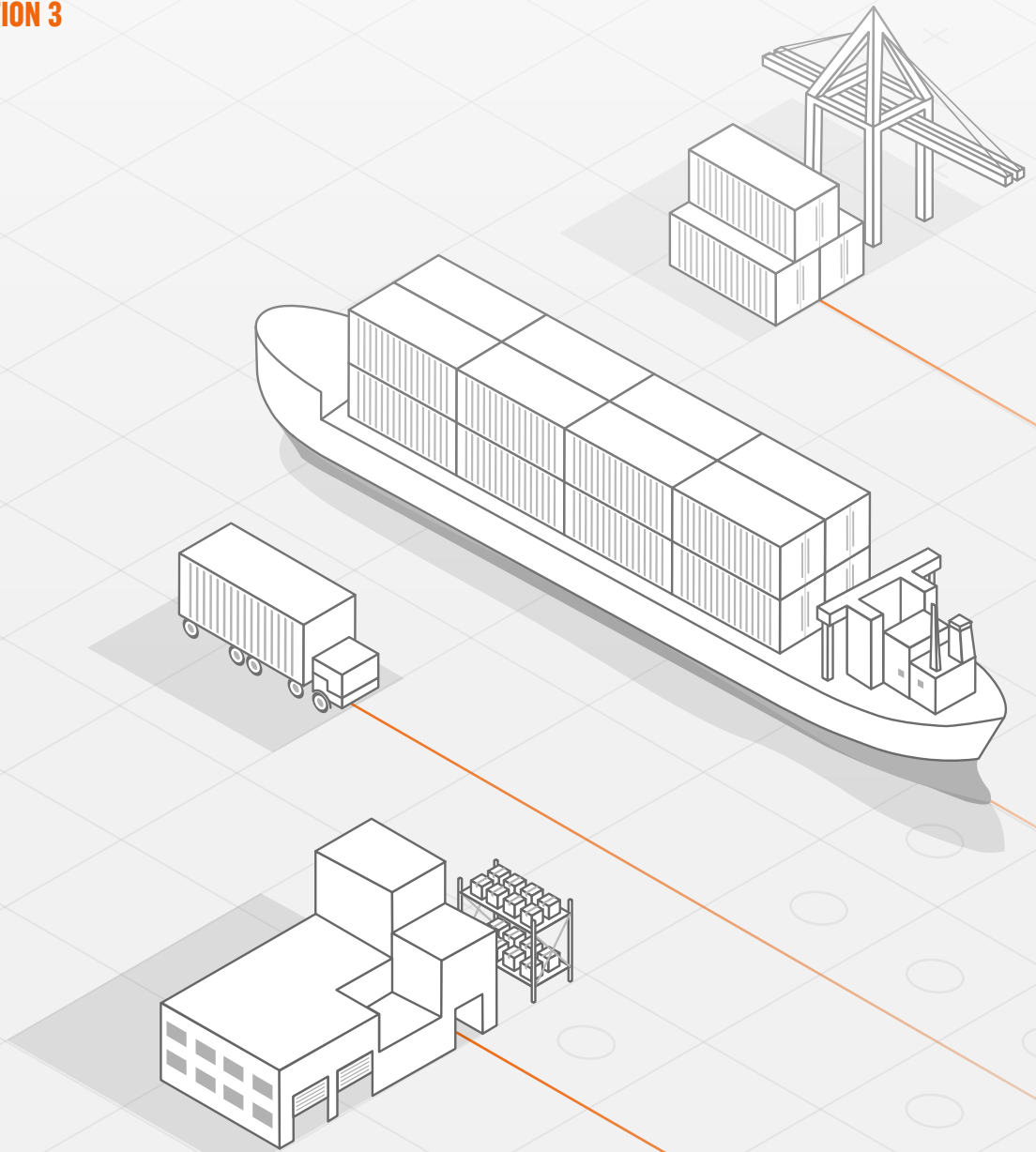




SOLUTION BRIEF

EDITION 3



CONTENTS

1	WHAT IS TRADELENS?	p01
1.1	OUR OBJECTIVES	p02
1.2	OUR COLLABORATIVE APPROACH	p02
2	THE TRADELENS SOLUTION	p03
2.1	TRADELENS ECOSYSTEM	p04
2.2	TRADELENS PLATFORM	p06
2.3	TRADELENS MARKETPLACE	p12
2.4	 TRADELENS CORE	p13
2.5	 TRADELENS eBL	p16
3	JOIN TRADELENS TODAY	p17



WHAT IS TRADELENS?

TradeLens is an open and neutral supply chain platform underpinned by blockchain technology. We are enabling true information sharing and collaboration across supply chains, thereby increasing industry innovation, reducing trade friction and—ultimately—promoting more global trade.

By embracing open standards and interoperability, fostering trust across the ecosystem, and encouraging broad-based participation, 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.

TradeLens data is published directly from the source so the right people can securely manage their supply chain in real-time. TradeLens breaks down longstanding data and processing silos that exist among trading partners and simplifies the flow of documentation that accompanies every shipment.

TradeLens was developed in collaboration between GTD Solution and IBM, supported by major players across the industry.

TRADELENS OBJECTIVES

+ **Connecting the ecosystem**

TradeLens brings together all parties in the supply chain—including beneficial cargo owners, freight forwarders, inland transportation providers including rail and trucking, ports and terminals, ocean carriers, customs and other government authorities—onto a single, secure data-sharing and collaboration platform.

+ **Driving true information sharing**

TradeLens provides seamless, secure sharing of real-time, actionable supply chain information across all parties—encompassing shipping milestones, cargo details, trade documents, sensor readings and more—thereby empowering the consumers to mitigate problems through predictability and exception handling.

+ **Foster collaboration and trust**

TradeLens enables the digitization and automation of cross-organizational business processes integral to global trade, while—thanks to blockchain—ensuring critical transaction information is secure, immutable and auditable.

+ **Spur innovation**

TradeLens lays the foundation for ongoing improvement and innovation through an open API environment, the use of standards and promotion of interoperability. The TradeLens Marketplace will allow third parties to build and deploy applications on the TradeLens platform.

FOUNDED ON COLLABORATION

TradeLens was founded on the understanding that collaboration between both traditional and emerging partners in global trade—creates opportunities for innovation, efficiency, and growth.

It was in this spirit that IBM and GTD Solution came together as equal partners to co-lead the development of TradeLens.

A TradeLens advisory board is being formed to shape the development of the TradeLens platform.

It is important to note that TradeLens is not a company. It is an industry solution built on a model of transparency with benefits for all members of the ecosystem.

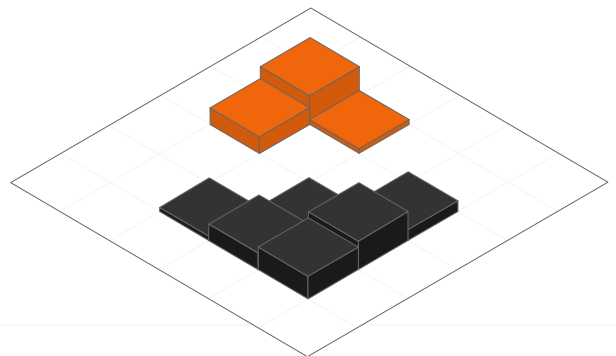
THE TRADELENS SOLUTION

TradeLens can be understood in three components: The Ecosystem, the Platform, and the Applications and Services Marketplace. Each part plays a distinct role in allowing TradeLens members to derive the most value for their businesses.

p12

THE MARKETPLACE

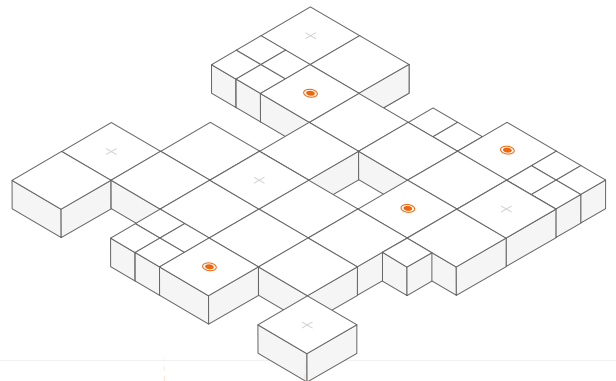
An open Applications and Services Marketplace allows both TradeLens and third parties to publish fit-for-purpose services atop the TradeLens platform, fostering supply chain innovation and value creation.



p06

THE PLATFORM

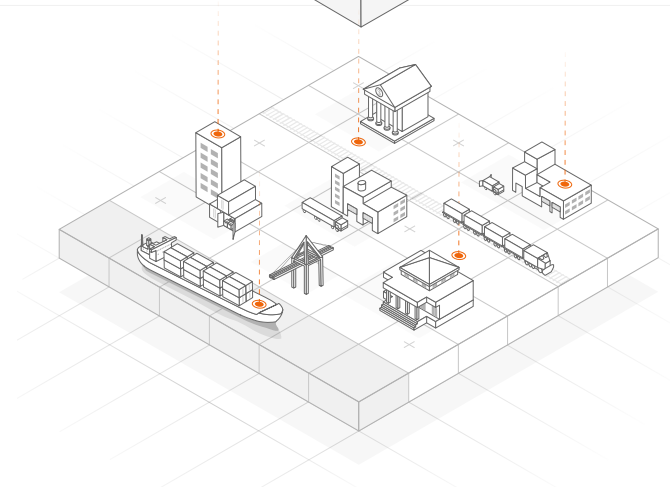
The TradeLens Platform is accessible via an open API and brings together the ecosystem through a set of open standards. Powered by Hyperledger Fabric blockchain technology and IBM Cloud, the platform enables the industry to share information and collaborate securely.

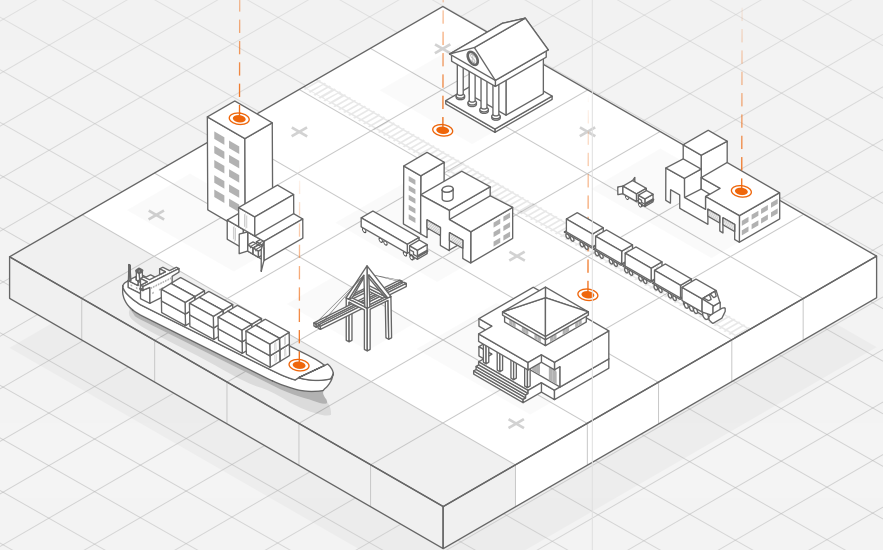


p04

THE ECOSYSTEM

The foundation of TradeLens is its business network: shippers, freight forwarders, ports and terminals, ocean carriers, government authorities, customs brokers and more. Each entity shares information that can be tracked, stored and actioned across the platform throughout a shipment's journey.



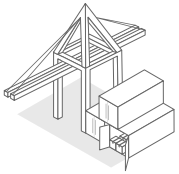


THE ECOSYSTEM

The foundation of TradeLens is its global supply-chain ecosystem made up of shippers, freight forwarders, terminal operators, ocean carriers, intermodal operators, government authorities, customs brokers, financial services, and more.

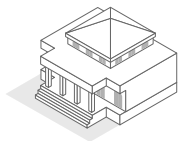
Every year, TradeLens shares over one billion shipping events and enables collaboration on more than 10 million documents, expediting decision-making and reducing administrative friction in trade.

TRADELENS BENEFITS TO THE ECOSYSTEM



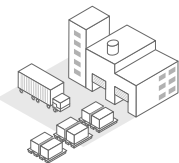
Ports/Terminal Operators

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.



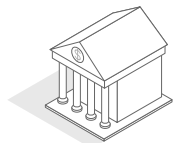
Government Authorities

More informed risk assessments, better information sharing, less manual paperwork, and more available connections to national single window platforms.



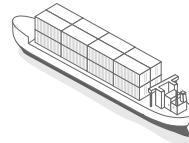
Shippers and Beneficial Cargo Owners

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.



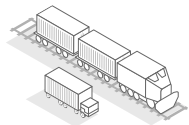
Financial Services

Access a definitive source of critical trade data to help automate manual verification processes, drive transparency, simplify compliance and streamline processing and settlement.



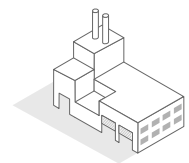
Ocean Carriers

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.



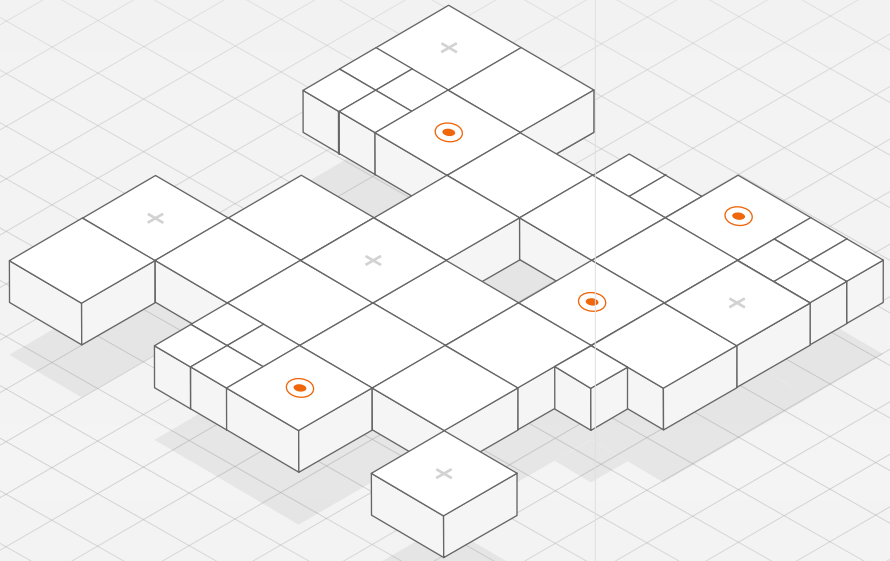
Intermodal Operators

Improved planning and utilization of assets given real-time access to end-to-end supply chain events for shipments.



Freight Forwarders and 3PLs

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 the effectiveness of track-and-trace tools.



THE PLATFORM

Powered by IBM Cloud and IBM Blockchain, the TradeLens Platform provides every entity involved in global trade with the digital tools to share information and collaborate securely.

Today the TradeLens platform is securely sharing millions of shipment events and documents with permissioned parties across six continents, helping to reduce friction and expedite trade.

PLATFORM FEATURES

PERMISSIONING	p07
BLOCKCHAIN	p08
STANDARDS	p09
SECURITY	p10
OPEN APIs	p11

01 | 05

PERMISSIONING

At the heart of the platform is a sophisticated permissions-based system that allows parties to view, edit and use data.

+ STRICT AND SECURE

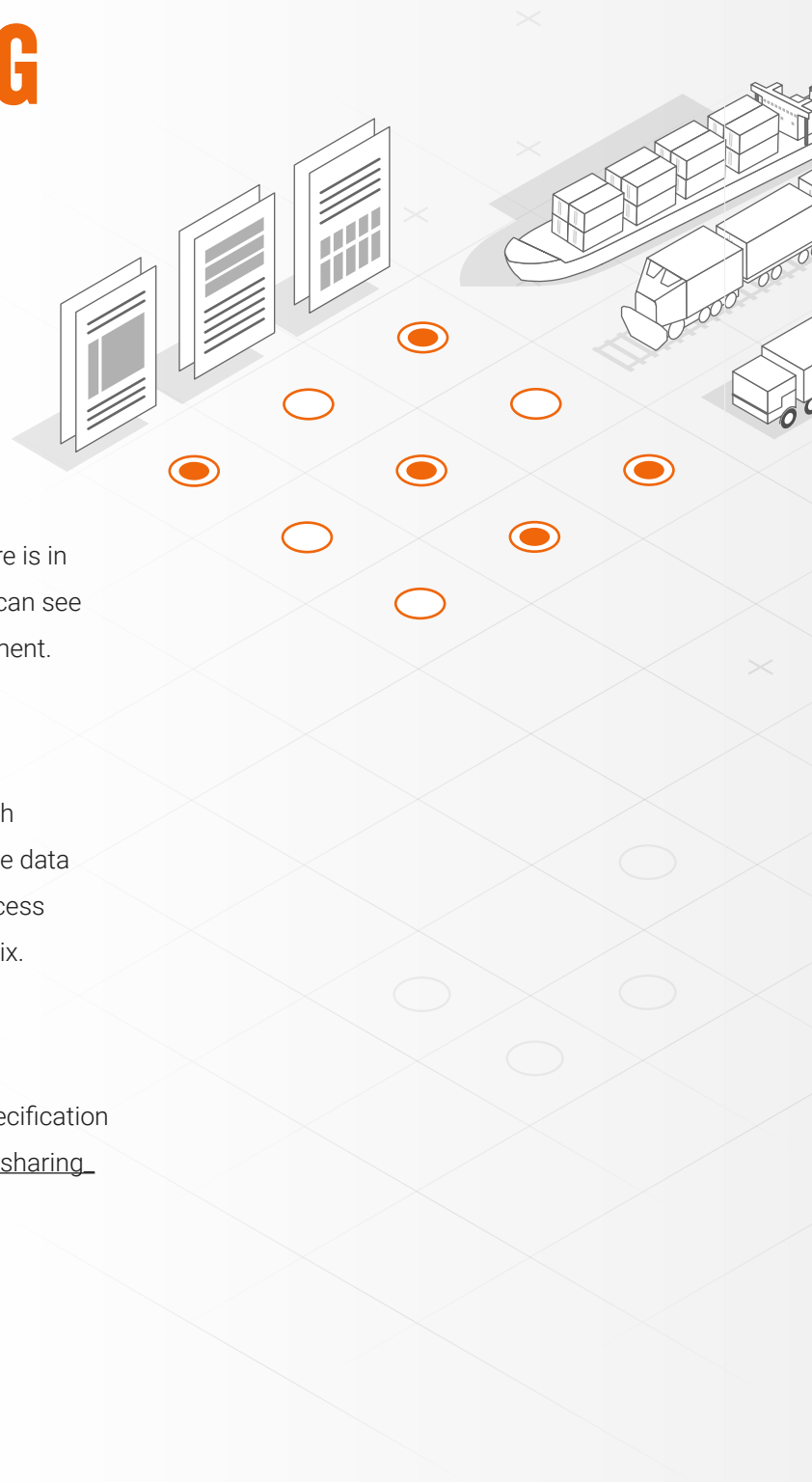
A strict and highly secure permissions structure is in place that ensures only the necessary parties can see specific types of information related to a shipment.

+ PERMISSION MATRIX

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 a unified permission matrix.

+ DATA SHARING SPECIFICATION

View the complete TradeLens data sharing specification at https://docs.tradelens.com/reference/data_sharing_specification/



02 | 05

BLOCKCHAIN

The value of TradeLens arises from ecosystem members sharing information on the platform. Blockchain is the technology that secures that data and makes trusted collaboration possible.

+ PERMISSIONED BLOCKCHAIN

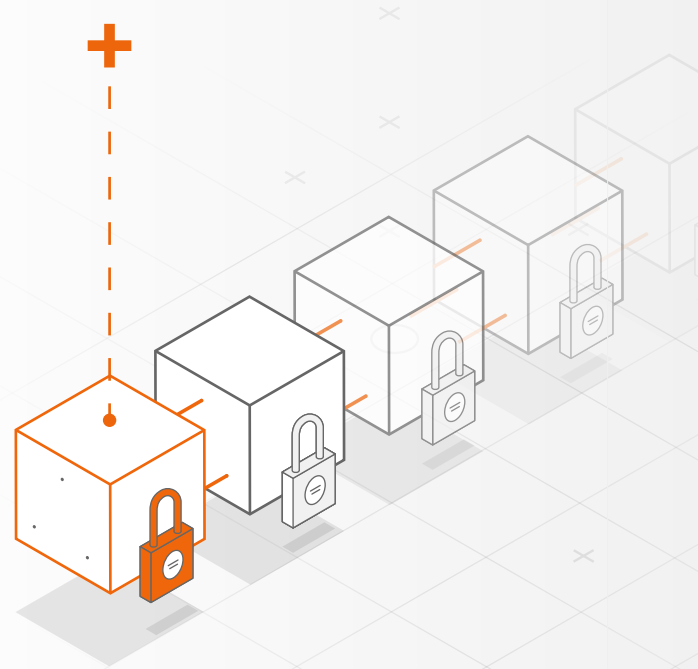
TradeLens uses the IBM Blockchain Platform which is based on Hyperledger Fabric, an open-source permissioned blockchain.

+ PRIVACY AND IMMUTABILITY

TradeLens uses a permissioned blockchain to offer immutability, privacy, and traceability of shipping documents.

+ A TRUSTED NETWORK

Unlike open, anonymous blockchains like those used for cryptocurrencies, on the TradeLens blockchain, members are "Trust Anchors" and known to the network based on cryptographic identities.



03 | 05

STANDARDS

TradeLens provides a way for all permissioned participants to collaborate with and extract value from the TradeLens ecosystem. TradeLens is committed to the promotion and adoption of standards and interoperability of platforms.

+ INTEROPERABILITY AND STANDARDS

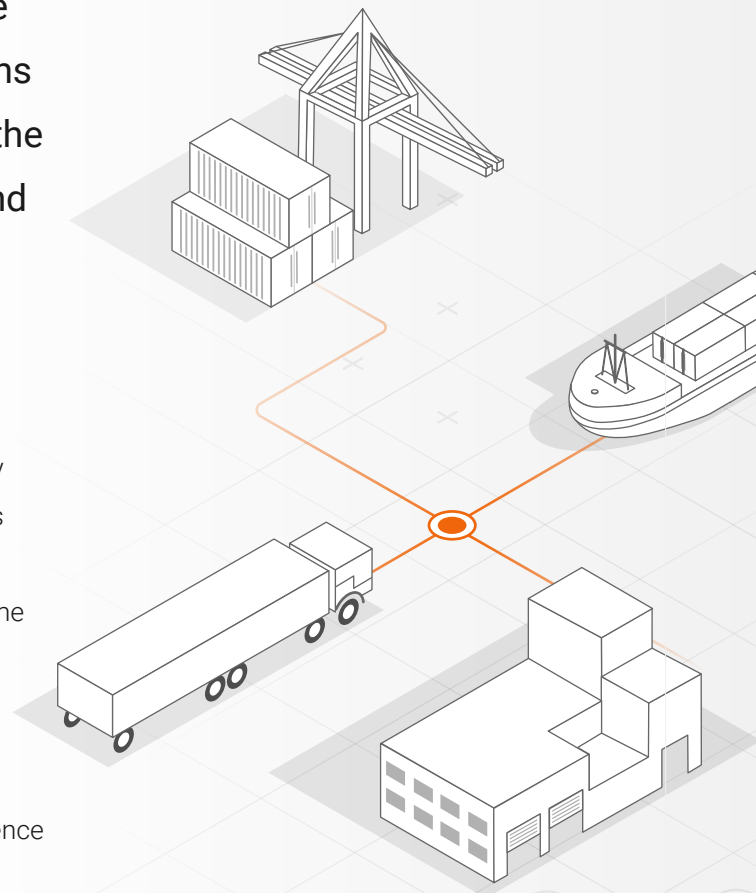
TradeLens is a neutral platform that is available to any party to a shipment, anywhere in the world. TradeLens is committed to standards and interoperability: The platform uses a data model and access control scheme aligned with UN/CEFACT.

+ THE DATA MODEL

The TradeLens platform uses the Supply Chain Reference Data Model from UN/CEFACT, which defines three interrelated “objects” as the basic units of global trade: Shipments, Consignments, and Transport Equipment.

+ OPEN APIS

We’re committed to helping to shape the future of standards through our participation: We share our APIs to support industry interoperability.



04 | 05

SECURITY

TradeLens is built with the comprehensive security capabilities of a mission-critical platform handling data for Fortune 500 clients.

+ PERMISSIONED ACCESS

Critical shipping data and information about a shipment are accessible only to permissioned parties.

+ DOCUMENTS HASHED TO BLOCKCHAIN

Hashes of critical documents are published to the TradeLens blockchain for immutability and transparency.

+ ENTERPRISE-GRADE SECURITY

The TradeLens platform has been developed with comprehensive security measures in place to prevent intrusion and other threats. The TradeLens platform is accredited with the ISO27001 IT security certification.



05 | 05

OPEN APIs

TradeLens integrates with users' in-house systems via non-proprietary, publicly available APIs that are designed for ease of set-up and use.

+ SHARE AND USE REAL-TIME DATA

Open APIs enable real-time data transfer between supply chain participants via publish, subscribe, query and doc share functions.

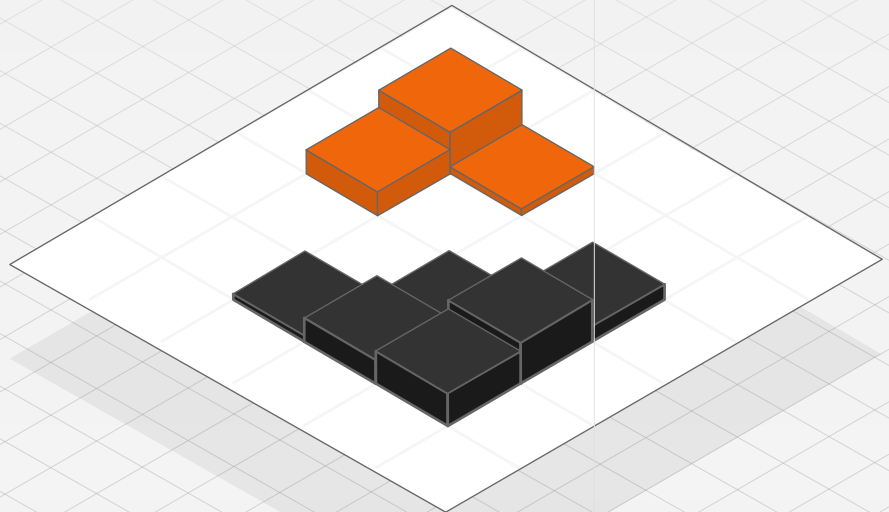
+ REDUCE EDI COSTS

Reduce EDI maintenance costs with a family of open-standard APIs for real-time data transfer between supply chain partners.

+ UNLOCK CREATIVITY

Spur innovation at all levels of your IT division by unlocking creative energies formerly locked up in EDI set-up and operation.





THE MARKETPLACE

The TradeLens Marketplace accelerates supply chain innovation and value creation by offering apps and services developed by TradeLens and third parties that interact with the platform and leverage the power of ecosystem data.

TradeLens also provides the technical and organizational foundation to enable anyone to build and deploy applications and services to support fellow ecosystem members.

TRADELENS PARTNER PROGRAM: INNOVATE WITH US

Are you a software developer or systems integrator?

Do you work with supply chain management teams already?

Grow your business by connecting to a supply chain and logistics ecosystem that spans the globe and is being adopted by major industry operators. If this sounds like an opportunity for you, TradeLens is now soliciting interest from partners.



TRADELENS CORE



GET THE DIGITAL FREIGHT-MANAGEMENT TOOLS YOU NEED TO RUN A MODERN SUPPLY CHAIN

TradeLens Core strengthens your operations with true end-to-end visibility of containerized freight and powerful trade document collaboration tools for you and your partners.



BUILD YOUR BUSINESS ON TRUE END-TO-END VISIBILITY

Move beyond disjointed status updates and poor data quality. With TradeLens Core, visibility data is rich with meaning, shared directly from the source, made available in real time, and manageable digitally.

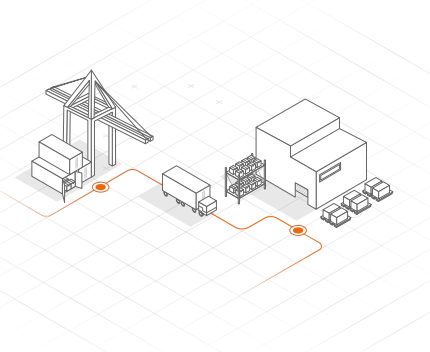


COLLABORATE WITH YOUR PARTNERS SECURELY

Accelerate your workflows with document tools that let you work on the same page as your trade partners. Bring your supply chain ecosystem on TradeLens Core to ensure all actions can be tracked, visible and executed in an instant.



TRADELENS CORE | FEATURES

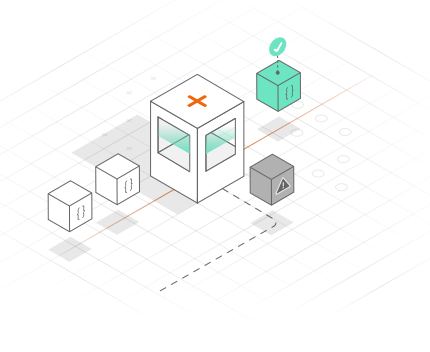


TRANSPORT INSIGHT

Dynamically manage all your shipments across the ecosystem

TradeLens Core lets you bring your key supply-chain partners onto the TradeLens platform with you, so that together, you can move your supply chain forward with success.

- + Link discrete shipment segments
- + Rely on actionable estimates
- + Get updated when changes occur
- + Rely on a STANDARD data-model
- + Avoid confusion during split bookings
- + Understand what's really happening

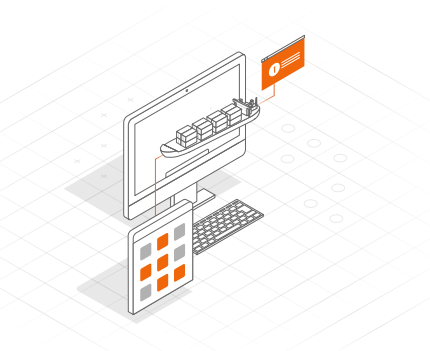


CONTINUOUS DATA IMPROVEMENT

Increase your data accuracy, consistency and reliability

TradeLens is driving data validation through standards, proactive data monitoring and issue-detection, and by facilitating a feedback loop across all parties.

- + Built on digital standards
- + Take action quickly
- + Rely on proactive detection
- + Flag data issues for the publisher
- + Commit to a virtuous cycle
- + Co-create a better supply-chain

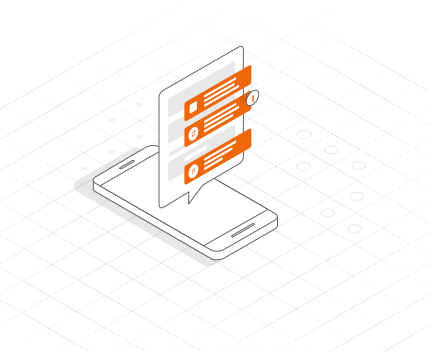


SHIPMENT MANAGER

Access your shipment data quickly and easily online

TradeLens Core Shipment Manager gives you easy online access to TradeLens ecosystem data so you can effectively manage a modern supply chain without costly set-ups..

- + Get started right away
- + A simple, secure point of access
- + View associated documents
- + React fast and save time
- + Quickly assess shipment status
- + Connect to a global ecosystem



NOTIFICATIONS

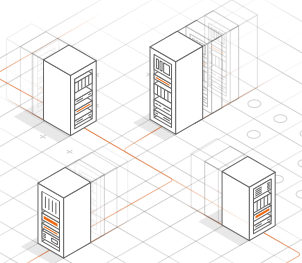
React faster with finely tuned shipping notifications

With TradeLens Core, you can set notifications for your critical shipping and document events, so your teams are alerted when things happen, right to their systems or mobile device.

- + Get notified of only the events you care about
- + Search less, and make informed decisions faster
- + Understand the conditions better
- + Focus on locations that matter to you
- + Choose the delivery that works for you
- + Minimize delays and save costs



TRADELENS CORE | FEATURES



API INTEGRATION

Access the speed and flexibility of api integration

With TradeLens Core, integration is via non-proprietary, publicly available APIs that are simple to set-up so you and your partners can quickly share data and expedite trade.

- + Move beyond EDI
- + Accelerate shipments with faster data
- + Built for the modern web
- + Unlock business automation
- + Connect to new vendors and suppliers faster
- + Make the data work for you



DASHBOARDS

Optimize your business with granular analysis and insights

TradeLens Core Dashboards gives you powerful, actionable insights into the end-to-end supply-chain ecosystem through a suite of standard and customizable visualization tools.

- + Get instant summaries of your container locations
- + Clearly spot the potential for delays
- + Securely analyze your in-house data
- + Build predictive awareness
- + Create custom dashboards
- + Get started right away

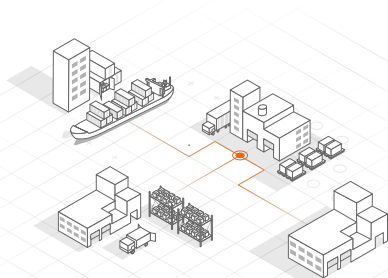


DOCUMENT SHARING

Get instant document visibility and version control

TradeLens Core lets you quickly access and share digitized trade documents and associated events with your partners and provides an immutable audit trail with crystal-clear version control.

- + Reduce the paperwork
- + Increase accuracy and your ability to automate
- + View your latest versions
- + Give your partners the information they need
- + Achieve secure third-party alignment
- + Authenticate every document



PARTNER ACCESS

Bring your supply chain together on a single platform

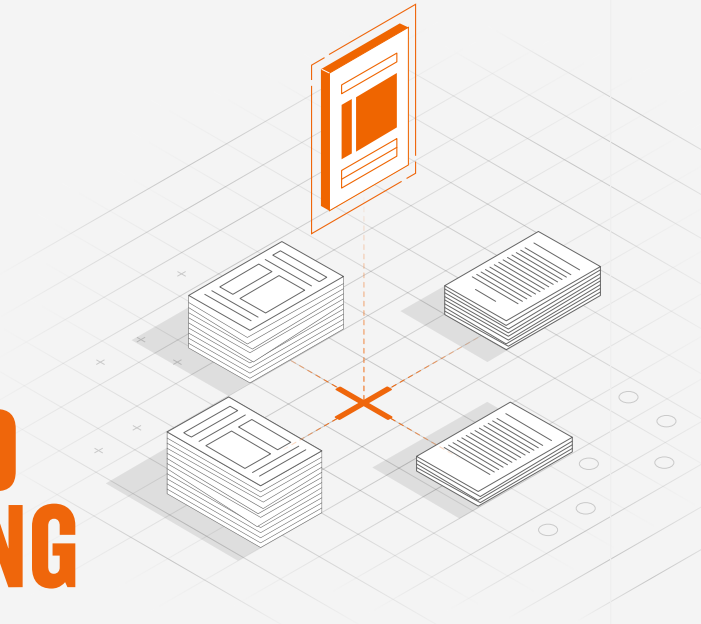
TradeLens Core lets you bring your key supply-chain partners onto the TradeLens platform with you, so that together, you can move your supply chain forward with success.

- + For small and medium-sized businesses
- + For big shippers and cargo-owners
- + Accelerate your shipments
- + Collaborate easily
- + Plan better and avoid rework
- + Collaborate to reduce costs



TRADELENS
eBL

REDUCE FRICTION AND COSTS WITH AN INDUSTRY SUPPORTED DIGITAL BILL OF LADING



Original Bills of Lading are used on an estimated five trillion dollars' worth of containerized freight shipments every year, but these paper documents cost time and money to transact.

The TradeLens eBL is a standard, industry-supported, end-to-end digital solution that provides shippers, cargo owners and freight-forwarders a streamlined and secure process for the issue, transfer and surrender of original Bills of Lading.

It is a paperless instrument, issued by carriers, that is transferable, entitles the holder to the goods in shipment, and is surrendered to carriers for cargo release. Exchanging the TradeLens eBL is a standardized process for all TradeLens participants and adheres to legal and regulatory frameworks.

INCREASE SECURITY AND TRANSPARENCY

Eliminate the risk of lost documents, forgeries, delays and charges by using a TradeLens eBL that's immediately available to all parties with blockchain-secured versioning and a clear audit trail.

STREAMLINE YOUR PROCESSES

Increase efficiency and assure business requirements are met with a TradeLens eBL, which lets you digitally issue, transfer and surrender via API and the TradeLens Core Shipment Manager.

REDUCE COST

Reduce the cost and time of printing and couriering documents with The TradeLens eBL, in combination with TradeLens Core, which enables you to share the full shipping document sets across permissioned parties.

ACCESS A DIGITAL ECOSYSTEM

Get beyond the inefficient, manual, paper-based process of handling an original Bill of Lading with a TradeLens eBL, which performs the exact same function digitally and enjoys wide ocean carrier support.

JOIN TRADELENS TODAY

TradeLens is available now. Anyone can join the ecosystem to start collaborating with clients and business partners, and quickly gain access to instantaneous, high fidelity shipping information via the TradeLens web portal or via APIs. Shippers and BCOs can also provide and subscribe to data.

Interested participants should contact their local IBM or GTD Solution sales representatives or fill out the contact form on our website.

Contact your IBM or GTD Solution sales rep today to find out how you can increase productivity, cut down on query response times and drive higher customer satisfaction.

Or, reach out to us directly at

www.tradelens.com/connect