

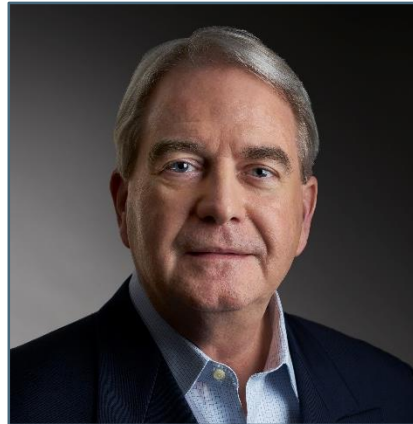
Not So Fast:

Challenges for Blockchain in Highly Regulated Environments

Panelists



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Agenda

- What Is a Blockchain?
- Blockchain Models
- Legal Framework
- Industry Examples: Blockchain at Work
- Challenges for Blockchain in Highly Regulated Environment

What is A Blockchain?

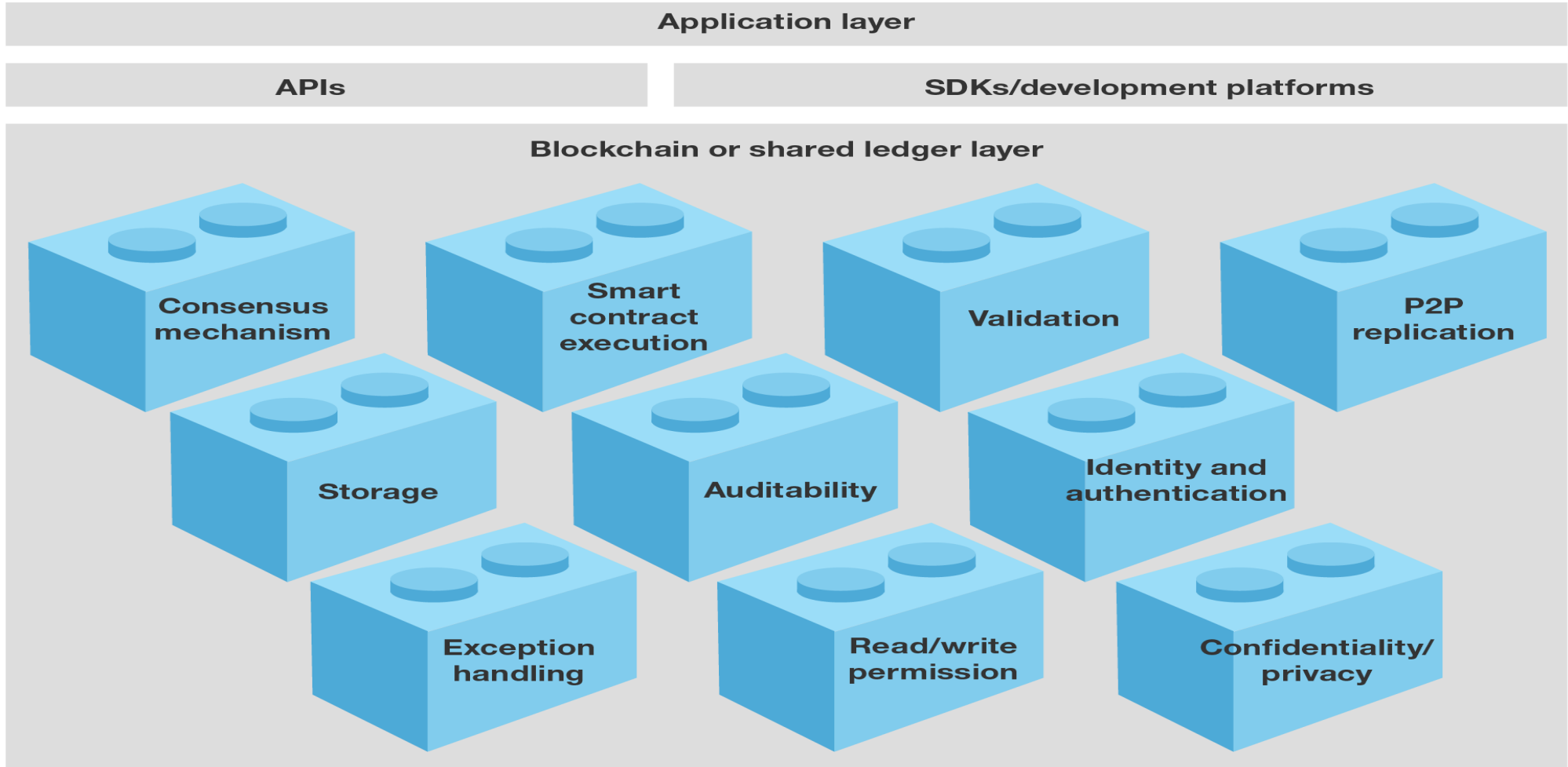


**Definitive Answer:
A bar in Crete.**

What is a Blockchain?

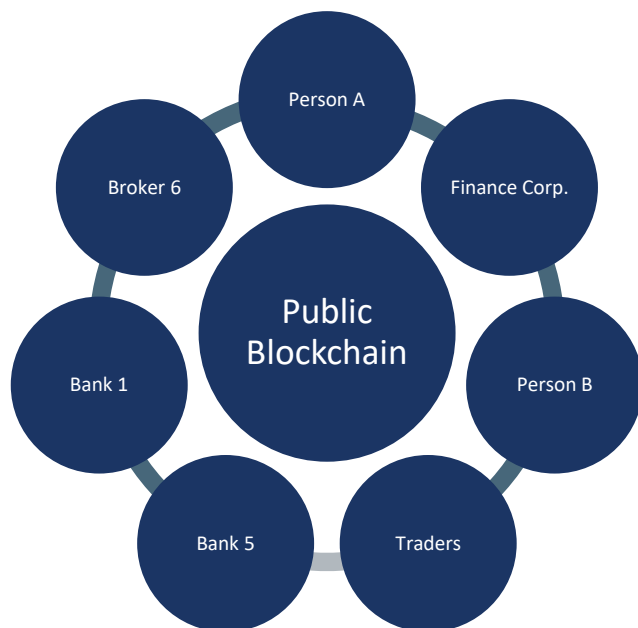
What is a blockchain -- Blockchain is a “distributed ledger” technology – a ledger maintained by the consensus of a network of parties.

There's no such thing as *the* blockchain



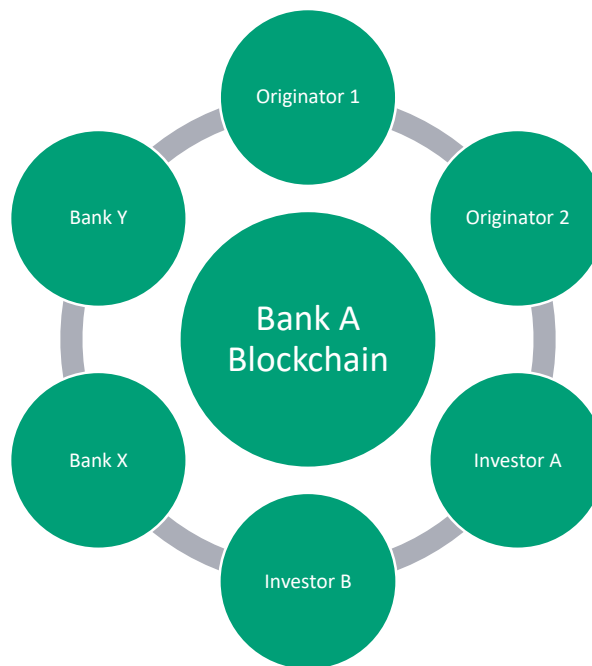
Source: Forrester, [Executive Q&A: Breaking Down Blockchain In Six Questions](#)

Public



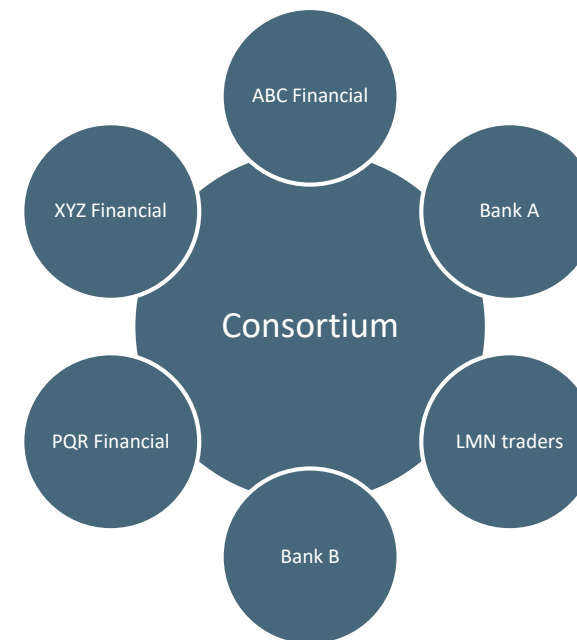
- Many, unknown participants
- Writes by all participants
- Reads by all participants
- Consensus by proof of work

Private



- Authorized participants through one org
- Writes permissions centralized
- Reads may be public or restricted
- Multiple algorithms for consensus

Consortium

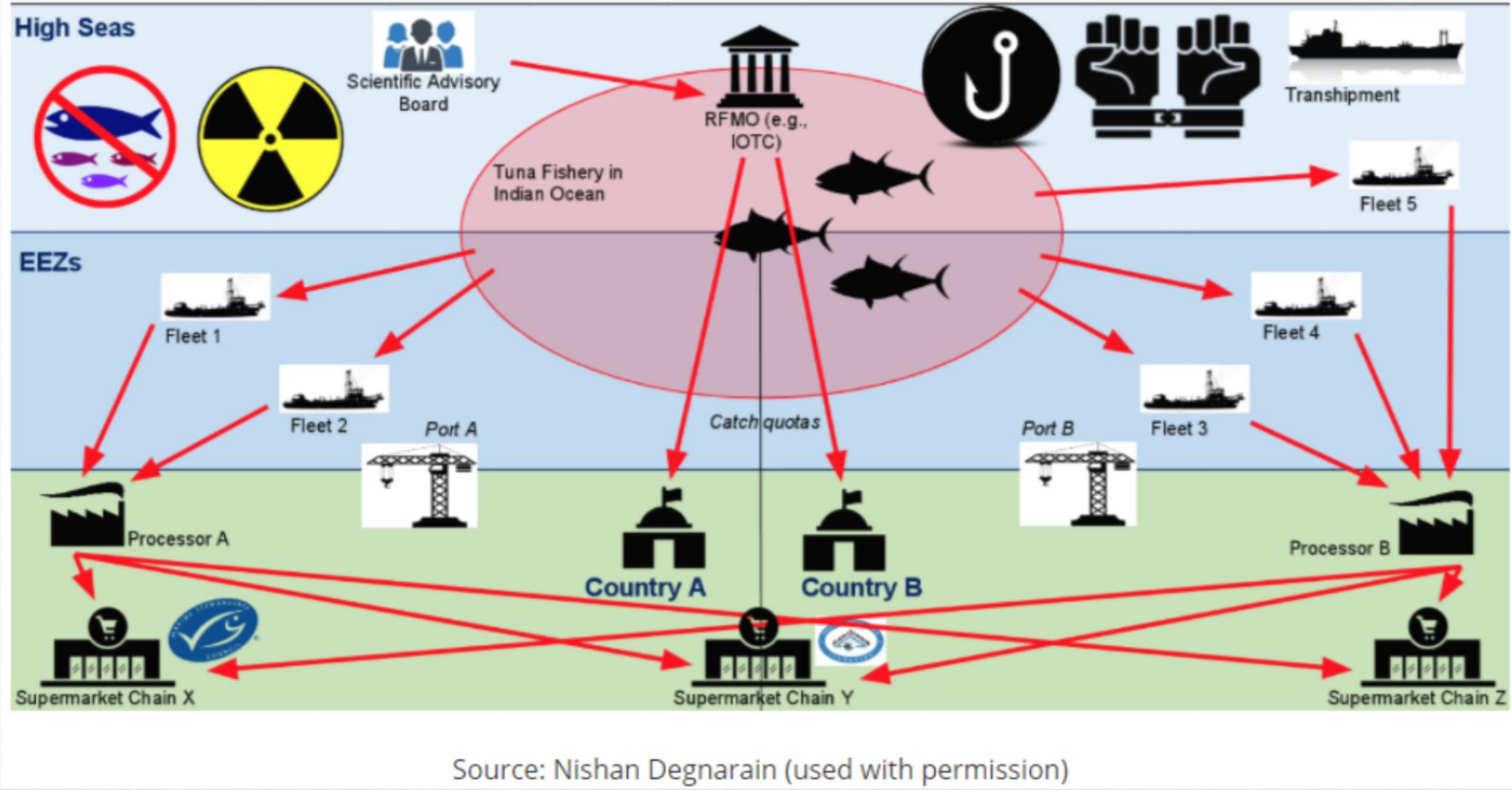


- Known participants from multiple orgs
- Writes require consensus of n participants
- Reads may be public or restricted
- Multiple algorithms for consensus

Legal Framework

- ESIGN and UETA both recognize, enable and validate the use and enforceability of both (i) electronic records and signatures created, secured or retained by utilizing a blockchain platform and (ii) “smart” contracts.
- Blockchain
 - Blockchain entries fall within the existing definition of electronic record.
 - A blockchain entry, or data contained in a blockchain entry or linked to it, can constitute an electronic signature, so long as the requisite intent exists and the signature can be attributed to the signer.
- Electronic Agents
 - Both ESIGN and UETA enable smart contracts by authorizing the use of electronic agents to enter into contracts using automated transactions -- in an automated transaction, the following rules apply under UETA:
 - A contract may be formed by the interaction of electronic agents of the parties, even if no individual was aware of or reviewed the electronic agents’ actions or the resulting terms and agreements.
 - A contract may be formed by the interaction of an electronic agent and an individual, acting on the individual’s own behalf or for another person.
- “Meeting of minds” and “authority to contract” requirements should not be an issue because of ESIGN and UETA provisions
 - *Traynum v. Scavens*, 416 S.C. 197 (S.C. 2016) – The court, citing South Carolina’s UETA and its provision concerning “electronic agents,” ruled that the insured’s rejection of underinsured motorist coverage made on an insurer’s website satisfied the statutory requirement that the UIM election form be “completed by an insurance producer or a representative of the insurer” – even though no human interaction was required.

Supply Chain of Tuna

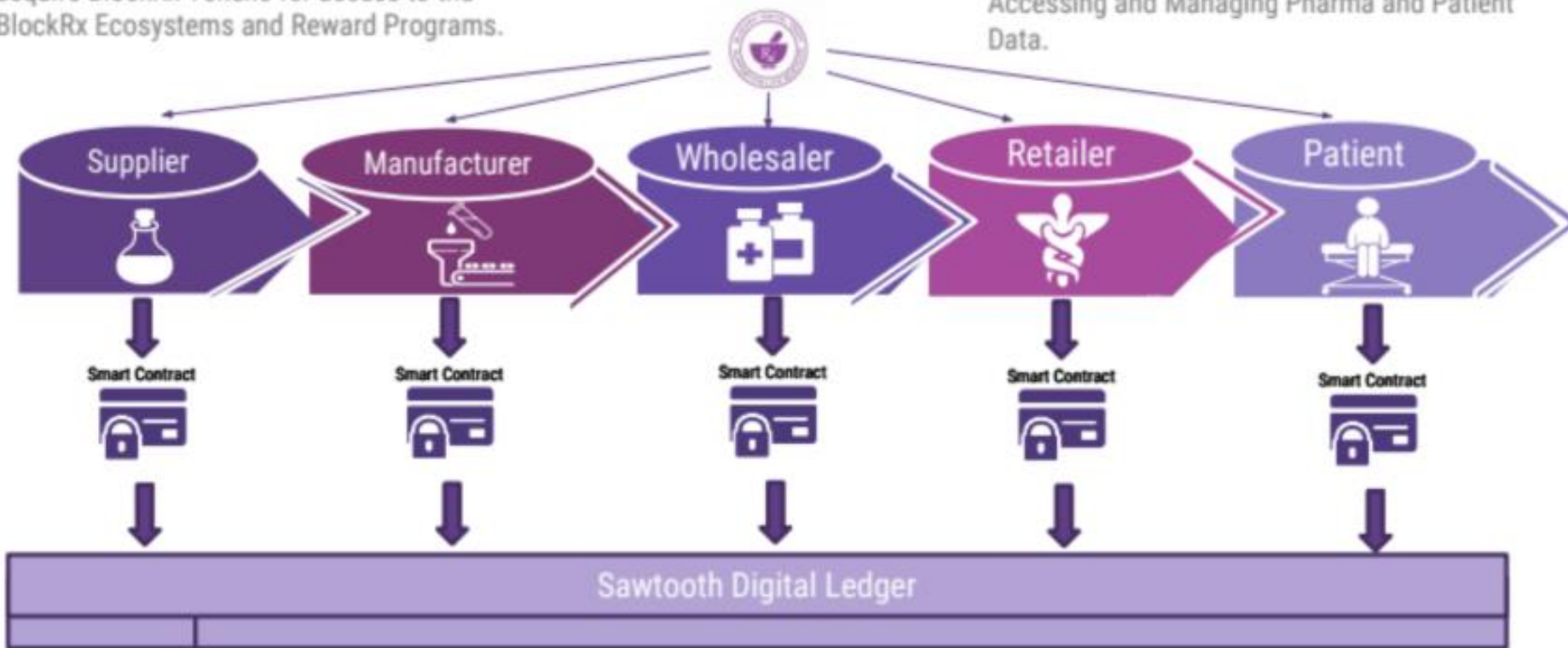


The BlockRx Pharma Ecosystem

BlockRx Token Functionality

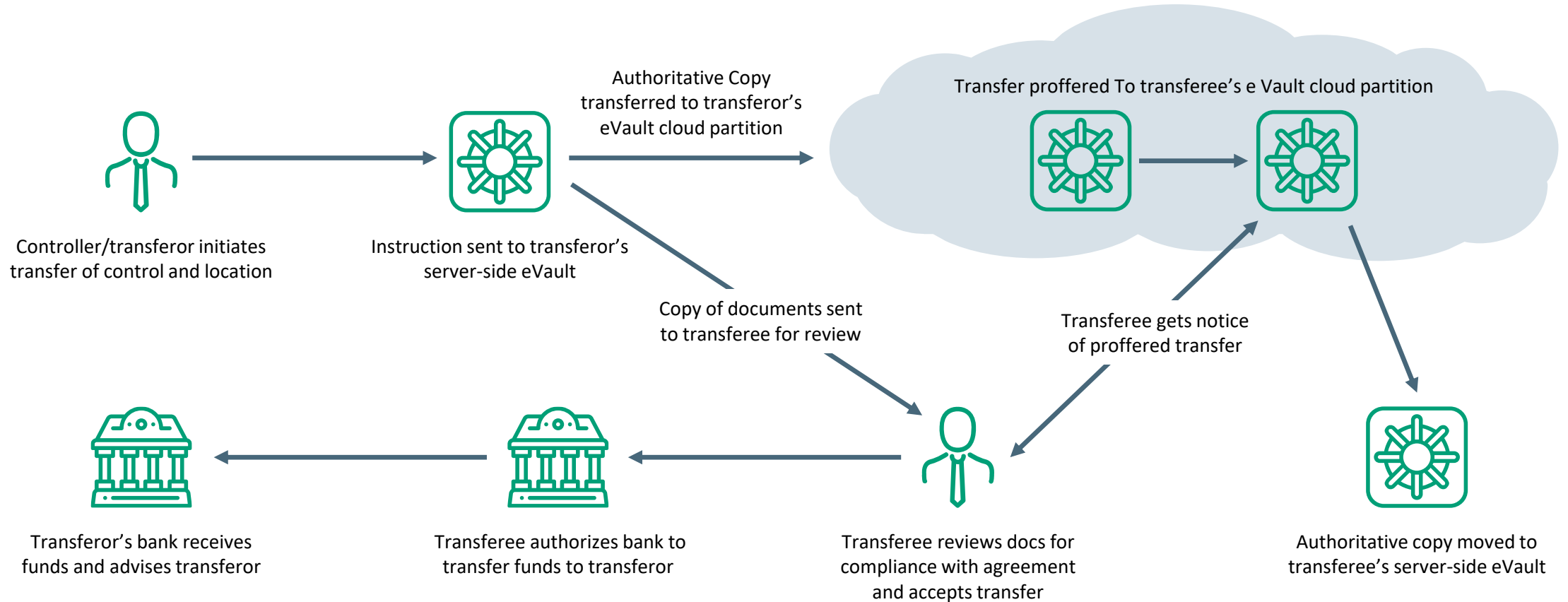
Pharma companies and Patients must acquire BlockRx Tokens for access to the BlockRx Ecosystems and Reward Programs.

The BlockRx Tokens will also be utilized for Accessing and Managing Pharma and Patient Data.

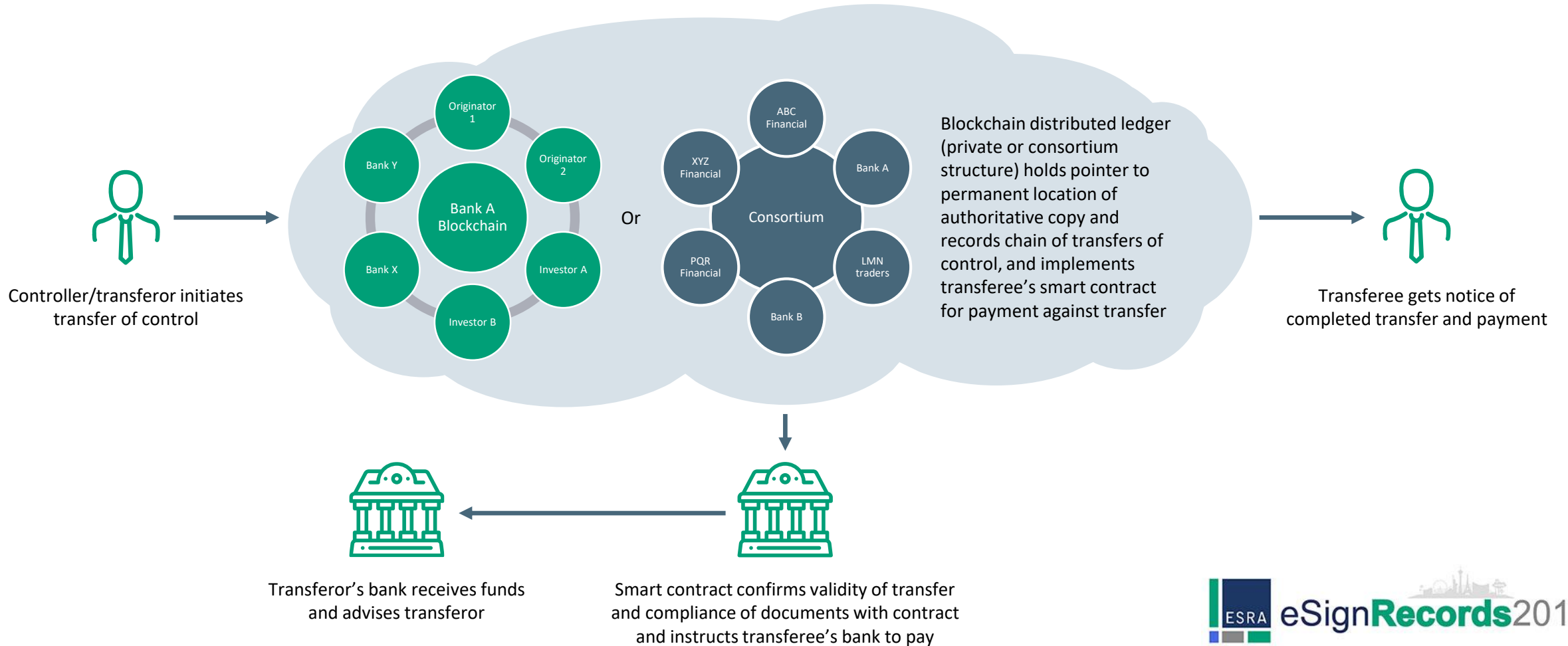


By The BlockRx Project, retrieved from the Hyperledger Healthcare Working Group, August 22nd, 2017 Meeting

Transfer of Control and Authoritative Copy – Current State Example



Transfer of Control and Authoritative Copy – Future State Example



Challenges in Highly Regulated Financial Environments

- Transaction Speed
- Consensus Requirement
- Compliance
- Privacy and Separation of Data
- Transparency and Security
- Open-Source Liability
- Jurisdiction for Regulation and Enforcement
- Redress and Responsibility
- Ability to “unwind” illegal transactions
- Coding errors
- Governance Model and Vendor Continuity
- Others...

Not So Fast:

Challenges for Blockchain in Highly Regulated Environments

Thank you!