

Introduction to Blockchain

NAW Billion Dollar Roundtable

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Discussion Topics

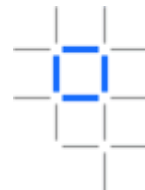


- Blockchain Concepts
- Typical Use Cases
- How to get started

Blockchain Concepts



Just being digital isn't the ultimate destination



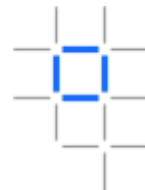
You have to be willing to be disruptive...

Digital
businesses
are **disrupting**
industries and
professions.

72% are vulnerable
to disruption
within **three** years

Source: FROM DATA TO DISRUPTION: INNOVATION THROUGH
DIGITAL INTELLIGENCE IBM-sponsored report by Harvard
Business Review Analytic Services, 2016





Blockchain Global Impact...



10% of Global

GDP will be stored on blockchains or blockchain related technology by 2025.¹



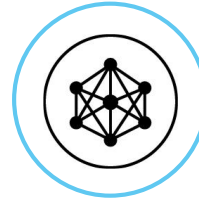
\$176 Billion

The business value added by blockchain by 2025, then surge to exceed \$3.1 trillion by 2030.²



17% of Banks

Released a Blockchain application in 2017.⁴



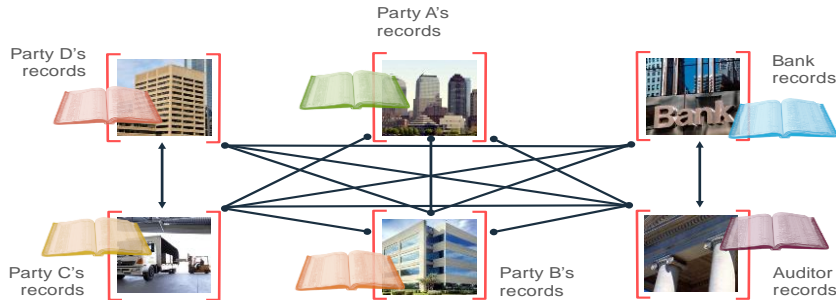
\$2.3 Billion

Estimated size of the Blockchain technology market by 2021.²

A shared, replicated, permissioned ledger ...

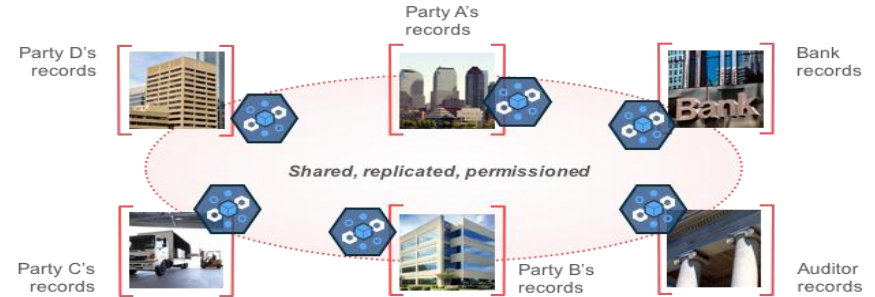


The Problem ...



... Inefficient, expensive, vulnerable

The Solution ...



... Collaboration, immutability, trust

Blockchain is creating extraordinary opportunities for businesses to come together in new ways

IBM Blockchain

Create New Value

Exploit new business models and eliminate inefficiencies

Optimize Ecosystems

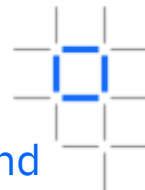
Streamline business processes and the exchange of value along your ecosystem

Reduce Risk

Replace uncertainty with transparency and a trusted decentralized ledger



Blockchain needs a different perspective



Blockchain ... Is a **digital shared distributed ledger**. It establishes **trust, accountability and transparency** while streamlining business processes.



Blockchain enables a business network....

- Businesses cannot operate in isolation; they benefit from connectivity
- Participants are customers, suppliers, banks, partners & regulatory bodies

... underpinned by:

- **Assets** – ownership passes across the network in return for payments, can be **tangible** and **intangible** (Product or Letter of Credit etc.)
- **Transaction** – an asset transfer onto or off the ledger
- **Contract** – Conditions for the contract to occur
- **Ledger** – the system that records the transaction

Typical Usecases



We have learned from our extensive engagement experience



Trade Finance



Pre and Post Trade



Complex Risk Coverage



Identity/ Know your customer (KYC)



Unlisted Securities/ Private Equity Funds



Loyalty Program



Medicated Health Data Exchange



Fraud/ Compliance Registry



Distributed Energy/ Carbon Credit



Supply Chain



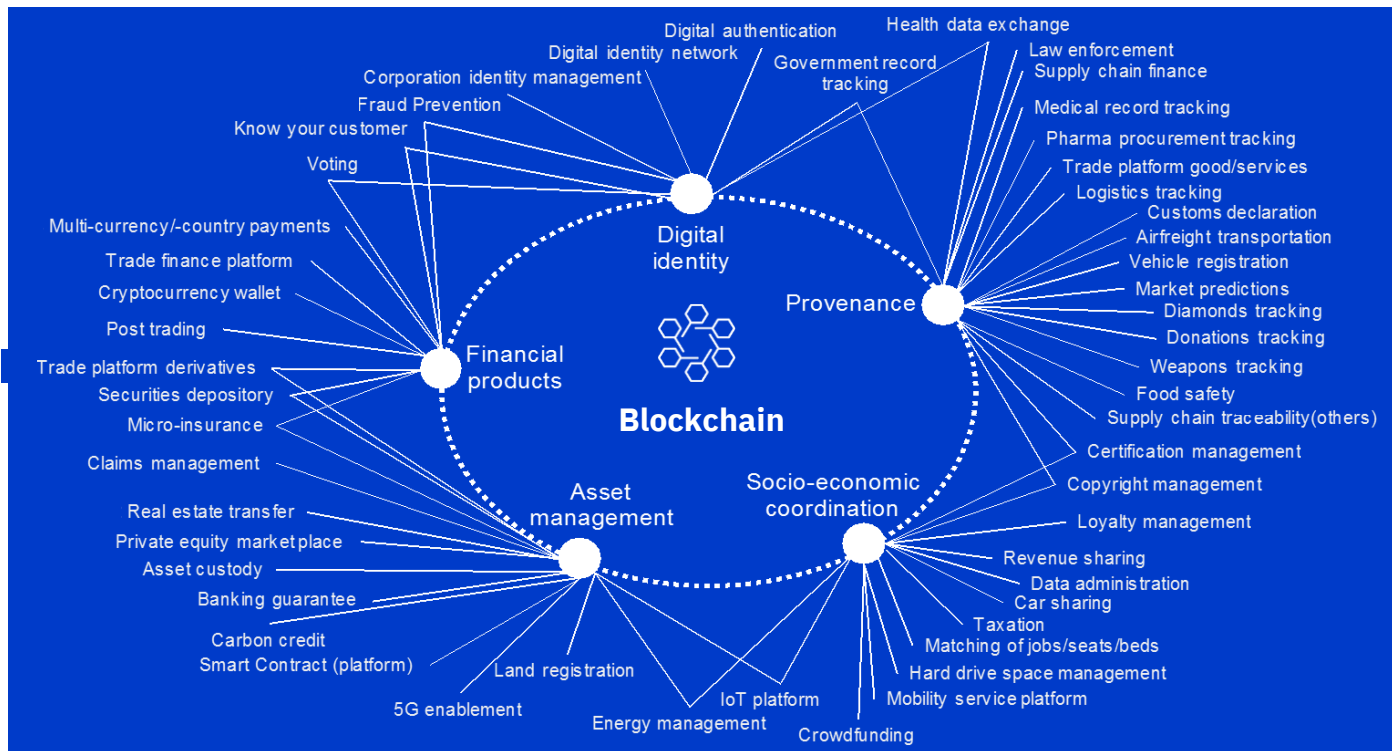
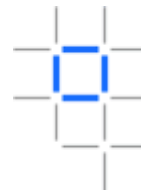
Food Safety



Provenance/ Traceability

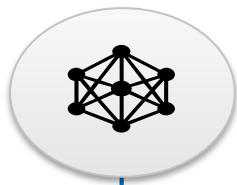
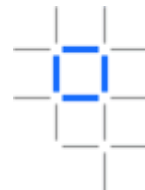


What we learned...



We see the use cases aligning to 5 “centers of gravity”

Blockchain can help solve core issues in the Distribution industry

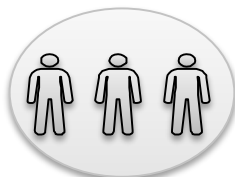


Traceability across the value chain

Increasing speed & flexibility of supply chains drives demand for companies real time tracking

Examples:

Supply chain Finance
Supply chain visibility
Government compliance



Fraud & Provenance

Consumers, Customers and regulatory agencies want to know where goods come from and how they are handled.

Examples:

Food & Product safety
Organic food verification
Authenticity

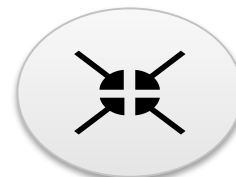


Redundant & Incomplete Data

Multitple system of record and non contextual data exchange create inefficiencies.

Examples:

Intercompany disputes
Master Data Management



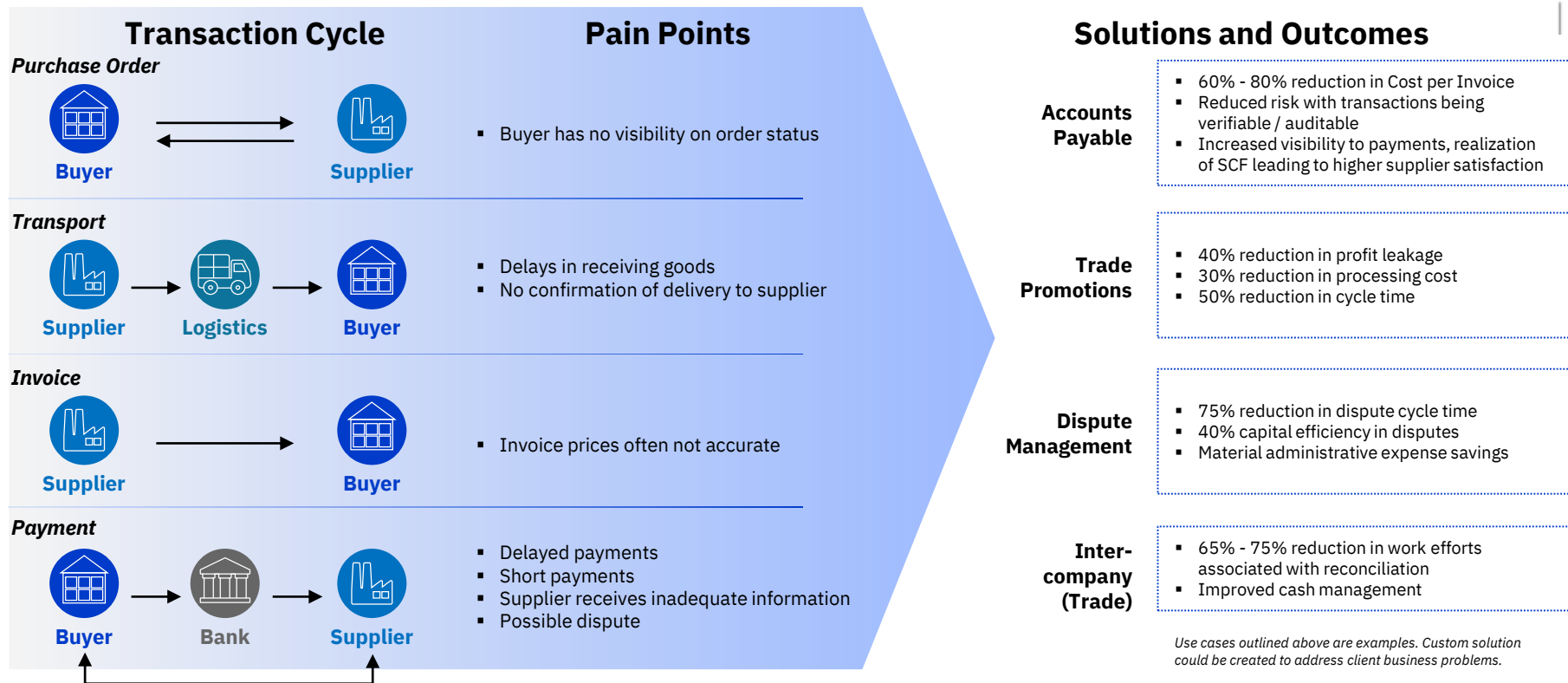
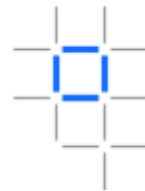
High Friction Enterprise Integration

Transaction volumes and the speed of the business lead to a highly disputed environment and eroding trust

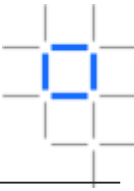
Examples

Dispute Resolution (logistics, A/R etc.)
Trade promotions
Digital Media / Ad Spend

Blockchain solutions can support the entire process



Global Financing - Dispute Management



Background

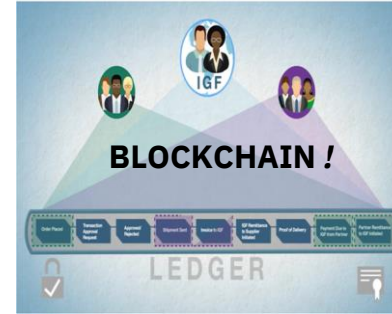


4,000+
Business Partners

25,000
Disputes/year

\$100M

Days to solve
44



Permissioned
Secure
Trusted
Distributed

Potential Benefits

Proof of Delivery

4 out of 9 manual steps
eliminated with
immediate resolution

Tax (Future)

Eliminate Tax
Disputes completely
by flagging invoices
billing tax

↑ 40%

Capital Efficiency
in disputes

Resolution





We finance possibilities

IBM Global Financing Partner & Supplier Visibility Portal

Powered by BLOCKCHAIN



Terry Partner

[Find an Invoice](#)

[Scheduled Product Delivery](#)

[Log Off](#)

Invoice Number here ▶

8/22/15 ○ Purchase Order

8/22/15 ○ TA Submitted

8/22/15 ○ TA Approved

8/23/15 ○ Invoice XX456744
● Delivered ● 1 dispute

8/23/15 \$ Invoice XX456745
● En route

8/25/15 ○ Invoice XX456746
○ Shipped

... ○ ...

[Show Advance Filters](#)

XX456745

or

Use optional filters if you don't have an invoice number



Invoice Details



Invoice Number **XX456745**

PO Number 1234567



This invoice includes ocean shipping

Partner: AvNet (code)

Invoice Type: Invoice

Invoice Amount: XXX,XXX \$US

Supplier: Lenovo (code)

Invoice Date: Apr 27, 2016

Note: Shipping information is not provided by the supplier for this invoice

Show Only Line Items with Shipments ▼

Charges Start Date: May 27, 2016

Invoice Line #	Description	QTY	Carrier	Status	Total Amount (\$US)	
1	Big box of machine	10	UPS	Shipped	1,876.90	File Dispute
3	More big boxes of machine	75	FedEx	Not Delivered	8,100.00	File Dispute
			Ceva	Delivered		

Total 9,976.90

Accounts Payable Platform on Blockchain



PROBLEM | HIGH COST OF INVOICE PROCESSING AND LACK OF TRANSPARENCY TO STAKEHOLDERS

Blockchain serves as one source of truth across a secure ecosystem, enabling “straight through” processing and data transparency.

The blockchain platform is predicated on a hyperledger with built in smart contracts providing transparency at every stage.

User
Experience

Enhanced
THROUGH DATA
TRANSPARENCY

\$1 - \$2

Cost
PER INVOICE,
A 55% - 60%
REDUCTION

Digital Trade Chain

50%

SMEs LACK

ACCESS TO
FORMAL CREDIT*

9

EU Banks

BUILD & HOST NEW
TRADE FINANCE
PLATFORM

*World bank statistics



we.trade
more trust. more trade.



Rabobank



HSBC



SOCIÉTÉ
GÉNÉRALE



UniCredit



NATIXIS

Deutsche Bank



Nordea



OPENING UP OPPORTUNITY FOR SECURE TRADE
FINANCE ACROSS EUROPE

Domestic and cross boarder
commerce made easier

Intracompany Billing on Blockchain



SAP
Settlements

Automated

Audit
Efficiency

Disputes

Increased

Reduced

PROBLEM | INTRA-COMPANY PROCESSES MANAGED BY A COMBINATION OF BUSINESS AND SHARED SERVICES STAFF GLOBALLY IS A VERY **MANUAL/EFFORT INTENSIVE PROCESS**. MAJORITY OF THE TIME IN THIS PROCESS IS SPENT ON RECORDING THE INTRA-COMPANY INVOICES **MANUALLY**, MANAGING THE **BILLING RECONCILIATION AND DISPUTES** BETWEEN THE CORPORATE ENTITIES

THE SOLUTION

Blockchain enabled intra-Company process covering Intra-Company Agreements, Approvals, Invoicing, Settlement and Dispute Management

Automated integration with the ERP systems for book keeping purposes

Providing the opportunity to **consolidate** legacy custom applications

Cloud based, automated intra-company solution

Trade Promotion Solution on Blockchain



PROBLEM | LONG CYCLE TIMES AND COST LEAKAGE

The Trade Promotions Blockchain Solution reduces processing costs, profit leakage, and cycle times.

The secure platform with smart contracts and hyperledger fabric provides one version of the truth and data visibility to all participants, with seamless connections to client billing systems.

30%

Reduction
IN
PROCESSING
COSTS

40%

Reduction
IN PROFIT
LEAKAGE

50%

Reduction
IN CYCLE
TIMES

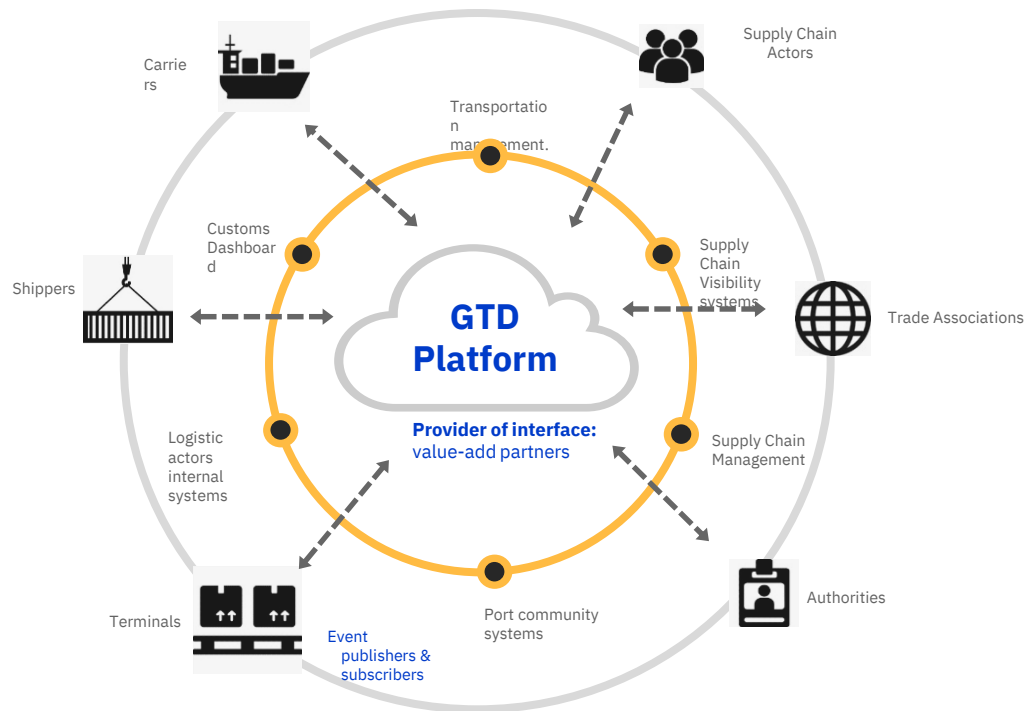
Digitizing the Global Trade



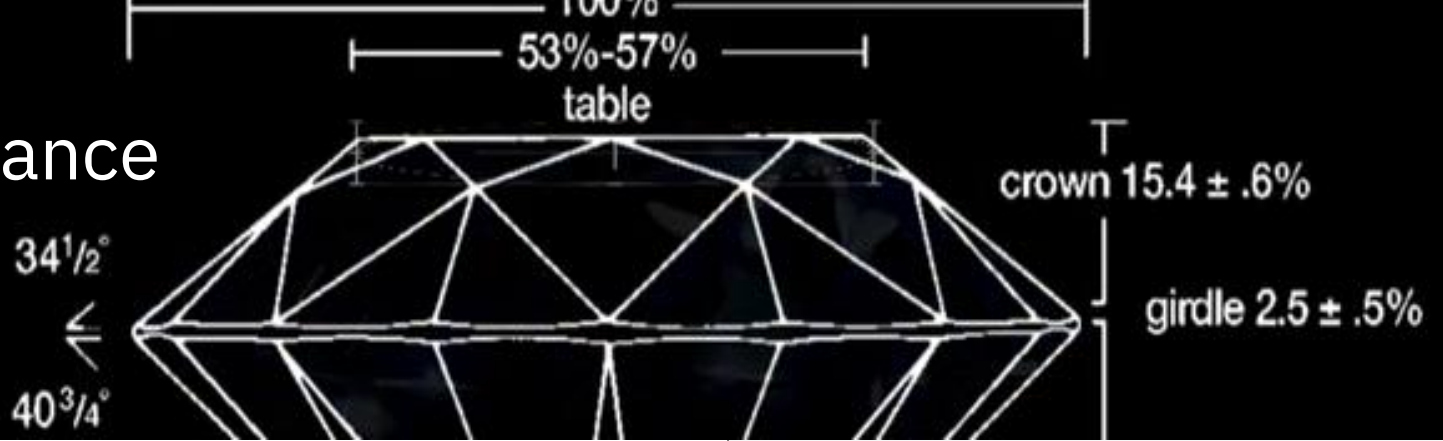
An open, extensible platform for sharing shipping events, messages, and documents across all the actors and systems in the supply chain ecosystem.

Important principles

- Detailed information remains under the control of the owner
- Neutral
- Fault Tolerant
- Everyone can work in their own systems



Asset Provenance (Everledger)



What

- Everledger develops and deploys technological solutions to markets where evidence is critical
- Starting with diamonds, 980k+ encrypted to date, but plans to expand into other industries, e.g. art, wine

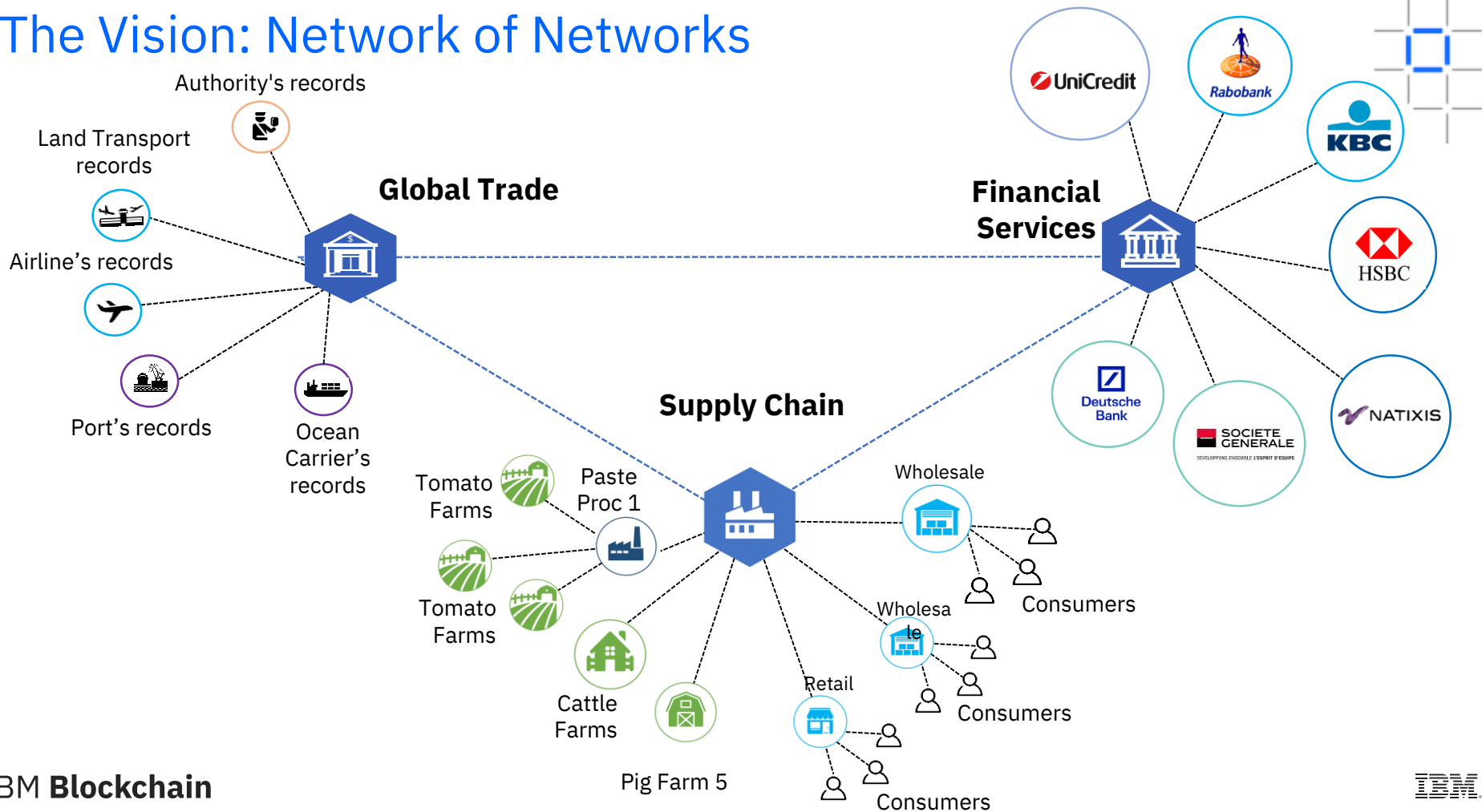
How

- Using Blockchain & smart contracts, Everledger provides ecosystem participants (e.g., B2B traders, consumers, etc.) immutable historical context
- Create a digital DNA signature of all diamonds written to the Blockchain (e.g. 4Cs: cut, color, carat, clarity)

Benefits

1. Minimize fraud – 65% of fraudulent crimes go undetected
2. Address problems of double financing
3. Reduce amount of conflict stones through improving identifiability

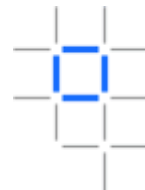
The Vision: Network of Networks



How To Get Started



Key Considerations in defining a use case



Can we eliminate friction in the process?



Are multiple parties, Internal or External, involved?



Why Can't a single database handle it?



How can we drive trust?



Is the sum greater than the parts?



Can business rules be applied upstream or downstream to improve the value chain?

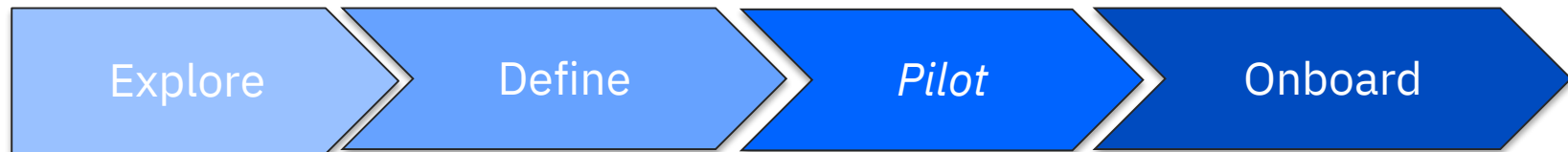
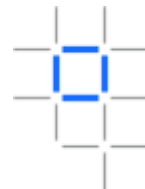


Can we drive new business models?



Can we drive additional revenue streams?

The End to End Life Cycle



Technology Review

Technology learning
thru PoT

Identify Requirements
Skills
Infrastructure
Potential partners

Identify Usecases

Stakeholder education

Finalize Usecase

Initial Business
Case

Network Partners
(Pilot)

Develop solution

Initial partner
onboarding

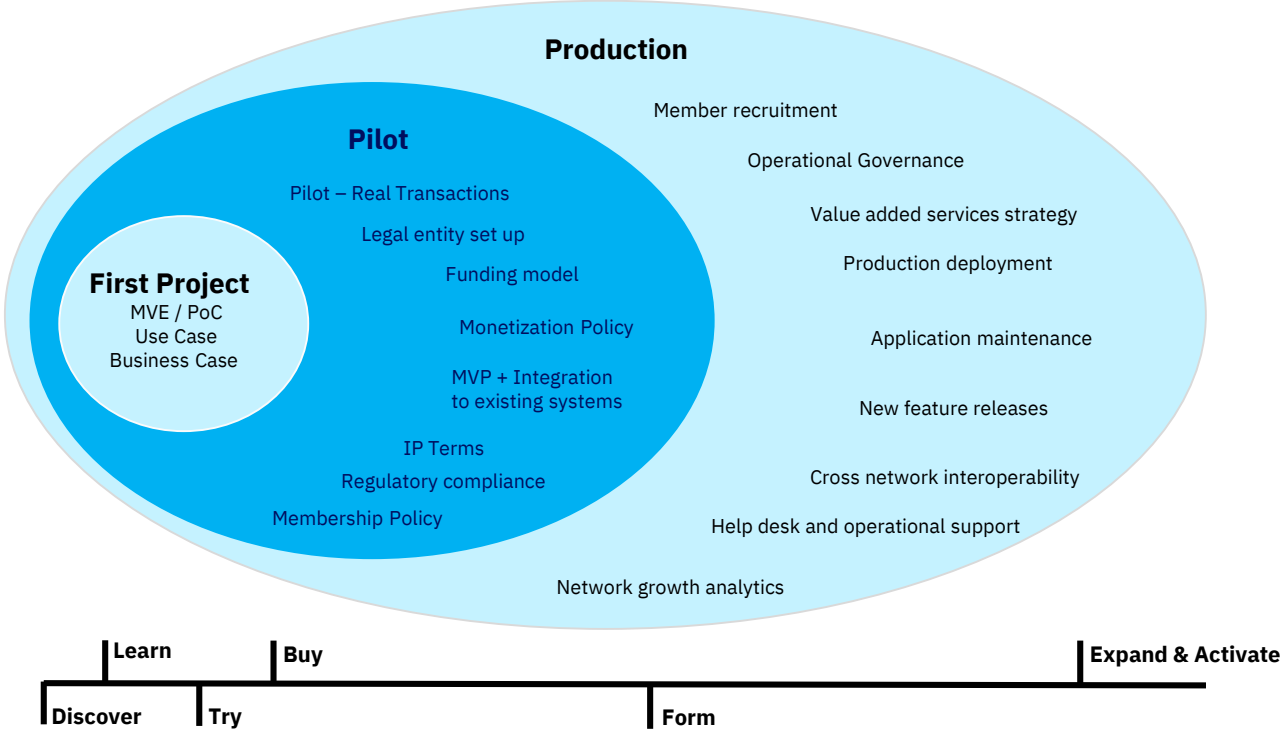
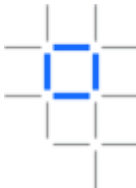
Refine solution

Onboard Partners

Run solution

*Typically PoT's 6- 12 weeks long and are **NOT** heavy on enterprises.
Key skills required are an Data Analysts, Architect and Java like skills.*

Scaling for production



Thank you

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

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