

ESCAP-ARTNeT-ITD Online Course on Trade Facilitation for Sustainable Development

# *Emerging Technologies for Digitalising Trade and Trade Facilitation*

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# Topics of Discussion

- Key enabling infrastructure for Trade
  - High-speed Internet and Smart Mobile Devices Penetration
  - FinTech - I-Banking, Inter-bank Online Payment, QR Code
  - Domestic/Social e-Commerce & Cross-border e-Commerce
- Emerging Technologies for Trade Facilitation
  - Blockchain for Bank Guarantee, Trade Finance & Logistics
  - AI/Machine Learning for Smuggling Detection

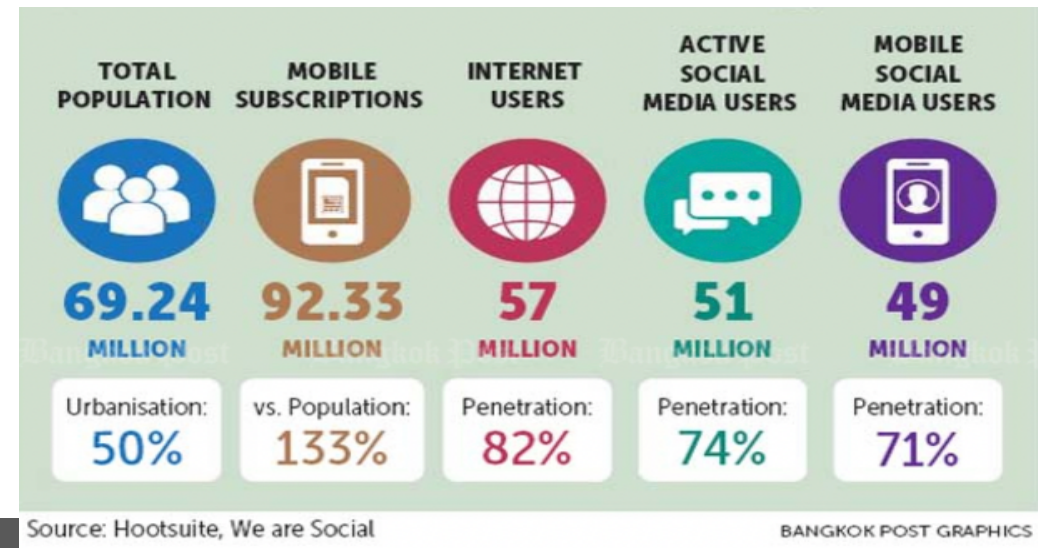


# Digital Infrastructure & Enabling Environment

- E-Transaction Laws (since 2001)
- High-speed infrastructure - 4G Internet (recently), 5G (2021)
- Penetration of Smart Phones/Mobile Devices (affordable cost)
- **Internet Banking & Interbank Online Transactions** esp. Payment
- Social Media/Social App
- **Digital Platforms** for B2B, B2C, C2C e-Commerce & LSPs



*Global Digital Ranking Report 2019*



# B2C<sup>e-Commerce</sup> TOP 5 Ranking in ASEAN

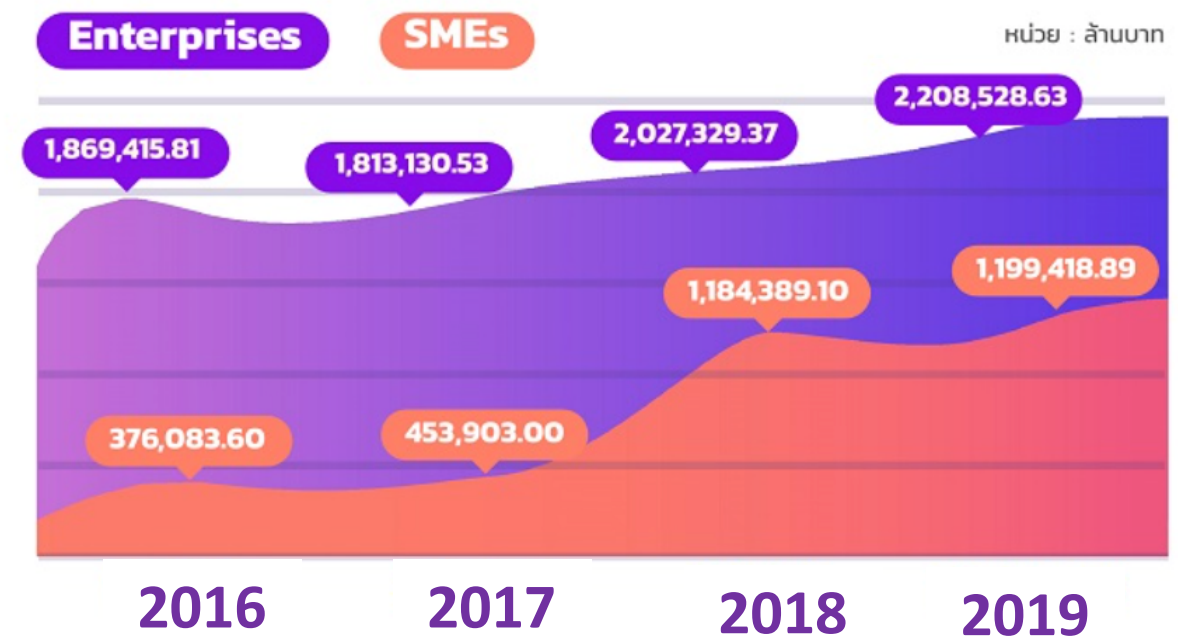
2019 (in billion USD)



## B2C in Thailand

about 46 billion USD in 2019  
up about 99% from the year 2018!

# Value of e-Commerce Survey In Thailand 2019



## E-Commerce Value (2019)

for Enterprise – 2.2 million million baht  
for SME – 1.9 million million baht





PromptPay  
&  
QR Code  
Services  
for  
Interbank  
Online  
Payment



Many fresh markets around the country,  
MSME can receive payment online.

# *Emerging Technologies*

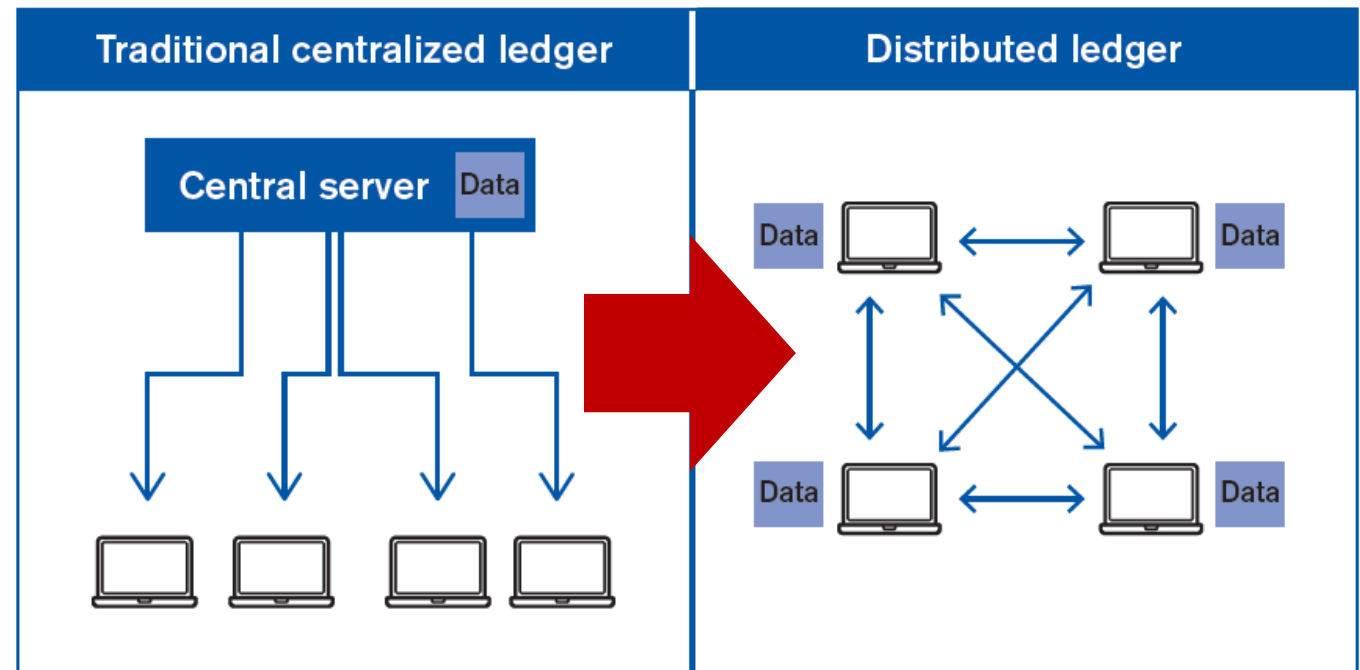
Blockchain for  
Trade Finance, Logistics, Bank Guarantee

Artificial Intelligence/Machine Learning

# What is blockchain?

Blockchain = a distributed “ledger” (records) of transactions

- Temper-proof / Immutable
- Decentralized control
- Highly resilient



## A WEF Report (January 2018)



**Blockchain could help  
increase the global trade  
by 1.1 Trillion USD within 2026**

## A WTO Report (November 2018)

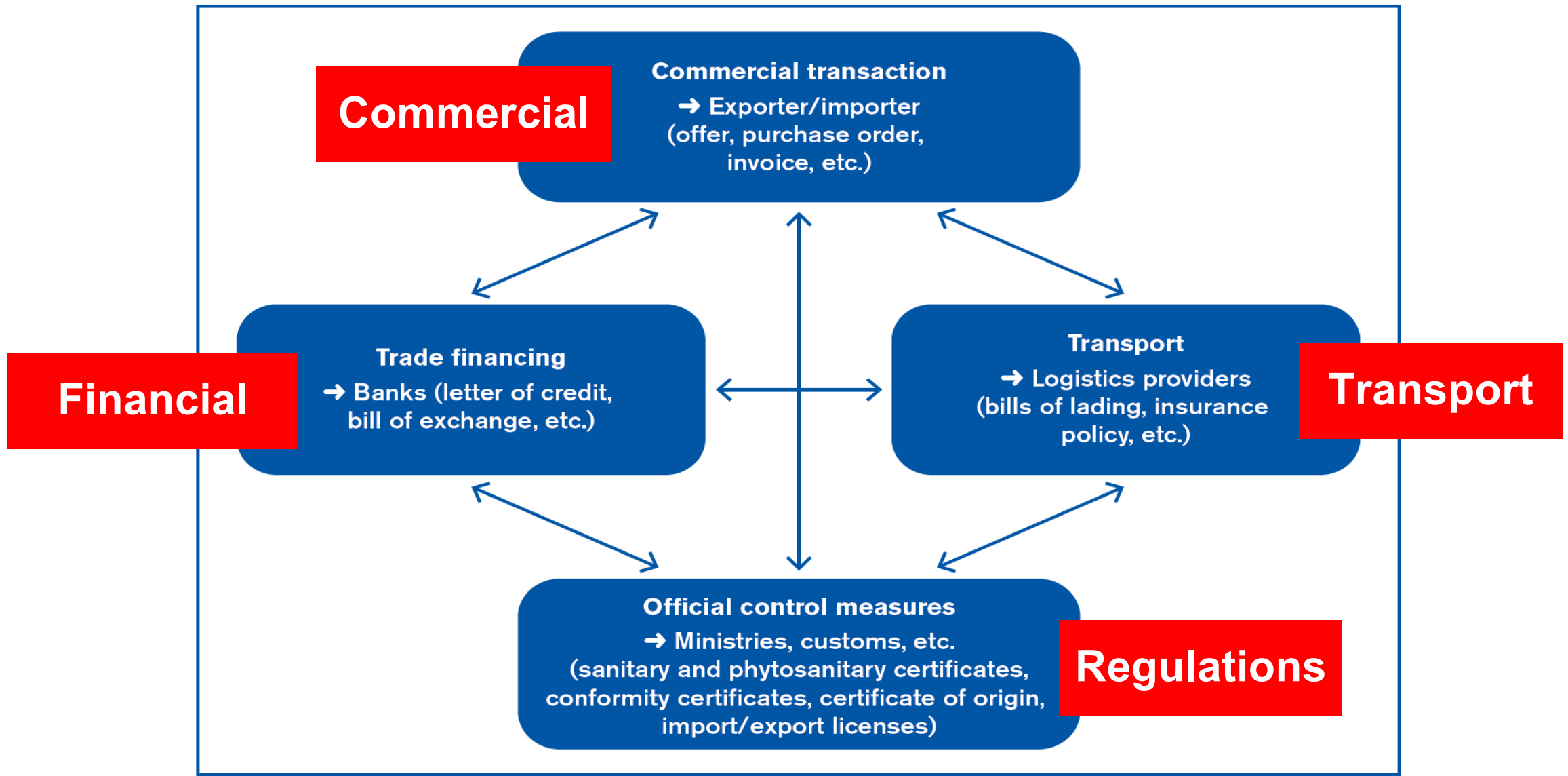


Can Blockchain  
revolutionize  
international trade?

**Yes,  
Highly Likely !**

**Blockchain has the potential to improve global trade significantly.  
But the technology alone is not enough,  
other challenges (e.g. collaboration, regulations) need to be managed!**

# Trading across borders are cumbersome including **4 main types of transactions**





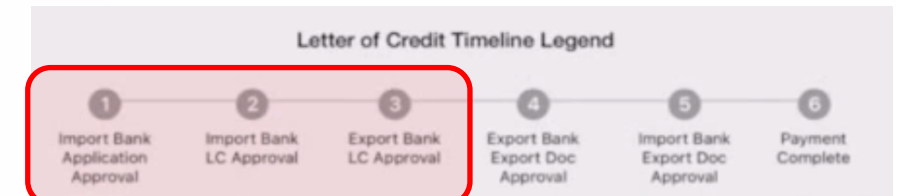
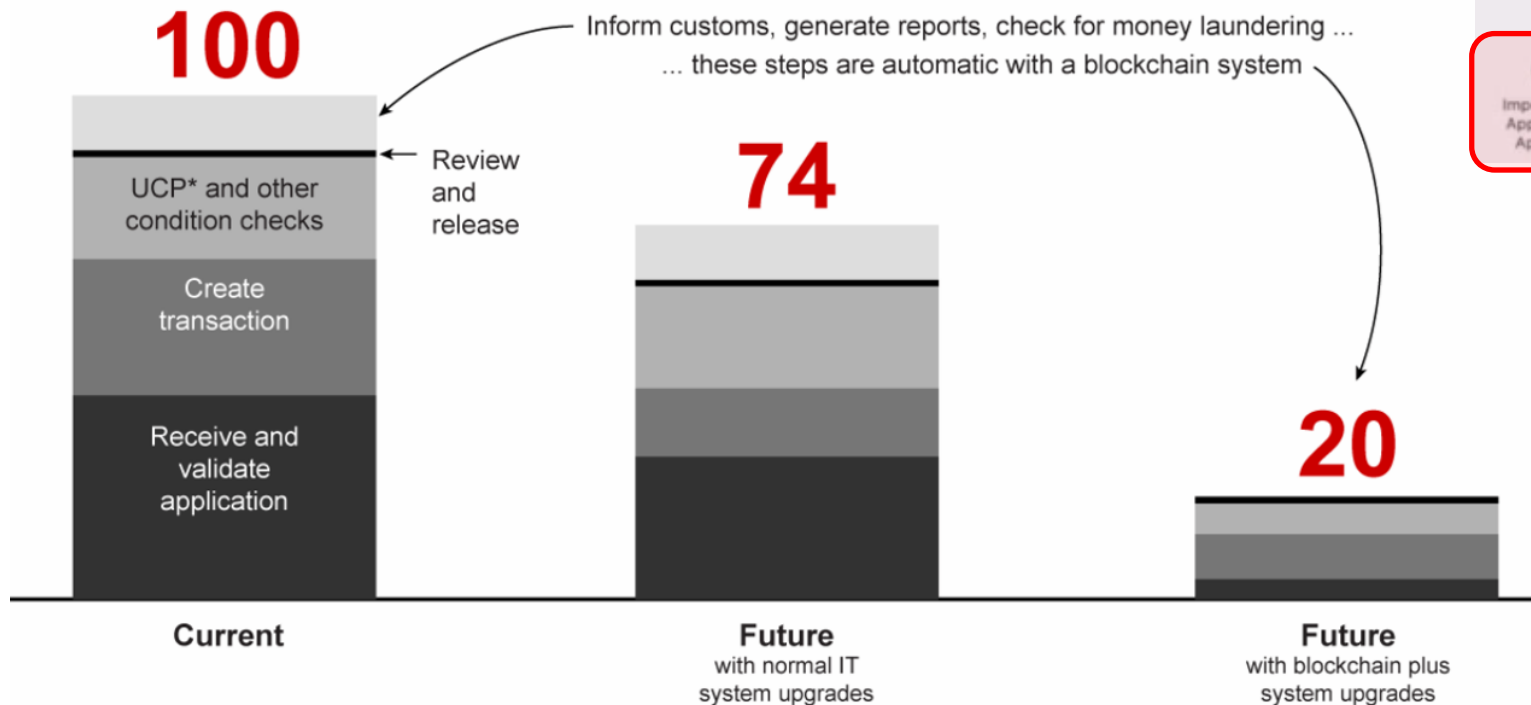
# Blockchain for Trade Finance could revolutionize global trade by increasing 1 trillion USD trade by 2026\*

Automation through blockchain could reduce letter-of-credit processing time by 80%

WORLD ECONOMIC FORUM 2018

Fourth Industrial Revolution

Letter-of-credit processing time, indexed

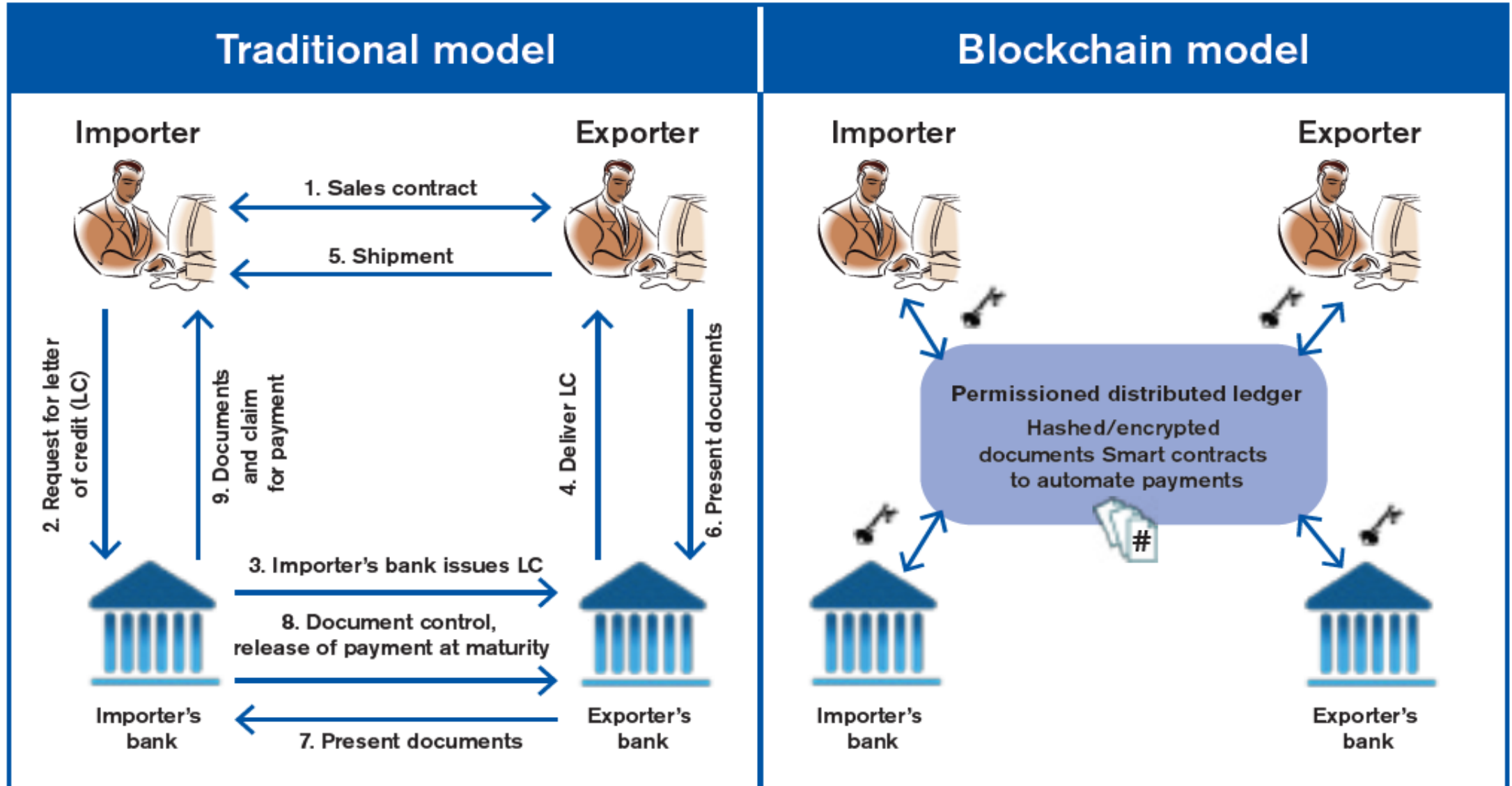


L/C Approval 80% faster

\*Uniform Customs and Practice for Documentary Credits  
Sources: Bain & Company; HSBC

\* A report during World Economic Forum 2018 (conducted by Bain & Company, and HSBC), from the base of US\$ 16 trillions global trade.

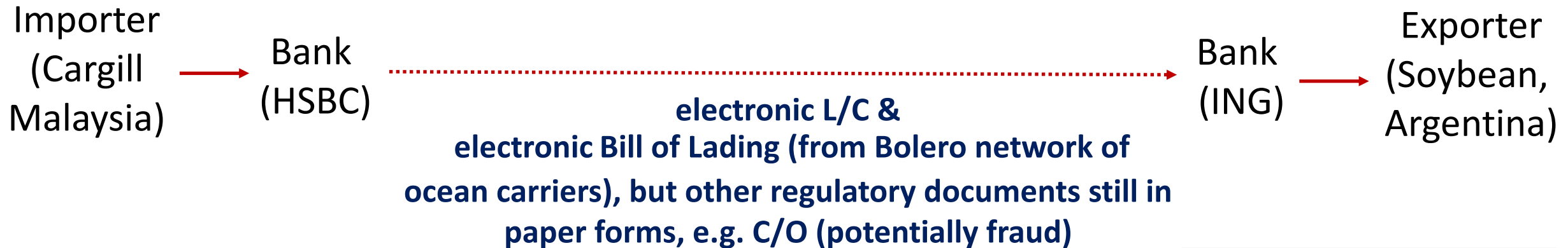
# As-Is vs To-be Model



# Blockchain for L/C Payment Settlement

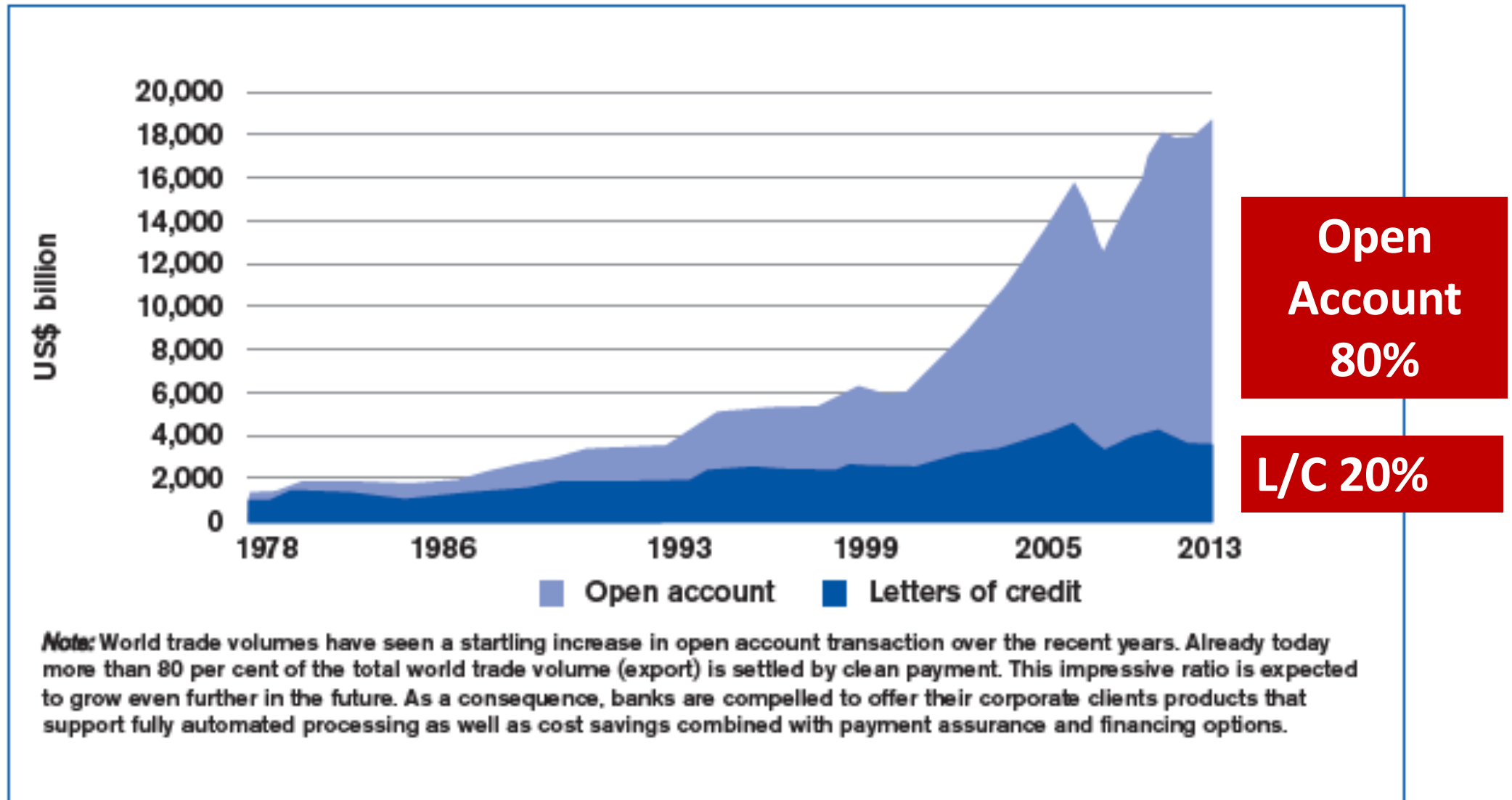
**Time reduction from 5-10 days to 24 hours**

**Payment Settlement  
80%  
faster**



\* Reference: Voltron (R3 Corda) blockchain platform for L/C Trade Finance

# Use of L/C vs Open Account (1978 – 2013)



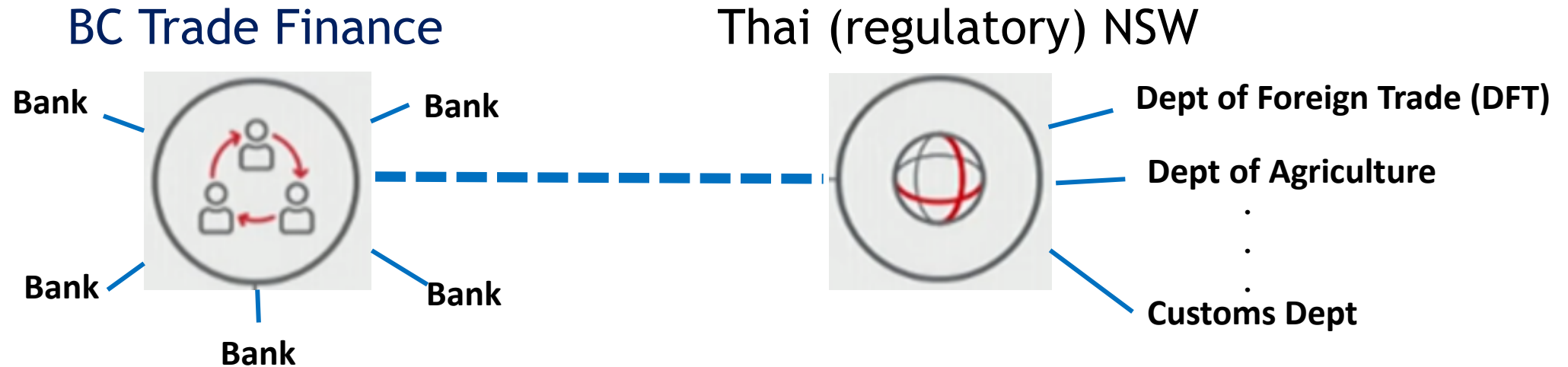
# We.Trade & Marco Polo are two example blockchain platforms for Open Account Trade Finance

**SME's could access to more finance for trade  
(with less risks, and better transparency of blockchain)**





# A pilot project to connect Bank-to-Bank L/C Blockchain with Thai NSW (projection in 2021)

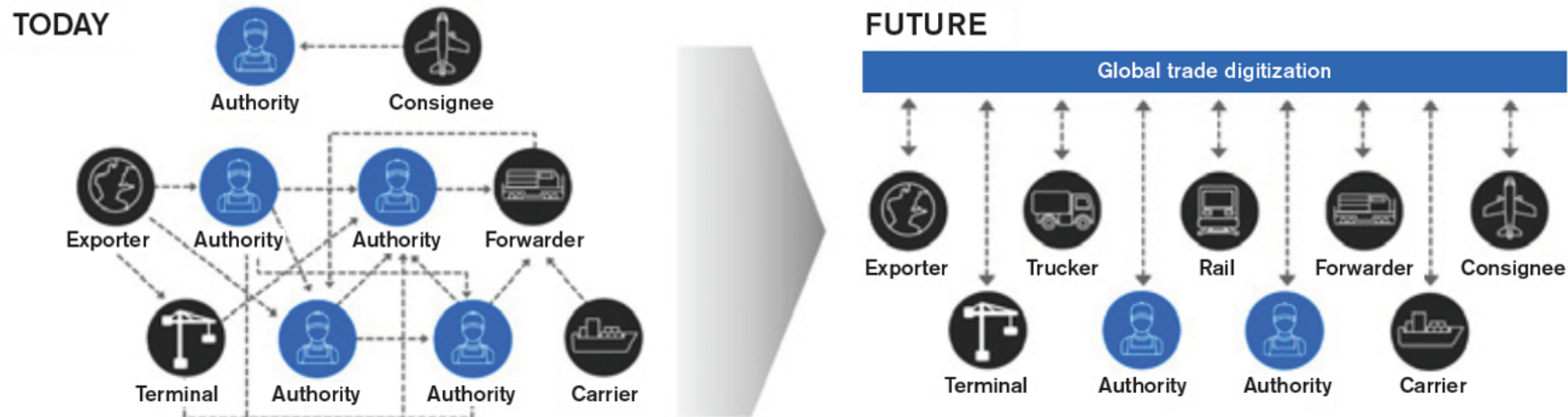


- Sending electronic Certificate of Origin (C/O) & Export Certificates (from DFT) to Blockchain Trade Finance L/C & Open Account to improve transparency, trust/confidence, speed up procedures.
- **Collaboration Agencies:** DFT, Customs Department, CAT Telecom (NSW Operator), Bank of Thailand, Thailand BCI (Blockchain Community Initiative)

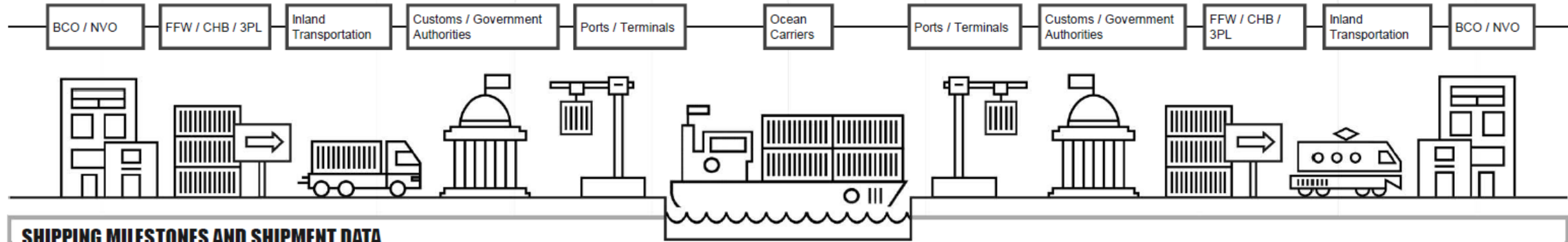
# A case of Thailand – Pilot Project starting in 2019

## – Blockchain for sea freight with TradeLens –

- **Collaboration agencies:** Customs Department, Bangkok Port/Laem Chabang Port, Port Authority of Thailand, Maersk-IBM TradeLens
- Developing a blockchain pilot platform for facilitating ocean freight
  - automatic and immutable tracking tool, which will lead to a more secure, transparent, efficient, and simpler workflow, with near real-time information sharing



# Blockchain for end-to-end ocean freight transactions

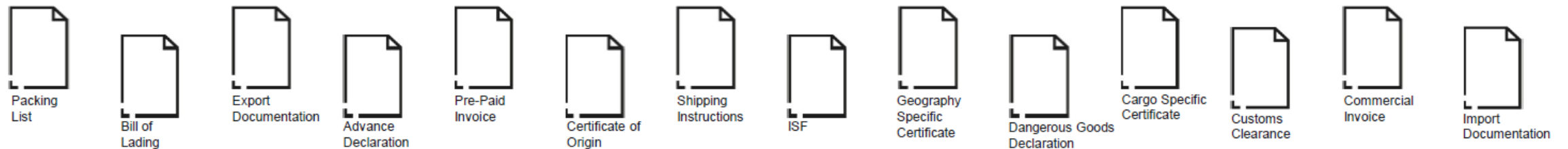


## SHIPPING MILESTONES AND SHIPMENT DATA



Not exhaustive list of milestones managed by platform

## STRUCTURED AND UNSTRUCTURED DOCUMENTS



Not exhaustive list of documents managed by platform

## TRADELENS BLOCKCHAIN BUSINESS NETWORK

**THE PLATFORM IS AN OPEN AND NEUTRAL INDUSTRIAL SOLUTION -  
UNDERPINNED BY BLOCKCHAIN TECHNOLOGY**

# Expected Benefits of Blockchain in Thai Customs

To manage the risk of ship consignment

To reduce the paperwork and information entries

To involve in the global trade by reporting the status of customs clearance

To expedite the electronic transactions and ensure the data security

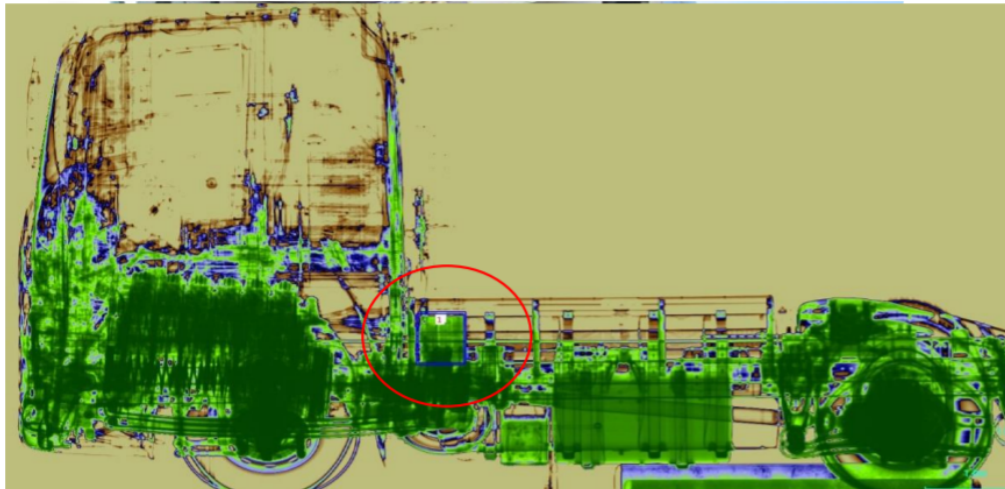
# *Blockchain for Bank Guarantee*

- **BCI (Thailand Blockchain Community Initiative)**
  - 22 Commercial Banks, Bank of Thailand (BOT), State Enterprises & few large-scale business have started using electronic Bank Guarantees on blockchain
- Piloting under BOT's regulatory sandbox since last year, it goes live in 2019.
  - Each year, ~500,000 BGs are issued for about 1.3 trillion baht
  - BGs on blockchain could reduce cost, improve transparency, increase accuracy, and resist fraud.

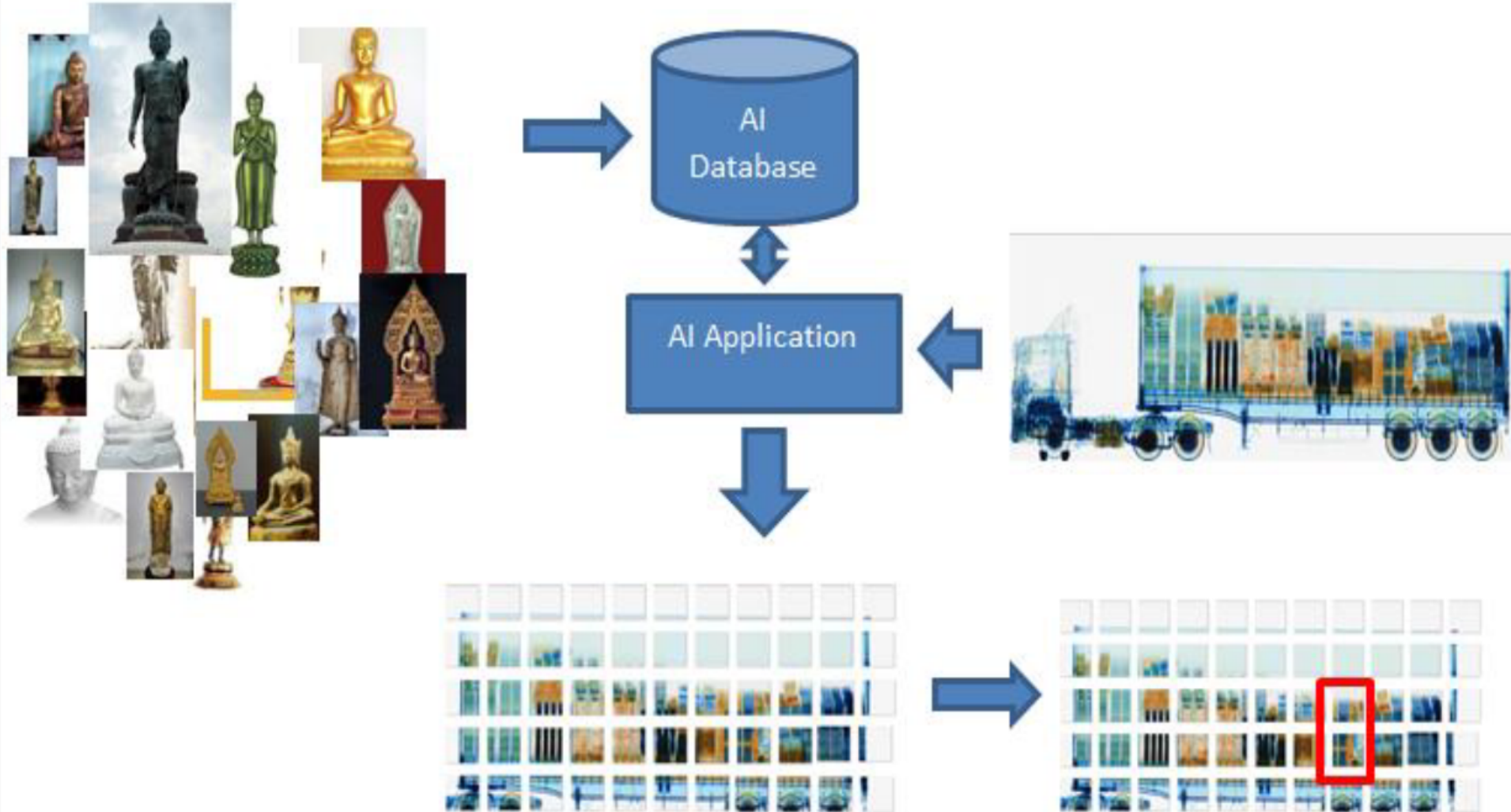


# Artificial Intelligence / Machine Learning at China Customs

- Application of automatic image recognition
- The system can detect 120 Iphones (smuggled goods) in the photo (from X-ray machines).



# Artificial Intelligence Pilot Project in Thai Customs



# Benefits of AI to Thai Customs

To precisely examine the smuggled goods

To identify products required the permit to import or export

To extend the performance of the X-Ray system for import/export goods

*Thank you for your interest*