

# BLOCKCHAINS AND ENERGY

PRESENTED BY



neuroware

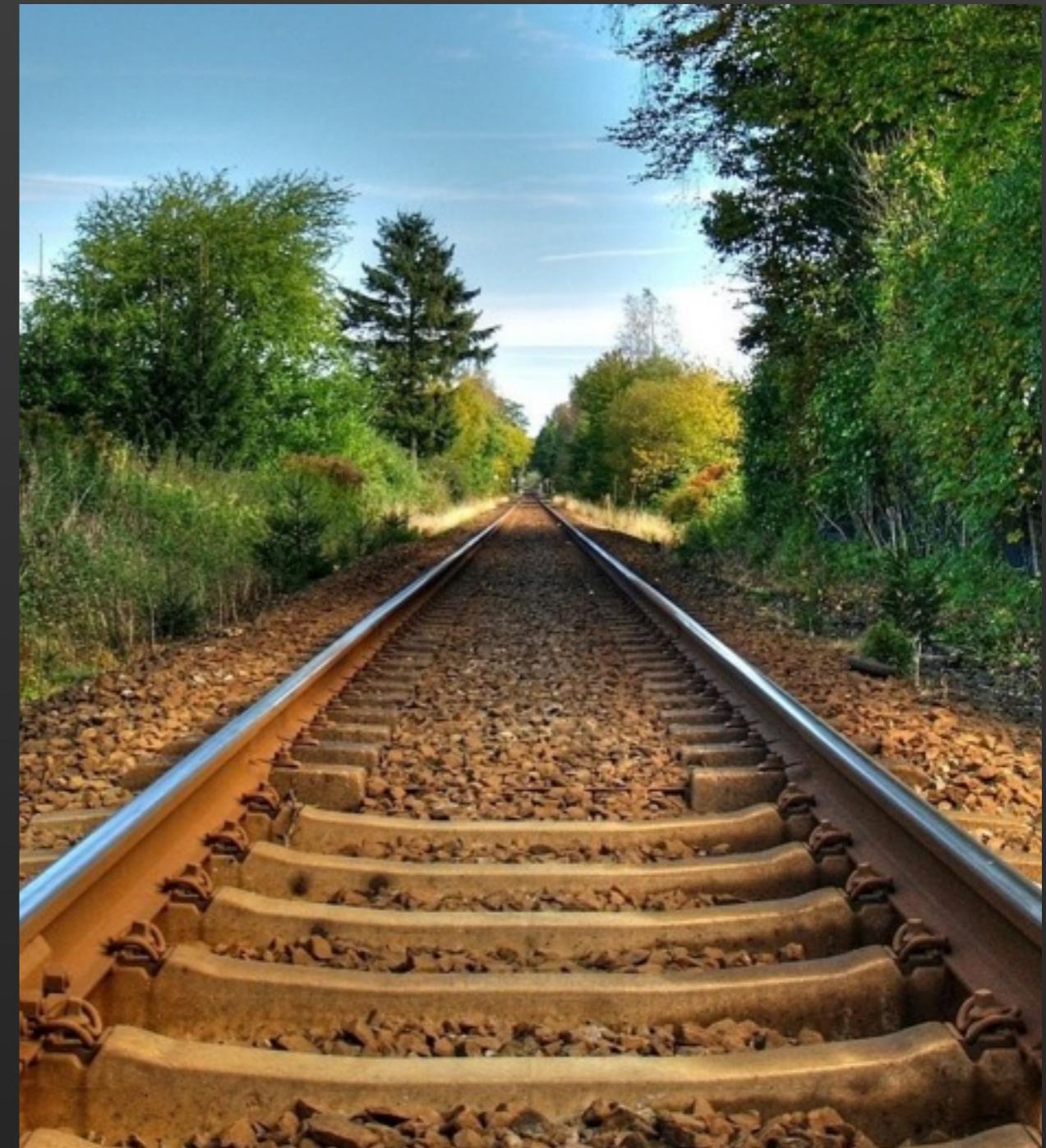
# BITCOIN

( the first application / popular digital asset )

vs

# BLOCKCHAINS

( the underlying tech / shared public ledger )



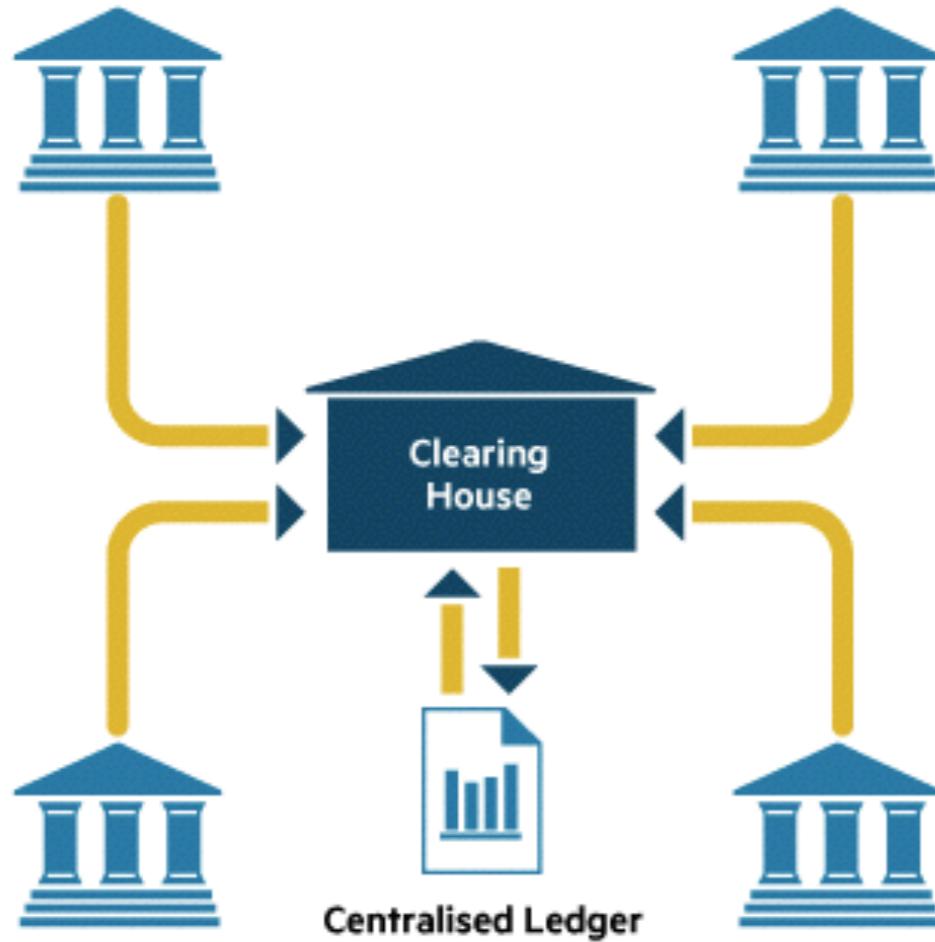
# WHY BLOCKCHAINS ? - THE PROBLEMS BEING SOLVED

- **TRUST** - difficult to trust recorded data when data can easily be changed
- **COSTS** - cloud based infrastructure & technical support can be expensive
- **COLLABORATION** - blockchains provide a neutral standardized platform
- **INNOVATION** - true innovation is difficult to achieve with legacy systems

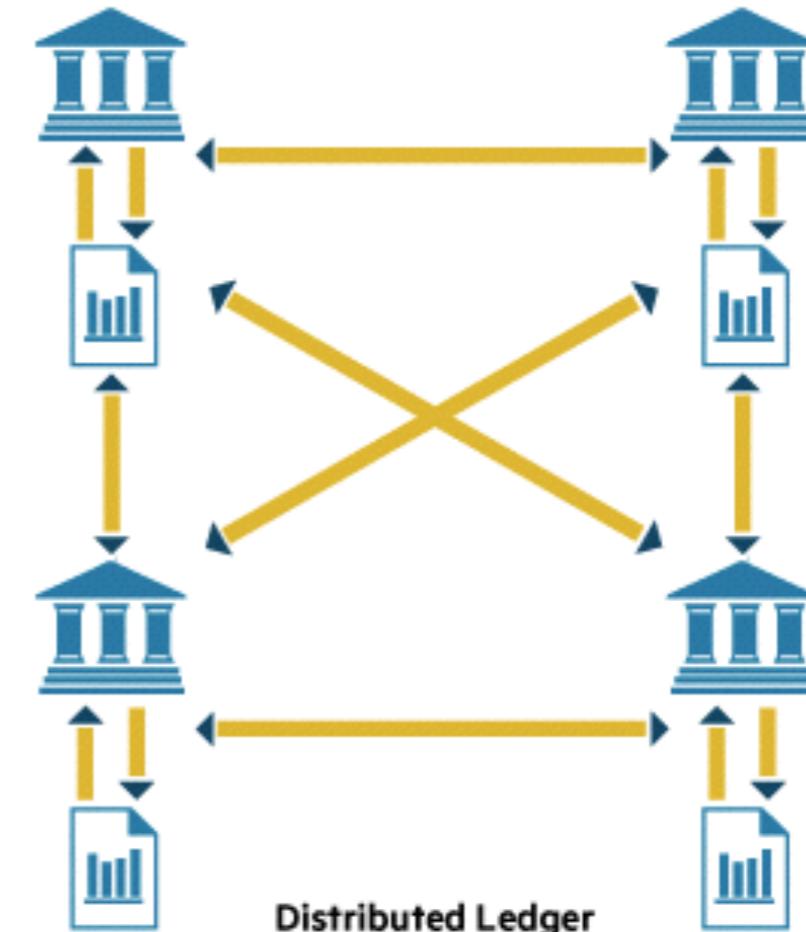


“While Fintech Disrupts Banks,  
the Blockchains Disrupt Fintech”

# INNOVATING HAS TYPICALLY REQUIRED TRUSTING OTHERS



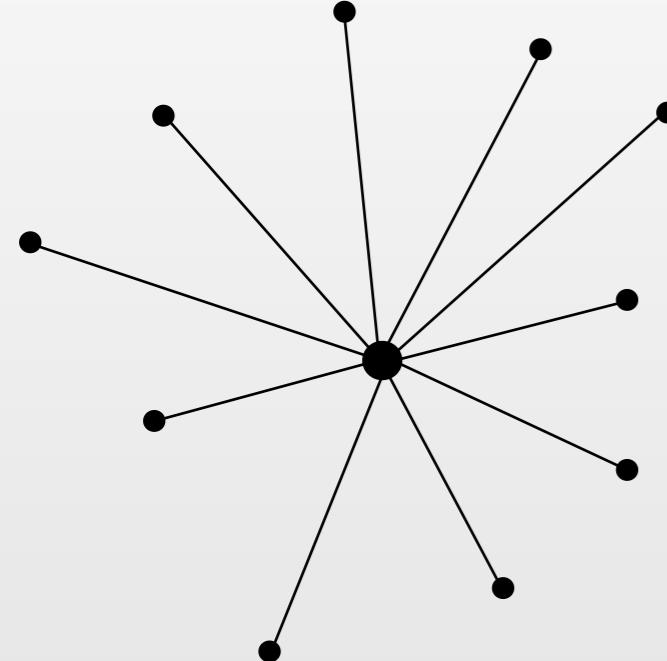
**THE OLD WAY**



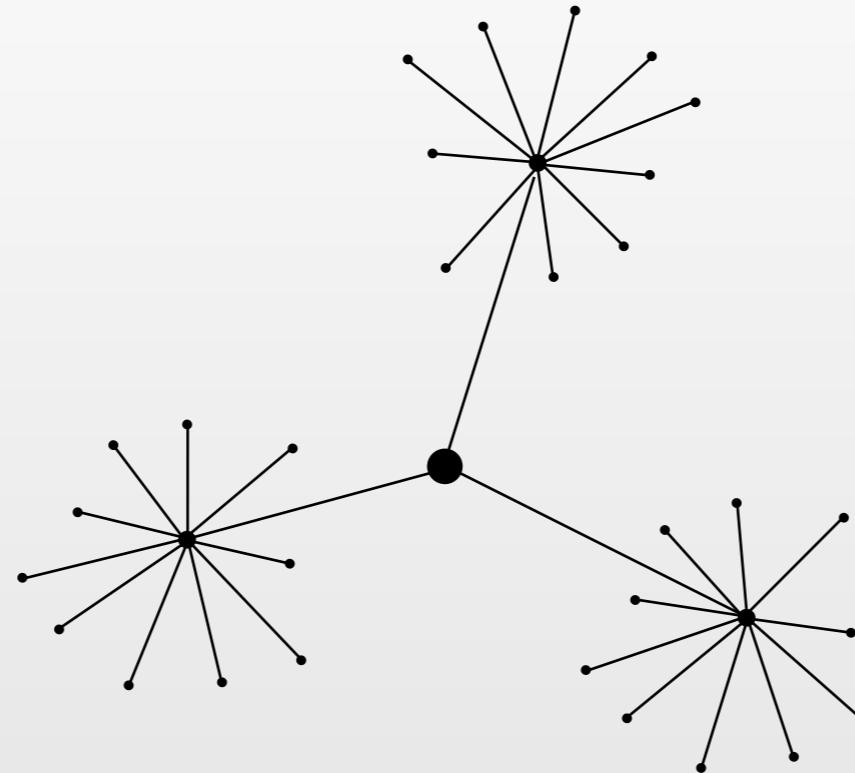
**THE NEW WAY**

- Reconciling Multiple Central Ledgers Vs Auto-Audited Distributed Ledgers?
- Batch Processing CSVs every 24 Hours Vs Really Real-Time Settlement?

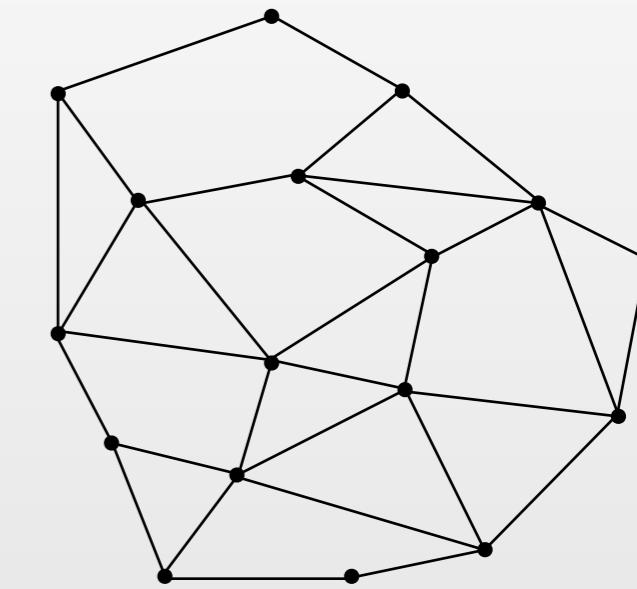
# NETWORK EVOLUTION - STORING DATA & SERVING CUSTOMERS



**CENTRALIZATION  
DATABASES**



**DECENTRALIZATION  
THE CLOUD**



**DISTRIBUTION  
BLOCKCHAINS**



# HOW NEUROWARE HAS BEEN HELPING BUSINESSES IN MALAYSIA

Our parent company (R1) has been operational for 5 years - providing:

- **EDUCATION** - from corporate innovation training to technical workshops
- **CONSULTING** - brainstorming business use cases and product roadmaps
- **DEVELOPING** - full stack product design, development and support

Our blockchain specific product range includes:

- **WALLET FRAMEWORK** - easily deploy customized keyless HTML5 wallets
- **DISTRIBUTED PROTOCOLS** - store data and identities on any blockchain
- **CORTEX & SPINAL** - blockchain based operating system with APIs

# THE BENEFITS OF **BLOCKCHAIN** BASED ENERGY NETWORKS

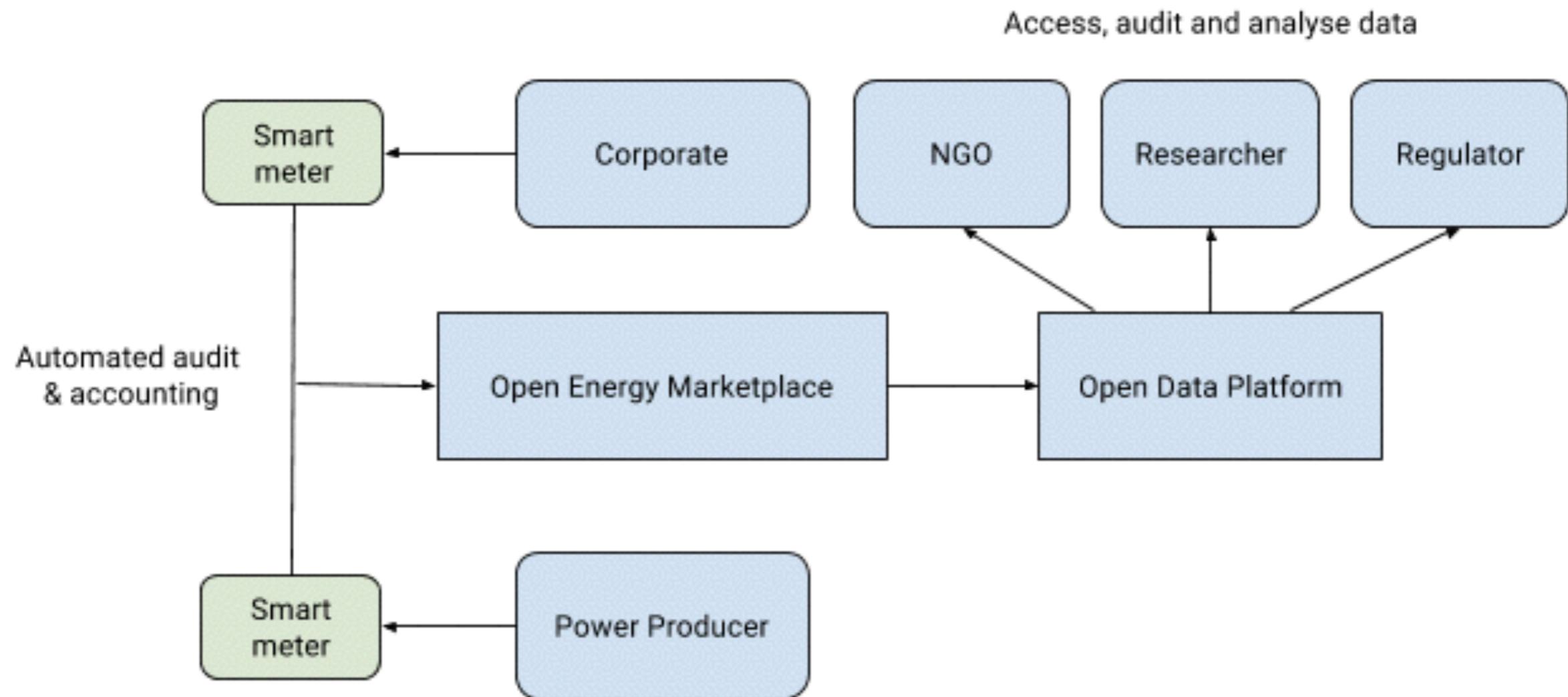
Improving the quality of life for everyone whilst saving costs:

- **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:

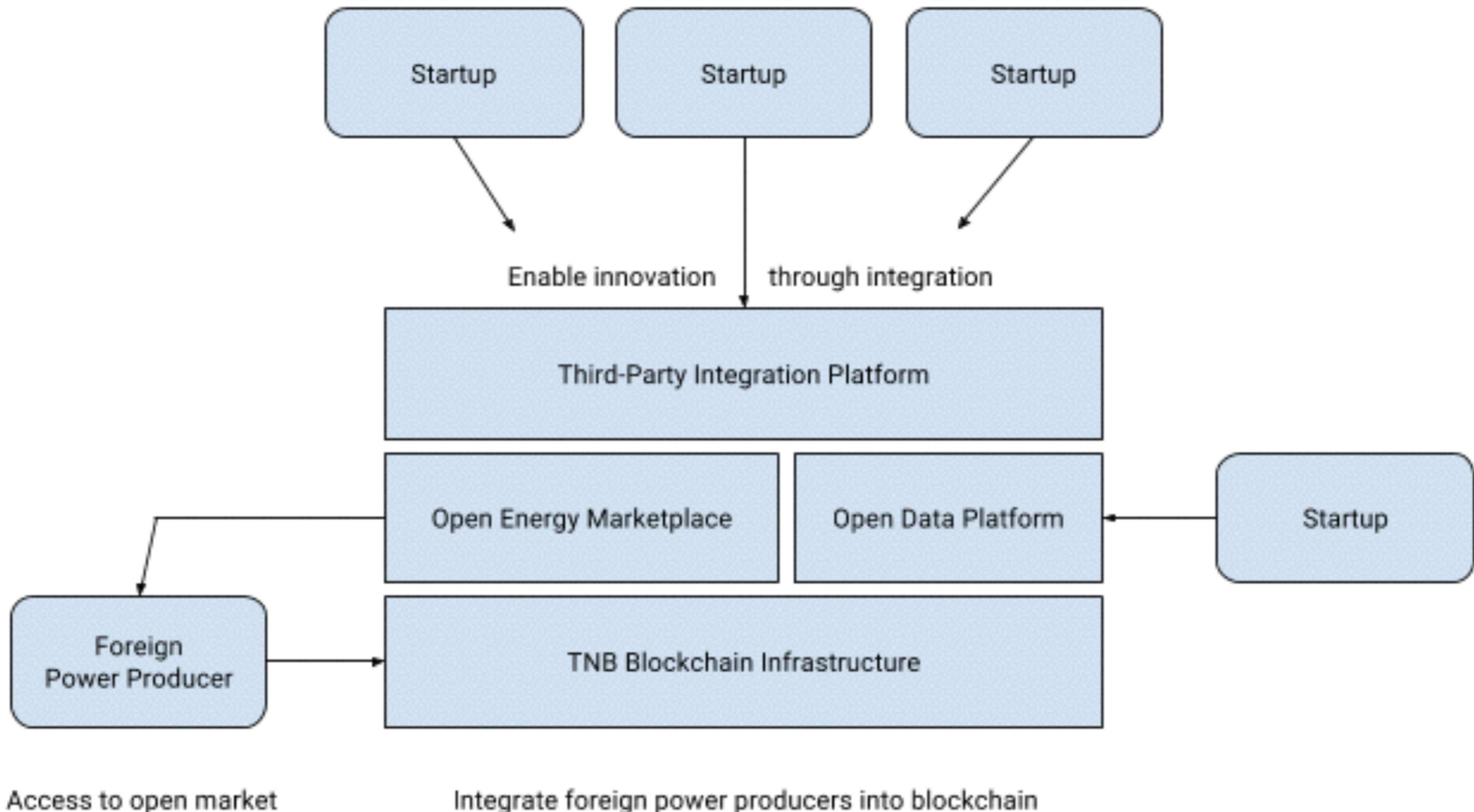
- **SMARTER RELATIONSHIPS** - securely share data between trusted parties
- **SMARTER COMPLIANCE** - automate regulation with coded contracts
- **SMARTER DECISIONS** - network analytics with tamper proof audit trails

# INTRODUCING THE SMART ENERGY MARKET

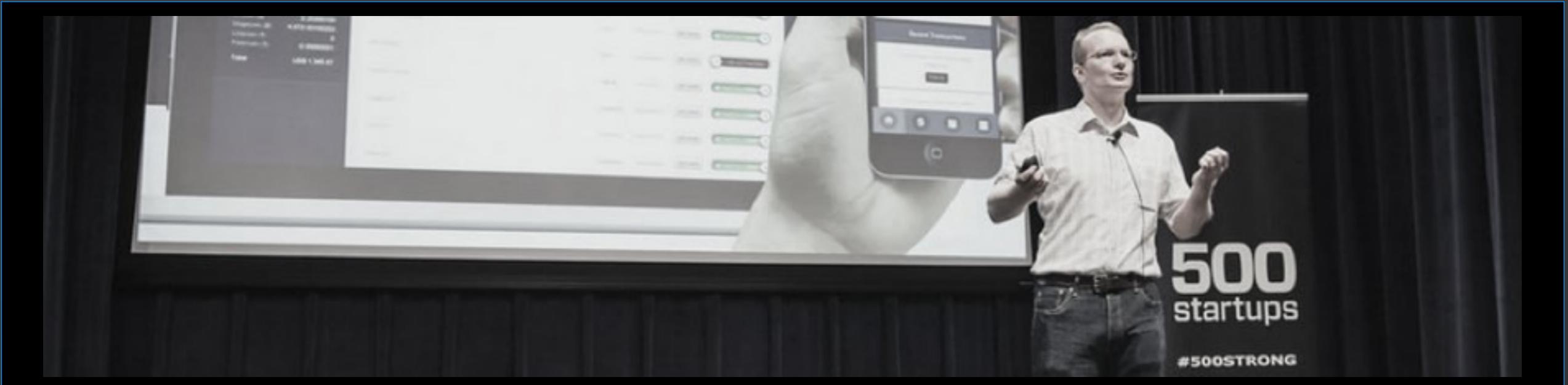


Regardless of whether the smart meters are integrated with the platform, the blockchains provide a neutral environment where data can be openly verified

# THE FOUNDATION FOR A **GLOBAL ENERGY MARKETPLACE**



# WHY CHOOSE NEUROWARE TO EXPLORE BLOCKCHAINS ?



- **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

# WHO FOUNDED THE FIRST BLOCKCHAIN MSC COMPANY ?



## 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

# WE HAVE A TRUSTED TEAM OF VESTED-ADVISORS



**Colin Charles**  
MariaDB Founder



**Adam Giles**  
Ex Standard Chartered



**Hanson Toh**  
Axiata / Ex Google



**David Barton Grimley**  
Sapient Nitro



**Johnny Mayo**  
Forbes 30 Under 30



**Wu Han Ngeow**  
Maxis



**Gabey Goh**  
Campaign Asia-Pacific



**Gareth Davies**  
Mindvalley

# WE'VE BEEN WORKING WITH INSTITUTIONS AROUND THE WORLD

## REGULATORY TRAINING & WORKSHOPS



BANK NEGARA MALAYSIA  
CENTRAL BANK OF MALAYSIA



Suruhanjaya Sekuriti  
Securities Commission  
Malaysia

## INSTITUTIONS FUNDING US

**500**startups  
coinsilium

## REGULATED INSTITUTIONS WE HAVE DONE BUSINESS WITH

 **Maybank**

 **ataplus**

 **axiata**  **DBS**

# EXPLORING SEVERAL DIFFERENT INDUSTRIES OVER THE YEARS

## BANKING

From AML & KYC cost reductions to reward schemes & reaching the unbanked or general key-signing

## HEALTHCARE

Complete and immutable family histories of every related diagnosis and condition available from one key

## ACCOUNTING

Creation of programmable processes and automated auditing trails that increase transparency and efficiency

## LEGAL

Cryptographically secure document notarization, copyright protection, and dispute settlement

## GOVERNANCE

Increase the accountability of public officials and offer total transparency in voting and elections

## LOGISTICS

Tracking of shipping cycles and provenance systems that autonomously verify actions

## GAMING

Share digital assets between an entire network of games, or use the blockchains to create immutable persistent open-worlds

## ASSETS

Track possession of your property in the digital economy by creating, managing, storing, or sharing multiple asset classes

## INSURANCE

Integrated insurance and medical services can be intelligently designed to quickly and contractually settle claims with cryptographically

# EDUCATING AND TRAINING ORGANIZATIONS HAS BEEN KEY

“Having finally seen Cortex in action, I can safely say these guys have something truly special on their hands, my only disagreement is that they should be based in Singapore!”

“Neuroware have been our ‘go to’ guys with respect to blockchains and critical in raising the understanding of distributed ledgers for our senior leadership teams and partners”

“Neuroware have consistently been our key consultants with regards to blockchain technology. Their participation provided us with use cases that weren’t first obvious”



Anson Zeal - CEO  
Bitcoin Remittance Company



Amran Hassan  
Head of Innovation



Max Tiong  
Head of FinTech

# THE BLOCKCHAIN EMBASSY OF ASIA - MADE IN MALAYSIA



BlockChain Embassy Asia

AMBASSADORS

USE CASES

CONTACT EMBASSY

TOOLBOX

NEWS

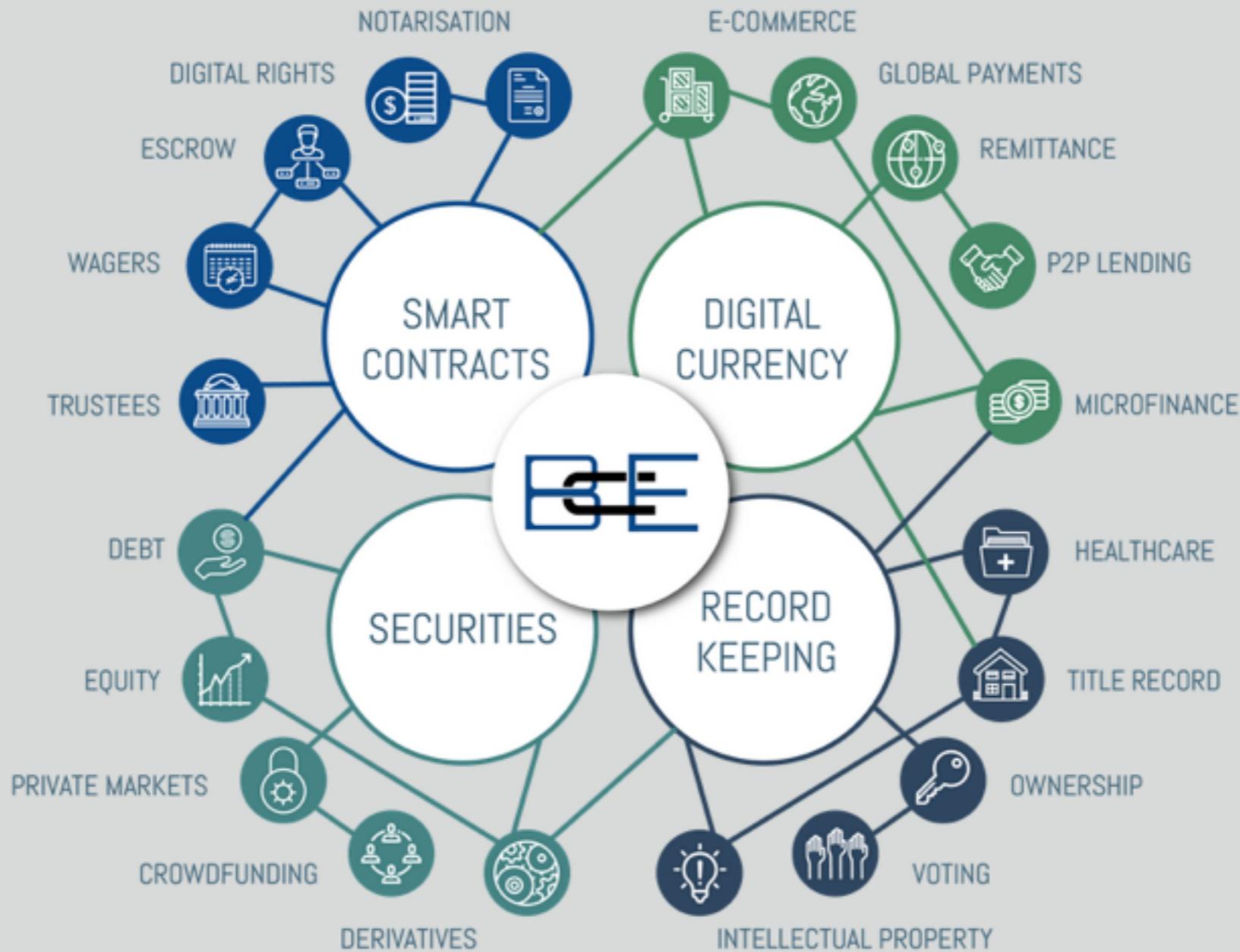
**our mission is to educate organizations throughout asia in both  
the legal and technical implications of distributed ledgers**

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

# BIG PROBLEMS INVOLVE MULTIPLE PARTNERS & MOVING PARTS

( now drawing attention from international banks seeking partnerships )



# 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

# CORTEX USE CASE - ONE OF SIX 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

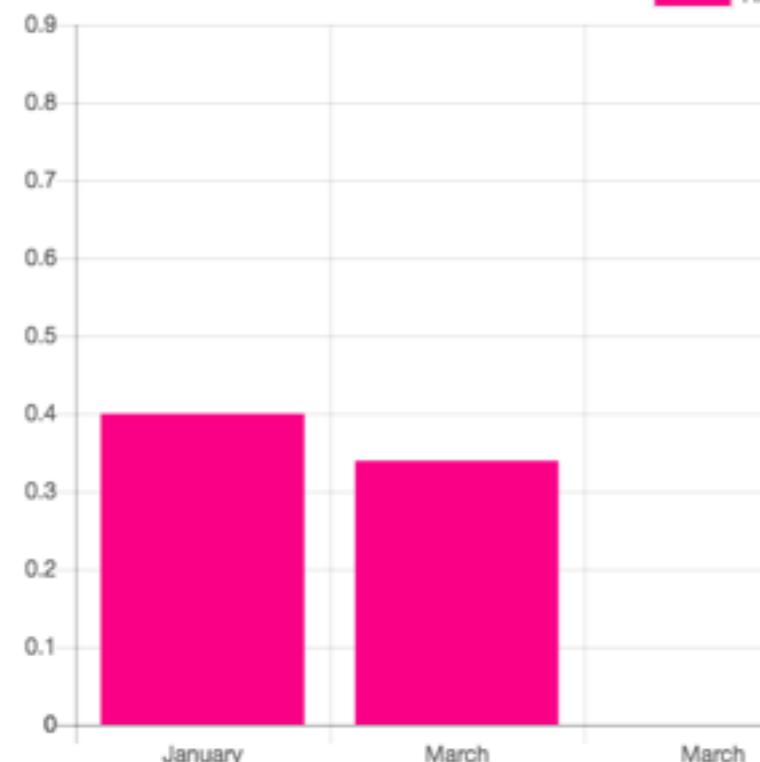
ADD NEW

SCHEMA

DOCUMENTATION

6 Months Sitewide Total Investments

RM Invested (Millions)



“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 ]

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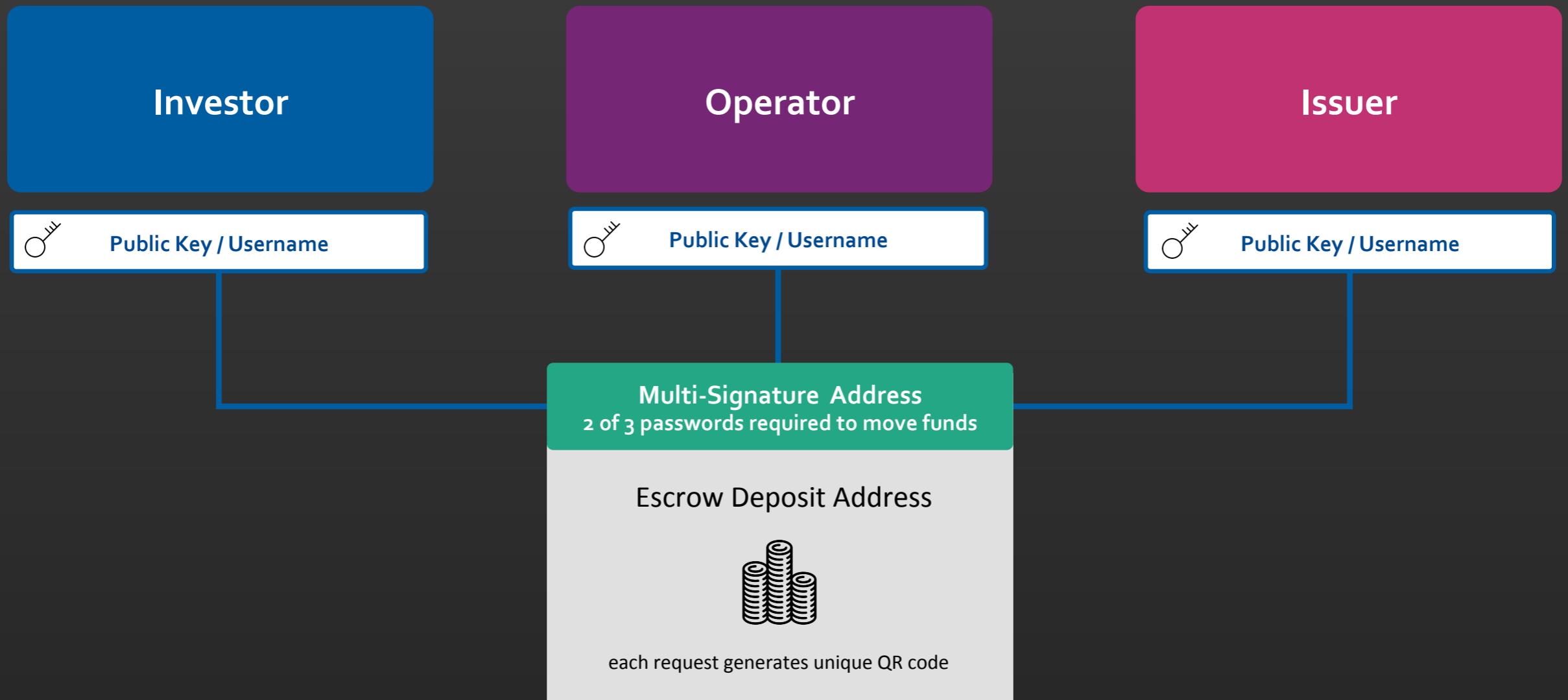
powered by neuoware

neuoware



Kyri - Co-Founder & Director  
of Licensed ECF Platform

# SPINAL USE CASE - PROVIDING KEY RECOVERY & ARBITRATION



# BREAKING THINGS DOWN INTO THREE **SMALLER** STEPS

- **STEP 1** - Deploy a Blockchain Prototype for a Global Energy Marketplace
  - - Distributed Content Management & Contact Resource Systems
  - - Transferable Digital Energy Units Governed by Smart Contracts
  
- **STEP 2** - Develop an Analytics Platform as Marketplace Proof of Concept
  - - Ensure that the marketplace prototype can support third-parties
  - - Guarantee accountability whilst improving social responsibility
  
- **STEP 3** - Integrate with Smart Meters & other Demos for Internet-of-Things
  - - Develop Digital Identities, e-Signing and Authorization Processes
  - - Deploy Tools & Resources for new 3rd Party Integration Services

# THANK YOU

EMAIL US ( [founders@neuroware.io](mailto:founders@neuroware.io) ) ANY TIME

LEARN MORE ABOUT



neuroware

<http://neuroware.io>