

MODERN MONEY

BITCOIN, BLOCKCHAINS & THE DIGITAL ECONOMY

PRESENTED AT **IDECS** KUCHING 2017 BY



neuroware

SARAWAKIAN AT HEART - BRITISH BY DEFAULT



Living in Malaysia for 20 Years

Building Web Applications for 15 Years

Building Tech Communities for 10 Years

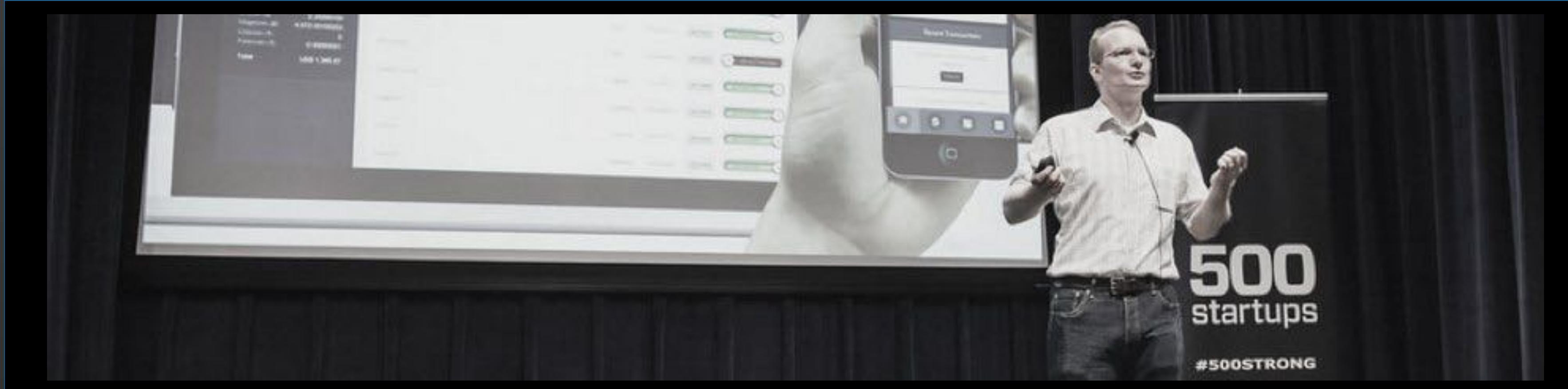
Building Blockchain Apps for 5 Years

Working with Banks & Regulators for 3 Years

Mark Smalley

Founder & CEO

EXPERIENCED INNOVATORS IN AN EARLY ECOSYSTEM



- **Only Malaysian Company** to Graduate from 500 Startups in Silicon Valley
- **1st Company in Asia** Providing Public Blockchain APIs & Developer Toolkits
- **1st in The World** to Develop Non-Financial Blockchain Agnostic Protocols
- Helped Organize World's 1st Bank-Backed Blockchain Hackathon (DBS)
- Over 15 Years of Collective Blockchain Development Experience

RECENTLY LAUNCHED CORTEX - WORLD'S 1ST BLOCKCHAIN O/S

(not the only one - but it is the only one that works on any blockchain)

The screenshot displays the Cortex web application interface. On the left is a vertical sidebar with icons and labels: CORTEX (top), DASHBOARD (selected), DOMAINS, USERS, DATABASES, API, EXPLORER, WALLET, and SETTINGS (bottom). The main content area has a header with 'dashboard' and other navigation links like 'add domain', 'add user', 'add database', 'add api key', and 'help'. It also shows 'credits : 11.00000000' and buttons for 'flush' and 'logout'. A message at the top says 'You are currently logged-in with your private key! Please remember to logout when you are done editing in order to remove the private key from localStorage.' Below this are two main sections: 'YOUR PROFILE' (with a photo of Mark Smalley, Name: Mark Smalley, Title: Co-Founder & CEO, Company: Neuroware) and 'RECENT ACTIVITY' (listing recent events such as updating a DNKey, adding users, creating databases, and wallets).

YOUR PROFILE

	Name	Mark Smalley
	Title	Co-Founder & CEO
	Company	Neuroware

RECENT ACTIVITY

- Updated DNKey on mark.neuroware.io 12 seconds ago by Mark Smalley
- Added new user johnny.neuroware.io 1 minute ago by Mark Smalley
- New Everstore db at team.neuroware.io 3 minutes ago by Mark Smalley
- New wallet for mark.neuroware.io 1 hour ago by Mark Smalley
- Added new user johnny.neuroware.io 2 days ago by Mark Smalley
- New Everstore db at team.neuroware.io 3 weeks ago by Mark Smalley
- New DNKey on keys.neuroware.io 3 month ago by Mark Smalley

A BRIEF HISTORY OF MODERN MONEY

WHERE NO IDEA IS A NEW IDEA

IT ALL STARTS HERE - ON THE ISLAND OF YAP



SHOPPING WAS NOT EASY



SO THEY CREATED THE WORLD'S FIRST PUBLIC LEDGER



WHERE UPDATES REQUIRED GROUP CONSENSUS

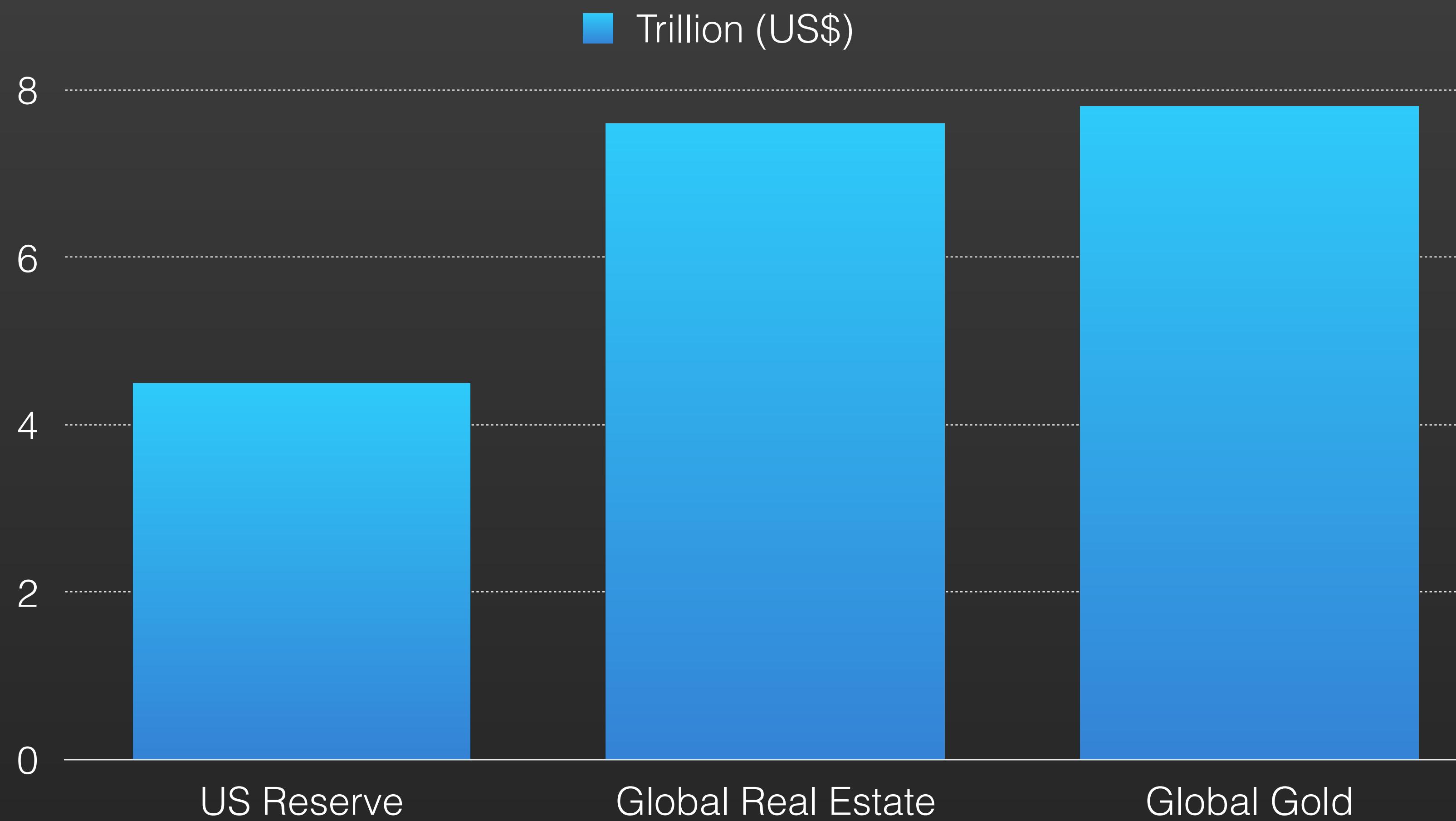


- Size wasn't everything
- The history of each stone determined it's individual value
- Conducting transactions quite literally involved a song & dance
- This required the majority of people from the village to be present

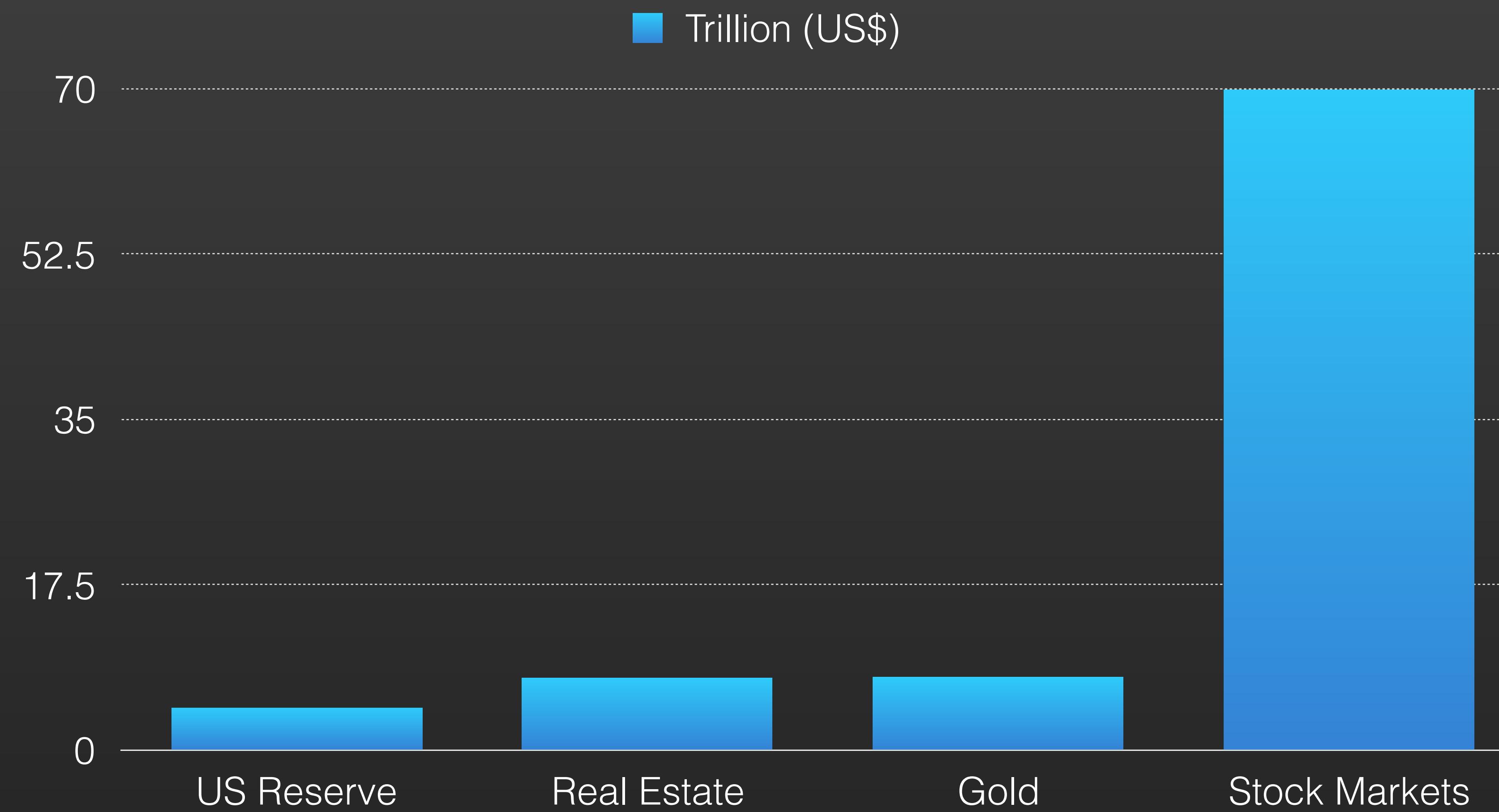
BUT IT COULD NOT SCALE - THEY EVENTUALLY SWITCHED TO US\$



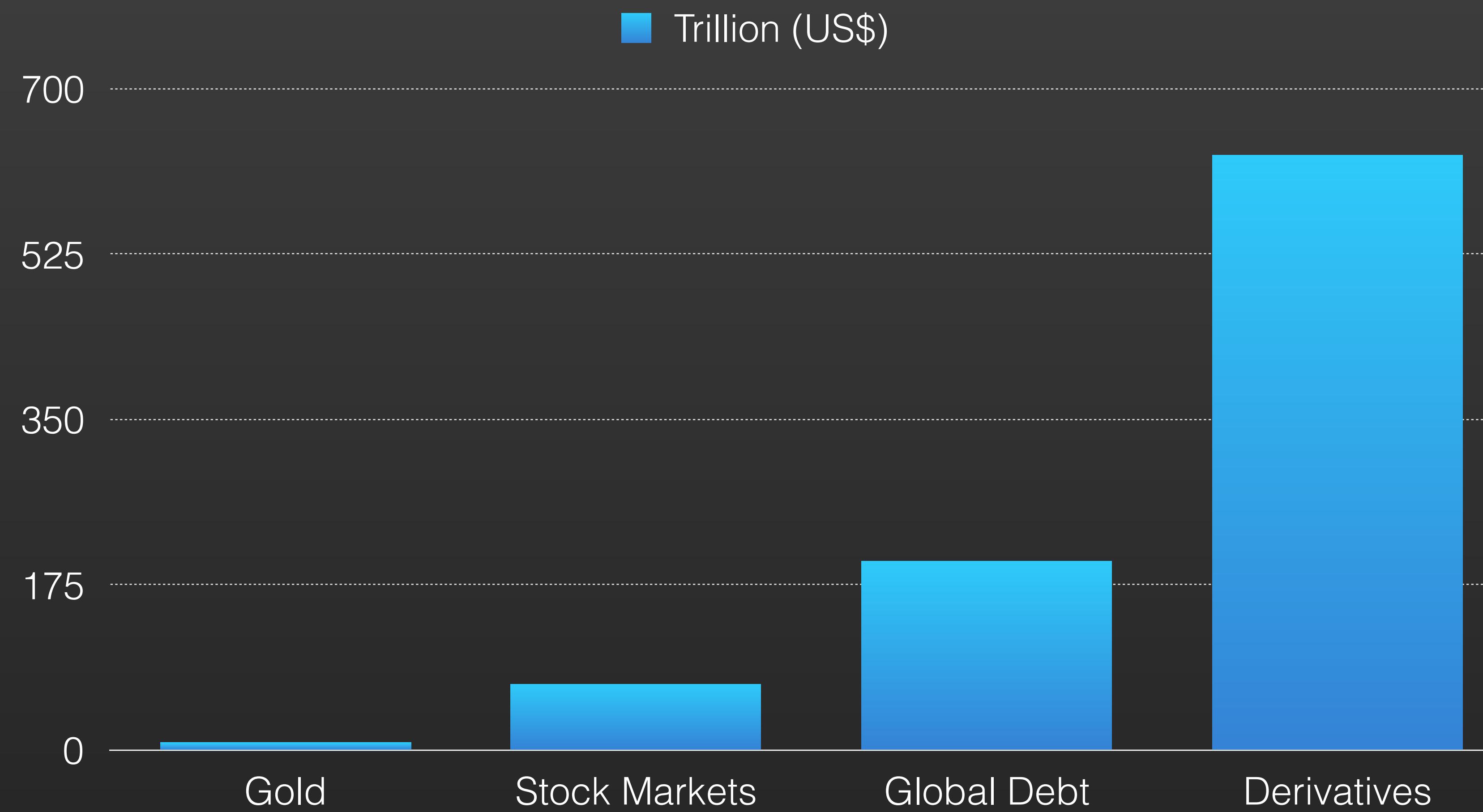
WHEN WE THINK OF THE US DOLLAR WE THINK OF **REAL MONEY**



AND THEN CAME DIGITAL CENTRALIZED ASSETS



AND WITH IT CAME THE RE-CREATION OF ~~MONEY~~ DEBT



IT ALL ENDS IN TEARS (512 US BANKS CLOSED SINCE 2008)



A TIP-TOE INTO BITCOIN

MAGIC INTERNET MONEY

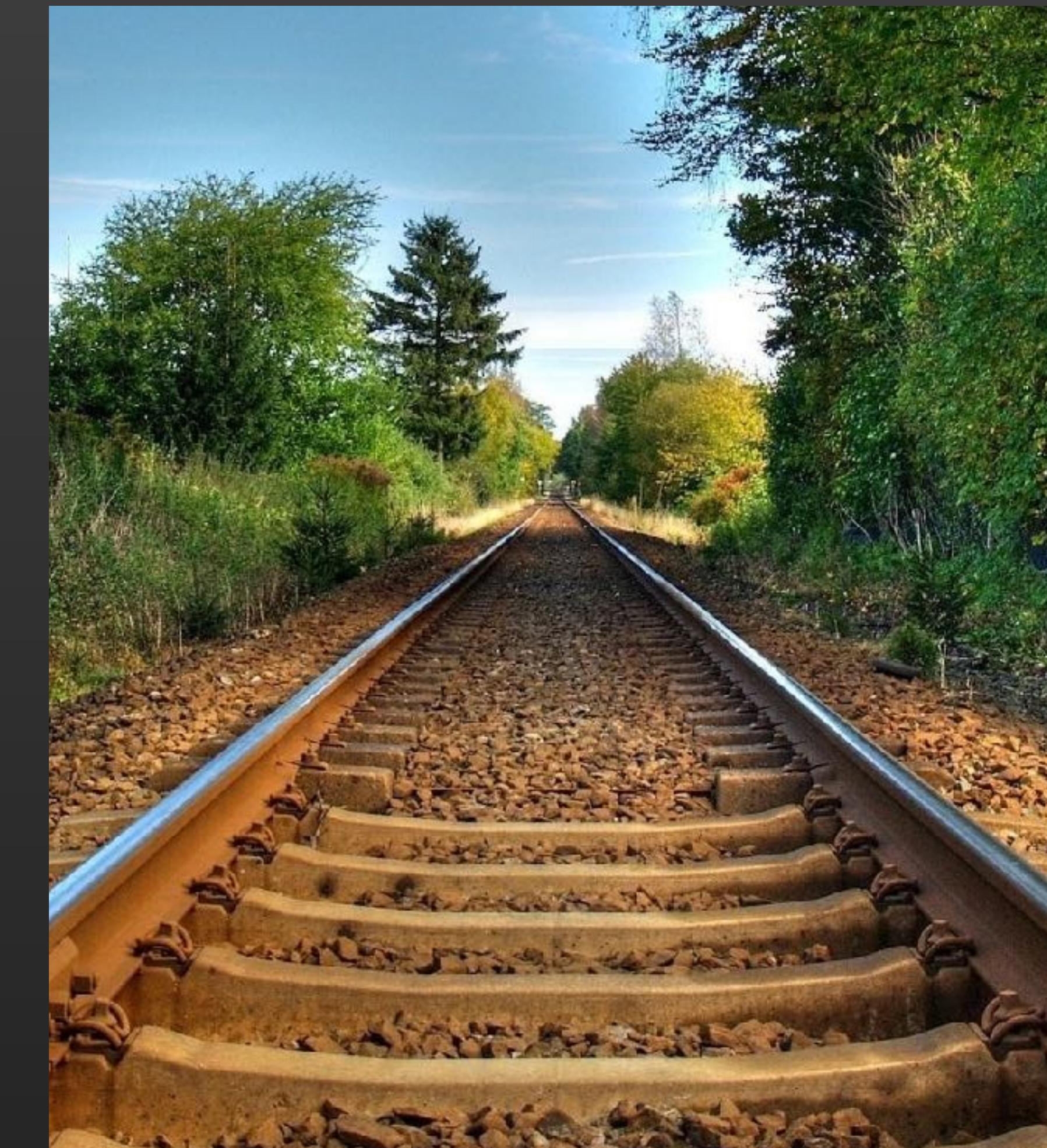
BITCOIN

(the first application / popular digital asset)

vs

BLOCKCHAINS

(the underlying tech / shared public ledger)



PUBLIC BLOCKCHAINS

(battle tested, secure and able to go anywhere)

vs

DISTRIBUTED LEDGERS

(missing blocks is also missing the point)



PUBLIC NETWORKS

(built from the ground-up to be secure)

vs

PRIVATE NETWORKS

(very similar to traditional databases)



WHAT ARE THE BENEFITS OF DISTRIBUTED **PUBLIC** LEDGERS?

- They provide an **immutable** tamper-proof audit-trail of the truth
- Data can be easily **shared** and independently verified by third-parties
- Vastly increased **security** that is much less vulnerable to attack or outage
- Programmable **contracts** that can radically reduce human errors and costs



INTERESTING BITCOIN BLOCKCHAIN FACTS TO REMEMBER

- Bitcoin blockchain released in January 2009 by Satoshi Nakamoto
- We do not know who Satoshi is, or what their religion or political views are
- However, the bailout of 2008 was cited as primary catalyst for its creation
- RM50 per coin in 2013 (when we bought) - now over RM5,000 per coin
- The Bitcoin network is currently processing over 250,000 daily transactions
- The network's market capitalization is currently around RM60+ billion
- 21 million maximum finite supply, decreasingly dispersed every 10 minutes
- **But most importantly of all is the technology behind it...**

BITCOIN AND BLOCKCHAINS HAVE NO NEW TECHNOLOGY



- HASH - Theorized in the 1800s - Coined by IBM in the 1950s
- SHA - Encryption method first introduced by US Navy in 1993
- P2P - Peer to peer protocol popularized by Napster in 1999

BITCOIN ISN'T EVERYTHING

BILLIONS INVESTED IN BLOCKCHAINS

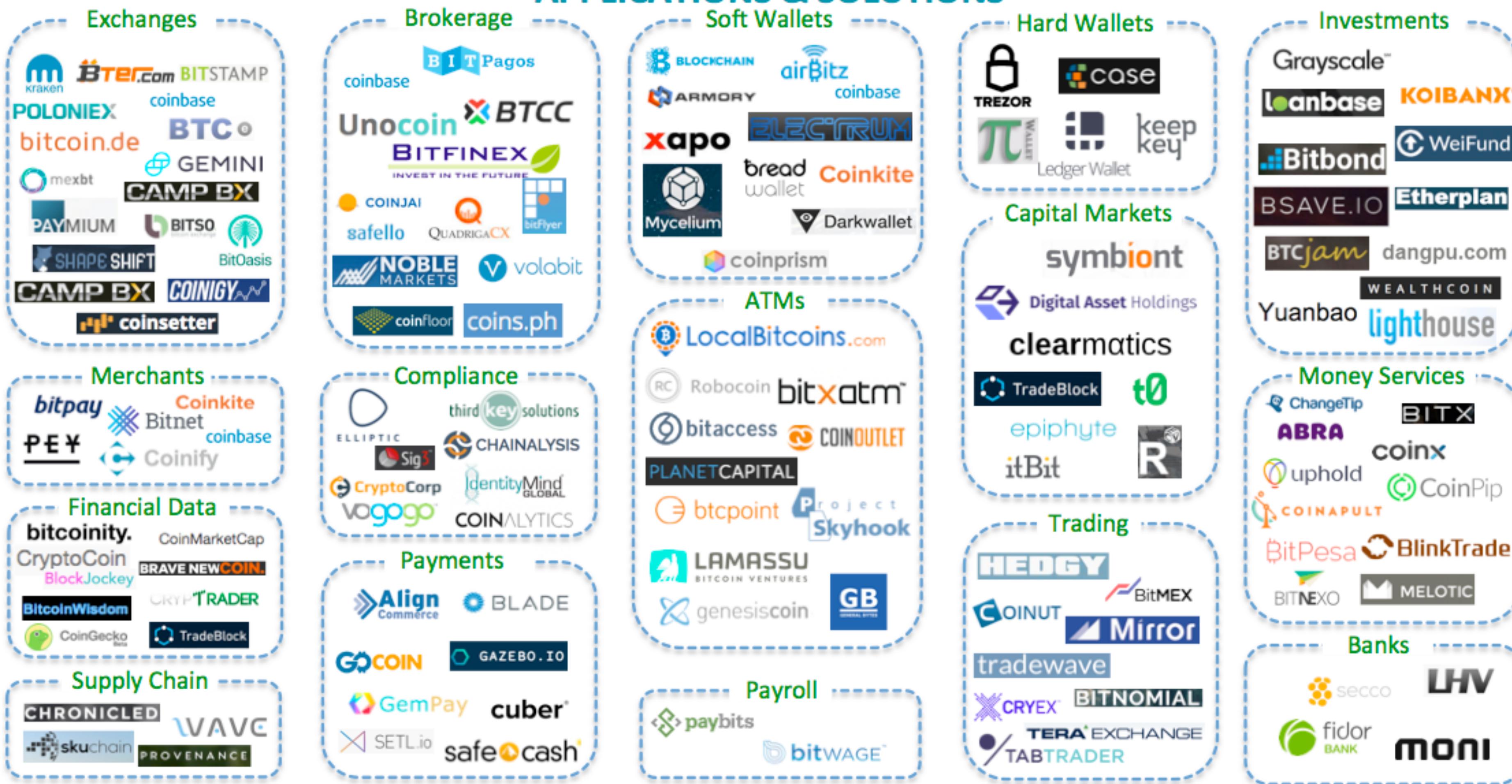
BANKS ARE MOVING FAST DUE TO ECOSYSTEM MATURITY

In 2016, over 100 banks and leading financial institutions started blockchain projects, with more than US\$1 billion dollars being invested into the ecosystem - in just one year!

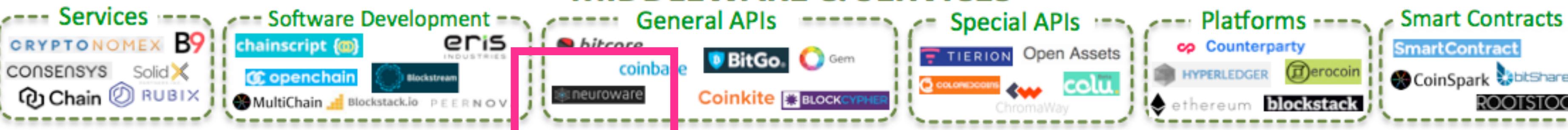


BLOCKTECH in FINANCIAL SERVICES Landscape

APPLICATIONS & SOLUTIONS



MIDDLEWARE & SERVICES



INFRASTRUCTURE & BASE PROTOCOLS



BIG EXPECTATIONS NOW SET

- Accenture claim investment banks can save US\$12 billion a year
 - McKinsey believes financial services will save US\$110 billion in 3 years
 - White & Case say banks can reduce infrastructure by \$20 billion a year
 - Bank of England says DLT could add 3% to a country's economic output
-
- 80% of top banks to launch DLT projects by 2017 - World Economic Forum
 - IBM reports that 15% of big banks will be using blockchains by 2017
 - **IBM reports 65% of top banks will have blockchain trials by 2020**

SOME OF THE INSTITUTIONS LEADING THE WAY



Custom blockchain
for settlements



Standard
Chartered



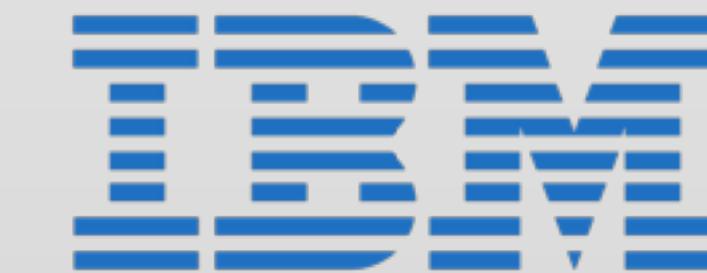
multiple blockchains for cross-
boarder payments and loyalty



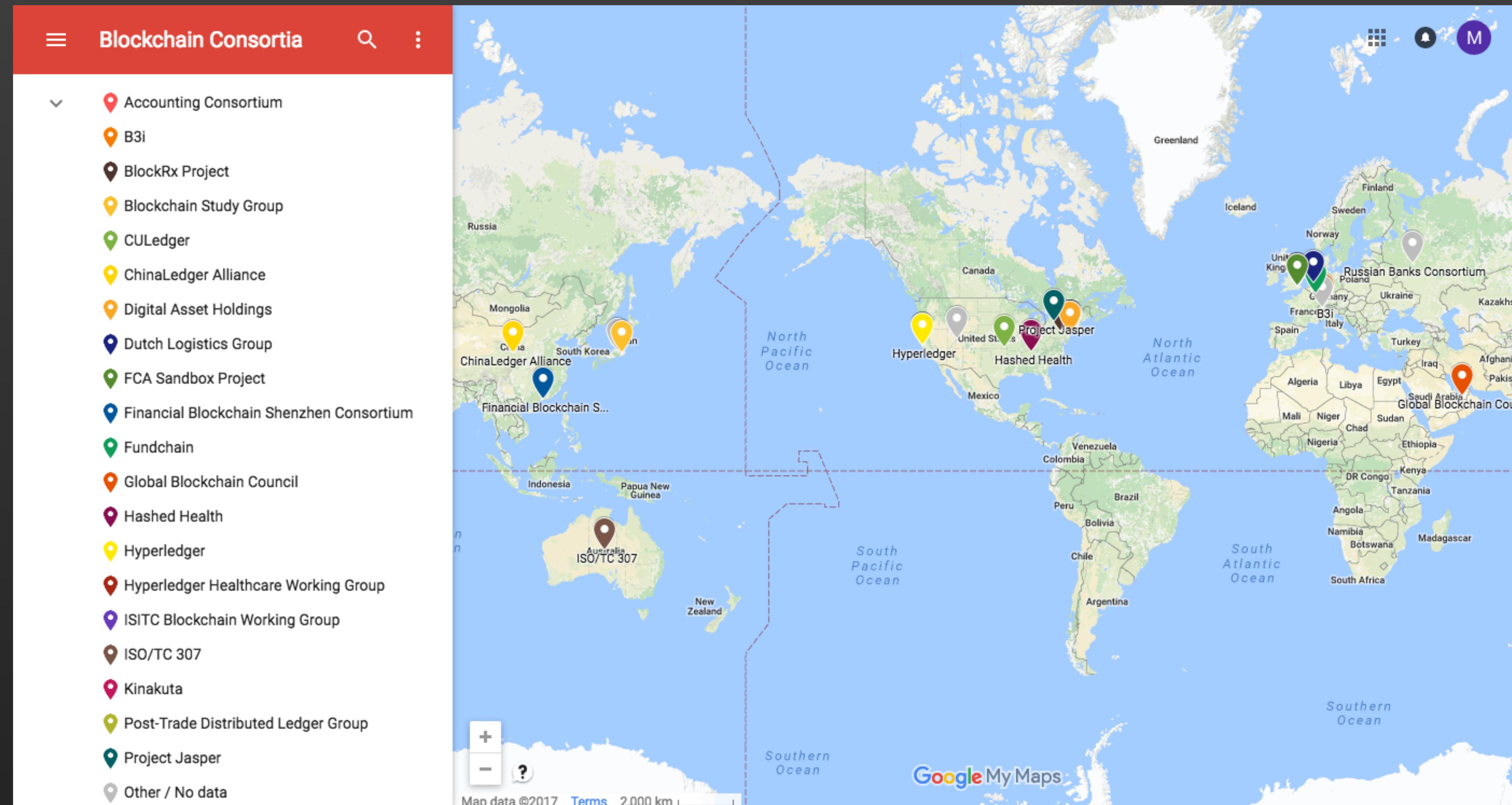
1st Bank in ASEAN to join an
Asian Blockchain Consortium



Patented a blockchain
based wire transfer system



NOW OVER 35 BLOCKCHAIN CONSORTIUMS WORLDWIDE



**BLOCKCHAINS IN
MALAYSIA**

SUNNAH MONEY AND CRYPTO-CURRENCY SUCH AS BITCOIN

Bank Negara

Bitcoin is not legal tender in Malaysia and must be used at investors own risk

- This is the same as gold, diamonds US\$ and plutonium

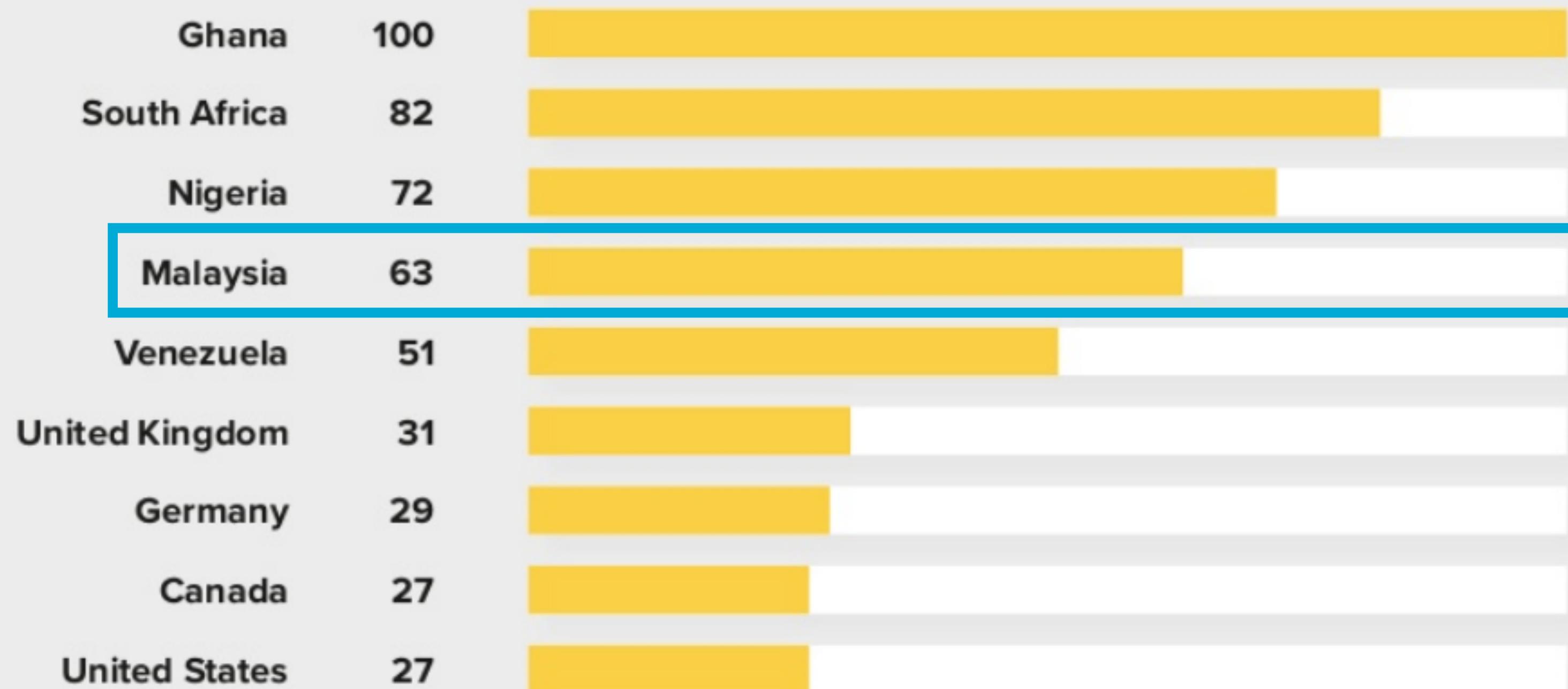
Sunnah Money is money with **intrinsic value** that isn't debt-based and is also inflation proof - referred to as **Real Money** it has the following properties:

- Is there an abundance within the market place?
- Is it recognized and accepted by merchants?
- Is it divisible?
- Does it have a self life?
- Was it created by Allah?

WHERE DO WE (MALAYSIA) STAND ...?

from the coindesk.com most recent quarterly report

MOST INCREASED INTEREST IN BITCOIN



THE BLOCKCHAIN EMBASSY OF ASIA - MADE IN MALAYSIA

<http://bce.asia>



BlockChain Embassy Asia

AMBASSADORS

USE CASES

CONTACT EMBASSY

TOOLBOX

NEWS

our mission is to educate organizations throughout asia in both
the legal and technical implications of distributed ledgers

We are a non-profit digitally distributed organization that is using and promoting blockchain governance as a method for
collaboration between various business entities and existing community efforts across Asia

REQUEST MEMBERSHIP

9 FOUNDING MEMBERS FORM THE STEERING COMMITTEE



banking ambassador

LIM JOYAN & CO.
ADVOCATES | SOLICITORS

legal ambassador



banking ambassador



education ambassador



media ambassador



IoT ambassador



finch ambassador

CapitalBay

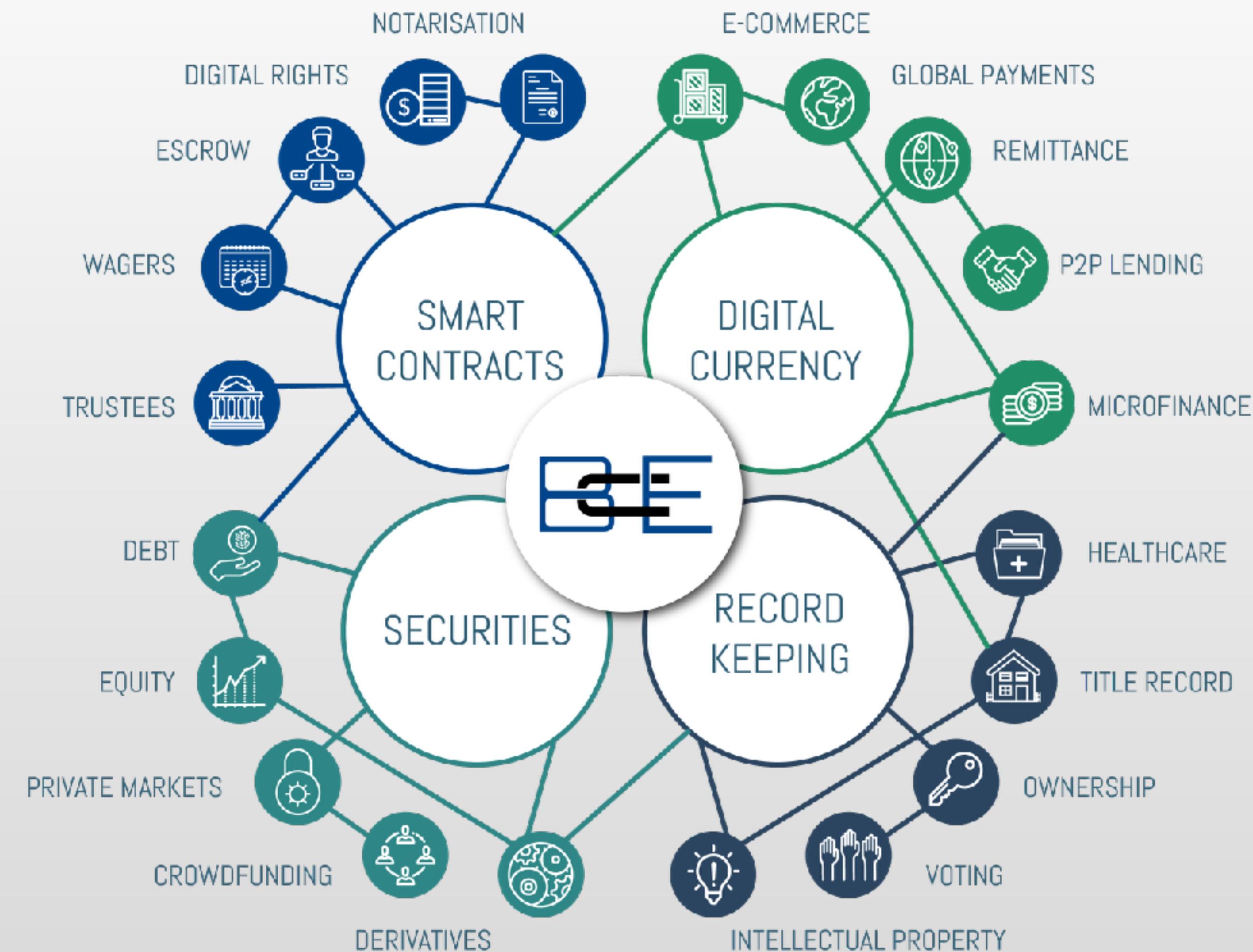
invoice ambassador



tech ambassador

BIG PROBLEMS INVOLVE MULTIPLE PARTNERS & MOVING PARTS

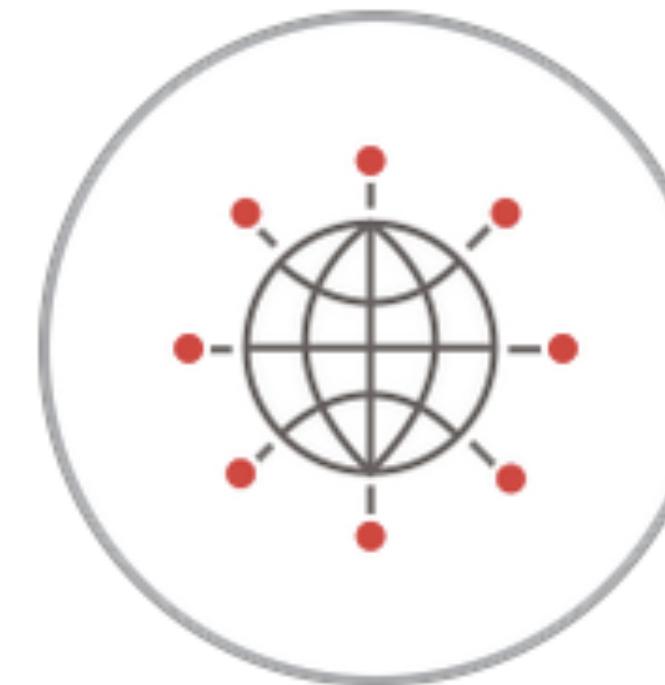
(BEYOND FINTECH LIES IoT, BIG DATA & HEALTHCARE - WHICH IS WHY WE ARE REGIONAL)



THE FOUR PILLARS OF MDEC (CURRENT AREAS OF FOCUS)



BIG DATA ANALYTICS



INTERNET OF THINGS (IOT)



E-COMMERCE



DATA CENTRE & CLOUD

- IoT has the most use for blockchains, which can provide a communication platform that would allow machines to securely talk to and trust each other
- E-Commerce will obviously be affected significantly by digital-currencies
- BIG Data can not only utilize blockchains for authenticating data-lake transactions but will also have LOTS of new public data to be analyzed
- New forms of data-centers and cloud-based products will be required

COINGECKO - TRACKING THE TOP 500 CRYPTO-CURRENCIES

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B - BTC	All Hashing Algorithms	Total	MktCap	Liquidity	Developer	Community	Public Interest	Last 7 Days	
550		96	\$16,248,112 ▲ 2.543%	116139.30	98	11974 ▼ 7759 ● 1364 ● 3072 ● 2606	213664 f 501 ● 2.23 ● 132	87 9,380,000 ● 10539 \$1.00000000	Buy Sell
13		85	\$4,181,996 ▼ 1.984%	76444.15	93	3379 ▼ 1179 ● 463 ● 1984 ● 1705	32579 f 164 ● 2.28 ● 29.9	56 392,000 ● 24497 \$0.04631585	Buy Sell
3		75	\$315,383 ▲ 0.809%	52212.93	85	1199 ▼ 868 ● 249 ● 148 ● 144	22437 f 59 ● 1.17 ● 24.5	42 409,000 ● 174781 \$0.00625351	Buy Sell
▲ 1		74	\$753,065 ▲ 37.271%	70260.68	87	1269 ▼ 397 ● 251 ● 247 ● 199	2234 f 20 ● 1 ● 12.9	54 122,000 ● 63256 \$0.00002014	Buy Sell
▼ 1		71	\$473,649 ▼ 9.424%	18547.61	82	410 ▼ 228 ● 119 ● 206 ● 159	4220 f 31 ● 1 ● 14.6	47 255,000 ● 46914 \$0.06579709	Buy Sell
		70	\$265,592 ▼ 1.465%	4601.59	85	514 ▼ 307 ● 143	9793 f 52 ● 0.9	44 318,000 ● 318,000 \$0.00002014	Buy Sell

MONEY MATCH FIRST IN MALAYSIA TO USE RIPPLE

Malaysia: MoneyMatch raises \$150k seed from Australia's Kosciuszko for forex platform



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ETHERSCAN FOUNDED BY A MALAYSIAN - FUNDED BY DCG

The screenshot shows the homepage of Etherscan, a Ethereum Block Explorer. The top navigation bar includes links for LOGIN, SEARCH (Search by Address / Txhash / Block / Token), LANGUAGE, HOME, BLOCKCHAIN, ACCOUNT, TOKEN, CHART, and MISC.

The main dashboard features a large blue box with the following information:

- TOTAL SUPPLY OF 88,464,230.97 ETHER
- \$10.56 @ 0.01085 BTC/ETH
- LAST BLOCK: 3104622 (14.40s Avg)
- Hash Rate: 7,766.31 GH/s
- TRANSACTIONS: 16160931
- Network Difficulty: 111.68 TH

Below this, there is a chart titled "14 day Ethereum Transaction History" showing a line graph of transaction volume over time.

The page is divided into two main sections:

- Blocks:** Displays the last four blocks mined:
 - Block 3104622: Mined By Ethpool_2, > 15 secs ago, 3 txns in 12 secs, Block Reward 5.0015 Ether
 - Block 3104621: Mined By Ethermine, > 27 secs ago, 5 txns in 13 secs, Block Reward 5.00409 Ether
 - Block 3104620: Mined By 0x96338149e9f6c26..., > 40 secs ago, 4 txns in 4 secs, Block Reward 5.00187 Ether
 - Block 3104619: Mined By DwarfPool1, > 44 secs ago, 0 txns in 20 secs, Block Reward 5 Ether
- Transactions:** Displays the last five transactions:
 - TX# 0X8C82912A90EB24422A0DD89...: From 0xea674fdde714fd9... To 0xdc17d353b01285..., > 15 secs ago, Amount 1.0045803417014828 Ether
 - TX# 0X30803DA432AD0EC50B674EB...: From 0xf34a762291e2578... To 0x6fc82a5fe25a5cd..., > 15 secs ago, Amount 0.09972424738776952 Ether
 - TX# 0X9F3AEC03CD8978780C11C59...: From 0x2e67179261a34b... To 0x44e9bfd5eb0651..., > 15 secs ago, Amount 1.506161 Ether
 - TX# 0X69429B51113744361D7EF7D...: From 0xea674fdde714fd9... To 0xb2db64a2574811..., > 27 secs ago, Amount 1.0055965023717969 Ether

CORTEX IN PRODUCTION WITH 1 OF 6 LICENSED ECF OPERATORS

ataplus

Dogecoin (Testnet) Blockchain / ATA-Plus V0.0.1 / Datastores / Investments

Credits: 254.00000000 FLUSH LOGOUT

COMMITS

DATASTORES

- ISSUERS
- COMPANIES
- INVESTORS
- INVESTMENTS
- SECTORS
- ADD NEW

SCHEMA

DOCUMENTATION

6 Months Sitewide Total Investments

RM Invested (Millions)

Month	Investment Value (Millions)
January	~0.40
March	~0.35
March	~0.85

sort by search investments

f2583c4bbbc1d7f70fe776ef8de24e3e9131884de2be5ed3365fe72e53fa2177

Key	Value
Index: Investment ID [auto]	bf28617205e695439c0dd2285a76d7c1

ADD NEW RECORD

74c87dfa57a94dc86666209cd87a01b5

Date of Investment

“For ECF to flourish, there must be a deep depository of trust and transparency that is frictionless & inclusive. Neuroware’s tech enables us to provide all that and more!”


Kyri - Co-Founder & Director
of Licensed ECF Platform

OTHER ORGANIZATIONS WE HAVE WORKED WITH

REGULATORS WE HAVE TRAINED



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA



Suruhanjaya Sekuriti
Securities Commission
Malaysia

INSTITUTIONS INVESTED IN US

500 startups

coinsilium

INSTITUTIONS WE HAVE DONE BUSINESS WITH



THANK YOU

NOW IS THE TIME TO QUESTION THINGS

LEARN MORE ABOUT



neuroware

<http://neuroware.io>