# IBM Blockchain Immersion Workshop

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November 2020

IBM **Blockchain**

Schedule:

11:05am: Intro to Blockchain

11:35am: Application Demo and Use Cases

**12:10pm:** Introduction to IBM Blockchain Platform and LinuxONE
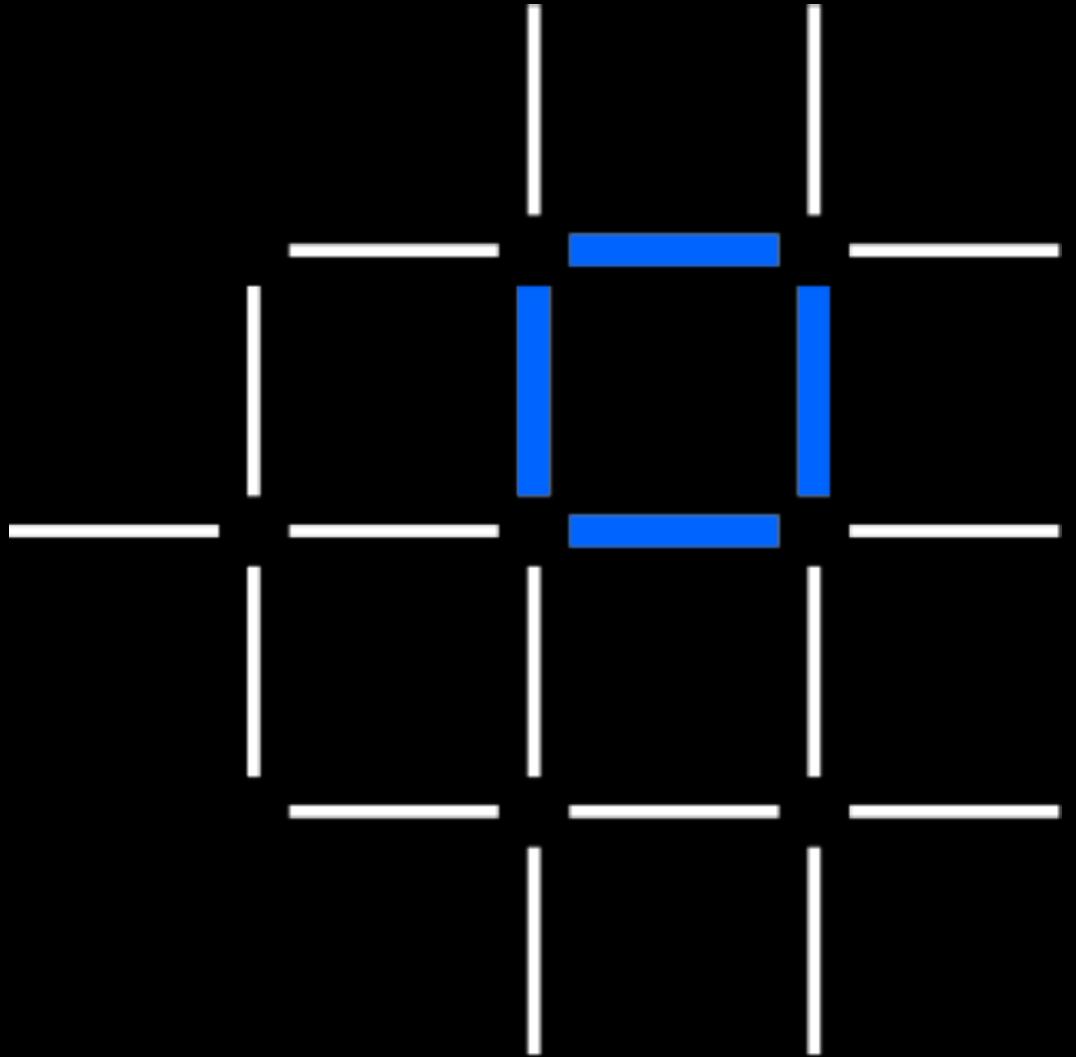
12:40pm: Orchestrating IBM Blockchain Platform for Agility with Red Hat OpenShift Container Platform

1:15pm: Choose Your Own Lab Kickoff

Introduction to Blockchain

Austin Grice
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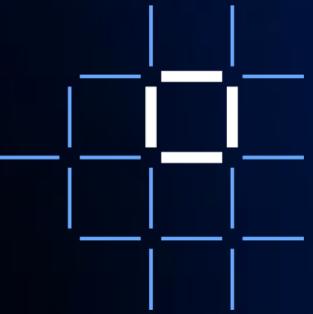
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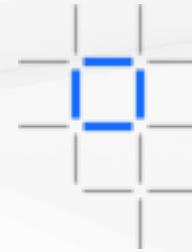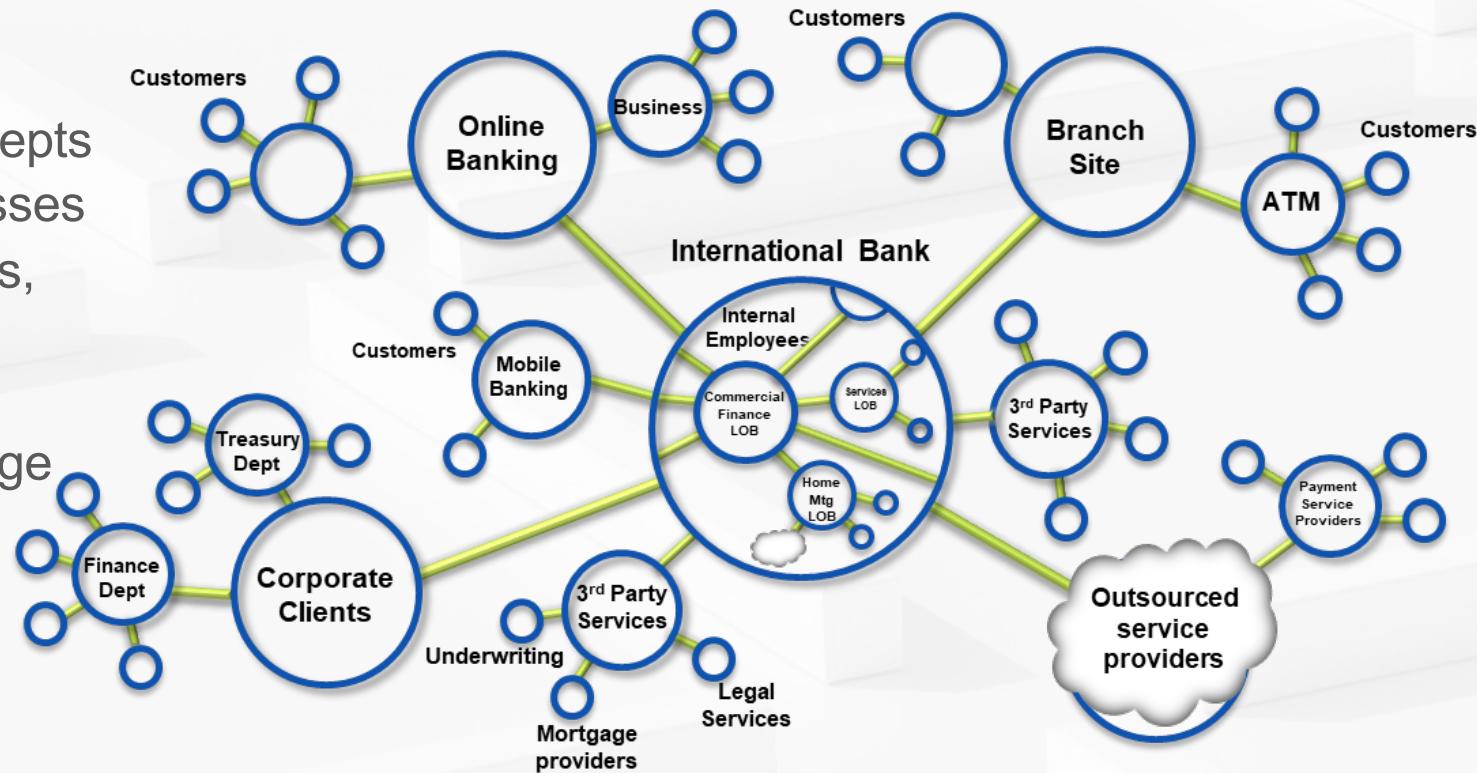
IBM **Blockchain**
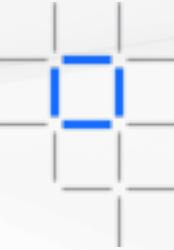
What is Blockchain

Example Networks

What is **blockchain?**

- Blockchain lets you build a decentralized **business network**

- Blockchain builds on basic business concepts
  - **Business networks** connect businesses
  - **Participants** are customers, suppliers, banks, partners
  - **Assets** flow over business networks
  - **Transactions** describe asset exchange
  - **Contracts** underpin transactions
 - The **ledger** is a log of transactions


IBM **Blockchain**

A shared, replicated, permissioned ledger…
…with consensus, provenance, immutability and finality
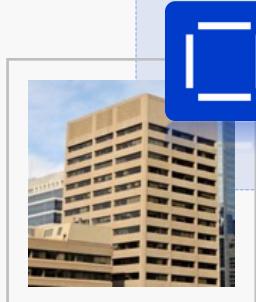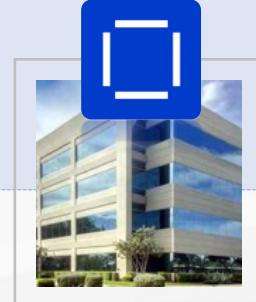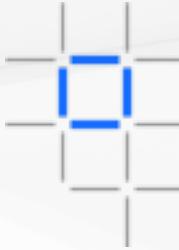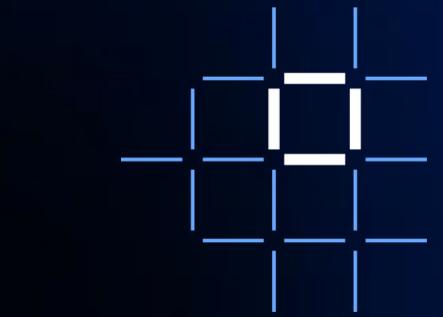
Two Types of Blockchain
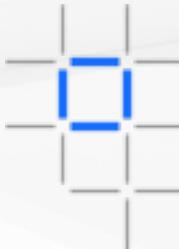
	Private/Permissioned	Public/Unpermissioned
Who?	Known invited parties	General public, unknown
Consensus	Selective Endorsement	Proof of Work/Stake
What is transferred?	Assets	Currency
Examples	Hyperledger Fabric, R3 Corda	Bitcoin, Ethereum

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Example Networks

Further examples by (selected) industry
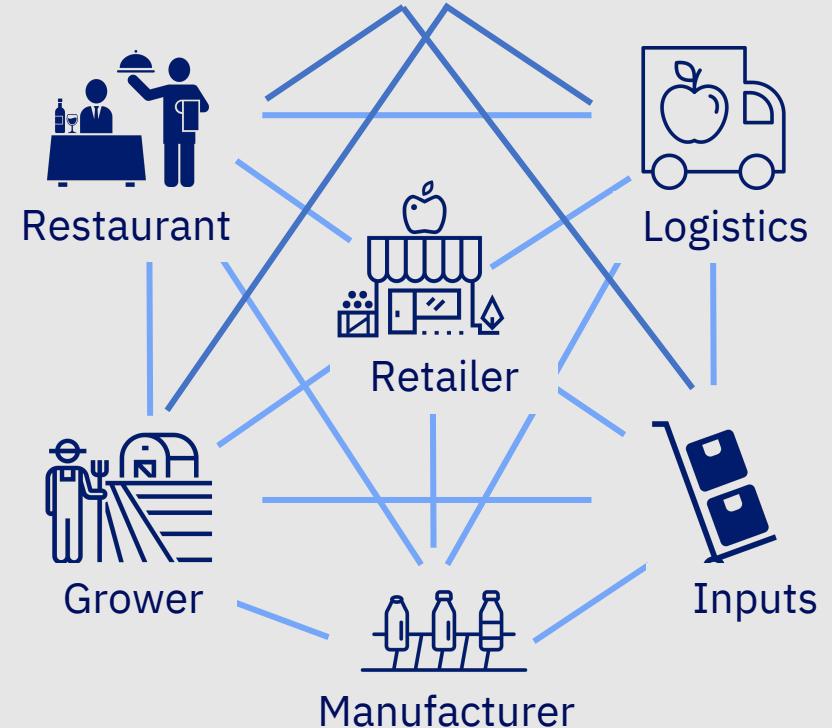
Financial	Public Sector	Retail	Insurance	Manufacturing
• Trade Finance • Cross currency payments • Mortgages • Letters of Credit	• Asset Registration • Citizen Identity • Medical records • Medicine supply chain	• Supply chain • **Loyalty programs** • Information sharing (supplier – retailer)	• Claims processing • Risk provenance • Asset usage history • Claims file	• Supply chain • Product parts • Maintenance tracking

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Today, traditional system constructs limit transparency

The Problem:

- **Data is siloed**

- 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**

- Because everyone maintains their own record of transactions, **differences** take time and resources to reconcile

The food industry today

Restaurant · Logistics · Retailer · Grower · Inputs · Manufacturer
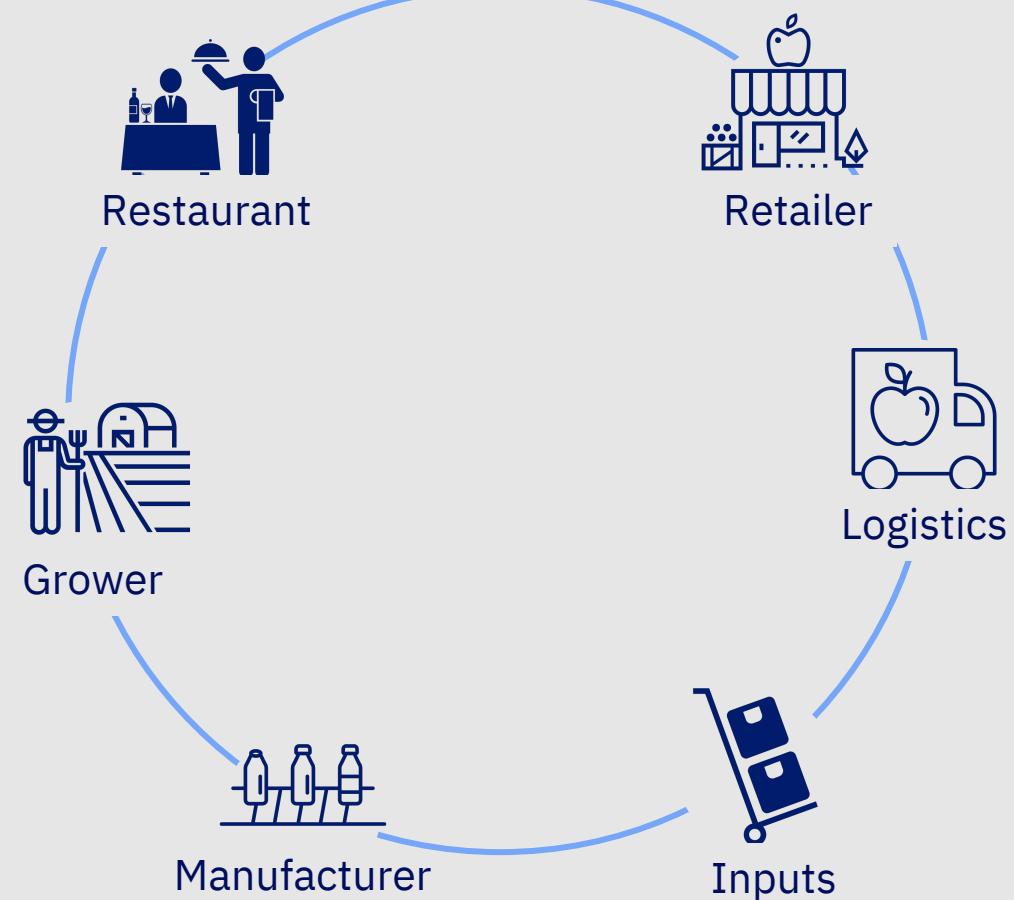
Blockchain transforms systems with trust and transparency

The Solution:
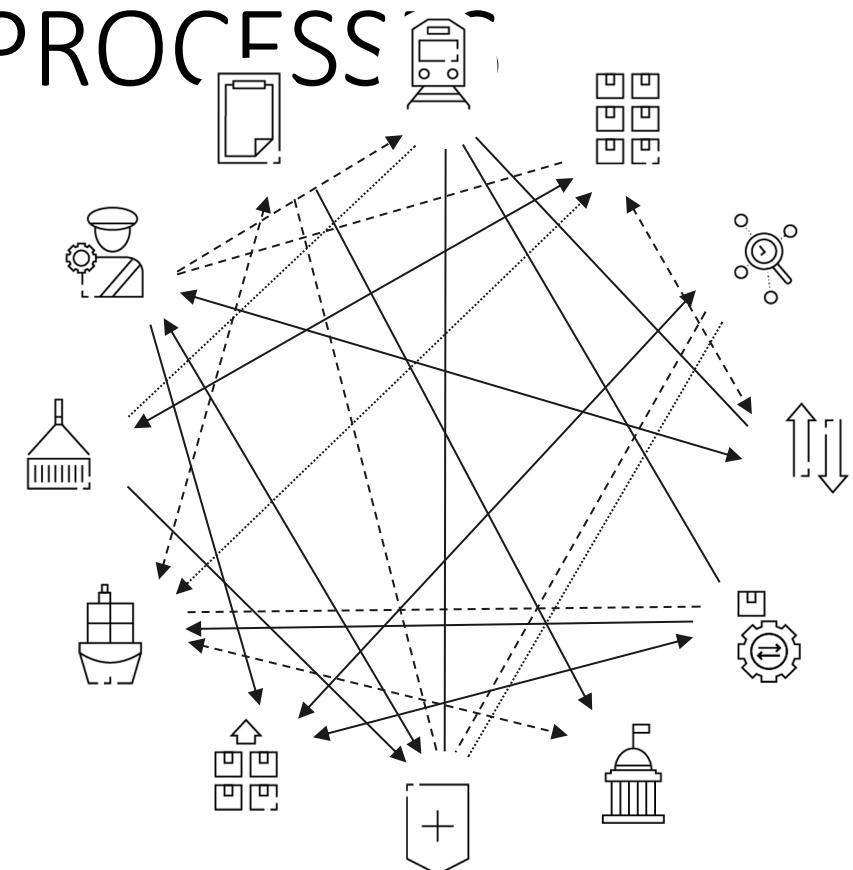
- Blockchain provides an **independent data-sharing platform**

- **Instant transparency** into the transactions they are authorized to view; no intermediation required

- **Data immutability** creates an auditable record of all transactions, disincentivizing fraudulent behavior

- **Dispute resolution** from the shared ledger can be automated saving time and resources

The food industry with blockchain

Restaurant

Retailer

Logistics

Grower

Inputs

Manufacturer

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# GLOBAL TRADE IS HIGHLY INEFFICIENT AND BURDENED BY PAPER-BASED PROCESSES
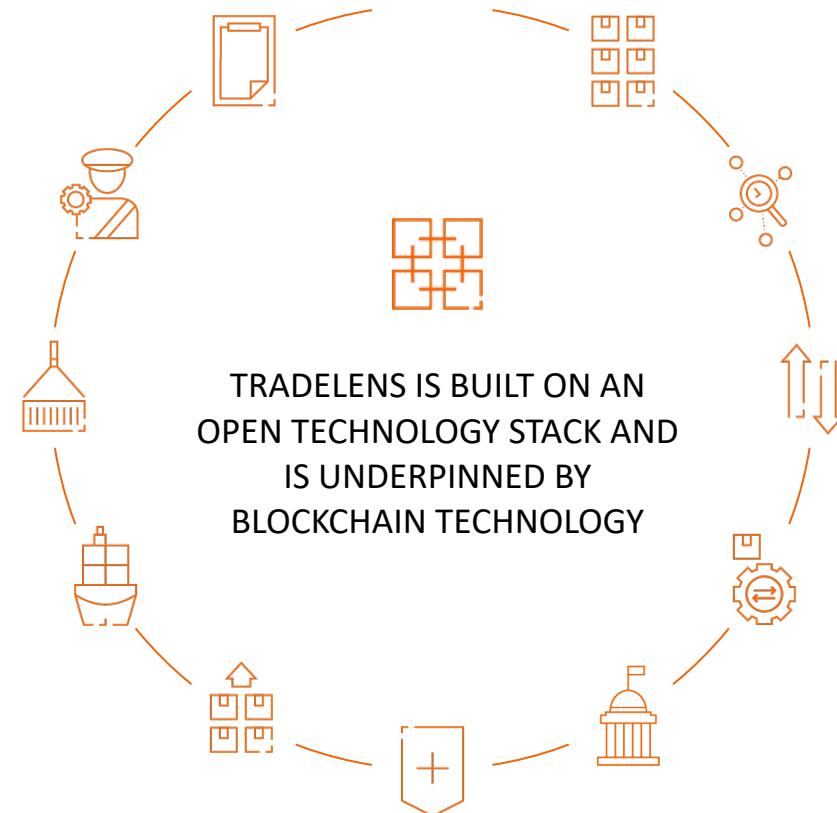
+ **Data trapped in organizational silos**

+ **Manual, time-consuming, paper-based processes**

+ **Clearance takes too long and is often subject to fraud**

+ **High costs and poor customer service**

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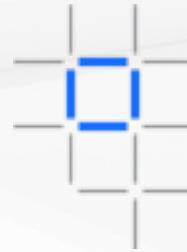
OUR MISSION
DIGITIZE THE GLOBAL SUPPLY CHAIN

+ **Connect the ecosystem**

+ **Drive true information sharing**

+ **Foster collaboration and trust**

+ **Spur innovation**

TRADELENS IS BUILT ON AN
OPEN TECHNOLOGY STACK AND
IS UNDERPINNED BY
BLOCKCHAIN TECHNOLOGY

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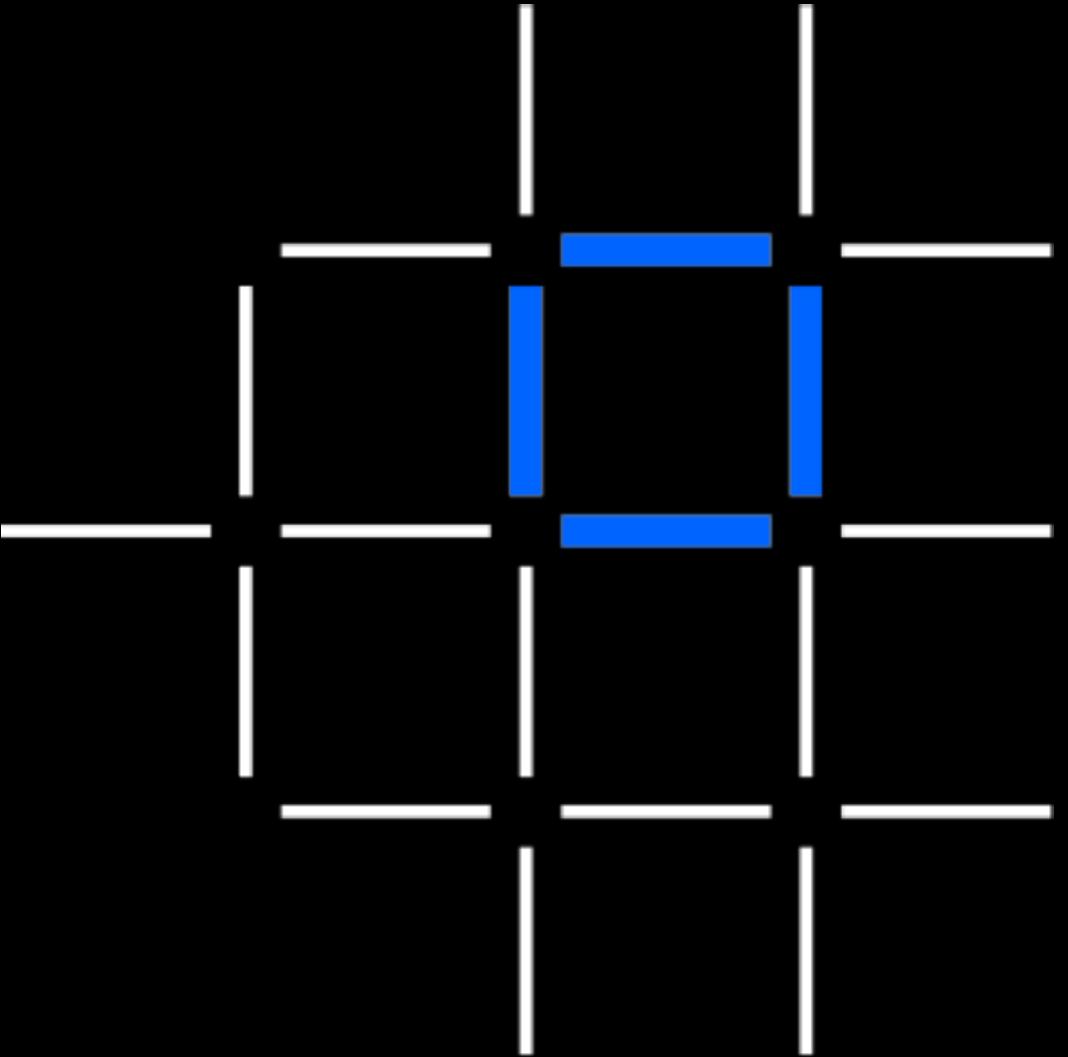
Making blockchain real for business…

Thank You!

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