“TradeLens - mit Blockchain zur effizienten Lieferkette.

Hintergründe und Projekterfahrungen einer produktiven Plattform”

“7. DigitalCity.Wien Blockchain-Community Treffen - Mobilität, Transport, Logistik und IoT
23.07.2019

Christian Schultze-Wolters
Geschäftsbereichsleiter Blockchain Solutions
IBM DACH

think

IBM

Warum Blockchain ??

think

Transparenz.
Sicherheit.
Vertrauen.
Beschleunigung.

IBM

Technologie.

Hyperledger Fabric - Mitglieder Linux Foundation

Premier

Associate

General

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Blockchain Einstiegspunkte.

JOIN	COORDINATE	BUILD
Onboarding to existing Blockchain Platforms	**Set up consortium and grow network**	**Develop own solution and/or platform**
Platform onboarding	Ecosystem building & coordination	Design Thinking & MVP
Additional modules/ customizations build	Network governance design	Technical Design / Scale into production

Business Value Design Consulting

Blockchain-Lösungen für Unternehmen in allen Industrien

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[1]

1) The World Economic Forum: Enabling Trade Valuing Growth Opportunities 2013

TradeLens.

Disrupting the supply chain - a common project of IBM & Maersk

The New York Times

Blockchain: A Better Way to Track Pork Chops, Bonds, Bad Peanut Butter?

Cargo containers are loaded on a Maersk ship at the Port of Mombasa in Kenya.

PIL, PSA, IBM Conclude Blockchain Trial from Chongqing to Singapore

Shipping company Pacific International Lines (PIL), port group PSA International (PSA) and technology company IBM Singapore (IBM) have completed a blockchain-based supply chain platform trial.

As informed, the companies worked on a proof of concept (POC) exercise, built on IBM Blockchain Platform, applying and then testing the platform to track and trace cargo movement from Chongqing to Singapore via the Southern Transport Corridor.

SupplyChain

Dnata hails successful blockchain pilot with aviation partners

coindesk

Dnata Taps IBM for Air Cargo Blockchain Pilot

Bloomberg

Business

Maersk, IBM Launch Blockchain-Based Shipping Platform TradeLens

By Christian Wiesberg
August 9, 2018, 4:00 AM PDT

Forbes

IBM–Maersk Blockchain Platform Adds 92 Clients As Part Of Global Launch

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GLOBAL TRADE IS HIGHLY INEFFICIENT AND BURDENED BY PAPER-BASED PROCESSES

One shipment of avocados from Mombasa to Rotterdam

30 actors

100 people

200 Information exchanges

- Valuable data is trapped in organizational silos
- Diverse perspectives on transaction state
- Manual and time-consuming business processes
- Clearance processes subject to fraud

There is significant potential to improve information exchange within the supply chain

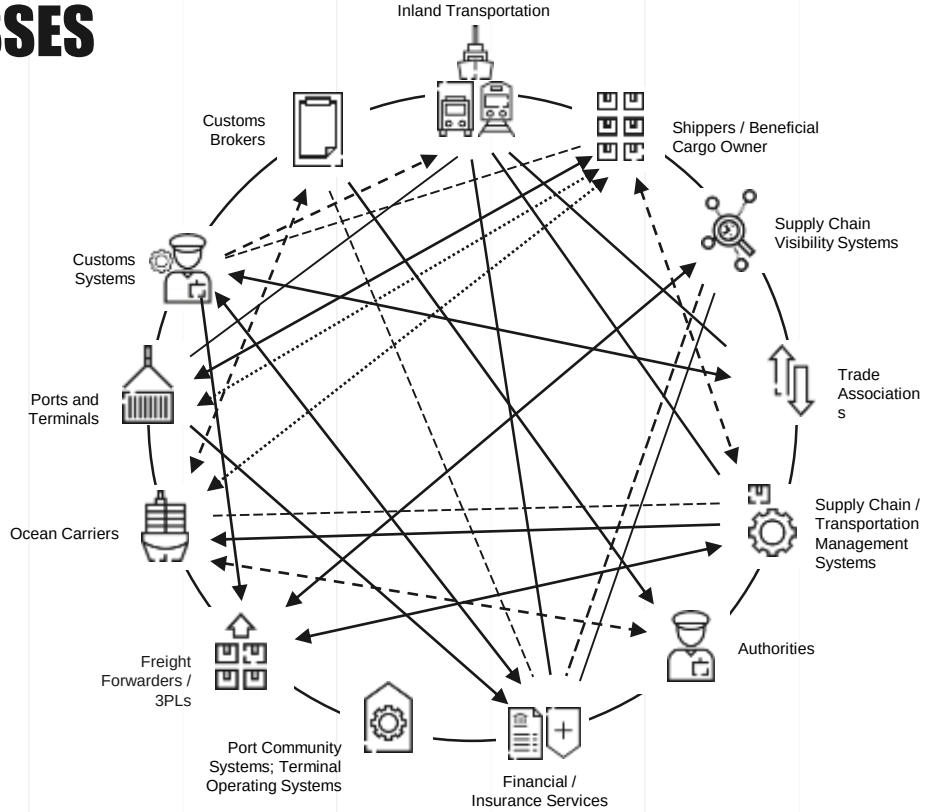
GLOBAL TRADE IS HIGHLY INEFFICIENT AND BURDENED BY PAPER-BASED PROCESSES

Data trapped in organizational silos
Information is held in paper and various digital formats across dozens of service providers along the supply chain, requiring complex, cumbersome, and costly peer-to-peer messaging. The result is inconsistent information across organizational boundaries, latency in obtaining shipment visibility, and blind spots that hinder the efficient flow of goods.

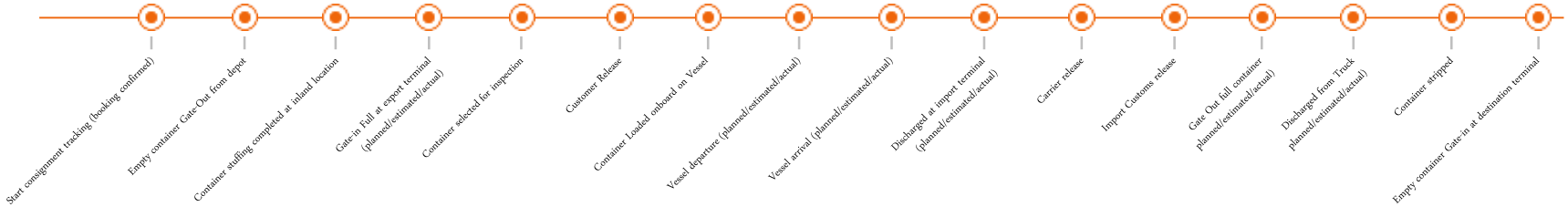
Manual, time-consuming, paper-based processes
The collection and processing of up-to-date data, as well as inefficient trade document exchange, requires manual checks and frequent follow-ups and results in errors, delays and high compliance costs. Late filings are common due to missing information.

Clearance takes too long and is often subject to fraud
Risk assessments by customs authorities lack sufficient and trusted information resulting in high inspection rates, added prevention measures against fraud and forgery, and delayed customs clearance.

High costs and poor customer service
These challenges have significant downstream repercussions. The inability to forecast and plan effectively, address supply chain disruptions in real-time, and share trusted information across the supply chain leads to excessive safety stock inventory, high administrative costs, operational challenges, and ultimately poor customer service.



SHIPPING MILESTONES AND SHIPMENT DATA*



STRUCTURED AND UNSTRUCTURED DOCUMENTS*

TRADELENS BLOCKCHAIN BUSINESS NETWORK

* Note: representative sample only of the data on the platform

OUR JOURNEY

January 2018
Beta release of the platform and launch of Early Adopter Program; trials underway

August 2018
Formal launch of the TradeLens

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

September 2018
TradeLens Limited Availability Release

Ocean carrier additions:
PIL join

Ocean carrier additions:
Namsung and Boluda join

December 2018
TradeLens Commercial Release; 1.5 million events per day published to the platform; working with more than 100 ecosystem participants

Ocean carrier additions:
Seaboard Marine and KMTC join

Ocean carrier additions:
ZIM joins

May 2019
CMA and MSC agree to join TradeLens; data for nearly 50% of global container volume to be on the platform

Read more

June 2019
Hapag-Lloyd and ONE agree to join TradeLens; data for now 60% of global container volume to be on the platform

An open and neutral blockchain-based platform that is digitizing the global supply chain and transforming trade

ECOSYSTEM PARTICIPANTS

NETWORK MEMBERS

Ocean Carriers / NVOCCs

Provide the transportation plan, information about the disposition of shipments across the ocean leg, and critical documents such as the BoL; access end-to-end supply chain data in real time including events directly from shipper, intermodal, customs and 3PLs

Ports / Terminal Operators

Provide information about the disposition of cargo within the boundaries of the port / terminal; access real-time information to enrich port collaboration and improve terminal planning

Intermodal Operators

Provide information on the disposition of shipments carried on trucks, rail, barges, etc.; improve planning and utilization of assets given real-time access to end-to-end supply chain events for shipments

Government Authorities

Provide information about the export and import clearance status for shipments into and out of the country; access end-to-end supply chain information for improved customs clearance and risk assessments

TRADELENS CLIENTS

Shippers/BCOs

Engage with the platform as a consumer of shipping information to improve supply chain management, as a means to collaborate with supply chain partners, and as a way to streamline clearance

Freight Forwarders / 3PLs

Engage with the platform as a consumer of shipping information, a means to collaborate with customers and supply chain partners, and a way to improve customs brokerage capabilities

Financial Services

Engage with the platform as a consumer of supply chain information for a variety of trade finance, insurance, and other purposes to reduce the risk of fraud and increase speed and flexibility to customers

ECOSYSTEM DATA

Foundational data

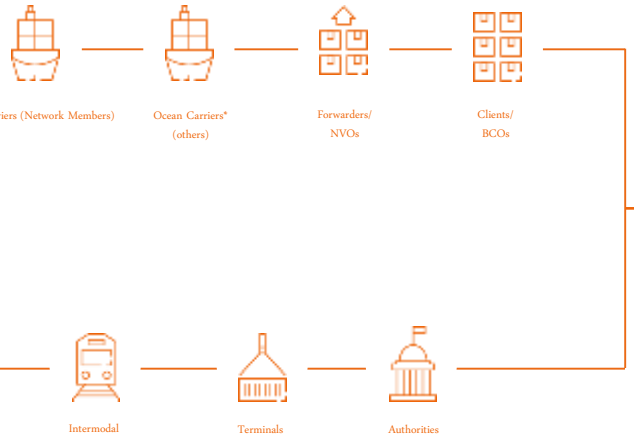
The core data and documents to track and manage shipments end-to-end

+ Projected 60% of global container shipping volume
+ Vast number of trade lanes covered
+ **20+ Million containers per year today**

Enrichment data

Supplements foundational data, in real-time and direct from the source

+ Rapidly growing network
+ Extensive port / terminal coverage



TRADELENS

500M Events

per year

5M Documents

per year

These numbers are estimated to double with the recent addition of new global ocean carriers to the network

* Ocean carriers who are not Network Members can provide data as requested by their customers

OCEAN CARRIERS

The ocean leg is at the heart of a container shipment journey, and as such carriers are the linchpin of the end-to-end information model by providing the booking that links all parts of the journey

Given the central role that carriers play today in safeguarding and distributing key information and documents across parties to a shipment, they are in a unique position to govern the Blockchain network that will transform the industry's information sharing model

TradeLens is currently in partnership with 13 global ocean carriers*

CMA CGM · Safmarine · Hamburg Süd · ZIM · KMTC · ONE · Hapag-Lloyd · Maersk · PIL · Seaboard Marine · Sealand · MSC · APL · Boluda · Namsung

DATA ON 60% OF GLOBAL CONTAINER SHIPPING VOLUME

BY YEAR END 2019

* CMA CGM, MSC, ONE and Hapag-Lloyd have agreed to join TradeLens; final membership pending. Speak with your TradeLens representative for a report on current onboarding status.

3PL AND INTERMODAL

Third-party logistics providers (3PLs) and Freight Forwarders are central to the global movement of goods. As a solution designed for the entire supply chain industry, TradeLens is focused on maximizing the value of these participants by:

+ Improving collaboration with their customers by leveraging global standards and nuanced data control
+ Tangibly bringing together the commercial, documentary and operational elements of supply chain management.

Intermodal operators handling their customers' cargo want more visibility up and down the supply chain so they can act fast and lower the cost of every shipment.

TradeLens provides trustworthy data that helps them to predict and optimize equipment utilization, speed up pick-ups and drop-offs and reduce queueing times.

- This list of 3PLs and intermodal operators is not exhaustive. Speak with your TradeLens representative for a complete list, along with current onboarding status.

GOVERNMENT AUTHORITIES

Authorities and agents in charge of the import and export of goods want powerful new tools to help them simply and clearly identify risks and efficiently process huge volumes of trade that cross their borders.

TradeLens is working with authorities from 9 countries to deliver better information sharing, less manual paperwork, and easier connections to national single window platforms.

Abu Dhabi Customs

Azerbaijan Customs

Australia Home Affairs

Bahrain Customs

Canada Customs

Dutch Customs

Ghana / GCNET

Peru Customs

Saudi Arabia Customs

Singapore Customs

- This list of authorities is not exhaustive. Speak with your TradeLens representative for a complete list, along with current onboarding status.

PORTS AND TERMINALS

- ◉ Live: The Network Member is connected to the Platform and providing data
- ◎ In Process: The Network Member engaged and/or integration is in process

(Some members engaged under Early Adopter Program and/or trial agreements)

	Terminal Location	Operator
◎	Algeciras, Spain	Port of Algeciras
◉	Algeciras, Spain	APM Terminals
◎	Antofagasta, Chile	SAAM
◎	An Ping, Taiwan	MPB
◉	Apapa, Nigeria	APM Terminals
◉	Auckland, New Zealand	PortConnect
◉	Avonmouth, UK	MCP
◉	Bahrain	APM Terminals
◎	Barcelona, Spain	Port of Barcelona
◉	Bilbao, Spain	Port of Bilbao
◉	Brisbane, Australia	Patrick Terminals
◉	Buenos Aires, Argentina	APM Terminals
◎	Busan, South Korea	Port of Busan
◉	Callao, Peru	APM Terminals
◉	Cotonou, Benin	APM Terminals
◎	Dahej, India	Adani Ports
◎	Dharmaj, India	Adani Ports
◎	Elizabeth, NJ, USA	APM Terminals
◎	Ennore, India	Adani Ports
◉	Felixstowe, UK	MCP
◉	Fremantle, Australia	Patrick Terminals
◎	Gavle, Sewden	Yil Port Group
◎	Gebze,Turkey	Yil Port Group
◎	Gemport,Turkey	Yil Port Group
◉	Gothenburg, Sweden	APM Terminals
◉	Grangemouth, UK	MCP

	Terminal Location	Operator
◉	Gunsan, South Korea	KL-NET
◎	Hakata, Japan	MLC
◉	Halifax, Canada	Halterm Canada
◎	Hazira, India	Adani Ports
◉	Hong Kong	Modern Terminals
◉	Houston, TX USA	Port of Houston
◎	Hualien, Taiwan	MPB
◉	Hull, UK	MCP
◉	Immingham, UK	MCP
◉	Itajai, Brazil	APM Terminals
◉	Incheon, South Korea	KL-NET
◎	Iquique, Chile	SAAM
◎	Istanbul, Turkey	TIL
◉	Izmir, Turkey	APM Terminals
◎	Kaohsiung, Taiwan	MPB
◎	Kattupalli, India	Adani Ports
◎	Keelung, Taiwan	MPB
◎	Kobe, Japan	MLC
◉	Kwangyang, South Korea	KL-NET
◉	Lazaro, Mexico	APM Terminals
◎	Leixoes, Portugal	Yil Port Group
◎	Lilia, Estonia	Port of Tallinn
◉	Liverpool, UK	MCP
◉	Los Angeles, CA, USA	APM Terminals
◉	Maasvlakte II, Netherlands	APM Terminals
◎	Manila, Philippines	ICTSI

	Terminal Location	Operator
◎	Marport, Turkey	Marport, Turkey
◎	Marsaxlokk,Malta	Yil Port Group
◉	Melbourne, Australia	Patrick Terminals
◎	Moji, Japan	MLC
◉	Montreal, Canada	MGTP
◉	Mobile, AL USA	APM Terminals
◎	Moin, Costa Rica	APM Terminals
◎	Mumbai, India	APM Terminals
◎	Mundra, India	Adani Ports
◎	Murmugao, India	Adani Ports
◎	Nagoya, Japan	MLC
◉	Napier, NZ	Napier Port Authority
◉	Newcastle, UK	MCP
◎	Norfolk, USA	Virginia International
◉	Onne, Nigeria	APM Terminals
◎	Osaka, Japan	MLC
◎	Oslo, Norway	Yil Port Group
◉	Philadelphia, PA USA	Packer Terminals
◉	Pipavav, India	APM Terminals
◉	Pecem, Brazil	APM Terminals
◉	Pyeongtaek, South Korea	KL-NET
◉	Poti, Georgia	APM Terminals
◉	Pohang, South Korea	KL-NET
◉	Pusan, South Korea	KL-NET
◎	Rotaport,Turkey	Yil Port Group
◉	Rotterdam, Netherlands	APM Terminals

	Terminal Location	Operator
◉	Said, Egypt	APM Terminals
◎	Salalah, Oman	APM Terminals
◎	Santo Antonio, Chile	SAAM
◎	Santos, Brazil	APM Terminals
◎	San Vincente, Chile	SAAM
◉	Singapore, Singapore	PSA
◎	Solventas,Turkey	Yil Port Group
◎	Stockholm Nord, Sweden	Yil Port Group
◎	Suao, Taiwan	MPB
◉	Sydney, Australia	Patrick Terminals
◎	Taichung, Taiwan	MPB
◎	Taipei, Taiwan	MPB
◉	Tangier, Morocco	APM Terminals
◉	Tauranga, NZ	PortConnect
◉	Teesport, UK	MCP
◎	Tuna, India	Adani Ports
◉	Ulsan, South Korea	KL-NET
◉	Valparaiso, Chile	TSP
◉	Valencia, Spain	Port of Valencia
◎	Visakhapatnam, India	JM Baxi
◎	Vizag, India	Adani Ports
◎	Vizhinjam, India	Adani Ports
◎	Yokohama, Japan	MLC

THE TRADELENS PORT AND TERMINAL NETWORK

- Coverage across 6 continents
- 61 ports and terminals directly integrated in to TradeLens
- Data from up to 600 ports and terminals captured by existing TradeLens members

- Ports and terminals directly integrated with TradeLens
- Ports and terminals contributing data to TradeLens

Interactive map of TradeLens port and terminal network:

https://www.tradelens.com/ecosystem/

MORE INFORMATION

JOINING TRADELENS

+ TradeLens is available today for both TradeLens Clients and Network Members
+ **TradeLens Clients** can get up and running quickly and gain access to share trade documents and near real-time, high-fidelity shipping milestones across parties via the TradeLens web app or by consuming and publishing data via API
+ **Network Members** provide data, and can get access to data, according to the published TradeLens Data Sharing Specification

Interested participants should contact their local IBM or Maersk sales representatives

TRADELENS ONLINE

+ Visit us at www.tradelens.com for more information
+ If you would like to get in contact, please provide your details here

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