

Key blockchain trends impacting Hong Kong's logistics industry

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There has been an explosion of interest in distributed ledger technology, often called blockchain, across many sectors and functions in Hong Kong over the past year. This article highlights the key developments that are currently impacting the Hong Kong logistics industry.

What's happening: Major banks bringing blockchain to Hong Kong

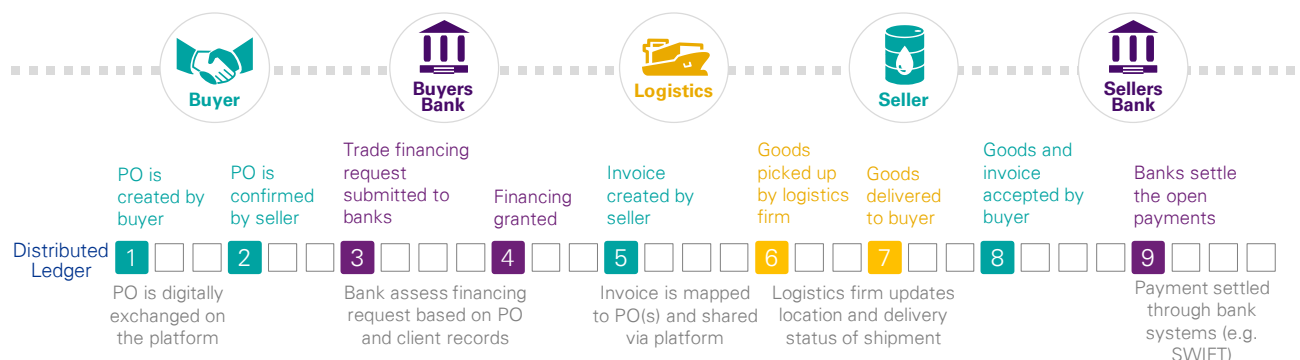
In 2017, seven major banks in Hong Kong decided to commercialise an HKMA-led, Distributed Ledger Technology (DLT)-based, trade finance proof-of-concept into a production system called the Hong Kong Trade Finance Platform (HKTFP).

The initial proof-of-concept aims to digitise and accelerate the sharing of trade documents between buyers, sellers, banks, and logistics companies, automating reconciliation processes and reducing the risk of fraud amongst trade participants.

Expected to launch in early 2019, the platform's primary objective is to digitise the exchange and use of fundamental trade documents such as purchase orders, letters of credit, invoices, and shipment tracking data.

For logistics providers with customers in Hong Kong, this development means that they may eventually be asked by their customers to share shipment information, condition of goods, GPS position, or the acceptance of a delivery on the HKTFP using distributed ledger technology.

Exemplary records to exchange information between trade partners on a distributed ledger



Source: KPMG Advisory (Hong Kong) Ltd., © 2018

Blockchain's impact on logistics & transportation companies

Though one may think that monitoring the delivery status, GPS location, or even cargo conditions of a shipment are not new to a logistics company in the 21st century, the creation of platforms like the HKTFP will extend this service to other partners of trade beyond a logistics company's immediate customers.

Logistics companies will become the central source of information pertaining to delivery confirmation, actual shipment conditions, or regulatory implications, including sanctioned countries for all associated trading parties. With a distributed ledger, this information is recorded and creates an immutable audit trail allowing participants of a transaction to access and validate information, recent changes, and agreements.

In addition to the improved transparency of a transaction, the digitisation of documents reduces the turnaround time for document reconciliations and approval processes. As an example, delivery confirmation by the logistics company allows the buyer's bank to automate the payment to the seller or even validate that the conditions inside a smart container were within the agreed parameters. Moreover, we already see companies such as Bolero working on the digitisation of the Bill of Lading to further improve the digital traceability and speed of documentary trade.

With these developments, additional services such as usage-based insurance or platform management services for smaller transportation companies could rise in conjunction with trade platforms like the HKTFP.

To access these benefits, logistic companies in Hong Kong will have to consider joining the HKTFP or other partnering trade platforms.

To do so, it is critical to understand the underlying blockchain technology as well as the governance and operational processes required to serve customers on these platforms. For example, shipment data will no longer be shared with customers directly and exclusively. Instead, it will be available on a distributed ledger and its access and visibility to different trade stakeholders needs to be managed thoroughly. It may also imply that downstream business partners such as trucking companies need to be enabled to share information upstream.

Ultimately, as part of the digitisation process, companies will need to review their operational processes and prepare for a higher level of automation and quicker distribution of information.



Distributed ledger platforms: The future of logistics

Given the scale of the potential changes to the industry, we believe few companies have the skills and resources to adapt to the new landscape in isolation. The rise of digitisation and blockchain will drive more collaboration among stakeholders and will frequently take the form of industry-wide initiatives.

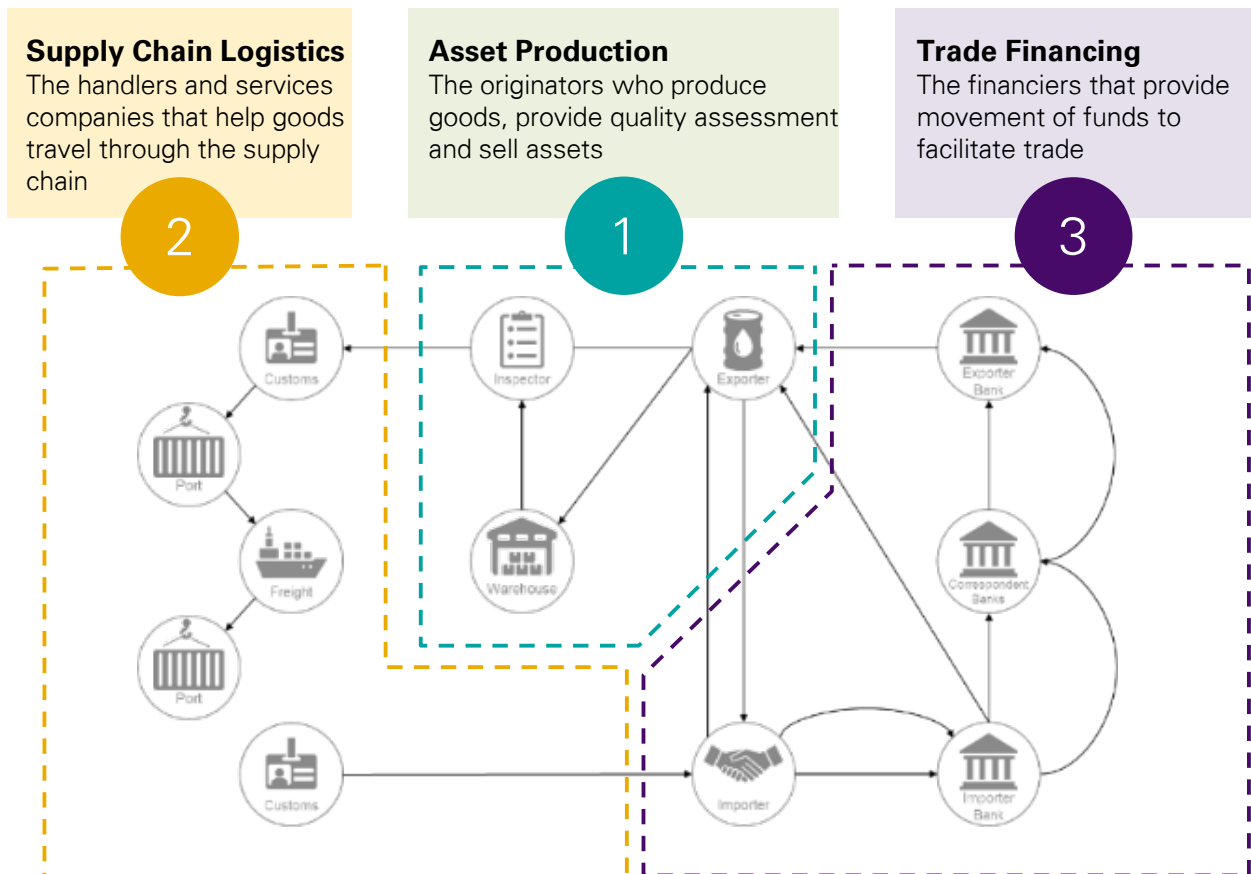
This development is already occurring in the American and European markets, where consortia such as BiTA (Blockchain in Transport Alliance) have been established to prepare members for a highly increased level of data sharing and digitisation.

Ultimately, we expect logistics firms to think of ecosystems with their customers, partners, industry peers, financiers, and governments, to exchange and trace information along value chains. This will augment their role as transportation experts by adding data and information platform capabilities to their businesses.

Once these ecosystems are live, targeted additional value services and the access to trusted, original information will become new value propositions. Examples of these value-added services are:

- Platform utility services: Managed services that help small and medium enterprises to join trade platforms and provide their services to the trade ecosystem.
- Usage-based insurance products: The transparency offered by DLT will likely enable usage-based insurance (UBI), which will help reduce risks in transit, and eventually lower insurance premiums.
- Smart devices and containers: IoT-enabled containers and cars that are able to communicate directly with the blockchain platform. An example is Skycell, a Swiss manufacturer of pharmaceutical containers that provides temperature and concussion data via blockchain.

The Ecosystem of Trade



Source: KPMG Australia



About the basics: Fundamental blockchain functionality and its advantages

Blockchain platforms such as the HKTFP are distributed ledgers, which is a way of ordering and verifying transactions into data 'blocks' with protections against tampering and unapproved change. These platforms are composed of a network of computers to maintain and validate records between transacting parties, while maintaining a secured audit trail of alterations.

'Distributed' in this context means that no single centralised authority – such as a clearing house – verifies and executes transactions. Instead, all transaction participants use computers, known as nodes, which serve as a verification point within the network. Nodes verify and execute transactions. For example, imagine a purchase order where the buyer and seller exchange their agreement about the trade of goods and record this on a blockchain. They would then provide a record of the agreement to their banks and logistics partners to follow up with the financing and logistic services of the trade as well as bill settlement. In doing so, all parties rely and act on the original information from the agreement between buyer and seller.

While the general perception of blockchain is that data is accessible by all platform participants, blockchain technologies do allow data to be distributed to selected parties only by introducing trusted notary nodes to validate the uniqueness and authenticity of a transaction. Other technologies use data encryption, allowing data to be made visible to certain parties only.

Altogether the trend for blockchain is driven by the demand for increased data security, achieved through the traceability and transparency that blockchain technology offers, resulting in an elevated level of trust among supply chain members as well as end customers.

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