



TRADE DIGITAL

Find out more at
[TradeTrust.io](https://tradetrust.io)

EDITOR'S NOTE

ARCHITECTING THE DIGITALISATION OF GLOBAL TRADE

LAUNCHED
IN 2022

TRADETRUST
REACHED MORE THAN
10,000 PEOPLE

THROUGH
20 EVENTS

ESTABLISHED
19 PILOTS

ACHIEVED 25%
GROWTH IN TRADETRUST
ENABLED PLATFORMS

2022 has been a ground-breaking year for TradeTrust despite the challenges of the pandemic.

Our achievements in 2022 showed that we are well recognised in the international community having obtained the Asia-Pacific Trade Facilitation Forum (APTFF) Award and we were included in the ICC Standards Tool Kit and course curriculum.

In addition, Singapore was amongst the first major trading hubs to adopt the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Transferable Records (MLETR).

Adopting this globally harmonised framework enables the creation and use of electronic transferable records (ETRs) under the law and allows for alignment with Singapore's trading partners, benefitting both domestic and international industry players across the shipping, finance, and legal sectors which will promote more domestic and cross-border electronic transactions.

We have also made great strides with our international counterparts.

In China, we signed the Memorandum of Understanding (MOU) for legal recognition of electronic bill of lading (eBL) as a document of title and successfully completed the pilots with Suzhou and Zhejiang on top of existing cities such as Shenzhen and Chongqing.

In UK, we laid the foundations for TradeTrust to become the common framework for Electronic Transferable Records (ETRs) as UK goes through parliamentary process for their Electronic Trade Documents Bill (ETDB). This was supported by partners from Australia and the Netherlands as they had experienced the benefits of using TradeTrust.

Besides that, we continued to engage our existing communities and have witnessed more than 25% increase in the number of TradeTrust enabled platforms providers.

COVID-19 has transformed the way organizations operate and it has shifted the spotlight onto digitalisation. Hence, our achievements come as no surprise given that the momentum is in our favour.

Many experts predict that a recession is looming, specifically for global trade. However, I hold a differing view that trade will continue to grow. The painful lessons learnt from supply disruptions has urged businesses to invest in the upgrading of their supply chain resiliency and systems that are easily configurable by adopting decentralised technologies.

With that, we enter 2023 with optimism and are ready to embrace the opportunities ahead. Have a prosperous year ahead!



- Sin Yong Loh
Director, Trade
IMDA



GLOBAL OUTREACH (CHINA (SHENZHEN) - SG))

SINGAPORE AND SHENZHEN STRENGTHEN DIGITAL TIES FOR MORE INTEGRATED TRADE AND BUSINESS NETWORKS

November 2022 – Singapore's Ministry of Communications and Information (MCI) and Singapore's Infocomm Media Development Authority (IMDA) inked eight Memorandum of Understanding (MOU) and unveiled 14 new joint projects under the Singapore-China (Shenzhen) Smart City Initiative (SCI), at the 3rd Joint Implementation Committee (JIC) meeting.



Eight MOUs Signed At The Third Singapore-China (Shenzhen) Smart City Initiative Joint Implementation Committee Meeting

The JIC is co-chaired by Singapore's Permanent Secretary for Communications and Information Mr Joseph Leong, and Mayor of Shenzhen Municipal People's Government Mr Qin Weizhong. These new projects will deepen ongoing collaborations between Singapore and Shenzhen in enabling digital transformation, policy innovation and create new business opportunities for business and drive talent development.

Mr Leong said, "The Singapore-China (Shenzhen) Smart City Initiative, launched in 2019, has built stronger digital and business linkages between Singapore and Shenzhen. Despite challenges of the pandemic over the past three years, both sides have worked hard to enhance SCI as an effective platform for digital innovation, smart city cooperation, and business and people exchanges. Singapore and Shenzhen will actively promote a conducive business environment for companies to innovate and conduct cross-border transactions safely and smoothly, as we strengthen our economic recovery and resilience."



IMDA signs eight MOUs with China on 25 Nov 2022



GLOBAL OUTREACH (CHINA (SHENZHEN) - SG))

FACILITATING EBL PILOTS THROUGH GREATER LEGAL ASSURANCE

One of the key areas of cooperation in the past year has been the facilitation of digital trade through the use of electronic Bills of Lading (eBLs). IMDA and Shenzhen's Bureau of Commerce have assessed the results of successful technical trials on trade in the past year, and both sides are now poised to expand IMDA's TradeTrust pilot with live commercial transactions involving banks, shippers, and other partners. This would pave the way for full digitalisation of the trade supply chain and bring the benefits of faster and more secured digital trade transactions to the ecosystem.

Bank of China(BOC) with a rich history in international trade finance and will continue partnering IMDA, Shenzhen Commerce Bureau and other participants to support the development of full digitalization of trade finance.

"We are pleased to see that the eBL program and TradeTrust have made such a big progress for the past year and are proud to be part of it", says Ai Hao, Assistant General Manager, Bank of China Singapore Branch.

"Bank of China has led several successful pilots and contributed our thoughts about the practices of international trade to reach our mutual goal of the digitalization of Bills of Lading, and we are coordinating with IMDA to push for live transactions. In the process of pilots, it has been widely acknowledged that legislation is the key of promoting eBL in China, thus this initiative will set an unprecedented example for other cities. We are looking forward to witness the breakthrough."

Trade finance is core in the entire process and the support from banks are important to achieve digitalisation. The latest MOU provides clarity in terms of legal recognition and enforceability of digital documents across different jurisdictions. This reassures industry players at different digital maturity levels to switch from paper to digital.

Sriram Muthukrishnan, Group Head of Product Management, Global Transaction Services from DBS said, "Common standards and cross-border regulatory alignment are crucial to achieve interoperability and more importantly large-scale adoption of trade digitalisation. DBS is proud to be a key partner in the digital trade financing pilot under the Singapore-China (Shenzhen) Smart City Initiative (SCI). This (MOU) reaffirms our earlier commitments to drive greater adoption of eBLs and accelerate trade digitalisation."

Ms So Lay Hua, Head of Group Transaction Banking, UOB, added, "This latest development marks another key milestone in accelerating digital initiatives for cross-border trade flows. It will build on the good work of the Singapore-China (Shenzhen) Smart City Initiative thus far and provide legal certainty to trade ecosystem partners when they handle electronic Bills of Lading."

"As more countries work to provide the same legal recognition to electronic Bills of Lading, trade partners will benefit from the quick and frictionless transfer of all trade documents throughout their trade cycles."

With the MOU, IMDA will continue to work closely with industry partners to adopt the use of eBLs that are enabled through the TradeTrust framework.



GLOBAL OUTREACH (AUSTRALIA - SG)

AUSTRALIA VISIT TO IMDA

On 14 September 2022, IMDA welcomed the Australian Government's Simplified Trade System (STS) Implementation Taskforce as part of our Singapore-Australia Digital Economy Agreement.

The purpose of the visit was for STS to gain further insights into Singapore's digital transformation efforts and simplify their trade system. During the visit, IMDA highlighted our initiatives such as the:

1. [SMEs Go Digital](#) programme which helps Small and Medium-sized enterprises (SMEs) transform and digitalise their processes.
2. [SGTraDex](#) which improves data flows and agility within supply chains, and
3. [TradeTrust](#) which provides a framework for digitalizing trade documents at scale.

In addition, Ministry of Trade and Industry (Singapore), GovTech Singapore, Ministry of Finance, Singapore Customs and PSA Singapore shared their various trade digitalization efforts and industry leaders provided valuable insights on topics ranging from delivery experience, acceptance, value creation to lessons learnt.

The visiting delegation was led by the Head of the STS Implementation Taskforce, Mr Randall Brugeaud and the Chair of the STS Industry Advisory Council, Mr Paul Little AO.



Australia's visit to IMDA in September 2022

Our huge thanks to industry representatives - Singapore E-Business Pte. Ltd (SGeBIZ), GUUD Company, National Australia Bank Limited (NAB), Global Legal Entity Identifier Foundation (GLEIF) and SGTraDex Services.

We are honoured that the STS Implementation Taskforce had chosen Singapore to begin their international visits and we are excited to strengthen our relationship with Australia through our collaborative efforts to simplify trade.



GLOBAL OUTREACH (AUSTRALIA - SG)

AUSTRALIA, SINGAPORE INK "GREEN ECONOMY" PACT

Oct 2022 – Singapore and Australia agreed on a green economy with the aim to standardize and promote trade and environmental sustainability. Known as the first of such agreements, both countries will initiate cross-border clean energy trade and drive tech development such as an interoperable policy framework that would support digital trade platforms.

Under the Singapore-Australia Green Economy Agreement, both countries will embark on 17 joint initiatives for a start. Singapore Prime Minister Lee Hsien Loong told a news conference that the agreement would start with initiatives such as developing a list of environmental goods and services that could be given preferential trade treatment, possibly reducing tariff and non-tariff barriers. This will lessen the hurdles to cross-border trade in clean energy.

As part of the core initiative, there are also plans to work on the TradeTrust framework as a digital verification platform to facilitate the exchange of digital trade documents across systems. It will have an accreditation structure, offering global-harmonized rules and policies to ensure integrity and consistency in acceptance between the two countries.

The digital verification platform aims to cut environmental costs, increase compatibility and interoperability through digital trade procedures and drive a paperless trade environment which is aligned with the new green economy pact agreement.

Building on the foundation and extensive bilateral trade and investment links between Singapore and Australia, continual development on standards and regulations will also help to reduce barriers to cross-border trade and advance trade and environmental sustainability.

TECH COLUMN

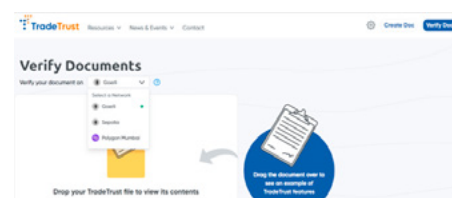
SUPPORT FOR GOERLI AND SEPOLIA TESTNETS

On September 15 2022, the Ethereum Mainnet was merged with the Beacon Chain, completing Ethereum's transition to proof-of-stake consensus and officially deprecating proof-of-work. (More on the Merge [here](#))

The Ethereum Foundation has announced that Ropsten has been deprecated and shut down in the fourth quarter of 2022, and Rinkeby would be phased out in the second quarter of 2023. Moving forward, the Ethereum ecosystem will support the Goerli and Sepolia testnets.

In step with these developments, TradeTrust has deprecated support for Ropsten and Rinkeby and introduced support for Goerli and Sepolia. TradeTrust continues to support two environments, each connecting to different networks:

- [Mainnet](#)
- [Testnets](#) (Goerli, Sepolia)



Goerli and Sepolia are now available as the default networks

As the Merge was designed to minimize impact on the execution layer, it had little impact on end users, smart contracts and DApps. There are no changes to the functionality of TradeTrust's smart contracts.

Goerli and Sepolia are now available as the default networks during deployment for testing and development. The changes are live on the website, and have been merged into the master branch on the respective repositories.

Please refer to the Ethereum Foundation's recommendations on the networks to use [here](#)



UPCOMING RELEASE OF TOKEN REGISTRY V4

What will change from Token Registry v2 to v4?

Deployment of Token Registry and Title Escrow can now utilize a default Contract Factory, which means that it takes less gas to deploy and mint.

Title Escrows can now be minted seamlessly, with a single function call to the token-registry without having to respecify the title escrow creator during each mint.

As the management, what do I need to do?

The token-registry implementation will have to be upgraded from v2 to v4, and to migrate the Token Registry and Title Escrow. The migrations might cost gas fee, depending on the network you are planning on deploying to.

As an implementer, what do I need to do?

Token Registry v4 is expected to be available on the master branch of the respective repositories by Feb 2023. Stay tuned for its release on GitHub! Thereafter, you could upgrade your implementation based on the reference implementation, and also migrate your contracts.

Where can I continue to refer for Token Registry v2?

You may continue to check your Token Registry v2 implementation at these two URLs:

<https://v2.tradetrust.io> and <https://dev.v2.tradetrust.io>, which will be available for 5 months until Jun 2023 as a transition period during your migration to v4. The Token Registry v2 release will be shelved and tagged with 'token-registry-v2' on the Github repositories.



GUEST ARTICLE

SPEARHEADING DIGITAL TRANSFORMATION AND TRANSPARENCY IN MARITIME TRADE

Angsana Technology Pte Ltd, a local maritime software firm was established to contribute to Singapore's vision as a leading maritime nation, by implementing innovations. Angsana was offered the Maritime Industry Innovation and Technology (MINT) fund in 2021, under the digital bunkering Call-For-Proposal by the Maritime and Port Authority of Singapore (MPA).

Angsana is developing the Digital Bunkering Platform, customised for the bunkering sector in Singapore. Through the digitalization of bunkering processes, the platform aims to bring operational efficiency, improve productivity and bring even greater transparency and accountability to the industry.



CHALLENGES FACED BY THE BUNKERING INDUSTRY

Most processes and documentation in the bunkering industry are currently done over pen and paper. This task can be repetitive and onerous, leading to human errors and inconsistencies. Physical documents can also be doctored, opening the doors to fraud and causing distrust between parties.

The bunkering process involves many close interactions between crews. In light of the recent pandemic, processes have been greatly disrupted due to safe distancing requirements. For instance, the bunkering industry adopted "contactless bunkering" by hoisting paper documents in a bucket, from a bunkering barge to another ship.

ANGSANA'S DIGITAL BUNKERING SYSTEM

Through extensive digitalisation of the bunkering workflows and processes, our platform seeks to address the pain points by improving productivity, efficiency, transparency and accountability for the industry.

Our Digital Bunkering platform runs on a Software-as-a-Service (SaaS) model. Some notable features of our software include:

- 1) Bunkering workflow management and based on SS648 standards
- 2) Secure and verifiable documents via TradeTrust, leveraging blockchain technologies
- 3) Automated regulatory reporting to MPA
- 4) Efficient and secure data sharing and exchange via SGTruDex.
- 5) Biometric authentication and AI-powered user verification





GUEST ARTICLE

The platform simplifies existing bunkering workflows by automating data acquisition from flow meters, and vessel and port databases. The data are then consolidated into bunkering documents with minimal human interactions. With that, our collaborators cited a significant improvement in efficiency and data accuracy.

Sharing and transfer of data is integral in the bunkering workflow. Bunker operators can easily share real-time data with colleagues, partners, regulators and financial institutions from our system.

To meet the ever-changing demands of the industry, our system is designed to allow fast and dynamic implementation of new documentation requirements. It is an open platform that allows future systems and services to be integrated and provide better value to the bunker operators.

PROVING THE AUTHENTICITY OF DOCUMENTS

The Angsana Digital Bunkering System manages an important document called the Electronic Bunker Delivery Note (EBDN). This document is issued by the bunker operator, documenting important details in bunkering transactions.

The EBDN is a legally binding document between bunker buyers and bunker suppliers. Besides being the standard document required by Annex VI of MARPOL, the BDN also serves as an important financing document. Since it involves multiple parties, and also with international entities, it has to be trusted and verifiable globally.



TradeTrust allows document ownership to be associated with bunker suppliers. Bunker buyers or recipients of the EBDN document can have greater confidence that their document is legitimate and verifiable.

We chose TradeTrust given that it is an open standard where the recipients of documents are able to verify the authenticity via TradeTrust, or an OpenAttestation-enabled portal. This can be done without the need to reach out to Angsana, or the bunker operator.

Moreover, TradeTrust leverages blockchain technologies powered by Ethereum, which puts emphasis on decentralisation. This would mean that no single organisation can have control over the contents of the document. In the event that the document has been tampered with, a notice will be shown to inform users that the document has been altered.

Given that TradeTrust is an open-source software, it can easily be adapted into IT systems, allowing documents to be processed automatically.

PILOT TRIALS

We are conducting Pilot trials with several established bunker suppliers in Singapore such as Victory, Sentek, Vitol Bunkers and Eng Hua. We hope to be pre-approved by MPA for implementation in Singapore.





GUEST ARTICLE

TESTIMONY FROM VICTORY PTE LTD

"In our current digital world, digitalization incorporates the process of adapting old business models to new technologies and embraces digital technology's potential to collect data, identify patterns, and make smarter business decisions. Digitalization necessitates the digitization of information".

"Victory embraces and sees the importance in the introduction of Angsana's EBDN platform into our bunkering process as this allows us to have an increased efficiency, as the important parameters and processes are automated without reiteration. There is an increase in productivity, lower operational costs, improved customer experience, higher agility, enhanced employee morale, improved communication, increased transparency as processes are highly automated and customisable to fit into one's CRM system".

"Manual processing delays, human mistakes, and inefficient business processes can no longer be disregarded; they are costing businesses thousands of dollars per year. Therefore, we encourage more players to come on board and join Angsana on this digitalization journey".

- Ms Ong ZhenZhi, Director, Victory Pte Ltd

TESTIMONY FROM ENG HUA COMPANY (PRIVATE) LIMITED

Mr Mike Sin,
Director,
Eng Hua Company
(Private) Limited

"Angsana's platform simplifies our operation efficiency greatly, especially on the sharing and real-time update of bunkering delivery details between the backend office, the crew and the buyer on board. Communication between our stakeholders has never been easier. The verifiable EBDN document strengthens trust between us, our bunker buyers and financial institutions. This enables us to have a better financial standing and cash flow".



MOVING FORWARD WITH TRADETRUST

Angsana is pleased to have Tradetrust as part of its solutions as a technology enabler and look forward to future adoptions and applications with this technology.

For more information, visit <http://www.angsanatech.com> or get in touch with Ang See Lin at slang@angsanatech.com.



REPORT USE CASES (ISO)



TRADETRUST PUBLISHED ON ISO STANDARDS

What is ISO?

The International Organization for Standardization (ISO) is an independent, non-governmental international organization with a membership of 164 national standards bodies.

The organisation gather experts to share knowledge and develop voluntary, consensus-based, market relevant international standards that support innovation and provide solutions to global challenges.

Companies can consistently use and ensure that the materials, products, processes and services are suitable for their purpose. Additionally, these standards ensures that these requirements are accepted in all connected countries.

With an ISO certification, companies show that their products, services or systems meet the agreed specifications.

What is ISO TC307?

One of these standards is the ISO TC (technical committee) 307, which focuses on blockchain and distributed ledger technologies and has existed since April 2016.

ISO TC307 Uses Cases Standard link can be found [here](#).

What does it mean for TradeTrust?

As an early adopter of distributed ledger technology, TradeTrust is constantly sought after to contribute learnings and research in this area.

These standards provide a selection of use cases to illustrate a spectrum of distributed ledger technologies applications and they reflect various international domains, business and industry sectors and processes.

The use cases help to identify actual and potential applications of the technology in the given context, along with relevant requirements, options, benefits, and risk mitigation strategies.

You will find the TradeTrust use case under International Trade Transparency.

With the inclusion in the ISO standards, industry players can continue to innovate and advance their worldwide quality and capability in a safe and reliable manner.

TradeTrust open-source code is readily available and allows trade participants to examine the source codes before the actual implementation to verify and exchange electronic trade documents across different digital platforms.



ANNOUNCEMENTS / UPCOMING EVENTS / FEEDBACKS

With the common objective in promoting trade digitalisation to the international trade community, TradeTrust has been actively collaborating with initiatives spearheaded by the International Chamber of Commerce (ICC). ICC is the institutional representative of more than 45 million companies in over 100 countries.

TradeTrust - a digital utility for trusted exchange of electronic trade documents which aligns to the internationally accepted standards to facilitate cross border trade, has been crafted as a core module in the Certificate in Digital Trade Strategy online course curated by @ICC Academy the educational arm of ICC.

The course covers how TradeTrust is Included in the first-ever Standards Toolkit for Cross-Border Paperless Trade which compiles the work of 16 standard-setting bodies and how it can help digital solutions scale through interoperable digitalisation frameworks. With this toolkit, the International Chamber of Commerce's Digital Standards Initiative (DSI) and the World Trade Organization aim to equip supply chain participants, with some of the most notable and widely used standards to help enable a future of secure, trusted and seamless trade connectivity.

"I am honoured to contribute to ICC's various initiatives to make trade easier and more accessible to the millions of businesses it represents and believe that such concerted effort will serve as a purposeful reference and enabler to ease the digitalisation journey of trade industry participants worldwide," says Kay Ren Yuh, course author and assistant director from IMDA, TradeTrust.

In our continuous drive to make more accessible to the industry, cutting-edge technologies like blockchain for efficiency and inclusivity purposes, here's our open invitation to institutions, traders, banks, policy makers, carriers and tech service providers for partnerships and collaborations. Speak to us!

Link: <https://icc.academy/digital-trade-strategy-certificate/>

Certificate in Digital Trade Strategy (CDTS)
Course Curriculum

- 1 The architecture of international trade and supply chains
- 2 Critical challenges associated with digitising trade and trade finance
- 3 The making of an enabling legal environment for digital trade
- 4 Exchanging trade and supply chain data in a trusted environment
- 5 Interoperability frameworks – putting it together

ICC Academy

TRADETRUST COMMUNITY EVENT

HAPPENING
SOON IN
2023
STAY
TUNED!



Meanwhile, share with us your preferred topics or areas you would like us to cover in this [form](#). Scan QR code for easy access.







CHALLENGES OVERCOME

OVERCOMING CHALLENGES

The International Chamber of Commerce (ICC) Digital Standards Initiative (DSI) has cited low adoption of electronic Bill of Lading (eBL) as a key issue faced by the maritime trade industry today. Statistically, only about 1.2% of all BLs used are electronic.

TradeTrust, as a digital-first pioneer, aims to help businesses and regulatory authorities address the fundamental problem of inefficiencies in cross-border trade documentation processes due to the manual handling, transportation of hardcopy documents between numerous involved parties and vulnerability to fraud.

	TRADITIONAL METHOD	IMPLEMENTATION OF TRADETRUST
 MANUAL PROCESSES	<ul style="list-style-type: none">- Heavy use of paper- Overreliance on the use of paper-based documents for shipping of cargo	<ul style="list-style-type: none">- Digital- Paperless- Promotes environmental sustainability
 COST	<ul style="list-style-type: none">- 20% of cost goes to documentation	<ul style="list-style-type: none">- Reduce cost by 10% to 30%
 TIME	<ul style="list-style-type: none">- 5 to 10 days process for documentation and verification	<ul style="list-style-type: none">- Instantaneous- Efficient and time saving- Easily accessible
	Multiple documents for a single shipment can require up to 50 sheets of paper that are exchanged with up to 30 different stakeholders.	
 RELIABILITY AND VULNERABILITY	<ul style="list-style-type: none">- Across different ecosystems and platforms- Fragmented- No easy way to verify accuracy and authenticity of documents	<ul style="list-style-type: none">- Synchronised and interoperable- Trusted and non-centralised- Ability to verify accuracy and authenticity of documents

TradeTrust documentation:
docs.TradeTrust.io

TradeTrust Software:
github.com/TradeTrust

TradeTrust tech webinar videos:
TradeTrust.io/learn



Find out more at
TradeTrust.io



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