Digitizing Global Trade To Increase Efficiency Across International Supply Chains

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Supply chains have had the same three core problems for millennia ...
... and yet despite progress in each area ...

... systemic inefficiencies remain for the end-to-end processes

- Administrative costs are higher than the cost of the physical transportation
- Fraud in global trade is estimated at $600B
- Worldwide cargo losses exceeds $55B annually
- Up to $30 billion in cargo theft occurs every year
- About 30% of all freight damage in transit is unavoidable, most losses occur on the way to or from the ports

How do you share information?
Blockchain creates the trust necessary to address the end-to-end process

We can connect the ever-increasing sets of data…

**Data**

- 80% of worldwide data is sitting in silos
- 90% of data in the world today has been created in the last two years
- Less than 0.5% of all data is ever analyzed

**Trust**

A trusted, distributed ledger with shared business processes

**Analytics**

- $130B+ is spent on big data and business analytics globally
- 73% of global CEOs report cognitive computing will play important role in the future of their organizations
Blockchain underpins Bitcoin

**bitcoin** is:

- An unregulated shadow-currency
- The first blockchain application
- Resource intensive

Blockchain for business differs in key areas:

- Identity over anonymity
- Selective endorsement over proof of work
- Assets over cryptocurrency
Blockchain addresses underlying challenges in collaborating across a distributed, fragmented supply chain ecosystem

Hyperledger Fabric: the use of a shared replicated, permissioned ledger ensures consensus, provenance, immutability and finality

Append-only distributed system of record shared across business network

Consensus, provenance, immutability and finality

Shared ledger

Smart contract

Business terms embedded in transaction database & executed with transactions

Transactions are endorsed by relevant participants

Ensuring appropriate visibility; transactions are secure, authenticated & verifiable

Privacy

Trust

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.
Open global trade digitization platform

Overview of offering

https://youtu.be/dcddYatMCGQ
The cost, size, and complexity of the world’s trading ecosystems continue to grow

More than $16 trillion in goods are shipped across international borders 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 nearly 15%, boosting economies and creating jobs

Today: Global trade is hugely inefficient and burdened by paper-based processes

- Inconsistent information across organizational boundaries and “blind spots” throughout the supply chain hinder the efficient flow of goods
- Complex, cumbersome, and costly peer-to-peer messaging
- Manual, time-consuming, paper-based processes
- Risk assessments often lack sufficient information; clearance processes subject to fraud

A single shipment of avocados from Mombasa to Rotterdam involves 30 actors, 100+ people, and 200 information exchanges
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Tomorrow: we will bring to market a trade platform for containerized shipping connecting the entire supply chain ecosystem

- An open, neutral, and distributed platform underpinned by Blockchain technology
- Seamless, permissioned document and data sharing with a common access control structure
- Ecosystem participants access the platform via open APIs

Two initial applications will be deployed on the platform:

1. **Shipping Information Pipeline**: Will provide real-time, secure access to end-to-end supply chain information to all actors involved in a global shipping transaction
2. **Paperless Trade**: Will automate filings for the import and export of goods by enabling end users to securely submit, stamp and approve documents across national and organizational boundaries
The entire supply chain ecosystem will share a single trusted view of shipments.
The participants in the ecosystem will include the network members, clients, and offering providers.

**Provide and gain access to end-to-end supply chain information**
- Ocean carriers
- Ports and terminals
- Government authorities
- Inland transportation
- 3rd party data providers

**Offer value added services to the ecosystem through a platform marketplace**

**Primary beneficiaries of the platform**
- Traders (BCOs, retailers, manufacturers, etc.)
- Freight forwarders, customs brokers, 3PL
- Financial institutions

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A global network of interconnected shipping corridors will link ports and terminals, authorities, ocean carriers, inland transportation, 3PLs, shippers, and other actors.

| **Ports and Terminals** | Provide information about the disposition of shipments within the boundaries of the port / terminal. Benefit from pre-built connections to shipping lines and other actors, end-to-end visibility across shipping corridors, and real-time access to more information to enrich port collaboration and improve terminal planning. |
| **Ocean Carriers** | Provide information about the disposition of shipments across the ocean leg. Benefit from reduced customer service and network integration cost, less revenue leakage, and less mis-declared cargo due to a digital audit trail of end-to-end shipment events and source documents. |
| **Government Authorities** | Provide information about the export and import clearance status for shipments into and out of the country. Benefit from more informed risk assessments, better information sharing, less manual paperwork, and easier connections to national single window platforms. |
| **Inland Transportation** | Provide information on the disposition of shipments carried on trucks, rail, barges, etc. Benefit from improved planning and utilization of assets (e.g., less queuing) given real-time access to end-to-end supply chain events for shipments. |
| **Shippers** | Engage with the platform as a consumer of shipping information and user of paperless trade. Benefit from a 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. |
| **Freight Forwarders / 3PL** | Provide the transportation plan, inland transportation events, information on intermodal handoffs, and document filings. Benefit from pre-built connections to the ecosystem, improved tools for customs clearance brokerage function, and real-time access to the end-to-end supply chain data to improve effectiveness of track-and-trace tools. |
| **Financial Services & Insurance** | Engage with the platform as a consumer of supply chain information. Benefit from access to a definitive, real-time, and immutable source of information for trade finance and trade insurance. |

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Togethers we can move the industry forward

**Blockchain changes the game**
Never before could disparate entities securely and confidently process paperwork filings digitally

**Designed from the ground up as an industry platform shaped by the ecosystem**
The platform is designed to be open to all industry players; we are committed to continuously improve based on ongoing, regular input and feedback

**We are moving fast**
We know that speed and scale are critical and building the network is the key to success

**Strong support from IBM, Maersk, and Network Members**
With the support of IBM and Maersk, as well as influential Network Members, the JV have the global reach, executive support, and ability to execute in markets around the world

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Maersk and IBM collaboration press release

Digitizing global trade blog and contact form

Cross-Border Supply Chain on Blockchain Demo
https://youtu.be/dcddYatMCGO

A presentation and demo at IBM THINK by Michael White and Marvin Erdly
https://www.ibm.com/events/think/watch/replay/113885828/

Can the cloud lift global trade?

Blockchain application in supply chain news articles
https://www.nytimes.com/2017/03/04/business/dealbook/blockchain-ibm-bitcoin.html?_r=1
https://www.ft.com/content/a36399fa-a827-11e7-ab66-21cc87a2ede8