



**FINESE**

MENA | APAC | AMERICAS

*ENABLING  
DIGITAL  
TRANSFORMATION*

# BRICKS OF BLOCKCHAIN

by  
**Arti Sogani**

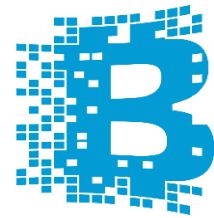
# Agenda

May I please start with some questions...

- 1. Why Blockchain?**
- 2. Blockchain Platform and what it offers**
- 3. When to use Blockchain**
- 4. How to start Blockchain Journey**
- 5. Use cases**
  - Supply chain
  - Banking
  - Healthcare
- 6. Blockchain Use cases being launched by Dubai Government**
- 7. Finesse and Blockchain Offerings**
  - Invoice Chain
- 8. Finesse Blockchain Partnerships**

# Why Blockchain?

Blockchain technology enables bilateral settlement by eliminating midpoint failures, delays, collateral costs, and minimizes credit risks and exchange spreads.



## BLOCKCHAIN

Decentralization

Elimination of  
intermediaries

Real-time  
settlement

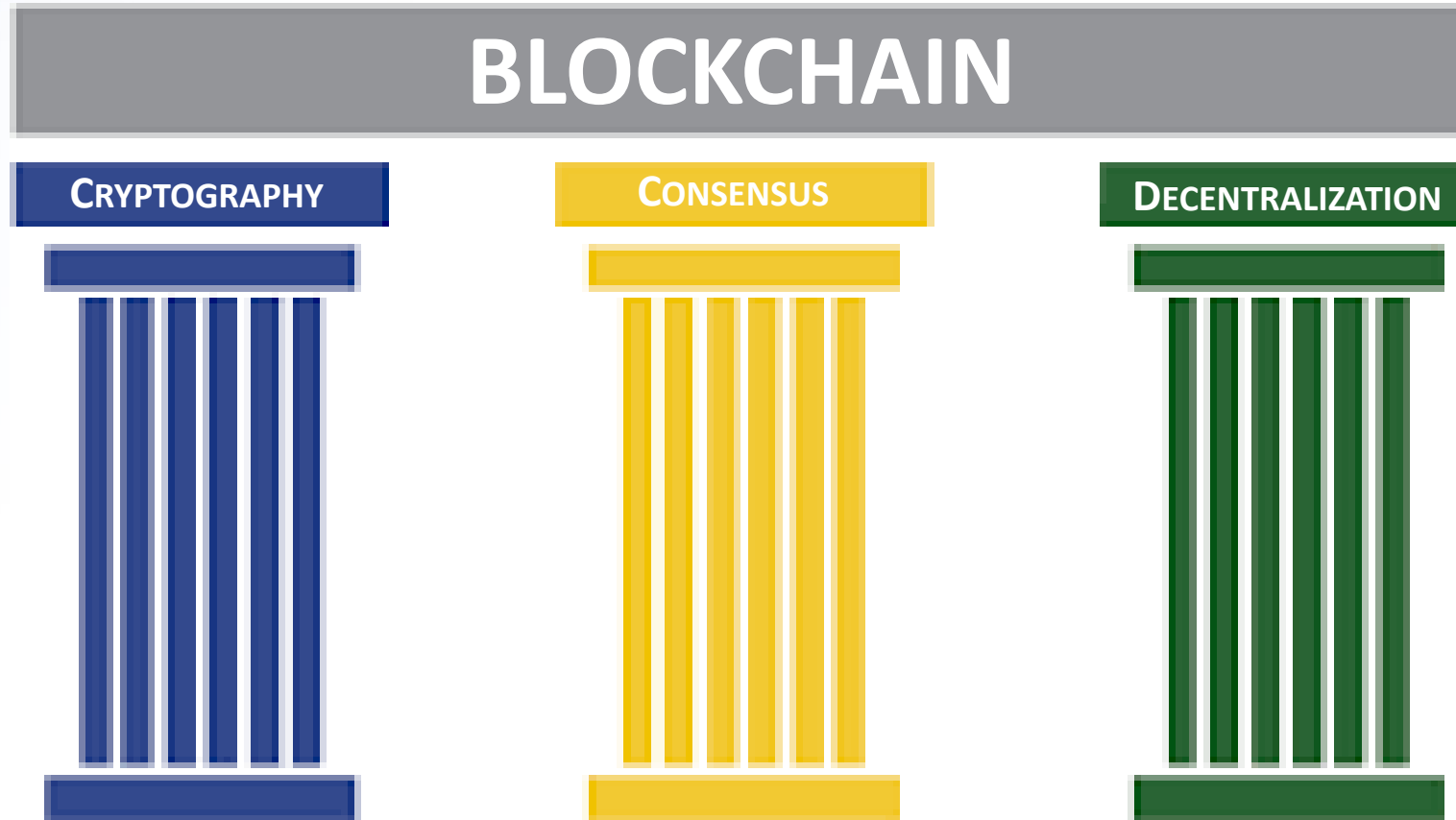
Drastic  
reduction in  
operational  
costs

High levels of  
Transparency

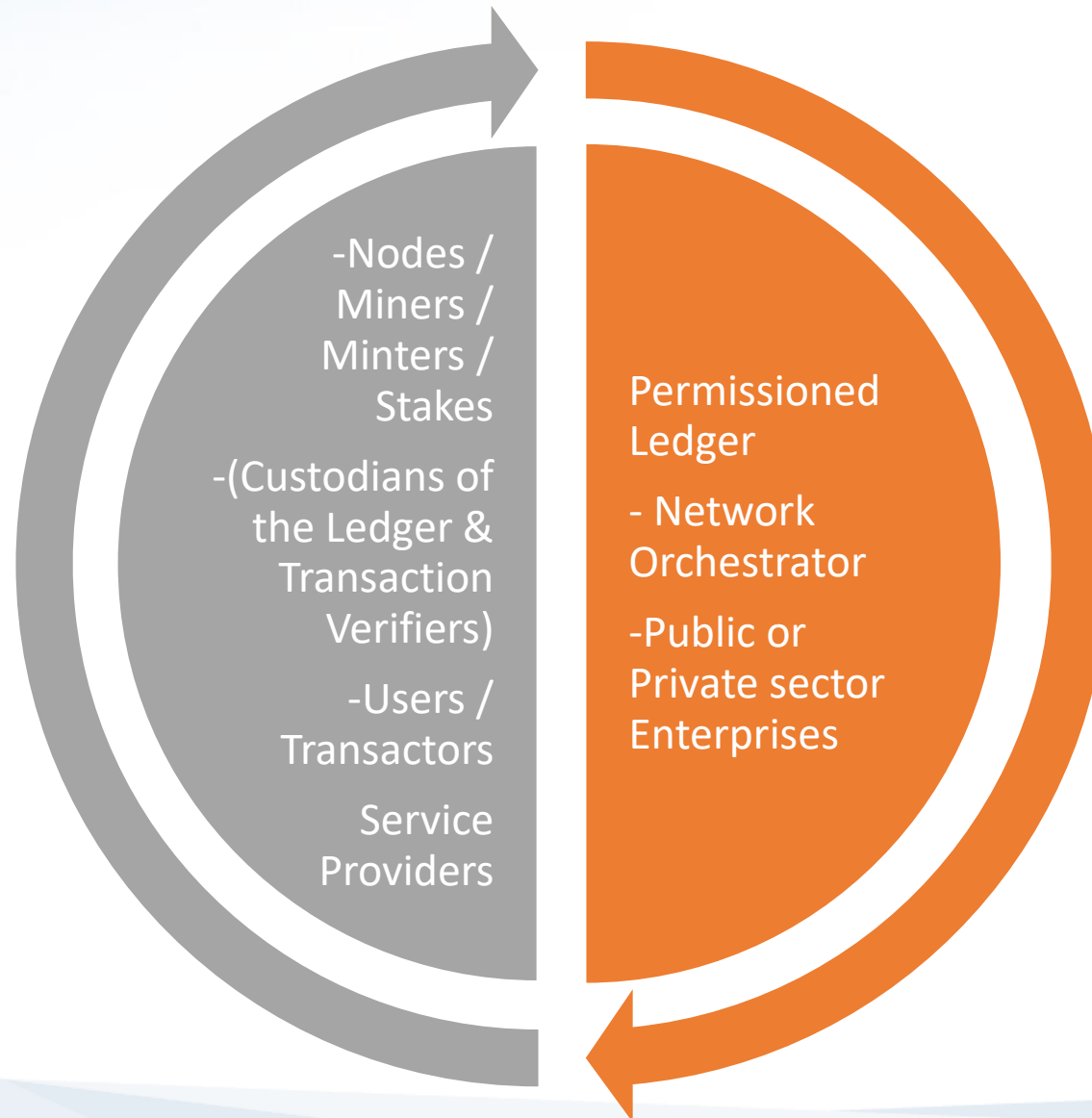
# Blockchain Platform

# Pillars of Blockchain Technology

Blockchain as technology is combination of three concepts combined together



# Participants in the Blockchain Transaction



# Consensus

It's a way in which a majority of network members agree on the value of a piece of data or a proposed transaction, which then updates the ledger. Or in simple words it's just a way for a diverse group to make decisions without conflict.

It allows connected machines (nodes) to work together as a group that can even survive if some of its members fail. This tolerance of failure is another big advantage of blockchains and distributed ledgers, which have a kind of redundancy built in.

## Consensus Algorithms

- Proof of work
- Proof of Stake
- Proof of identity
- etc...



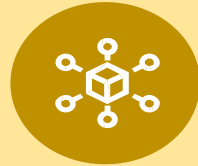
# Blockchain Definition and Offering

Blockchain is a transaction database shared by all nodes participating in a system. In essence, it is a distributed method of tracking and transferring assets online without need for a trusted party, Its a network of computers (nodes) that maintains and validates a record of consensus of those transactions via a cryptographic audit trail.



## Shared Publicly

Servers, or nodes, maintain the entries (known as blocks) and every node sees the transaction data stored in the blocks when created



## Decentralized

There is no central authority required to approve transactions and set rules



## Secure

The database is an immutable and irreversible record. Posts to the ledger cannot be revised or tampered with—not even by the operators of the database



## Trusted

Distributed nature of the network requires computer servers to reach a consensus, which allows for transactions to occur between unknown parties (permission-less) or set of known parties (permissioned)



## Automated

The software is written so that conflicting or double transactions do not become written in the data set and transactions occur automatically



# Blockchain Differentiators

## Efficiency Improvement

- ✓ Reduces multiple hops between parties reducing transaction time
- ✓ Near Real time visibility of asset transactions to all parties
- ✓ All participants hooked onto single distributed system

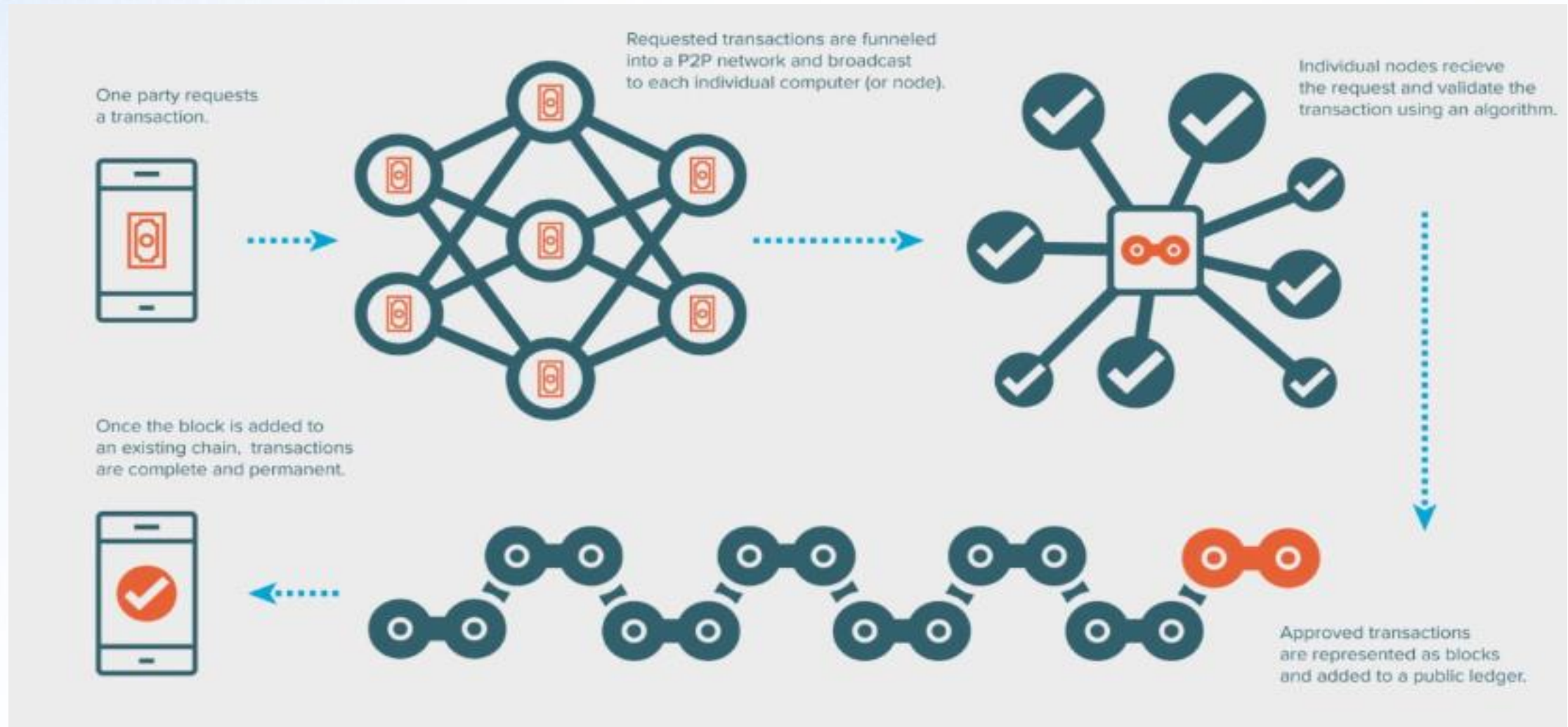
## Cost Savings

- ✓ Faster Settlement and hence better utilization of funds
- ✓ Low transaction Costs
- ✓ Low system maintenance costs- single system used by all participants

## Trust

- ✓ Transparency of transactions to all participants
- ✓ Protection against tampering or change of records
- ✓ No Central Authority - Consensus by all participants

# How Does Blockchain Work?



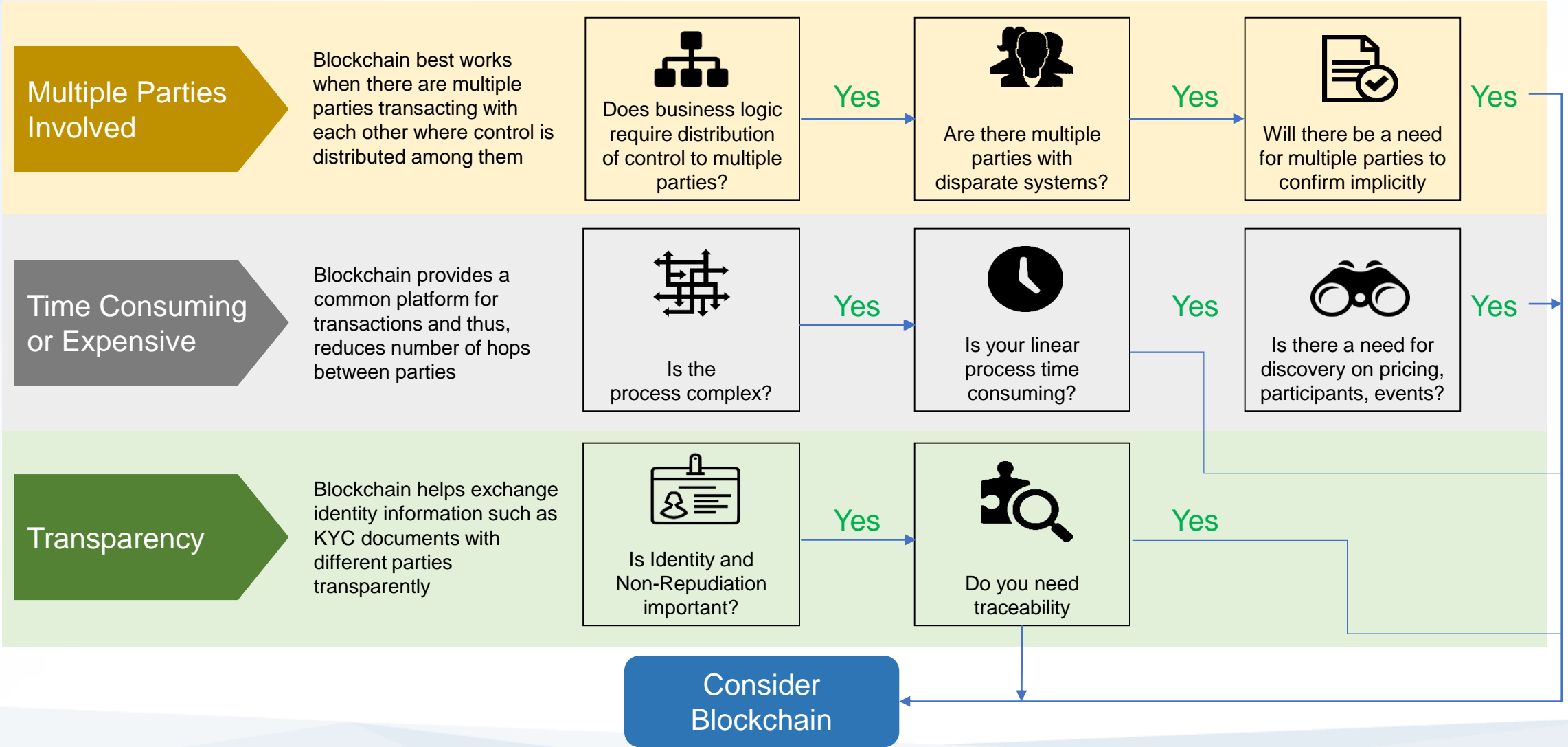
# How to Identify Right Use Cases for Blockchain?

## Some Blockchian Humor.....



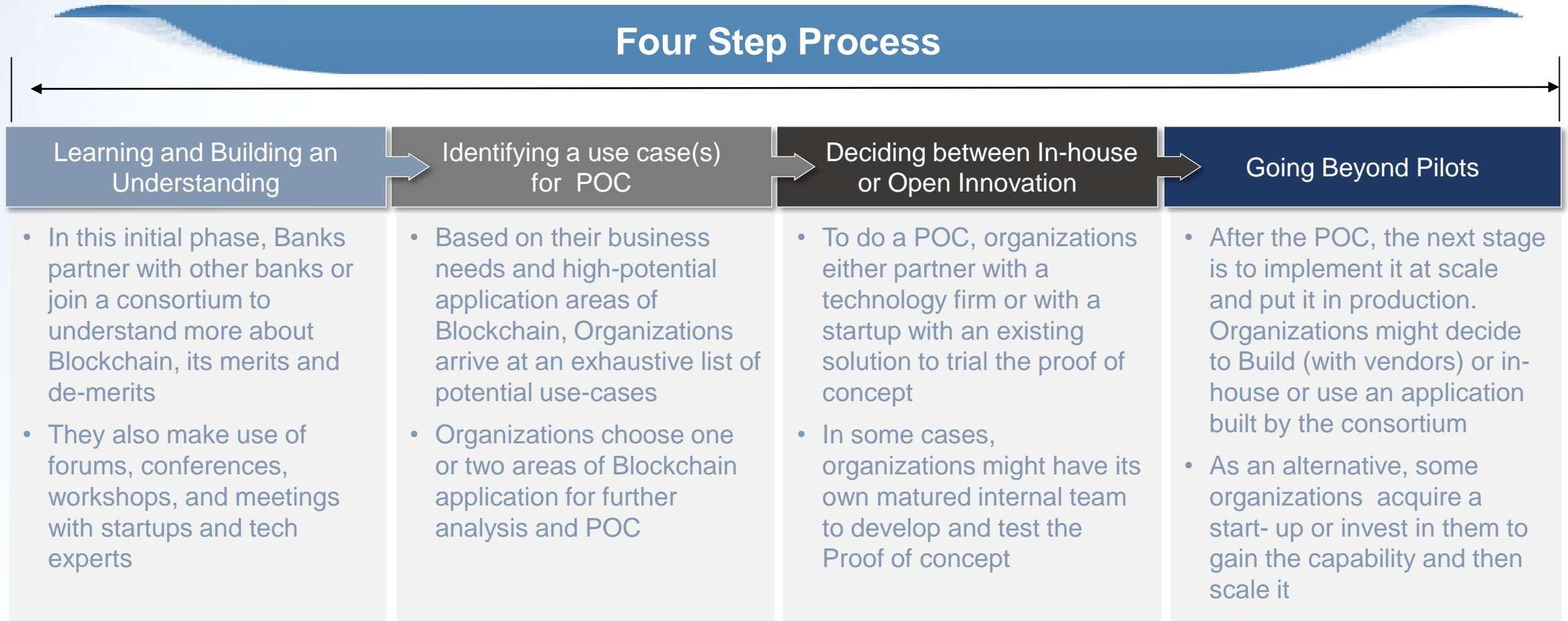
Source : Blockchain Dilbert cartoon by Scott Adams

# When to use Blockchain



# Strategy for Blockchain Adoption

Organizations most commonly follow a four step process when it comes to Blockchain adoption



Post identifying the appropriate strategic option, the organization can go ahead with the Commercial launch/implementation of the concept in live environment.

# Permissionless v Permissioned

## Permissionless:

### Benefits:

- Anyone can use
- Lower cost of trust
- Privacy

### Challenges:

- Regulatory compliance
- Cumbersome governance

## Permissioned:

### Benefits:

- Regulatory compliant
- Orchestrated governance
- Enterprise friendly

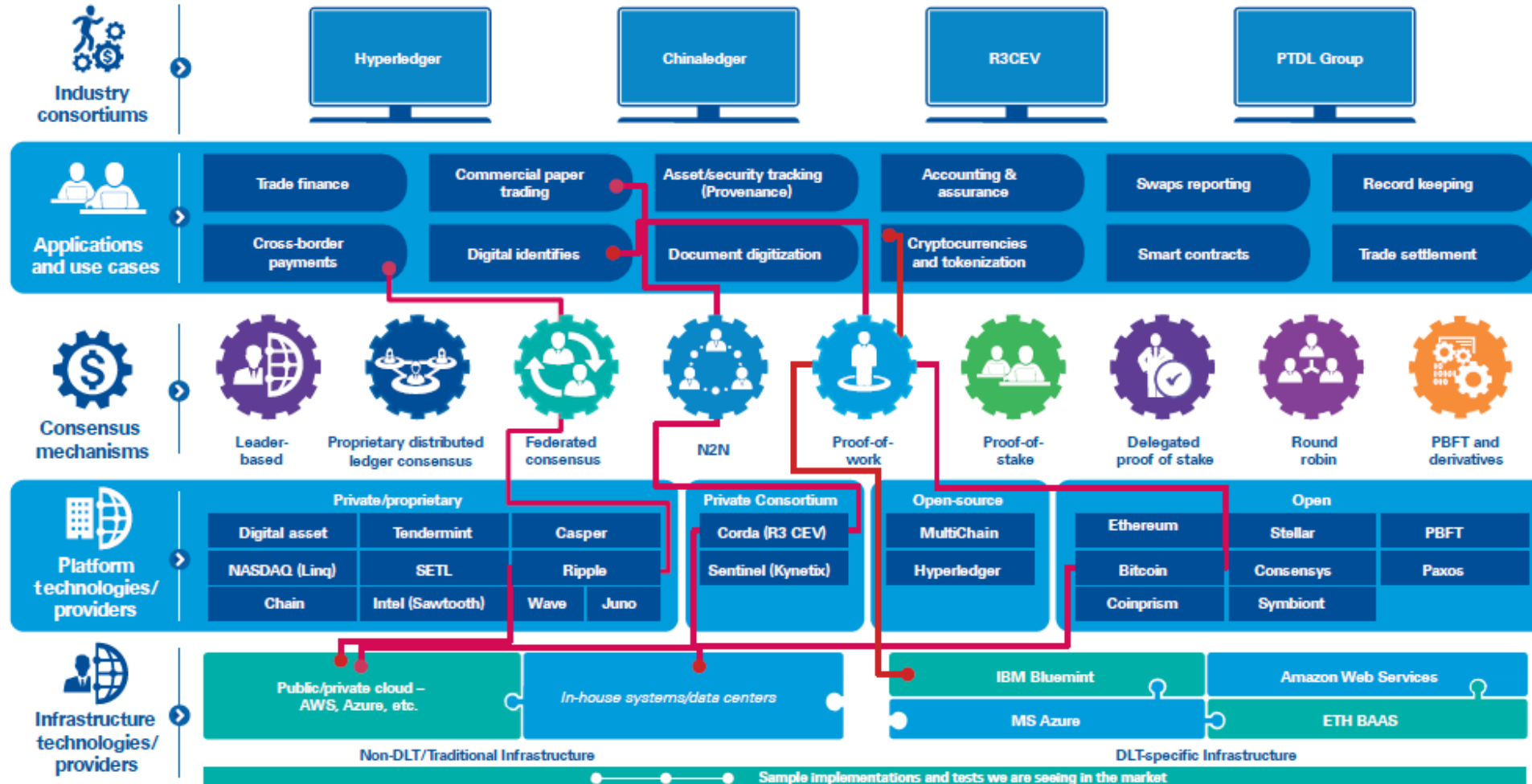
### Challenges:

- Cost of trust
- Technical complexity



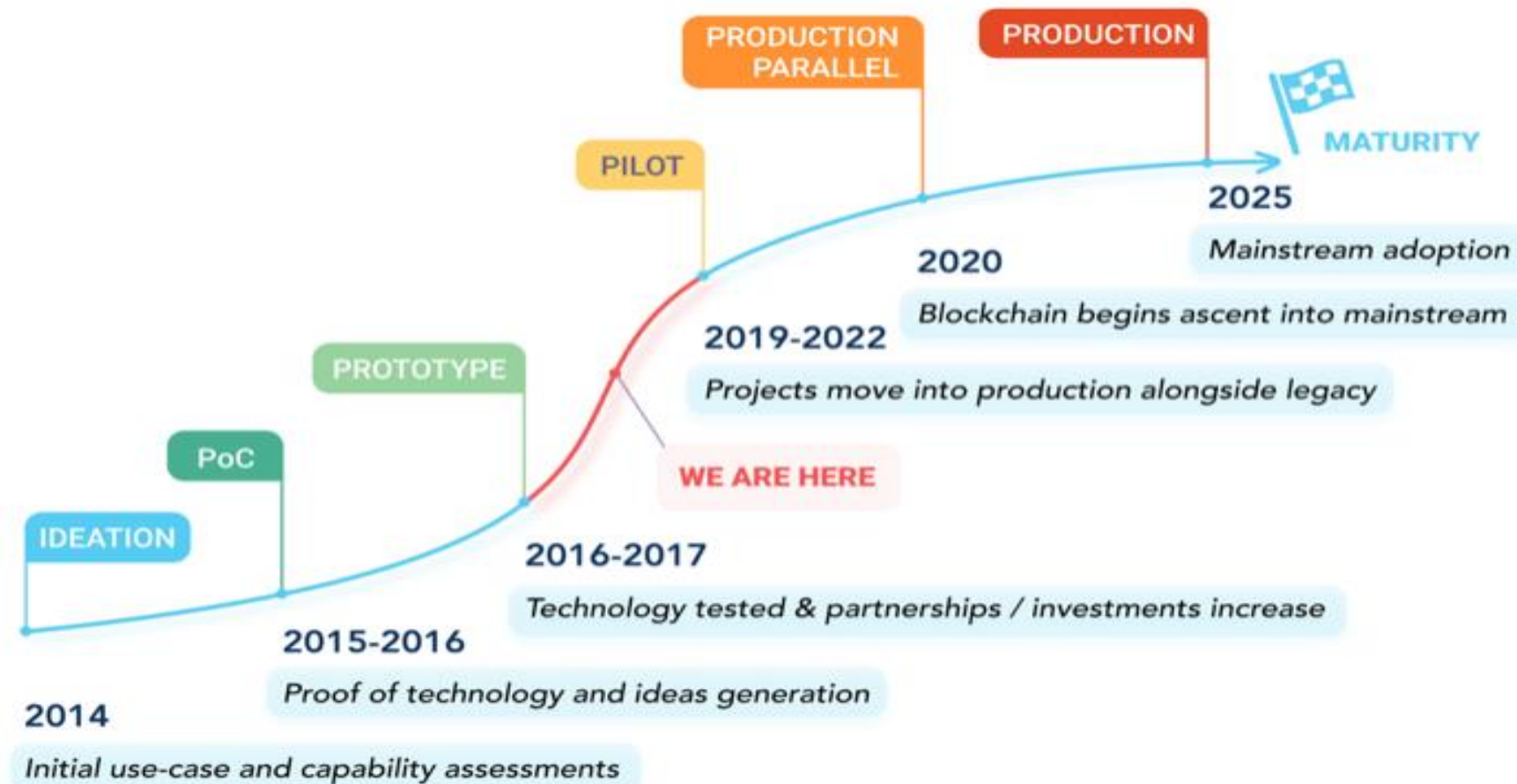
# Distributed Ledger Technologies – Landscape

Various DLTs and other providers are working together to meet market demand for a diverse set of applications and use cases across industries.



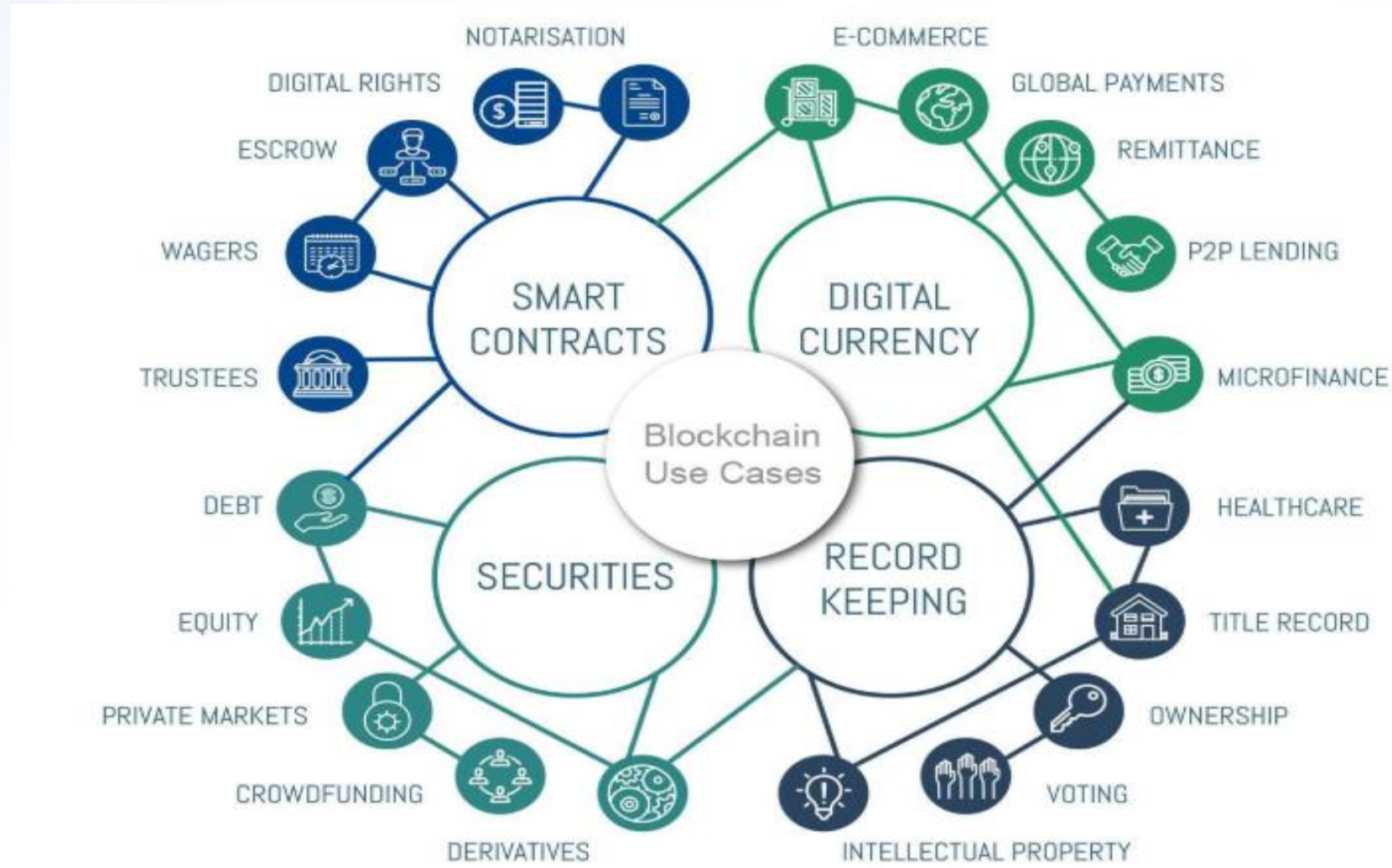


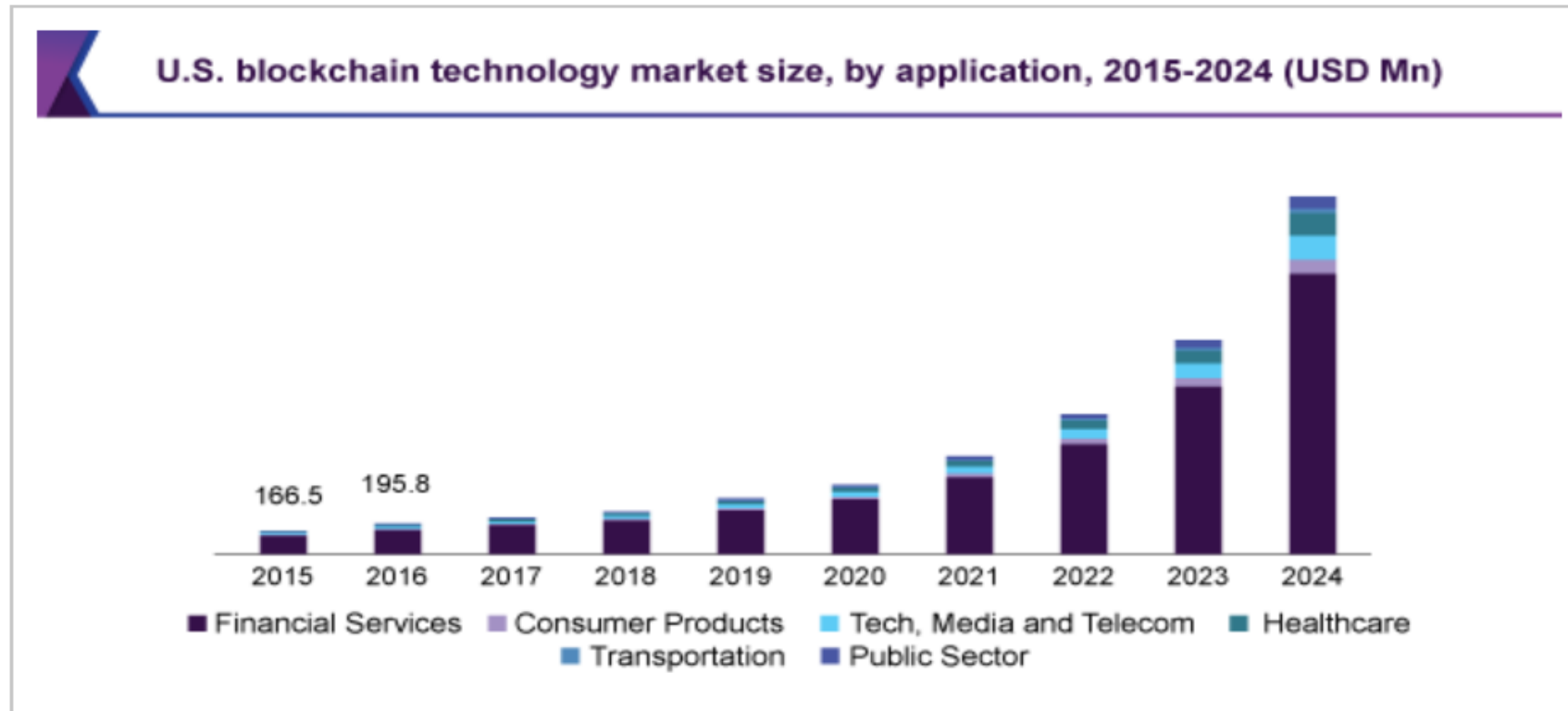
# Blockchain Roadmap from 2014 to 2025



# Blockchain Adoption & Usecases

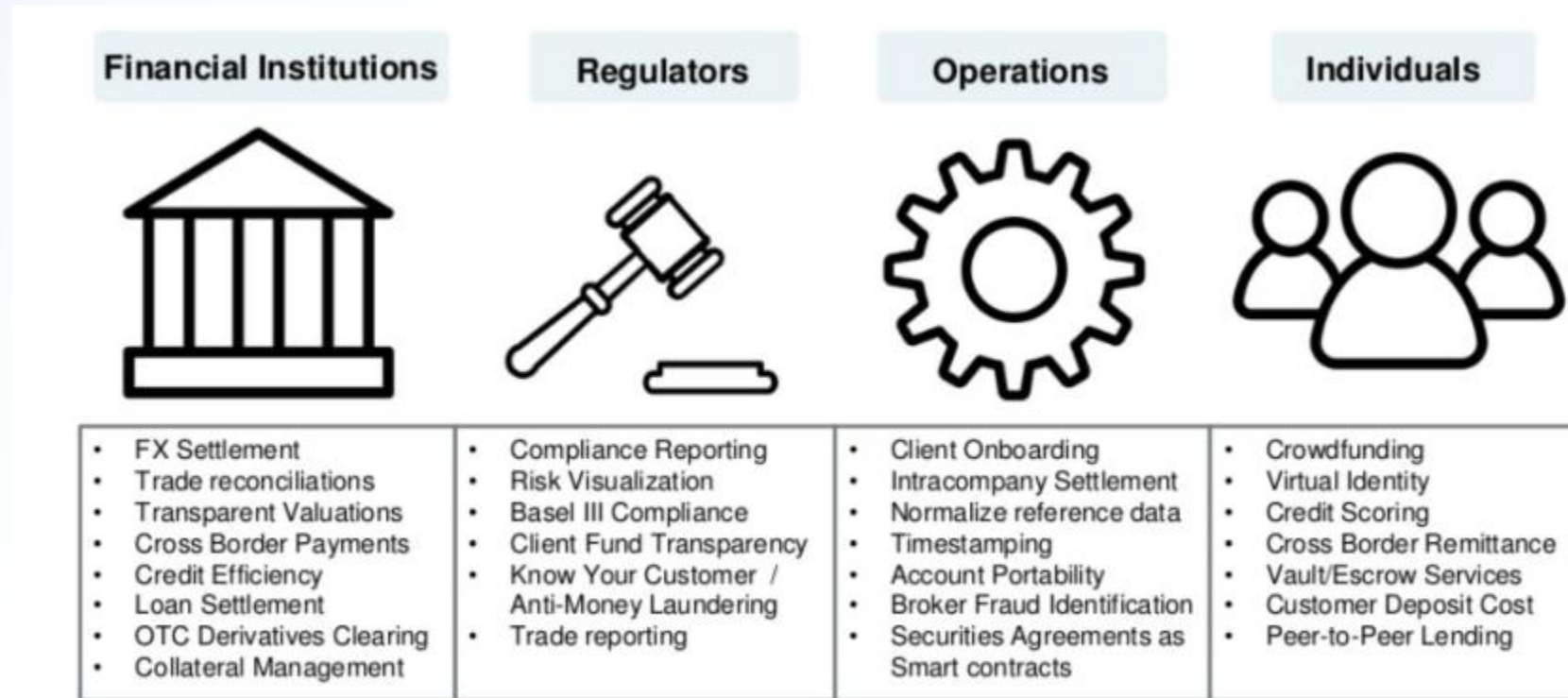
# Major Areas for Blockchain Use Cases





Source : <https://www.grandviewresearch.com/industry-analysis/blockchain-technology-market>

# Financial Industry Blockchain Use Cases By Verticals





# 50+ BLOCKCHAIN REAL WORLD USES CASES

**GOVERNMENT**

Essentia develops world's first blockchain solution to manage international logistics hub together with Traffic Labs and the Finnish Government

**essentia.one**

**IDENTIFICATION**

Voter registration is being facilitated via a blockchain project in Switzerland spearheaded by Uport.

**uport**

**MOBILE PAYMENTS**

The blockchain ledger that Ripple uses has been latched onto by a group of Japanese banks, who will be using it for quick mobile payments.

**ripple**

**INSURANCE**

A smart contract-based blockchain is being used by Insurer American International Group Inc as a means of saving costs and increasing transparency.

**AIG**

**ENDANGERED SPECIES PROTECTION**

The protection of endangered species is being facilitated via a blockchain project that records the activities of these rare animals.

**CARBON OFFSETS**

IBM is using the Hyperledger Fabric blockchain in China to monitor carbon offset trading.

**IBM**  
**HYPERLEDGER**

**ENTERPRISE**

Ethereum's blockchain can be accessed as a cloud-based service courtesy of Microsoft Azure.

**Microsoft Azure**

**BORDER CONTROL**

Essentia has devised a border control system that would use blockchain to store passenger data in the Netherlands.

**essentia.one**

**SUPPLY CHAINS**

IBM and Walmart have partnered in China to create a blockchain project that will monitor food safety.

**IBM**  
**Walmart**

**HEALTHCARE**

A number of healthcare systems that store data on the blockchain have been pioneered including MedRec.

**MEDREC**

**SHIPPING**

Shipping is a natural fit for blockchain, and Maersk have been trialling a blockchain-based project within the maritime logistics industry.

**MÆRSK**

**REAL ESTATE**

Blockchain is now being used to complete real estate deals, the first of which was conducted in Kiev by Propy.

**PROPY**

**ENERGY**

Essentia is developing a test project that will help energy suppliers track the distribution of their resources in real time, whilst maintaining data confidentiality.

**essentia.one**

**LAND REGISTRY**

Land registry titles are now being stored on the blockchain in Georgia in a project developed by the National Agency of Public Registry.

**NATIONAL AGENCY OF PUBLIC REGISTRY**

**COMPUTATION**

Digital Currency Group are helping Amazon Web Services examine ways in which the distributed ledger technology can help improve database security.

**DIGITAL CURRENCY GROUP**

**ADVERTISING**

New York Interactive Advertising Exchange has been experimenting with blockchain as a means of providing an ads marketplace for publishers.

**NYIAX**

**BORDER CONTROL**

Essentia is developing a blockchain project for border control that will allow customs agents to record passenger data from an array of inputs and safely store it.

**essentia.one**

**JOURNALISM**

Decentralized journalism, as enabled by blockchain technology, has the potential to prevent censorship and increase transparency, as Civil has shown.

**CIVIL**

**WASTE MANAGEMENT**

Waltonchain is using RFID technology to store waste management data on the blockchain in China.

**ENERGY**

Food importation is another industry where blockchain is proving its worth, with Louis Dreyfus Co trialling a soybean importation operation using this technology.

**LDC**

**DIAMONDS**

The De Beers Group is using blockchain to track the importation and sale of diamonds.

**DE BEERS**

**FINE ART**

By storing certificates of authenticity on the blockchain, it's possible to dramatically reduce art forgeries, as one blockchain project is proving.

**NATIONAL SECURITY**

For the past two years, the US Department of Homeland Security has been using blockchain to record and safely store data captured from its security cameras.

**TOURISM**

In a bid to boost its tourism economy, Hawaii is examining ways in which blockchain-based cryptocurrencies can be adopted throughout the US state.

**TAXATION**

In China, a tax-based initiative is using blockchain to store tax records and electronic invoices led by Miaocai Network.

**ENERGY**

Chile's National Energy Commission has started using blockchain technology as a way of certifying data pertaining to the country's energy usage as it seeks to update its electrical infrastructure.

**CNE**  
**COMISIÓN NACIONAL DE ENERGÍA**

**RAILWAYS**

Russian rail operator Novotrans is storing inventory data on a blockchain pertaining to repair requests and rolling stock.

**НОВОТРАНС**

**ENTERPRISE**

Google is building its own blockchain which will be integrated into its cloud-based services, enabling businesses to store data on it, and to request their own white label version developed by Alphabet Inc.

**Google**  
**Alphabet**

**MUSIC**

Arbit is a blockchain-based project led by former Guns N' Roses drummer Matt Sorum seeking a fairer way to reward musicians for their creative efforts.

**arbit**

**FISHING**

Blockchain technology has been used to provide a transparent record of where fish was caught, as a means of ensuring it was legally landed.

# Blockchain in Supply Chain Management





# 14 ways Blockchain will Transform Banking





# 10 ways Blockchain will Disrupt Insurance



**Fraud Prevention**



**Policy Creation & Claims Processing**



**Streamlining Routine Interactions**



**Risk Prevention**



**On-Demand Insurance**



**Property & Casualty Insurance**



**Reinsurance**



**Microinsurance**



**P2P Insurance**



**Parametric Insurance**

# How Blockchain will Revolutionize Healthcare



# Dubai Smart Government Blockchain Projects

## 21 GOV'T AND 10 PRIVATE SECTOR BLOCKCHAIN USE CASES IDENTIFIED SO FAR



RENTING OR BUYING A PROPERTY  
OBTAINING HOUSING AS A LOCAL



OBTAINING NOTARY SERVICES  
PROCESSING CRIMINAL AND CIVIL CASES  
ISSUING WILLS



CHARGING ELECTRIC VEHICLES



LICENSING MEDICAL INSTITUTIONS AND DOCTORS  
AVAILING E-PRESCRIPTIONS



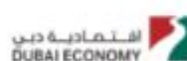
MANAGING THE LIFECYCLE OF A VEHICLE  
OBTAINING NON OBJECTION CERTIFICATES  
(NOCs)



ENSURING FOOD SAFETY  
(CHAIN OF CUSTODY)



OBTAINING A COMMERCIAL LICENSE  
RECONCILING PAYMENTS ON DUBAINOW



ENROLLING AND MANAGING STUDENTS IN SCHOOL  
DEVELOPING SKILLS VIA SMART CITY UNIVERSITY



# Finesse Blockchain Offerings at a Glance



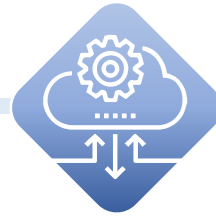
**Blockchain  
Training  
workshops**



**Launch of  
Blockchain  
consortium  
Bankchain**



**Launch of  
Finesse  
Powered Smart  
Contracts**



**Launch of  
Invoice Chain  
& Identity  
Management  
chain**



**Professional  
Services**

- Working on building the use cases with enterprises
- POC implementation
- Deployment



**Consulting  
Services**

- Consultation and auditing on the Build use cases

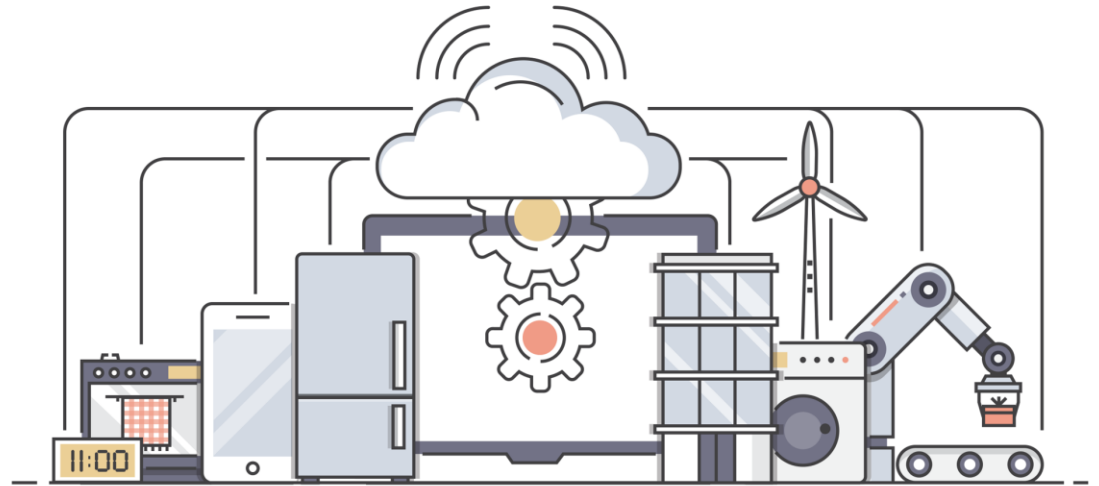
# What is Invoice discounting?

Invoice discounting (also known as Factoring and Supply Chain Finance) enables suppliers to sell their invoices at a discount to investors (Banks, FIs).

This enables suppliers to get faster access to money they are owed and enables buyers to get more time to pay.

Instead of relying on the creditworthiness of suppliers (usually smaller businesses), the investors deal with buyers (usually larger businesses).

This can lower financing costs, optimize working capital and improve business efficiency.



# Finesse - Invoice Chain

In the last 20 years, factoring volume has grown from 400 billion euros to 2.4 trillion euros.





# Why Invoice-CHAIN?

Traditional solutions	Invoice-CHAIN
Investors deal with the suppliers / vendors (usually smaller businesses). This creates a higher risk of default.	Investors deal directly with buyers (large and highly credible businesses). This creates a very low risk of default.
There are thousands of factors and platforms with low availability of quality invoices.	Invoice-CHAIN is a global blockchain that can be used by all banks, FIs and existing factors and platforms.
Most existing factors and platforms operate at a local / country level.	Invoice-CHAIN is a global blockchain.

# Why Invoice-CHAIN? Continued ....

Traditional solutions	Invoice-CHAIN
Multiple KYC platforms operating in silos.	Centralized KYC built into Invoice-CHAIN. Single source of truth.
Price discovery is not possible.	Accurate price discovery.
Absence of credible credit rating.	Immutable and authentic credit rating based on reviews provided by participants.



# Finesse Powered Blockchain Usecases

## Government

- Voting
- Registration (Land , Vehicle , Business)
- Smart ID Verification
- Copyrights

## Banking and Finance

- KYC and AML
- Trade Finance
- Cross Border Remittance
- Crowd Funding
- Compliance Reporting
- Insurance Claim Processing
- Fraud Detection

## Business all Verticals

- Asset Tokenization
- Supply chain management
- Energy trading
- Payments
- IOT
- Loyalty Management

## Education and Healthcare

- Academic Records
- Degree and Certificates
- Patients Record and Reports
- Digital Identity Management

# Strategic partnerships for Blockchain Solutions



**AlphaPoint**



**netcetera**



# Finesse Blockchain Solutions as Managed Services



# Migration Support

## Flexible options

You can opt for to handling certain aspects of your project internally? No problem, customize your migration to your organizations specific needs or budget.

Alternatively you can outsource to us completely

## Dedicated Team

We dedicate a team to your specific project that is led by an experienced project manager that serves as your single point of contact throughout your migration

## Remote/Onsite Deployments

For deployments in our service area, Kryptos will provide onsite assistance or we can perform each of the project steps via our remote tools.

## 24X7 Support

Our migration packages include 30 days of remote post-deployment support for whatever issue arises after your new solution has been implemented.



Offering seamless migration through an efficient process

## DUBAI: THE BLOCKCHAIN CAPITAL OF THE WORLD



Source : <https://scgn.smartdubai.ae/pdf/dubai-blockchain-strategy.pdf>

# Contact Us

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