

Standardization and Digitization

A View of the Future from TradeLens

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TRADELENS

AN OPEN AND NEUTRAL BLOCKCHAIN-BASED PLATFORM THAT IS DIGITIZING THE GLOBAL SUPPLY CHAIN AND TRANSFORMING TRADE

- + TradeLens is ushering in a new era in global supply chains—one where all parties can collaborate, share data, and realize the benefits of digitization.
- + Data is published directly from the source so the right people can securely manage their supply chain in near real-time.
- + TradeLens breaks down longstanding data and processing silos that exists among trading partners and simplifies the flow of documentation that accompanies every shipment.
- + Currently, the platform handles 10 million events and more than 100,000 documents every week, and growing rapidly
- + The platform is being driven by a broad collaboration of industry players under the leadership of IBM and Maersk

GLOBAL TRADE IN NUMBERS



\$16+ TRILLION IN GOODS

ARE SHIPPED ACROSS INTERNATIONAL BORDERS EACH YEAR



80% OF THE GOODS

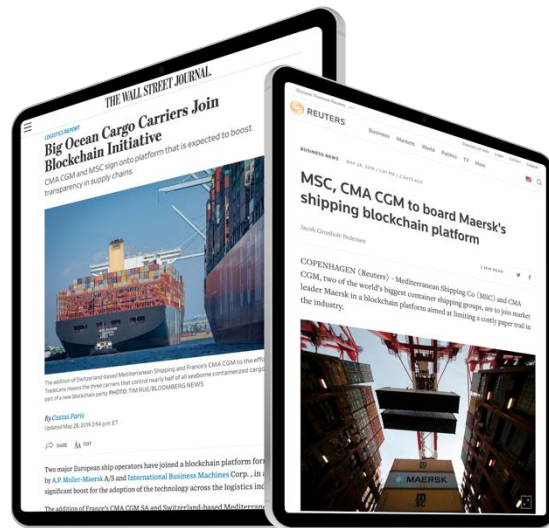
CONSUMERS USE DAILY ARE CARRIED BY THE OCEAN SHIPPING INDUSTRY



BY REDUCING BARRIERS WITHIN THE INTERNATIONAL SUPPLY CHAIN, GLOBAL TRADE COULD

INCREASE BY NEARLY 15%

OUR JOURNEY



Ocean carrier additions:
Maersk Line, Safmarine,
Hamburg Sud, Sealand join

January 2018

Beta release of the platform
and launch of Early Adopter
Program; trials underway

August 2018

Formal launch of the TradeLens

September 2018

TradeLens Limited Availability Release

Ocean carrier additions:
PIL join

Ocean carrier additions:
Namsung and Boluda join

Ocean carrier additions:
Seaboard Marine and KMTC join

Ocean carrier additions:
ZIM joins

December 2018

TradeLens Commercial Release; 1.5 million
events per day published to the platform; working
with more than 100 ecosystem participants

June 2019

Hapag Lloyd and ONE agree to join. 5 of the largest 6 carriers
now plan to be on the TradeLens platform by the end of 2019.

May 2019

CMA and MSC agree to join TradeLens

PRACTICAL CASE STUDIES

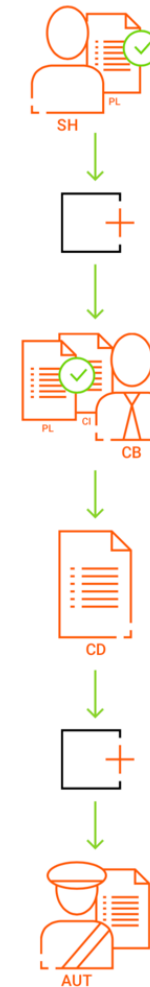
Today, valuable data is locked in paper or unstructured documents that often needs to be re-keyed into a system for use. The process of chasing down documents and then manually updating systems is time consuming and error-prone.

"The TradeLens pilot gives us an opportunity to not only find process efficiencies and gain analytical insights, but improve data providence, accuracy and targeting capabilities. The end result may be a faster and more reliable national supply chain, which could positively impact Canada's economic output."

John Ossowski, President, CBSA

CANADIAN PILOT – CBSA Perspective

- 1** Multiple sources of information identified discrepancies
- 2** Event data plus documents in one place is beneficial for initial review
- 3** Additional data points, like transshipment visibility, port locations, terminal moves and duration of container stay, improved risk assessments
- 4** Provided more transparency of data upstream in the supply chain



SAUDI ARABIAN PILOT – BCO Perspective

- 1** Reduced the need for hard copies of shipping documents.
- 2** Simplified their customs declaration process
- 3** Eliminated shipment-chasing emails and phone calls
- 4** Increased the granular visibility of each shipments milestones
- 5** Established connections to international Customs Authorities
- 6** Gained visibility of inland-transportation in destination country

SECURITY

Combining comprehensive **security capabilities** embedded in mission critical platforms that IBM manages for many of its Fortune 500 clients with **enforceable data sharing** specs and **blockchain's immutable records**, TradeLens allows data to be shared with the right participants, improving the overall security of shipments and the alerting of potential exceptions in near real time.

Built on Enterprise IBM Blockchain Platform and IBM Cloud

- + Provides **protection against ransomware** since there is no capability to access system root, and back ups are not accessible via TradeLens interface.
- + **Permissioned ledger** with immutability, access control and data segregation by channel
- + **Encryption** in firmware, keys protected by hardware
- + PII and other **sensitive data is not stored** on chain (only hashes)
- + Leverages fully managed **IBM Kubernetes** Service for run-time components.

Data Sharing Specs

- + **Permissions** are determined through a combination of the organization's role and the data type based on international standards.
- + **Sensitive information** including documents are distributed only to those nodes participating in a channel; this means, for example, that none of a carrier's customer information will be distributed to other carriers.

Blockchain Technology

- + **Tamper-proof recording** and **non- repudiation** for all data submitted to the solution.
- + **Verifiability** of data against the recorded proof of submission on the blockchain.
- + **Recoverability** of the solution from the data recorded on the blockchain.
- + **Provenance and Auditability.** All transactions are signed and dated on the ledger.
- + **Privacy** of data to ensure that it is only shared with relevant organizations.

TOGETHER WE CAN MOVE THE INDUSTRY FORWARD

- + **Blockchain changes the game**
Never before could disparate entities securely and confidently collaborate digitally
- + **Designed from the ground up as an industry platform shaped by the ecosystem**
The platform is designed to be open to all supply chain participants, made by the industry, for the industry
- + **We are moving fast**
We know that speed and scale are critical and building the network is a key to success
- + **Strong support from the Ecosystem**
The ecosystem has global reach, executive support, and ability to execute in markets around the world

APPLICATIONS IN MEXICO

- + **Lead rather than react**
The digital transformation of global shipping, like other industries before it, is going to happen one way or another, and companies and countries want to lead the way rather than react to that change
- + **Grow the pie**
For Mexico, a more efficient trading ecosystem will drive economic growth
- + **Improve performance**
Ecosystem members expect to realize significant cost savings and improved customer service by connecting to the platform
- + **Enhance Service**
New innovations from a platform business model allows improved customer service and enhanced capabilities to meet demands of clients and consumers

Q&A