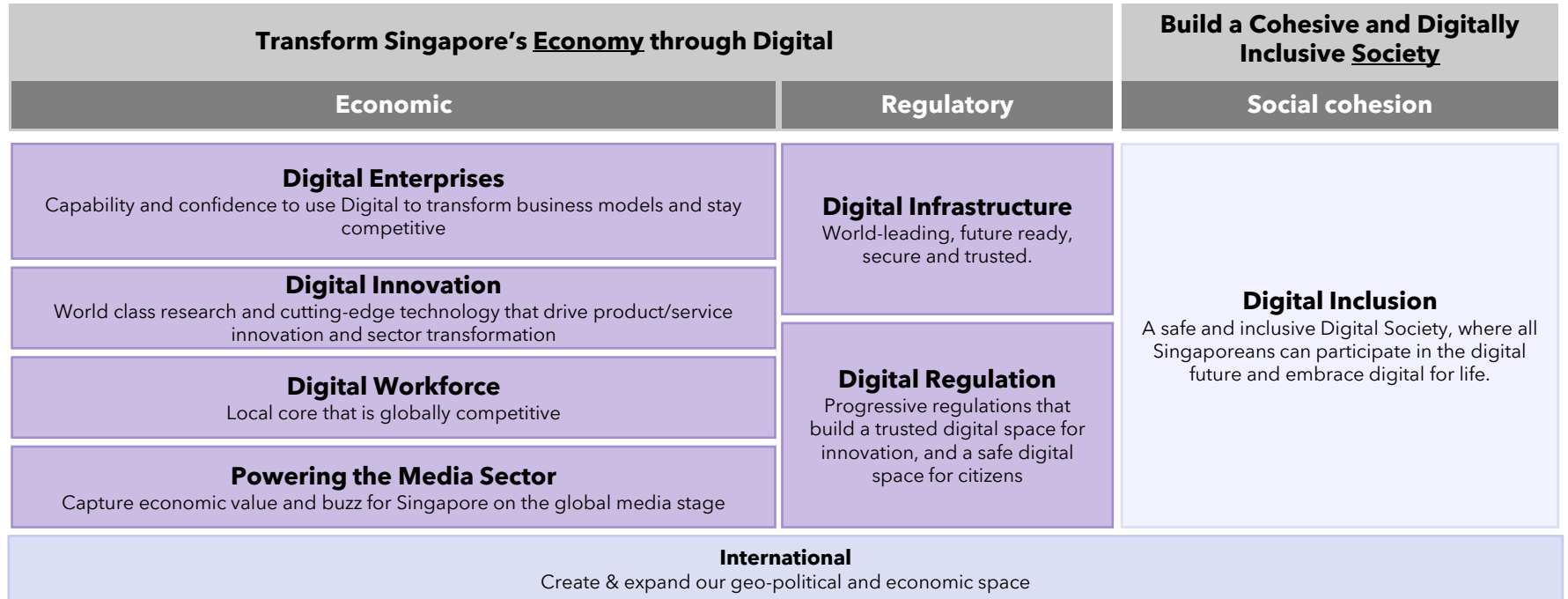


Trade Digitalisation: TradeTrust

Transform the way you trade

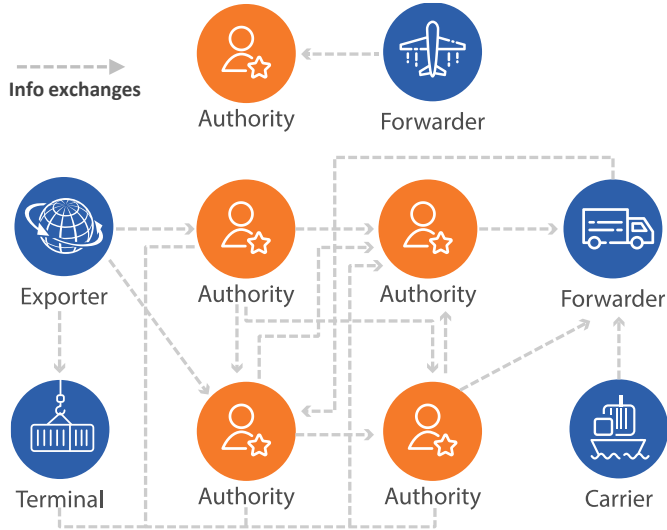
IMDA as ARCHITECTS OF SINGAPORE DIGITAL FUTURE

Vision: To build a dynamic digital economy and a cohesive digital society that is driven by an exceptional infocomm and media ecosystem



TRADE DIGITALISATION TO ADDRESS DIFFICULTIES WITH PAPER IN CROSS BORDER TRADE

Complexity of Cross-Border Trade



Just 1 shipment involves

- **Many parties** across different sectors
- **Many exchanges** of information
- **Many silo systems**
- **Up to 50 sheets of paper, exchanged up to 30 different stakeholders**[^]

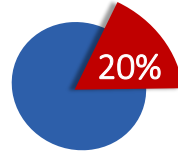
Inefficient

- Manual handling
- Vulnerable to fraud

Fragmented Systems

- Costly connections
- No interoperability

Shipping Cost



Cost of documentation is 20%* of cost of shipping

This inefficiency is costly

Benefits of Digitalisation[^]

US\$6.5bn

Direct Costs Saving

US\$15.5bn

Indirect Benefit to Shipping Ecosystem

US\$30bn-40bn

New Global Trade through adoption of eBL in international trade

WHY HASN'T TRADE DIGITALISATION TAKEN OFF?

Existential Symptoms and Issues to Digitalisation



Trust Deficit

- Transactions between companies with limited touchpoints
- Companies forced to adopt paper as the most interoperable medium but **struggle with** determining **authenticity** and **source** of documents



Digital Maturity Varies across Ecosystem

- The entire ecosystem is at **various stages of development**
- If one part of the chain is paper, all other documents revert to paper



Siloed Ecosystems

- Existing technology solutions and platforms are generally **not interoperable**
- Fractured ecosystem. Parties forced to choose one or multiple systems

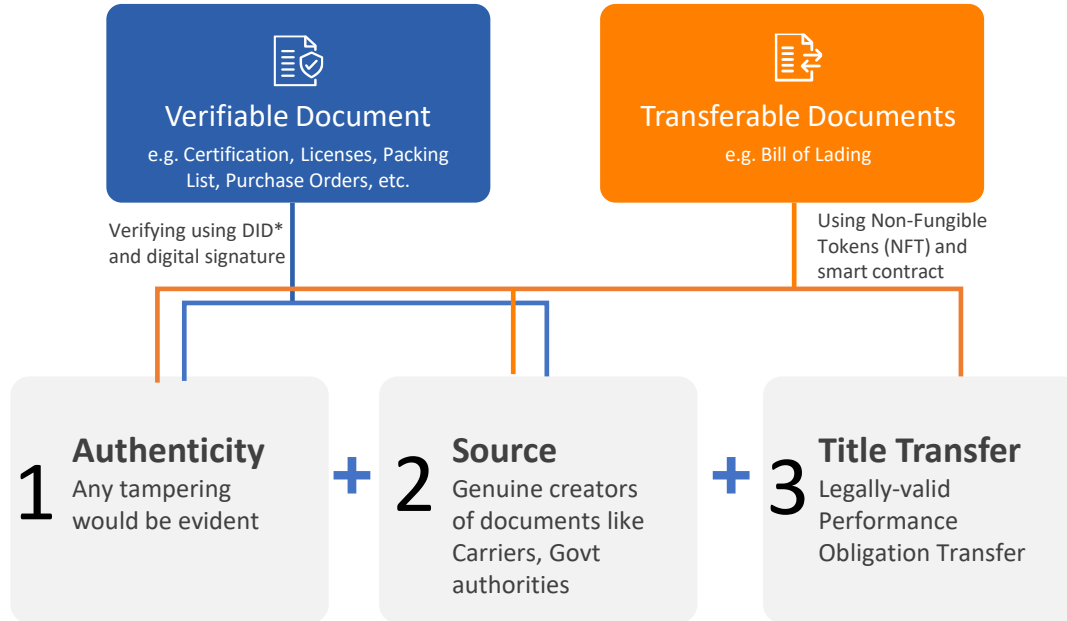


Legal Validity of Electronic Documents

- Until recently[^], **only paper Transferable Documents were legally valid** under statute law
- Therefore, transfers of title ownership via such documents could not be performed electronically

TRADETRUST'S 3 KEY FUNCTIONALITIES: AUTHENTICITY, SOURCE & TITLE OWNERSHIP FOR TRADE DOCUMENTS

TradeTrust is designed to provide industry the means to verify the **authenticity** and **source** of a document, as well as to create Electronic Transferable Records (ETRs) that are functionally equivalent[^] to their paper versions (e.g. able to **effect title transfers**).



Core-Tech of TradeTrust

- Uses Decentralised Identifiers (DID) and digital signatures to verify the source and authenticity of documents.
- Uses Blockchain to create Non-Fungible Tokens (NFTs) to represent title ownership and enable transfers from one party to the next.

[^]Singapore's 2021 amendment of its Electronic Transactions Act (ETA), one of the first few internationally, enables the creation and use of ETRs such as electronic Bills of Lading (eBLs), empowering practitioners to reap the benefits of digitalisation more easily.

*Decentralized Identifiers (DID) are a new type of unique cryptographically verifiable identifiers that are designed to be decoupled from centralized registries, identity providers and certificate authorities

WHAT IS TRADETRUST?

TradeTrust is a framework that comprises **globally-accepted standards** that connect governments and businesses to a **public blockchain** to enable **trusted interoperability** of electronic trade documents **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 requirements



2 Standards Development

Develop international standards that TradeTrust complies to



3 Accreditation Framework

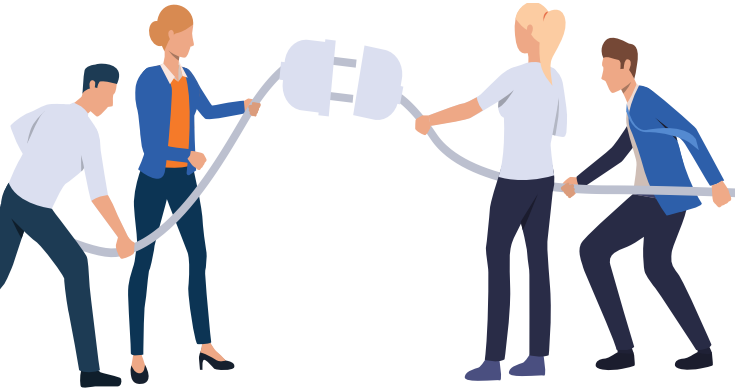
Certify technical solutions meet the requirements of the law




4 Software Components

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

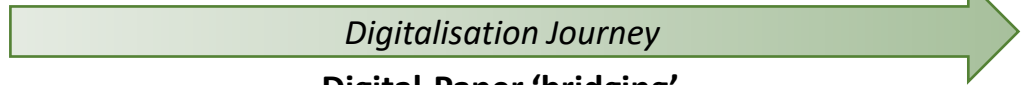
START AT THE END STATE - INTEROPERABILITY IS THE KEY



3 aspects of Interoperability		What is our approach?
Technical	Semantic/Data	Users to choose from industry data standards like DCSA's and BIMCO's
	Protocols 	Making Verifiable Documents (VDs) and Electronic Transferable Records (ETRs) portable and effective across systems
Legal (for ETRs)		Current: Contractual Agreement
		Future: Statutory (Electronic Transactions Act (ETA))

Paper Medium

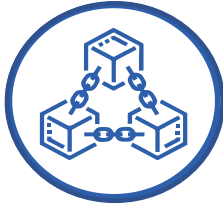
Fully Digital



Digital-Paper 'bridging'
(to facilitate change management)

It is imperative that any solution bridges the digital divide, allowing participants from all levels of digital maturity to participate equally.

TRADETRUST DESIGN PRINCIPLES



Public Blockchain
*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)*

Built on:



Aligned to:



*<https://digitalprinciples.org/>

Supports:

UN Sustainable
Development Goals
(SDGs)



[^]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 [Business-Led]



Commercial Applications/Platforms/Ecosystems

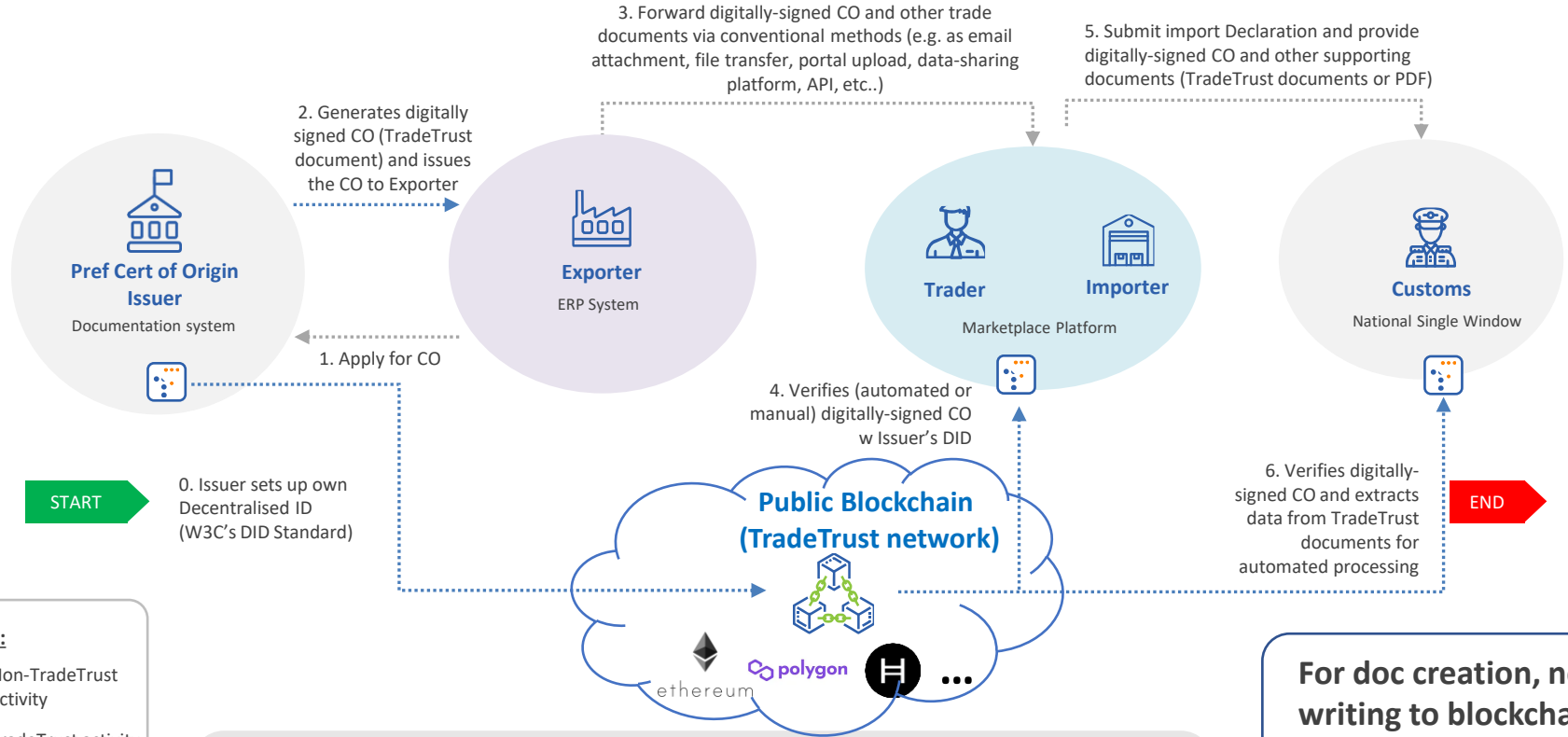
TradeTrust [Government-Led]



Blockchain Layer



VERIFIABLE DOCUMENTS' INTEROPERABILITY



LEGEND:

- Non-TradeTrust activity
- TradeTrust activity
- TradeTrust Open Source software
- Public Blockchain Nodes

Key benefits of such a decentralized verifiable architecture are:

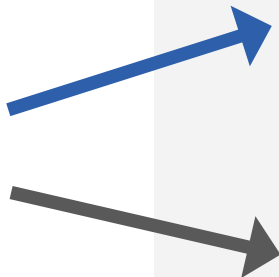
1. Removes the need for expensive data exchange infrastructure to be put in place in between exchanging parties.
2. Remove tight coupling and inter-dependencies between exchanging systems. This means exchanging parties can proceed to upgrade and make changes to their IT systems at their own pace according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

For doc creation, no writing to blockchain = No gas fees!

DEALING WITH TRANSFERABLE DOCUMENTS (BL AS EXAMPLE)

Paper Transferable Instrument

STX PanOcean		BILL OF LADING	
Shipper ALMIGHTY INTERNATIONAL INC. ILMIHIN BUSINESS CENTER NO.108, 332-3 DANJANG-DONG 6, GA YONGIN-CITY, SEOUL, REPUBLIC OF KOREA TEL : +82-372-7978-6674 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. 37714656 FAX : +848. 37714656		RECEIVED by the Carrier from the shipper in apparent good order and condition and delivered subject to the bills of lading or the receipts or packages and in conformity with bills of lading, to be carried subject to all the terms and conditions provided for in it and that of bills of lading or the receipt issued hereon or any substitution as a Carrier's option under other modes of transport from the place of receipt to the port loading to the point of discharge or the point of delivery unless stated otherwise and delivered unto order or assign.	
Notify Party FNB COMPANY LIMITED NO.6, 7 STREET, 7 HCM CITY, VIETNAM TEL : +848. 37714656 FAX : +848. 37714656		If required by the Customs the Bill of Lading may endorsed must be surrendered to include for the Goods of delivery order.	
<div style="background-color: blue; color: white; padding: 10px; font-weight: bold; font-size: 24px;"> Title ownership BL Data </div>			
Discharge by BANKIN VERACRUE			
Place of Loading BUSAN, KOREA		Place of Discharge HO CHI MINH CITY, VIETNAM	
Commodity No. TMSR182109 STXFI80769		Measurement 29.000CBM	
Particulars furnished by shipper CONTRACT NO: 2013/01/ FNB-AM 130327 NET WT : 12.612MT GROSS WT : 12.758MT NUMBER OF BCLL : 32ROLLS MADE IN KOREA			
FREIGHT PREPAID SAY : ONE (1) CONTAINER ONLY.			
Total Number of Containers or Packages (in words) SAY : ONE (1) CONTAINER ONLY.			
AS ARRANGED			
Freight Prepaid at BUSAN, KOREA		Place of Issue BUSAN, KOREA	
Total Prepaid in THREE (3)		Date of Issue APRIL 28, 2013	
Labels on Board the Vessel April 28, 2013 STX Pan Ocean Co., Ltd as Carrier			
By: <i>[Signature]</i> STX Pan Ocean Co., Ltd AS CARRIER		By: <i>[Signature]</i> Mr. Nasser	
STX FORM No. BL-400 2039662			



Electronic Transferable Record



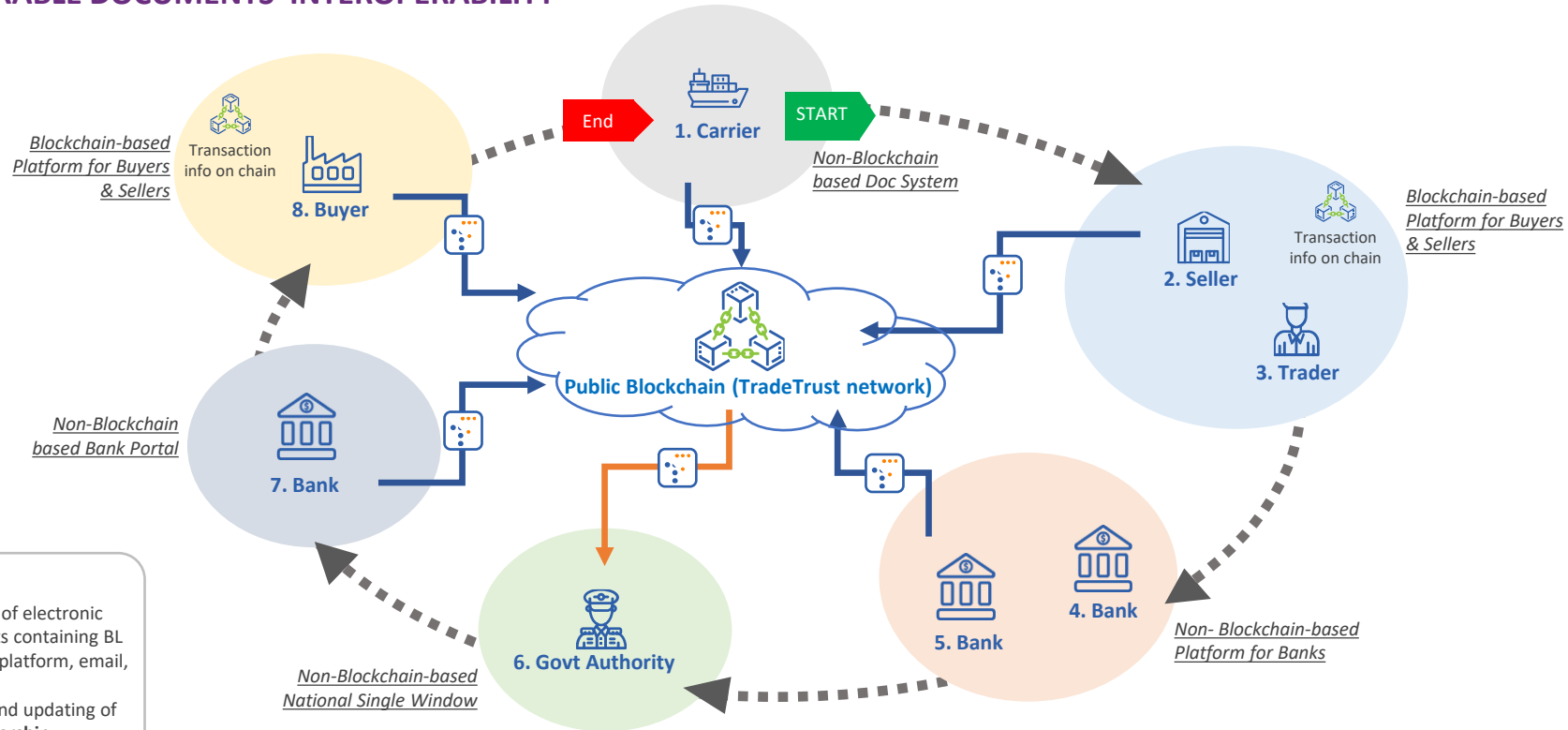
TITLE ownership
(on Public Blockchain)








BL Data
(in .TT File)


Bill of Lading	
Shipper	Consignee
Notify Party	Place of Loading
Place of Discharge	Place of Issue
Date of Issue	Measurement
Commodity No.	Particulars
Labels on Board	Signature

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

 Various coloured circles denote the different computer systems used by the respective trade players

USE CASES

Use Case A Trade Finance



- **Improve operational efficiency** through faster transfers of title and other documents digitally and automate document validation
- **Reduce risk of trade finance fraud** and increase confidence in financing
- Who can benefit?
Financing Banks, Exporters, Importers, Carriers, Insurers, Surveyors

Use Case B Trade & Logistics



- **Increase productivity and optimise asset utilisation** through land logistics efficiency
- **Lower overhead cost of paper and reduce unnecessary demurrage and detention charges** of holding cargo due to delay in documentation
- Who can benefit?
Shippers, Consignees, Carriers, 3PL agents, Borders Control Authority, Port Operators, bunkering service providers

Many Other Use Cases... Tech/Platform Service Providers



- **Improve service offerings** through the development of innovative digital products and services using TradeTrust open-source code
- **Increase new business and partnership opportunities** to drive a vibrant digital economy
- Who can benefit?
Platform providers in bunkering, trade compliance, FinTech, Digital Art, Supply Chain, Logistics Services, Certification and Licenses Issuance

GLOBAL PARTNERSHIPS



Press Releases, Factsheets and Speeches / Singapore and India kick off an era of interoperable electronic Bills of Lading for Trade Finance

Singapore and India kick off an era of interoperable electronic Bills of Lading for Trade Finance

PRESS RELEASES

TradeTrust enables interoperable electronic Bills of Lading (eBLs)¹ backed Letter of Credit transactions between Singapore and Indian banks and companies, paving the way to digital cross-border trade.

SINGAPORE – 25 AUG 2023

1. Singapore and Indian banks and companies successfully kicked-off the first live transaction using the TradeTrust Framework, for a shipment between Singapore and Indian businesses. This was



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



UOB leads IMDA's pilot on digitalising cross-border trade flows between Singapore and China using blockchain framework, TradeTrust

Successful pilot demonstrates significance of electronic bills of lading with turnaround time reduced from a few days to within an hour



Media Release

EMBARGOED TILL 1300HR GMT+8, 18 October 2021

Four New MOUs Signed at the 2nd Singapore – China (Shenzhen) Smart City Initiative Joint Implementation Committee Meeting To Accelerate Digital Economy Collaborations

Three Successful Digital Cross-Border Trade Trials Completed: Businesses Will Be Able To Benefit from Faster and More Secured Transactions



Singapore and Rotterdam successfully complete trial with electronic bill of lading

12 May 2021

Singapore and the Netherlands have collaborated since 2019 to explore electronic bills of lading (eBL) on the Europe-Far East trade lane where Singapore and Rotterdam are two major transhipment ports. This trial demonstrated that an eBL issued by one platform could be verified and processed by another digital trade platform.

IMDA partners industry to conduct world's first live electronic transferable record (ETR) cross-border trade, supported by statutory law framework.

PUBLISHED ON: 11 APRIL 2023 | 5 MINUTE READ

PRESS RELEASES

SINGAPORE – 30 MARCH 2023 – Singapore pushes the boundaries of digitalisation for global trade as the Infocomm Media Development Authority (IMDA) partnered industry players and successfully executed a live shipment from Singapore to Thailand during Q1 2023. This fully paperless, live cross-border trade involved the use of an ETR, that is functionally equivalent to a paper Bill of Lading (BL) using Singapore's TradeTrust¹ framework.



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



Media release

This is a joint media release between the Australian Border Force, IMDA Singapore and Singapore Customs

Australia and Singapore's blockchain trial shows promising results for reducing transaction costs

BUSINESS SOLUTION PROVIDERS

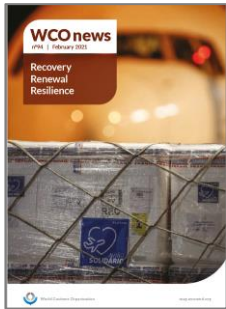


XinFin (XDC) Network

INTEREST FROM NOTABLE INSTITUTIONS GLOBALLY



WORLD CUSTOMS ORGANIZATION



<https://mag.wcoomd.org/magazine/wco-news-94/tradetrust-accelerating-the-digitalization-of-international-trade>



www.wto.org/english/res_e/publications_e/wtoech22_e.htm



www.weforum.org/agenda/2017/02/blockchain-trade-trust-transparency



<https://icwb.org/publication/standards-toolkit-for-cross-border-paperless-trade>



www.tradefinanceglobal.com/posts/imd-tradetrust-interoperability-framework-road-to-achieving-cross-border-paperless-trade

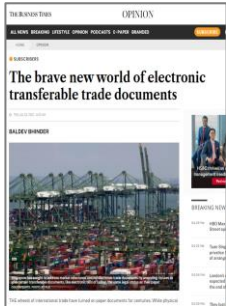


unece.org/sites/default/files/2022-06/010_Verifiable-Credentials-CBT.pdf



www.unescap.org/events/2022/towards-globally-harmonized-standards-digital-trading-system

THE BUSINESS TIMES



www.businesstimes.com.sg/opinion/the-brave-new-world-of-electronic-transferable-trade-documents

THE BUSINESS TIMES



www.businesstimes.com.sg/opinion/singapore-at-the-helm-of-digital-trade



www.ft.com/content/05504fcb-11e6-47a0-8860-7d156d1d82ab

BLACKSTONE & GOLD

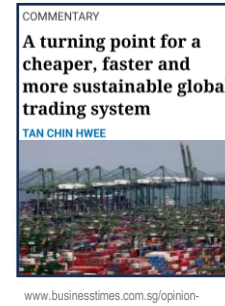


www.blackstonegold.com/bt-the-brave-new-world-of-electronic-transferable-trade-documents



www.wto.org/english/res_e/publications_e/tradtechpolicyhardig0422_e.htm

THE BUSINESS TIMES



www.businesstimes.com.sg/opinion/features/turning-point-cheaper-faster-and-more-sustainable-global-trading-system



unece.org/trade/documents/2023/09/white-paper-transfer-model-law-electronic-transferable-records-compliant



INTERNATIONAL RECOGNITION OF TRADETRUST IS GROWING



July 2022
Publication of eData VC for Cross-Border Trade, with OA/TT listed as Recommended Solution



September 2022
Winner of APTFF 2022 - Trade Facilitation Innovation Award



Jan 2023
OA (which TT is built upon) recognized as a Digital Public Good (DPG)*



March 2023
WSIS GovStack Digital Service Design Special Prize



September 2023
Publication of Transfer of Model Law – Compliant Titles



September 2023
Runner-Up for SDG Digital GameChangers Award 2023

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(2022)
- 3) WTO-WEF TradeTech Report (2022)



* <https://digitalpublicgoods.net/digital-public-goods/>

DPG Alliance Board: UNDP, UNICEF, German Federal Ministry for Economic Cooperation and Development (BMZ), iSPIRIT, Norwegian Agency for Development Cooperation (Norad), Sierra Leone Directorate of Science, Technology and Innovation (DSTI)

CALL TO ACTION

1) Use TradeTrust to co-create

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
- Business Solution/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



**INFOCOMM
MEDIA
DEVELOPMENT
AUTHORITY**

