SINGAPORE and ICC collaborate with seventeen key industry partners to enable further digitalisation in international trade**



## TradeWaltz is now consulting new partner Vietnam to develop Vietnam Consortium and to have interoperability with other platforms

- Minister of Economy, Trade and Industry of Japan suggested trade digitalization to Vietnam in 2020 and started consortium development activity in Vietnam.



# TradeWaltz's Vision for 2022


- Not only constructing new trade platform but we're now planning and having conversation with live-link with the trade platforms of 5 economies, Japan, New Zealand, Australia, Singapore and Thailand.
- We will move forward this future collaboration and announce the result by 2022 APEC.

Illustrative

**National Digital  
Trade Platform("NDTP")**  
from Thailand

  
**NTP**  
Networked Trade Platform  
from Singapore

 **TradeWaltz** from Japan

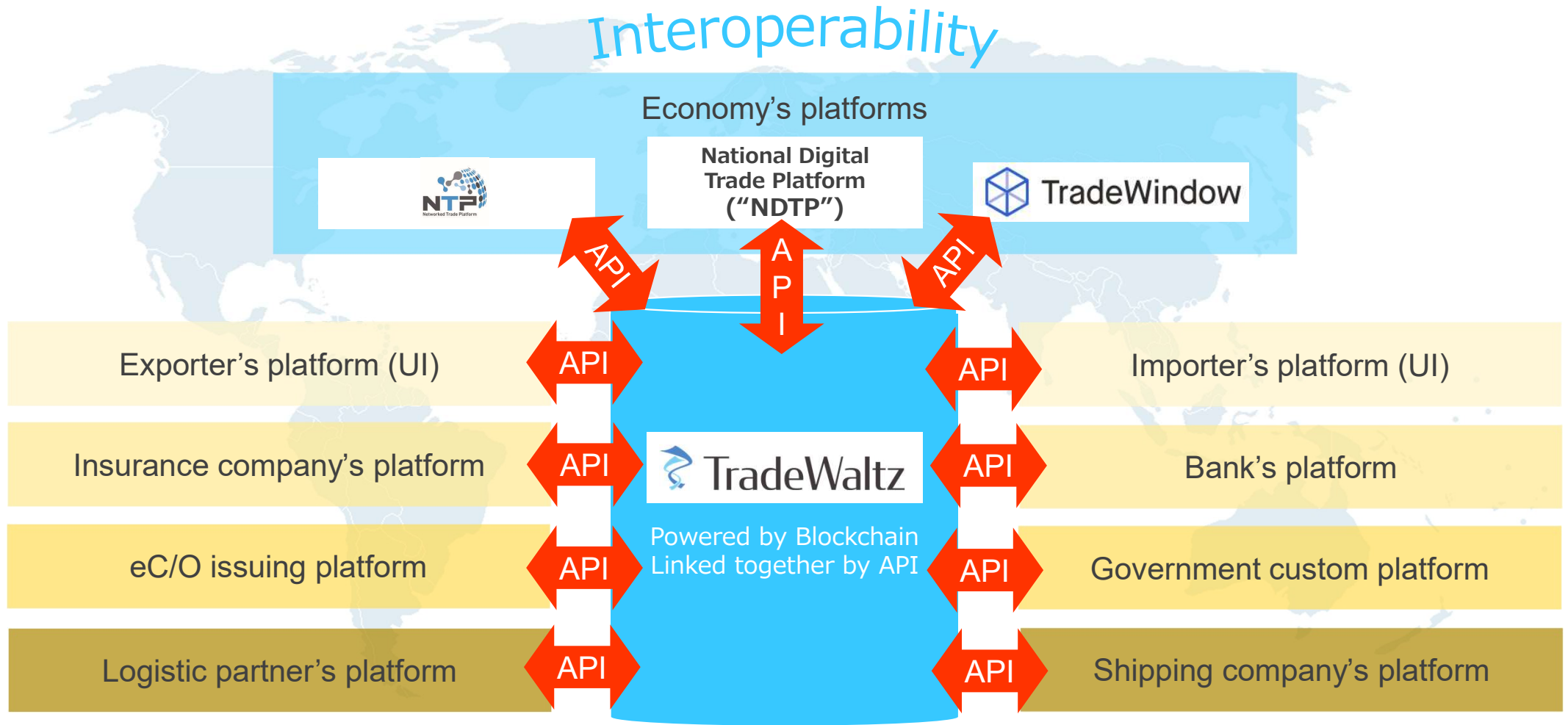
 **TradeWindow** from New Zealand  
and Australia

# Agenda

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1. Trade platform from Japan : TradeWaltz
2. ASEAN expansion with ASEAN-BAC
3. We shall proceed further collaboration with other platformers

We shall proceed further collaboration (like API linkage) with 20 other platformers (Exporter's, Importer's, etc.) to build digital trade ecosystem in the world





**TradeWaltz**

info@tradewaltz.com

The background features a dark blue, almost black, space filled with abstract 3D geometric shapes. On the left, a large, dark, wireframe cube is visible, with some edges glowing in a bright cyan color. To its right, another smaller, more complex wireframe structure is partially visible. The right side of the image shows faint, glowing lines and points, resembling a constellation or a network diagram. A solid teal circle is positioned in the center of the image, overlapping the teal bar at the bottom. The teal bar is a horizontal band that spans the width of the page, containing the word 'Appendix' in white text.

# Appendix

# Comparison of blockchain capability itself (NTT data / TradeWaltz)

**NTT DATA Blockchain initiative** : Teams from around the world with different backgrounds driving Go To Market

As of March 2020



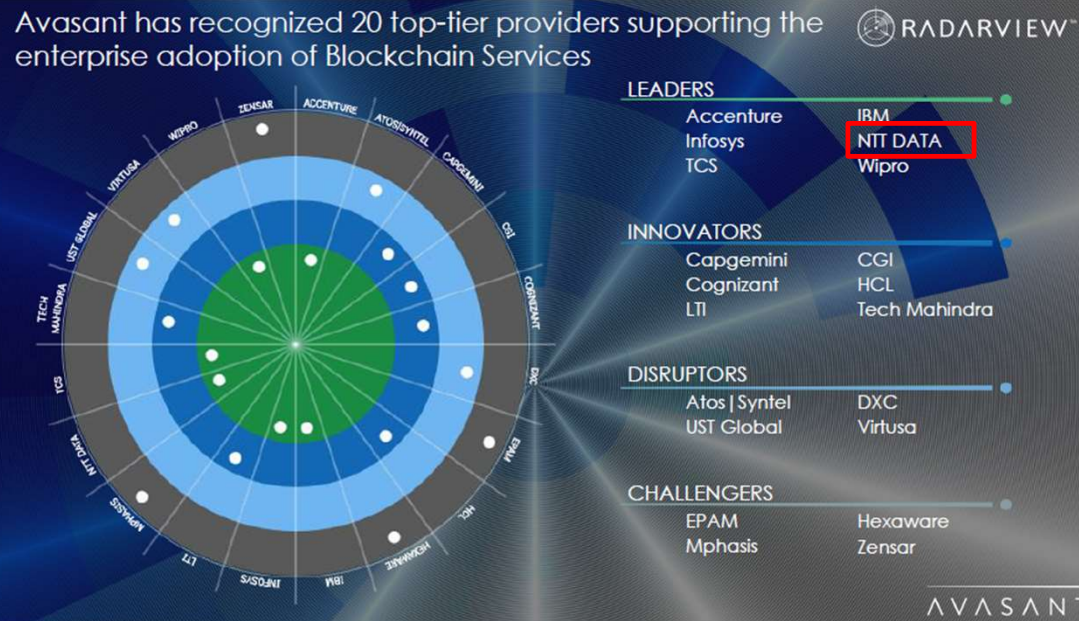
**24 countries/regions & 500+ members** in Blockchain Center of Excellence



# Comparison of blockchain capability itself (NTT data / TradeWaltz)

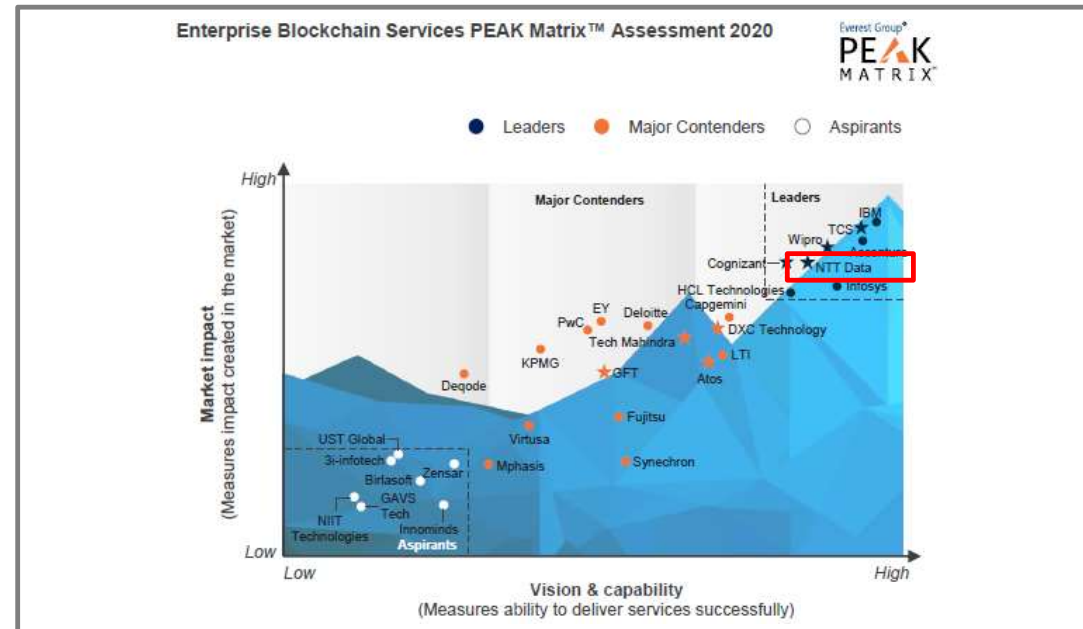
**NTT DATA is market leader position** : NTT DATA is highly rated by multiple IT research firms

## Avasant Report



Refs: Blockchain Services 2019 RaderView (Oct. 2019)

## Everest Group

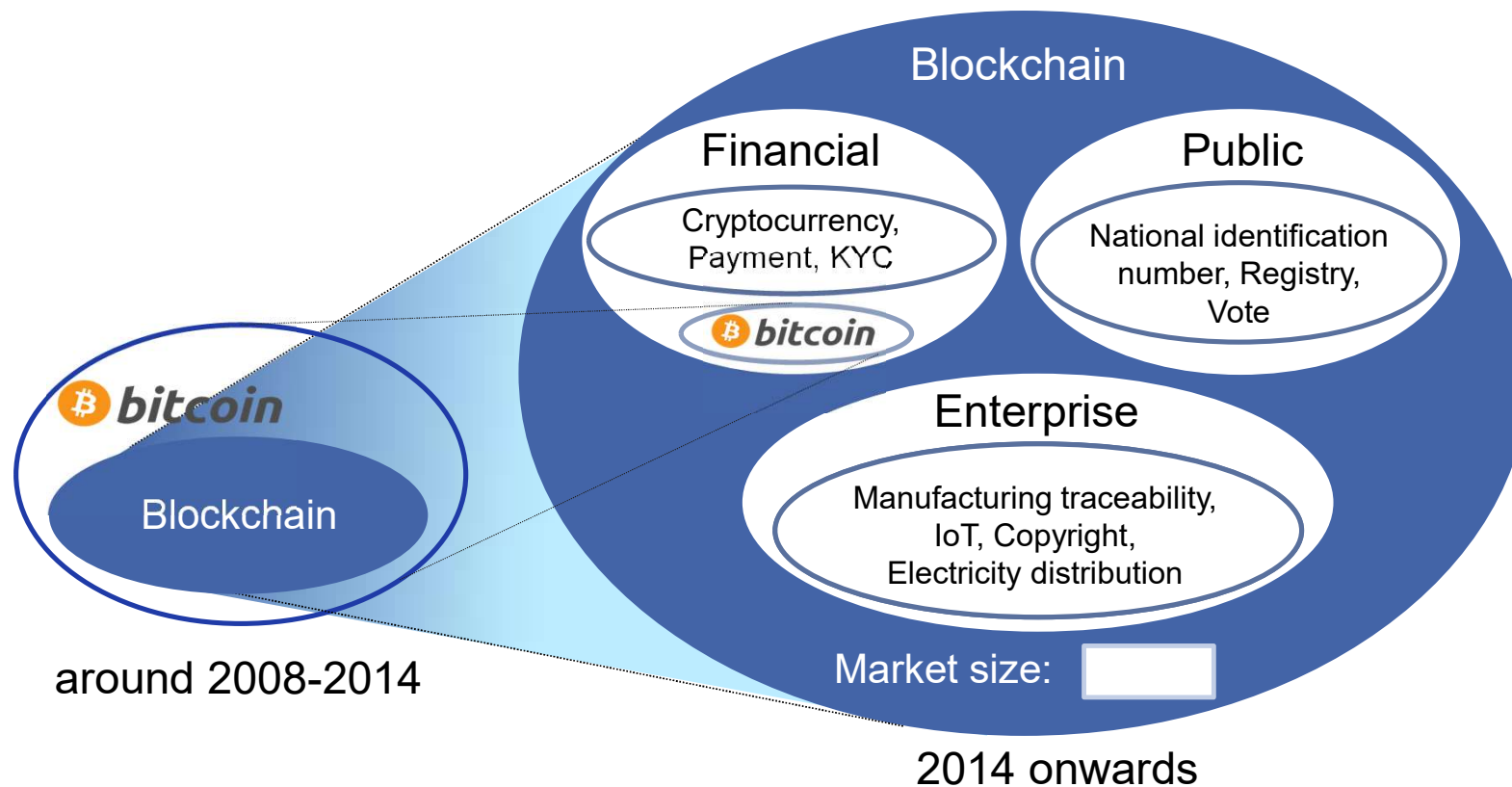


Refs: Blockchain Services PEAK Matrix™ Assessment 2020 (Dec. 2019)

# Why Blockchain?

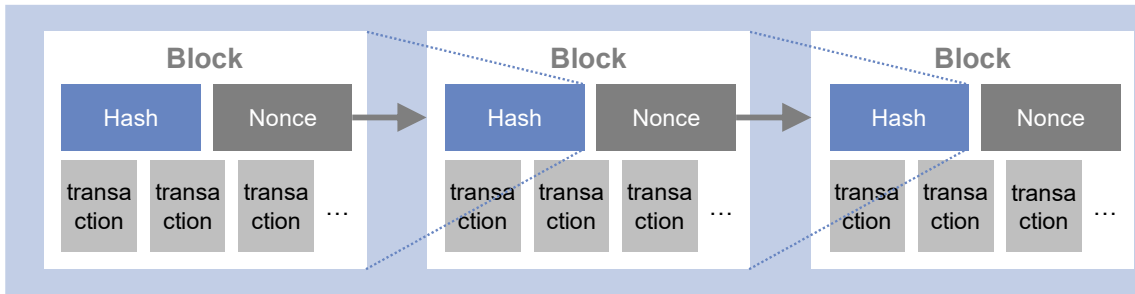
## II. Why Blockchain

- Blockchain emerged as a platform technology for implementation of Bitcoin.
- Blockchain is also called “Distributed Ledger Technology(DLT)” and can be applied in various business fields.



## II. Why Blockchain

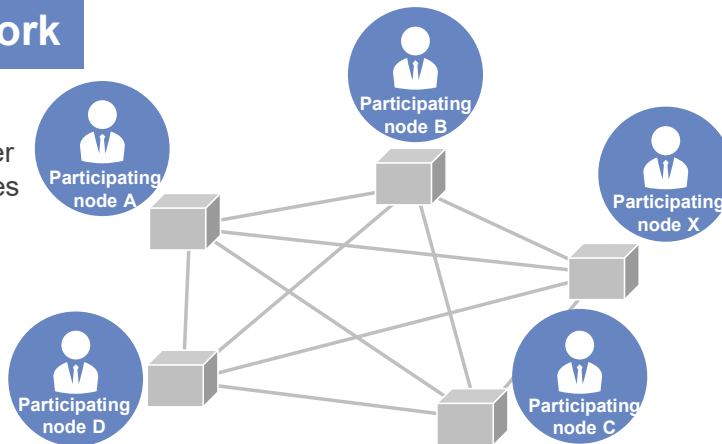
**Blockchain: a chain of blocks, where each block stores transaction contents.**



**Each participating node forms a blockchain that verifies validity**

### Peer to peer network

- **Participating node**  
Device participating in peer to peer network. It validates the calculation of hash value of every transaction within the block.



### Characteristic 1

A transaction is approved by being written to the blockchain.

### Characteristic 2

Maintaining the order of block and its tamper resistance by holding the hash value of the previous block.

➔The technology is called blockchain because they are connected like chains.

### Characteristic 3

All participating nodes own a blockchain and verify each other's legitimacy.

### Terminologies

**Peer to peer network:** an architecture which allows participants to execute transactions without the need for intermediaries.

**Node:** a point where a message can be created, received, or transmitted, contains full copy of the blockchain transaction history.

**Nonce:** an arbitrary, random number that can be used just once in a cryptographic communication to authenticate that old communications cannot be reused in replay attacks.

**Hash:** a function that converts an input of letters and numbers into an encrypted output of a fixed length

## II. Why Blockchain

By analyzing the requirements of a cross border trade platform, it concludes that blockchain technology's characteristics can accommodate them.

### Requirements of a Trade Platform

Equal standing of all participants

Possession of the same transaction data by participants

Gradual participation of multiple trade stakeholders

Management of transaction status and work flow

High level of reliability



### Characteristics of Blockchain

Decentralized system operation

Transparency and traceability

System Scalability

Information sharing on a real-time basis

Prevention of data tampering