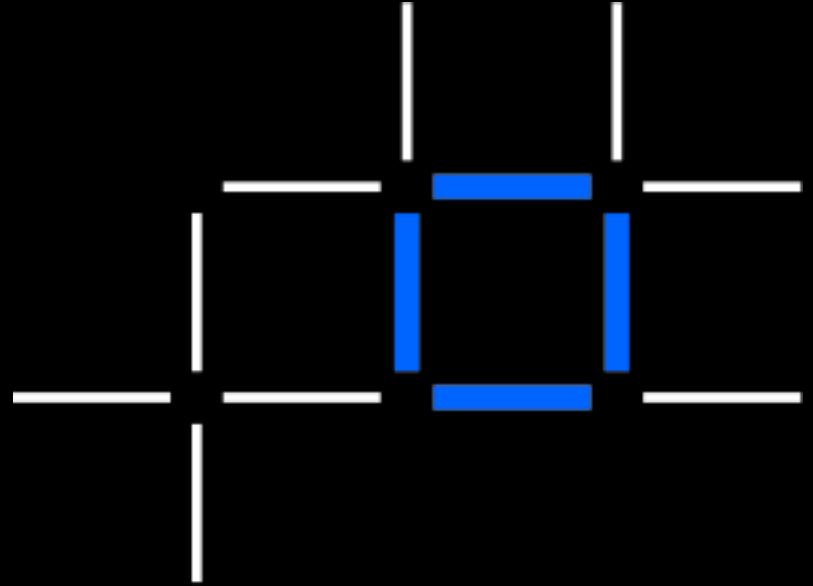


The power of one truth across the supply chain network

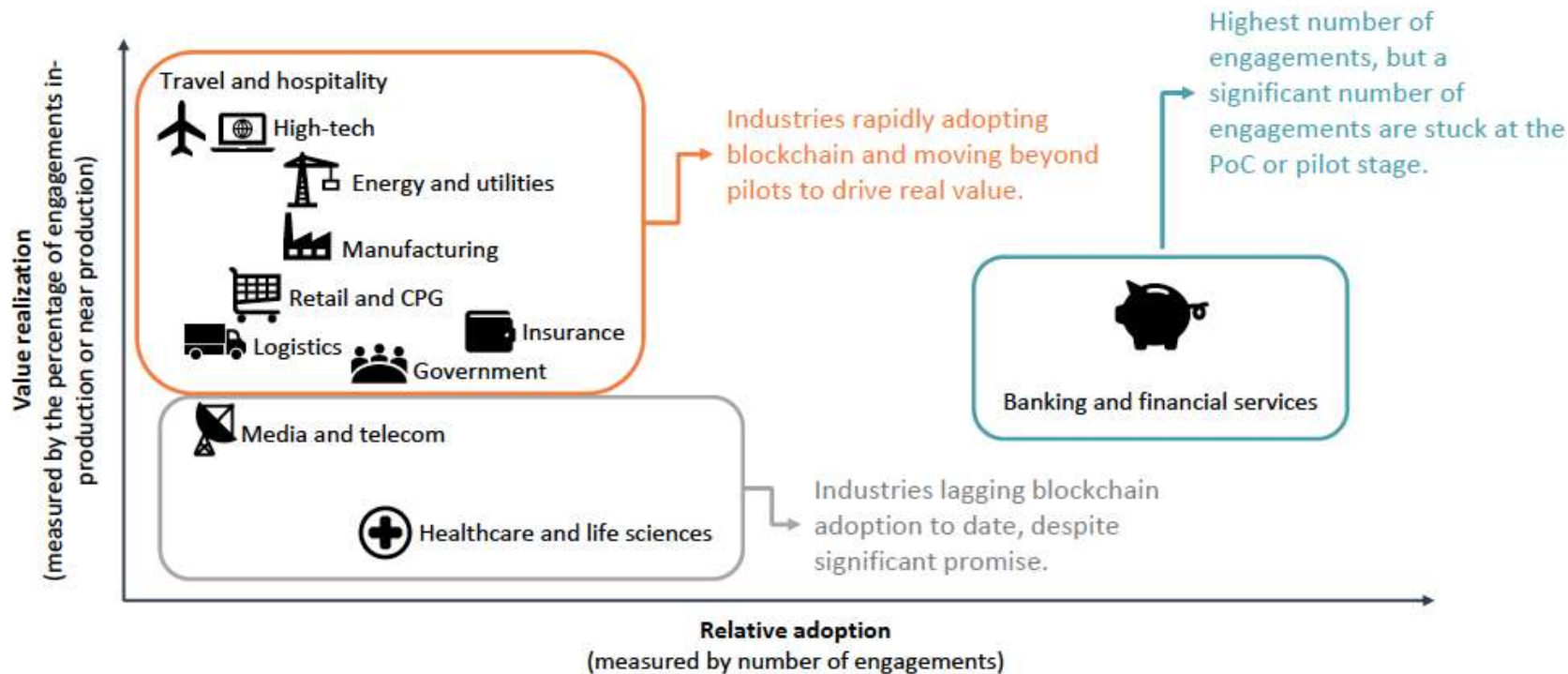
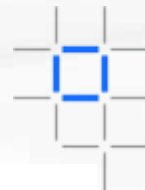
Haris Linardakis
IBM Cloud Leader, Greece & Cyprus

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Supply chain is emerging as one of the hottest use cases for Blockchain

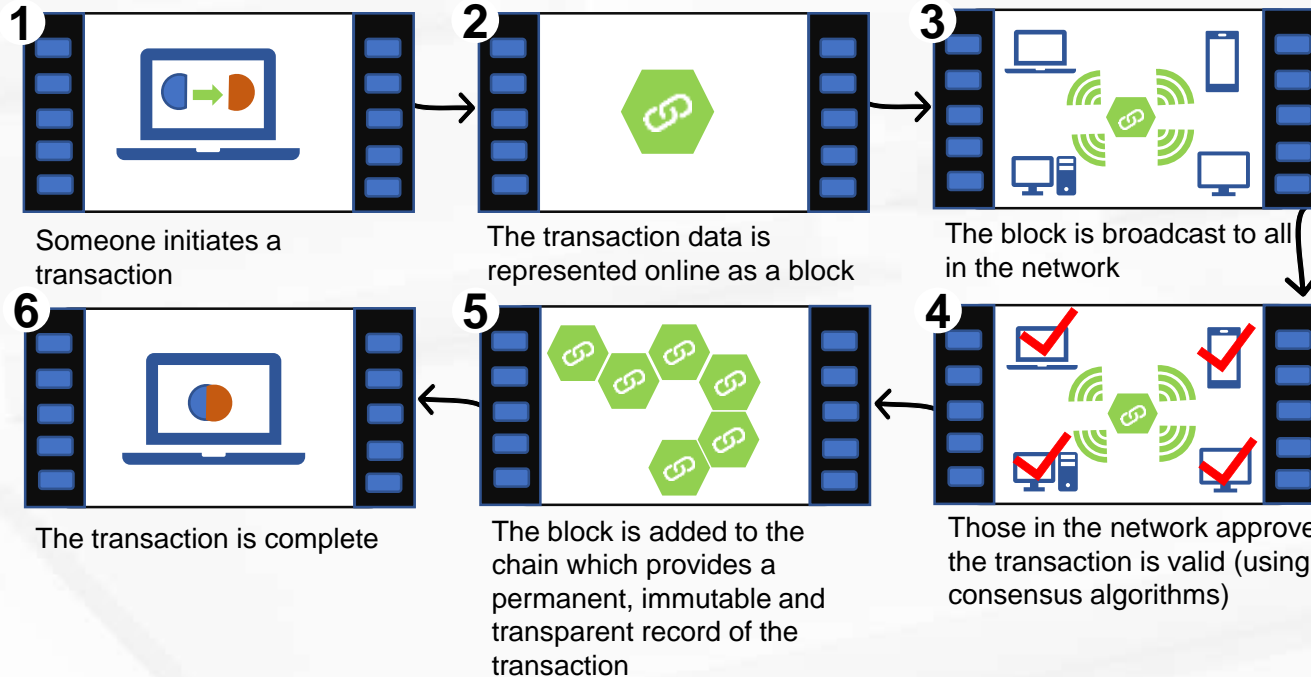




What is Blockchain?



Distributed ledger across a peer to peer network



Distributed shared data over peer-to-peer (P2P) network reduces single points of failure

Consensus driven trust cuts out the middle-man

Immutable transactions ensure trust and create a log that provides irrefutable evidence of provenance

Security driven by hashing-based data

Smart contracts promote touchless interactions across process chains



Example networks



IBM is making blockchain real for business with **cross-industry solutions** and dozens of **active networks**.

					everledger	NORTHUMBRIA	Unlisted Securities					
Bank Guarantees		Trade Finance			we.trade more trust, more trade	RCBC	MF	MIZUHO	Provenance	FDA		
		CLS				Clearing & Settlement		MÆRSK	U.S. Customs and Border Protection	Healthcare		
		Universal Payments			AIG	nab	stellar	BBVA	Global Trade	Belastingdienst		
MGLANE	Walmart Save money. Use better.	Driscoll's	Dole	WORLDWIDE FINANCE		mandiri	BNI	Desjardins	Insurance			
(T) Tyson	Food Safety		gsf	ธนาคารกสิกรไทย KASIKORNBANK P.L.C.	Permatatank	RBC	Identity		TD	Tennet		
Mc	Kroger				Danamon	BANK BRI	CIBC			ENERGY BLOCKCHAIN LABS		
U Unilever	NESTLE	Government							SECURE KEY	sovryn	BMO	Distributed Energy
IBM Blockchain					دبي الذكية SMART DUBAI					IBM		



Food Trust



Only 1 in 4 consumers trust today's food ecosystem.

Food Safety



1 out of 10

people get sick each year, and **420,000** die from foodborne illness

Supply Chain Inefficiency



80%

of CPGs business are partially or entirely paper-based

Food Waste



1 / 3

of fresh food is thrown out because it is considered unacceptable

Food Fraud



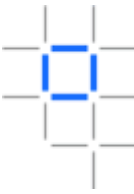
1 in 5

seafood samples mislabeled worldwide

(43% mislabeled in NYC)

The root of these issues, and many others, are the lack of trust and transparency

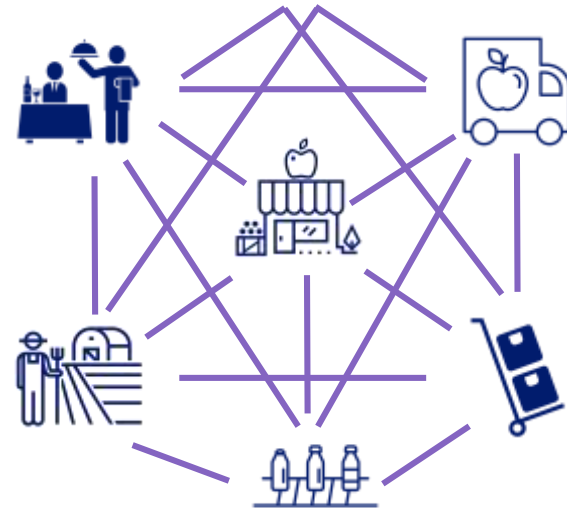
Today's complex food supply web is inefficient and is not enabled to provide transparency or trust



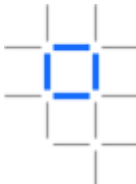
The Problem:

- **Data is siloed** within each company and accessing it requires a request and time
- Exchange of information takes place between a pair of partners; to get information from a distant partner may require **intermediaries**, time, resources
- Most transactions are still **paper-based**, creating inefficiencies and opportunities for fraud
- Because everyone maintains their own record of transactions, **differences** take time and resources to reconcile

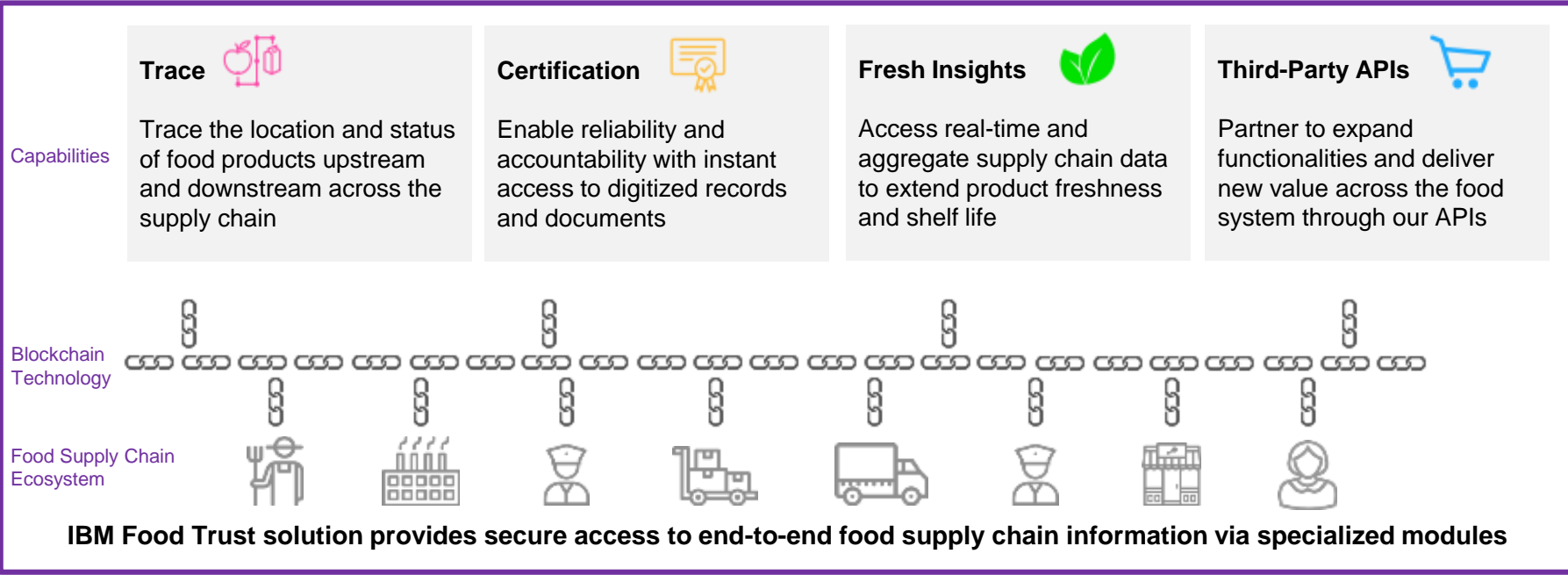
The food industry today



IBM Food Trust leverages Blockchain to address a range of pain points in the food ecosystem



IBM Food Trust



IBM Blockchain

Few of the Network Members



The effectiveness of the IBM Food Trust solution is already demonstrated

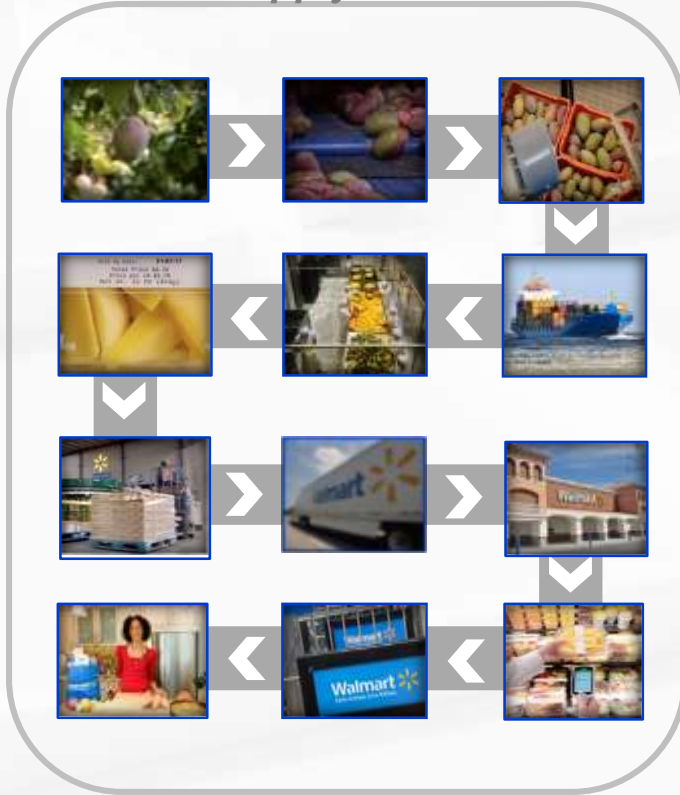


Pilot Test Case

How long does it take to trace a package of sliced mangoes back to the farm?



Supply Chain



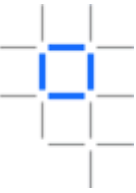
Results

Typical manual, mixed digital and paper-based method
6 days
18 hours
26 minutes

IBM Food Trust digital solution

2.2 seconds

Value of the interconnected Food Trust network



Certification Bodies



- Reduce fraudulent certificates
- Increase renewal speed

Regulators



- Identify contamination quickly
- Reduce unnecessary testing

Food Manufacturers

- Build loyalty and engagement
- Manage inventory in real-time
- Automate & reduce manual certificate management
- Instill trust between retailers, suppliers & customers

Wholesalers / Distributors

- Manage inventory in real-time
- Conduct targeted recalls
- Enable internal data sharing

Food Logistics

- Manage inventory in real-time
- Enhance ability to meet compliance standards
- Reduce manual processes

Food Retailers

- Strengthens consumer relationship and increase brand loyalty
- Assure customers food is safe
- Conduct targeted recalls
- Extend shelf-life

Consumers

- Understand and trust their food better
- Learn about and act on recalls quickly
- Reduce food fraud victimization

Growers

- Prove sustainable growth practices
- Satisfy compliance requirements and connect with consumers
- During a recall, show that farm is not source of contamination
- Ease of connectivity to the downstream supply chain

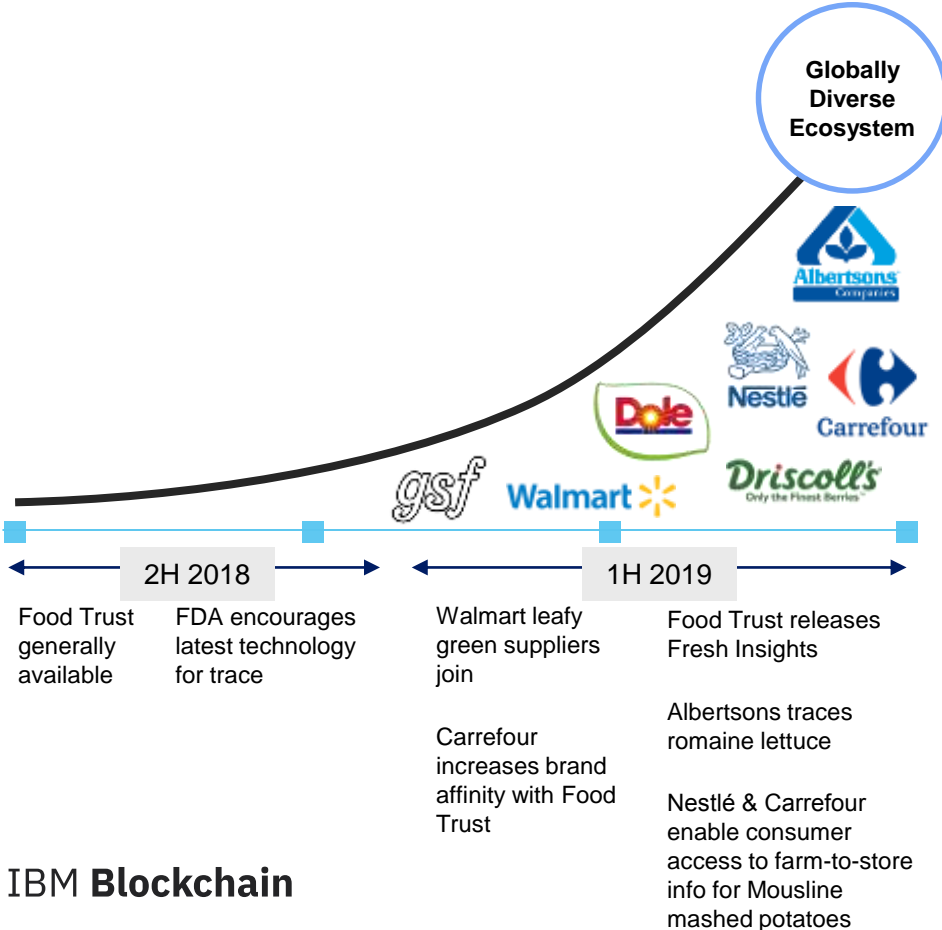
Food Service

- Certify food sourcing practices
- Ensure safe food
- Reduce food waste



Fundamental value
from farm to fork

Momentum is growing



Today, we are in full production with a growing ecosystem:

- Global, diverse and extensive member network on the Food Trust ecosystem
- 9M+ transactions representing over 7K products
- 5M+ food products on retail shelves
- 500K traces conducted to date
- Top 4 Food Retailers in US on platform

TRADE+LENS

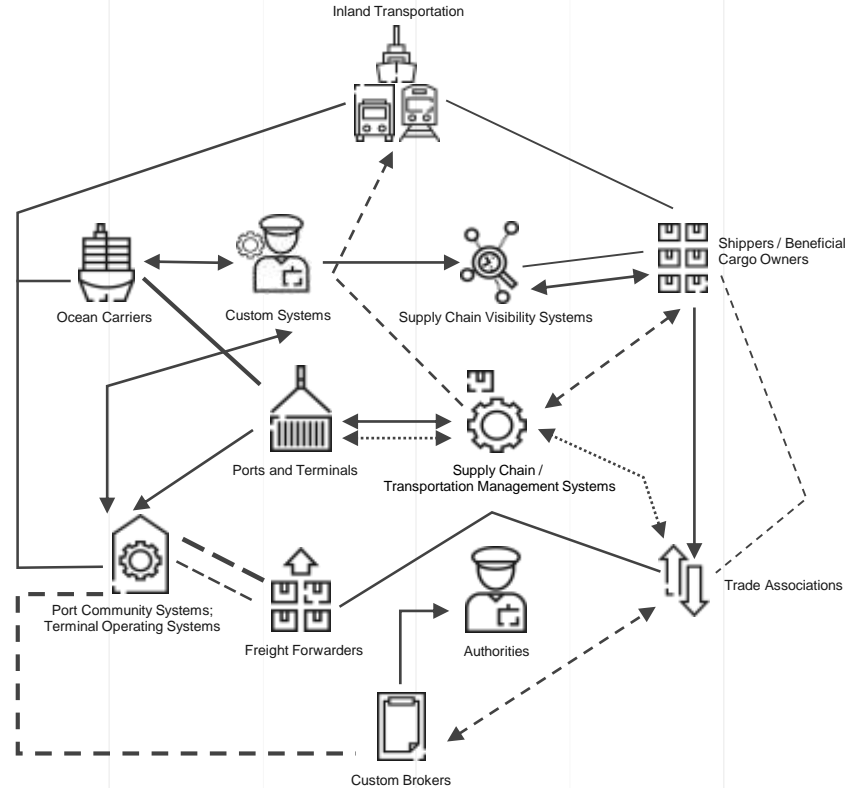
TIME TO SET TRADE FREE



\$1.6 TRILLION
OF UNTAPPED OPPORTUNITY



THE COMPLEX GLOBAL TRADE SYSTEM



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

A single shipment of avocados from Mombasa to Rotterdam involves **30 actors, 100+ people, and 200 information exchanges**

- **Inconsistent information** across organizational boundaries and blind spots throughout the supply chain hinder the efficient flow of goods
- Complex, cumbersome, and **costly peer-to-peer messaging**
- Manual, time-consuming, **paper-based processes**
- Risk assessments often lack sufficient information; **clearance processes subject to fraud**

Pilot shipments from Central Europe to the US resulted in containers being **delayed for 4 weeks** due to lack of transparency and delayed information exchange

- **Missing customs documents** prevented gate-in at time of arrival
- Pre-announcement to Terminal was **not updated in time**. Containers arrived on different mode, causing complications for receipt
- Late filing due to **ongoing miscommunication** between exporter and Customs over documentary requirements.
- **Containers missed the vessel** due to late gate-in and due to visibility issues and communications delays, the containers were rolled
- Limited visibility over transport plan issues meant **inland providers were unable to carry cargo** on the expected date

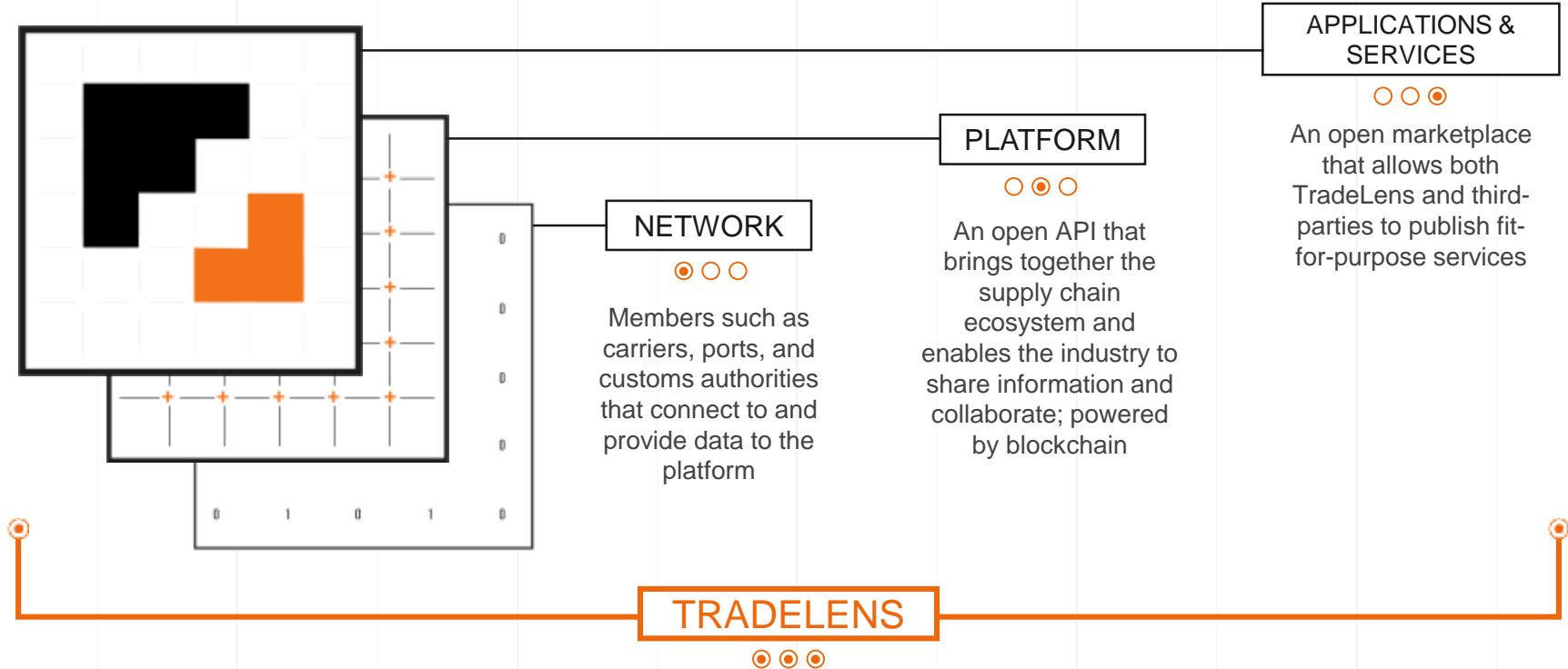
A customer support agent for a freight forwarder may have to **make up to five calls to different parties** to answer a simple location question

- To **track a ship or container** for the BCO, the Customer Support Agent from the Freight Forwarder may have to call the:
 - Port
 - Carrier
 - Trucking operator
 - Rail operator
- This occurs throughout the supply chain

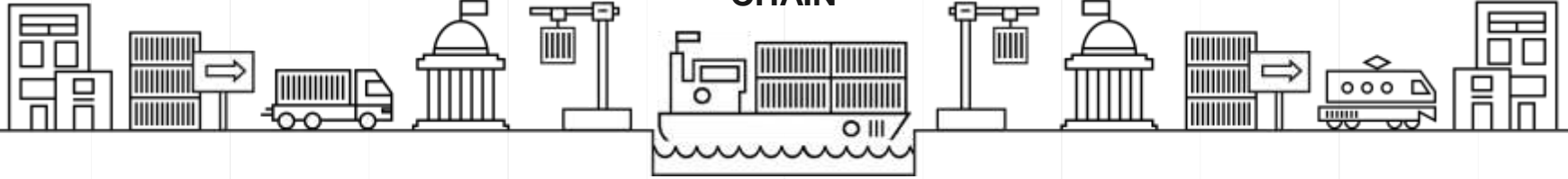
KEY TAKEAWAYS

- + **Data are siloed**
- + **Business processes are manual and intensive**
- + **Supply chain partners spend too much time chasing information**

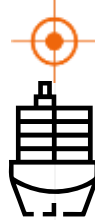
TRADELENS: LAYERED APPROACH



SUPPLY CHAIN



**SHIPPING
MILESTONES &
DATA**

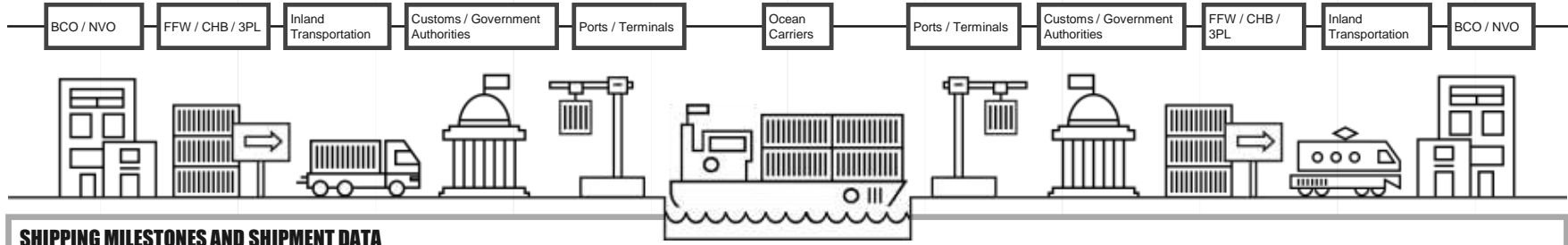


DOCUMENTATION



**TRADELENS
BLOCKCHAIN NETWORK**



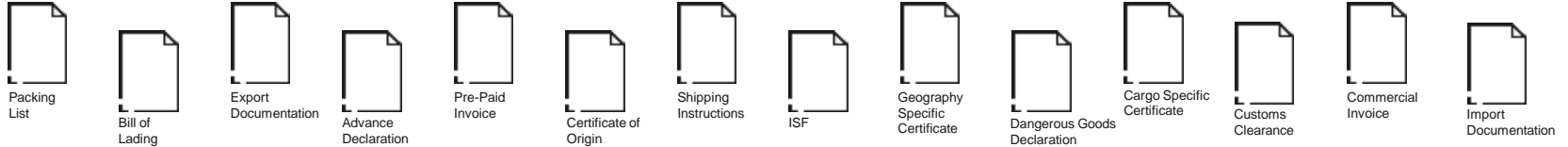


SHIPPING MILESTONES AND SHIPMENT DATA



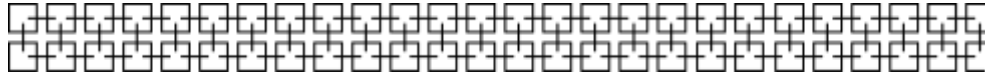
Not exhaustive list of milestones managed by platform

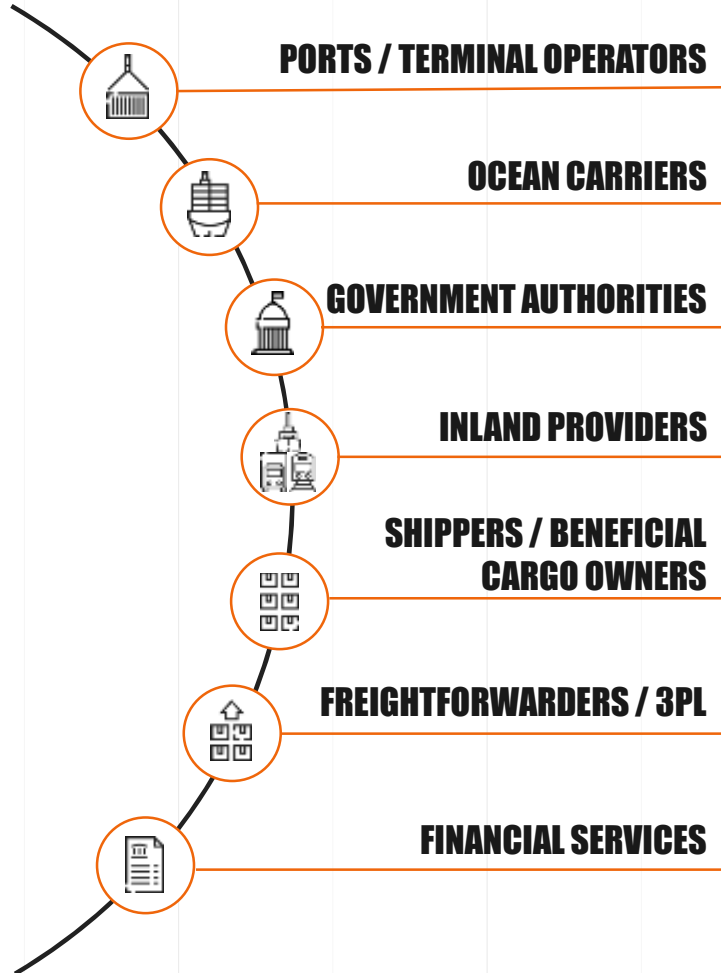
STRUCTURED AND UNSTRUCTURED DOCUMENTS



Not exhaustive list of documents managed by platform

TRADELENS BLOCKCHAIN BUSINESS NETWORK





Real-time visibility of inbound and outbound operations

Improve customer service and reduce network integration costs and revenue leakage

Reduce paperwork and improve risk assessment

Receive real-time and accurate updates on vessel arrivals, improve utilization of assets

Identify and proactively manage unexpected events, reduce surcharges and stockouts

Obtain access to greater depth of real-time information with less work, improve customer satisfaction

Increase access to single source information needed to efficiently deliver and managed finance and trade insurance

Major Ocean Carriers CMA CGM and MSC to Join TradeLens Blockchain-Enabled Digital Shipping Platform

NEWS PROVIDED BY

IBM →

May 28, 2019, 08:35 ET

COPENHAGEN, Denmark and ARMONK, N.Y., May 28, 2019 /PRNewswire/ -- Global Mediterranean Shipping Company (MSC) today announced they will join TradeLens, a blockchain-enabled digital shipping platform, jointly developed by A.P. Moller - Maersk (MAE)

With CMA CGM, MSC, Maersk, and other carriers committed to the platform, data for nearly half of the world's ocean container cargo will be available on TradeLens. The addition of CMA CGM and MSC will provide a significant boost to the TradeLens vision of greater trust, transparency, and collaboration across supply chains to help promote global trade. The companies will promote TradeLens and create complementary services on top of the platform for their customers and partners.



IBM, Maersk's Blockchain Platform TradeLens Is Shipping to Russia

Loan collateral 100% insured TradeLens

SALT ▼ Crypto Backed Loans ⊕ [LEARN MORE](#)

Terms & Conditions apply. Subject to applicable KYC & AML screening.



Daniel Palmer ✉ 🐦 📺
 Jun 12, 2019 at 12:30 UTC

NEWS

A blockchain-powered platform built by IBM and Maersk and designed to facilitate international trade is to launch in Russia.

According to a June 6 [news release](#) from Maersk, the Danish shipping and logistics giant, agreement has been reached with Russian authorities for the TradeLens platform to operate in the country, starting with a pilot project alongside the country's primary container gateway, the port of St. Petersburg.



How to get started



Use case selection

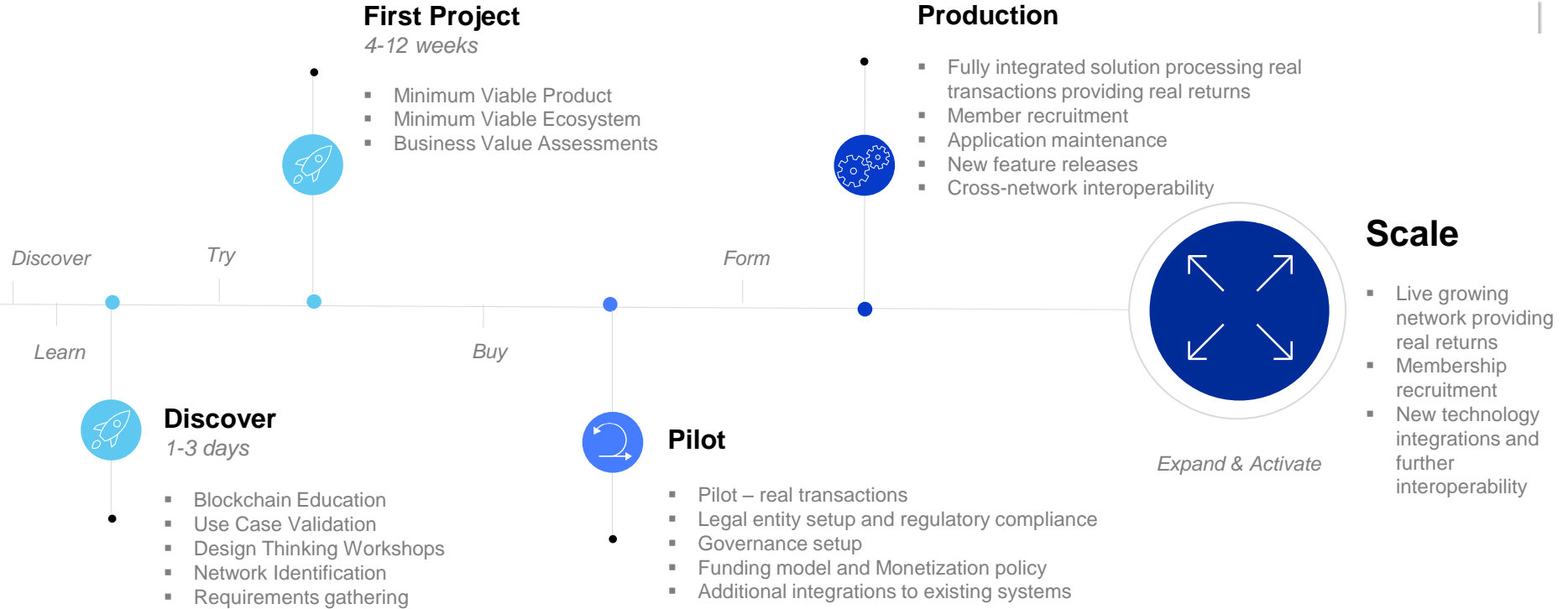
To determine whether your use case is a good fit for blockchain, ask yourself these questions:

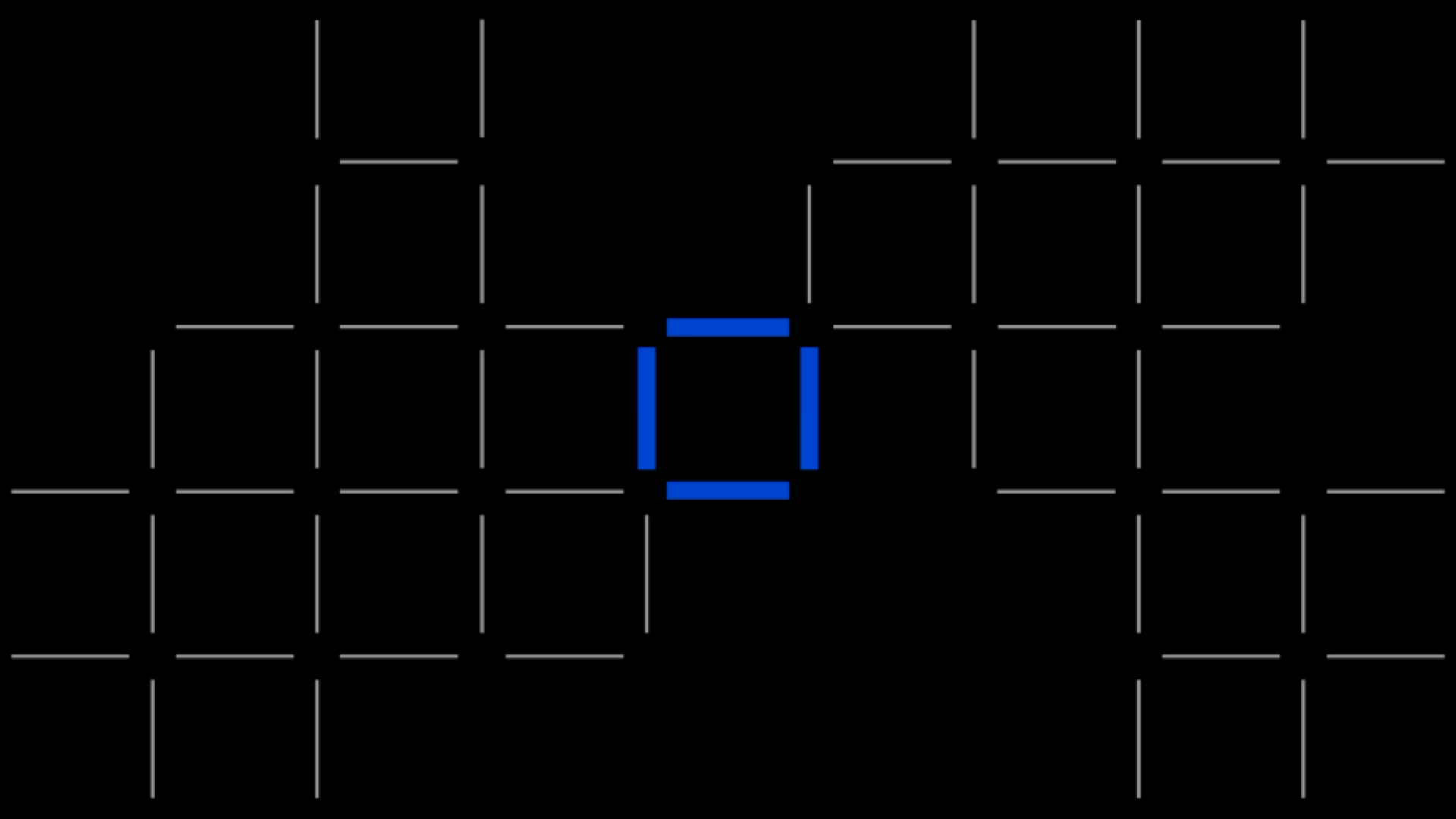
- Is a business network involved?
- Is consensus used to validate transactions?
- Is an audit trail, or provenance, required?
- Must the record of transactions be immutable, or tamper proof?
- Should dispute resolution be final?

If you answered yes to the first question and to at least one other, then your use case may benefit from blockchain technology




Blockchain Engagement Journey







Thank you

*Questions? Tweet us or
go to ibm.com/blockchain*

 @IBMBlockchain

 IBM Blockchain

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