

TRADELENS OVERVIEW

September 2019

TRUST AND TRANSPARENCY ON GLOBAL SUPPLY CHAIN

**FIRST OF ALL, LET'S TALK
ABOUT DATA, ANALYTICS &
ARTIFICIAL INTELLIGENCE
VALUE...**

McKinsey
Global
Institute on
Artificial
Intelligence

May 2019

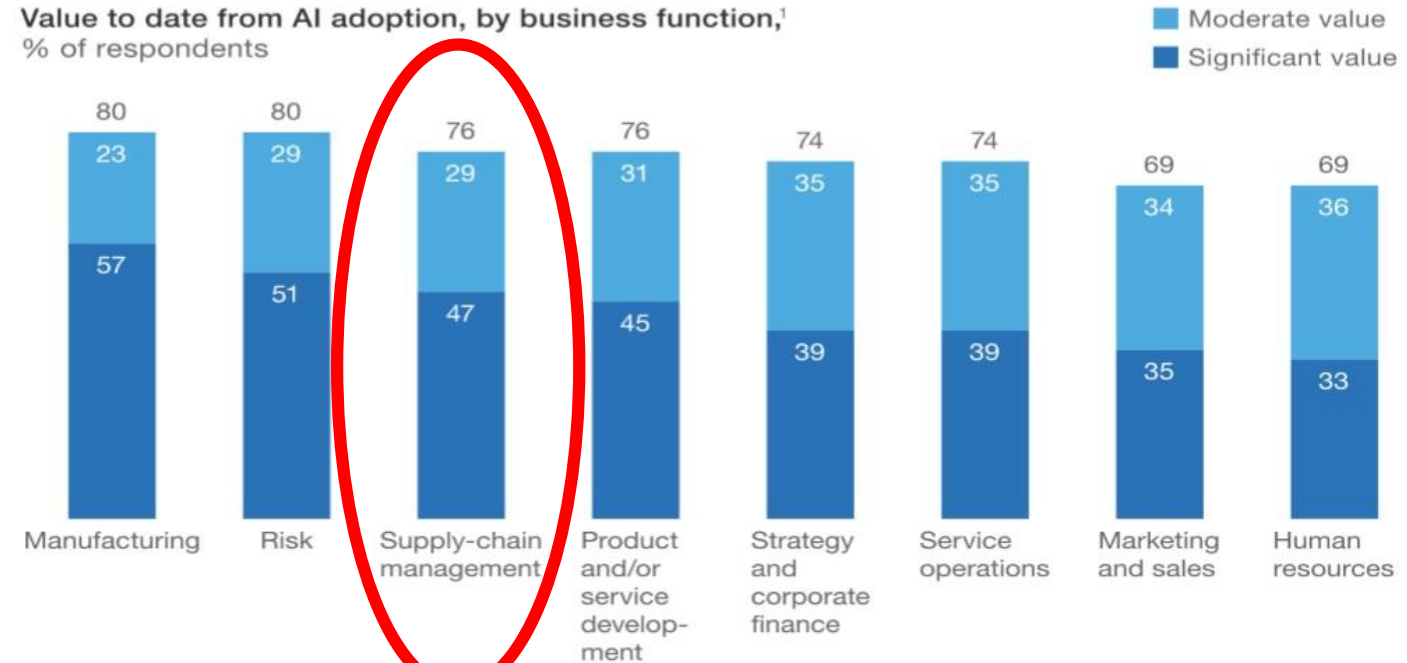
McKinsey
Quarterly

The right digital-platform strategy

Many incumbents are starting to build their own platforms or to forge ties with others. The penalty for not playing may be steep.

Across functions, respondents report that the most **significant benefits** come from adopting AI in manufacturing and in risk.

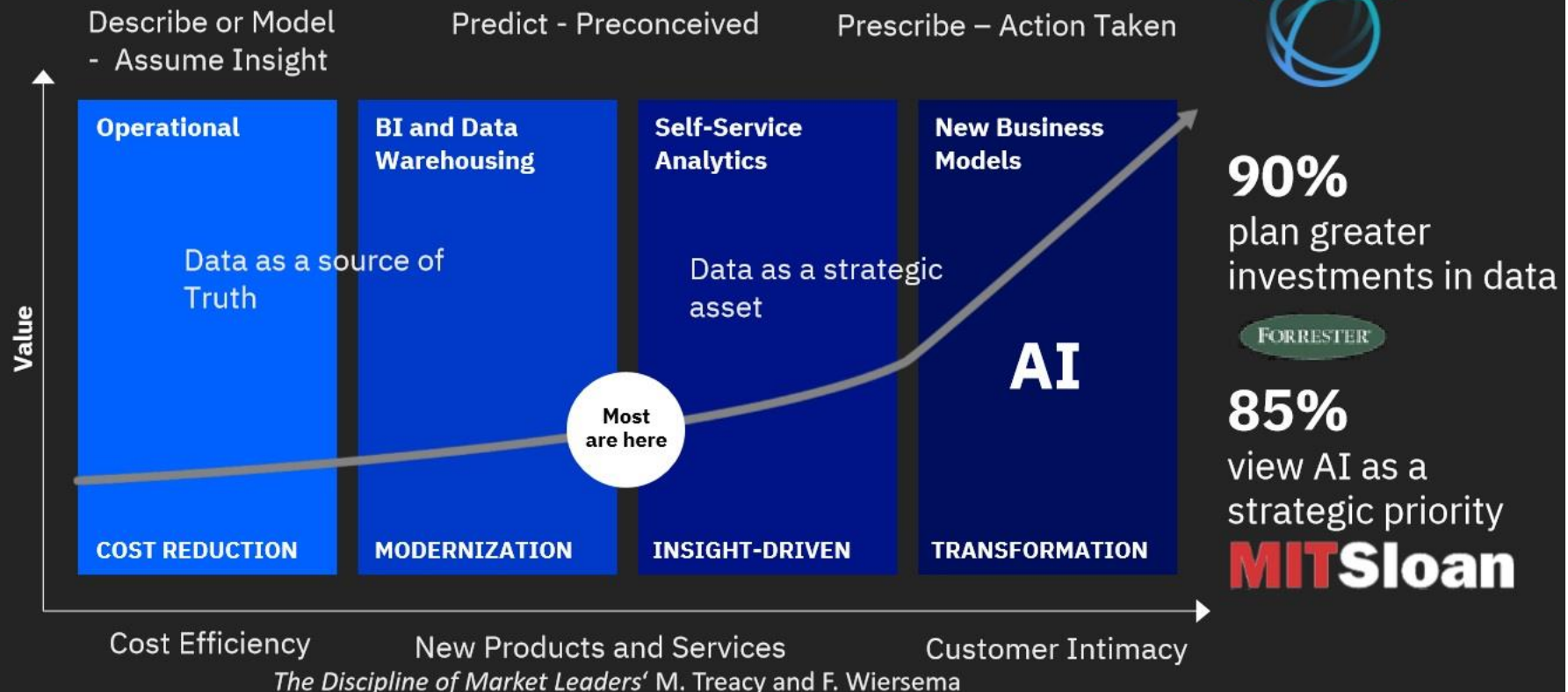
Value to date from AI adoption, by business function,¹
% of respondents



¹Respondents who answered "some value," "no value," or "don't know" are not shown. This question was asked only about the business functions where respondents say their organizations have deployed AI, and only includes responses from respondents who say their organizations have piloted or embedded AI in 1 or more functions or business units. For manufacturing, n = 272; for risk, n = 285; for supply-chain management, n = 299; for product and/or service development, n = 536; for strategy and corporate finance, n = 155; for service operations, n = 669; for marketing and sales, n = 482; and for human resources, n = 198.

McKinsey&Company

Enterprises have declared their data and the journey to AI top priorities



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

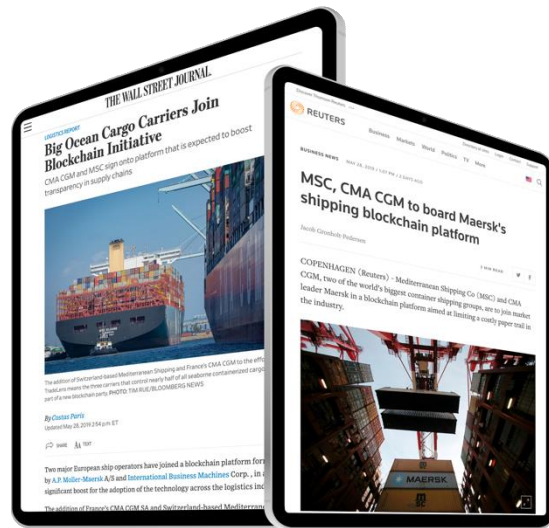
CONSUMERS USE DAILY ARE CARRIED BY THE OCEAN SHIPPING INDUSTRY



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

Ocean carrier additions:
CMA and MSC join

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. Five of the
largest six carriers now plan to be on the
TradeLens platform by the end of 2019.

[Read more](#)

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

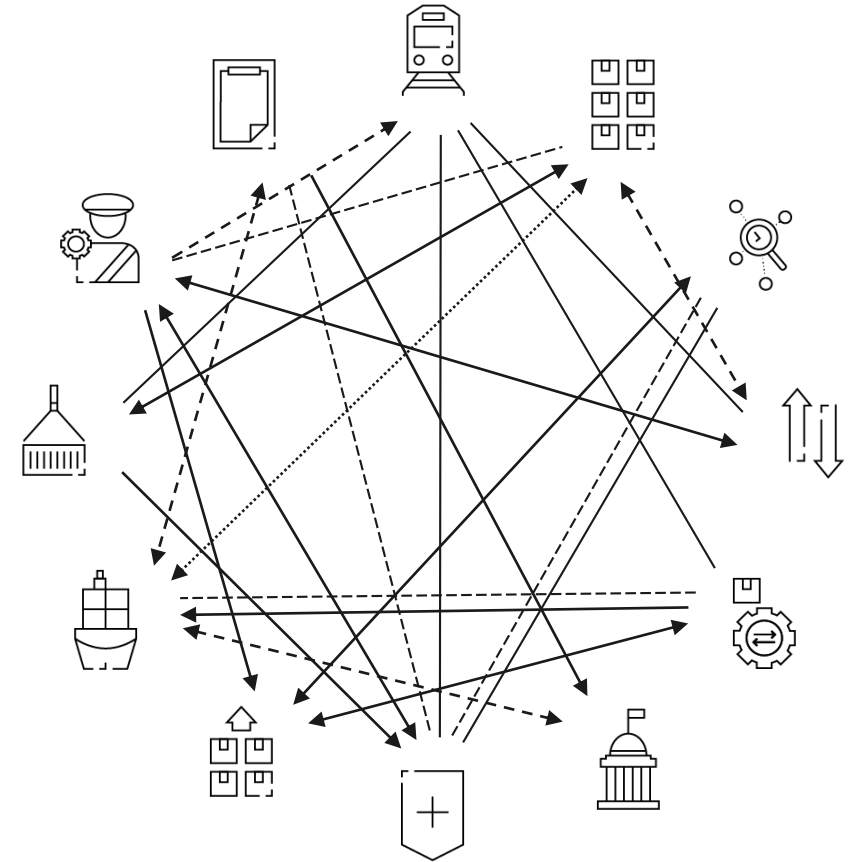
The collection and processing of up-to-date data, as well as inefficient trade document exchange, requires manual checks and frequent follow-ups and results in errors, delays and high compliance costs. Late filings are common due to missing information.

+ 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 near 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.



OUR MISSION

DIGITIZE THE GLOBAL SUPPLY CHAIN

+ Connect the ecosystem

Bring together all parties in the supply chain - including shippers, freight forwarders, intermodal operators, ports and terminals, ocean carriers, customs and other government authorities, and others - onto a blockchain-based platform with a secure permission and identity framework.

+ Drive true information sharing

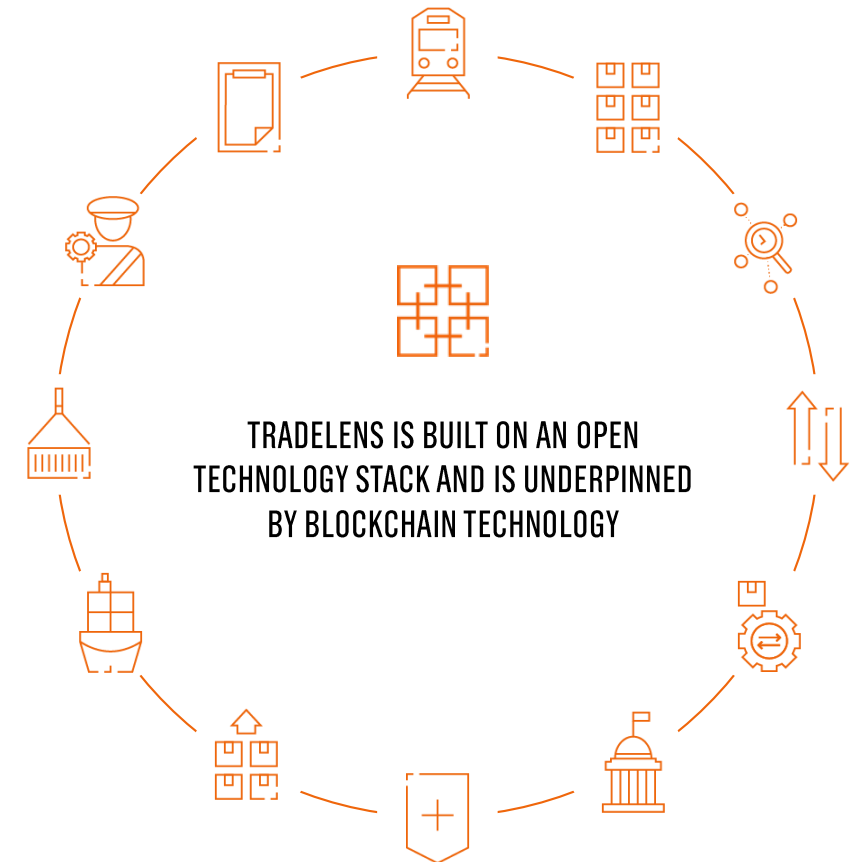
Provide for the seamless, secure sharing of near real-time, actionable supply chain information across all parties to a trade - encompassing shipping milestones, cargo details, trade documents, the structured data embedded in trade documents, customs filings, sensor readings, and more.

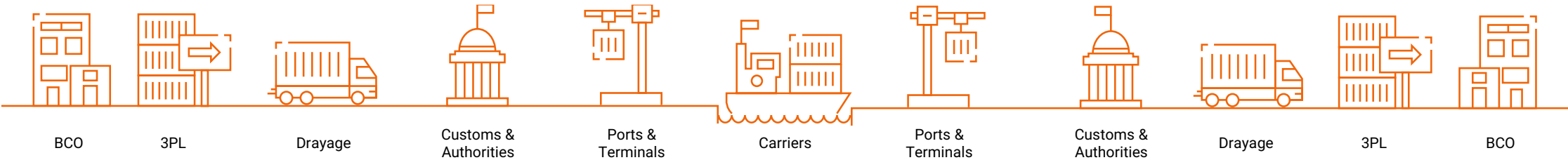
+ Foster collaboration and trust

Enable 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.

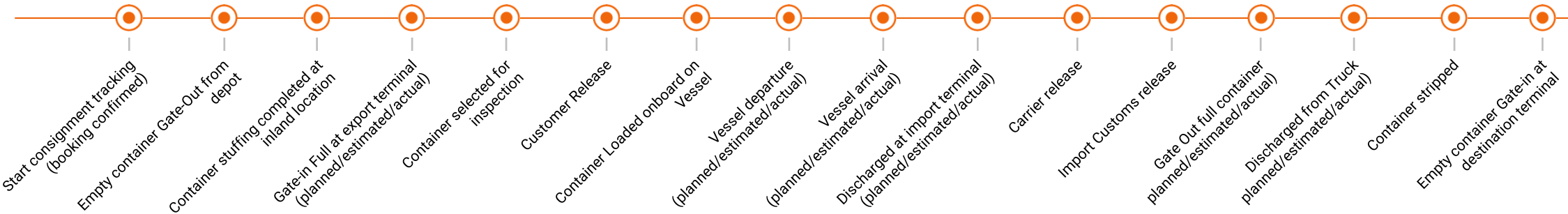
+ Spur innovation

Lay the foundation for ongoing improvement and innovation through an open, publicly -available API, the use of standards and promotion of interoperability, and the launch of an Application Marketplace that parties can use to build and deploy TradeLens-powered applications for themselves, their partners, and their customers





SHIPPING MILESTONES AND SHIPMENT DATA*



STRUCTURED AND UNSTRUCTURED DOCUMENTS*



TRADELENS BLOCKCHAIN BUSINESS NETWORK



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

THE TRADELENS ECOSYSTEM

ECOSYSTEM PARTICIPANTS

NETWORK MEMBERS



Ocean Carriers / NVOCCs

Provide the transportation plan, information about the status of shipments across the ocean leg, and critical documents such as the BoL; access end-to-end supply chain data in near 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 near real-time information to enrich port collaboration and improve terminal planning



Intermodal Operators

Provide transportation plans and information on the disposition of shipments carried on trucks, rail, barges, etc.; improve planning and utilization of assets given near 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

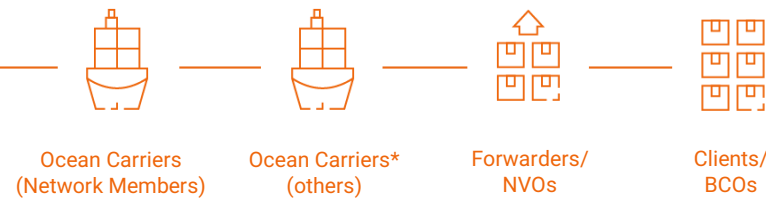
Engage with the platform as a consumer of supply chain information for a variety of trade finance, insurance, and other purposes to reduce the risk of fraud and increase speed and flexibility to customers

ECOSYSTEM DATA

Foundational data

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

- + Projected 48% of global container shipping volume
- + Vast number of trade lanes covered
- + **20+ Million containers per year today**



Enrichment data

Supplements foundational data, in near 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

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 via carriers to TradeLens

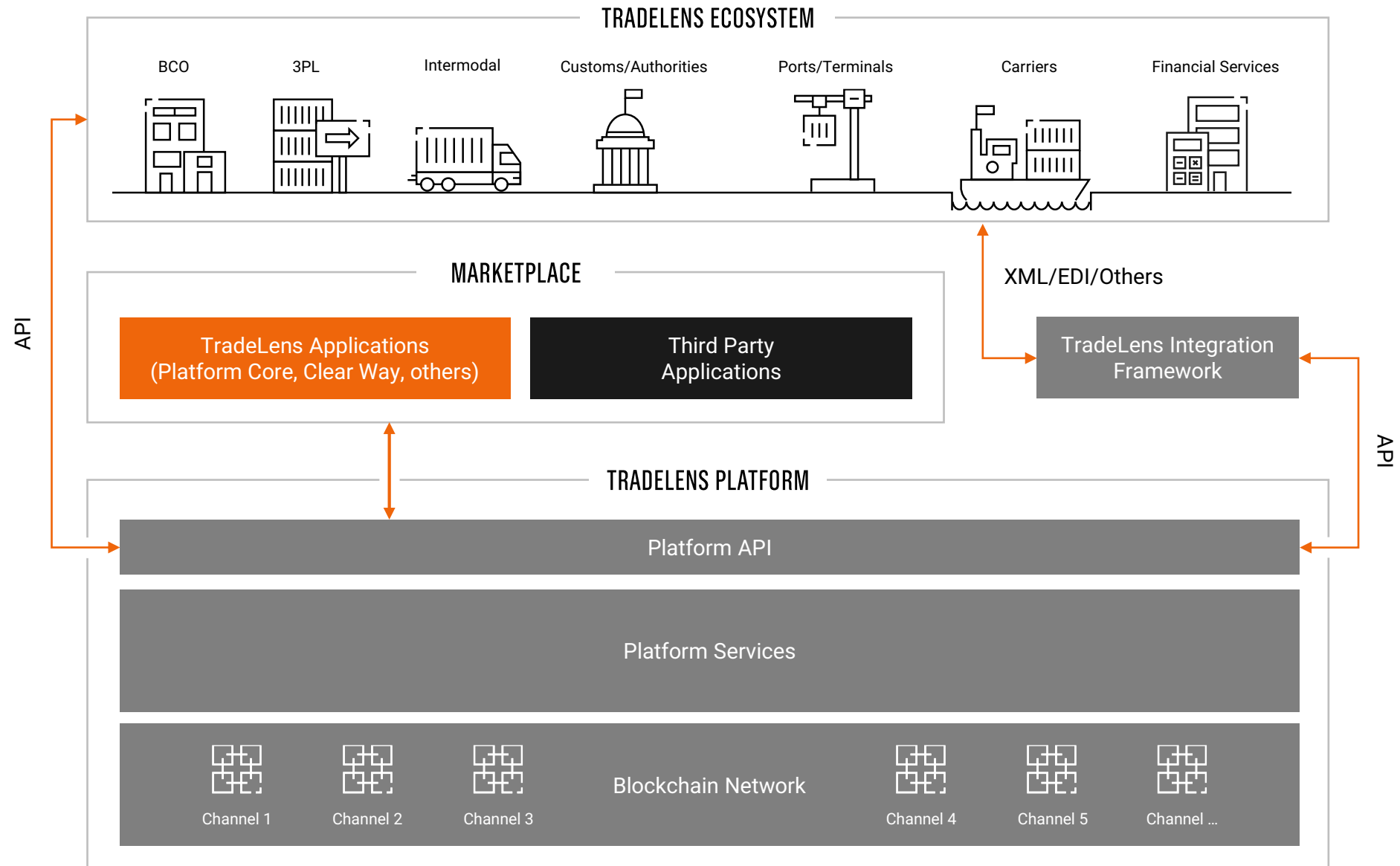
Interactive map of TradeLens port and terminal network:

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



THE TRADELENS PLATFORM

SOLUTION ARCHITECTURE



THE TRADELENS MARKETPLACE

PLATFORM CORE OFFERING

PLATFORM CORE

Platform Core enables the broad sharing of supply chain data including trade documents across permissioned parties in the TradeLens ecosystem.



Shipment milestone visibility

TradeLens provides a near real-time publish and subscribe mechanism for exchanging milestone data and shipping documents between the entities that are involved in the shipment. Access more than 120 shipment event types, communicated directly from the source, including document updates and planned, estimated and actual transport milestones.



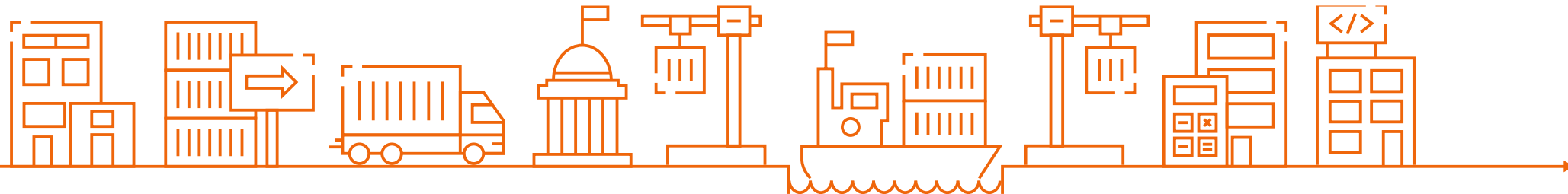
Sharable documents

TradeLens provides a framework for sharing documents among trade parties, with security, version control, and privacy. Authorized users with the required permissions can upload, download, view and edit documents. The TradeLens document store allows documents to be securely stored, viewed, and actioned by various parties to a shipment.

SHIPPING MILESTONE VISIBILITY

Data that are precise and accessible to all parties help shipments move faster. TradeLens provides a near real-time publish and subscribe mechanism for exchanging milestone data and shipping documents between the entities that are involved in the shipment.

Importers and exporters who use TradeLens can easily determine the status of their shipments through the Shipment Manager user-interface (see more below) or by subscribing to an event feed and integrating TradeLens data into their existing systems.



Shipment-level search

TradeLens allows you to find a shipment or container using a range of parameters, including booking, equipment or bill of lading numbers. The search results provide a detailed record of the shipment.

Transport planning

Access more than 120 shipment event types, communicated directly from the source, including document updates and planned, estimated and actual transport milestones.

Permissioned access

TradeLens ensures flexibility and control over who can view, publish and subscribe to shipment-specific data. Shipment milestones and documents are only accessible to authorized parties.

THE SHIPMENT MANAGER USER INTERFACE

TradeLens can be accessed via the web without integration. Users can engage with essential platform features including the search and track functions and document access through a secure SSO web app.

Consignments can be identified by booking, equipment, bill of lading and client reference numbers.

View shipping events, documents and transportation plan.

Events are sourced directly from carriers, ports, terminals and other parties to the shipment.

The screenshot shows the 'TRADELENS' header with navigation links: Consignments, Subscription Management, and Account. Below the header, it says '3127413 CONSIGNMENTS FOUND' with a tip: 'Select a consignment below to see its transport equipment activity. Tip: Add a "*" at the start and/or the end of your input to see a close match.' The 'FILTER OR SEARCH BY' section has radio buttons for 'Booking Number' (selected), 'Bill of Lading Number', 'Equipment Number', and 'Delegation ID'. There is a text input field 'Enter Booking Number' and a 'SEARCH' button. Below this are 'RESET FILTERS' and 'Filter by' dropdowns for 'Country or Port', 'Reference #'s or Codes', and 'Date'. A pagination bar shows 'Previous', '1', and 'Next'. Two consignment cards are visible. The first card for '582232320' shows Origin 'DEHAM Hamburg, HH, DE' and Destination 'INNSA Nhava Sheva (Jawaharlal Nehru), MH, IN'. It includes fields for CBN (582232320), Consignment References (9MAN013638/MAGYA920E/DEH...), and HS Code (n/a). The second card for '711898767' shows Origin 'ITSPE La Spezia, SP, IT' and Destination 'GALBV Libreville, GA'.

A single, secure, simplified view across all shipments in the supply chain

The screenshot shows the 'TRADELENS' header with navigation links: Consignments, User Management, Subscription Management, and Account. Below the header, it says 'EVENTS AND ADDITIONAL INFORMATION' with a sub-header 'See container details below.' and a 'RETURN TO CONSIGNMENT' button. The main section displays details for container 'C7689JHKLOP7'. It includes Origin 'INPNQ' and Destination 'BEANR'. Below this are four boxes: 'Carrier Booking Number C7689JHKLOP7', 'terminals INPNQ-APMT', 'Commodity Description Paper', and 'Transport Equipment Details 1 x 45G1'. The 'EVENTS' section has a 'FILTER BY' dropdown set to 'Transport Plan' and buttons for 'Latest Events' and 'All Events'. An 'EVENT KEY' shows 'PLANNED' (blue), 'ACTUAL' (orange), and 'LATEST' (grey). A note states 'Times reflected are local times of the event occurrence location'. Two event cards are shown. The first card for 'BEANR Antwerpen, BE' shows 'Planned Arrival: Apr 6, 2019, 6:50:00 AM'. The second card for 'INPNQ Pune, MH, IN' shows 'Planned vessel departure: Mar 27, 2019, 12:00:00 PM'.

120 plus standardized events published from the source.

Near real-time events directly from the source are instantly visible to all parties to a consignment.

DIGITIZED DOCUMENTS

TradeLens provides a framework for sharing documents among trade parties, with security, version control, and privacy. Authorized users with the required permissions can upload, download, view and edit documents. The TradeLens document store allows documents to be securely stored and viewed by various parties to a shipment.

Digitized document benefits

+ Trade documents are associated with containers, and consignments in a distributed and shared repository, eliminating endless file, folder and email searching for information.

+ TradeLens supports the use of structured documents. The information they contain can be easily analyzed and interpreted, allowing for greater automation and accuracy.

+ Each time a document is edited or uploaded to the TradeLens platform, a new version of the document is created and added to the document store, eliminating multiple copies and the inconsistency of identifying the latest versions.

+ TradeLens uses the Hyperledger Fabric permissioned blockchain to guarantee the immutability and traceability of trade documents.

+ Participants assigned to the consignment have default access rights based on a unified permissions model

+ Network participants assigned to a consignment can immediately access shared documents and data, never having to wait for a document to be sent.

DOCUMENTS SUPPORTED ON THE PLATFORM

- + Sea Waybill*
- + Commercial Invoice *
- + Packing List *
- + Booking Request
- + Booking Confirmation
- + Shipping Instructions
- + Export Declaration
- + Bill of Lading
- + Pro-Forma Invoice
- + Arrival Notice
- + Import Declaration
- + Health Certificate
- + Phytosanitary Certificate
- + Veterinary Certificate
- + Fumigation Certificate
- + Inspection Certificate
- + Certificate of Analysis
- + Certificate of Origin
- + Dangerous Goods Declaration

* Structured support

DATA SHARING

TradeLens permissions are determined through a combination of the organization's role and the data type. The TradeLens platform then permits access to data according to the permission matrix.

The full Data Sharing Specification is available at [here](#)

	Transport Service Buyer	Consignor	Consignee	Origin 3PL Agent	Destination 3PL Agent	Export Customs Broker	Import Customs Broker	Request Party	Notify Party	Transport Service Provider	Origin Marine Terminal	• • •
Events												
Planned stuffing start	○	●	○	●	○	○	○	○	○	○	●	
Planned stuffing completed	○	●	○	●	○	○	○	○	○	○	●	
Actual loaded on truck	○	○	○	●	●	○	○	○	○	●	○	
Estimated gate out	○	○	○	●	●	○	○	○	○	●	●	
Actual gate in	○	○	○	●	●	○	○	○	○	●	●	
• • •												
Documents												
Booking Confirmation	○	○	○	○	○	○	○	○	○	●	○	
Shipping Instructions	○	●	○	○	○	○	○	●	○	○	○	
Bill of Lading	○	○	○	○	○	○	○	○	○	●	○	
Sea Waybill	○	○	○	○	○	○	○	○	○	●	○	
House Bill of Lading	○	○	○	●	○	○	○	○	○	●	○	
• • •												



Participant has an obligation to provide (publish) the data, where relevant/applicable



Participant has read access (can subscribe) to the data



Participant has no access to the data

THANK YOU!!!

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