

BLOCKCHAINS AND ENERGY

PRESENTED BY



neuroware

THE BENEFITS OF **BLOCKCHAIN** BASED ENERGY NETWORKS

Improving the quality of life for everyone whilst saving costs:

- **SMART METERS** - moving beyond insecure connected cloud devices
- **SMART GRIDS** - store, trade and track energy distribution and transactions
- **SMART CITIES** - introduce new automated services and business models

Improving your business whilst introducing new revenue streams:

- **SMARTER RELATIONSHIPS** - securely share data between trusted parties
- **SMARTER COMPLIANCE** - automate regulation with coded contracts
- **SMARTER DECISIONS** - network analytics with tamper proof audit trails

WHY CHOOSE NEUROWARE TO EXPLORE NEW TECHNOLOGIES ?



Mark Smalley - CEO

Living in Malaysia for the past 20 Years

Building Web Applications for 15 Years

Spent 10 Consulting with Government

Developing on Blockchains for 5 Years

Ruben Tan - CTO

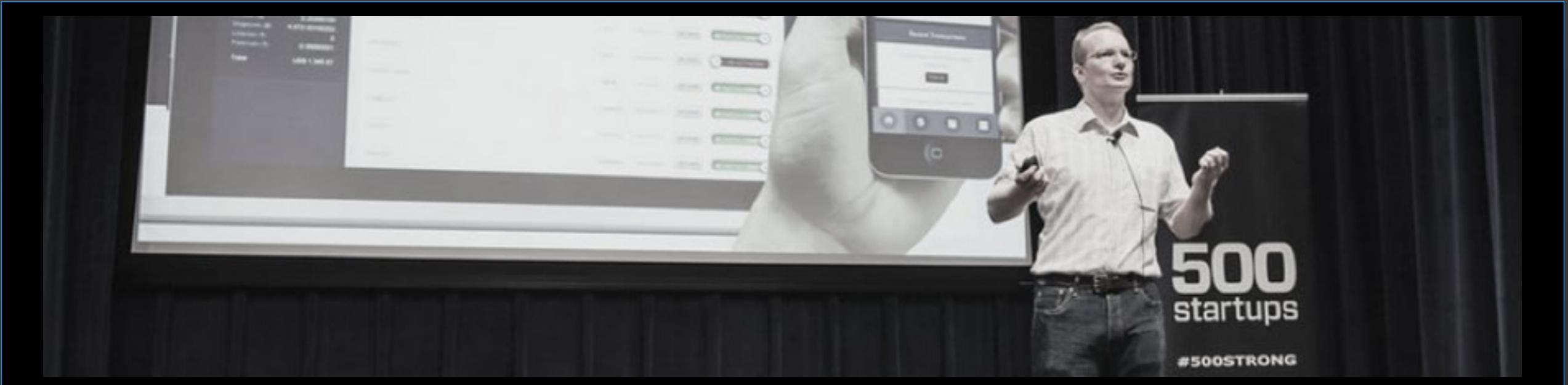
Building Web Applications for 10 Years

Community Builder & Event Presenter

Early Developer at MyTeksi and OnApp

Studying Distributed Systems for 5 Years

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

WE'VE SPENT TWO YEARS DEVELOPING OUR BASE PROTOCOLS

CORTEX

EVERSTORE

DISTRIBUTED
STRUCTURED DATA

 **blockauth**

DECENTRALIZED ID &
AUTHENTICATION

 **dnkey**

KEY LOGISTICS &
BROADCASTING

NEUROWARE'S AGNOSTIC PROTOCOLS

DESIGNED TO WORK WITH ANY BLOCCHAIN

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

CORTEX

dashboard add domain add user add database add api key help credits : 11.00000000 flush logout

DASHBOARD

DOMAINS

USERS

DATABASES

API

EXPLORER

WALLET

SETTINGS

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.

YOUR PROFILE

EDIT

Name: Mark Smalley
Title: Co-Founder & CEO
Company: Neuoware

CURRENT USAGE

REPORTS

Domains: 3 / 10
Sub-Domains: 64 / 100
User Accounts: 5 / 10
Databases: 72 / 100
Active Modules: 2 / 7
Active Protocols: 3 / 8

RECENT ACTIVITY

MORE

Updated DNKey on mark.neuoware.io
12 seconds ago by Mark Smalley

Added new user johnny.neuoware.io
1 minute ago by Mark Smalley

New Everstore db at team.neuoware.io
3 minutes ago by Mark Smalley

New wallet for mark.neuoware.io
1 hour ago by Mark Smalley

Added new user johnny.neuoware.io
2 days ago by Mark Smalley

New Everstore db at team.neuoware.io
3 weeks ago by Mark Smalley

New DNKey on keys.neuoware.io
3 month ago by Mark Smalley

YEAH, BUT
WHAT'S A BLOCKCHAIN ?

BITCOIN

(the first application / popular digital asset)

vs

BLOCKCHAINS

(the underlying tech / shared public ledger)



DOGECOIN

(cheaper and faster copy - but less secure)

vs

RIPPLE

(not everyone is equal - not a blockchain)



ETHEREUM

(built from scratch to do things differently)

VS

PRIVATE CHAINS

(very similar to traditional databases)



BREAKING DOWN THE **BASIC TERMINOLOGY**

- Distributed Ledger Technology (DLT) is the top-level terminology
- Blockchains are one sub-set of distributed ledgers
- Public chains are another sub-set of blockchains
- Bitcoin is just one of a thousand different public blockchains
- There are hundreds of private chains & distributed ledgers without blocks
- From distributed DNS to file-storage & asset transfer - they do many things

However...

- When you are able to transfer a native asset on its ledger - magic happens:
- **THE TRANSFER AND SETTLEMENT OCCUR AS A SINGLE EVENT**

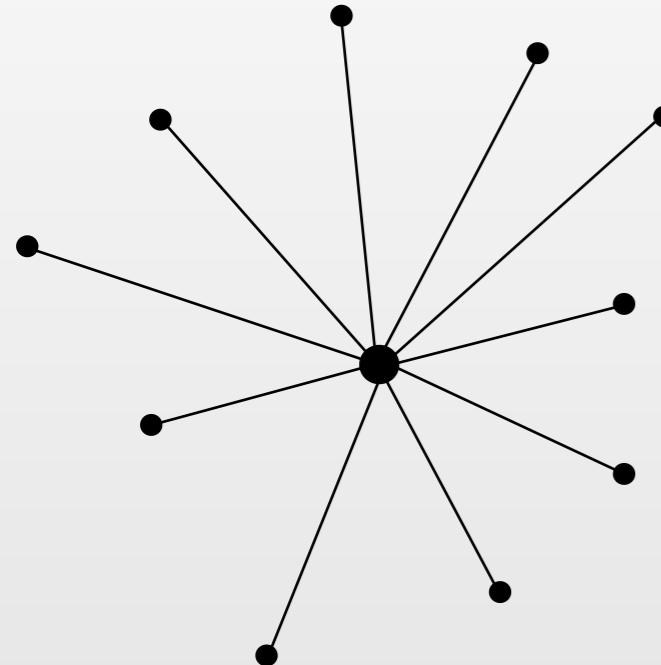
WHAT ARE THE BENEFITS OF DISTRIBUTED **PUBLIC** LEDGERS?

- 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

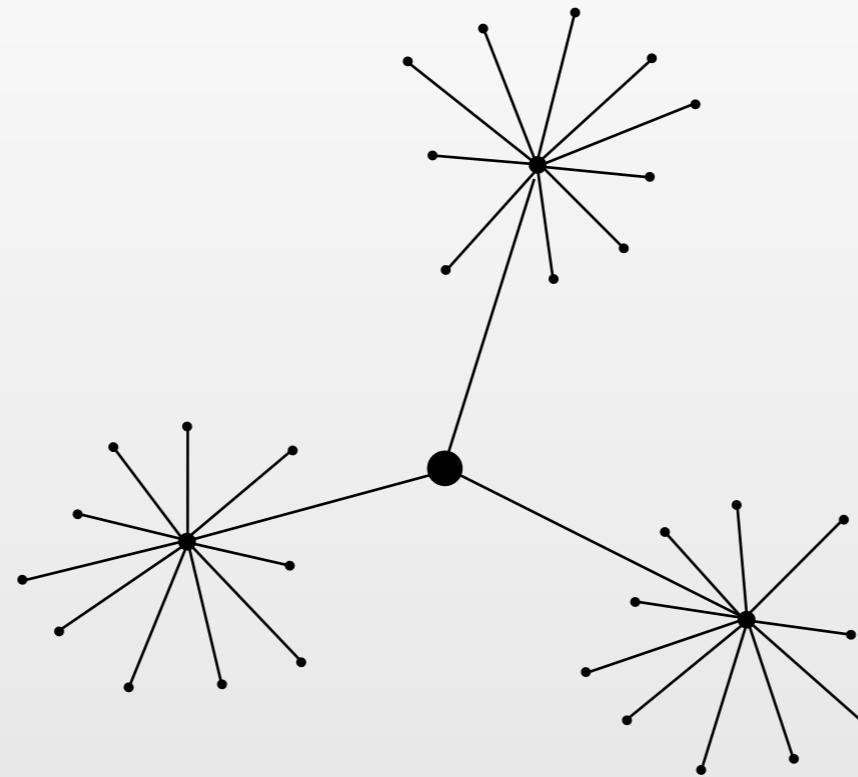


“While Fintech Disrupts Banks,
the Blockchains Disrupt Fintech”

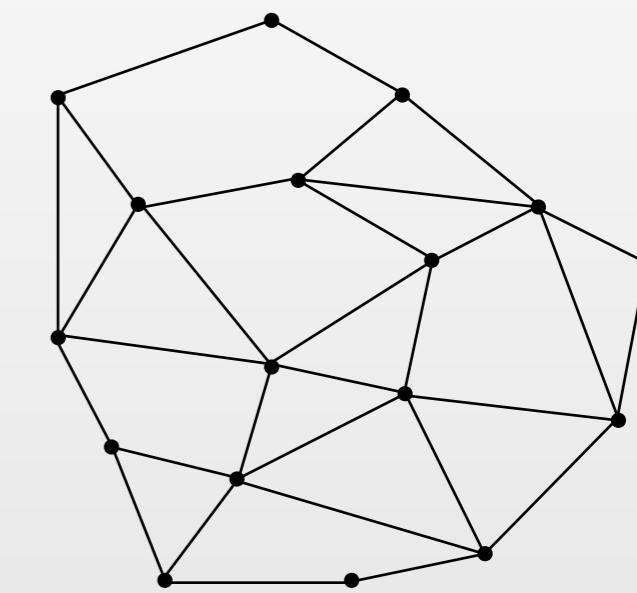
COMPARED TO WHAT...? **TRUTH** CAN ONLY BE STORED ONE WAY



CENTRALIZATION
DATABASES



DECENTRALIZATION
THE CLOUD



DISTRIBUTION
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!



WORLD'S FIRST BLOCKCHAIN ENERGY SUMMIT



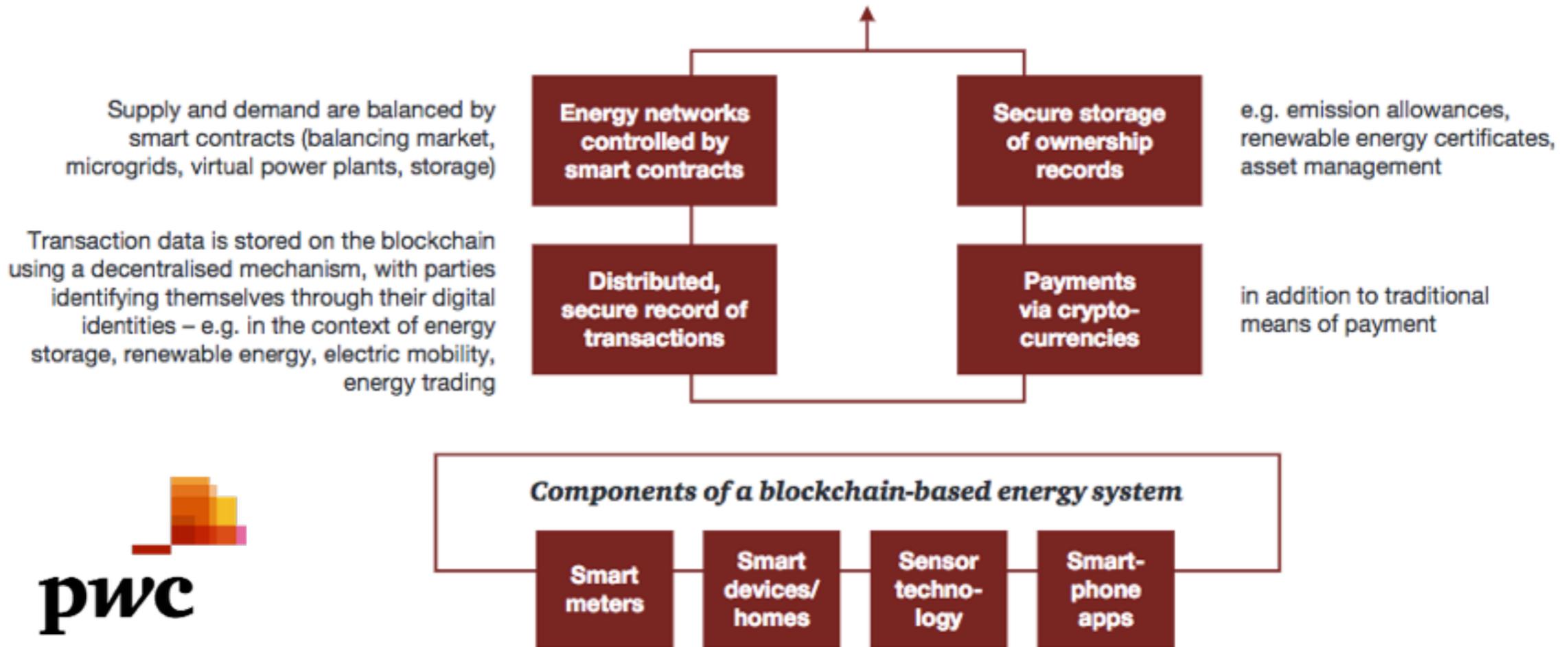
**GLOBAL SUMMIT
ON BLOCKCHAIN TECHNOLOGY
IN THE ENERGY SECTOR**

14 – 15 February 2017

Vienna, Austria

PIONEERING BLOCKCHAIN BASED ENERGY SYSTEMS

<https://www.pwc.com/gx/en/industries/assets/pwc-blockchain-opportunity-for-energy-producers-and-consumers.pdf>



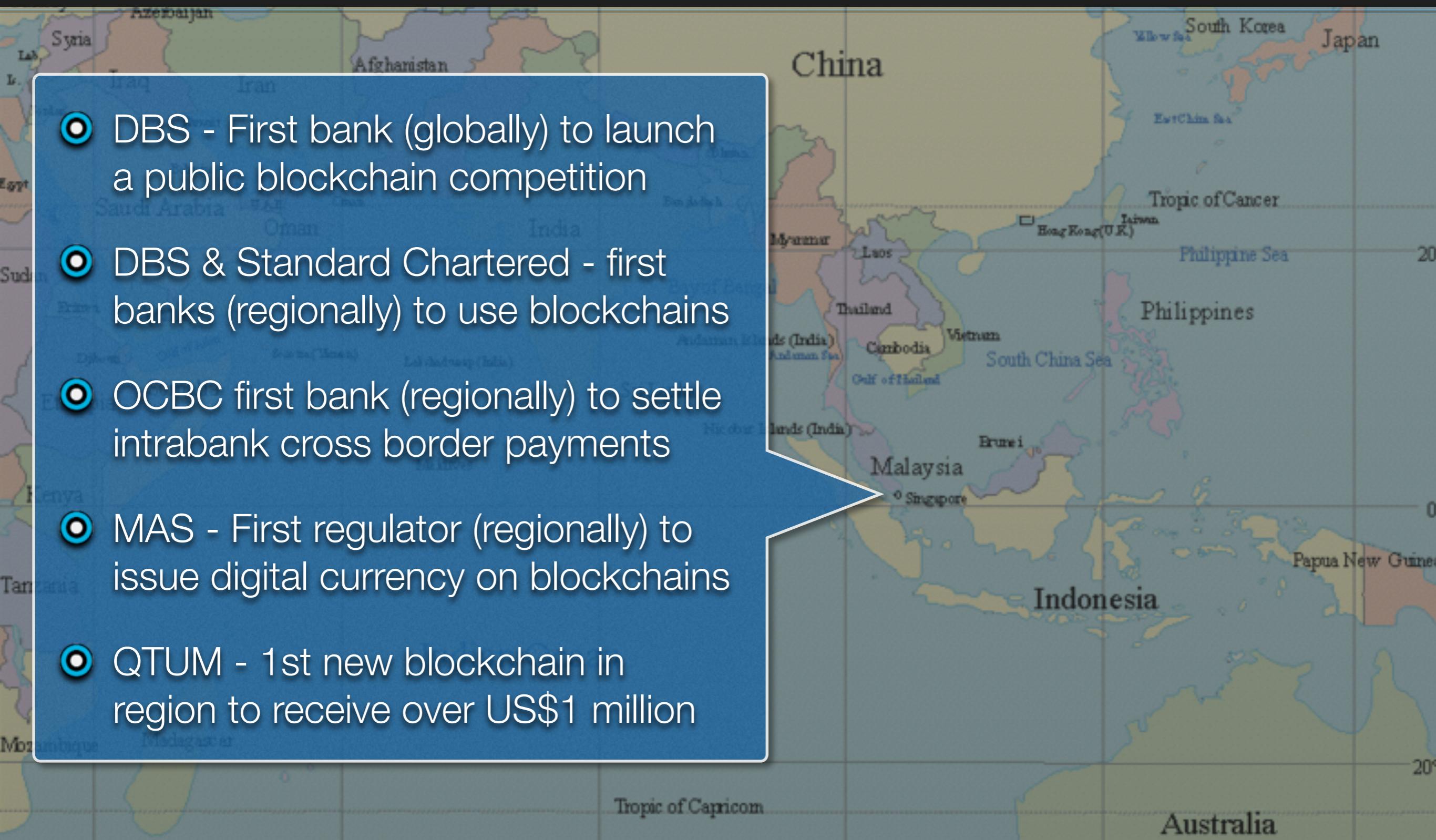
- **LO3 Energy** - Building blockchain based tool for energy micro-grids
- **Electron** - Blockchain based systems designed for the energy sector
- **Scanergy** - An open platform for prosumers to freely trade energy

BRINGING IT HOME

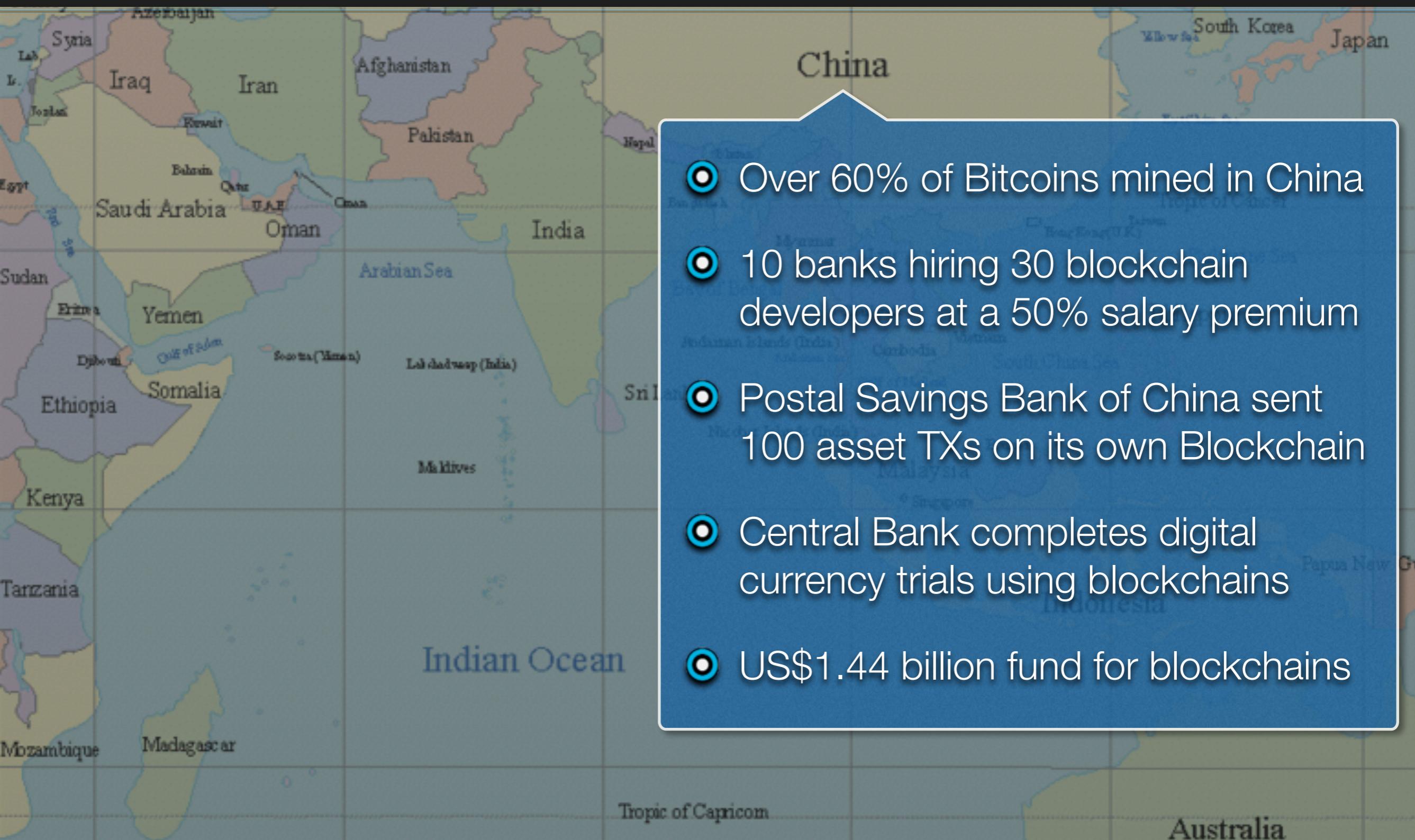
BLOCKCHAINS IN ASIA

SINGAPORE

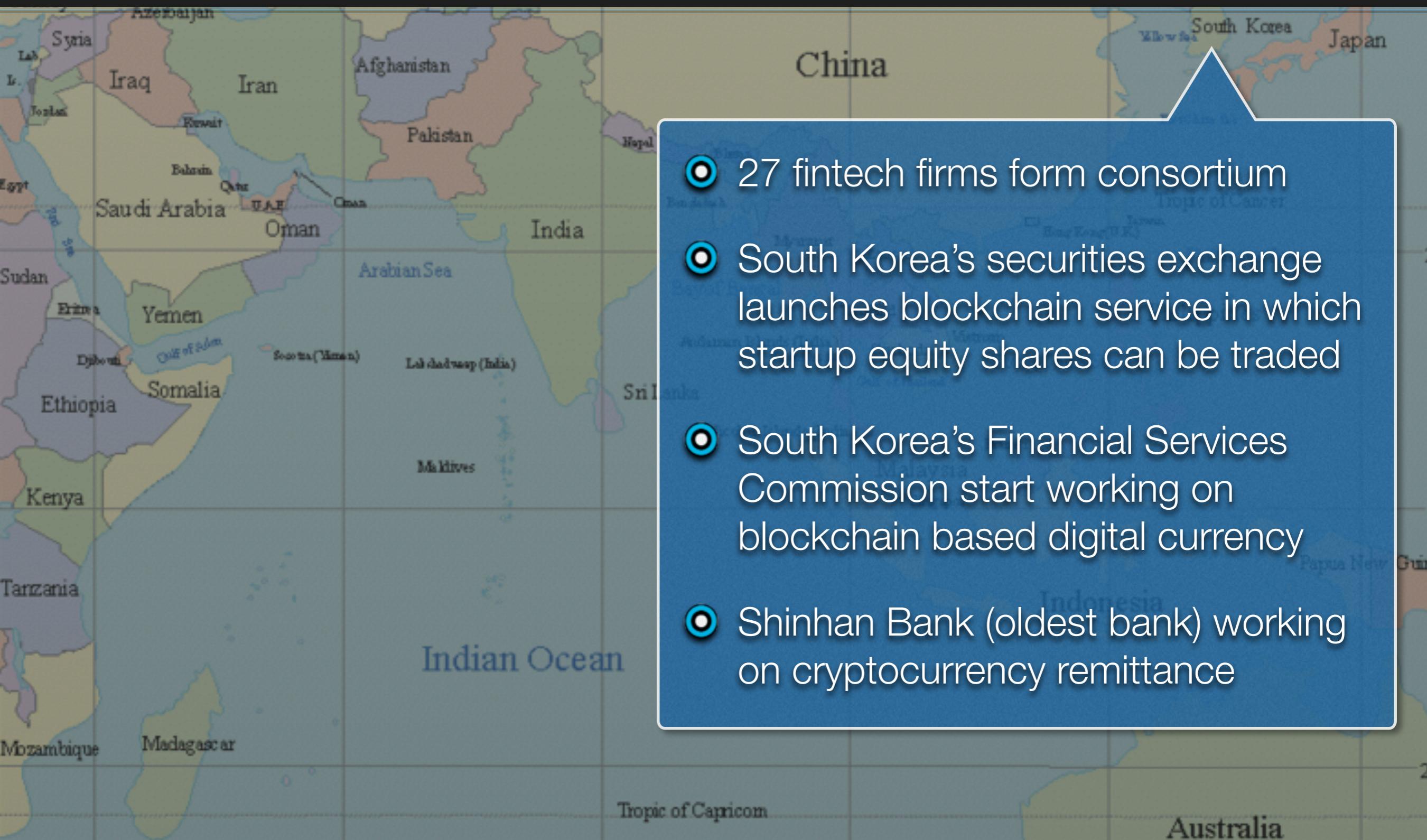
- DBS - First bank (globally) to launch a public blockchain competition
- DBS & Standard Chartered - first banks (regionally) to use blockchains
- OCBC first bank (regionally) to settle intrabank cross border payments
- MAS - First regulator (regionally) to issue digital currency on blockchains
- QTUM - 1st new blockchain in region to receive over US\$1 million



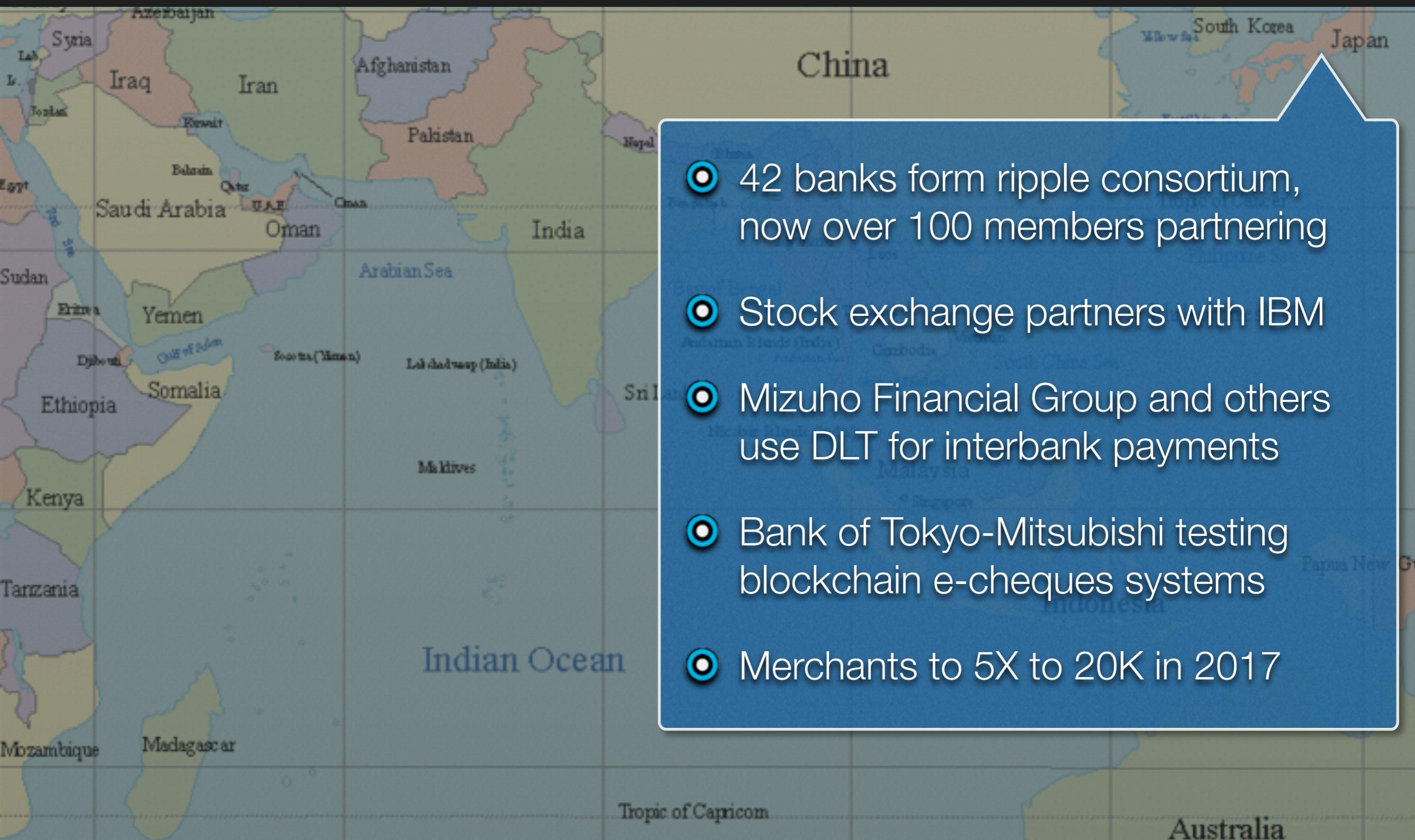
CHINA



KOREA



JAPAN



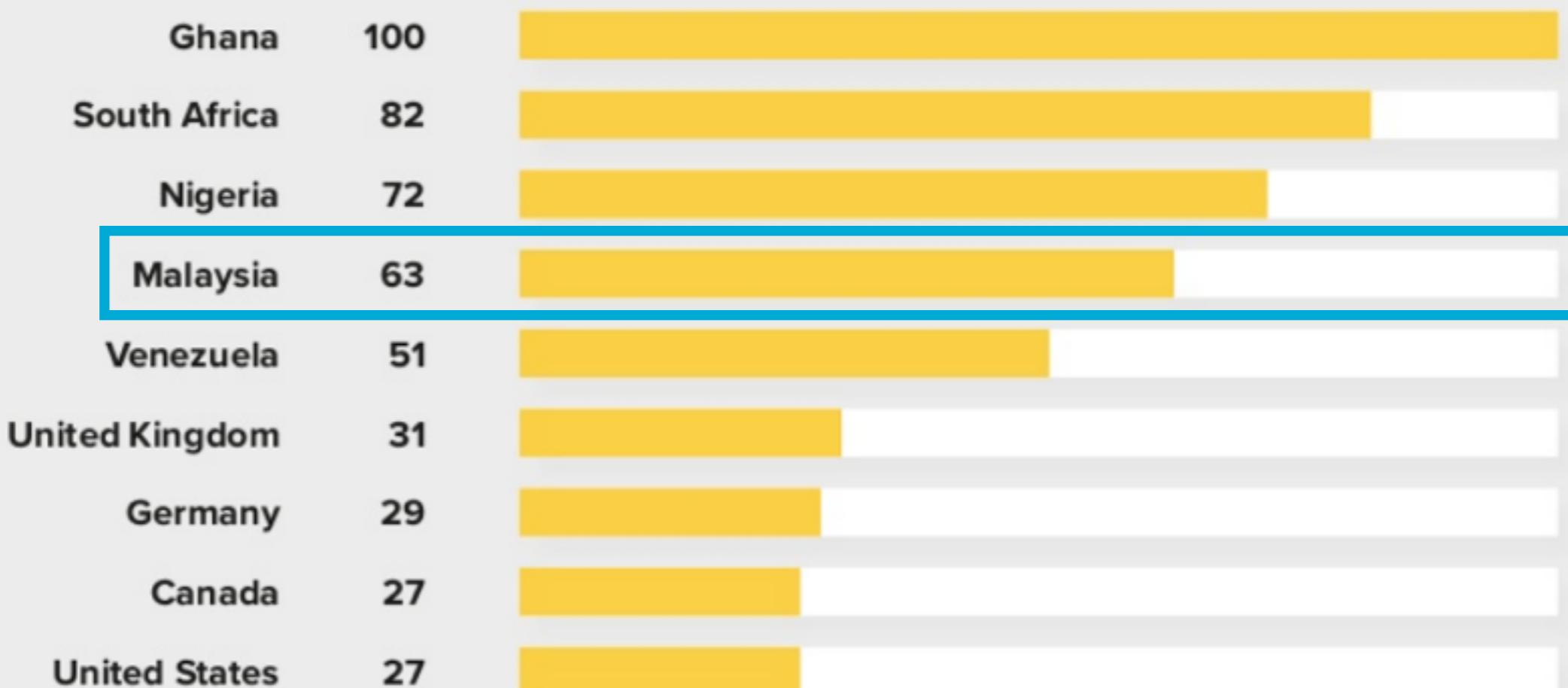
- 42 banks form ripple consortium, now over 100 members partnering
- Stock exchange partners with IBM
- Mizuho Financial Group and others use DLT for interbank payments
- Bank of Tokyo-Mitsubishi testing blockchain e-cheques systems
- Merchants to 5X to 20K in 2017

**WHAT ABOUT
MALAYSIA ?**

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



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

Malaysian BlockChain Ambassadors



Trustee Ambassador

MahWengKwai
& Associates



Banking Ambassador

CapitalBay

Invoking Ambassador

REDmoney

Media Ambassador



IoT Ambassador



FinTech Ambassador



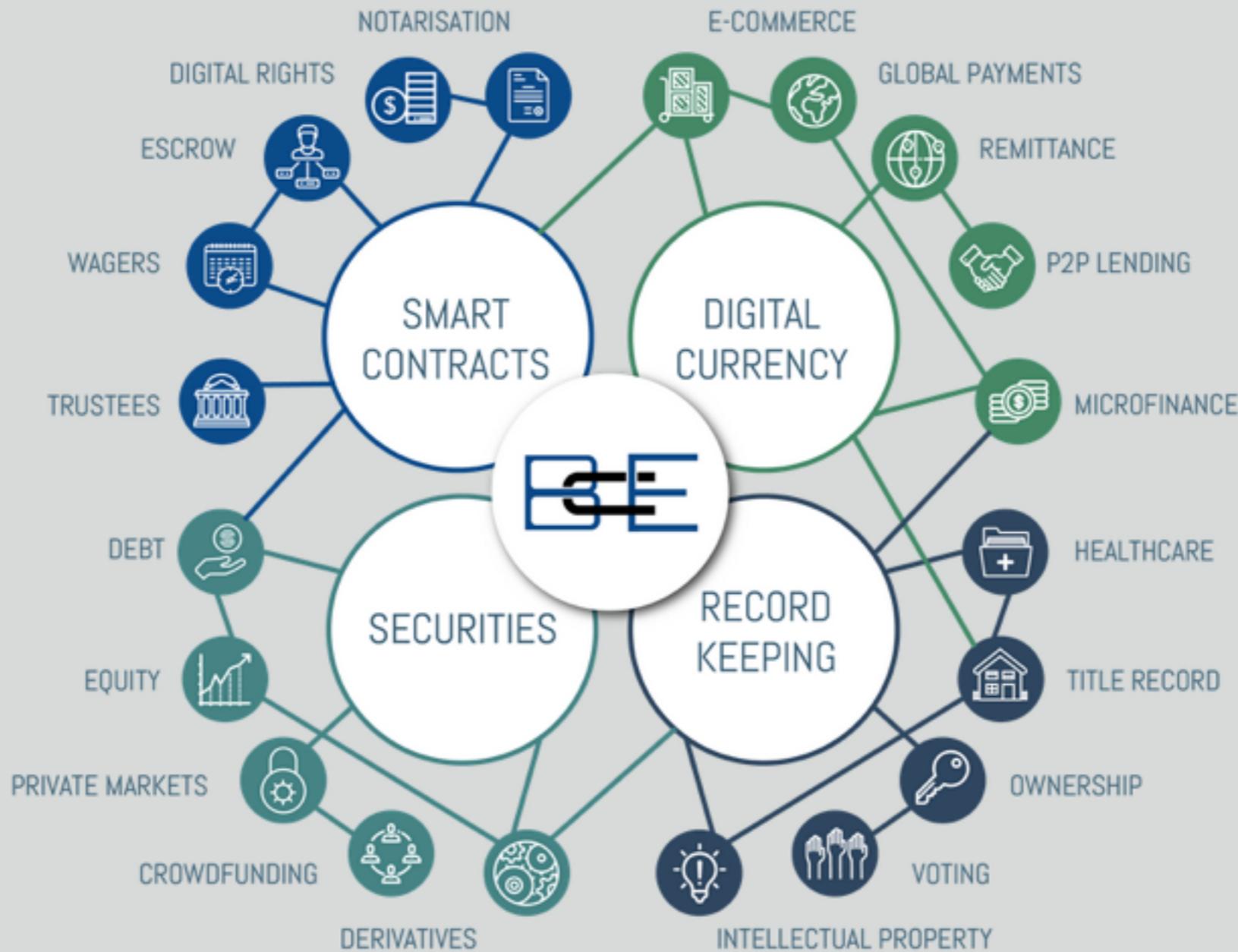
Education Ambassador



Technology Ambassador

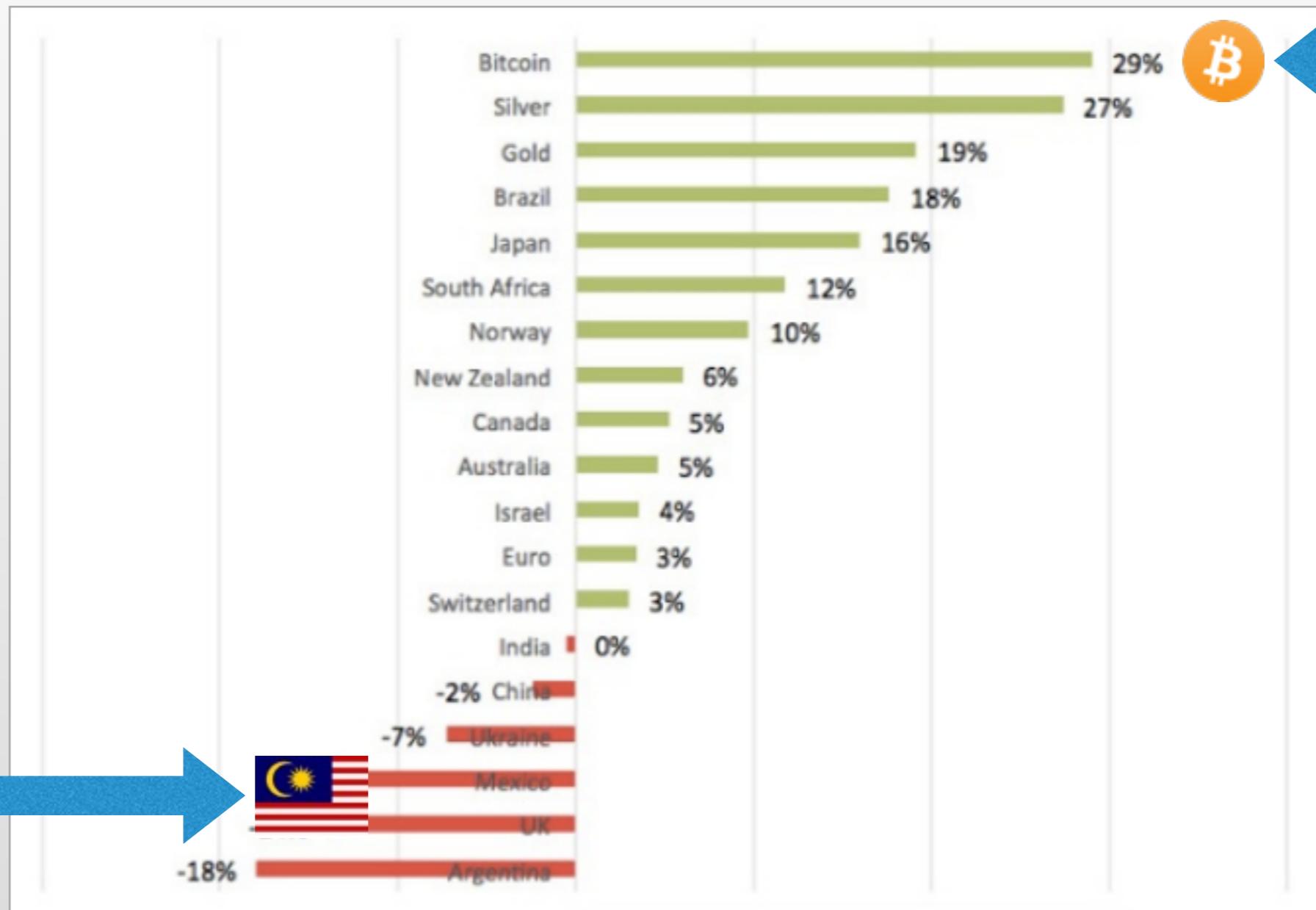
BIG PROBLEMS INVOLVE MULTIPLE PARTNERS & MOVING PARTS

(now drawing attention from international banks seeking partnerships)



WHERE DO WE (MALAYSIA) STAND ...?

also from the coindesk.com most recent quarterly report - but not the MY part



OUR FIRST CLIENT IS ONE OF SIX LICENSED ECF OPERATORS

ataplus

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

Credits: 254.00000000 FLUSH LOGOUT

COMMITTS

DATASTORES

ISSUERS

COMPANIES

INVESTORS

INVESTMENTS

SECTORS

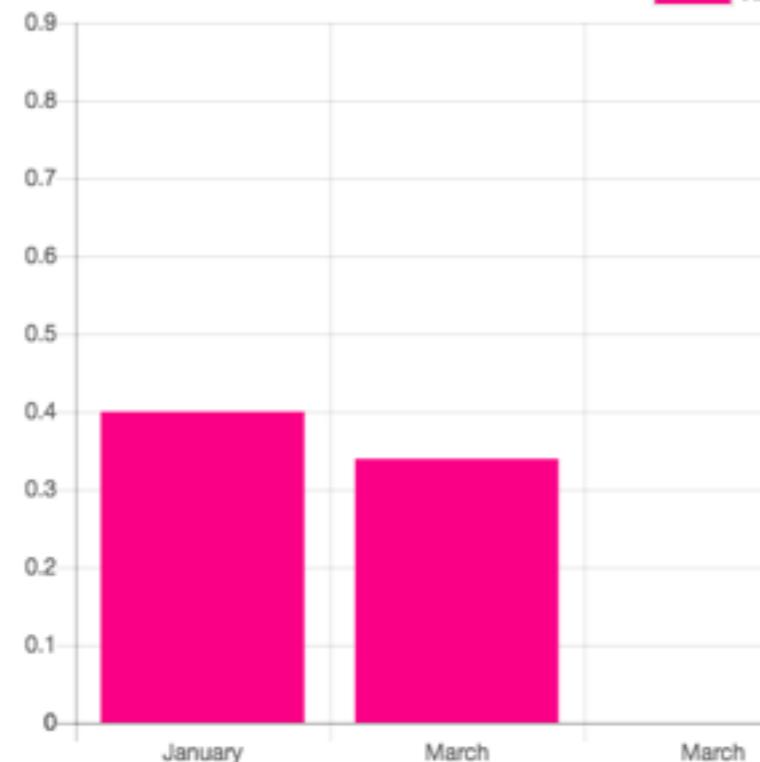
ADD NEW

SCHEMA

DOCUMENTATION

6 Months Sitewide Total Investments

RM Invested (Millions)



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

sort by

Most Recent

search investments

f2583c4bbbc1d7f70fe776ef8de24e3e9131884de2be5ed3365fe72e53fa2177

EDIT

DELETE

SCHEMA

Key

Value

Index: Investment ID [auto]

bf28617205e695439c0dd2285a76d7c1

powered by neuoware



Kyri - Co-Founder & Director
of Licensed ECF Platform

TO SUMMARIZE

- The next IT revolution is already underway and finance is only its first target
- Although the future of Bitcoin is uncertain - blockchains are here to stay
- Distributed ledger technology will continue growing at an increasing pace
- **Like databases, there is no blockchain suitable for every use-case**

THANK YOU

NOW IS THE TIME TO QUESTION THINGS

LEARN MORE ABOUT



neuroware

<http://neuroware.io>