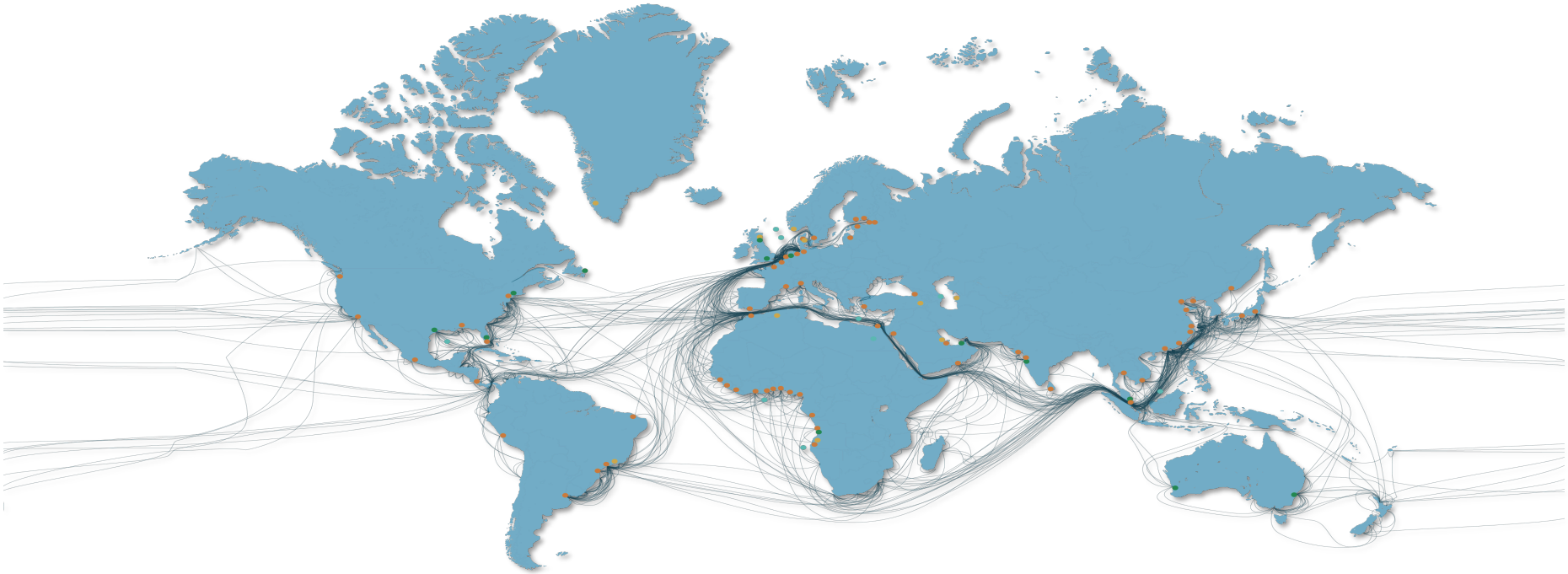
Open Global Trade Digitization Platform

G20 Global Trade Infrastructure Connectivity Alliance
25th January 2018: OECD Conference Centre, Paris



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January 2018

OVERVIEW

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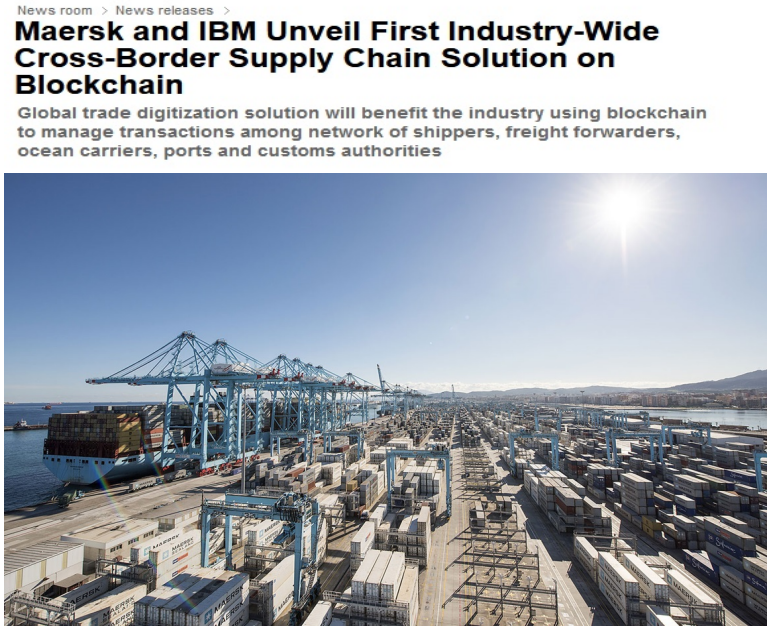
On January 16, IBM and Maersk announced plans to form a join venture to digitize supply chains and improve global trade

- Based on blockchain, the new technology will empower **faster, more efficient and secure global trade.**
- The new technology platform will **benefit all supply chain participants** including manufacturers, shipping lines, freight forwarders, port and terminal operators, shippers and customs authorities.
- By creating this new company, Maersk and IBM are providing a **neutral vehicle for the industry** to standardize communications, streamline compliance, and reduce inefficiencies.



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The establishment of the joint venture remain subject to receipt of regulatory approvals. None of the information provided in this document should be construed in any way as a representation or undertaking with regard to the position to be adopted by Maersk or IBM.

Increasing the efficiency of global trade

Trade and Logistics costs are equivalent to 10% of Global GDP. Small efficiency improvements can have a substantial impact on global trade and economic growth.

More than **$4 trillion** in goods are shipped each year

80% of the goods consumers use daily are carried by the ocean shipping industry

By reducing barriers within the international supply chain, global trade could increase by up to **15%**, boosting economies and creating jobs*

The cost of trade documentation is estimated to reach **one-fifth** of the actual physical transportation costs

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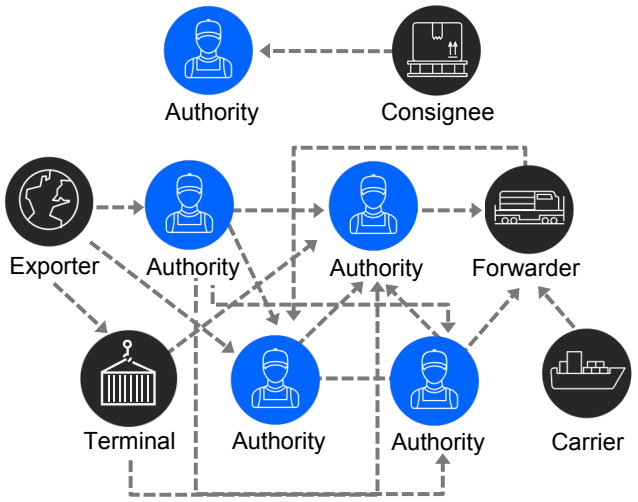
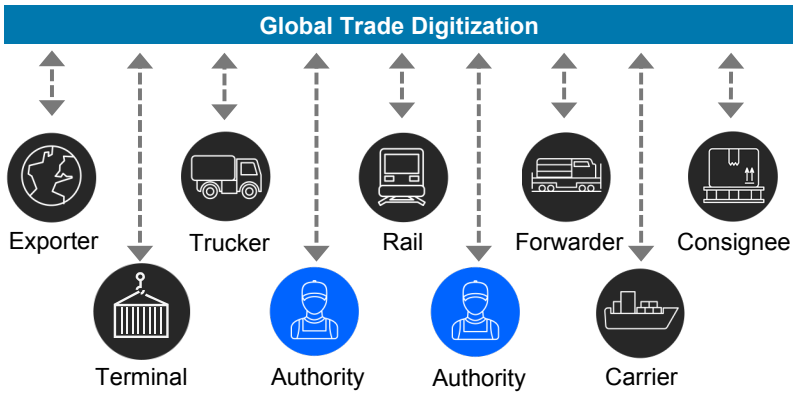
*Source: The World Economic Forum: Enabling Trade Valuing Growth Opportunities 2013

By reducing the complexity of doing trade

TODAY



TOMORROW



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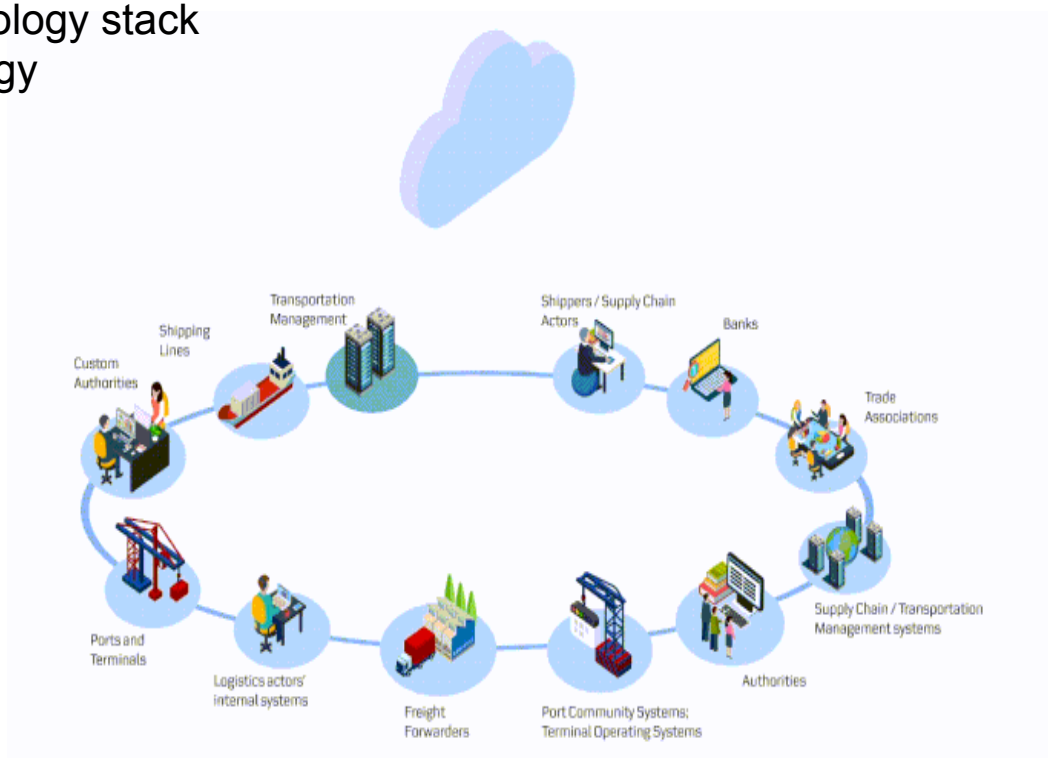
Reducing the complexity of doing trade

The platform will be built on an open technology stack and is underpinned by blockchain technology



Two core elements:

- Shipping Information Pipeline
- Paperless trade

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An industry platform that connects the supply chain ecosystem

Ports and Terminals	More efficient operations driven by increased transparency, improved document flows, and higher rates of cargo throughput
Shipping Lines	Increased visibility to improve the cost and reliability of operations, as well as pre-build connections to customers and partners
Customs Authorities	Better and more secure view of the flow of goods coming their way, enabling better allocation of resources, improved targeting accuracy for inspections, less paperwork
Freight Forwarders / 3PL	Offer customers improved and lower cost services with real-time access to end-to-end supply chain information and digital tools for customer brokerage services
Intermodal Transport	Improved planning and utilization of assets (e.g., less queuing) given real-time access to end-to-end supply chain events for shipments
Shippers	Streamlined and improved supply chain allowing for greater predictability, early notification of issues, full transparency to validate fees and surcharges, and less safety stock inventory

Pushing out the efficiency frontier of trade and enabling countries close the gap to best practice

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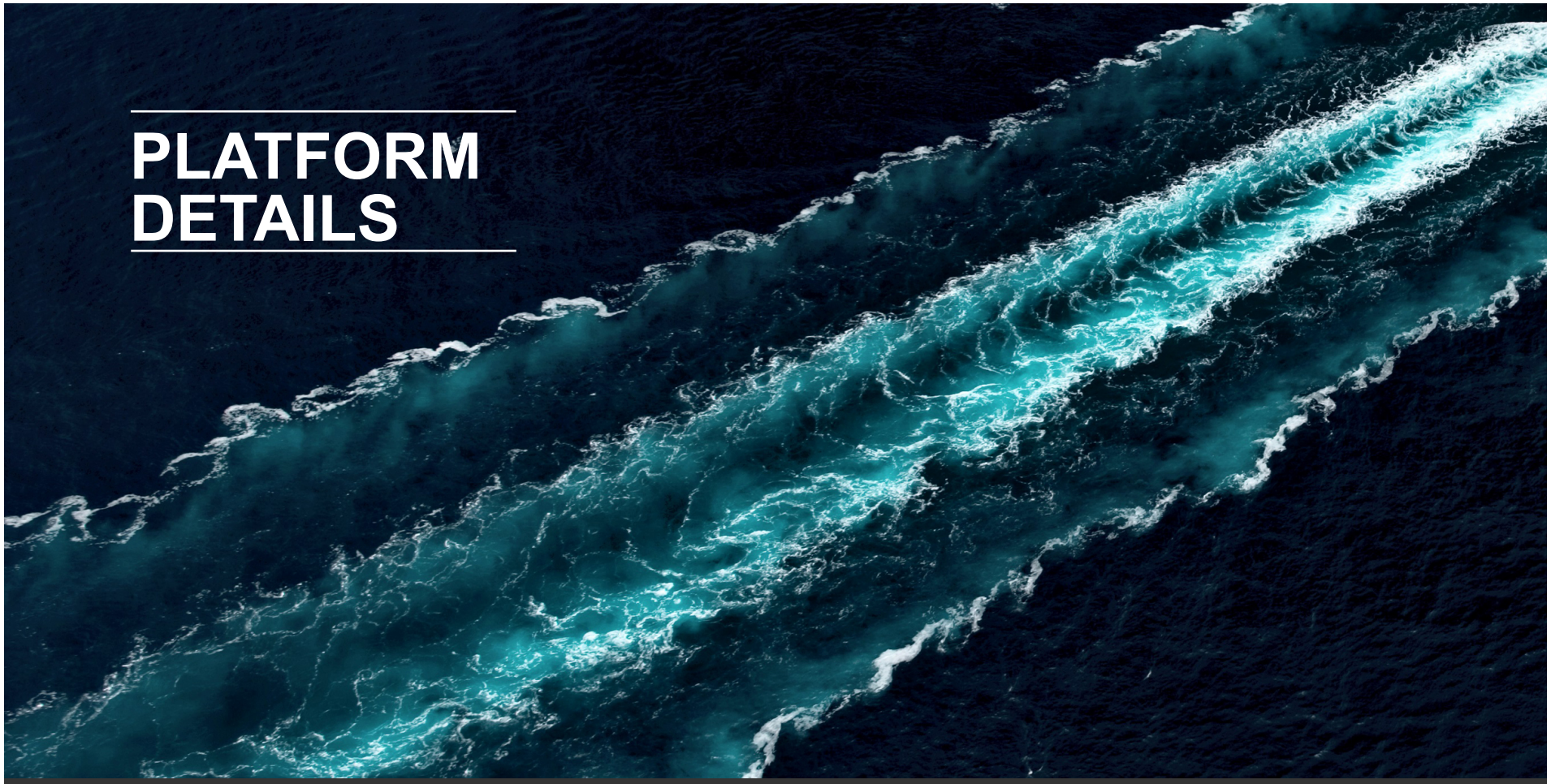
PLATFORM DETAILS



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Blockchain addresses the underlying challenges inherent in collaborating across a distributed, fragmented supply chain ecosystem

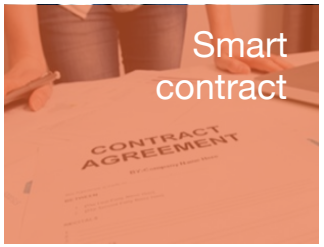
A shared replicated, permissioned ledger ensures consensus, provenance, immutability and finality

Append-only distributed system of record shared across business network

A network of trusted, neutral participants maintains a distributed, permissioned ledger with copies of document filings, relevant supply chain events, authority approval status, and full audit history; every change results in a new, immutable block.

Ensuring appropriate visibility; transactions are secure, authenticated & verifiable

Cryptography enables permissioned access so only the parties participating in a specific shipment can submit, edit or approve related data



Business terms embedded in transaction database & executed with transactions

The export and import documentation requirements and authority approvals are pre-programmed and built into Blockchain and distributed to and endorsed by the network

Transactions are endorsed by relevant participants

Information such as documentation filings and authority approvals can only be changed if endorsed by the parties taking part in the shipment; full audit history maintained on the Blockchain

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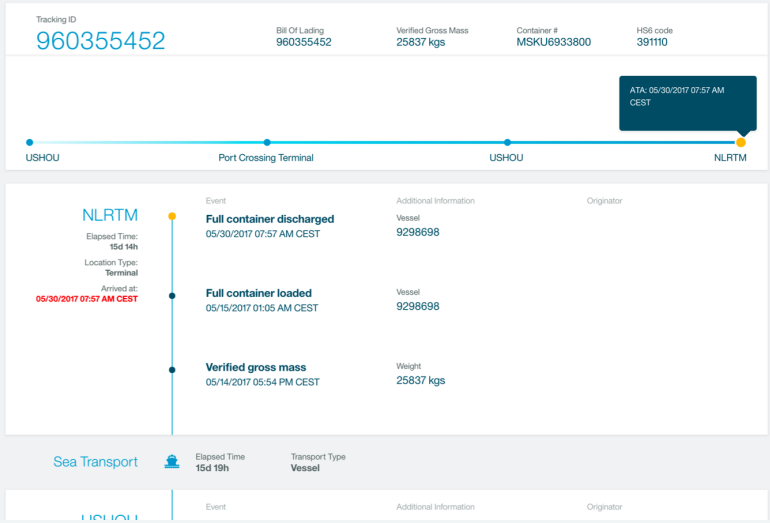
Shipping information pipeline and visibility dashboard

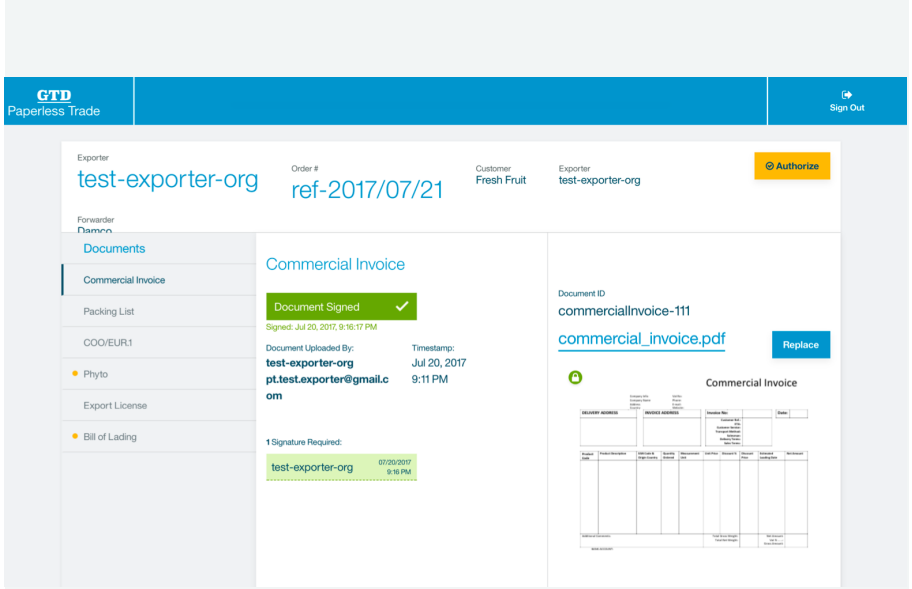
- Information is to be exchanged via a common connection (data pipeline) instead of numerous point-to-point integrations
- Will provide plug and play publish/subscribe services to all actors in a supply chain to securely and seamlessly exchange shipment events in real time – all via modern, industry standard REST APIs
- Competitive information will be protected: visibility to shipment events to be controlled by the parties involved in the shipment who can further delegate access if needed
- Events will use a highly available, secure database and can be propagated to the paperless trade Blockchain based on security and trust considerations
- The event visibility dashboard will provide visual access to the events; ecosystem participants and/or third parties will be able to implement other systems and tools that leverage SIP data.
- Event data from multiple parties will append, validate, normalize and group into sets of events related to a shipment



The event visibility dashboard will allow users to securely publish and subscribe to SIP data without using a third party system. The dashboard will enable users to search for and drill down into a specific shipment or group of shipments

Paperless trade capability

- Using Blockchain, document filings will be accessible digitally by all trusted parties, and can be securely signed by authorities
- Workflow templates define and drive the approval process for specific country authorities and harmonized goods codes
- The paperless trade app allows users to upload and store, review, stamp, and approve document filings; alternatively, access via REST APIs enable the integration with other workflow systems or enterprise software
- Each Paperless Trade event (e.g., document creation, approval or rejection, document access etc.) is stored in the Digitization and Notarization platform implemented on blockchain
- Only a digest of the document contents is stored on the blockchain. Access to the actual documents can continue to be managed by participants themselves.
- Blockchain node configuration and channels provide isolation required by the participants to ensure a verifiable, immutable, consensus-driven and legally binding service
- All documents will be linked to the event data



The paperless trade dashboard allows users to upload and store, review, stamp, and approve document filings. Workflow driven by Hyperledger smart contracts ensure all required approvals are in place

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