Blockchain

IBM + Maersk + TradeLens

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IBM **Blockchain**

Introducing Blockchain for Business…

Shared, replicated, permissioned ledger

Blockchain for Business

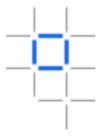IBM **Blockchain**

Blockchain for business requires **trust**

Append-only distributed system of record shared across business network

Shared ledger

Smart contract

Business terms executed with transactions

Transactions are secure with appropriate visibility

Privacy

Proof
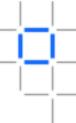
Transactions are provably endorsed by relevant participants

IBM **Blockchain**

Global Digitized Trade

What?
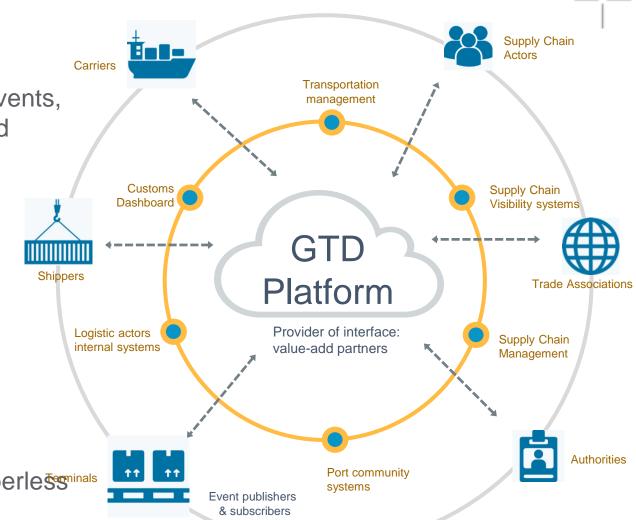
- An open, extensible platform for sharing shipping events, messages, and documents across all the actors and systems in the supply chain ecosystem.

How?

- Providing Shared Visibility and Shared State for Container Shipments

Benefits

- Increase speed and transparency for cross border transactions through real time access to container events.

- Reduced cost and increased efficiency through paperless trade

Carriers

Supply Chain Actors

Transportation management

Customs Dashboard

Supply Chain Visibility systems

GTD Platform

Shippers

Trade Associations

Logistic actors internal systems

Provider of interface: value-add partners

Supply Chain Management

Terminals

Event publishers & subscribers

Port community systems

Authorities

IBM Blockchain

IBM AND MAERSK HAVE LAUNCHED TRADELENS

An open and neutral supply chain platform poised to transform the industry

- ◉ TradeLens is built for the industry and offers benefits to trade participants from across the supply chain ecosystem

- ◉ Responding to industry feedback, IBM and Maersk have revised the approach and are proceeding under a Collaboration Agreement, which offers greater flexibility and responsiveness to industry feedback

- ◉ An Industry Advisory Board will help to shape the platform and drive standards

- ◉ Maersk Line and Hamburg-Sud are participants under the same terms as other network members

- ◉ Core platform components are available today under an Early Adopter program; full release remains on target for Q4 2018

THE TRADELENS PLATFORM

Digitizing the global supply chain

Connects the ecosystem
Brings together all parties in the supply chain - including traders, freight forwarders, inland transportation, ports and terminals, ocean carriers, customs and other government authorities, and others - onto a Blockchain-based platform with a secure permission and identity framework

Drives true information sharing
Provides for the seamless, secure sharing of real-time, actionable supply chain information across all parties to a trade - encompassing shipping milestones, cargo details, trade documents, the structured data embedded in trade documents, customs filings, sensor readings, and more
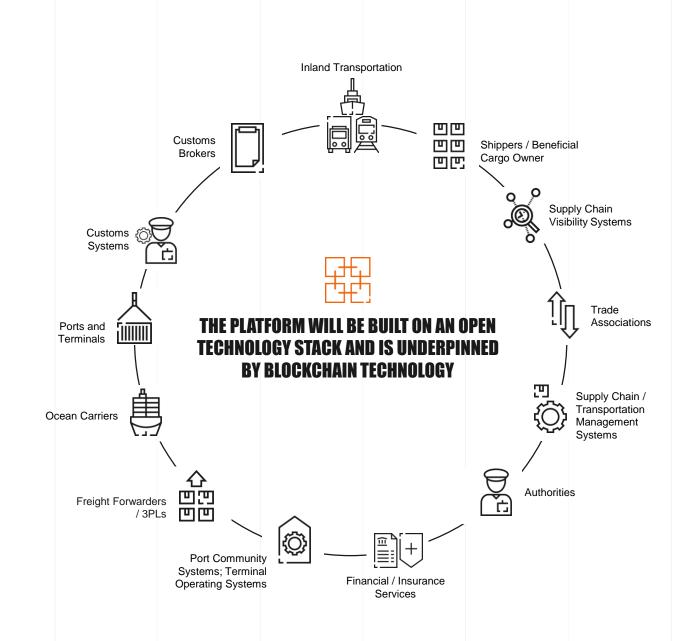
Fosters collaboration and trust
Enables the digitization and automation of the cross-organization business processes integral to global trade, including import and export clearance, with Blockchain ensuring secure, auditable, and non-repudiable transactions

Spurs innovation
Lays the foundation for ongoing improvement and innovation through an open, non-proprietary API, the use of standards and promotion of interoperability, and the launch of an Applications Marketplace that parties can use to build and deploy TradeLens-powered applications for themselves, their partners, and their customers
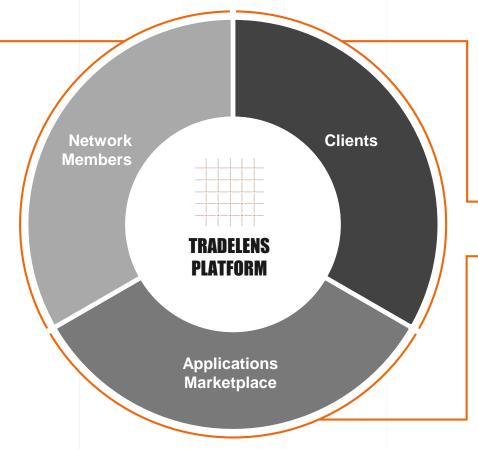
Inland Transportation

Customs Brokers

Shippers / Beneficial Cargo Owner

Customs Systems

Supply Chain Visibility Systems

Ports and Terminals

Trade Associations

THE PLATFORM WILL BE BUILT ON AN OPEN TECHNOLOGY STACK AND IS UNDERPINNED BY BLOCKCHAIN TECHNOLOGY

Ocean Carriers

Supply Chain / Transportation Management Systems

Authorities

Freight Forwarders / 3PLs

Port Community Systems; Terminal Operating Systems

Financial / Insurance Services

THE TRADELENS ECOSYSTEM

Provide and gain access to end-to-end supply chain information

◉ Ocean carriers

◉ Ports and terminals

◉ Government authorities

◉ Inland transportation

◉ 3rd party data providers

Network Members

Clients

TRADELENS PLATFORM

Applications Marketplace

Primary consumers and beneficiaries of the platform

◉ Shippers (BCOs, retailers, manufacturers, etc.)

◉ Freight forwarders, customs brokers, 3PL

◉ Network Members

◉ Financial institutions

Offer value added services to the ecosystem through a platform marketplace

◉ TradeLens offerings

◉ Offerings from third party ISVs

◉ Offerings from Network Members and Clients

PORTS / TERMINAL OPERATORS

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 / BENEFICIAL CARGO OWNER

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

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 ins

SOLUTION ARCHITECTURE

TRADELENS ECOSYSTEM CLIENTS

BCO / NVO | FFW / CHB / 3PL | Inland Transportation | Customs / Government Authorities | Ports / Terminals | Ocean Carriers

TRADELENS APPLICATIONS MARKETPLACE

TradeLens Applications | TradeLens Participant Applications | Third Party Applications

TRADELENS PLATFORM

Platform API

Platform Services

Channel 1 | Channel 2 | Channel 3 | Channel 4 | Blockchain Network | Platform Doc Stores | External Doc Stores

TRADELENS

| BCO / NVO | FFW / CHB / 3PL | Inland Transportation | Customs / Government Authorities | Ports / Terminals | Ocean Carriers | Ports / Terminals | Customs / Government Authorities | FFW / CHB / 3PL | Inland Transportation | BCO / NVO |

SHIPPING MILESTONES AND SHIPMENT DATA

- Start container tracking
- Empty container picked up from depot
- ETA empty container at stuffing site
- ATA Empty container at stuffing site
- Container stuffing completed at inland location
- VGM submitted
- Container sealed
- ATD Packed container from stuffing site
- Estimated gate in for packed container at terminal export
- Gate in full at terminal export
- ETD packed container from export terminal
- Packed container loaded
- Export documentation cleared
- Container ready to load
- ATD packed container from export terminal
- ETA packed container at import terminal
- Temperature update
- Estimated discharge time for packed container at import terminal
- Import documentation cleared
- Container selected for inspection
- ATA packed container at import terminal
- Packed container discharged at import terminal
- Estimated gate out of packed container from terminal import
- Gate out packed container from terminal import
- ETA packed container at stripping location
- ATA packed container at stripping location
- Seal removed
- Packed container stripped at inland location
- Empty container ready for pick-up
- Empty container picked up from stripping location
- ATA empty container at depot
- Container tracking ended

Not exhaustive list of milestones tracked by platform

STRUCTURED AND UNSTRUCTURED DOCUMENTS

- Packing List
- Bill of Landing
- Export Documentation
- Advance Declaration
- Pre-Paid Invoice
- Certificate of Origin
- Shipping Instructions
- ISF
- Geography Specific Certificate
- Dangerous Goods Declaration
- Cargo Specific Certificate
- Customs Clearance
- Commercial Invoice
- Import Documentation

Not exhaustive list of documents tracked by platform

TRADELENS BLOCKCHAIN BUSINESS NETWORK

TRADELENS PLATFORM

CURRENT NETWORK PARTICIPANTS*

Ports and Terminals

- PSA Singapore
- Patrick Terminals
- ICTSI
- Holt Logistics
- Modern Terminals
- Houston, Texas
- Rotterdam, NL
- Mobile, Alabama
- Lazaro, Mexico
- Buenos Aires, Argentina
- Itajai, Brazil
- Callao, Peru
- Gothenburg, Sweden
- Izmir, Turkey
- Onne, Nigeria
- Cotonou, Benin
- Felixstowe, Great Britain
- Newcastle upon Tyne, Great Britain

- Avonmouth, Great Britain
- Liverpool, Great Britain
- Teesport, Great Britain
- Sydney, Australia
- Melbourne, Australia
- Brisbane, Australia
- Freemantle, Australia
- Singapore, Singapore
- Hong Kong, SAR China
- Halifax, Canada
- Philadelphia, Pennsylvania
- Apapa, Nigeria
- Algeciras, Spain
- Aqaba, Jordan
- Cartagena, Colombia
- Los Angeles, California
- Miami, Florida
- Tangier, Morocco
- Port Said, Egypt
- Pecem, Brazil

Government Authorities

- ▶ Australia Home Affairs
- ▶ Dutch Customs
- ▶ SUNANT, Peru Customs
- ▶ Saudi Customs
- ▶ Singapore Customs

* Selected participants; not all shown

Thank you

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Questions? Tweet us or go
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