



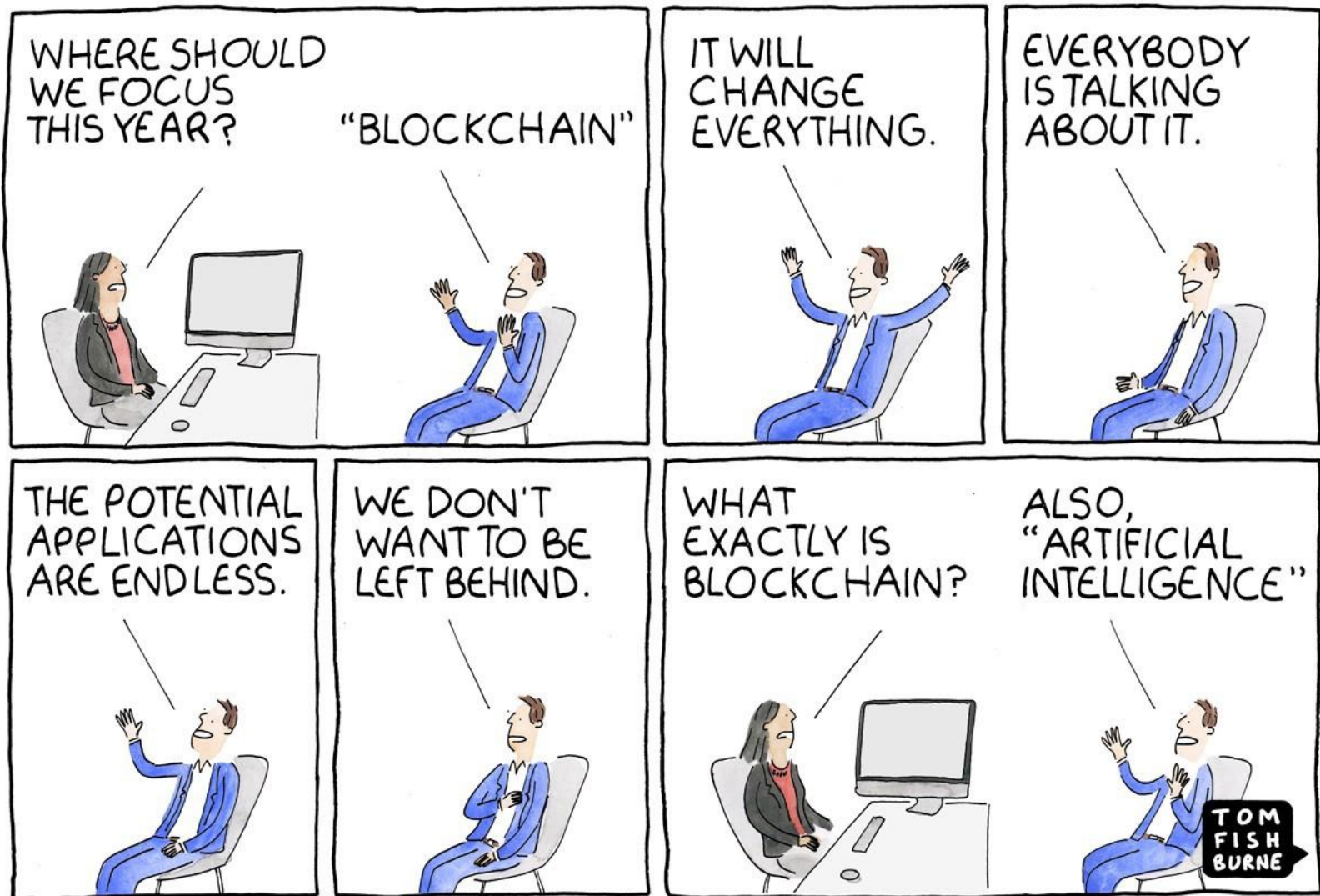
# BLOCKCHAIN IN PROPERTY

PUNCAK TEGAP SDN BHD

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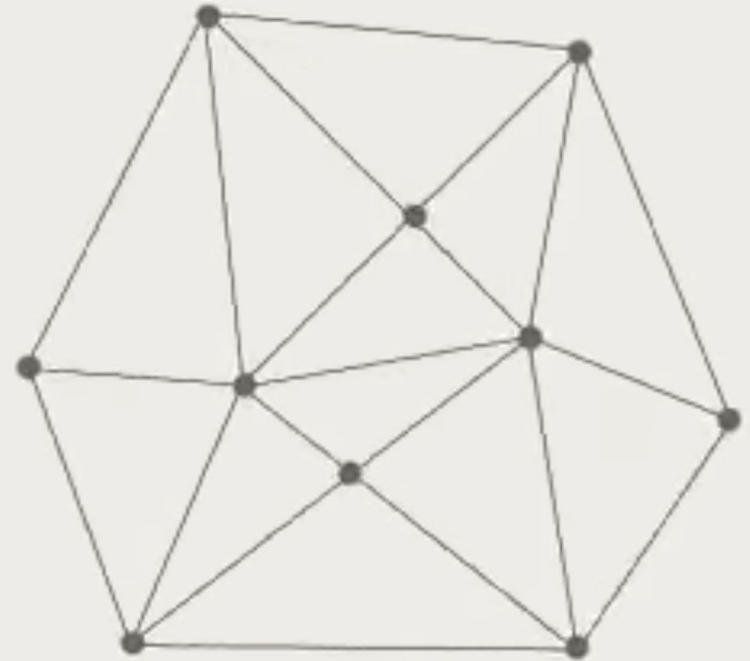
# Internet, Cloud, Big Data, AI, Blockchain



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# What is blockchain?

A suite of distributed ledger technologies that can be programmed to record and track anything of value.



that can be programmed to record and track anything of value,



# What can blockchain do?



Financial Transactions



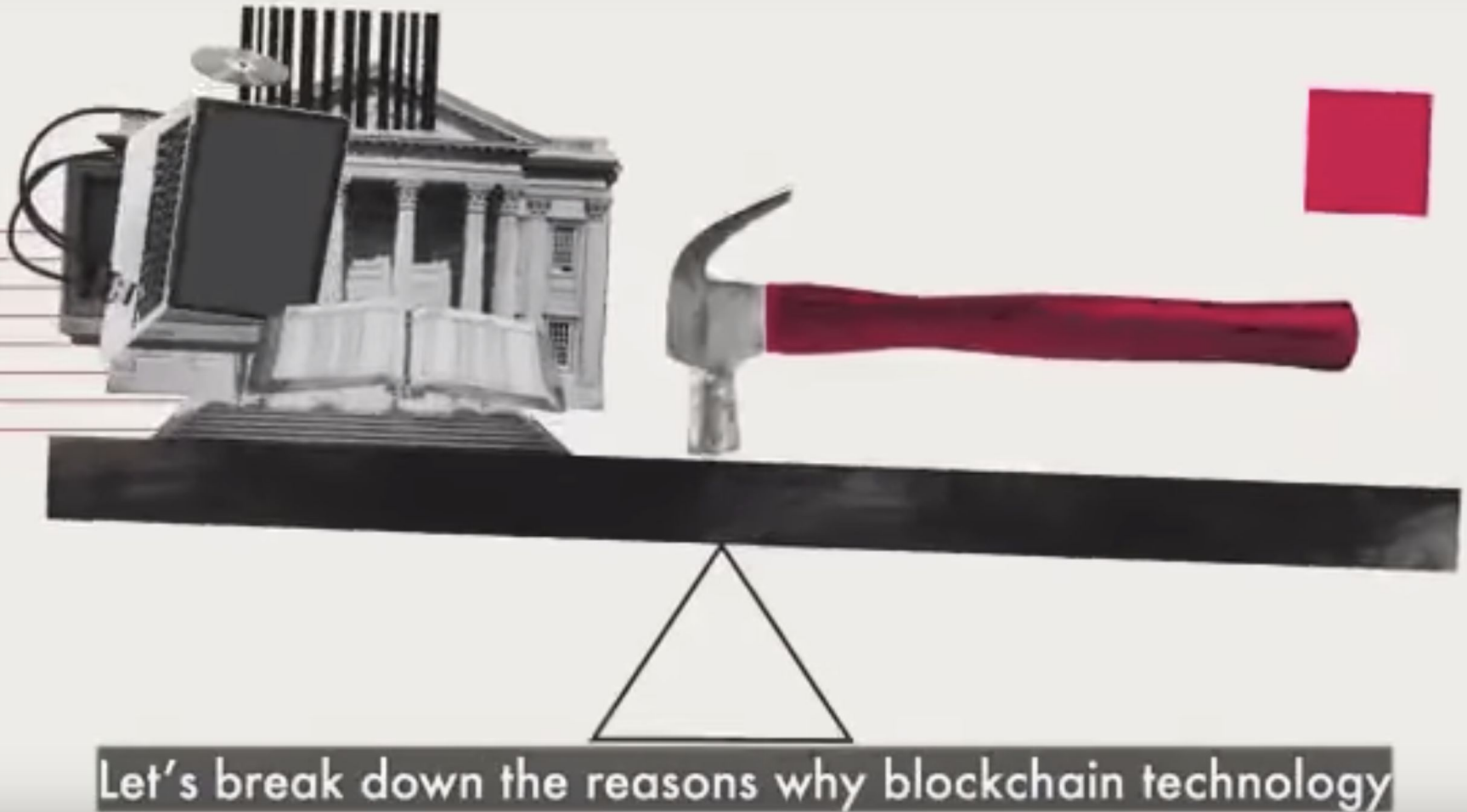
Medical Records



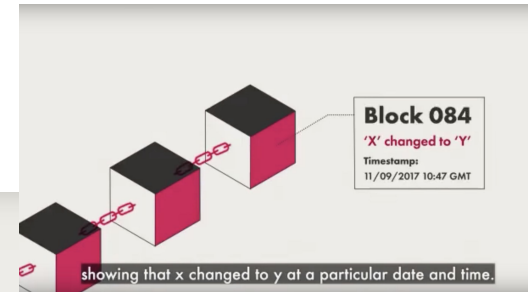
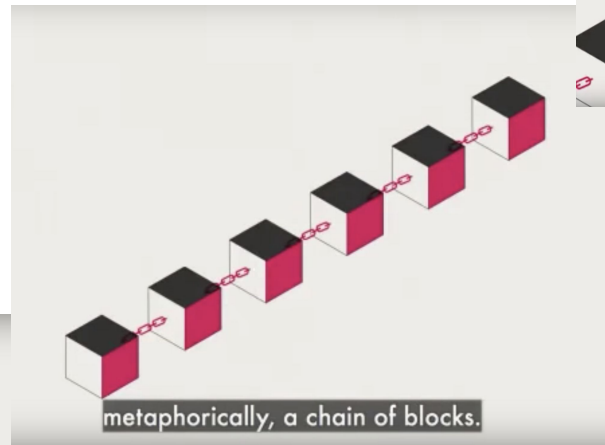
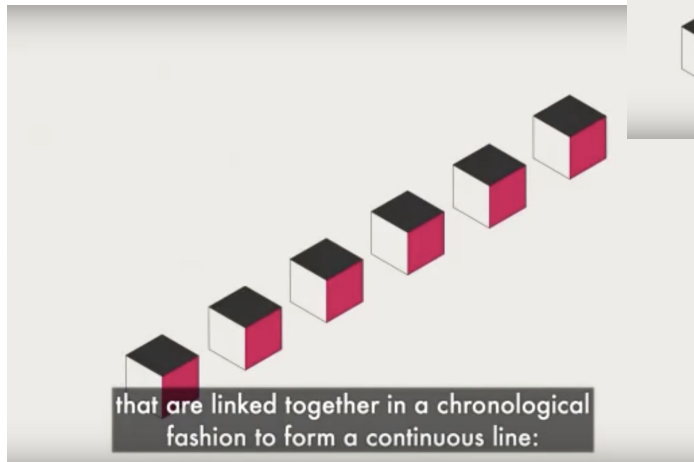
Land Titles

or even land titles.

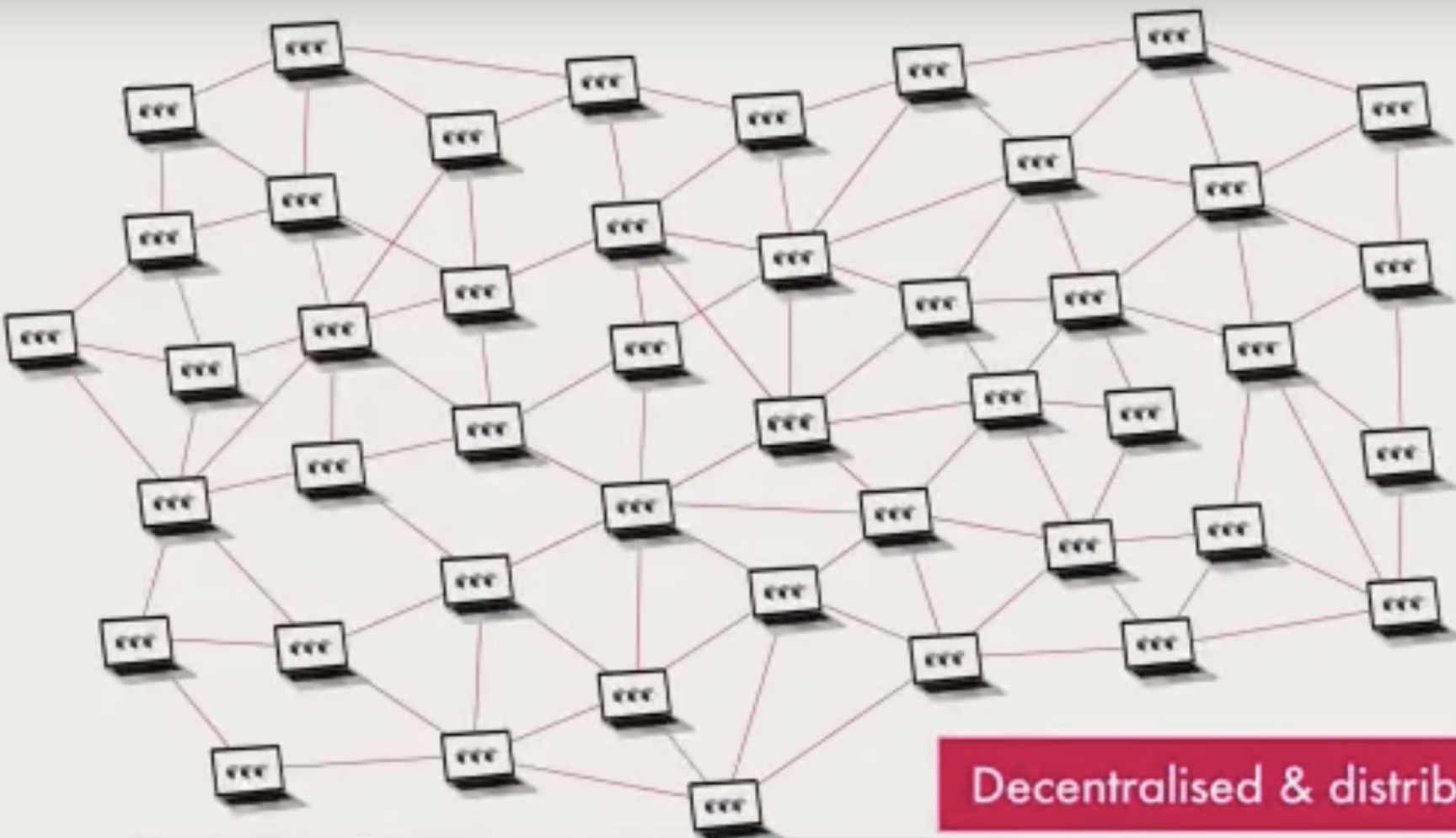
# Why blockchain technology revolutionised?



# 1. The way it tracks and stores data



# Blockchain is Decentralised and Distributed



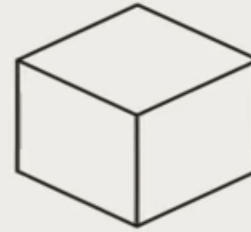
Decentralised & distributed

and distributed across a large network of computers.

# How to add a new block?

1

A cryptographic puzzle must be solved, thus creating the block.



2

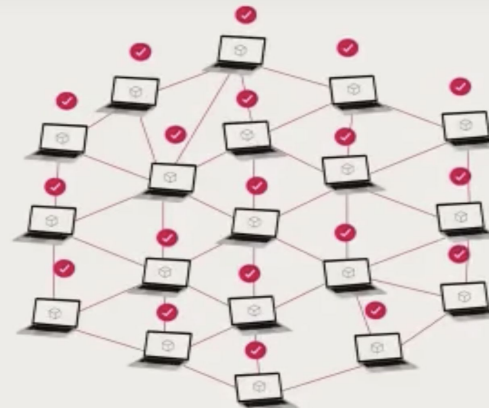
The computer that solves the puzzle shares the solution to all the other computers on the network.



shares the solution to all of the other computers on the network,

3

The network verifies the proof-of-work.



The network will then verify this proof-of-work and,



## 2. It creates trust in the data



- ✓ A cryptographic puzzle must be solved.
- ✓ The solution, or proof-of-work, is shared with all the computers on the network.
- ✓ The network verifies the proof-of-work.

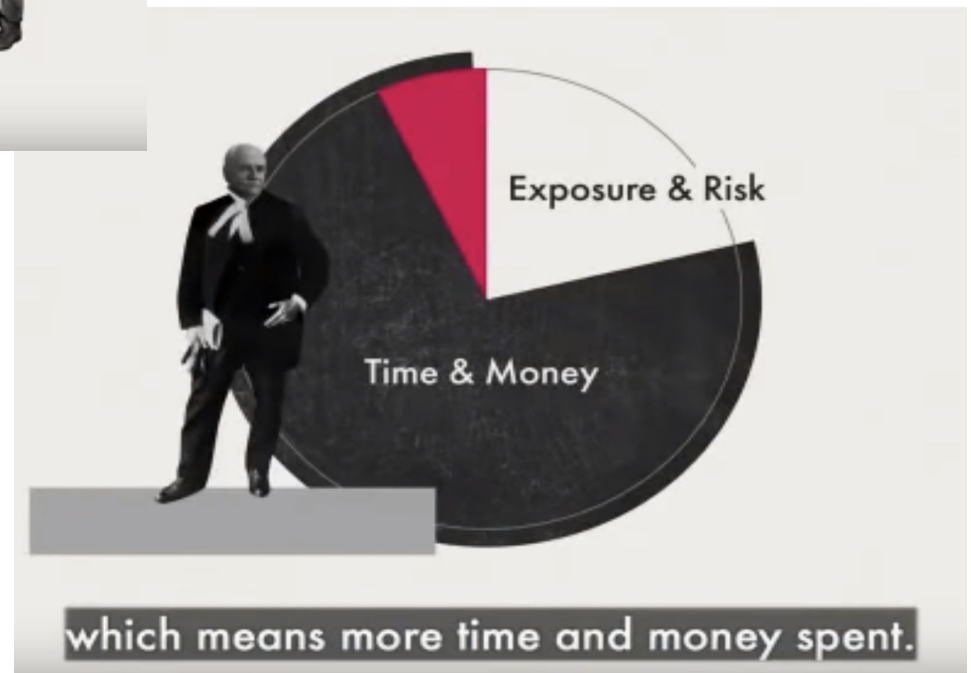


**if correct, the block will be added to the chain.**

# Trusted and real time data on blockchain to avoid dispute



### 3. No more intermediaries



# Blockchain creates a trusted P2P network



This type of trusted peer-to-peer interaction with our data

# Type of Blockchain - Public Blockchain



Public blockchains

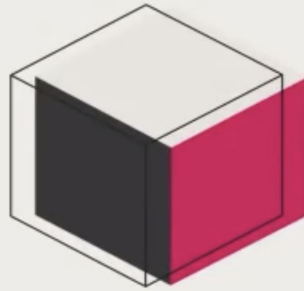
Some blockchains can be completely public



# Private Blockchain

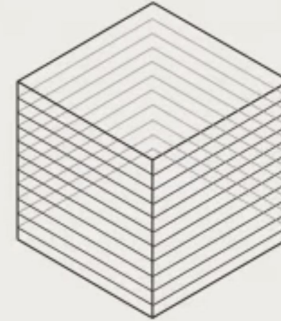


# Hybrid public-private Blockchain



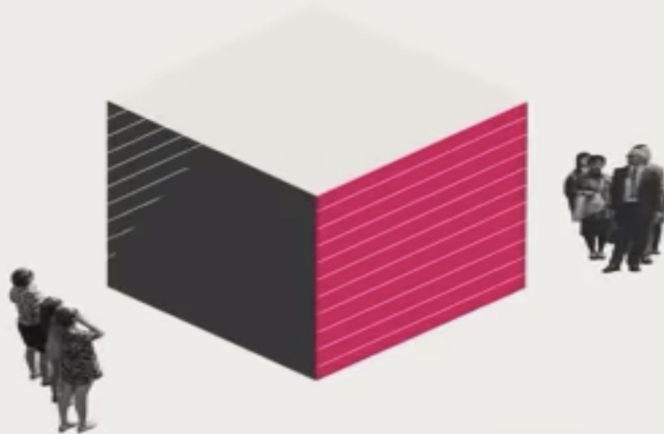
Hybrid public-private blockchains

And there are hybrid public-private blockchains too.

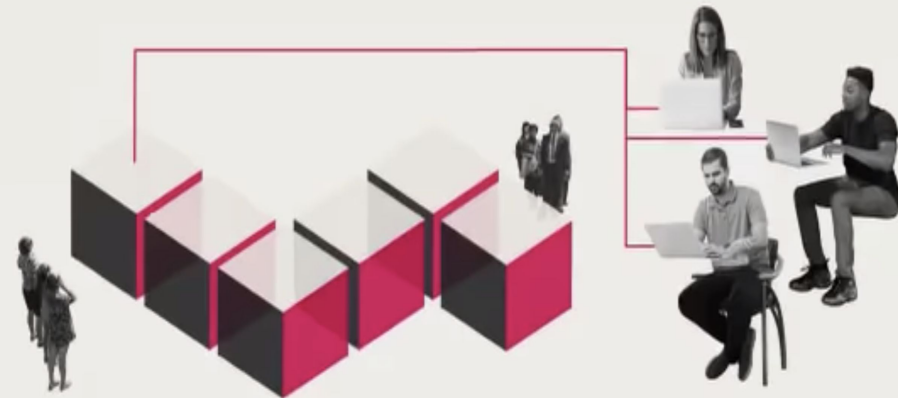


Hybrid public-private blockchains

In some, those with private access can see all the data,



while the public can see only selections.



but only some people have access to add new data.

# Blockchain architecture options

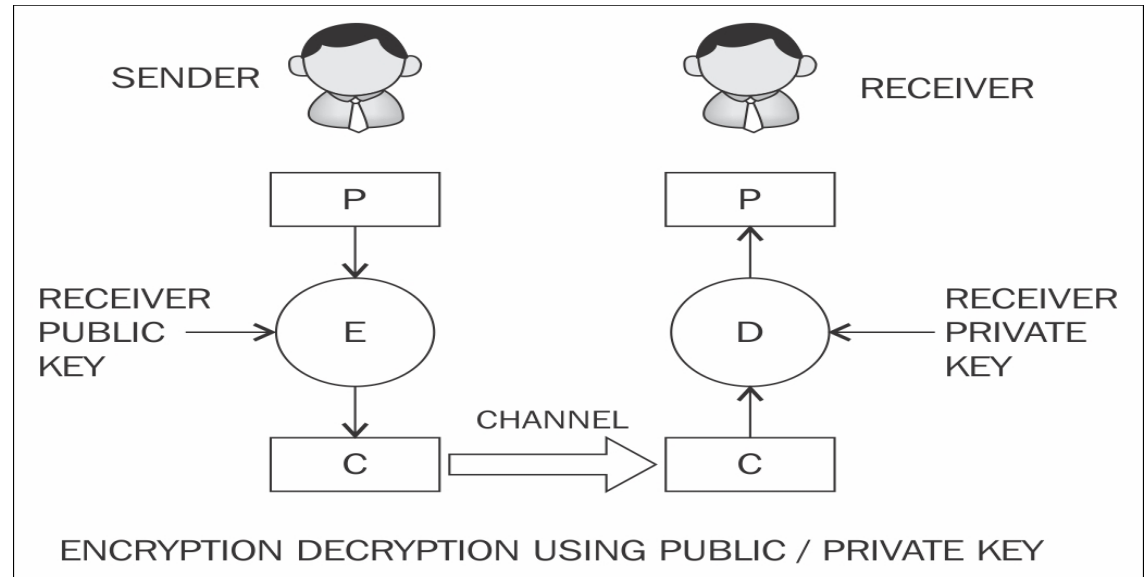
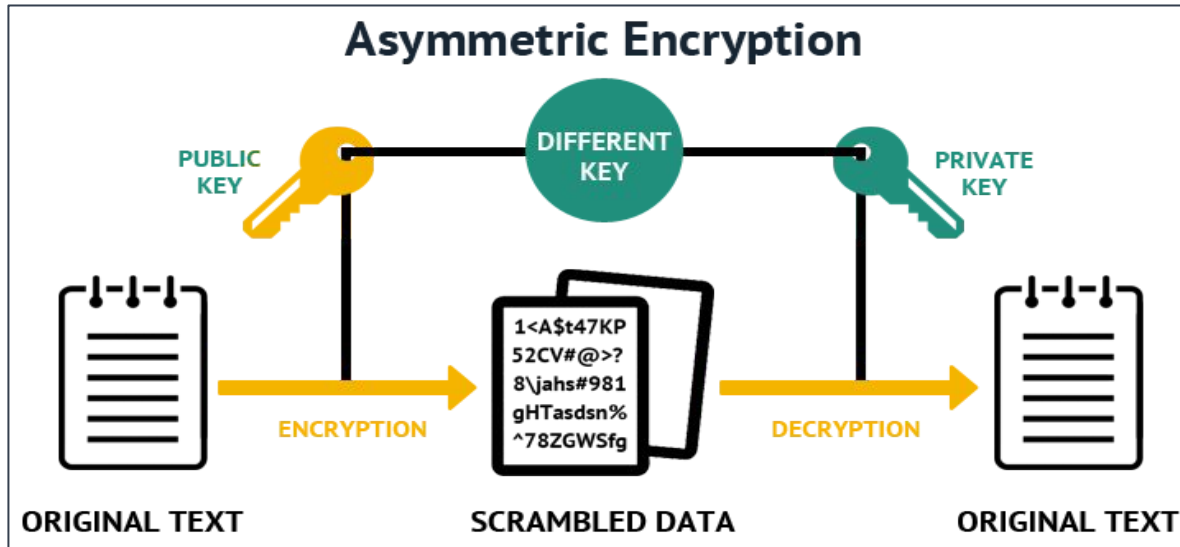
Most commercial blockchain will use private, permissioned architecture to optimize network openness and scalability.

Blockchain-  
architecture options

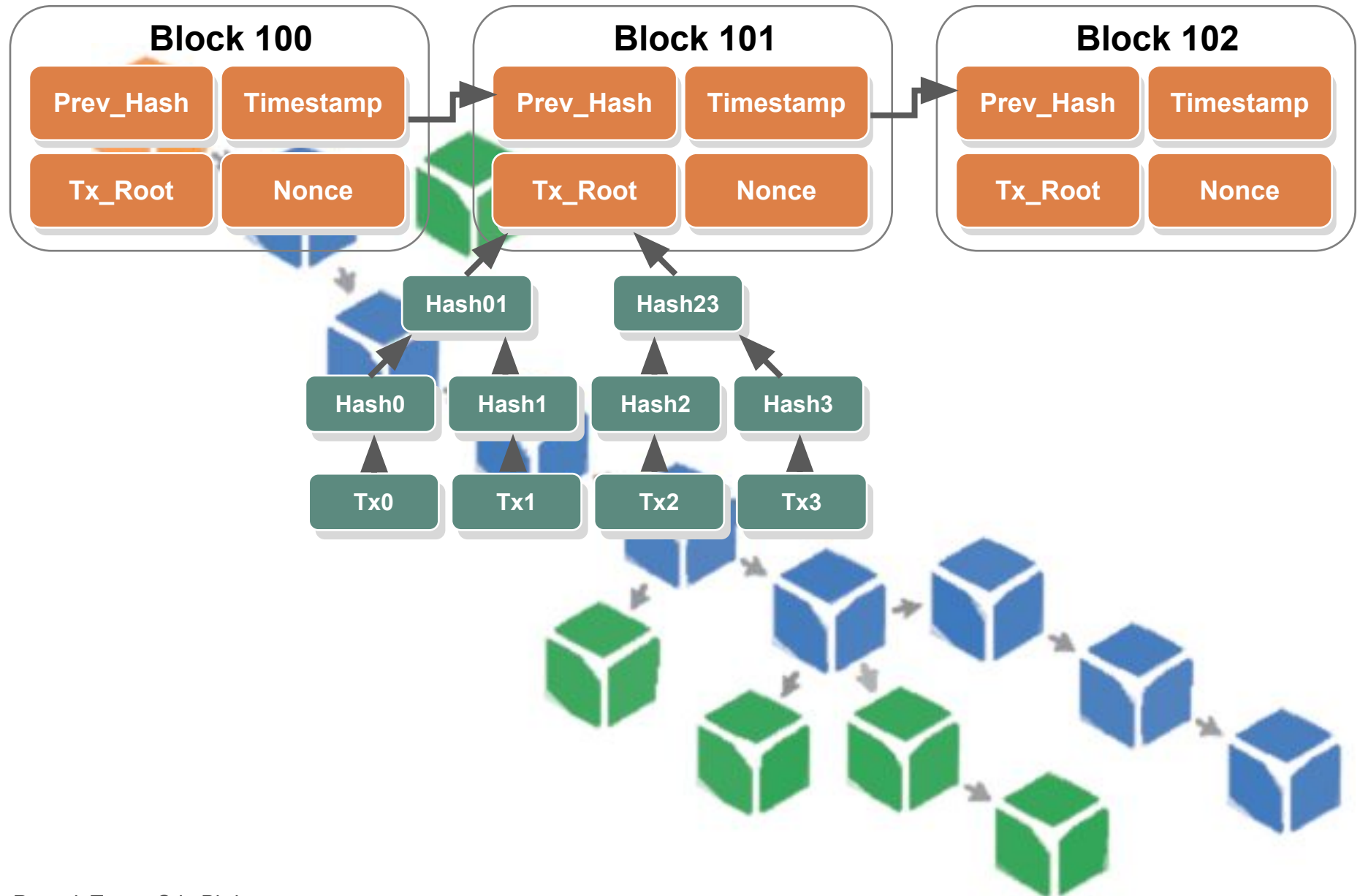
Architecture based on read, write, or commit  
permissions granted to the participants

		Permissionless	Permissioned
Architecture based on ownership of the data infrastructure	Public	<ul style="list-style-type: none"><li>● Anyone can join, read, write, and commit</li><li>● Hosted on public servers</li><li>● Anonymous, highly resilient</li><li>● <b>Low scalability</b></li></ul>	<ul style="list-style-type: none"><li>● Anyone can join and read</li><li>● Only authorized and known participants can write and commit</li><li>● <b>Medium scalability</b></li></ul>
	Private	<ul style="list-style-type: none"><li>● Only authorized participants can join, read, and write</li><li>● Hosted on private servers</li><li>● <b>High scalability</b></li></ul>	<ul style="list-style-type: none"><li>● Only authorized participants can join and read</li><li>● Only the network operator can write and commit</li><li>● <b>Very high scalability</b></li></ul>

# Underlying Technology - Cryptographic



# Underlying Technology – Hash Functions





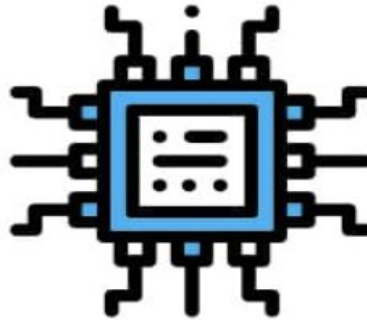
# The technology that will replace lawyers

1



Smart Contracts are **written as code** and committed to the blockchain. The code and conditions in the contract are **publicly available** on the ledger.

2



When an event outlined in the contract is triggered, like an expiration date or an asset's target price is reached-- the **code executes**.

3



Regulators can watch contract activity on the blockchain to **understand the market** while still **maintaining the privacy** of individual actors.

1000 x 707

# Blockchain Land Registry - Sweden



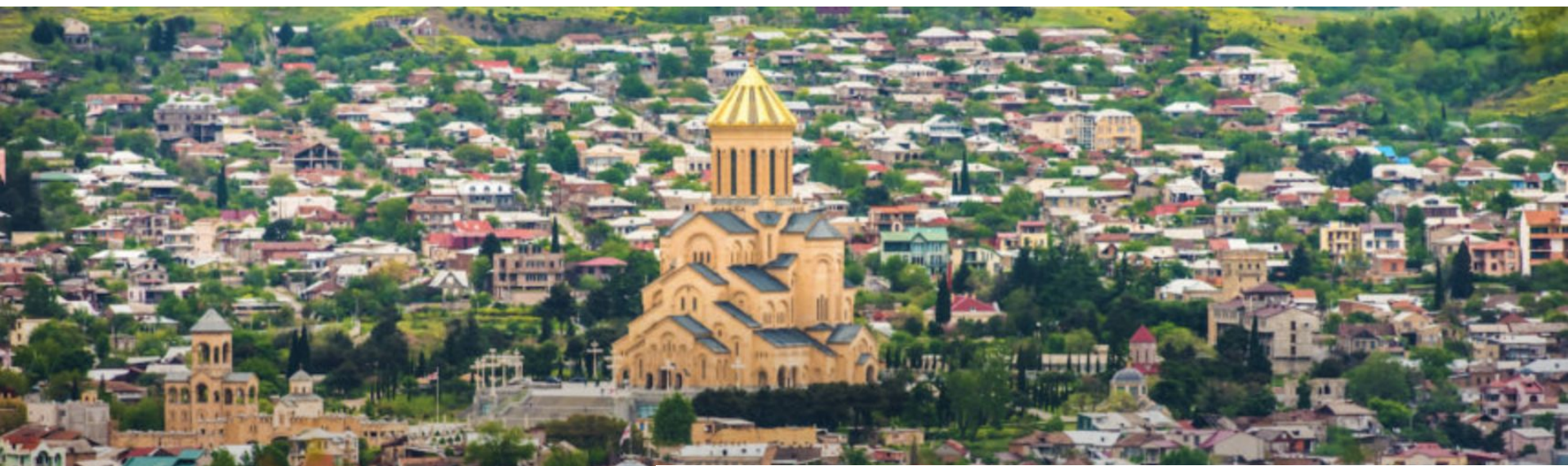
## Land registration process in Sweden



- 11 steps accelerated, 10 steps removed
- Time to complete reduces from 4 months to 4 days
- Less risk of manipulation, fraud and errors
- Only a fraction of the paper documentation needed



# Blockchain Land Registry – Republic of Georgia



## Republic of Georgia Blockchain Land

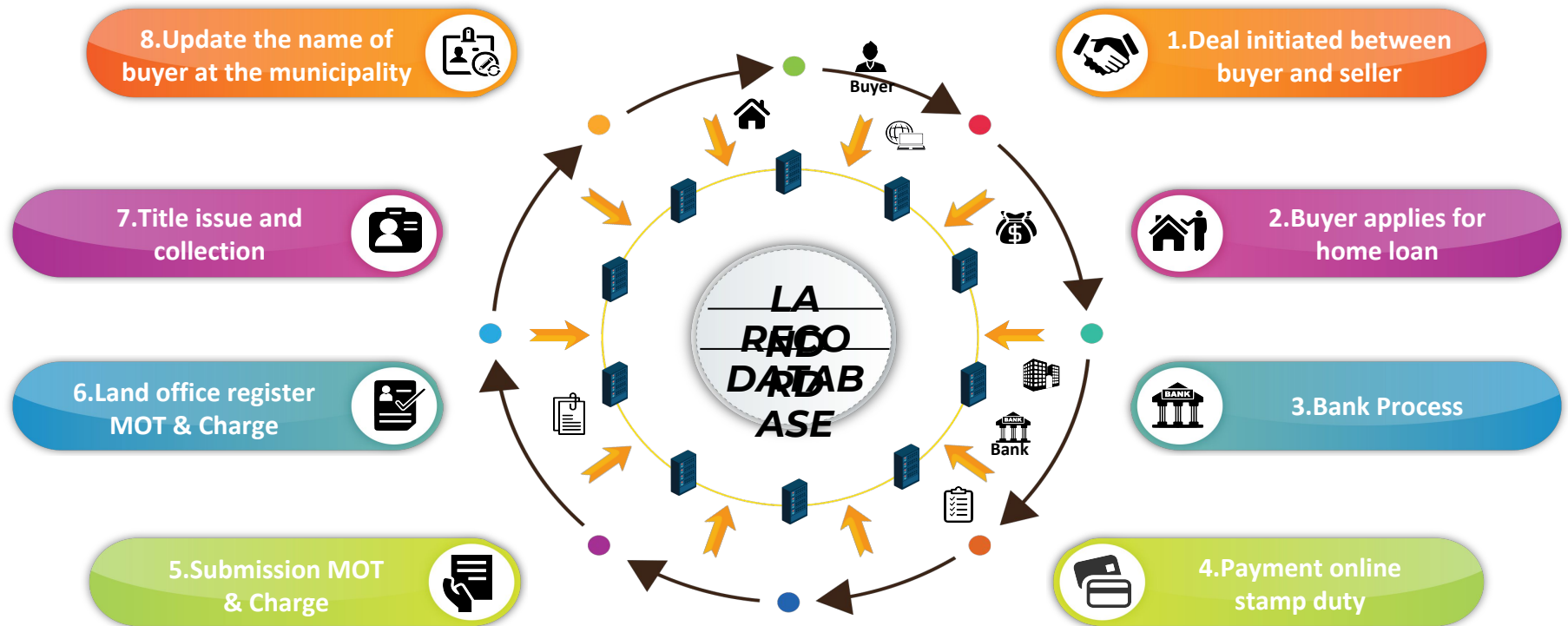
### Successful Use Case: Land Title Republic of Georgia

#### Blockchain Land Registry

Blockchain enabled the Republic of Georgia to provide its citizens with a digital certificate of their assets, supported with cryptographical proof published to the Bitcoin Blockchain.

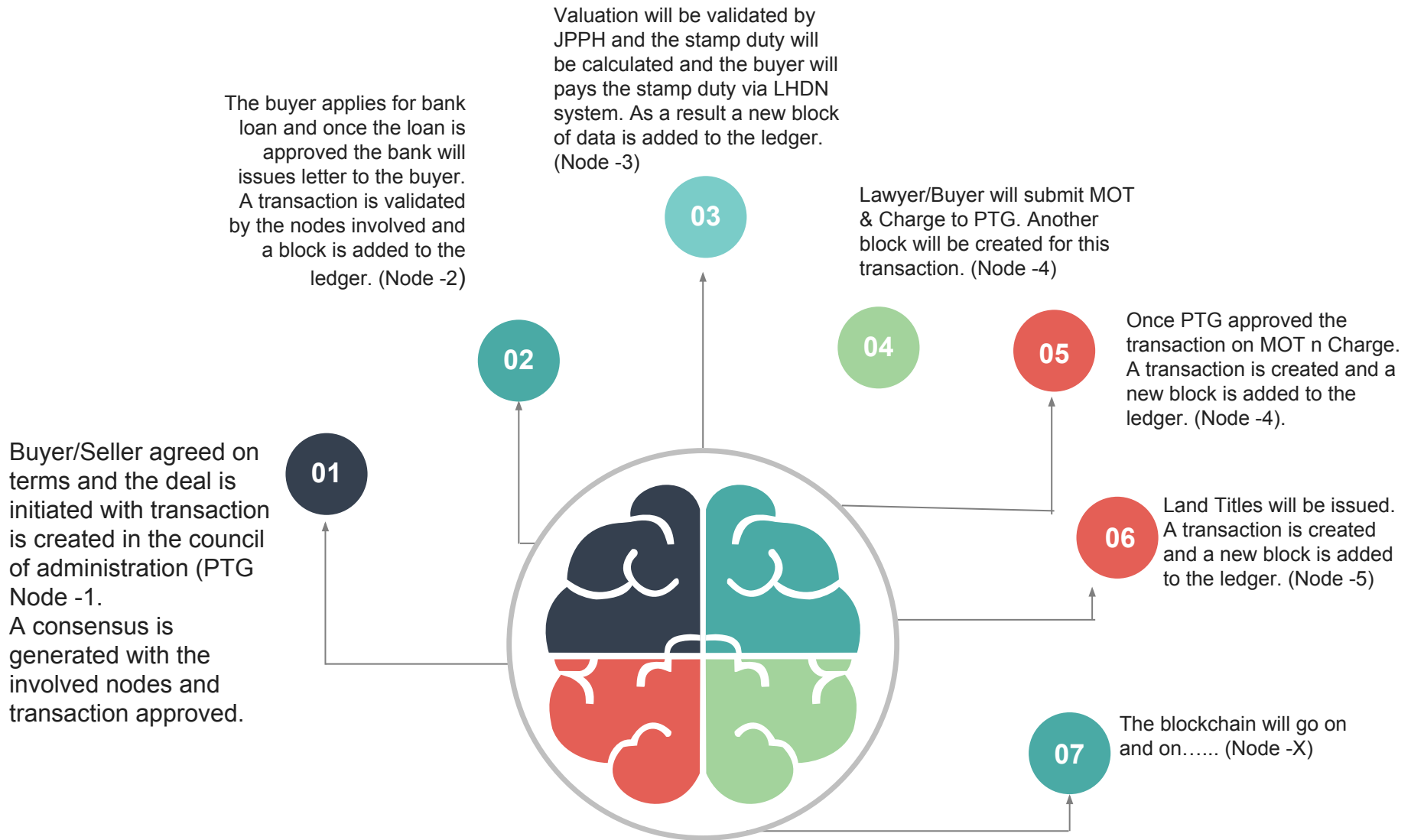


# Blockchain Land Registry - eTanah



\* Hybrid Public-Private Blockchain Architecture

# Land records process in blockchain





# Challenges in implementing blockchain



Being new technique, there are very few less proof of concepts available. This could be the first blockchain initiative in the government sector.



Lack of specialised expertise in blockchain development.



Its immutable nature make it hard to modify anything at later stage. This nature will create fear in the minds of the users and they tend to continue with the existing computer system.



Cost of set-up of massive network for the implementation of blockchain requires high initial costs. The establishment of a network with high bandwidth the maintain the nodes is a big task



There are no regulatory standards that govern application across jurisdiction. There are no regulations on how the blockchain transactions should be written and no standard interfacing between systems from different agencies.



“ I’m Imogen Heap, and this is why I’m releasing my music on the blockchain...” ”

