

# *BE INFORMED*

*Dr. Gordon Jones,  
Co-founder & Chair*

PalmettoChain



**Money,  
Cryptocurrency  
& Blockchain**

# Thomas Burke: How to Stand up a Blockchain Project

## Understanding Blockchain Potential



**Presenter: Thomas Burke**

(MS, CBAP, CSPO, GBA TS\*)

### **Purposes of SCITDA:**

- ❖ To provide a medium for the exchange of information pertinent to the management of State information technology facilities.
- ❖ To provide a consolidation of experience, knowledge, and interest in improving information technology, administration and management.
- ❖ To serve as an instrument for the dissemination of information.

### **Enterprise Professional Services**

Enterprise Managed Services

Technical & Professional Staff Augmentation

Testing as a Service

Higher Education Services

### ❖ **Fortune 100 Firms:**

- ❑ Honed technical Business Analysis and Project Management skills at several large companies within dozens of large-scale SDLC deployments.

### ❖ **Business Analysis Thought Leader**

- ❑ Integral in designing the content for the IIBA's Body of Knowledge Handbook.
- ❑ Blockchain White Paper (October 2019)

### ❖ **Blockchain**

- ❑ Crafted "Blockchain Product Solution" white paper for CACI, International.
- ❑ Accomplished Author (I.E.E.E., BA Times)
- ❑ Created learning and certification materials for the worldwide Government Blockchain Association

\* Global Blockchain Association: Technical Blockchain Specialist.

# Who here knows...



ethereum



**HYPERLEDGER**

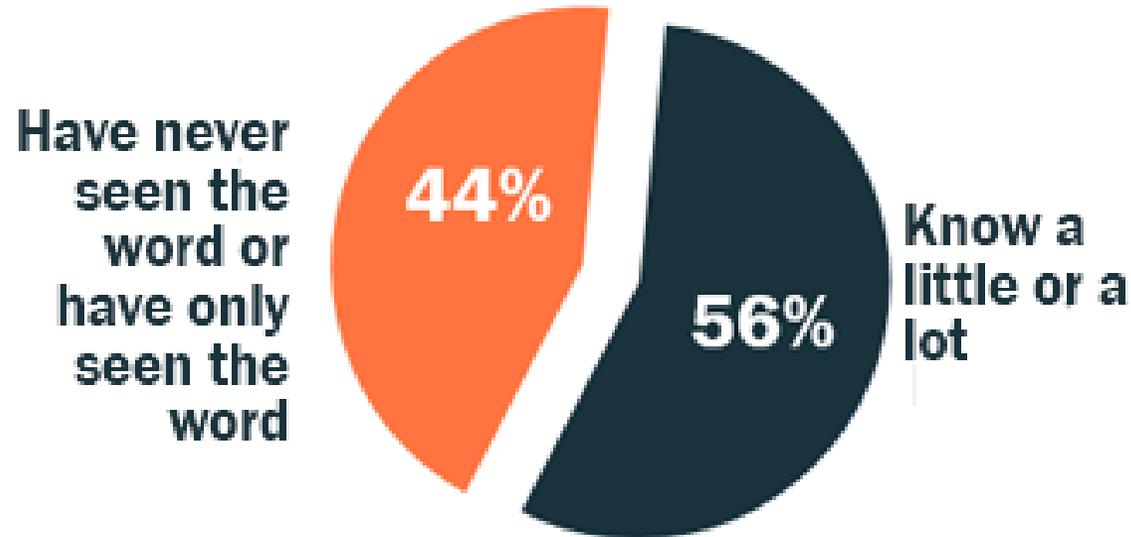


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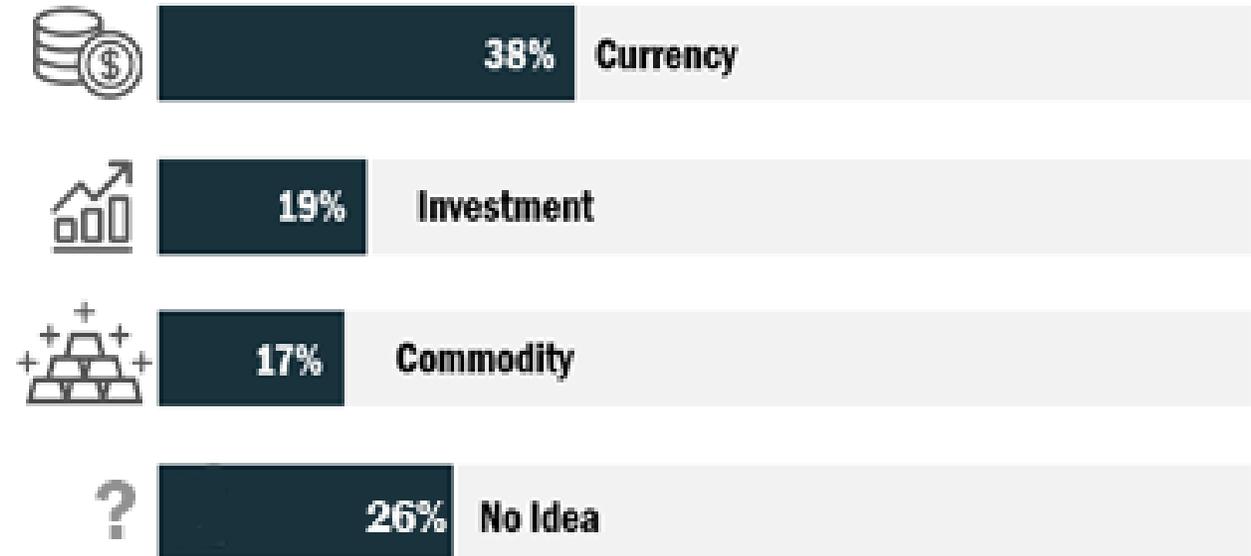


# What US Adults Know about Cryptocurrency

## Familiarity with cryptocurrency

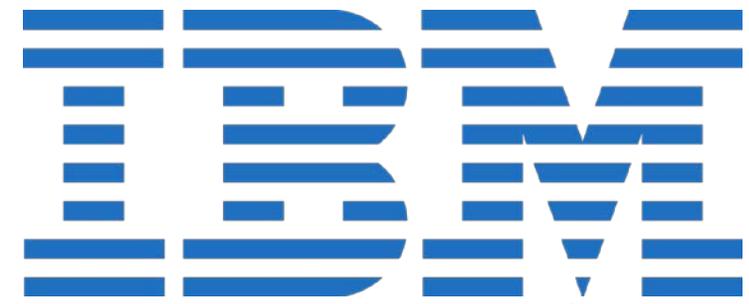


## Would describe cryptocurrency most like...



LOGICA

# Technology Companies, Bankers and NGOs



J.P.Morgan



UBS



BARCLAYS



USAA®



Nasdaq

Alphabet



HSBC



NYSE



CREDIT SUISSE

amazon



BILL & MELINDA

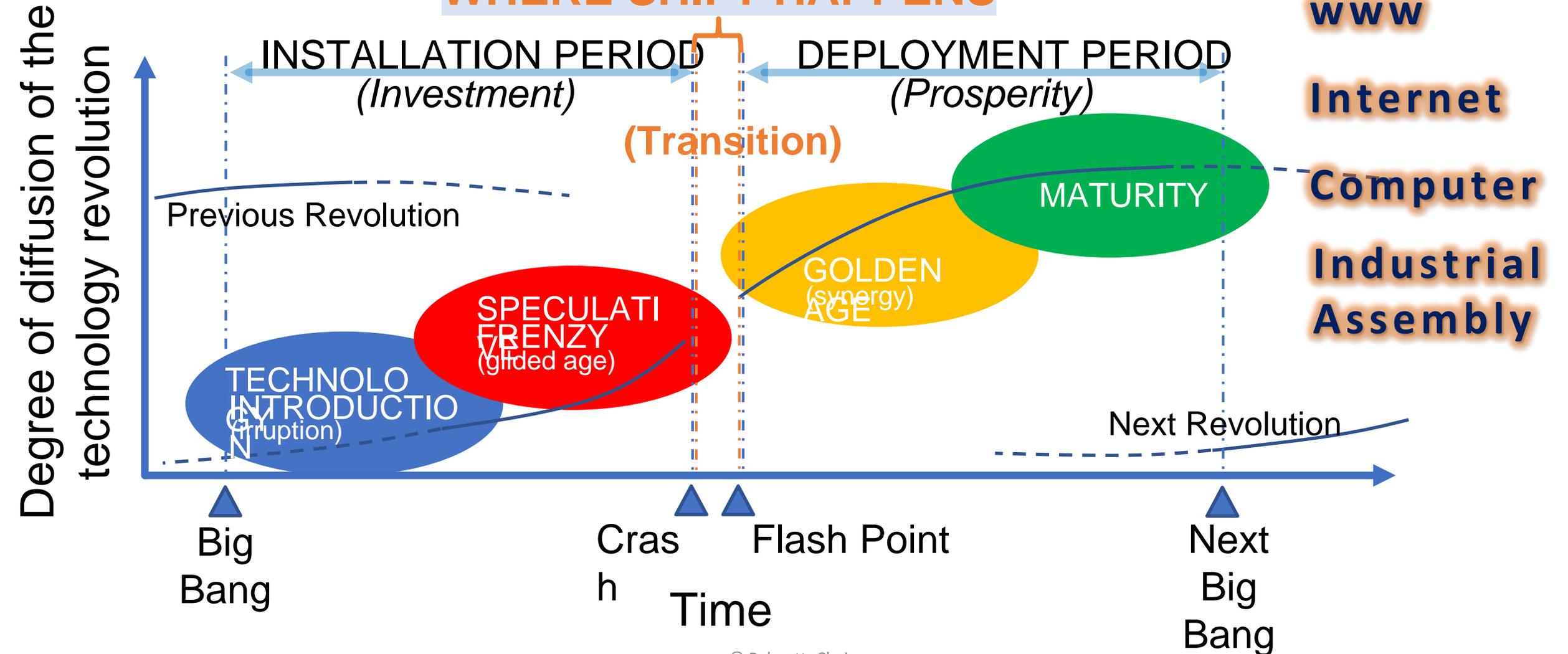
facebook®

GATES *foundation*

# “Fifth Industrial Revolution”

## Life Cycle of a Technology Revolution

**WHERE SHIFT HAPPENS**



# “Fifth Industrial Revolution”

Blockchain is Phase 3 of Internet 3.0...

- Phase 1 was Dot Com , when companies learned how to **publish content**
- Phase 2 was Social Media, when individuals learned how to **exchange content**
- Phase 3 is Blockchain, when individuals learned how to **exchange value** online.

Will change our world in more fundamental ways.

# “Fifth Industrial Revolution”

Blockchains are rapidly becoming the foundation of the Fifth Industrial Revolution:

1. Being used to create distributed market structures to address security risks and eliminate single points of infrastructure failure.
2. Supplying regulators with real time data on financial flow and asset class risks improving oversight of international markets.

# “Fifth Industrial Revolution”

3. Integrating granular source tracking, identity management and concepts of digital scarcity horizontally and vertically through global supply chains.
4. 87% of C-level execs surveyed are considering adopting or are using Blockchain technology.
5. \$8-12 billion reported potential annual savings for banks utilizing Blockchain Technology.

# “Fifth Industrial Revolution”

6. Blockchain solutions are forecasted to reach \$2.1 billion in value by 2019, and \$9.7 billion by 2022.
7. Gartner predicts total business value-add of Blockchain to exceed \$3.1 trillion by 2030.
8. Kodak share prices recently leaped 117% after announcing a new Blockchain initiative.

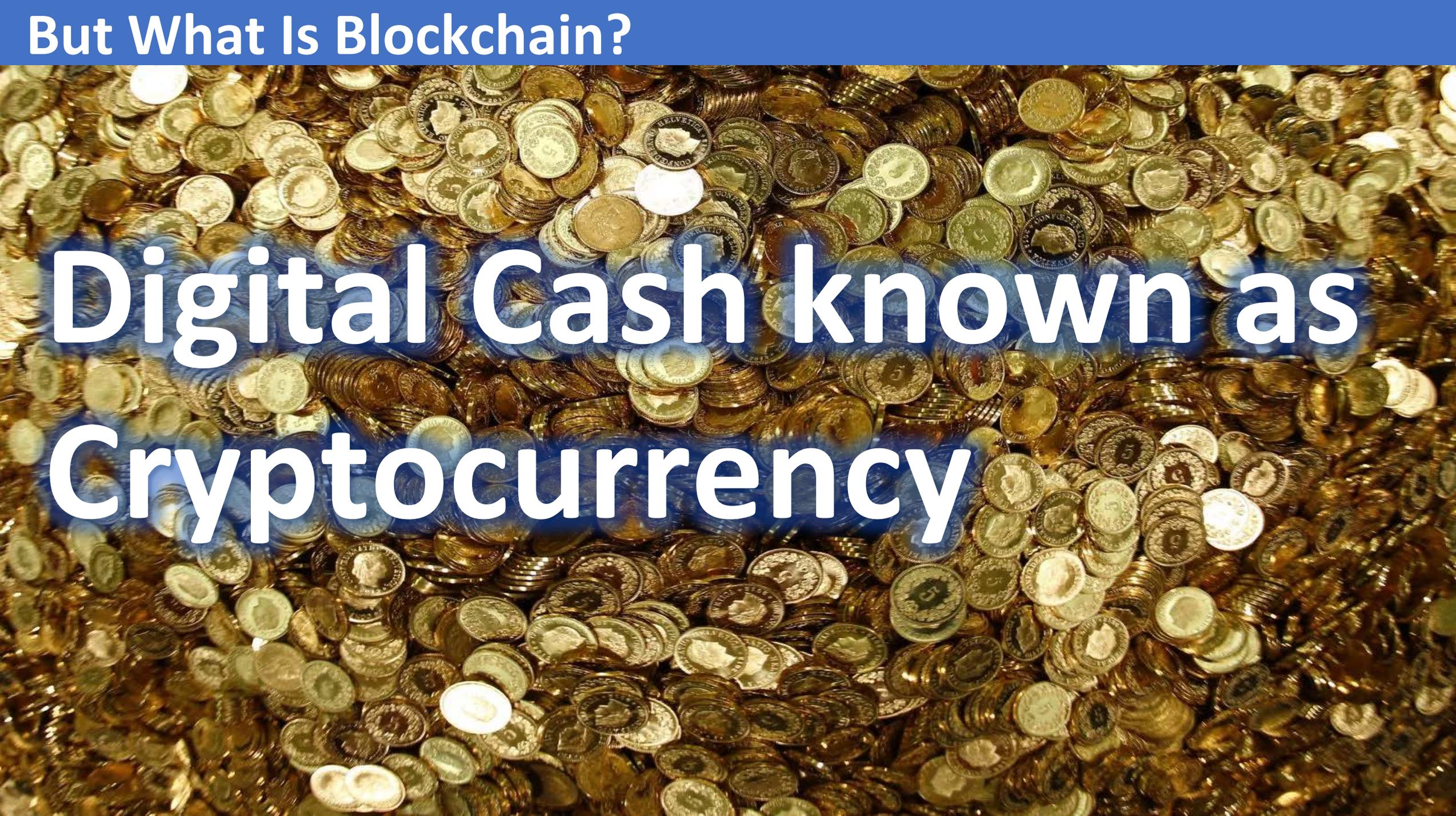
## It's the Business Model

*“We are sitting down around this table trying to decide whose lunch we are going to eat. Because blockchain’s benefits come from decentralisation there is little point replacing one technology with another **without changing the business model.**”*

Richard Crook, Head of Emerging Technology  
Royal Bank of Scotland

Source: Financial Time January 23, 2018

But What Is Blockchain?

A large, dense pile of gold coins, likely representing digital cash or cryptocurrency. The coins are scattered and overlapping, creating a textured, golden background. The text is overlaid on this background.

**Digital Cash known as  
Cryptocurrency**

# All Value is Relative

## The Motel 6 Measuring Stick

1. In 1962 a stay for one night was \$6.00
2. In 1962 a ounce of Gold was \$35.35
3. Where 1oz Gold equaled a stay of 6 nights
4. Today, a stay for one night is \$69
5. Today, an oz of Gold is \$1500
6. Where 1oz of Gold equals a stay of 21 nights

# History of Money

1. Money is basically a measuring stick
2. Money is measuring the value of time
3. JOB fixes your value of time (per hour, annual salary)
4. Creative time is valued by the consumer (Painter)
5. Product is valued by Supply and Demand (Ford)
6. Before Coins, we Bartered
7. Replicas (coins) were first used in 1000BC China

# History of Money

8. First minted coin of Gold in 600BC Lydia (Turkey)
9. First Paper Bank Note in 1661 in Sweden
10. First Digital Money in 1860 by Western Union
11. First **independent** Digital Asset was E-Gold in 1996
12. Milton Friedman predicts trustless “eCash” in 1999
13. Perfect Money was Encrypted Digital Token in 2007

Why did these  
initiatives  
Bust?

# Double Spend Problem of Digital Currency

1. Double-spending is the problem where a currency unit can be spent more than once.
2. This is a flaw that is unique to digital currencies.
3. This is the number one reason that digital currency had never really taken hold in the market anywhere in the world.



# Step One: Creation of a Cryptocurrency

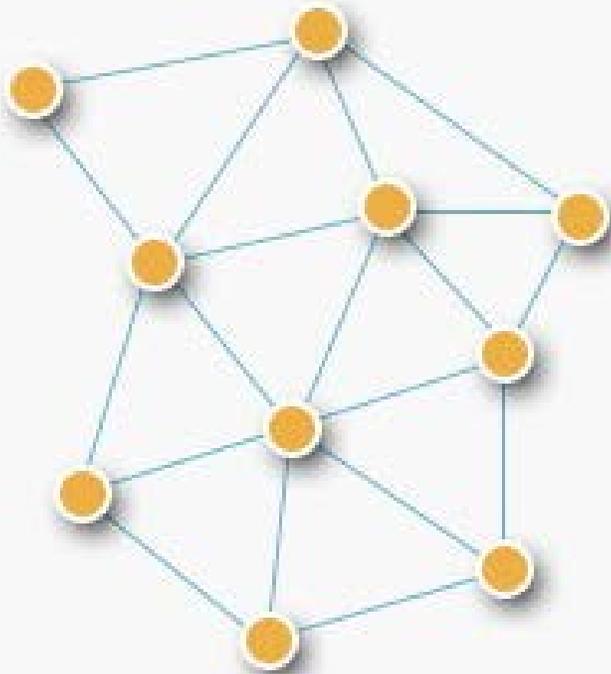
1. Bitcoin was first introduced in 2008 by Satoshi Nakamoto as a P2P **decentralized** digital currency utilizing cryptography solving double-spend
2. Cryptocurrencies are cryptographic based assets used as an:
  - a) Instrument of Exchange (Tokens as a Security)
  - b) Store of Value (Bitcoin as a Currency), and
  - c) Units of Account (ETH or EOS as a Utility).

## Step Two: Creation of Blockchain Technology

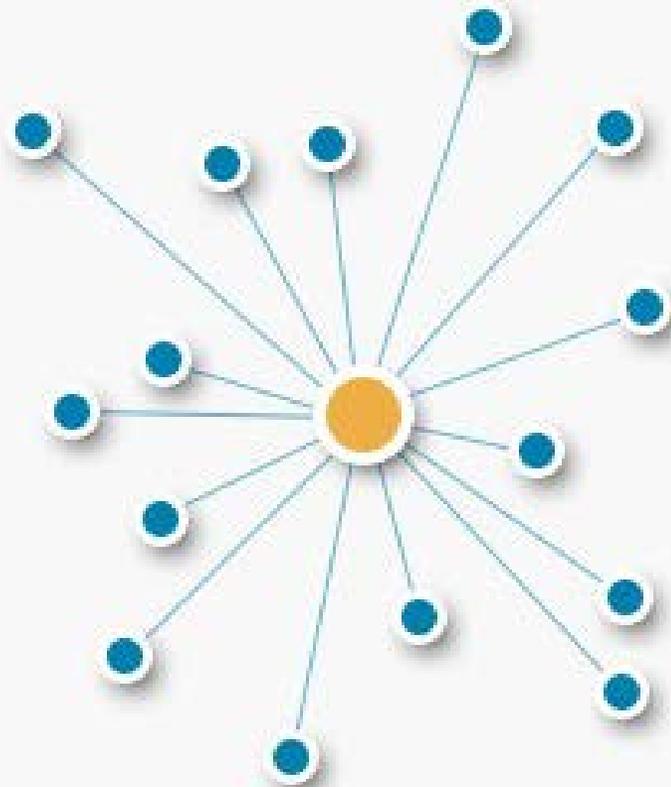
Blockchain is a cryptographic database maintained by a network of computers, each of which stores a copy of the most up-to-date version of the **whole** database.

# What is Blockchain?

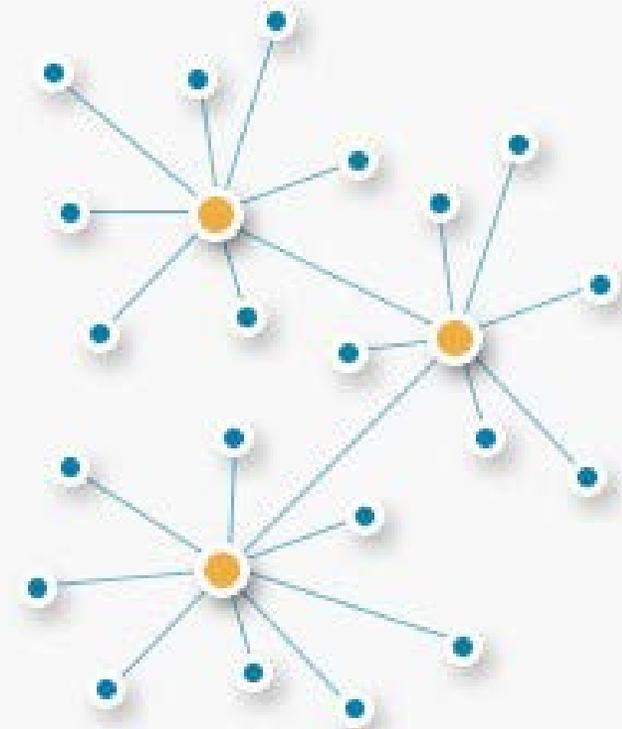
**Distributed**



**Centralized**



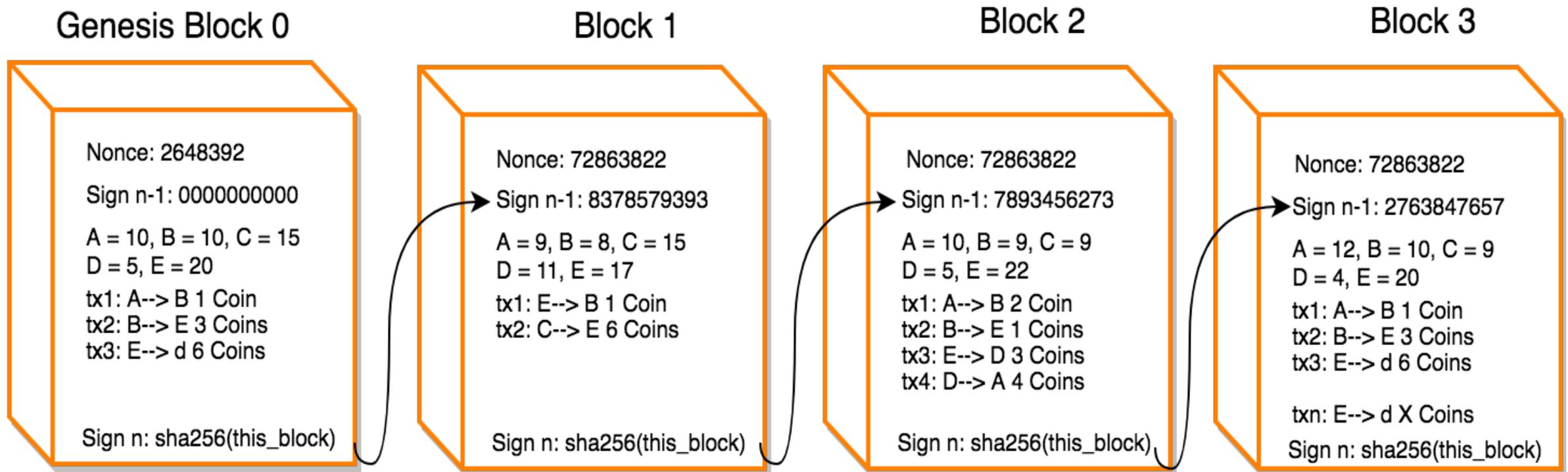
**Decentralized**





# What is Blockchain?

A distributed **decentralized** ledger tracking digital assets on P2P network where each block in a chain refers to previous blocks, like page numbers in a book. Hash based.

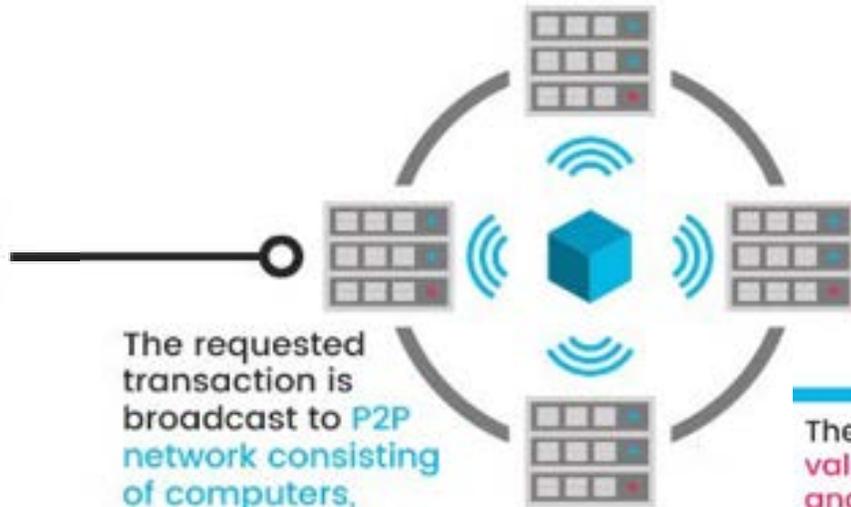


# Transactions through Blockchain

How it works:



Someone requests a transaction.



The requested transaction is broadcast to P2P network consisting of computers, known as nodes.

## Validation

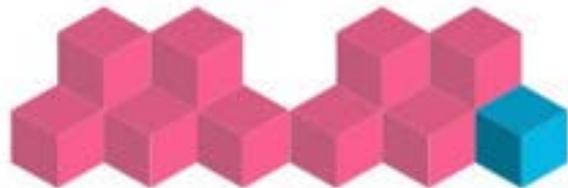
The network of nodes validates the transaction and the user's status using known algorithms.



A verified transaction can involve cryptocurrency, contracts, records, or other information.



The transaction is complete.



The new block is then added to the existing blockchain, in a way that is permanent and unalterable.



Once verified, the transaction is combined with other transactions to create a new block of data for the ledger.

# 3 Ways to Look at Blockchain

1. Alternative form of “cool” database that doesn’t offer anything new (“Snake Oil”)
2. Noticeable/significant/tremendous improvement in process execution, immutability of data, transaction speed, transparency, etc
- 3. Fundamentally changing the way business is done around any transaction, creating decentralized, participant-based ecosystems and disintermediating the World as we know it**

# Trust in Third Party



# Trust in Third Party

Trust is the key element of blockchain technology.

When transactions are executed and settled on a distributed ledger, counterparties don't need to have an established trust relationship.

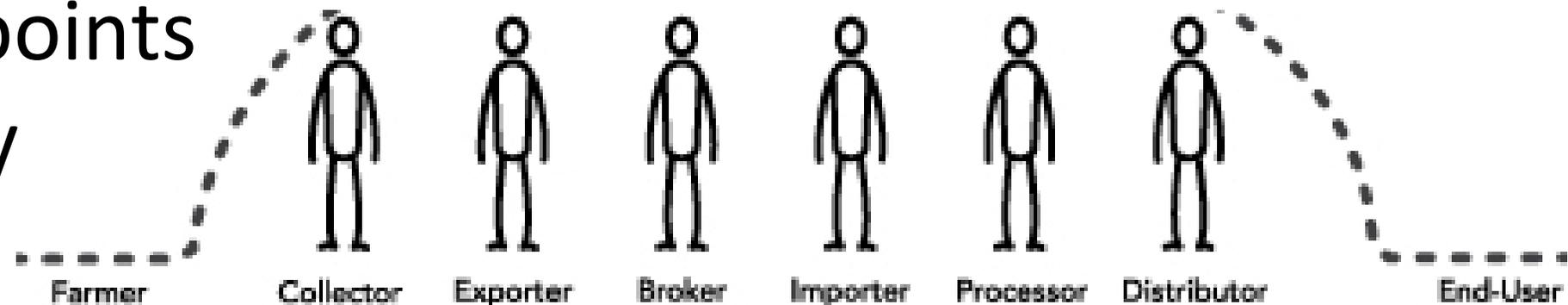
Some call this Trustlessness.

If each participant in the transaction trusts the blockchain itself then they don't need to directly trust each other.

# Trustless

In a decentralized blockchain solution, we don't need to trust an administrator or root owner to trust the data or the transaction.

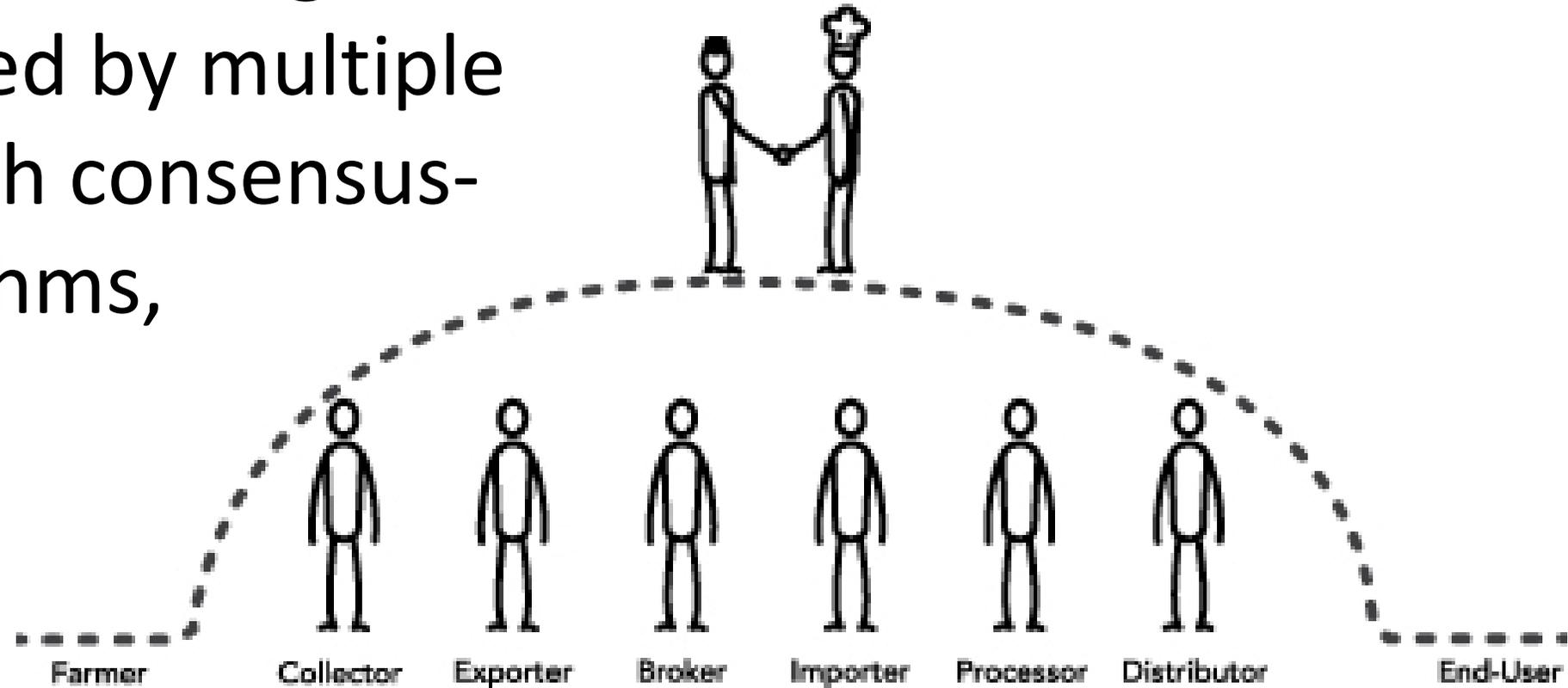
Supply-chain's are centralized with many middlemen required to validate certain data points along the way



# Trustless

How do we trust the raw material available in inventory without trusting the inventory manager?

Blockchain-based ledgers are maintained by multiple nodes through consensus-based algorithms, replacing the “middleman”



# What is Blockchain Mining

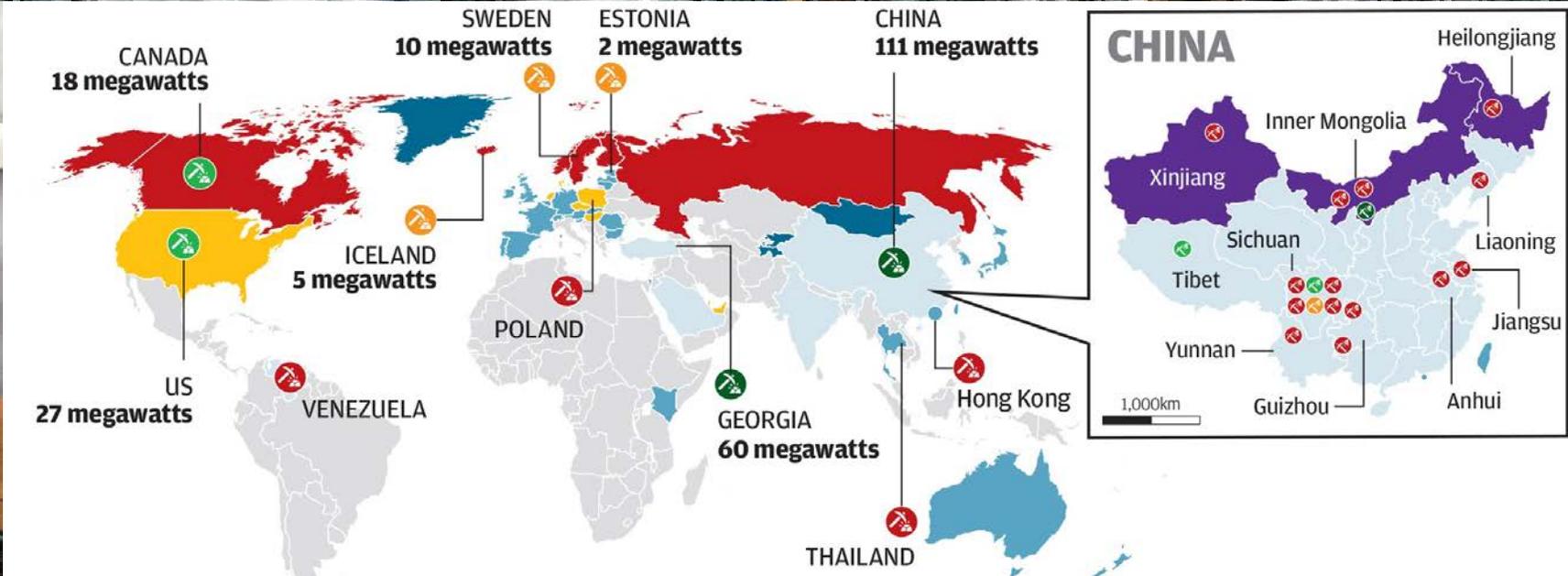
Mining is the process of recording a pending transaction, then adding it to a new Block, which is then appended onto the Blockchain through a mathematical puzzle we call Proof-of-Work.

Miners get rewarded for this receiving new crypto tokens of that Blockchain.

- 5 ETH per Block in Ethereum
- 12.5 BTC per Block in Bitcoin

# Types of Mining

- Solo Mining
- Pool Mining
- CPU Mining
- GPU Mining
- ASIC Mining



# Public Blockchain

1. Anyone can read without explicit authorization
2. Anyone can write without explicit authorization
3. More complex rules required for better security
4. Complex consensus algorithms
5. Computationally expensive to mine & add a block
6. Computational power is distributed globally
7. No one owns it
8. Examples: Bitcoin and Ethereum

# Private Blockchain

1. Only authorized nodes can read the transaction data
2. Only authorized nodes can write to the Blockchain
3. Centrally controlled so security is easier
4. One authorized node may arbitrate for any dispute
5. Easy or computationally less expensive to add a block
6. One or more private entities own the Blockchain
7. More control by one Party instead of no one
8. IBM's Hyperledger Shipping Supply Chain Solution

# When to Use a Blockchain?

## **Store Immutably**

- When things keep adding but older ones do not change
- For example: Court Judgments, Health Records

## **Decentralization**

- When you want to decentralized the control
- Example: User identity management system

## **Proof of Ownership**

- When you want to prove that you are the owner of the digital document
- Example: Property Deeds

# What are Smart Contracts?

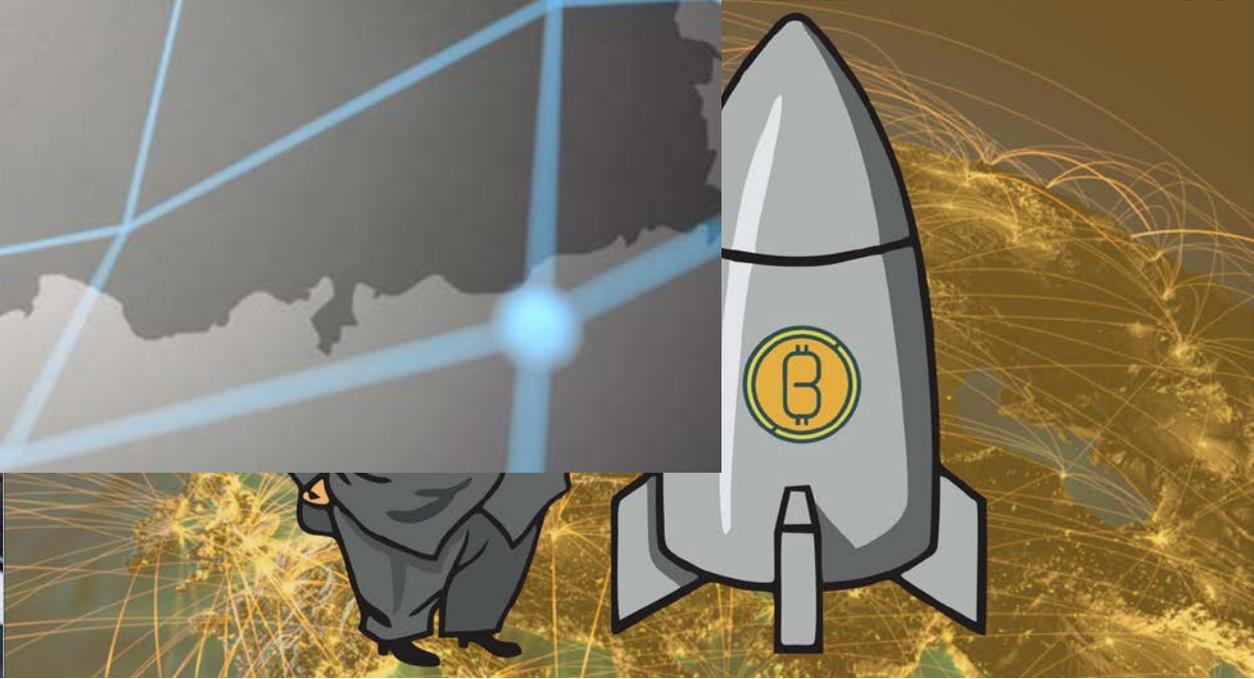
Smart contract is a term used to describe computer program code that is capable of facilitating, executing, and enforcing the negotiation or performance of an agreement (i.e. contract) using Blockchain technology.

The entire process is automated and can act as a complement, or substitute, for legal contracts.

# 19 Industries Set for Disruption

- Banking and Payments
- Cyber Security
- Supply Chain Management
- Forecasting
- Networking and the Internet of Things
- Insurance
- Private Transport and Ride Sharing
- Cloud Storage
- Charity
- Voting
- Government
- Public Benefits
- Healthcare
- Energy Management
- Online Music
- Retail
- Real Estate
- Crowd Funding
- Your Industry

# How Blockchain Brings Freedom to the Oppressed



# How Blockchain is Securing Elections



# SHARE Blockchain & Payment System

## Smart Contract Based Payments

ts





# Legislation in South Carolina

South Carolina offers a great business environment for fintech, but existing legal frameworks are restricting;

**SOUTH CAROLINA BLOCKCHAIN INDUSTRY EMPOWERMENT ACT** would establish South Carolina as a blockchain technology incubator;

**SOUTH CAROLINA FINANCIAL TECHNOLOGY SANDBOX ACT** would set new guidelines for the testing of financial products and services in South Carolina;

Set legal definitions to the primary terms of blockchain and fintech such as “digital assets”, “virtual currencies”, and “security tokens”;

Clarify Anti-Money Laundering Requirements for Virtual Currencies;

Create a framework for banks to provide custodial services for digital assets.

# What you've learned today:

1. A brief history of money
2. Why we created cryptocurrencies
3. How we enabled them with blockchain technology
4. Ways blockchain technology can serve the public
5. State legislation initiatives to create the business environment so SC may lead the nation in fintech
6. Both this presentation and Tom's @

[PalmettoChain.com](https://PalmettoChain.com)

# PalmettoChain



A Professional Association  
Advocating for the Development  
of a Blockchain friendly business  
environment so that South Carolina  
may lead the Nation in establishing  
a Blockchain Ecosystem

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