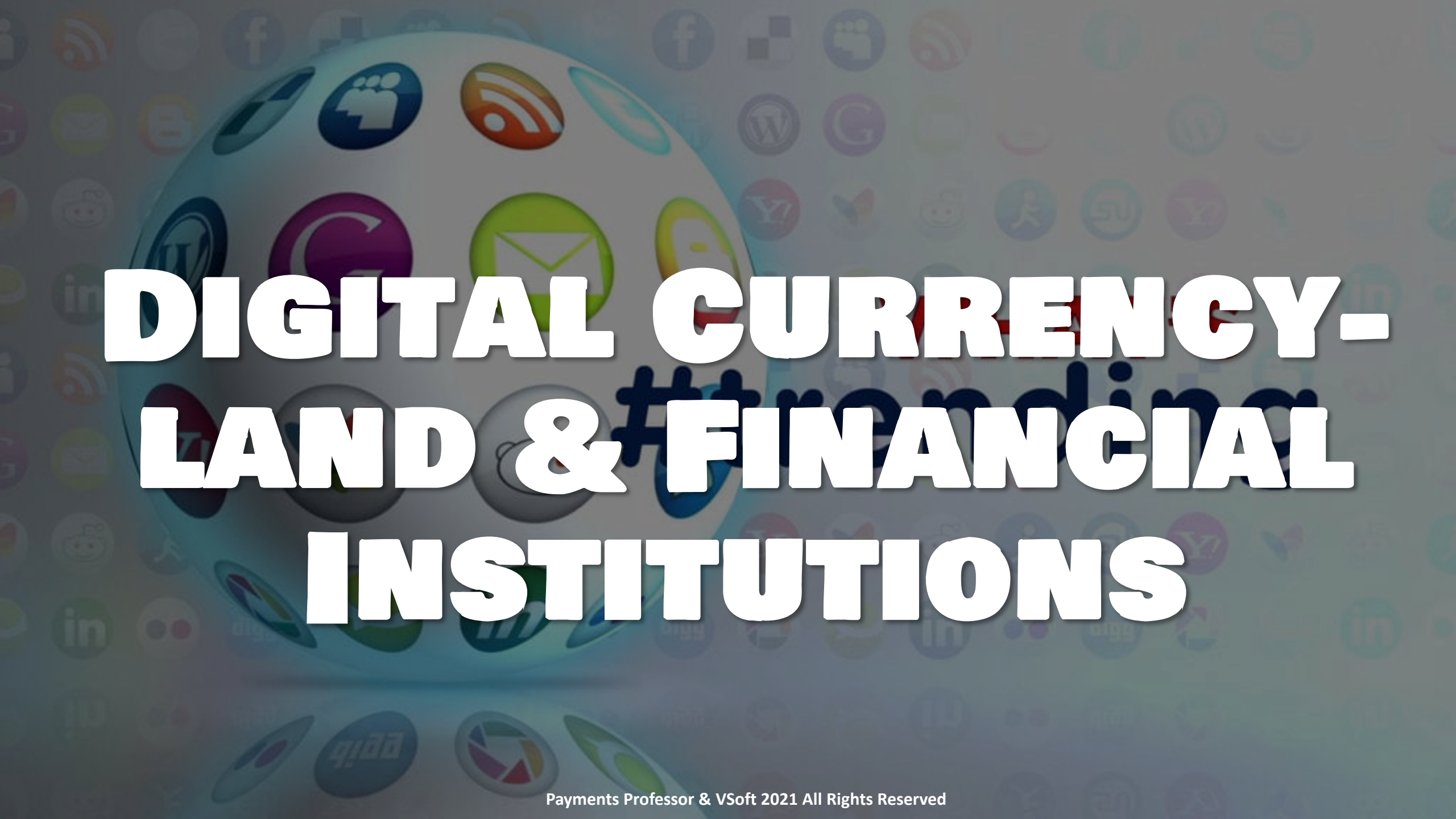

Digital Currency-land & #Financial Institutions

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WARNING

DISCLAIMER

Speaker has no filter and prone to expressing authentic opinions and views

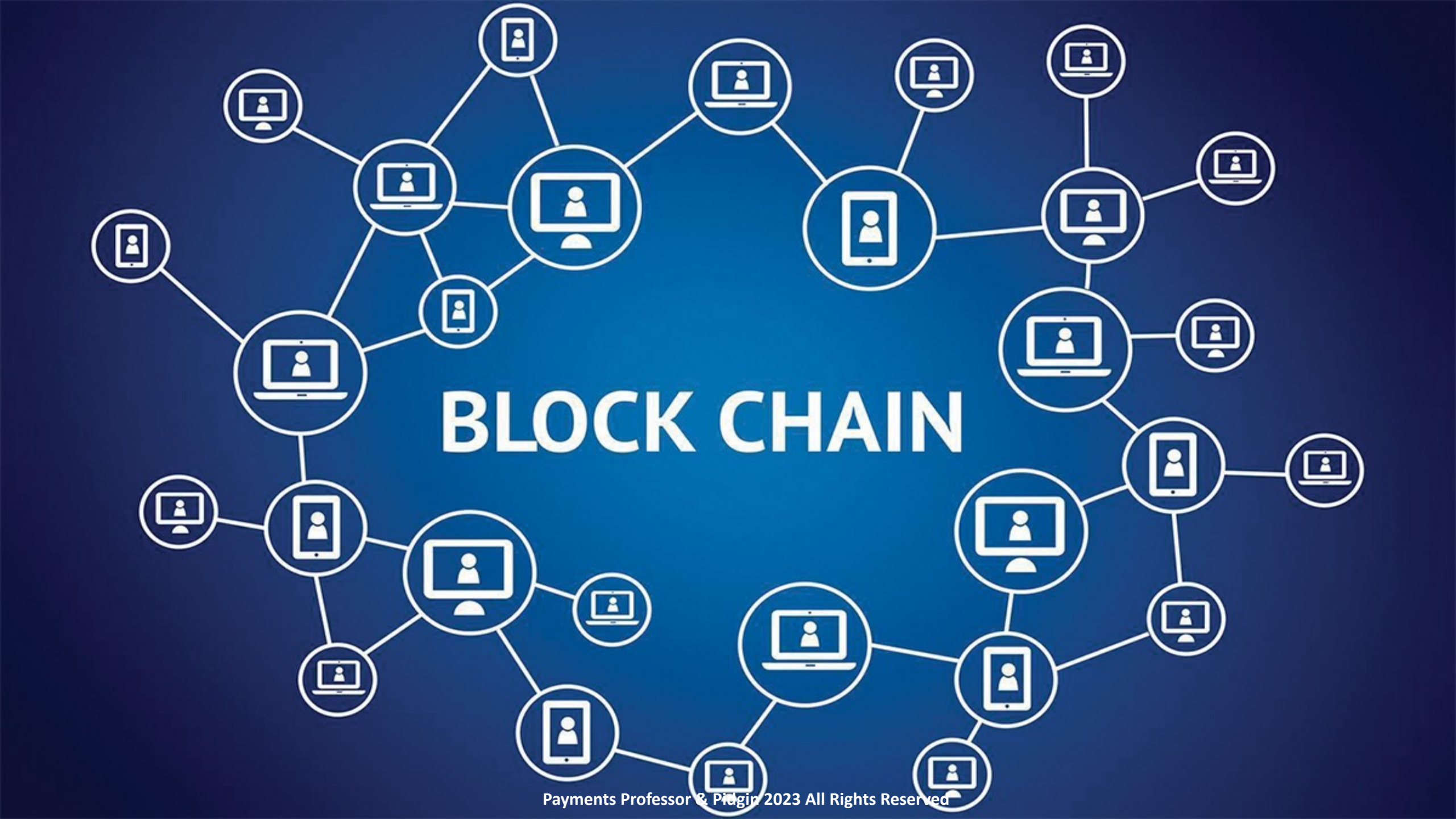
This presentation and applicable materials are intended for general education purposes and nothing in this presentation should be considered legal, accounting or tax advice

I am not an attorney, accountant, or tax professional

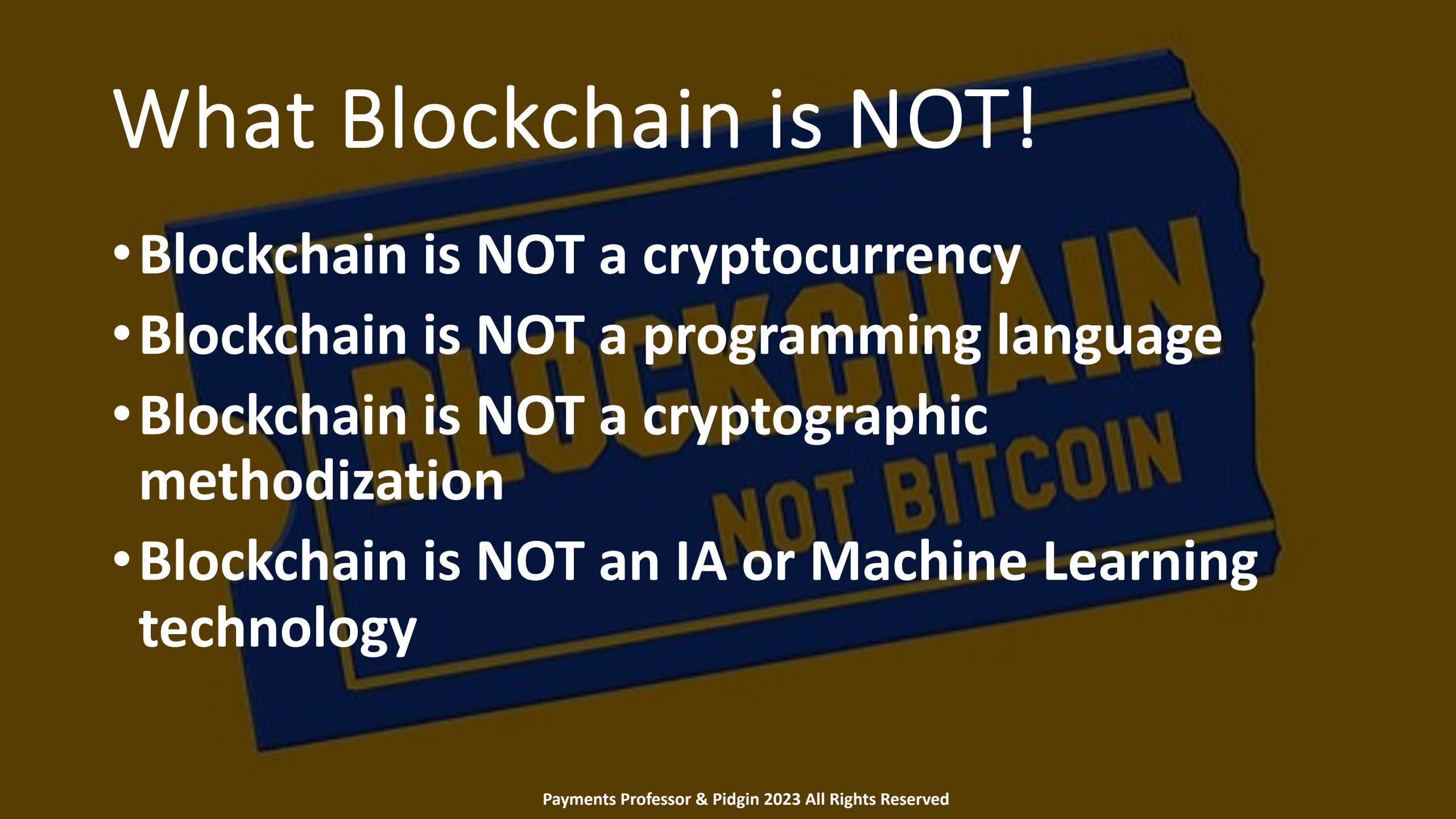
Opinions expressed are those of the presenter/trainer and not necessarily those of VSOFT Corporation

The jokes can be bad, very bad, dad humor bad!

HERE FOR YOU!



What Blockchain is NOT!



- **Blockchain is NOT a cryptocurrency**
- **Blockchain is NOT a programming language**
- **Blockchain is NOT a cryptographic methodization**
- **Blockchain is NOT an IA or Machine Learning technology**

What is Blockchain?

- Blockchain is the name of the technology
- It is a sequence of blocks or groups of transactions that are chained together and distributed among the users
- Blockchain works as an immutable record of transactions that do not require to rely on an external authority to validate the authenticity and integrity of the data
- Typically associated with economic transactions, but can store any kind of information in the blocks

How Does Blockchain Work?

- **5 key concepts that are the basis of the Blockchain technology:**
  - **Cryptographic Hash**
  - **Immutable Ledger**
  - **P2P Network**
  - **Consensus Protocol**
  - **Block Validation/‘Mining’**

Cryptographic Hash

- **A Hash is a cryptographic function that transforms any input data into a fixed-length string of numbers**
- **Every single input of the hash function will produce a different output, and the result is deterministic: if you use the same input, the output value will be always the same**

Cryptographic Hash

- One of the most important features of the Hash functions is that the conversion is one-way: you cannot reverse the function to generate the original input
- Blockchain nodes use Hash functions to create a unique identifier of any block of transactions
- Every block includes the Hash value of the previous block

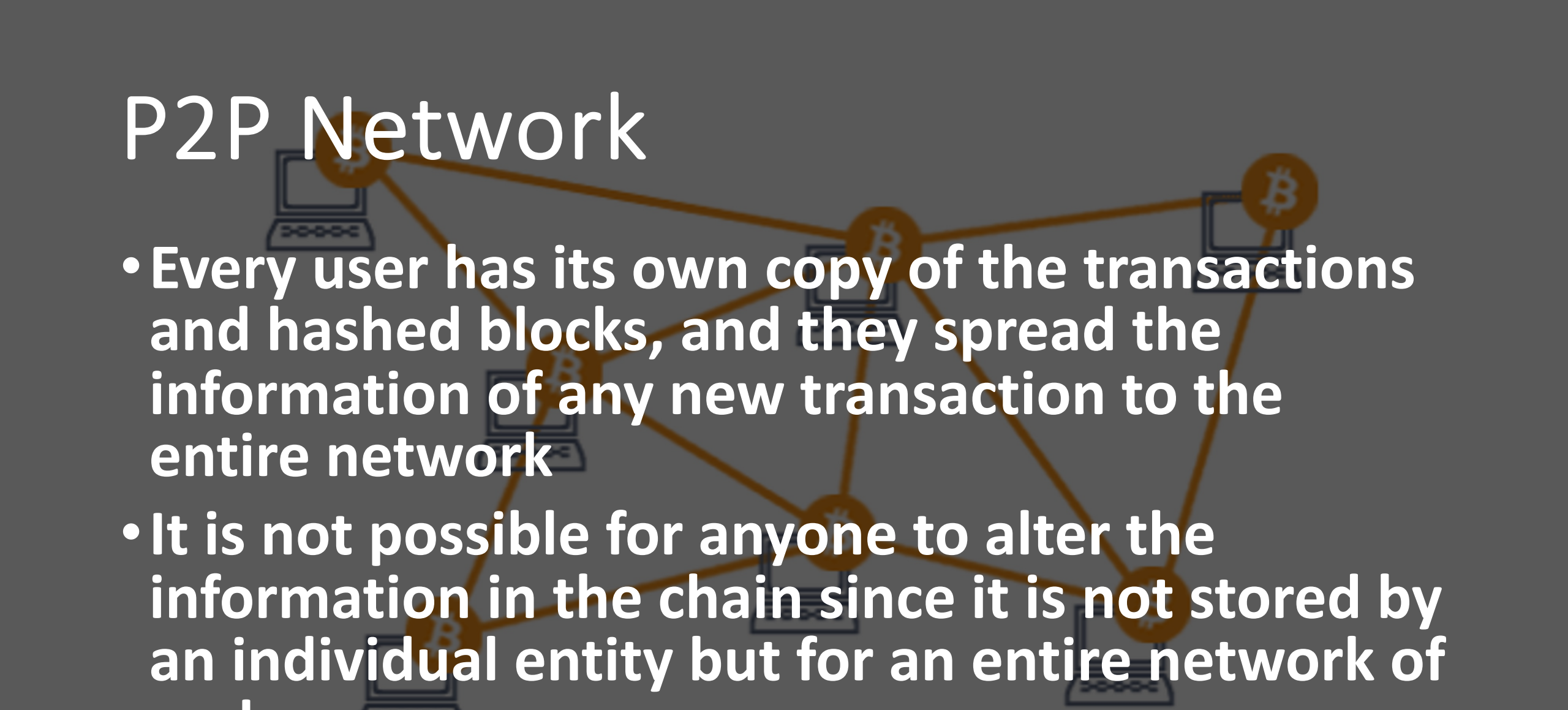
Immutable Ledger

- This feature is tightly related to the Cryptographic Hash
- Since every block of the chain contains the Hash of the previous one, it is not possible to modify any block without changing the entire chain
- Ergo, the chain works as an immutable digital ledger

P2P Network

- **Blockchain does not need any external or internal trust authority**
- **This is possible because the Blockchain data is distributed among all the users**

P2P Network



- Every user has its own copy of the transactions and hashed blocks, and they spread the information of any new transaction to the entire network
- It is not possible for anyone to alter the information in the chain since it is not stored by an individual entity but for an entire network of node users

Consensus Protocol

- **Users need to meet an agreement about the validity of the chain before adding more blocks**
- **Every time a node adds a new block, all the users have to validate the block by using a common protocol**
- **Typically, the nodes reach a consensus about the correctness of a new block by *Proof of Work* or *Proof of Stake* methods**

Block Validation ‘Mining’

- **This feature is actually not completely necessary for a Blockchain**
- **BUT, it is probably one of the most famous facts about Blockchain thanks to the Bitcoin**
- **The term ‘mining’ refers to the act of meeting the Proof of Work requirements for adding a new block with pending transactions to the Blockchain**

Top 10 Use Cases

- Supply Chain Management
- Digital Identity
- Voting
- Fundraising (Security token offerings)
- Healthcare
- Notary
- Food Safety
- Intellectual Property (IP)
- Energy Market
- Real Estate

Cryptocurrency

What Is Cryptocurrency?

- **Simply stated, a cryptocurrency is a new form of digital money**
- **You can transfer your traditional, non-cryptocurrency money like the U.S. dollar digitally, but that's not quite the same as how cryptocurrencies work**

What makes Cryptocurrencies Different than “Digital Money”?

- **Cryptocurrencies are set apart by the technology behind them**
- **Cryptocurrencies rely on a technology called blockchain, which is decentralized, meaning no single entity is in charge of it**
- **Instead, every computer in the network confirms the transactions**

Key Cryptocurrency Benefits (According to Crypto Enthusiast!)

- **Reducing corruption**
- **Eliminating extreme money printing**
- **Giving people charge of their own money**
- **Cutting out the middleman**
- **Serving the unbanked**

Cryptocurrency Myths (Again, According to Crypto Enthusiast!)

- **Cryptocurrencies are good only for criminals**
- **You can make anonymous transactions using all cryptocurrencies**
- **Only application of blockchain is Bitcoin**
- **All blockchain activity is private**

Risks of Cryptocurrency

- **Volatility – Market Fluctuation**
- **Lack of Regulation**
- **Lack of Understanding**
- **Lack of Acceptance**
- **Too Many Coins!**

STABLECOIN

What is a Stablecoin?

- **A Stablecoin is a Cryptocurrency that is backed by a "Stable" asset or a basket of an asset**
- **In this type of Cryptocurrency, an asset is chosen to peg or hedge the Cryptocurrency, so its price remains stable**
- **Stablecoins are usually monitored by a central authority that ensures the price remains stable**

Stablecoin Examples

- **Tether (USDT)**
- **True USD (TUSD)**
- **Paxos Standard (PAX)**
- **USD Coin (USDC)**
- **Binance USD (BUSD)**

Types of Stablecoin Collateral

- **Fiat**
- **Precious metals**
- **Cryptocurrencies**
- **Other investments**

Advantages

Advantages of Stablecoins

- **Borderless**
- **Transactional speed**
- **Transparency**

Disadvantages of Stablecoin

- **Centralization**
- **Requires 3rd party audits**
- **Less growth**

INTERPRETIVE LETTER 1174

Office of the Comptroller of the Currency

Washingto[illegible]

[illegible]ve Letter 1174
January 2021

OCC Chief Counsel's Interpretation on N[illegible]nal Banks and Federal Savings Association Authority to Use Independent Node Verification Networks and Stablecoins for Payment Activities

January 4, 2021

I. Introduction and Summary Conclusion

This letter addresses the legal permissibility of certain payment-related activities that involve the use of new technologies, including the use of independent node verification networks

Where are we know? (Regulations)

- In the U.S., the regulatory landscape for stablecoins is still in its early stages. The Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) have taken steps to assert their authority over stablecoins, but comprehensive regulations are yet to be finalized.
- In July 2023, the House Financial Services Committee approved the Clarity for Payment Stablecoins Act, a bill that aims to provide a clear regulatory framework for stablecoins used as payments. The bill proposes to define stablecoins as a type of money transmittal instrument and places them under the oversight of the Financial Crimes Enforcement Network (FinCEN).

PYUSD

PayPal Stablecoin

- PayPal has been working to expand the reach of PYUSD by integrating it into various aspects of its platform. Currently, PYUSD can be used to:
  - Fund PayPal accounts: Users can purchase PYUSD directly through their PayPal accounts and use it to make payments or transfers.
  - Checkout with PYUSD: Users can select PYUSD as a payment option when checking out on PayPal-enabled websites.
  - Send and receive PYUSD: Users can send and receive PYUSD to other PayPal users, similar to sending and receiving traditional currencies.

PYUSD

PayPal Stablecoin

- PayPal has been actively engaging with regulators to address concerns and seek clarity on the regulatory landscape for stablecoins.
- In November 2023, PayPal received a subpoena from the U.S. Securities and Exchange Commission (SEC) regarding PYUSD.
- The subpoena is a common step in the SEC's review process for new financial instruments.

What exactly is a Central Bank Digital Currency (CBDC)?

- A CBDC is virtual money backed and issued by a central bank (simplified definition
- A Central Bank Digital Currency (CBDC) is the digital form of a country's fiat currency that is also a claim on the central bank
- Instead of printing money, the central bank issues electronic coins or accounts backed by the full faith and credit of the government

What is CBDC? Fed Definition

- Central bank money traditionally takes two forms: cash and reserves held by eligible financial institutions at the central bank
- Central bank digital currency (CBDC) is a generic term for a third version of currency that could use an electronic record or digital token to represent the digital form of a nation's currency
- CBDC is issued and managed directly by the central bank and could be used for a variety of purposes by individuals, businesses, and financial institutions

“We don’t feel an urge or need to be first,”

- Jerome Powell
US Fed Chair
January 14, 2021

According to Powell, the Fed is “investing heavily” in the technology and is looking into the policy questions posed by CBDCs. And he said the private sector’s ability to create private money like bitcoin or other cryptocurrencies that led the Fed to look into all of this in the first place, CoinDesk reported.

"We're working proactively to evaluate whether to issue a CBDC and, if so, in what form…"clear and tangible benefits that outweigh any costs and risks.“

- Jerome Powell September 22, 2021

Fed Prepares to Launch Review of Possible Central Bank Digital Currency

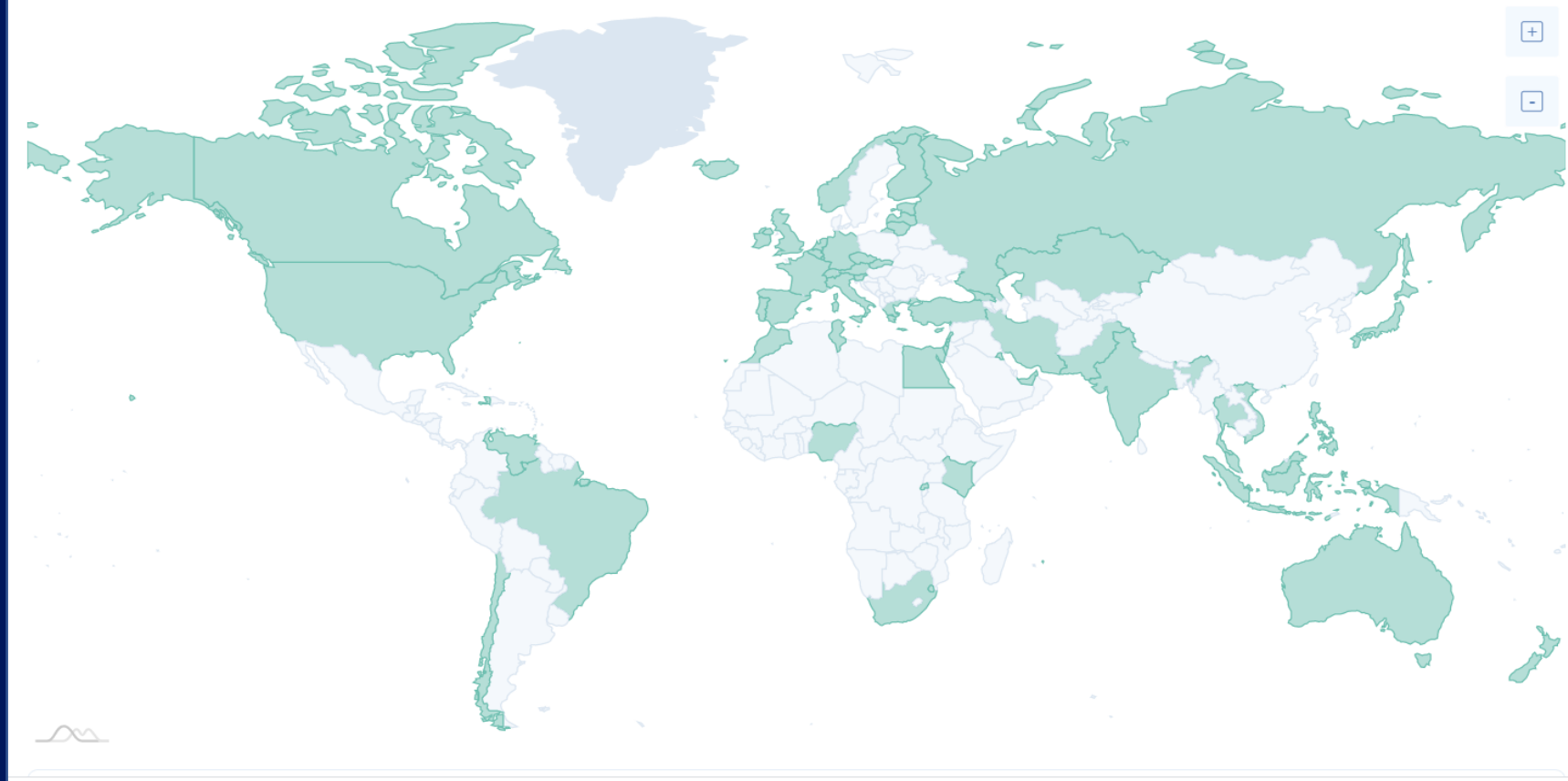
Officials will release a paper and solicit public comment, but are unlikely to decide soon on government-backed cryptocurrency.

– WSJ October 4, 2021

The Latest on CBDC in the U.S.

- In March 2023, President Biden issued an executive order calling for a comprehensive review of the potential uses and risks of a CBDC. The executive order also directed the Fed to develop a report on the technical feasibility of issuing a CBDC.
- The Fed is currently in the process of developing this report, and it is expected to be released in late 2023. Once the report is released, the Fed will hold public hearings on the issue. It is unclear when or if the Fed will decide to issue a CBDC.

Countries Researching use of CBDCs (2021)



https://cbdctracker.org/

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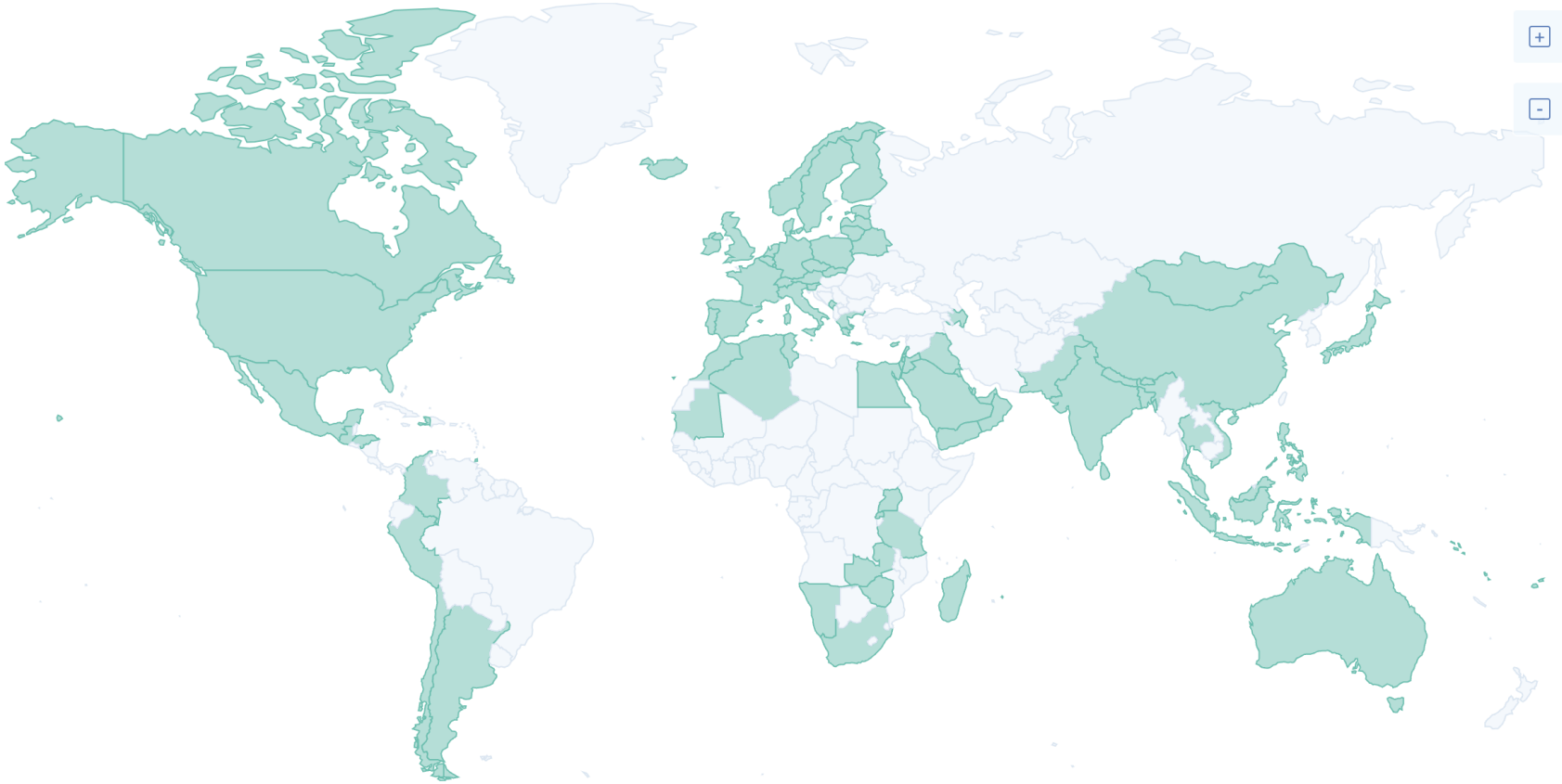
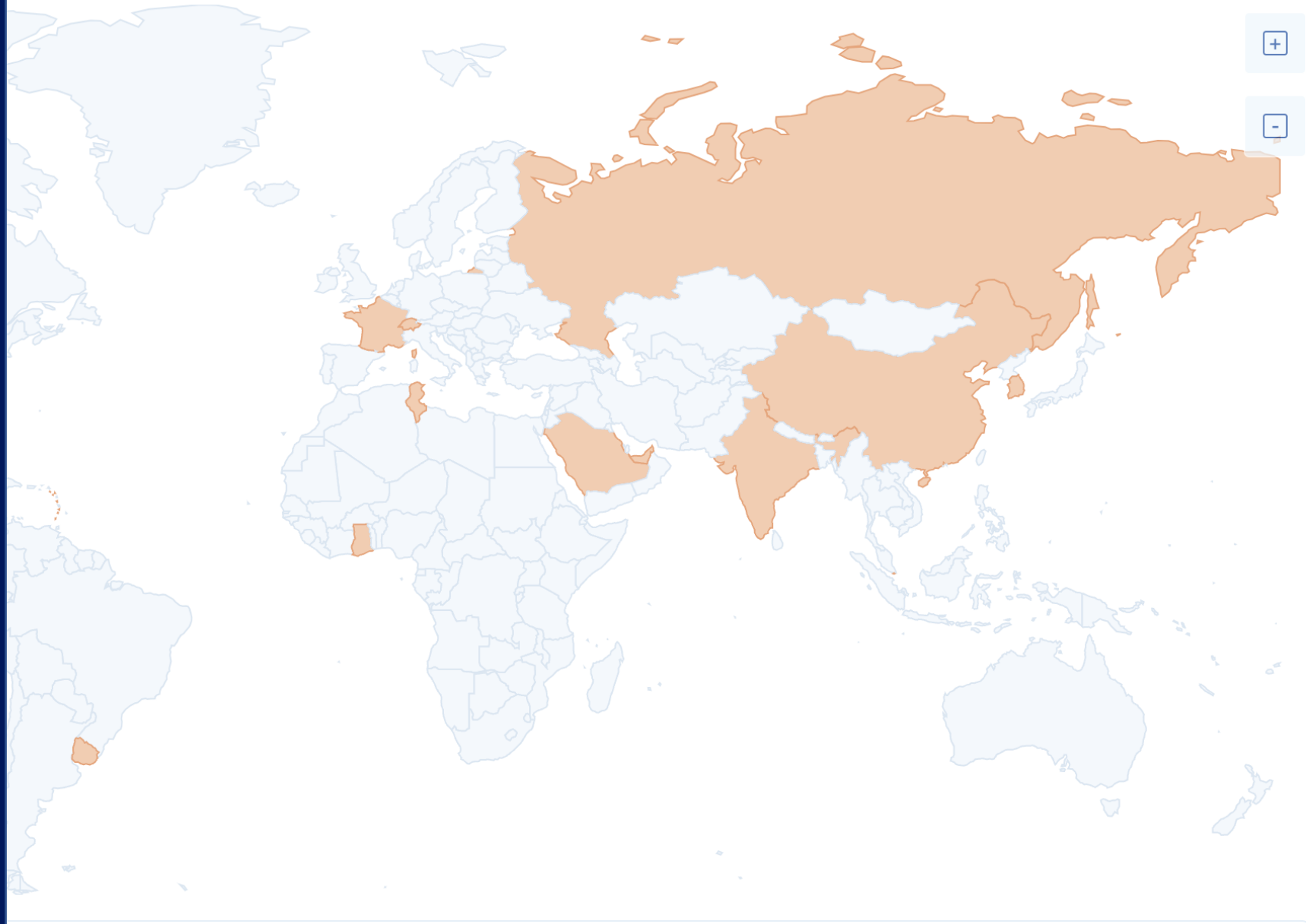


https://cbdctracker.org/

14 Countries Piloting use of CBDCs



https://cbdctracker.org/

What are the differences between Cryptocurrency, Stablecoins, CBDC, and FedNow® ?

Characteristic	Cryptocurrencies	Stablecoins	CBDCs	FedNow
Issuer	Decentralized	Centralized or decentralized	Central bank	Federal Reserve Banks
Legal status	Not legal tender	Not legal tender	Legal tender	Not legal tender
Privacy	Can be private or public	Can be private or public	Central bank may have access to transaction data	Central bank does not have access to transaction data
Interoperability	Can be designed to interoperate with other payment systems	Can be designed to interoperate with other payment systems	Can be designed to interoperate with other payment systems	Designed to interoperate with existing payment systems
Use cases	Can be used for a wide range of use cases, including retail payments, cross-border payments, and wholesale payments	Primarily intended for retail payments	Primarily intended for retail payments	Primarily intended for retail payments

Questions?

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