



neuroware

BLOCKCHAIN INFRASTRUCTURE PROVIDERS

2016 WAS AN EXCITING YEAR FOR BLOCKCHAINS

In 2016 alone, over 100 banks and leading financial institutions started working on blockchain projects - with the eco-system receiving over US\$1 billion in funding



WHAT PROBLEMS DO BLOCKCHAINS HELP TO SOLVE?

- **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”

FOUNDERS OF FIRST MSC STATUS BLOCKCHAIN COMPANY



Mark Smalley - CEO

Living in Malaysia for the past 19 Years

Building Web Applications for 15 Years

Spent 10 Years Building Tech Communities

Developing Blockchains Apps for 5 Years

Ruben Tan - CTO

Building Web Applications for 10 Years

Active Community Evangelist & Presenter

Early Developer at MyTeksi and OnApp

Studying Distributed Consensus 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

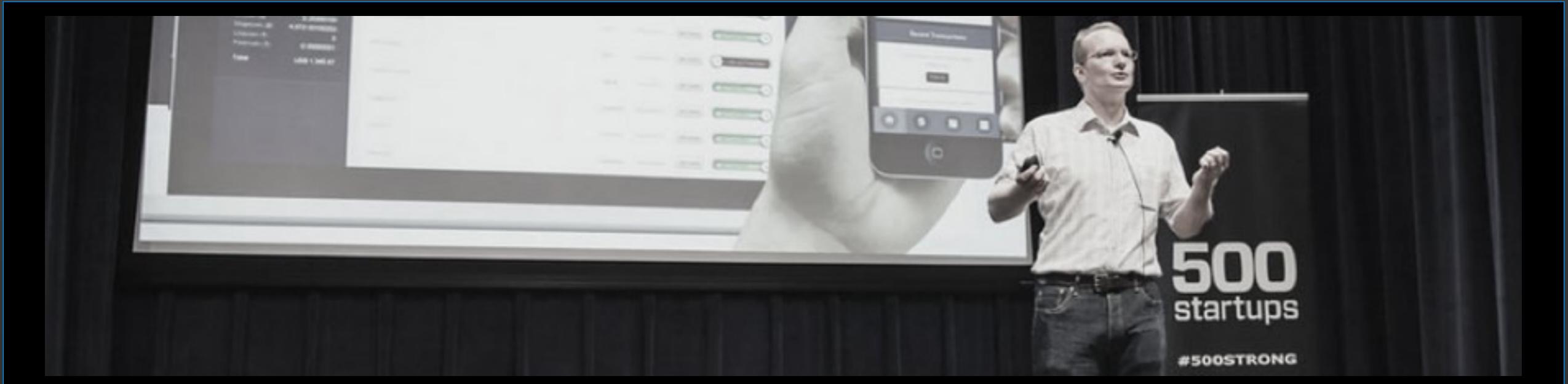


Gabey Goh
Campaign Asia-Pacific



Gareth Davies
Mindvalley

WE ARE 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 HAVE WORKED WITH INDUSTRY LEADERS

REGULATORS WE HAVE TRAINED



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA



Suruhanjaya Sekuriti
Securities Commission
Malaysia

INSTITUTIONS INVESTED IN US

500startups

coinsilium

INSTITUTIONS WE HAVE DONE BUSINESS WITH

DBS

ataplus

axiata

Maybank

OUR PROTOCOLS FORM THE FOUNDATION FOR ANY APPLICATION

CORTEX

EVERSTORE

DISTRIBUTED
STRUCTURED DATA

 **blockauth**

DECENTRALIZED ID &
AUTHENTICATION

 **dhkey**

KEY LOGISTICS &
BROADCASTING

NEUROWARE'S AGNOSTIC PROTOCOLS

DESIGNED TO WORK ON ANY BLOCKCHAIN

CORTEX PROVIDES A SINGLE INTERFACE FOR EVERYTHING

 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	Neuroware

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.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](#)

 neuroware

SLIDE # 9

CORTEX USED BY LICENSED EQUITY CROWDFUNDING PLATFORM

ataplus

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

Credits: 254.0000000 FLUSH LOGOUT

COMMITS

DATASTORES

ISSUERS

COMPANIES

INVESTORS

INVESTMENTS

SECTORS

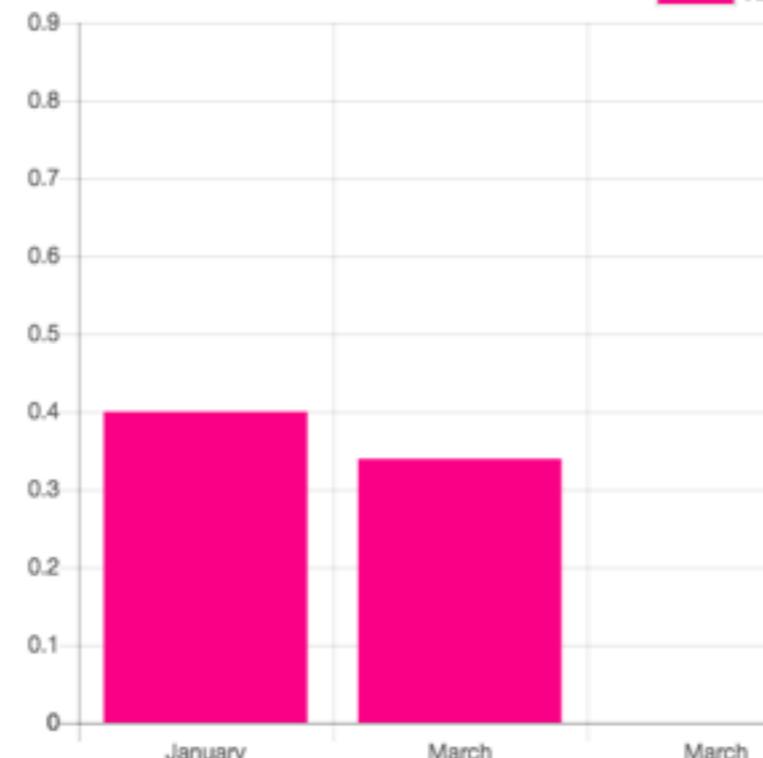
ADD NEW

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]

bf28617205e695439c0dd2285a76d7c1

powered by neuoware



Kyri - Co-Founder & Director
of Licensed ECF Platform

EDUCATION HAS PLAYED AN IMPORTANT ROLE

“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

EASY TO SEE WHY BANKS ARE SHOWING SUCH INTEREST

- 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 also reported that 65% of banks will have blockchain trials by 2020

FINTECH IS NOT THE ONLY INDUSTRY WE ARE DEALING WITH

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

USE CASE 01

DATA STORAGE

DIFFERENT WAYS DATA CAN BE STORED ON BLOCKCHAINS

- Blockchains can provide a tamper proof audit trail for structured data
 - Useful for public data (births, deaths, marriages and education)
 - Ideal for sharing data (identity, loyalty, supply chains and healthcare)
- Alternatively, blockchains can also be used to timestamp data hashes
 - Useful for large data sets (such as data lake authenticity checks)
 - Ideal for compliance (independently verify data timelines)
- Simple applications that require limited data can run autonomously without the need to pay for and (or) service ongoing hosting or server requirements
 - Useful for operating censor resistant applications

WHAT IS A DATA LAKE...?

- An intelligent repository for storing large quantities and varieties of data
- With a constant stream of data being fed to it from different sources
 - There is an **expectation** to preserve the original data
 - As well as the **precise** lineage of data transformation
- Requires unstructured data & structured data with embedded schema
- Leads to a stockpile of archived anonymous yet actionable events
- **However**, the more routes that lead to and from this lake of data, the more susceptible it becomes to presenting misleading information...

THE PROBLEMS FACED BY DATA LAKES

- **How can we trust the data coming into the lake?**

- Is it going to the right place & is it coming from who it says it is?
- If the application or service is independent what happens when we need to change either of these parameters?

- **Can we trust the data does not get altered once in the lake?**

- Risks associated with centralized truth for distributed workloads

- **How can we trust the data coming out of the lake?**

- Do the right team members have the data specific privileges?

HOW OUR DISTRIBUTED PROTOCOLS CAN HELP



- Our **DNKey** protocol could be used to manage hierachal public key abstraction so that external input routes could be controlled remotely

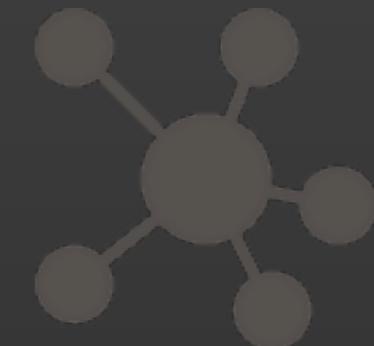


- Our **BlockAuth** protocol could be used to manage network-wide, inter-internal hierachal authentication and administrative privileges

EVERSTORE

- Our **Everstore** protocol could be used to track and publicize data archives with hashed payloads and other important meta information

HOW IT ALL FITS TOGETHER



COLLECT DATA

Collect RAW schema-less data using MongoDB - can use GridFS for file storage

Document-Driven Design

This allows you to store and query anything

ARCHIVE DATA

Hash batches of data prior to archiving and publicize the meta data to the blockchains

Relational and Replicated

Mixing some of the oldest technologies with the latest

ANALYZE DATA

Use APIs to get data from the archives and prove its validity by checking the blockchains

Polyglot Persistence Prevails

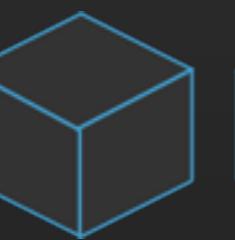
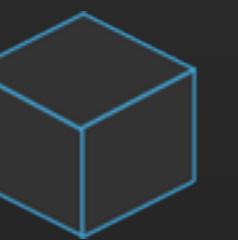
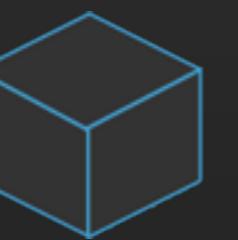
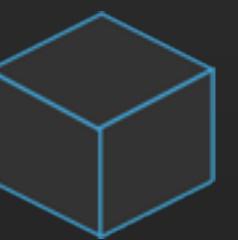
Use the right database for the right job at the right time!

EVERSTORE - THE FIRST BLOCKCHAIN POWERED DATABASE

- Everstore is the first protocol capable of storing large amounts of structured data directly on a blockchain - bypassing singular transaction limitations
- Replicates full CRUD-like functionality with schemas, indexes & relationships
- Data encoded via an Everstore instance is available for the life of the ledger

EVERSTORE

CRUD (*Create, Read, Update and Delete*) Structured Data Stored on Blockchains



CURRENT BLOCKCHAIN DATA STORAGE ATTEMPTS

- Most well known in the ecosystem are Factom.org and Tierion.com
- Both store checksums or ‘receipts’ on a blockchain in an OP_RETURN
- Records notarized on the blockchain must fit within Bitcoin’s 38 byte limit
- References then link to the actual data which is stored somewhere off-chain
- Other solutions such as StoreJ and Filecoin are attempting to build dedicated blockchains from the ground up specifically for just storing data and files
- The concern from the technical community is that without an underlying token of value or properly incentivized network security will suffer

WHY EVERSTORE IS SO SPECIAL

- Using a ‘master key’ Everstore can map transaction-outputs intelligently
- This allows Everstore to bypass the 38 byte limit with structured linking
- Data can be directly encoded on a blockchain - making it the database itself
- Each Everstore instance can hold up to 999,999,999 tables each with up-to 999,999,999 fields, with unlimited records, indexes and relationships
- Already supports over 20 field types from simple strings and numbers to more complex arrays and objects such as dates and geo-coordinates
- Private keys allow updates whilst public keys provide read-only access

USE CASE 02

IDENTITY

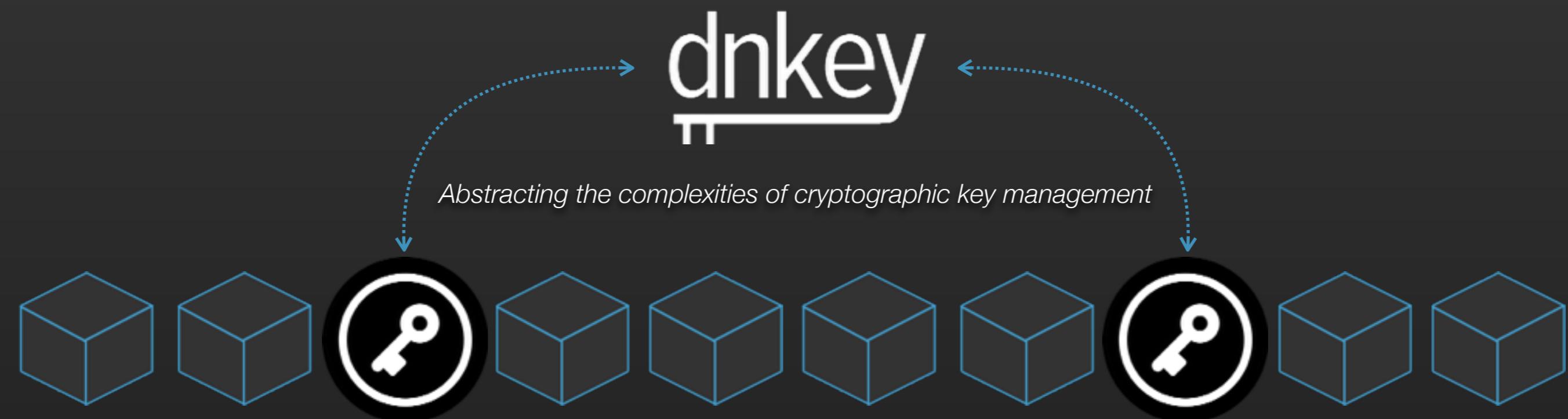
BLOCKAUTH - IDENTITY MANAGEMENT & AUTHENTICATION

- Enables intelligent account authentication via cryptographic keys
- Private keys replace passwords whilst the public keys becomes an identity
- Applications and organizations can independently authenticate credentials



SIMPLIFIED CRYPTOGRAPHIC IDENTITIES WITH DNKEY

- Scalable key logistics across multiple platforms, applications, and processes
- Enables DNS style abstraction for key retirement, replacement, and rotation
- Decodes memorable, trustworthy domain names to public cryptographic keys



HOW WE ABSTRACT THE COMPLEXITIES OF KEY MANAGEMENT

- Transform wallet addresses from complicated public keys such as: `13aaehx6p4QrTHMvQUZy3dTEevXr4Wprap` into something much more memorable and manageable - such as **mark.neuroware.io**
- Services configured to read DNKeys (rather than direct public keys) can programmatically control keys remotely
- Ensures organizations have total control over key management and are not locked-in to any one vendor or blockchain
- High-level domains can be used as a way to control your distributed on-chain presence across multiple applications

USE CASE 03

FINTECH

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 also reported that 65% of top banks will have blockchain trials by 2020

IN BANKS WE TRUST

- Banks traditionally play three **fundamental** roles:
 - STORE DEPOSITS (can now be done with any e-Wallet)
 - MAKE PAYMENTS (can now be done with crypto-currency)
 - PROVIDE CREDIT (can now be done by P2P operators)
- Perhaps more importantly, banks are also the custodians of **trust**:
 - TRUSTEE SERVICES (trust can now be provided by blockchains)
 - ESCROW PAYMENTS (can now be programmed with multi-sig addresses)
 - LETTERS OF GUARANTEE (can now be issued with smart contracts)

BANKING ON THE FUTURE OF BLOCKCHAINS

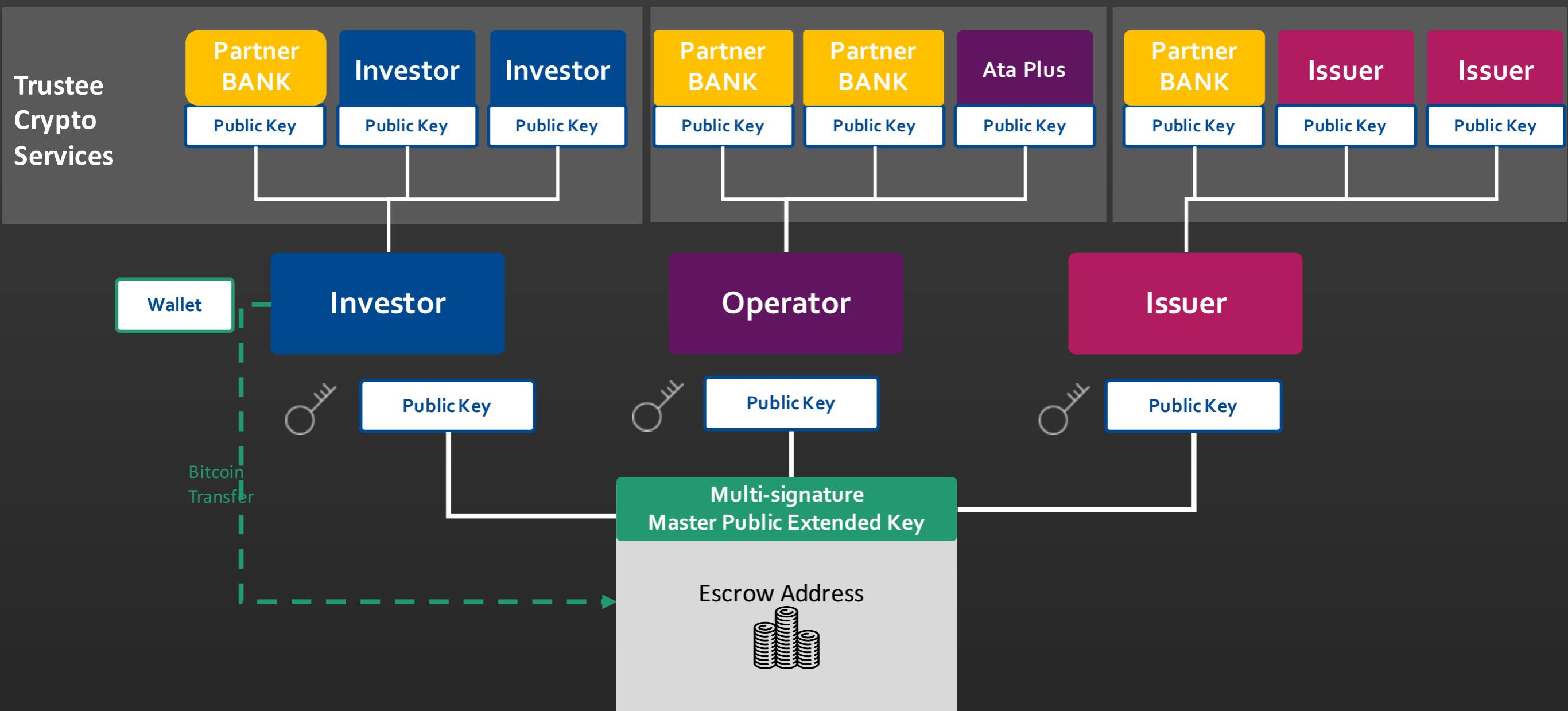
- With banks already KYC and AML compliant, there are no entities more suited to be offering digital currency brokerage and key management
- With the advent of smart-contracts, banking becomes a sequence of code
- Regulation and compliance would be designed as part of the protocol
- If retail and commercial banking processes were 100% based upon blockchains, staffing requirements could be reduced by at least 90%
- Existing internal infrastructure can be replaced by distributed protocols



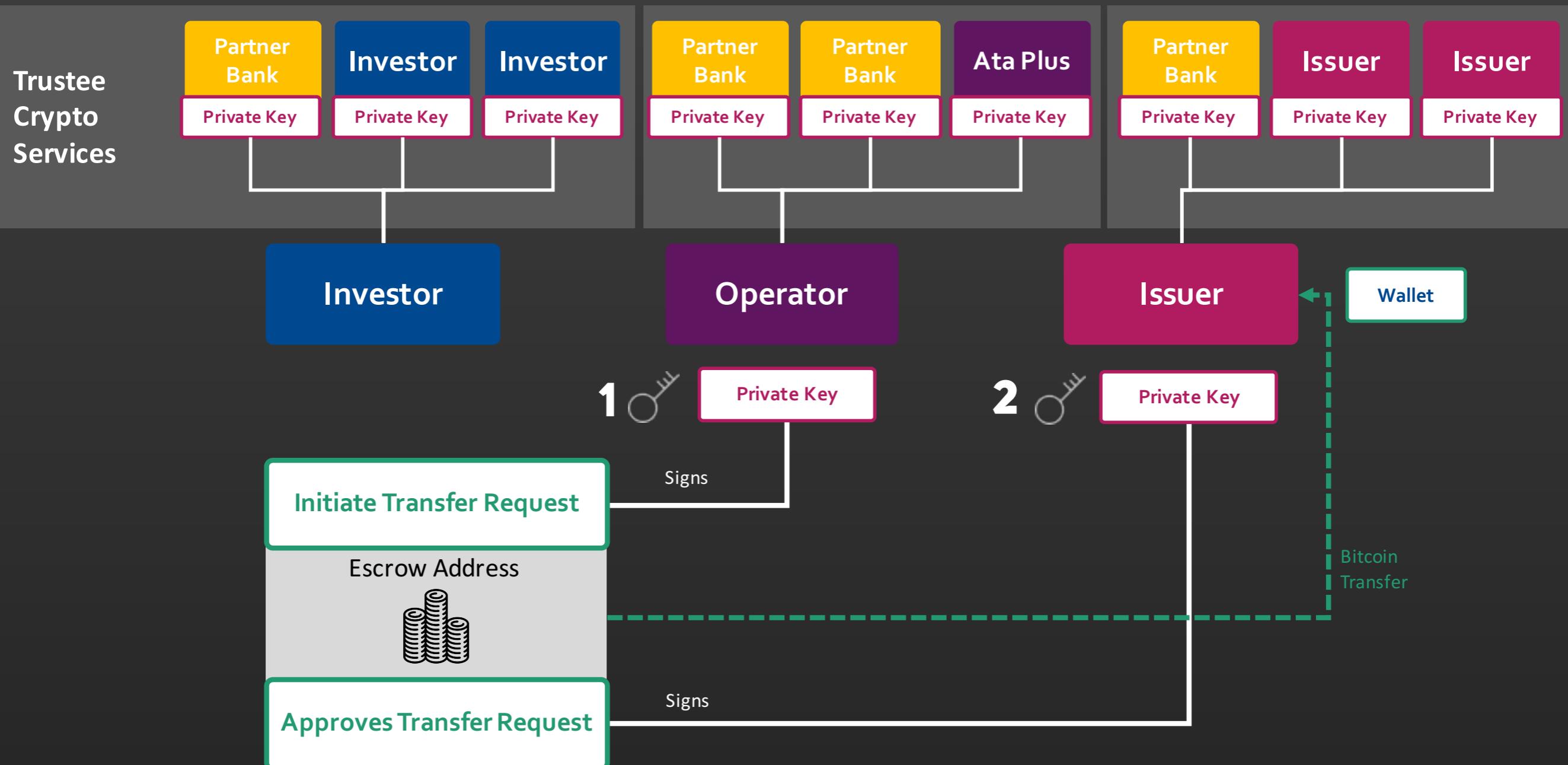
PROBLEMS FACED BY TRUSTEE SERVICES AND OUR SOLUTIONS

- Difficult to truly justify small transactions - let alone micro-transactions
- Impossible to interface via APIs and in-turn automate certain processes
- Reliance upon physical signatures and manual verification processes
- Having worked with ATA-Plus and sanctioned banking partners, we have:
 - Begun working on multi-signature key-custodian signing services
 - Allowing for optional consumer key generation and recovery services
 - This allow for some really interesting innovations - such as:
 - Shared responsibilities - with no one entity having control of anything
 - Programmable contracts - enabling automations and developer access

GENERATING MULTI-SIGNATURE ESCROW ADDRESSES



COMPLETING MULTI-SIGNATURE ESCROW TRANSACTIONS



CRYPTO TRUSTEES ARE THE FOUNDATION FOR EVERYTHING

- Unlike financial trustee services, crypto-trustees do not move or even store funds anywhere - as they are merely multi-signature key signing processes
- Multi-signature solutions are required for a whole host of services:
 - Escrow payments or refundable crypto payments
 - Identity management and KYC processes
 - Distributed governance & user roles
 - Recoverable shared data services
- In all cases, those issuing multi-signature processes can:
 - Automatically audit everything any anything
 - Guaranteed levels of shared responsibility & liability

PWC AND MORTGAGES

(automating business with the ultimate smart contract)

- At **origination**, blockchain could help establish more accurate record keeping
- At **fulfillment**, it could provide immutable proof that loan estimates were sent and received on time
- Smart contracts would speed up **settlement** flows throughout
- In the **servicing** process, blockchain could track the movement of payments
- And in the **secondary** markets, it might also provide transparency about the ownership of underlying assets

**Blockchain and mortgages:
Applications across the value chain**



2ND PLACE WINNER OF THE DBS BLOCKCHAIN HACKATHON

The image shows a hand holding a white smartphone displaying the HyperBank mobile application. The app's interface includes a header with the 'hyperbank' logo and a user profile for 'Tristan Gomez'. Below this are two main sections: 'Monthly Accounts' (12) and 'Monthly Transactions' (128) on top, and 'Total Accounts' (28) and 'Total Transactions' (1,286) on the bottom. A transaction history section follows, showing three entries: '2 Hours Ago - New Account Manuel Rigardo', '18 Hours Ago - TX Jarvis Silo to Manuel Rigardo', and '1 Day Ago - New Account Jarvis Silo'. At the bottom are five navigation icons. To the right of the phone is a laptop screen displaying the HyperBank website with the tagline 'hyperlocal banking for the unbanked'. It features a text input field for 'enter your email for updates or application for beta access' and a yellow 'APPLY' button. The background of the slide is a blue textured pattern.

The application that was previously known as NuBank won 2nd place at the recent [DBS Hackathon](#) in Singapore and is now HyperBank.

We utilize the blockchains in order to provide a secure and fully auditable digital trail of transactions but avoid volatility by keeping transfers at fixed local currencies with multi-signature signing from top-tier institutional financial partners.

Consumers communicate using standard SMS functionality directly with their village elders who then use their smartphones to record and relay transactions to the blockchain - providing fully distributed M-Pesa functionality.

PROVIDING HYPERLOCAL BANKING TO THE UNBANKED

- One village elder with smart-phone creates and verifies accounts locally
- Multi-signature keys provided to elder, account owner and regional hub
- Regional hubs could be traditional banks - acting as arbitrators for disputes
- Deposits can be made in any currency accepted both locally or regionally
- Local users transfer directly via local hubs or internationally via regional hub
- Standard SMS can be used to transfer funds and make direct payments
- Web-based technology can be utilized by other inter-network participants

USE CASE 04

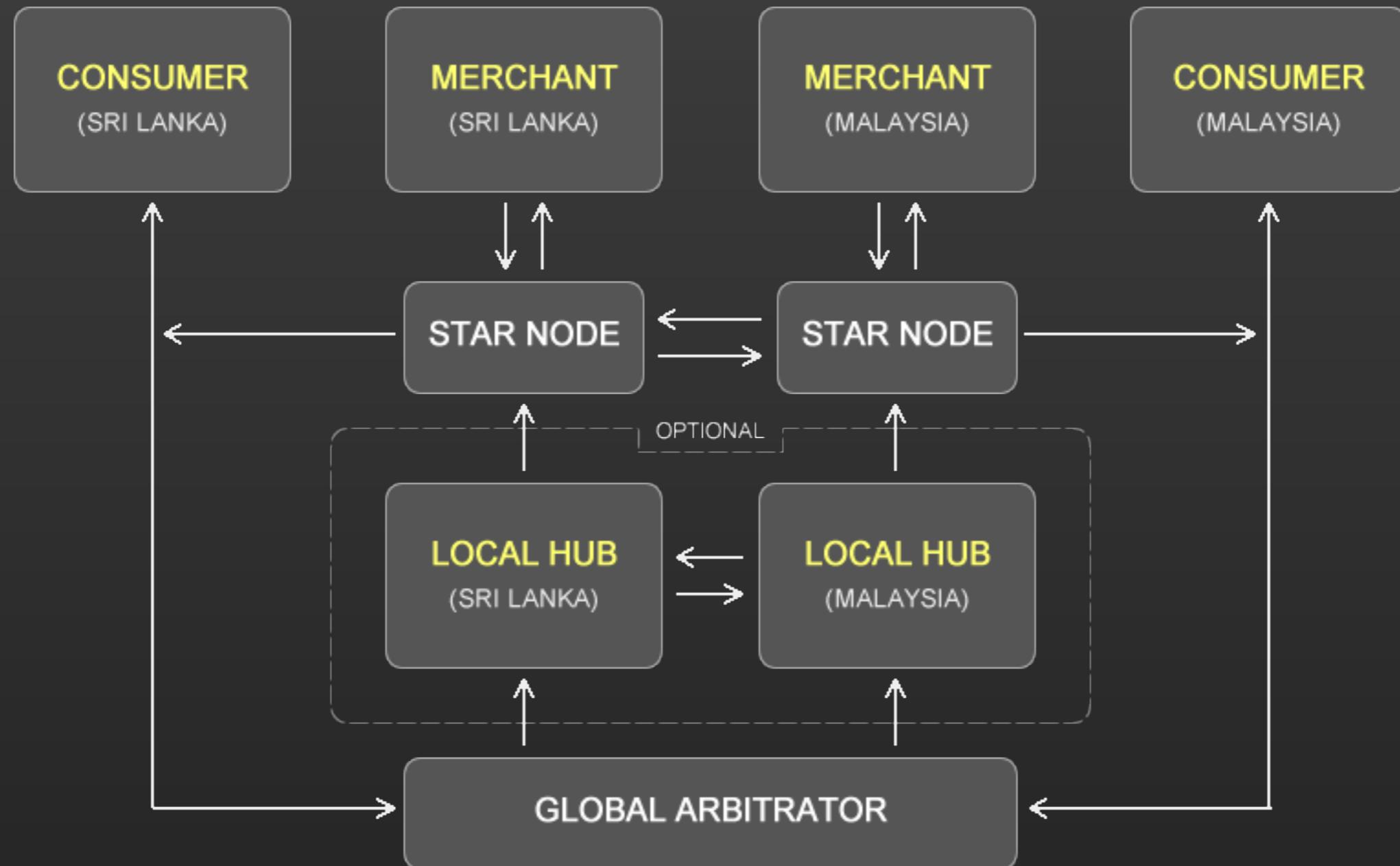
LOYALTY REWARDS

LOYALTY REWARDS AS THE IDEAL PROTOTYPE

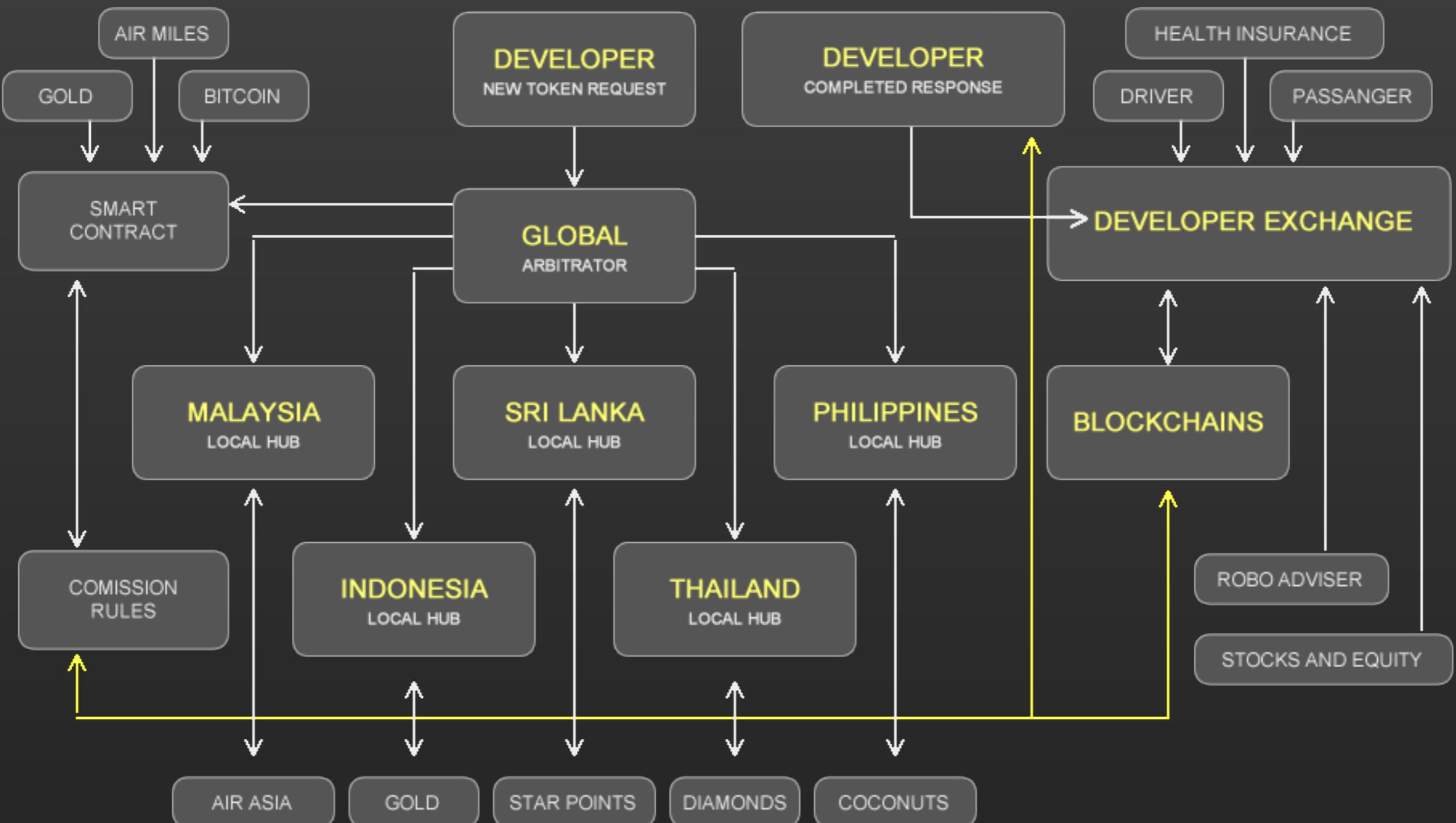
(following in the foot steps of China's UnionPay)

- Provides the opportunity to radically reduce infrastructure costs
- Allows for the development of APIs - allowing for outsourced innovation
- Allow for developers, consumers and merchants to communicate directly
- Introduce multi-signature arbitration at local and (or) global levels
- Tap into a tamper proof audit trail of every transaction for better analytics
- Very similar technology to digital cash - but unregulated and in your control
- Begin developing e-Wallet strategies (such as multi-signature key signing)

CONSUMER CONVERTS AIR MILES TO AIR TIME



CREATING AN ECONOMY FROM LOYALTY POINTS



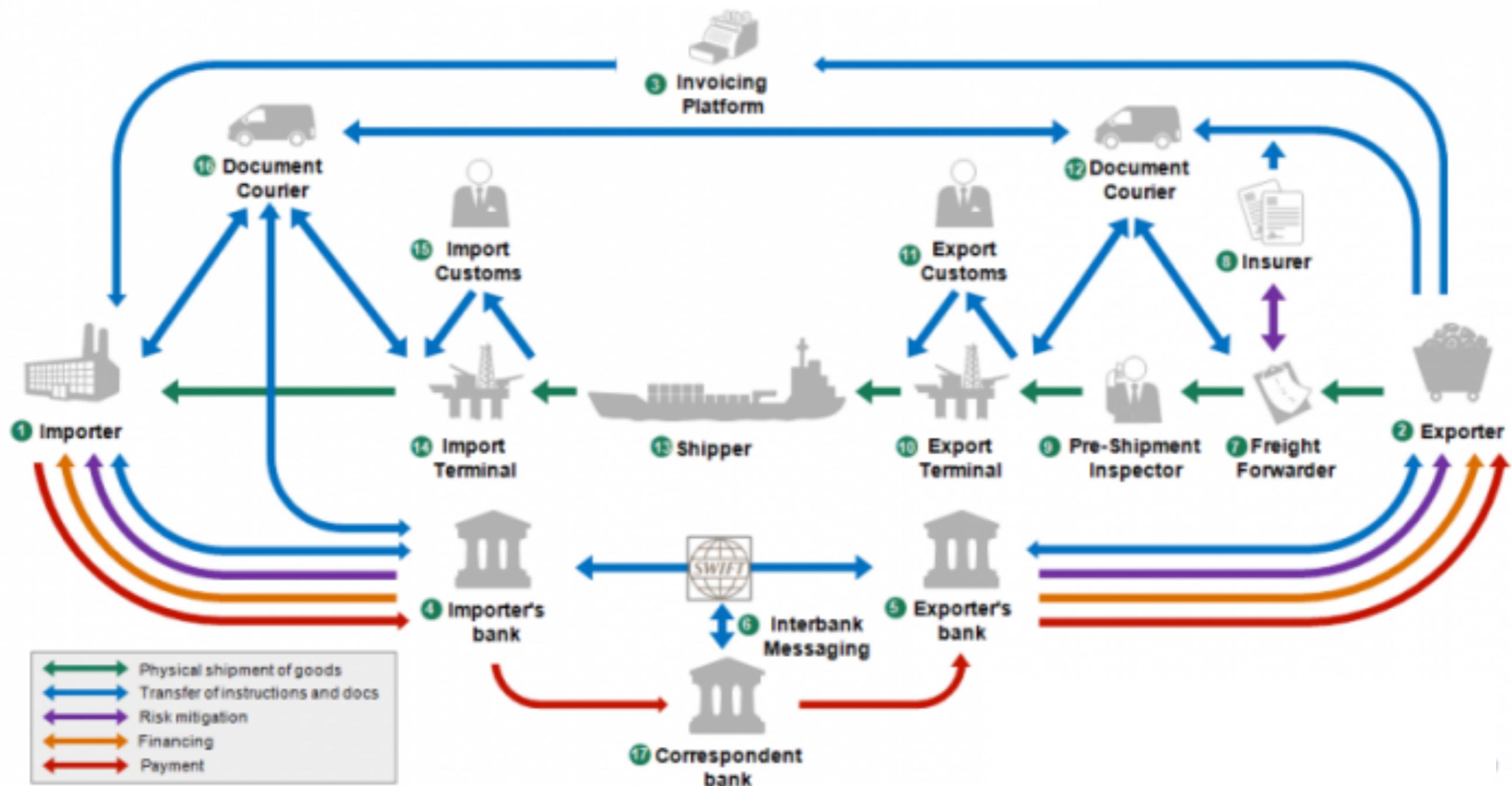
USE CASE 05

SUPPLY CHAINS

SUPPLY CHAINS ARE NOT JUST ABOUT TRADE FINANCE

- Lending, letters of credit, factoring, export credit and insurance have created new trade finance products earning banks US\$50+ Billion a year
- These bank-backed products are used by 80 to 90% of all global trade
- Every US\$1 Million in goods has a trade-financing cost of US\$50,000
- **Beyond the financials there is also the product delivery experience**
- The history and authenticity of each and every ingredient or raw material
- The verified processes involved in creating and transporting products

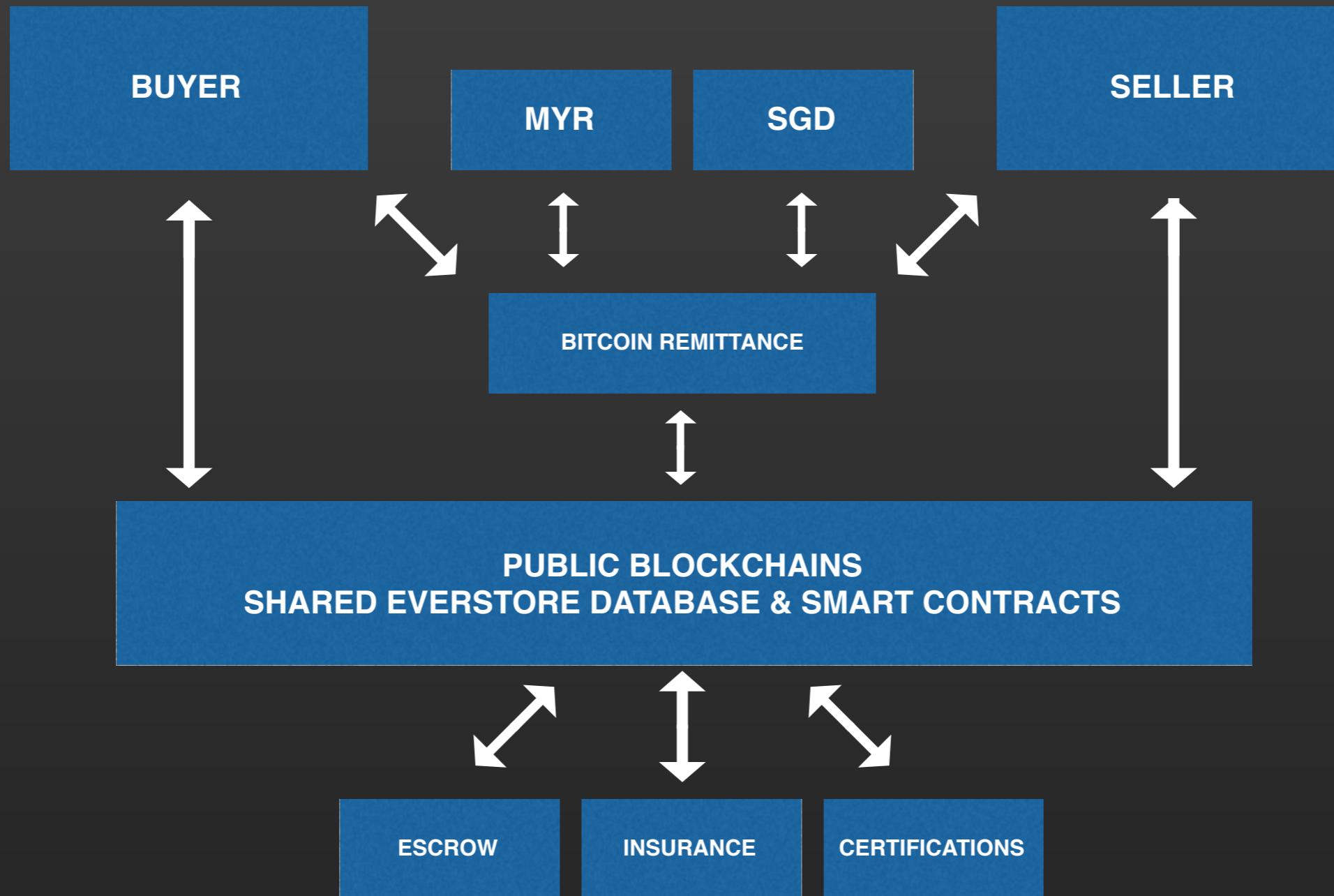
TRADITIONAL SUPPLY CHAINS ARE COMPLICATED



COMMON PROBLEMS WITH THE MAJORITY OF SUPPLY CHAINS

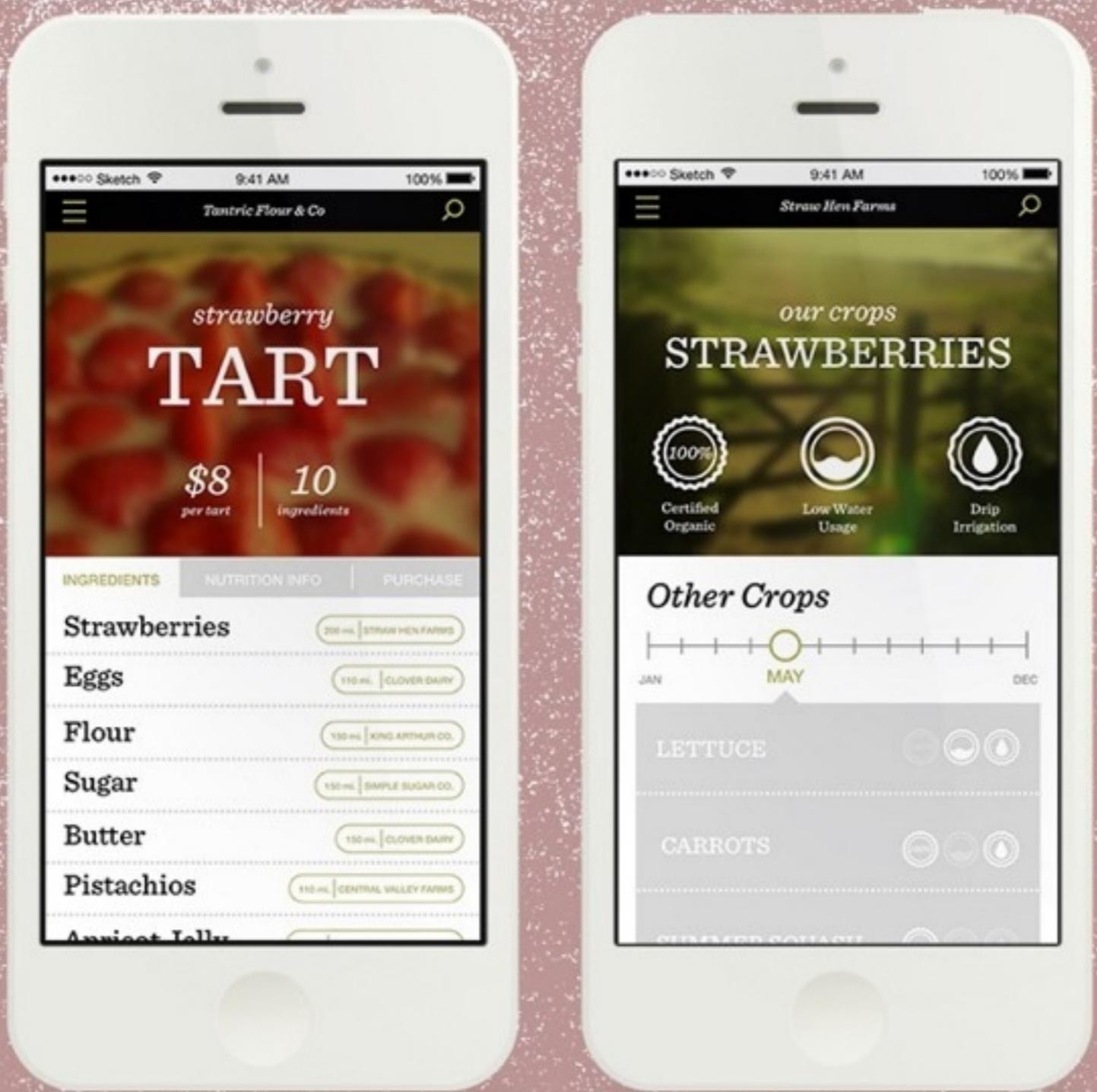
- Multiple entities maintaining multiple copies of the truth within easily compromised closed silos requiring painfully slow & expensive reconciliation
- Time consuming requirements for setting-up third-party financial trustees and physical escrow accounting processes between each transaction
- Lack of automation between checkpoints, processes and sensory inputs
- Excessive use and reliance upon physical paper-trails and certification
- **ALL OF THESE PROBLEMS EXIST DUE TO A LACK OF TRUST**
(if only there was a way they could all use the same source of truth)

SIMPLIFYING SUPPLY CHAINS WITH BLOCKCHAINS



IDEO EXAMPLE 1 - PROOF OF PRODUCT PROVENANCE

YOU CAN SEE
WHAT WENT
INTO EACH ITEM
THE BAKERY
SELLS.



YOU CAN SEE
WHAT CROPS
THE FARM
GROWS AND
HOW THEY
GROW THEM.

ABILITY TO BUY LOCAL PRODUCE DIRECTLY FROM SUPPLIERS

NAME A PRICE THAT
YOU'D LIKE TO PAY
FOR STRAWBERRIES.



ONCE YOU SUBMIT, YOU
CREATE A SMART
CONTRACT WITH THE
FARM WHICH WILL
DELIVER STRAWBERRIES IF
THE PRICE DROPS BELOW
YOUR LIMIT.

ENSURE THE INTEGRITY OF DELIVERY VIA CONNECTED SENSORS

YOU CAN SEE THE ENTIRE JOURNEY OF THE FISH FROM BOAT TO MARKET.



INTERNET CONNECTED EQUIPMENT NOTES THE ORIGIN, ROUTE, AND TEMPERATURE OF THE FISH.

INTERCONNECTED LOYALTY REWARDS AND COMMUNITIES

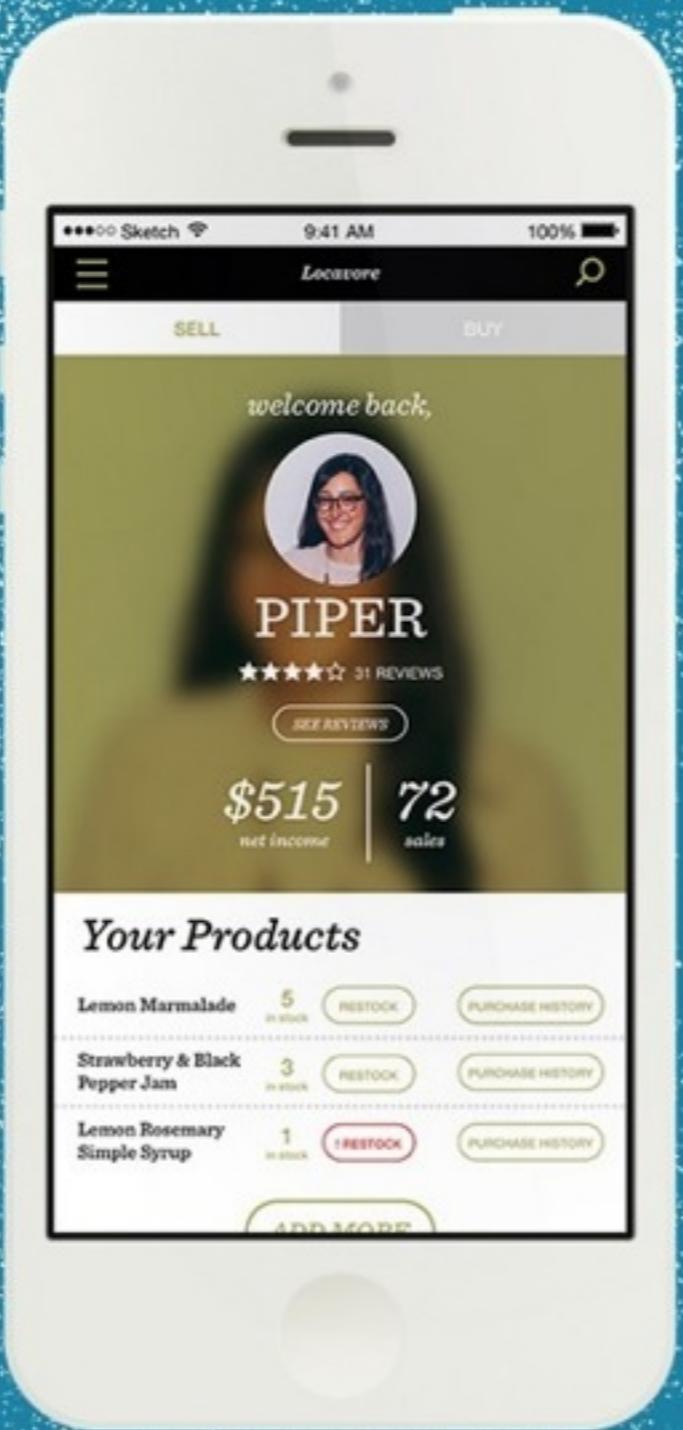
A WINE YOU'LL LOVE
IS RECOMMENDED
BASED ON
YOUR REVIEWS OF
WINES YOU'VE BOUGHT
BEFORE.



YOU CAN SUBSCRIBE TO
THE WINERY AND PICK UP
BOTTLES AT ANY
RETAIL STORE.

NEW MARKETING & SUPPORT CHANNELS FOR ENGAGED USERS

YOU OPEN YOUR
PROFILE PAGE AND SEE
ALL OF YOUR
PRODUCTS AND SALES.



THE IMPORTANCE OF KNOWING THE TRUTH

YOU SELECT THE
PEANUT ALLERGY
FILTER.



SCANNING A PRODUCT
BARCODE REVEALS
WHETHER IT OR ANY
INGREDIENT HAS EVER
CONTACTED PEANUTS.

USE CASE 06

CONSORTIUMS

R3 - WORLD'S LARGEST BLOCKCHAIN CONSORTIUM

- Founded by ex-banking CEOs with their CTO as ex-CIO of IBM
- Over 100 financial institutions joined R3 (with large annual fees)
- Members are then able to engage R3 consultants for pilot projects
- Originally utilizing privately forked Ethereum & Eris solutions
- 15 members trial distributed ledgers for trade finance in 2015
- 10 banks trial blockchain (KYC) identity registry in 2016
- Now heavily promoting Corda (in-house permissioned ledger)
- Opened a lab in Singapore and started working with MAS
- Currently in the process of raising US\$200 Million in funding

NOW OVER 35 BLOCKCHAIN CONSORTIUMS WORLDWIDE



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



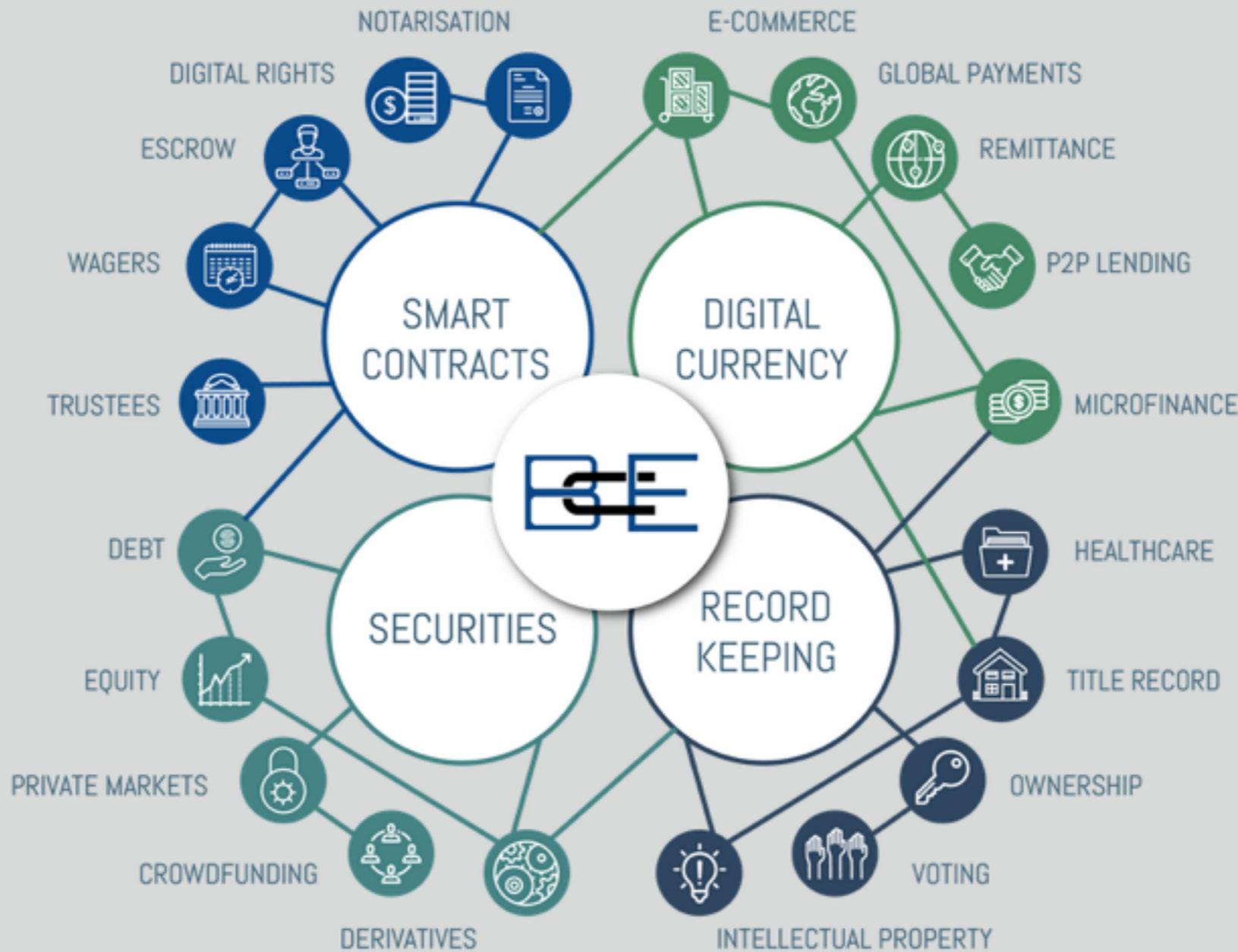
Education Ambassador



Technology Ambassador

BIG PROBLEMS INVOLVE MULTIPLE PARTNERS & MOVING PARTS

(now drawing attention from international banks seeking partnerships)



USE CASE 07

HEALTHCARE

OVER US\$300M SPENT ON BLOCKCHAIN BASED HEALTHCARE

35% of (308) healthcare and life science organizations surveyed plan to launch blockchain based products and services by first quarter of 2017

39% surveyed said they knew very little to nothing about blockchains

28% had invested US\$5M or more on blockchain R&D

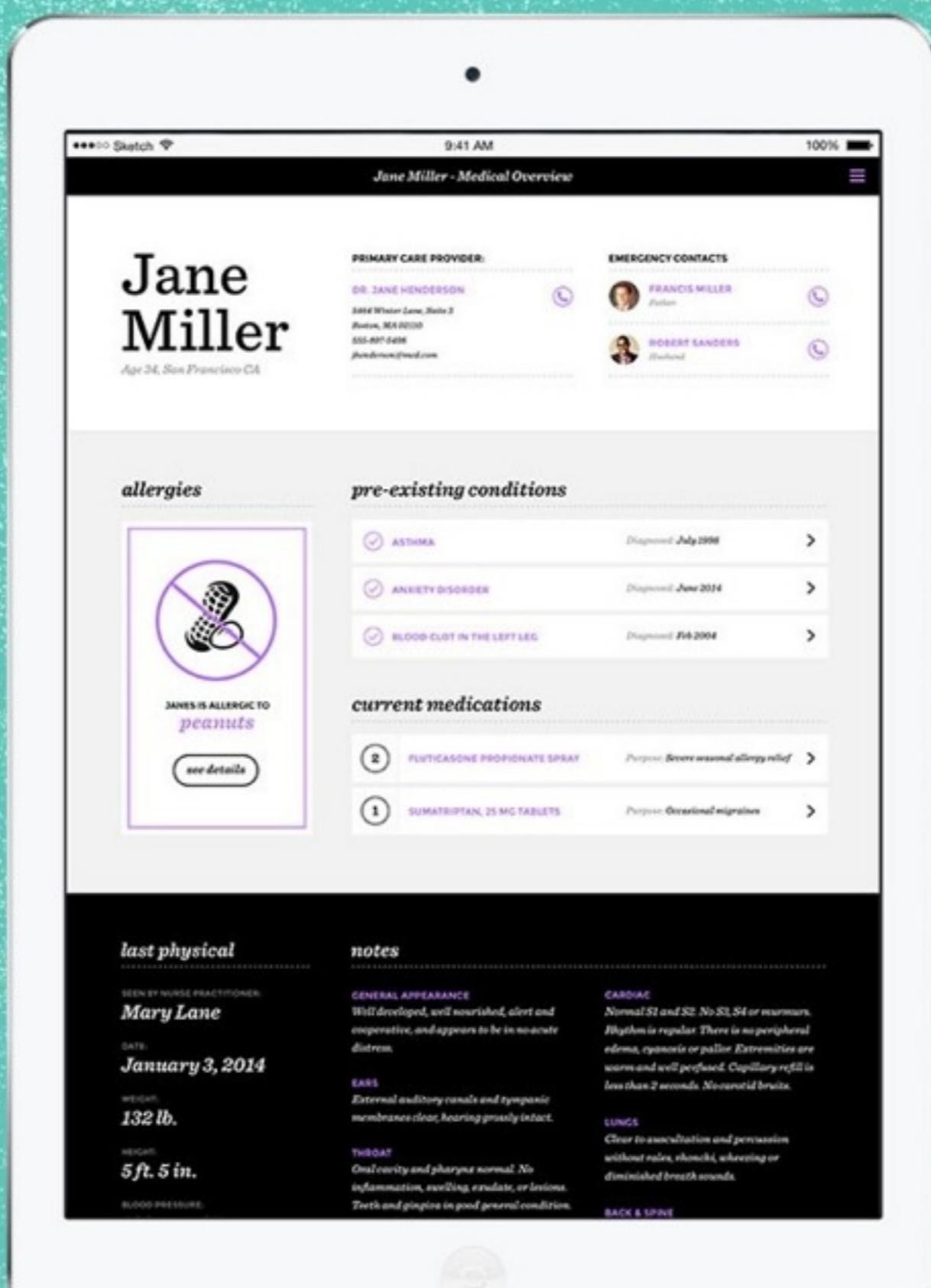
With 10% investing US\$10M or more

The Deloitte logo, featuring the word "Deloitte" in a bold, blue, sans-serif font. The letter "i" has a small green dot at its top right corner.

<http://www.himssfuturecare.com/news/deloitte-notes-healthcare%20%99s-growing-plans-blockchain>

IDEO EXAMPLE 02 - BLOCKCHAINS AND HEALTH RECORDS

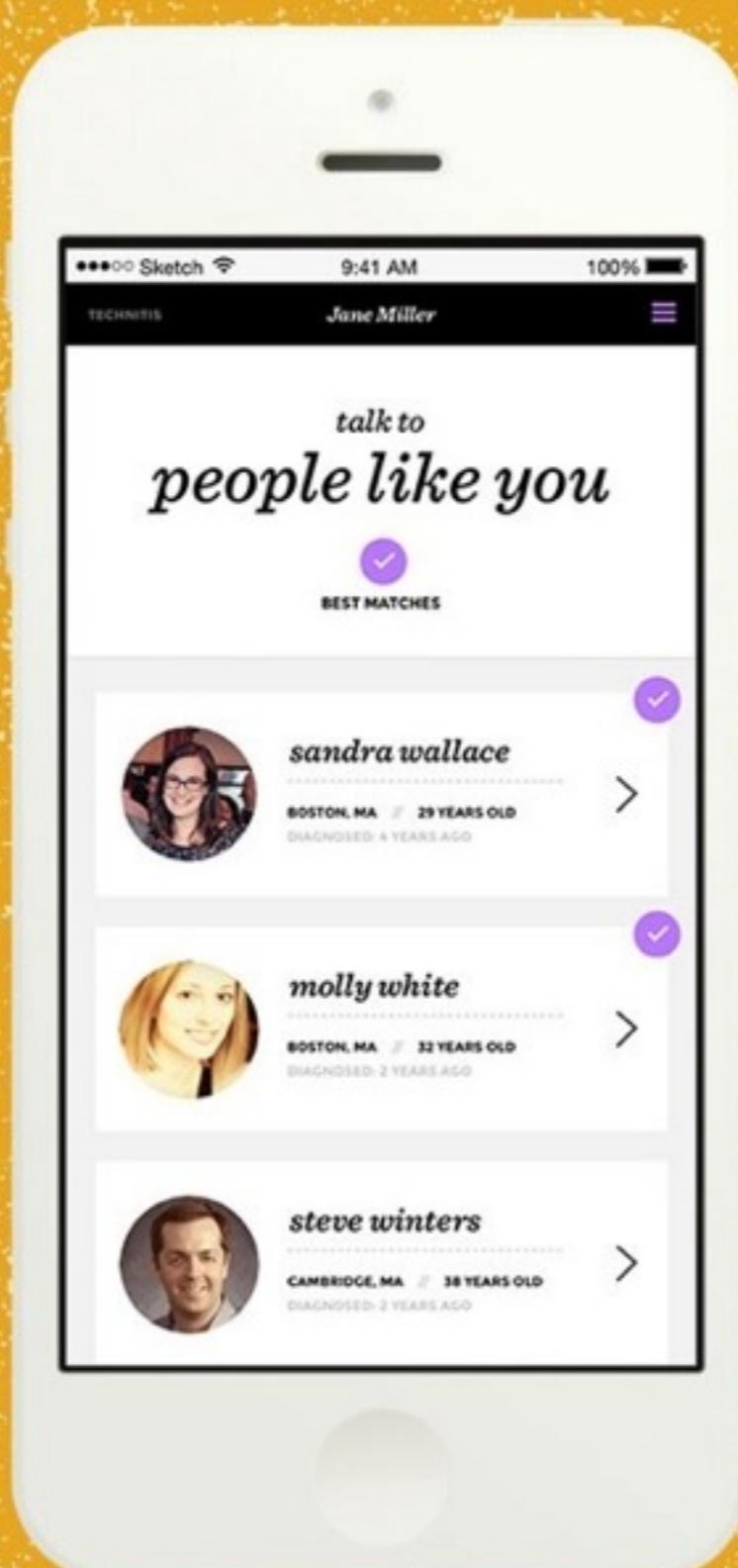
EMERGENCY HEALTH
RESPONDERS CAN SEE
ALLERGIES AND
OTHER VITAL
INFORMATION THAT
THEY NEED TO
TREAT JANE.



JANE'S PROFILE
INCLUDES INFO THAT
SHE HAS PROVIDED
AS WELL AS INFO
FROM HER MEDICAL
RECORDS.

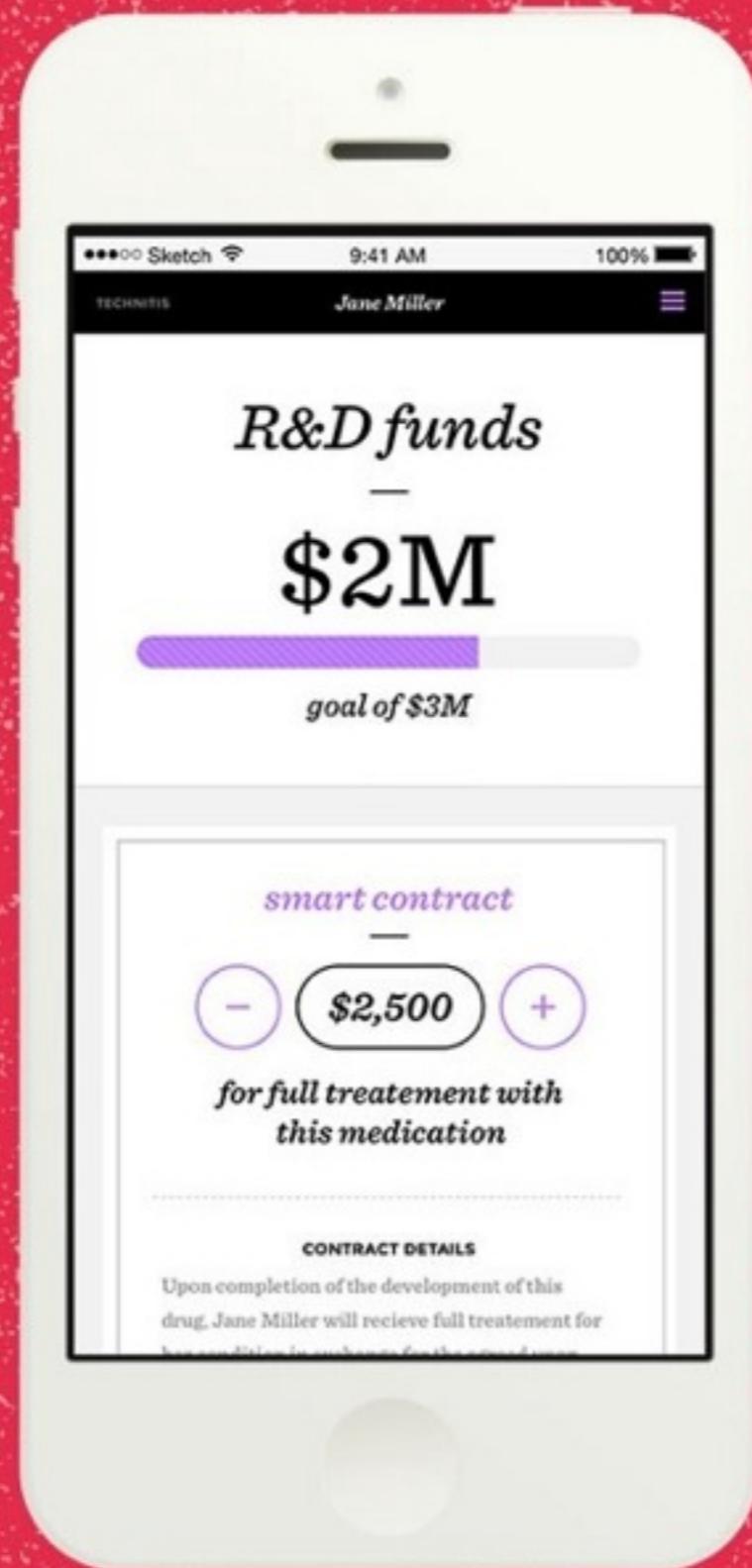
PRIVATE DATA CAN ALSO BE STORED AND USED PUBLICLY

STARTING ANONYMOUSLY,
SHE CAN BEGIN TO SEE
WHAT PEOPLE LIKE HER
HAVE EXPERIENCED, AND
THEN SHE CAN EVEN
BUILD PERSONAL
RELATIONSHIPS IF
BOTH PARTIES AGREE.



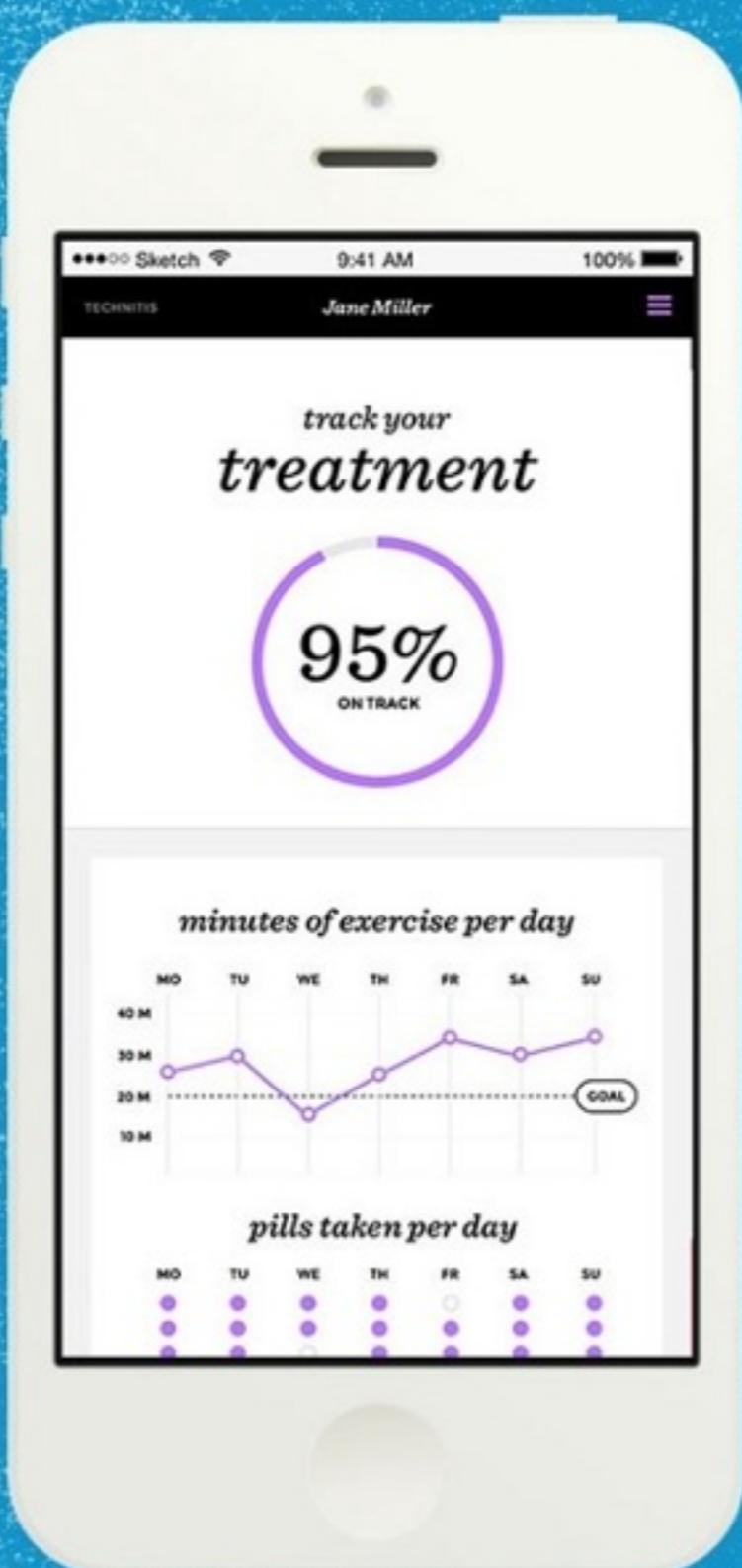
CROWD FUND BREAKTHROUGHS WITH BIG DATA & CRYPTO

EXCITED TO SEE THE
BOUNTY ALREADY BUILT
UP TO \$2M, SHE ADDS
ANOTHER \$2,500 TO
ENCOURAGE R&D IN
THIS AREA.



IMPROVING TREATMENTS FOR EVERYONE - EVERYWHERE

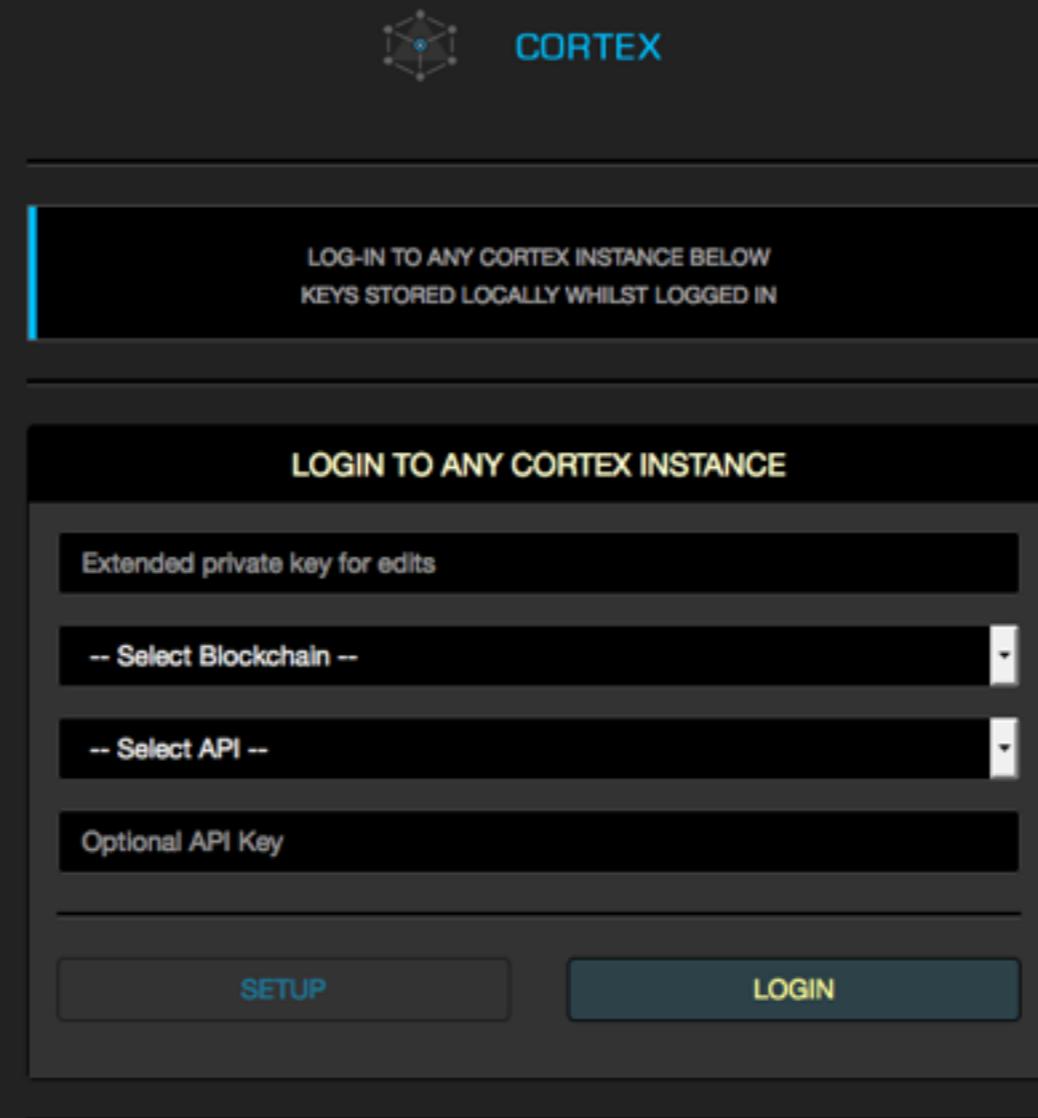
BY TRACKING
ADHEREN(E, JANE
CAN HOLD HERSELF
MORE ACCOUNTABLE
AND RECEIVE
BENEFITS FROM
HER INSURER AT
THE SAME TIME.



THE WEALTH OF
ANONYMIZED
INFORMATION THAT
JANE IS CREATING
THROUGH HER
TREATMENT IS ALSO
CAPTURED AND
SHARED TO HELP THE
COMMUNITY.

CORTEX
GUIDED TOUR

CORTEX IS OUR BLOCKCHAIN-BASED OPERATING SYSTEM



The screenshot shows the Cortex login interface. At the top, there is a logo consisting of a hexagonal grid of dots with a central blue dot, followed by the word "CORTEX" in blue capital letters. Below this is a dark rectangular box containing the text "LOG-IN TO ANY CORTEX INSTANCE BELOW" and "KEYS STORED LOCALLY WHILST LOGGED IN". The main login form is titled "LOGIN TO ANY CORTEX INSTANCE". It contains four input fields: "Extended private key for edits", a dropdown menu labeled "-- Select Blockchain --", a dropdown menu labeled "-- Select API --", and "Optional API Key". At the bottom of the form are two buttons: "SETUP" and "LOGIN", with "LOGIN" being highlighted in a blue box.

Cortex is maintained by [Neuroware](#)

WORKS WITH ANY BLOCKCHAIN - SUPPORTS 10 OUT OF THE BOX

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

 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

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

CREATE AND MANAGE DISTRIBUTED BLOCKCHAIN DATABASES

The screenshot shows the Cortex web interface for managing distributed blockchain databases. The left sidebar contains navigation links: CORTEX (selected), DASHBOARD, DOMAINS, USERS, DATABASES (selected), API, EXPLORER, WALLET, and SETTINGS.

The main content area displays two database entries:

- af1850ac00bc1c42ef6bddc9c2fd...6097**
Key Value
Index: ID [md5] 80c374f4d331e84b9618b8b68c4750ec
Name [string] Cortex v0.0.1
URL [url] <http://localhost/neuroware/everstore/>
- 2f9805d2f32853b9e47785225261d37f074d666fcc0f0c94c54cb9995fa4161f**
Key Value
Index: ID [md5] abd05c4ec8bf854d52292cffcde34e75
Name [string] ATA-Plus v0.0.1
URL [url] <http://localhost/neuroware/everstore/?skin=ata&logout=true>

A central message states: "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."

An "ADD NEW RECORD" form is visible on the right, with fields for ID, Name, URL, and a COMMIT button.

CORTEX ALSO INCLUDES ITS OWN API AND DOCUMENTATION

The screenshot shows the Cortex API documentation interface. On the left is a sidebar with icons for CORTEX, DASHBOARD, DOMAINS, USERS, DATABASES, API (selected), EXPLORER, WALLET, and SETTINGS. The main area has tabs for api docs (selected) and console. It displays two examples of API functions:

api.blocks.latest(<chain>, <count>, <callback>)

This function calls upon `spinal.neuroware.io/<chain>/blocks/latest/<count>`

The `count` variable defines how many of the latest blocks to return.

The `callback` function is called upon completing the AJAX request.

api.blocks.get(<chain>, <ids>, <callback>)

This function calls upon `spinal.neuroware.io/<chain>/block/id/<ids>`

The `ids` variable defines which blocks to return and can be a string or an array.

The `callback` function is called upon completing the AJAX request.

Code snippets for both functions are shown on the right:

api.blocks.latest

```
api.blocks.latest('btc', 5, function(blocks){  
  console.log(blocks);  
});
```

api.blocks.get

```
var block_ids = ['block_heights', 'and_block_hashes'];  
api.blocks.get('btc', block_ids, function(blocks){  
  console.log(blocks);  
});
```

AS WELL AS A IT'S OWN BUILT-IN BLOCK-EXPLORER

CORTEX

explorer help credits : 11.0000000 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.

blocks transactions addresses markets graphs Search SEARCH

latest blocks

Height	Age	Transactions	Size (KB)
403,716	12 seconds ago	783	399,714
403,716	12 seconds ago	783	399,714
403,716	12 seconds ago	783	399,714
403,716	12 seconds ago	783	399,714
403,716	12 seconds ago	783	399,714

latest transactions

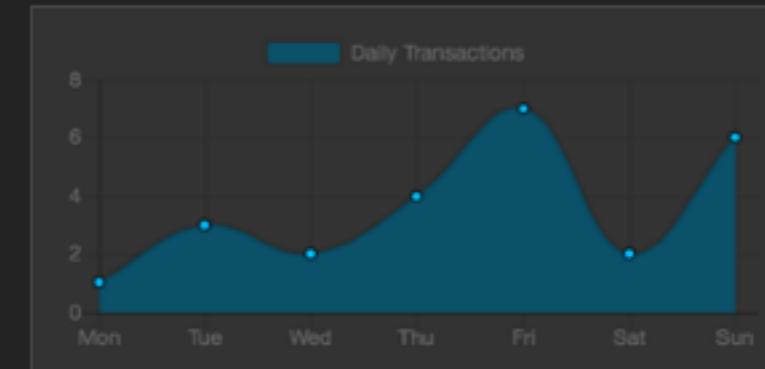
Hash	Inputs	Outputs	BTC Value
30e34f2ba622b31ffa93b87f0f3d60208d8ce81033b797972b564b6aa9a5945b	7	2	0.000343518
30e34f2ba622b31ffa93b87f0f3d60208d8ce81033b797972b564b6aa9a5945b	7	2	0.000343518
30e34f2ba622b31ffa93b87f0f3d60208d8ce81033b797972b564b6aa9a5945b	7	2	0.000343518

currency calculator

BTC = US\$

market conditions

JSON FEED



WITH GRAPH QUERIES FOR ADVANCED ANALYTICS AND TRACING

CORTEX

explorer help credits : 11.00000000 flush logout

DASHBOARD

DOMAINS

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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.

blocks transactions addresses markets graphs Search SEARCH

Daily Transactions Last 7 Days

Daily Transactions

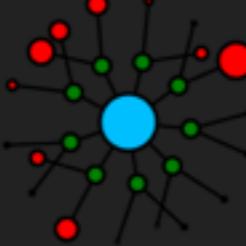
Day	Transactions
Mon	1
Tue	3
Wed	2
Thu	4
Fri	7
Sat	2
Sun	6

currency calculator US Dollar

BTC = US\$

market conditions JSON FEED

Statistic Value



NOT TO MENTION INTEGRATED MULTI-CURRENCY WALLETS

The screenshot shows the CORTEX dashboard with a sidebar and a main content area. The sidebar includes icons for CORTEX, DASHBOARD, DOMAINS, USERS, DATABASES, API, EXPLORER, WALLET (selected), and SETTINGS. The main content area has a top navigation bar with links for dashboard, add domain, add user, add database, add api key, help, credits (10.00000000), flush, and logout. A message states "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 is a sub-navigation bar with links for DASHBOARD, ACCOUNTS, CONTACTS, SEND, and HELP. A search bar says "Search your wallet" with a magnifying glass icon. The central part of the screen displays two main sections: "Recent Transactions" and "BTC > USD - Market Conditions".

Recent Transactions

1.066 Bitcoin (Testnet) to My First Wallet	21 DAYS AGO
0.01066 Bitcoin (Testnet) from My First Wallet	22 DAYS AGO
0.001 Bitcoin from My First Wallet	22 DAYS AGO
0.1066 Bitcoin (Testnet) to My First Wallet	22 DAYS AGO
0.01 Bitcoin to My First Wallet	22 DAYS AGO
14 Dogecoin to My First Wallet	22 DAYS AGO
2 Dogecoin from My First Wallet	22 DAYS AGO

BTC > USD - Market Conditions

US\$ 677.06	218,458
BTC to USD	Daily TXs
1.4 Billion	2,056,343.22
Daily US\$ Sent	Daily BTC Sent
15.7 Million	10.7 Billion
BTC Discovered	Market Cap US\$

ALSO ABLE TO CREATE AND MANAGE CUSTOM TOKENS

The screenshot displays the CORTEX web application interface, specifically the 'TOKENS' section. On the left, a vertical sidebar lists various features: CORTEX (selected), DASHBOARD, DOMAINS, USERS, DATABASES, API, EXPLORER, WALLET (selected), and SETTINGS. The main content area has a header with 'wallet' (selected), 'new wallet', 'import wallet', 'help', 'credits : 11.00000000', 'flush', and 'logout'. Below this is a navigation bar with tabs: DASHBOARD, ACCOUNTS, CONTACTS, SEND, HELP, and TOKENS (selected). A search bar says 'Search your wallet' with a magnifying glass icon. The central area is titled 'Your Tokens & Contracts' and contains a sub-section for tracking existing custom tokens. It includes buttons for 'CREATE TOKENS', 'WATCH TOKENS', and 'CREATE ACCOUNT'. A table lists tokens with columns: Token Name, Contract Address, Decimals, Symbol, Total Supply, and Actions. One entry is shown: Neuroware Sdn Bhd, 0x4AE75feE889d57d3229817565032bf428CB9b673, 2, %, 100.00 %, with edit, refresh, and delete icons. Below the table are pagination controls: '10' records per page, 'Showing 1 to 1 of 1 entries', 'Previous', '1', and 'Next'. At the bottom, another table shows wallet details: Account Name (My First Wallet), Address (7c7eb521767063e5f73059dbdf06a77b87318bec), Tokens (Ethereum 1, Neuroware Sdn Bhd 0), TXs (1.068 ETH, 0.01 %), and Actions (edit, refresh, delete). Pagination controls at the bottom are identical to the ones above.

Token Name	Contract Address	Decimals	Symbol	Total Supply	Actions
Neuroware Sdn Bhd	0x4AE75feE889d57d3229817565032bf428CB9b673	2	%	100.00 %	

10 records per page Showing 1 to 1 of 1 entries Previous 1 Next

Account Name	Address	Tokens	TXs	Balances	Actions
My First Wallet	7c7eb521767063e5f73059dbdf06a77b87318bec	Ethereum 1 Neuroware Sdn Bhd 0	1.068 ETH 0.01 %		

10 records per page Showing 1 to 1 of 1 entries Previous 1 Next

WITH OPTIONAL MULTI-SIGNATURE ESCROW CONTRACTS

CORTEX

wallet new wallet import wallet 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.

DASHBOARD ACCOUNTS CONTACTS SEND HELP TOKENS Search your wallet

Your Accounts
These are all the different accounts you have in different blockchains. More advanced filtering coming soon!

You are currently communicating with the blockchains via BlockCypher and have 1 account and 1 contact stored on this device

EXCHANGE COINS ADD NEW ACCOUNT

Account	Blockchains	Current Addresses	Balances	Actions
My First Wallet	+ ADD CHAIN		Total: US\$ 5.16	🔍 🔍 REMOVE ALL
+ ADD CONTRACT	Bitcoin (Testnet)	n2C6A7MCduFwK6GsSHtS74Yf5dOvu78Yi	0.00000000	🔍 🔍 📲 🔍 ✎
+ ADD CONTRACT	Bitcoin	1JCGyGLHsRrNy6tUMTx9NLMNhVc9jmD5xv	0.00890000	🔍 🔍 📲 🔍 ✎
+ ADD CONTRACT	Dogecoin	DDkUM427ZNPXsKk5G3pw1HDk32bybXshJT	9.98765433	🔍 🔍 📲 🔍 ✎
	Dogecoin (2 of 3)	A3VIEyhRcXdPJRkp1BAR2d4pLRdaLJG3Ma	5.00000000	🔍 🔍 📲 🔍 ✎

10 records per page Showing 1 to 1 of 1 entries Previous 1 Next



neuroware

BUILDING THE FUTURE TOGETHER

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